

OF ALL, FOR ALL

**INTEGRATED SUSTAINABLE
MANAGEMENT
REPORT
2019**


ecopetrol

Ecopetrol S.A.

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Corporate Responsibility Management

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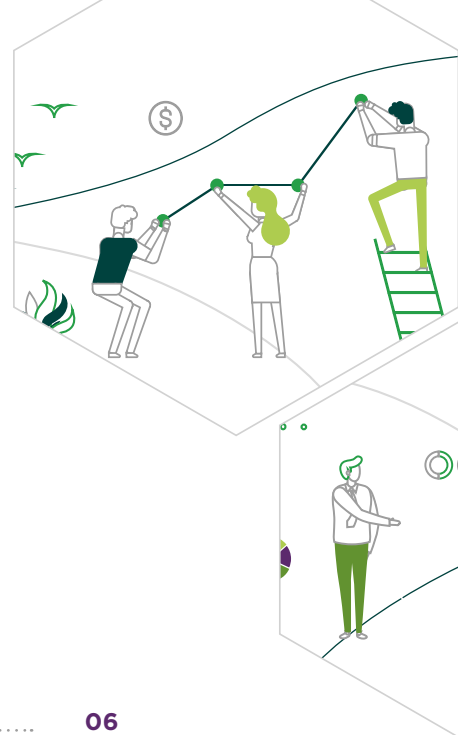
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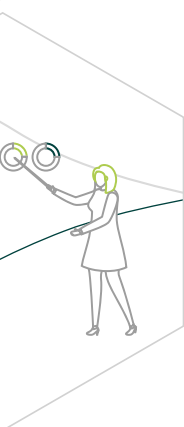
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MESSAGE FROM THE CHAIRMAN OF THE BOARD OF DIRECTORS OF ECOPETROL S.A.

• • •

The Board of Directors of Ecopetrol S.A. wishes to share with you our pride and satisfaction regarding our Company's results and performance during 2019. In a complex global scenario, marked by lower growth, geopolitical and social tensions, as well as greater pressures from our citizenry, we achieved noteworthy financial and operational results. We surpassed most of the targets outlined in the 2019-2021 business plan, while managing to consolidate external alliances and businesses abroad that position the Group internationally and that will prove decisive towards the fulfillment of our medium-term strategic objectives.

In 2019, Ecopetrol undertook a series of key activities in energy transition, decarbonization, emissions reduction, renewable energy, socio-environmental investment and diversity and inclusion, consistent with the corporate purpose of wagering on ambitious challenges aligned with the 2030 Agenda for Sustainable Development. Likewise, we highlight Ecopetrol's achievements in contributing towards improving the country's air quality, and our endorsement of energy self-generation through the first solar megapark inaugurated in 2019 in the department of Meta.

We committed to reducing 20% of our CO₂ emissions to 2030, which is aligned with country goals. This is consistent with effort by all countries, governments and companies to mitigate the effects of climate change, as foreseen in the Paris Agreement. The Group's companies understand that energy transition is the response to climate change.

Together with Ecopetrol's management, we have defined priority issues in the strategy to 2030, which are aimed at maintaining operational excellence and profitability, as well as identifying the actions necessary to address scenarios of greater volatility and dynamism, protecting the conditions necessary to achieve of the Company's technological, economic, social and environmental objectives. As a Board directive, we are conscious that technology is a growth axis in all potential scenarios wherein Ecopetrol participates.

We value the exceptional human talent that Ecopetrol is proud to retain, who makes the strategy viable, which in turn is reflected in the fulfillment of corporate objectives, as well as in the operational and financial results obtained in 2019, consolidating an efficient and safe operation.

As strategic advisor to the Ecopetrol Group, we will continue on the path of growth and resilience, through a vision that integrates experience and innovation, empowering Ecopetrol as a platform for the development and growth of our country.



Luis Guillermo Echeverri
CHAIRMAN
ECOPETROL S.A. BOARD OF DIRECTORS

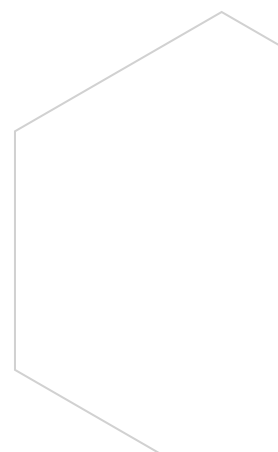


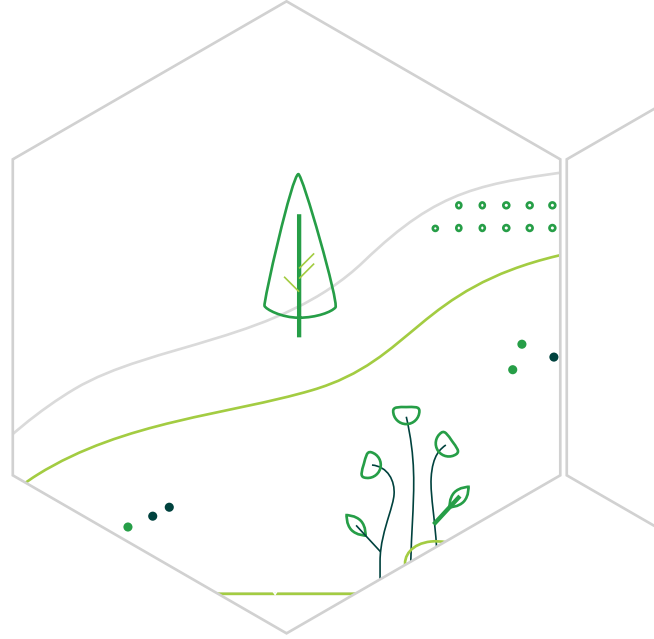
Standing from left to right:

Juan Emilio Posada Echeverri
Hernando Ramírez Plazas
Germán Quintero Rojas
Esteban Piedrahíta Uribe
Sergio Restrepo Isaza

Sitting from left to right:

Luis Santiago Perdomo Maldonado
Orlando Ayala Lozano
Luis Guillermo Echeverri Vélez
Carlos Gustavo Cano Sanz





STEERING COMMITTEE



Felipe Bayón
President



Alberto Consuegra
Executive Operational
Vice President



Orlando Díaz
Transformación
Vice President



Jaime Caballero
Corporate Vice
President of Finance



Tomás Hernández
Vice President of Refining
and Industrial Processes



Jorge Osorio Franco
Vice President of
Development and Production



Mónica Jiménez González
Secretary General and
Assistant to the President



Fernán Bejarano Arias
Legal Affairs Vice President



Alejandro Arango López
Vice President of Human Talent



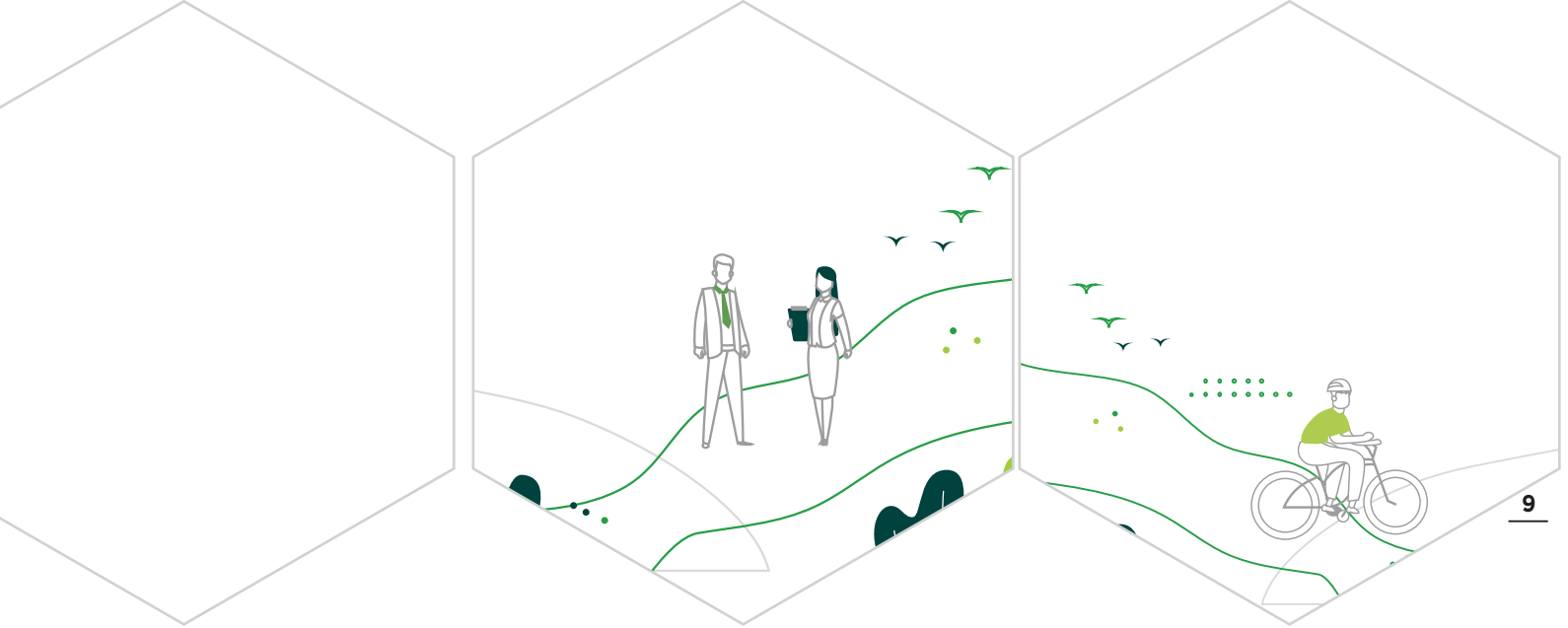
Jürgen Loeber
Vice President of
Projects and Drilling



Andrés Mantilla Zárate
Director Center of Innovation
and Technology



Anibal Fernández de Soto
Vice President of Sustainable
and Environmental Development

**María Juliana Albán**

Corporate Vice President of Compliance

**Rubén Darío Moreno**

Vice President of Transport and Logistics

**Carlos Santos**

Vice President of Procurement and Services

**Juan Manuel Rojas**

Corporate Vice President of Strategy and New Business

**Ernesto Gutiérrez**

Digital Vice President

**Jorge Calvache**

Vice President of Exploration

**Pedro Manrique**

Vice President of Sales and Marketing

**Héctor Manosalva**

(President CENIT)

**Ricardo Coral**

Vice President South Regional

**Rafael Espinoza Rozo**

Vice President Central Regional

**Jose Darío Parra (e)**

Vice President Orinoquía Regional

**María Consuelo Barrera (e)**

Vice President of Assets with Partners



GRI | 102-7 |

ECOPETROL IN FIGURES 2019



FINANCIAL

GE operating revenue (Trillions of pesos)

2016	47.73
2017	55.21
2018	67.82
2019	70.84

GE operating income (Trillions of pesos)

2016	8.25
2017	15.50
2018	21.71
2019	20.42

GE EBITDA (Trillions of pesos)

2016	18.01
2017	23.07
2018	30.80
2019	31.11

Ecopetrol S.A. net income (Trillions of pesos)

2016	1.56
2017	6.62
2018	11.56
2019	13.25

ECOPETROL GROUP (GE) (According to SEC definitions)

GE Organic Investments (Billions of dollars)

2016	2.5
2017	2.2
2018	2.9
2019	3.5



ECOPETROL S.A. EXPORTS

Volume (Kboed)

2016	464
2017	425
2018	407
2019	425

Value (Trillions of pesos)

2016	5,964
2017	7,427
2018	9,354
2019	9,017



ECOPETROL GROUP (GE) RESERVES (According to SEC definitions)

Proven oil and gas reserves (Kbpe)

2016	1,598
2017	1,659
2018	1,727
2019	1,893



ECOPETROL S.A. SALES OF GASOLINE AND DIESEL

Gasoline (Bpd)

2016	90,624
2017	92,574
2018	91,873
2019	95,458

Diesel (Bpd)

2016	94,547
2017	97,846
2018	99,768
2019	102,011



ECOPETROL GROUP EXPLORATION

Exploration Wells (Number of wells)

2016	7
2017	20
2018	17
2019	20



TRANSPORT

Transported volumes (Kbpcd)

2016	1,130
2017	1,091
2018	1,109
2019	1,153



PRODUCTION

GE crude and gas (Kboed)

2016	718
2017	715
2018	720
2019	725

Ecopetrol S.A. total crude (Kbpd)

2016	552
2017	545
2018	549
2019	548



REFINING

Throughput of refineries* (Kbpcd)

2016	330.4
2017	345.5
2018	372.9
2019	373.7

Gross refining margin** (USD per barrel)

2016	14.0
2017	13.5
2018	11.8
2019	10.6

* Barrancabermeja and Cartagena refineries

** Barrancabermeja refinery



HIRING OF GOODS AND SERVICES ECOPETROL

Hiring (Trillions of COL)

2016	10.4
2017	9.5
2018	10.4
2019	13.4



ENVIRONMENTAL INVESTMENT

Environmental investment* (Millions of COL)

2016	327,459
2017	470,548
2018	678,949
2019	841,852

* Includes compulsory investments and voluntary strategic environmental management for \$15,778 million.



SOCIAL INVESTMENT

Social investment (Millions of COL)

2016	14,855
2017	18,502
2018	45,088
2019	229,684



ABBREVIATIONS AND TERMINOLOGY

GE	Ecopetrol Group
Bpd	Barrels per day
Kbpcd	Thousands of barrels calendar day
Kbpd	Thousands of barrels of oil a day
Kboed	Thousands of barrels of oil equivalent day

Mboe	Millions of barrels of oil equivalent
pesos or COL	Colombian pesos
One billion pesos	One billion pesos (\$1,000,000,000)
One trillion pesos	One thousand billion pesos (\$1,000,000,000,000)



SIGNIFICANT EVENTS 2019

• • •

01

We provided the country with cleaner fuels, accomplishing a significant leap in terms of fuel quality. Diesel went from a weighted average of 25 to 10 parts per million of sulfur (ppm) and gasoline from 150 to below 100 parts per million of sulfur. With regard to transport in Bogotá, according to the findings of the study carried out by the Universidad de los Andes issued on December 13, 2019, Transmilenio users are breathing better air, with a reduction inside buses of close to 50% in the particulate exposure of passengers, known as PM2.5, due to the renewal of the fleet and the provision of better fuels.

02

Our net income was \$13,25 trillion of pesos, the highest in the past six years, and we achieved an EBITDA of \$31.1 trillion and an EBITDA margin of 44%, retaining a moderate level of indebtedness without compromising our credit rating. In 2019, we invested USD \$4.4 billion, consisting of 80% organic investments (USD \$3.5 billion), and 20% in inorganic investments (USD \$0.9 billion), to maintain our growth track.

03

The Castilla Solar Park in Meta began operations, becoming the first megapark for energy self-generation in the country, which will prevent the emission of over 154 thousand tons of CO₂ into the atmosphere, a figure equivalent to the planting of 1,200,000 trees. The opening of this park, in alliance with the Corporación Asociados Estaciones de Servicio de Colombia (AES Colombia), a trade group of affiliated service stations, demonstrated Ecopetrol's commitment to diversifying the nation's energy matrix.

04

We verified the reduction of over one million tons of GHG emissions via the firm Ruby Canyon Engineering, as part of our strategy to contribute towards preserving the environment. This is an essential first step in our commitment to reduce our CO₂ emissions by 20% for 2030.



05

We approved record resources for a socio-environmental investment program with a medium-term outlook, allocating a total \$1.7 trillion of pesos for the next three years, aimed at closing social gaps and promoting sustainable development through investment in public and community infrastructure, public services, education, sports and healthcare, rural development and entrepreneurship.

06

We entered the Permian Basin in the United States, through a strategic alliance with Occidental to develop nearly 97,000 acres in one of the most prolific basins in the world. This project strengthens Ecopetrol's position within an energy transition context, acquiring knowledge and technology in **unconventional deposits**.

07

Together with Shell and Chevron, we increased our interest in the Brazilian Pre-Salt, having received authorization from Brazilian Ministry of Mines and Energy for the transfer of 30% of the Gato do Mato block to Ecopetrol.

08

We obtained ten new exploration blocks in Colombia as Grupo Ecopetrol, three for Ecopetrol S.A. and seven for the subsidiary Hocol.

09

We inaugurated the Chinchiná-Pereira section of the Salgar-Cartago-Yumbo pipeline, an extension of 55.2 km, a highly engineered work that was built in harmony with the environment, embodying the respect for indigenous cultures and the conservation of the cultural landscape of the coffee growing region.

10

We delivered the first tax-exempt public works project in the department of Nariño that benefited 47,599 children in 238 schools.



AWARDS, ACCOLADES Y AND CERTIFICATIONS

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GRI | 102-12 |

14

AWARDS AND ACCOLADES

The foremost awards and accolades received by Ecopetrol during 2019 were:

- The risk rating agency *Standard & Poor's* (S&P) informed Ecopetrol that it has upgraded its stand-alone credit rating to bbb- and maintained the long-term international rating at BBB-, with a stable outlook, and highlighted its good liquidity levels, as well as the strengthening of its credit metrics.
- According to the reputable business ranking of MERCO (*Monitor Empresarial de Reputación Corporativa*), Ecopetrol rose to 5th place (from 6th place in 2018), in the Merco ranking for the Top 100 Companies with the best reputation in Colombia. In the Merco Human Talent ranking, Ecopetrol remained in 3rd place among the 100 companies with the greatest capacity to attract and retain human talent in Colombia. Furthermore, President Felipe Bayón placed 8th (versus 17th in 2018), in the Merco Leaders ranking, among the 100 business leaders with the best reputation in Colombia.
- The Project "Technical Office of Economic Energy" developed by Ecopetrol at the Barrancabermeja Refinery, was recognized by the Ministry of Mines and Energy, the National Hydrocarbon Agency and the National Mining Agency, as one of the social and environmental projects to promote at the national level the sector's transformation.





- The Ecopetrol brand was valued at US \$3,652 million by a *Brand Finance* study on the most valuable brands in the world, and ranked 9th among the most valued brands in Colombia.

- President Felipe Bayón received the highest recognition from the city of Villavicencio, for his work to benefit the capital of the department of Meta, owing to contributions to improve educational and recreational infrastructure, the bicycle based sustainable mobility model, projects to generate production, and the public service of residential gas in the rural areas and the alternative intake drinking water project of María La Alta.

- Ecopetrol ranked fourth nationally in the ranking of the most innovative companies in Colombia, constructed by the ANDI, the national business trade association, and *Dinero* magazine, among 322 companies assessed.

- Ecopetrol was ranked first in the category of the most admired companies in the country, according to the study carried out by *Cifras y Conceptos*, the foremost data analysis and polling company in the country.

- President Felipe Bayón received the Gonzalo Mejía Business Civic Merit Medal award, on account of Ecopetrol's contribution to improving air quality in the city of Medellín.

- Ecopetrol, through President Felipe Bayón, received recognition from the Presidential High Council for the inclusion of people with disabilities, through for the development of the Corporate Social Responsibility program that aims to further include people with disabilities within the framework of the public disability policy.



CURRENT CERTIFICATIONS

GRI | 102-13 |

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Corporate Certification (Ecopetrol S.A.) Vice President of Transformation

RULE : ISO 9001:2015

Extraction, collection, treatment, inspection, maintenance, delivery of crude oil, gas, intermediate products onshore and offshore, receipt, storage and transport of hydrocarbons through pipelines, tanker trucks and riverboats, offshore and onshore maritime operation of loading and unloading hydrocarbons in oil tankers, refining and hydrocarbon treatments and administrative processes to support the business.

Corporate Certification (Ecopetrol S.A.) HSE Management Vice Presidency Transportation and Logistics

RULE : OHSAS 18001:2007

Exploration, production and exploitation of oil and gas. Production of refined and petrochemical products. Operation and maintenance of hydrocarbons transport. Commercialization of hydrocarbons, administrative processes and business support. Provision of technical operational and supervision services for maritime terminals and for the transport infrastructure of hydrocarbons through pipelines.

Corporate Certification (Ecopetrol S.A.) Vice President of Transformation

RULE : NTCGP 1000:2009

Extraction, collection, treatment, inspection, maintenance, delivery of crude oil, gas, intermediate products onshore and offshore, receipt, storage and transportation of hydrocarbons through pipelines, tanker trucks and riverboats, offshore and onshore maritime operation of loading and unloading of hydrocarbons in oil tankers, hydrocarbon refining and treatment and administrative processes to support the business.

Certification Vice Presidency Transportation and Logistics

RULE : ISO 9001:2015

Provision of technical operation and supervision services for maintenance of maritime terminals and for the transport infrastructure of hydrocarbons through pipelines.

Corporate Certification (Ecopetrol S.A.) HSE Management

RULE : ISO 14001:2015

Exploration, production and exploitation of oil and gas. Production of refined and petrochemical products. Operation and maintenance of hydrocarbon transport. Commercialization of hydrocarbons, administrative and/or business support processes.

Certification Vice Presidency Transportation and Logistics

RULE : ISO 14001:2015

Provision of technical operation and supervision services for maintenance of maritime terminals and for the transport infrastructure of hydrocarbons through pipelines.

Safety of Information Certification Colombian Petroleum Institute

RULE: ISO 27001

Technical-scientific information services supplied by the *Centro de Información Técnica* (Center for Technical Information) of the Colombian Petroleum Institute of Ecopetrol S.A.





ABOUT THIS REPORT

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GRI | 102-51 |, | 102-52 |, | 102-54 |, | 102-56 |

Ecopetrol prepares its Integrated Sustainable Management Report in accordance with the GRI Standards: comprehensive option (Global Reporting Initiative). It covers the Company's performance for the year 2019, which includes the Annual Management Report and the Sustainability Report.

The information contained in this report was verified by the firm BSD Consulting, to ratify adherence to the AA1000 AccountAbility Principles through

the assimilation of the AA1000AS (2008) * standards within Ecopetrol's management processes and the application of the principles and contents of the GRI standards. The financial figures and the financial statements are audited by Ernst & Young Audit S.A.S., whose certificate is included in the appendixes. It was verified by the Global Compact Colombian Local Network to comply with the 7th CoP, Advanced level and its Content Index was reviewed by GRI.

SCOPE AND LIMITATIONS

GRI | 102-50 |, | 102-32 |, | 103-1 |

This report provides an accounting of the relevant issues, the fulfillment of goals and the most important economic, social and environmental management indicators of Ecopetrol S.A. in Colombia

for the fiscal year from January 1 to December 31, 2019. In some sections, it includes information from partner or subordinate companies that will be noted explicitly herein.

POINT OF CONTACT

GRI | 102-53 |

Any concerns, questions or requests for additional information regarding this report should be addressed via email to: **reportedesostenibilidad@ecopetrol.com.co**.

Likewise, this report is made available to the general public on the Company's website at **www.ecopetrol.com.co** in both its English and Spanish versions.

* AA1000AS (2008): are internationally accepted assurance standards, which promote ethical, environmental, social and governance responsibility as part of the organizational DNA. Specifically, the AA1000AS standards establish the requirements for organizational sustainability assurance and transparency in accountability based on four principles: inclusivity of stakeholders, materiality responsiveness and impacts (<https://www.accountability.org/standards/>).

MATERIALITY

GRI | 102-44 |, | 102-46 |

Materiality is the determining principle for those relevant topics that are sufficiently important and therefore must be included in this report. In order to identify them, Ecopetrol considers a combination of internal and external factors that include, among others: the organization's

mission, its strategy, the concerns expressed by stakeholders and those expectations included in international standards with which the organization is expected to comply.

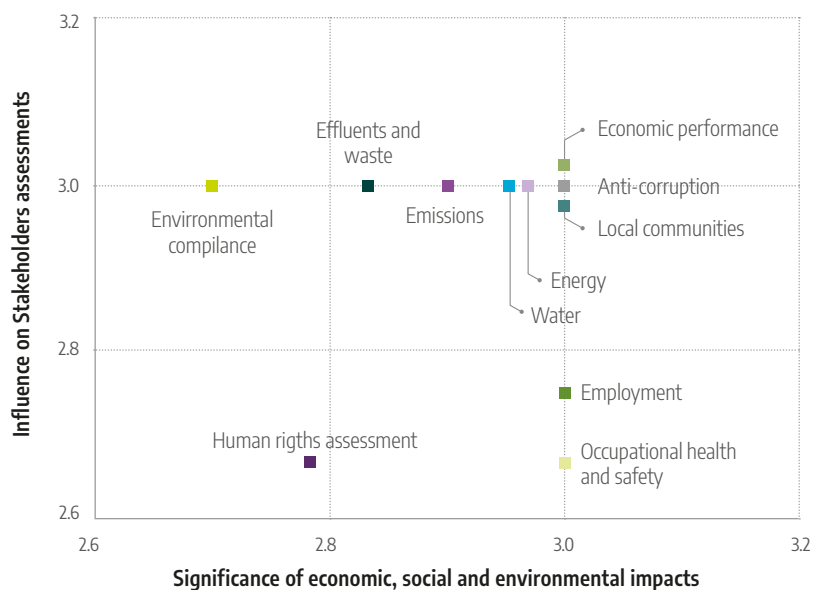
In order to determine materiality, a methodology was used that includes the following steps described below:



Each of the 33 topics was rated according to the defined scale, and an average of the three scores was subsequently calculated. (See Figure 1)

* The Ecopetrol Decalogue: the ten reasons evidencing that Ecopetrol is the energy that transforms Colombians, which will be further discussed in Chapter 1: On Ecopetrol.

Figure 1.
Material topics



Source: Ecopetrol, Secretaría General y Soporte a Presidencia

The matrix illustrates the 11 topics that were defined as material and that will be included in this report; however, it is important to point out that this report includes additional topics that Ecopetrol considers relevant.

The location of the material topics in this report is listed below, where further explanation is provided as to why these topics were identified as material, and the manner in which they are handled within Ecopetrol.

GRI | 102-47 |

Table 1. Location of material topics

Material topic	Chapter	Page	Material topic	Chapter	Page
Anti-corruption	Chapter 1	57	Water	Chapter 5	316
Occupational health and safety	Chapter 2	166	Emissions	Chapter 5	330
Economic performance	Chapter 3	201	Energy	Chapter 5	354
Employment	Chapter 4	221	Effluents and waste	Chapter 5	376
Local communities	Chapter 4	249	Environmental compliance	Chapter 5	388
Human rights	Chapter 4	278			

Source: Ecopetrol, Ecopetrol, Secretary General and Assistant to the Presidency

GRI | 102-12 |, | 102-49 |

This exercise to prioritize material topics considered relevant issues included in the materiality exercise carried out in 2017 as well. There were no significant changes

in the list of material topics and their coverage, and we continue to report in a single document on voluntary initiatives such as:



Ecoreserva La Tribuna, department of Huila





MESSAGE TO OUR STAKEHOLDERS

• • •

GRI | 102-14 |, | 102-15 |, | 102-56 |

This report summarizes the operational and financial management of the Company during 2019. A year characterized by important achievements that we are pleased to share with you throughout the pages of this report.

I would like to extend my most sincere appreciation to the more than 13 thousand workers of the Ecopetrol Group and to the nearly 33 thousand workers in our partner companies that made these results possible, of which we are proud and pleased.

This report is the eleventh completed under the Global Reporting Initiative (GRI) methodology and the third presented under the new GRI* standards.

Likewise, it is equivalent to the Communication on Progress (CoP) required by the United Nations Global Compact, and an expression of our commitment to this initiative.

The year 2019 will be remembered as one of the most relevant years in Ecopetrol's 68-year history due to the progress made in our commitments to energy transition, decarbonization and the furthering of our

socio-environmental investments, as well as the strengthening of our Company on the international sphere, in addition to our noteworthy operating and financial results.

Energy transition and renewable energy

As part of our commitment to mitigating the effects of climate change, we launched our first self-generating solar power park in the municipality of Castilla in El Meta, with 21 megawatts (MW) of installed capacity, and we recently announced, together with our transport subsidiary, Cenit, the construction of another self-generated solar park in that department, with an installed capacity of 50 MW.

With these two solar parks, we will prevent the emission of around 560 thousand tons of CO₂ into the atmosphere during the next 15 years, which is equivalent to planting over 4.4 million trees.

The Company intends to incorporate around 300 MW of unconventional renewable energy by 2022, and increase the installed capacity of these sources in our energy matrix from the current 5% to 20% by that same year.

To achieve this target, we are also participating in other initiatives such as the renewable energy sources auction carried out by National Government, wherein we were awarded a contract for the provision of 30 MW from renewable sources.

Reduction of GHG emissions and decarbonization

We committed ourselves to reducing our CO₂ (carbon dioxide) emissions by 20% for 2030. Over the past eight years, we reached reductions of 1.6 million tons through energy efficiency projects, reduction of routine flaring and the use of renewable energy, for a total cumulative reduction of 6.6 million tons during the past nine years.

Furthermore, this year we endorsed the World Bank-led initiative Zero Routine Flaring by 2030, in line with our decarbonization plan.

This great achievement, which also has a positive impact on the community, is Ecopetrol's contribution towards improving the air quality Colombians breathe. The diesel distributed in Colombia had a weighted average of 11 parts per million of sulfur (ppm), comparable to that consumed in developed countries, and 95 ppm in gasoline, below the levels required by current Colombian regulations of 50 ppm in diesel and 300 ppm in gasoline.

Better fuels produced in the Cartagena and Barrancabermeja refineries, together with the renewal of the motorized fleet, translated into a reduction by half of the particulate matter (PM2.5) in Transmilenio stations and buses in Bogotá, as verified in an analysis performed by the Universidad de los Andes, the District Secretary for Mobility and the District Secretary for the Environment, results which were further heightened by the successes achieved in Medellín owing to a joint strategy carried out with city authorities.

Committed to communities

Cognizant of the importance of our commitment to those communities where we operate, we undertook socio-environmental investments totaling over \$245 billion pesos and supported several national initiatives, such as the *Supérate* and *Generación E* programs, which seek

to prevent school dropout and promote values among the younger population.

Our socio-environmental investment by 2022, in a price environment of between USD \$50 and USD \$60 dollars/barrel, will be \$1.7 trillion pesos and will benefit nearly 1.2 million Colombians through initiatives in education, healthcare, sports, inclusive rural development, entrepreneurship, business development, public and community infrastructure and public services.

Innovation and digital transformation

The Company is betting on innovation with a digitization strategy that will improve the productivity and efficiency of our business through the use of artificial intelligence, blockchains and other technologies.

This program will address several fronts. One is called the Digital Agenda, with an investment of USD \$120 million in the first phase through ten projects for strategic areas, that will provide by 2023 between USD \$240 and USD \$300 million EBITDA.

Other projects are being developed in Campo D, a space where solutions are sought to improve productivity. For example, in 2019 we added more than 100 bots or programs that fulfill operational functions which were previously done manually. This resulted in a savings of 12,500 person-hours, and our workers now benefit by better employing this time in research activities that add more value to our organization.

This transformation is geared towards furthering the country's development. For this reason, we partnered with the National Government to create *CEmprende Bogotá*, the largest ecosystem in Colombia that encourages digital entrepreneurship and innovation.

Diversity and inclusion

At Ecopetrol, we foster an environment of diversity and inclusion, where each individual can develop their greatest potential throughout their career. We know diversity will lead us to greater creativity and innovation. For this reason, we are moving forward by instituting a program focused on furthering five key



initiatives identified by the Company: gender; disabilities; victims of conflict, former soldiers and pensioners/veterans of the armed forces; ethnic groups; sociocultural origin and conditions; and sexual orientation.

These initiatives are stimulated by over 100 sponsors, who are workers of the Company, and with the assistance of more than 220 volunteers and 28 partnerships with private and government entities.

Entering the big leagues

On the international front, we took significant steps aligned with our business strategy, which seek to consolidate our presence in the major oil leagues in the American continent.

We ventured into the Permian basin in the United States, an area with proven potential in that country, in order to develop unconventional deposits, through a partnership with OXY, which allowed us to incorporate 164 Mbpe of proven reserves (1P).

We also signed an agreement with Shell Brasil Petróleo Ltda. to acquire 30% stake in the *Gato do Mato* discovery, located in two offshore areas in the pre-salt Santos basin of Brazil.

At the end of last year, Hocol, a subsidiary of the Ecopetrol Group, signed an agreement with Chevron to acquire its interest in the emblematic offshore gas fields of La Guajira, Chuchupa and Ballena, which strengthen the

Group's position in the production of clean energy and are key in our energy transition. This project is pending approval by the Superintendence of Industry and Commerce (SIC for its Spanish acronym).

Additionally, our subsidiary Ecopetrol Óleo e Gas Brasil acquired a 10% stake of the Saturno block, located in the central region of the Santos basin, an area with the highest hydrocarbon potential in the western hemisphere. Saturno covers 1,100 square kilometers and is located off the coasts of the states of Sao Paulo and Rio de Janeiro.

In February 2020, we continued our partnerships with world-class companies by signing a highly relevant agreement with Shell for the development of the Colombian offshore, whereby the latter will acquire a 50% interest in the Fuerte Sur, Purple Angel and COL-5 blocks, located in deepwater of the Caribbean Sea, where we also have the Kronos, Gorgon and Purple Angel.

Additional reserves and production

In 2019, we incorporated 408 million barrels of oil equivalent (Kboe) in proven reserves, furthering the positive trend of 2017 and 2018. At the end of the year, the proven net reserves of the Ecopetrol Group reached 1,893 million barrels of oil equivalent and their average life increased from 7.2 to 7.8 years.

Regarding exploration, we finished drilling 20 exploration wells, thus exceeding the 12-well

goal for the year. The geological success rate was 40%, with eight successful wells.

We want to highlight the results of the Near-Field Exploration strategy, which consists of findings that allow us to add short cycles reserves given their location near production facilities.

We surpassed the established production goal, reaching 725 thousand barrels of oil equivalent per day, despite operational incidents and public order difficulties. The Liquefied Petroleum Gas (LPG) plant in the Cupiagua field began operations in October, which will produce between 7,000 and 8,000 barrels per day, thus providing access to thousands of families who consume this energy source.

In the transport segment, the volume transported increased by 4% compared to 2018, despite attacks on infrastructure by illegal armed groups. In the refining segment, we achieved a new historical maximum average throughput of 374 thousand barrels per day in the Barrancabermeja and Cartagena refineries, which validates their good performance, operational synergies and contribution to the production of cleaner fuels.

We would like to emphasize the implementation of the interconnection project between the original crude unit of the Cartagena Refinery and the new

refinery, with the aim of increasing its capacity to over 200 thousand barrels per day in 2021, which will in turn increase the production of cleaner fuels.

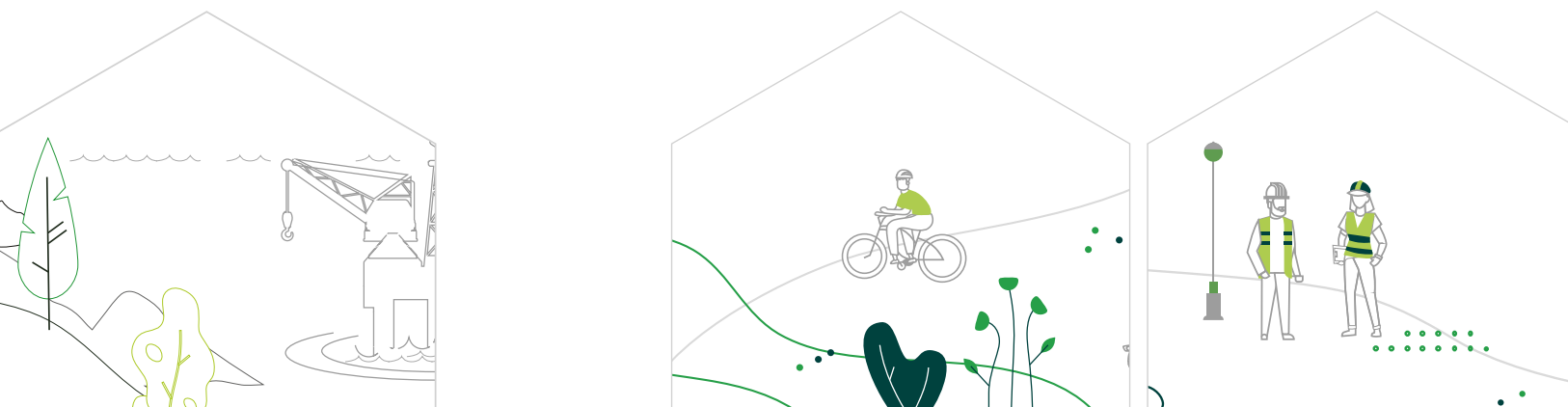
In marketing and sales, we were able to sell our crudes and products at very competitive prices, with less discounts, in markets that generated a greater value, due to a renewed commercial management that allowed us to get closer to our customers understand their needs and grow into a reliable supplier.

Best results of the past six years

The good operating performance permitted the Company to end an outstanding economic and financial year aligned with the fulfillment of our targets set in the 2019-2021 business plan.

Our net income was \$13.25 trillion of pesos, the highest of the past six years, and we achieved an EBITDA of \$31.1 trillion of pesos and an EBITDA margin of 44%, maintaining a moderate debt level without compromising our credit rating. In 2019, we invested USD \$4.4 billion in order to continue on our growth path.

It is important to emphasize that we remain committed to our efficiency plan, with cumulative efficiencies of \$3.3 trillion of pesos in 2019, a 22% increase compared to the previous year, which allowed us to exceed



the target foreseen in the 2019-2021 plan. During the past four years we have achieved savings of COL \$13.1 trillion and we will continue to work on this task.

For 2020, in a price environment between \$50 and \$60 USD/barrel, we have formulated an investment plan of between USD \$4.5 billion and USD \$5.5 billion. Of these investments, 78% will be carried out in Colombia, which will undoubtedly propel the economy, both nationally and regionally.

The investment budget is based on an equilibrium price of around US \$30 per barrel that would trigger a positive net income in 2020, which demonstrates the Company's resilience to fluctuations in oil prices.

The plan is aimed at maintaining the path of profitable and sustainable growth started in recent years, and advancing in energy transition with specific decarbonization, innovation, digital and technology targets, as well as to reinforce the positive social and environmental impact in the territories where we operate.

This year, we are preparing to move forward in the development of Comprehensive Research Pilot Projects (PPII) in unconventional deposits, which will provide the country with invaluable information on the feasibility of developing

unconventional sites in Colombia with the highest quality standards.

As we have reiterated in the past, the cornerstone for the development of our operations is the care of our workers and the environment, ethics and transparency, in order to generate greater value for all our shareholders. Likewise, we continue to implement the best Corporate Governance practices in order to streamline decision-making to allow us to fulfill our strategy and achieve value generation.

We thank all the workers of the Ecopetrol Group and our partner companies, our customers, partners, national and regional authorities, the communities, our Board of Directors for their leadership and each and every one of our shareholders for the trust they have placed in the management of Ecopetrol, a company that once again proves to Colombia that it is 'of all, for all'.



Felipe Bayón Pardo
PRESIDENT ECOPETROL S.A.

* The Global Reporting Initiative (GRI) is an international independent standards organization whose purpose is to encourage the preparation of sustainability reports in all types of organizations. To this end, it endorses guidelines that include the standards and indicators to measure and report a company's economic, environmental and social performance.



01 ABOUT



WHO WE ARE

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GRI | 102-1 |, | 102-5 |

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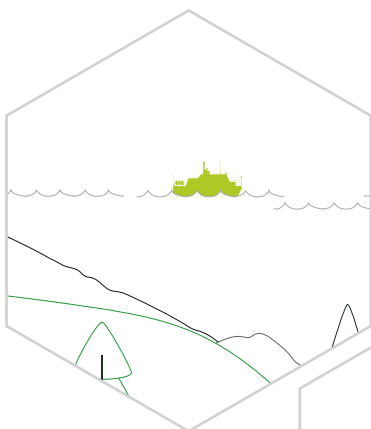
Ecopetrol S.A. is organized as a public limited company, affiliated to the Ministry of Mines and Energy. It is a mixed economy company, of an integrated commercial nature in the oil and gas sector, which participates in all links of the hydrocarbon chain: exploration, production, refining and commercialization.

GRI | 102-3 |, | 102-4 |

It has operations in the center, south, east and north of Colombia, as well as abroad. It has two refineries in Barrancabermeja and Cartagena and three ports for the export and import of fuels and crude oil in Coveñas and Cartagena on the Caribbean Sea, and Tumaco on the Pacific Ocean. It also owns most of the country's pipelines and polyducts that connect production systems with large consumption centers and maritime terminals. Likewise, it holds an interest in the biofuels business and has a presence in Brazil, Peru, Mexico and the United States (Gulf of Mexico and Permian Basin in Texas).

Ecopetrol's shareholding in other companies in the sector is provided in the Ecopetrol Group Special Report included further on in this Report.

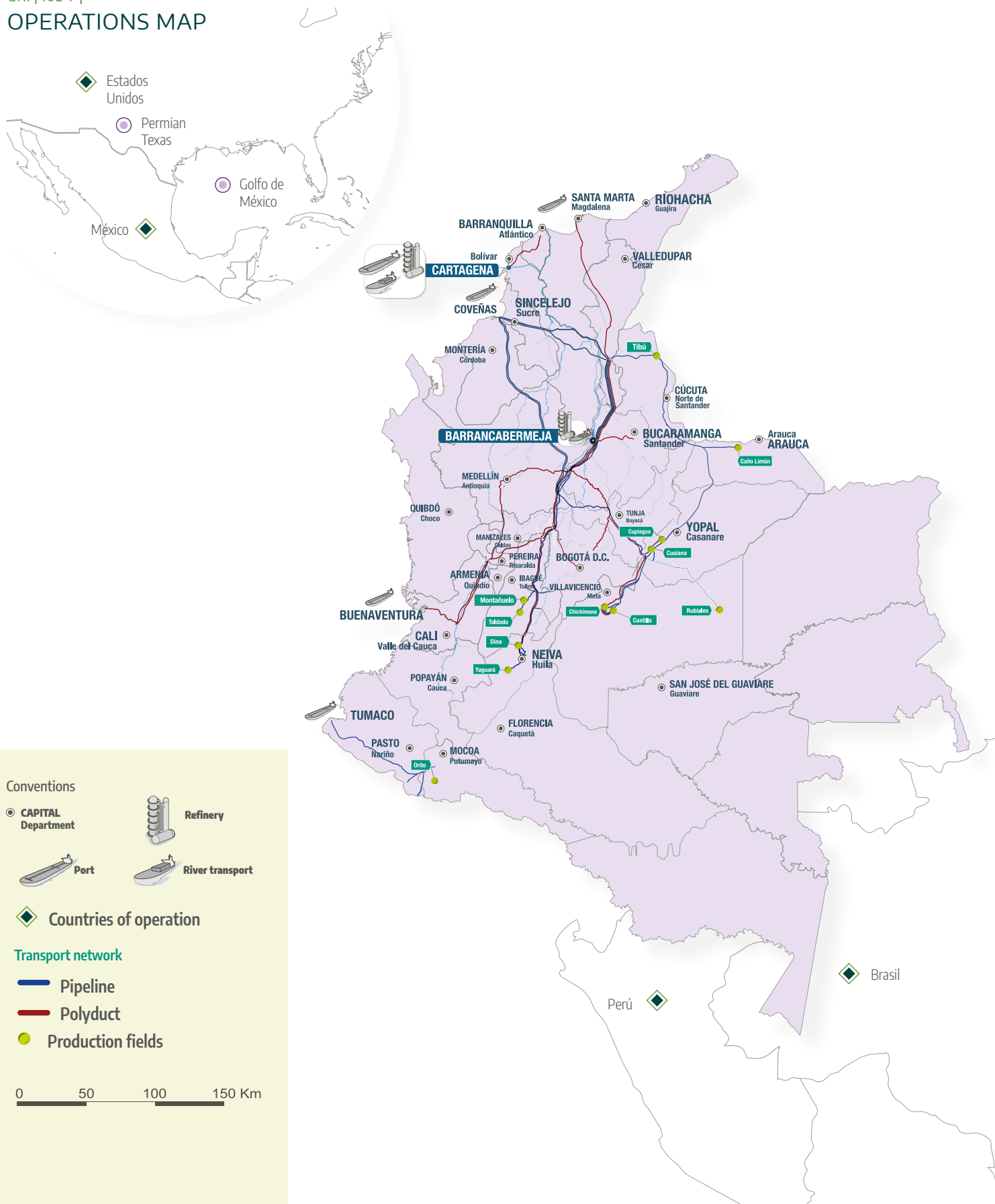
Ecopetrol's shares are listed on the Colombian Stock Exchange and its ADRs (American Depositary Receipts) are listed on New York Stock Exchange. The Republic of Colombia is the majority shareholder, with an 88.49% interest.



GRI | 102-7 |

OPERATIONS MAP

28

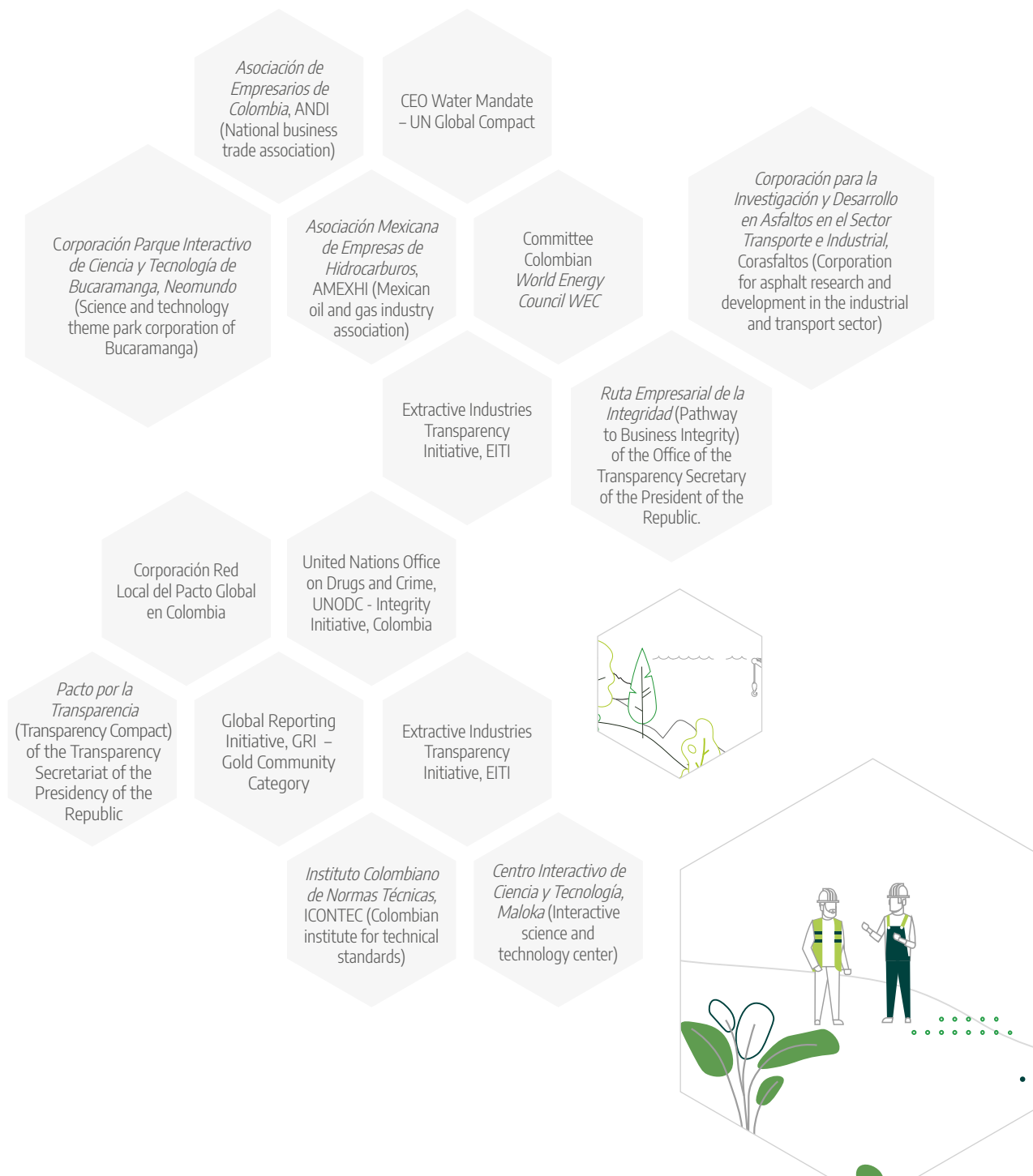


ASSOCIATIONS, TRADE ASSOCIATIONS AND VOLUNTARY INITIATIVES

GRI | 102-12 |, | 102-13 |

The different associations, trade association and voluntary initiatives endorsed by Ecopetrol are related to both the core business, as well as those initiatives that further its sustainability. The organizations with which Ecopetrol was affiliated during 2019 are listed below:

29





BUSINESS STRATEGY

• • •

GRI | 102-16 |

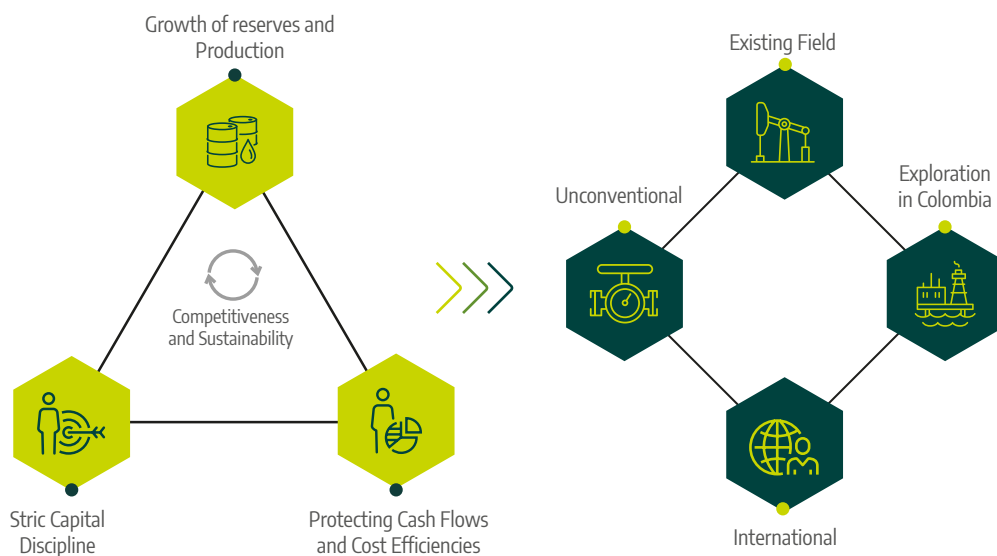
The business strategy approved by the Board of Directors is based on the central premise of the growth of reserves and production based on the fundamental pillars of the strict capital discipline, cash flow protection and cost efficiency.

The review of the Company's strategy is carried out by the Board of Directors, in sessions exclusively dedicated to this purpose, which allows it to efficiently implement the strategic direction, fulfilling in this manner its main role. In 2019, two exclusive sessions were

held to continue with the 2018 review in order to familiarize themselves with relevant advances, challenges and define next steps.

As part of the strategic advisor role undertaken by the Board of Directors for Ecopetrol and its Business Group, this corporate body annually conducts meetings designated wholly to the strategic review of the Company's activities, in which relevant progress and challenges are presented and issues to be dealt with are defined.

Figure 2.
Strategy 2020+
Generating value
as an integrated
business group



Source: Ecopetrol, Corporate Vice Presidency of Strategy and New Business

In the search to fulfill these premises, a plan has been designed that seeks actions in the **Upstream** segment aligned with growth and diversification, aimed towards increasing the average life of the reserves and ensuring a sustainable segment. This work entails addressing four fronts:

- ◆ Existing fields.
- ◆ Exploration in Colombia.
- ◆ Unconventional deposits.
- ◆ Internationalization and active development of M&A activities.

For the **Downstream** segment, the Refining Development Program (PDR for its Spanish acronym) has been built, targeting opportunities in fuel quality progress at the Barrancabermeja Refinery; capturing value by optimizing current assets at the Cartagena Refinery; seeking to increase throughput capacity through the interconnection of crude plants; and the maximization of synergies between refineries.

For the **Midstream** segment, the implementation of operational efficiencies in pipelines and polyducts has been established as a focal point thereof, as well as the capture of opportunities derived from the growth in fuel demand and the integrated management of the business chain, strengthening logistics.

The role of business enablers is of great importance for the proposed objectives, highlighting, among others, the relevance of digital transformation, commercial management aimed at optimizing the crude basket, the development of the market for gas and refined products, human talent management and the supply of products and services for projects and business operations.

In relation to the **challenges and opportunities presented by the energy transition**, the strategy has focused on developing plans that seek long-term sustainability, working on the following action lines:

• 01

Restructuring the Upstream Portfolio: towards a new portfolio with a greater share in gas and a greater percentage of short-cycle vs. long-cycle projects.

• 02

Climate Change: define the Company's long-term decarbonization goals, provide cleaner fuels to Colombia and increase the use of renewable energies to power operations.

• 03

Diversification: assess new opportunities and businesses alignment with energy transition challenges

Finally, it is worth noting that the business strategy emphasizes ESG issues and Corporate Responsibility in order to fully compliance with the UN Sustainable Development Goals and the Respect for Human Rights, as well as to comply with all corporate guidelines in terms of Ethics and Compliance that greatly impact reputation, among others.

NEW BUSINESS

The work focused on the evaluation and execution of businesses the corporate strategy to move forward, incorporating new assets in diverse basins, different types of hydrocarbon plays (areas with hydrocarbon prospectivity), geographies and products, and strengthening relationships with strategic partners of the Ecopetrol Group.

The new businesses of Ecopetrol and its Group are confirmed and approved by the Business

Committee of the Board of Directors, to ensure they are in line with the previously defined strategy.

During 2019, a transformational breakthrough was achieved for the Ecopetrol Group with its entry into the Permian basin in the state of Texas (USA), the most important unconventional deposits basin in the world (YNC for its Spanish acronym), through the creation and closing of a Joint Venture with Occidental Petroleum Corp.

The JV with Occidental Petroleum Corp. in the Permian Basin allowed Ecopetrol to incorporate 164 million barrels of oil equivalent in 1P proven reserves by the end of 2019. ■

In this partnership, which marks a new milestone in a relationship that spans more than 40 years between the two companies, Occidental holds a 51% interest in the JV, contributing its experience as an operator, and nearly 97,000 acres for development in an area that has high potential as regards to hydrocarbons in the Permian Midland. Alternatively, Ecopetrol holds a 49% share therein.

This business will contribute towards **diversifying the portfolio** through the incorporation of assets considered as short-cycle, wherein production is obtained in very short periods between the start of activities and extraction. It also allows to increase the share of light crudes, boosting the average API by almost 40 degrees, in order to balance the production matrix of the GE, which presently exhibits a large share held by heavy crudes.

In exploration, we acquired the rights for 13 blocks: ten in Colombia, two in the Gulf of Mexico in the United States and one in Brazil:

● **Cycle I of the Permanent Process for Allocation of Areas (PPAA)**

- LLA 86 Block (Llanos)
- LLA 87 Block (Llanos)
- LLA 104 Block (Llanos)
- COR 9 Block (Upper Magdalena Valley)
- GUAOFF 10 Block (Guajira Offshore)

● **Cycle II of the Permanent Process for Allocation of Areas (PPAA)**

- LLA 100 Block (Llanos)
- LLA 121 Block (Foothills)
- LLA 122 Block (Foothills)
- LLA 123 Block (Llanos)
- LLA 124 Block (Llanos)

● **MC-726 Block (Gulf of Mexico)**

● **MC-904 Block (Gulf of Mexico)**

● **Gato do Mato Block (Brazil)**

As regards to gas, an agreement was reached with Chevron Petroleum Company to purchase its stake in the Chuchupa and Ballena fields located in the department of La Guajira, through our subsidiary Hocol. The transaction is subject to approval by the Superintendence of Industry and Commerce (SIC for its Spanish acronym). Under the terms of the agreement, Hocol will acquire Chevron's 43% stake and will take the operator position, allowing the Group to enter into offshore gas operations.

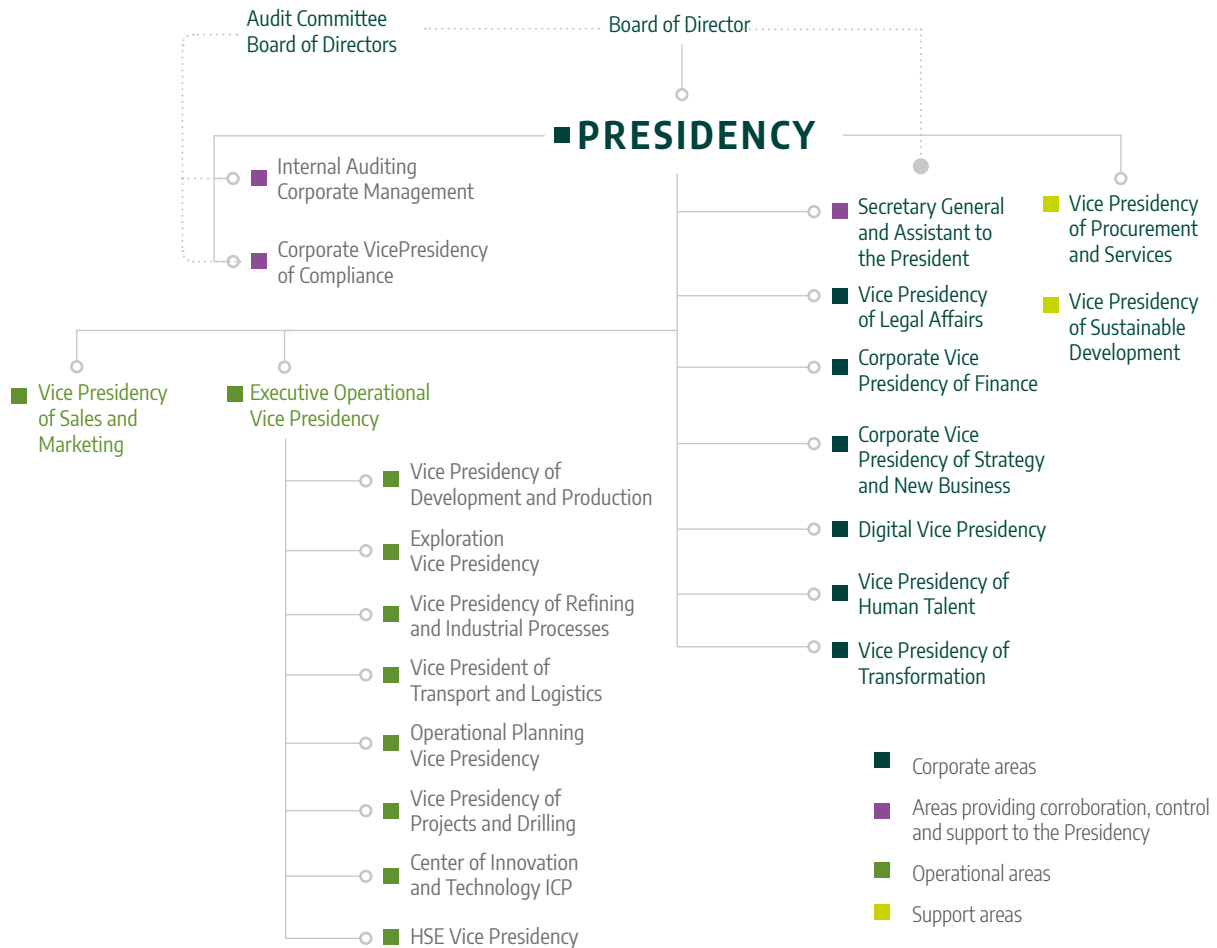
In Brazil, an agreement was signed with Shell Brasil Petróleo Ltda., to acquire a 30% interest in the Gato do Mato hydrocarbon discovery, located in the pre-salt. This transaction will strengthen the portfolio in this territory

and our hydrocarbons with additional contingent resources, as well as encouraging the relationship with a leading partner in the development of offshore projects.

We made notable strides to strengthen the Ecopetrol Group's alliances and relationships with strategic partners. During 2019, we secured relationships with the leading international companies in their fields, such as Occidental in the development and production of unconventional deposits and Shell in the development of highly complex offshore projects, as well as with companies specialized in the development of specific basins within Colombia, such as Parex and Geopark.

ORGANIZATIONAL STRUCTURE

Below is the organizational structure of Ecopetrol (positions that respond directly to the President and the Executive Vice President), effective as of December 31, 2019.



Source: Ecopetrol, Vice Presidency for Human Talent

| 102-20 |

The areas that have direct economic, social and environmental responsibilities are the following:



Economic

Corporate Vice Presidency of Strategy and Finance.



Social and environmental

Vice Presidency of Sustainable Development, Vice Presidency of Legal Affairs through the Legal Advisory Management of the General Environment, Vice Presidency of Human Talent, Vice Presidency of Procurement and Services, HSE Vice Presidency, and Secretary General through the Corporate Responsibility Management.

CHANGES IN THE ORGANIZATIONAL STRUCTURE

GRI | 102-10 |

In 2019, four major changes were made to the organizational structure, which become operative in 2020.

- The Vice Presidency of Projects and Engineering was integrated with Drilling and Completion Management, creating the Vice Presidency of Projects and Drilling.
- The HSE Vice Presidency was created, integrating HSE Management and Environmental Performance Management.
- The Piedemonte Regional Vice Presidency was created to receive the reversion of operations of the Floreña field.
- The Vice Presidency of Operations and Transport Logistics was created.



HIGHER PURPOSE

The corporate mission states that Ecopetrol works every day to build a better future: profitable and sustainable; with a healthy, clean and safe operation (clean barrels); ensuring operational excellence and transparency in each of its actions, and building mutually beneficial relationships with stakeholders.

This business statement was complemented, with the definition of a Higher Purpose that synthesizes Ecopetrol's reason for being: **"We are the energy that transforms Colombia"**.

Making it a reality entails that the Company and all its workers act in a manner committed with The Ecopetrol Group Decalogue, which evinces that Ecopetrol is the energy that transforms Colombia:

01

Respond to shareholders with operational excellence, profitability and value generation.

02

Contribute towards the country's energy security.

03

Generate shared prosperity in the territories where we operate, creating relationships of mutual respect, recognition and dialogue with the communities.

04

Develop workers by implanting in them collective leadership, excellence and humility, in an environment of diversity, inclusion and exceptional performance.

05

Protect the lives of people and the environment with the highest standards of occupational safety and health.

06

Ensure an ethical, transparent and efficient administration.

07

Treat water and environmental wealth with special care as essential elements of social welfare.

08

Assume the challenges of the industry as opportunities for innovation and the appropriate use of technology.

09

Team up with partners, contractors, suppliers and allies with whom Ecopetrol shares its values and strategy to generate value for its customers and stakeholders.

10

Work towards the development and welfare of the communities where the Company operates and of all Colombians.



CORPORATE RESPONSIBILITY

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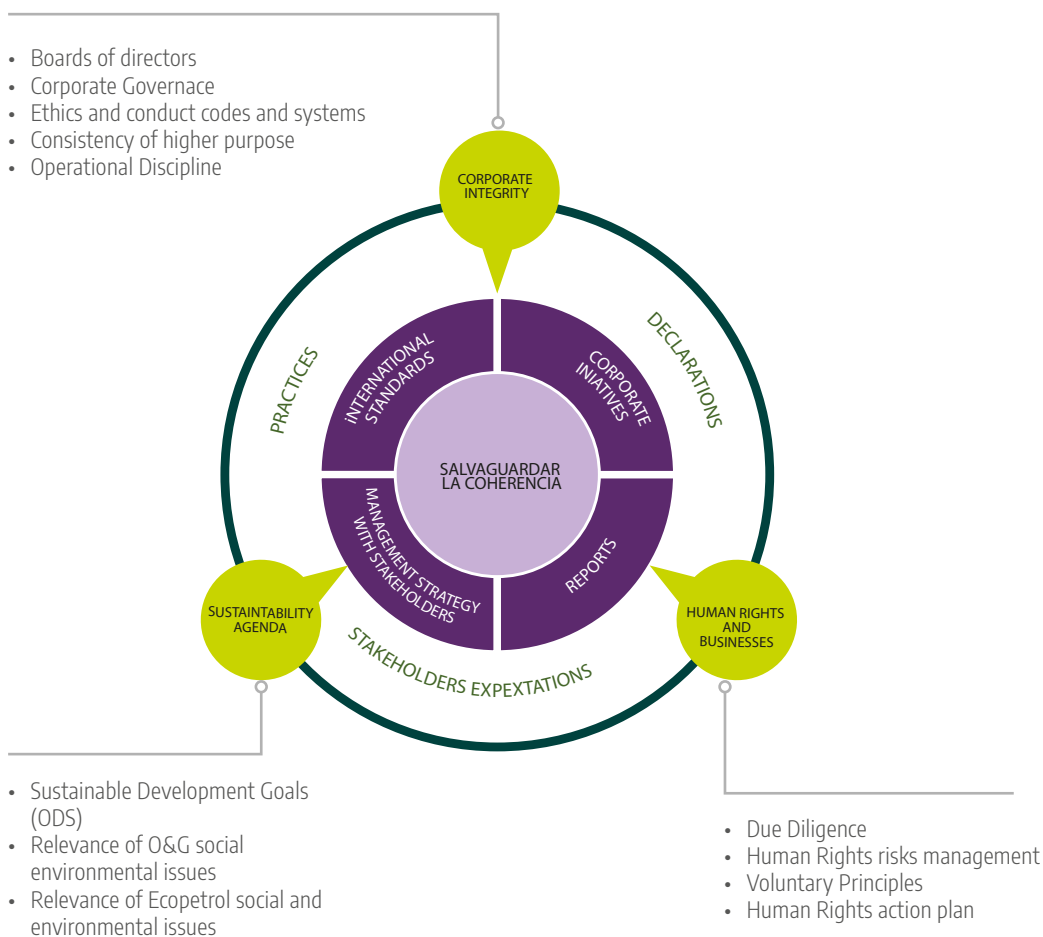
GRI | 102-48 |

In 2019, Ecopetrol began a process of updating its Corporate Responsibility strategic guidelines, beginning with the Decalogue, and aimed at instituting CR as a transversal component of the business strategy and to serve as an **enabler of the Higher Purpose** and the Ten Reasons that embody organizational behaviors.

The new Corporate Responsibility strategic guidelines, which began implementation in 2019, are developed through work in the three axes illustrated below:

35

Corporate Responsibility within Ecopetrol seeks to safeguard corporate coherence and **to guide businesses in the management of relevant non-financial matters.**



Source: Ecopetrol, Secretary General and Assistant to the Presidency



Corporate integrity

Seeks to ensure coherence between what the Company says, what it promises and what it practices. In order to monitor Ecopetrol's performance in this this axis, perception surveys of the seven (7) Ecopetrol stakeholders were conducted in 2019, measuring therewith the Ten Reasons or Decalogue of the Higher Purpose.



Business and Human Rights

Seeks to ensure the respect and promotion of Human Rights, based on the principle of due diligence. Human Rights Management in Ecopetrol is primarily supported by the Company's intention to lead by example, as is fitting for a Company wherein the State holds an interest, and bearing in mind that this is a transversal issue for the seven stakeholder groups.

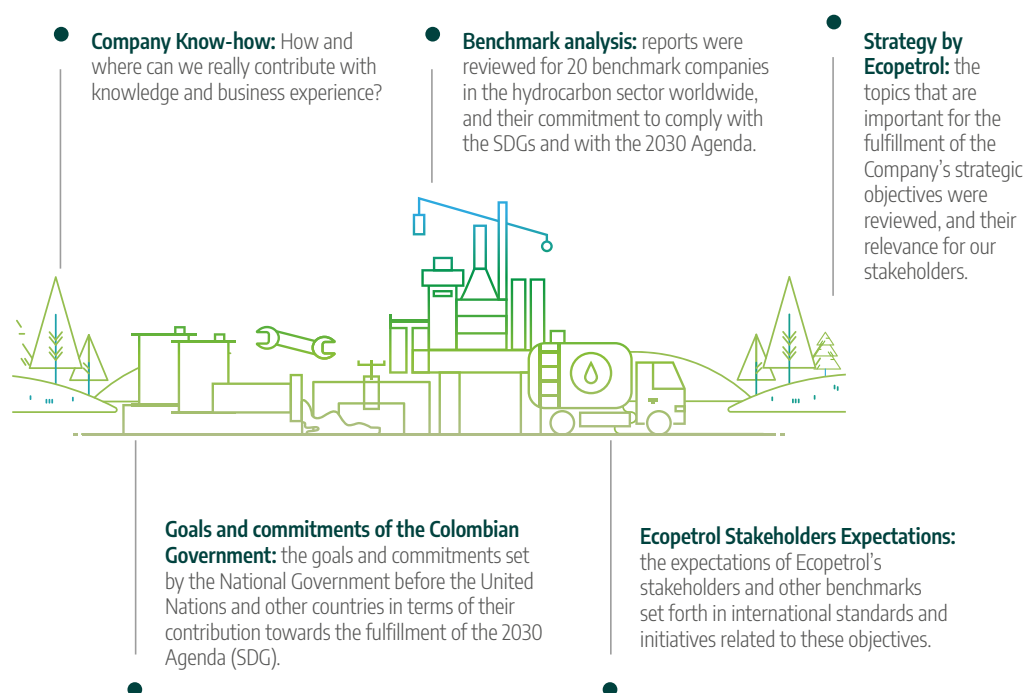


Sustainability Agenda

Seeks for Ecopetrol to consider the various variables that contribute towards identifying the Company's non-financial material issues through a continuous review process, which also aims to establish long-term goals that underwrite the sustainability of the Company. Additionally, during 2019, Ecopetrol carried out a rigorous prioritization exercise of the Company's contribution to the fulfillment of the Sustainable Development Goals (SDGs), thus establishing a clear path regarding the manner in which Ecopetrol contributes daily towards sustainable development, both in Colombia and globally.

Following the recommendations of the guiding documents that define SDGs at the corporate level, a review of those that should be a priority and are strategic for **Ecopetrol and their contribution to the 2030 Agenda was performed.**

The SDGs prioritization was based on the identification of criteria in terms of their contribution, relevance, evidence and experience. Those criteria which were identified and assessed were:





In addition to beginning the process of updating its Corporate Responsibility strategic guidelines, Ecopetrol's efforts in this field during 2019 focused on the following points:

STAKEHOLDER ENGAGEMENT

GRI | 102-42 |

In alignment with the ISO 26000 standard, stakeholder engagement establishes guidelines to promote responsible business management by Ecopetrol with each of its seven stakeholders.

In this manner, Ecopetrol has prioritized its performance in terms of its contribution towards the achievement of five specific objectives:

Clean water and sanitation



Affordable and clean energy



Decent work and economic growth



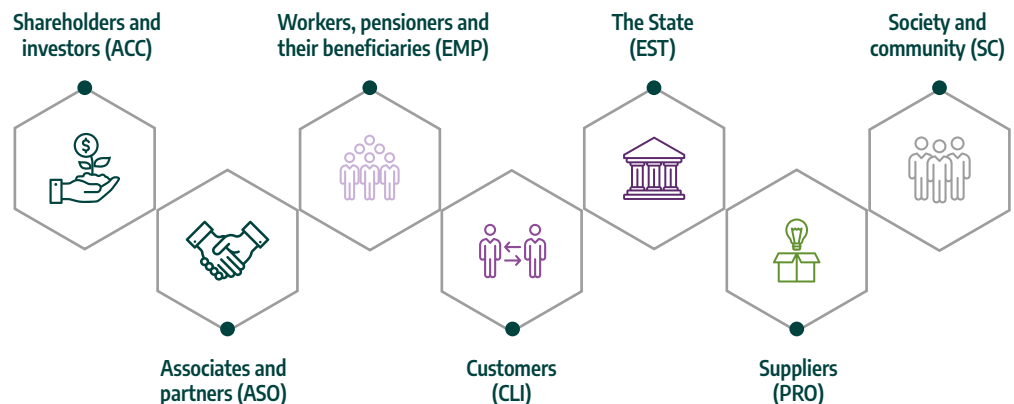
Responsible production and consumption



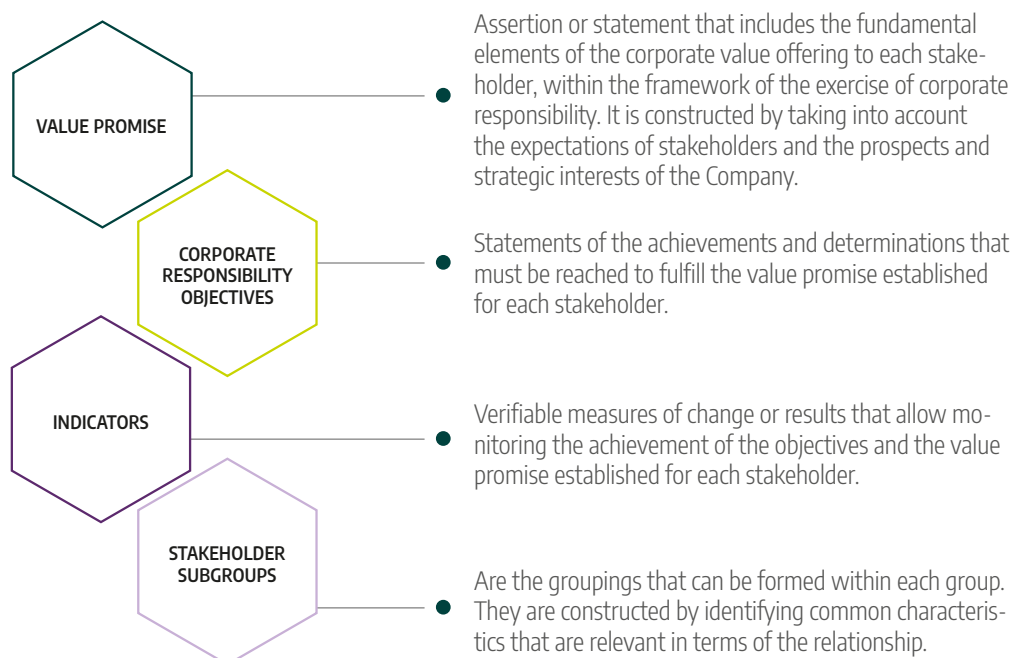
Climate action



The seven Ecopetrol stakeholder groups (with their Spanish acronyms), updated to 2019, are:



For each identified stakeholder group, a responsible area is assigned within the Company, which determines the following elements:



The stakeholder groups and subgroups of each grouping are shown in Table 2.

GRI | 102-40 |, | 102-43 |

Table 2. Ecopetrol Stakeholders Map – 2019

Stakeholder Group	Subgroup	Value promise
Shareholders and investors	Shareholders (natural persons) and Institutional Investors	Value promise: generate a solid and trusting relationship with shareholders and investors through the timely delivery of reliable and quality information
Associates and partners	Associates and production partners	Value promise: ensure sustainable joint businesses within a framework of transparent, reliable, efficient and mutually beneficial relationships
Customers	Refined products customers, gas customers, petrochemicals and industrial products customers and international customers	Value promise: build long-term and trusting relationships with our customers to become an ally for their business.
Workers, pensioners and their beneficiaries	Workers, pensioners, healthcare beneficiaries, trade unions organizations	Value promise: add value through the management of human talent, quality of life and their individual well-being.
The State	Entities related to Ecopetrol's participation in the Extractive Industries Transparency Initiative (EITI), entities related to the management of human rights within Ecopetrol	Value promise: contribute towards accountability in the hydrocarbon sector and promote respect for human rights in all our activities and operations
Suppliers	Strategic suppliers, core suppliers, leverage suppliers, routine suppliers	Value promise: transparency and clear rules in a mutually beneficial relationship.
Society and community	Communities and local authorities in the territories wherein we operate	Value promise: contribute towards the creation of conditions of shared prosperity in the territories that enables the viability of projects and the consolidation of operations

Source: Ecopetrol, Secretary General and Assistant to the Presidency

Additionally, each group defined in Ecopetrol's stakeholder map has a management plan, which includes the most appropriate initiatives and activities to interact and engage with each stakeholder, according to their particular characteristics.

GRI | 102-21 |, | 102-29 |, | 102-31 |, | 102-33 |, | 102-39 |

As part of the activities defined in Ecopetrol's Corporate Responsibility Strategy, the Secretary General periodically consults the perception and expectations of stakeholders. The Survey includes the stakeholders' appraisals of the economic, social and environmental issues, and its results are shown annually to the Corporate Governance and Sustainability Committee of the Board of Directors.

In addition to providing key inputs to build the Company's annual engagement plans with each stakeholder group, this exercise facilitates the understanding of the needs and expectations of these groups, in line with that established in the different management systems (ISO 9001, ISO 14001, OSHAS 18000).

Perception of Corporate Responsibility

In its interactions with the different stakeholders, Ecopetrol and its workers must steer their management and behavior in accordance with a set of corporate responsibility attributes, which are decisive for building and strengthening a relationships of trust. These attributes, in turn, are aligned with the Ecopetrol Decalogue that supports the Higher Purpose and that evinces that Ecopetrol is the energy that transforms Colombia (see Table 3).

To carry out the 2019 consult, 3,753 surveys were referred to Ecopetrol's seven stakeholder groups. A summary of the foremost results is shown below:

Table 3. Corporate responsibility attributes and their alignment with the Ecopetrol Decalogue

Attributes	Ecopetrol Decalogue
Generates value for its stakeholders	We team up with partners, contractors, suppliers and partners, with whom Ecopetrol shares its values and strategy to generate value for its customers and stakeholders.
Considers their interests and expectations	We are a Colombian group of companies with an international character that responds to its shareholders with operational excellence, profitability and value generation.
Builds relationships that generate trust	We generate shared prosperity in the territories in which we operate, creating relationships of mutual respect, recognition and dialogue with the communities.
Promotes dialogue and communication	
Is accountable for the consequences of its activities	
Is mindful of water and the environment	We treat water and environmental wealth with special care as essential elements of social welfare.
Employs environmentally friendly technologies	We assume the challenges of the industry as opportunities for innovation and the appropriate use of technology .
Respects Human Rights	Develop our workers by implanting in them collective leadership, excellence and humility, in an environment of diversity, inclusion and exceptional performance.
Promotes an environment of diversity and inclusion	
Promotes the development of its workers	
Behaves honestly and transparently	Ensure an ethical, transparent and efficient administration
Operates with high health and safety standards	We protect the lives of people and the environment with the highest standards of occupational safety and health .
Works for the well-being of the communities	We work towards the development and welfare of the communities where the Company operates and of all Colombians.
Contributes towards the country's energy security	We contribute towards the country's energy security .

Source: Ecopetrol, Secretary General and Assistant to the Presidency

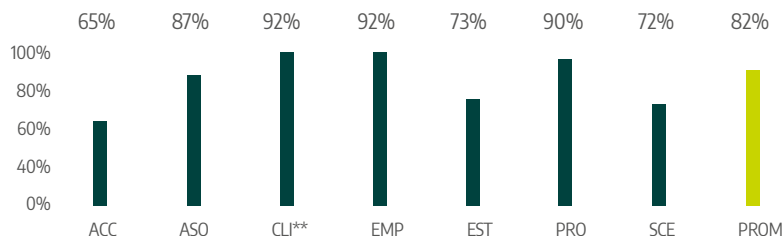
The interviewees rated their “level of agreement” with each attribute, using the Likert scale, where: 1 = Strongly disagree, 2 = Partly disagree, 3 = Neither agree nor disagree, 4 = Partly agree and 5 =

Strongly agree. The results shown in Figure 3 correspond to the percentage of respondents who scored in the two highest two ranking on the scale in each of the attributes (Top Two Boxes - T2B).

Figure 3.

Corporate responsibility Perceptions- 2019

Top two Boxes percentage* (T2B) by stakeholder group



Source: Ecopetrol, Secretary General and Assistant to the Presidency

** Percentage of respondents who scored in the top to two options on the scale (partially agree and strongly agree).

** For the Customers stakeholder group, the 2019 surveys were carried out by the *Centro Nacional de Consultoría* (CNC for its Spanish acronym), a national market research group which uses a Top Four Boxes (T4B) rating scale on a scale of 1 to 10. This is equivalent to a T2B percentage on a scale of 1 to 5.

Figure 4 shows the historical corporate responsibility perception results for the different stakeholders.

Figure 4.

Perception of corporate responsibility

Top Two Boxes (T2B) percentage by stakeholder group 2015 - 2019



Source: Ecopetrol, Secretary General and Assistant to the Presidency

* Except for 2017, the year when institutional investors were surveyed, the results correspond only to natural person shareholders. ** Corresponds to the results of the National State for the years 2018 and 2019, and the Regional Government for the years 2015 - 2017.

*** For the years 2015 to 2017, it corresponds to local communities. Since 2018, the Local Government has been included in this stakeholder group.

**** The 2019 results correspond to the corporate responsibility module of the Customer Satisfaction Survey, carried out by the *Centro Nacional de Consultoría* (CNC for its Spanish acronym), a national market research group which uses a Top Four Boxes (T4B) rating scale on a scale of 1 to 10. This is equivalent to a T2B percentage on a scale of 1 to 5 used in the previous years.

As can be seen, in 2019, the perception of Ecopetrol regarding its corporate responsibility improved in 4 of the 7 stakeholder groups: workers, customers, suppliers, and society, community and local government.

STAKEHOLDER EXPECTATIONS

The surveys also include specific questions to discover the main expectations of the stakeholders. This exercise provides a deeper understanding of each group and guides

the identification of the issues with the greatest materiality. A summary of the main expectations and opportunities for improvement suggested by each stakeholder is shown in Table 4.

GRI | 102-44 |

Table 4. Main stakeholders' expectations - 2019

Stakeholders	Expectations and opportunities for improvement identified by stakeholders
Shareholders and investors	<ul style="list-style-type: none"> Maintain opportunities for dialogue, information and communication with natural person shareholders. Communicate results, challenges and goals regarding the environment, transparency and the fight against corruption
Associates and partners	<ul style="list-style-type: none"> Focus 2020 management on: timely delivery of information, effectiveness of meetings and management of response times. Report on results, challenges and goals regarding transparency and the fight against corruption.
Customers	<ul style="list-style-type: none"> In 2019, the expectations and opportunities for improvement for this stakeholder group were not specifically consulted.
Workers, pensioners and their beneficiaries	<ul style="list-style-type: none"> Acknowledging Ecopetrol as a Company that contributes to the quality of life of workers and their families. Strengthen the communication of results, goals and challenges regarding the environment and the fight against corruption.
National State	<ul style="list-style-type: none"> Acknowledging Ecopetrol as a promoter of transparency in the hydrocarbon sector and leader in the implementation of human rights standards Strengthen communications on Ecopetrol's contributions to the State (national state and local governments).
Suppliers	<ul style="list-style-type: none"> Maintain opportunities to carryout engagement with suppliers (e.g. conferences, reinforcement workshops, etc.). Communicate results, challenges and goals regarding the environment, transparency and the fight against corruption.
Society and community	<ul style="list-style-type: none"> Strengthen communications on Ecopetrol's contributions to local communities. Strengthen communications on initiatives developed to care for and protect water and the environment. Seek greater proximity and interaction with communities (rural counties) in influential areas for the Company's operations.

Source: Ecopetrol, Secretary General and Assistant to the Presidency

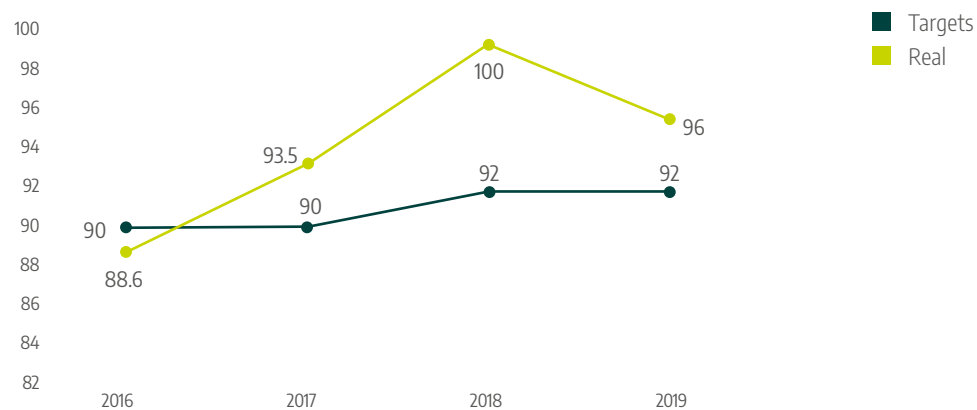
MONITORING PERFORMANCE IN CORPORATE RESPONSIBILITY

The degree of progress in the Corporate Responsibility Objectives of each stakeholder group is measured through 25 specific indicators defined by the different areas of Ecopetrol, which are added in the **"Compliance Level of Stakeholder Engagement"** indicator, which reached a level of compliance of 96% in 2019, compared to the target of 92% (see Figure 5).

It should be noted that there is a decrease versus the results obtained in 2018, due to non-compliance in 1 of the 25 indicators corresponding to the Shareholders and Investors Interest Group, specifically at Ecopetrol's perceived level of engagement, reaching a level of 65% in contrast to the target of 71% (see Table 5).

42

Figure 5.
Compliance Level
of Stakeholder
Engagement



Source: Ecopetrol, Secretary General and Assistant to the Presidency

The results for each indicator are shown in Table 5.

Table 5. Results of corporate responsibility management in 2019

Stakeholders	Results
Shareholders and investors	50%
Associates and partners	100%
Customers	100%
Workers, pensioners and their beneficiaries	100%
National State	100%
Suppliers	100%
Society and community	100%

Source: Ecopetrol, Secretary General and Assistant to the Presidency

DIALOGUE WITH STAKEHOLDERS

GRI | 102-44 |

An adequate exercise of corporate responsibility implies the existence of communication channels that contribute towards maintaining and improving the relationship with stakeholders. For this, mechanisms must be in place to properly receive and manage requests, complaints, claims and suggestions (PQRS for its Spanish acronym), **ensuring a timely and thorough response**. In the same manner, involvement scenarios are necessary, which offers the opportunity to learn about their expectations

and to keep them informed regarding the activities performed by the Company.

To effectively conduct this dialogue with stakeholders, Ecopetrol has Citizen Participation Offices (OPC for its Spanish acronym) that guarantee the rights of the interested parties to express their positions and concerns to the Company. OPCs have a flat structure, directed by subjects and with a regional presence in different parts of the country, as is noted in Table 6.

43

Table 6. Network of Citizen Participation Offices

Regional	Office
Headquarters and central offices	Bogotá D.C.
Caribbean Pacific	Cartagena
	Barrancabermeja
	Bogotá D.C.
Central	Bucaramanga
	Cúcuta
	Corregimiento El Centro (district)
	Tibú
Eastern	Puerto Gaitán
	Acacias
	Castilla La Nueva
	Guamal
Orinoco	Villavicencio
	Yopal
	Neiva
	Orito

Source: Ecopetrol, Vice Presidency for Sustainable

The *Oficina de Participación Nacional* (National Participation Office) recognized **Ecopetrol's Programa Nacional de Servicio Ciudadano (National Citizenry Service Program)** for its efficient management and excellent results, serving a model and example for other entities in the sector.

Citizen participation in Ecopetrol is carried out through a set of processes described below. In each case, the most relevant events and results carried out during 2019 are highlighted.

CITIZEN SERVICES

GRI | 103-3 |, | 413-1 |

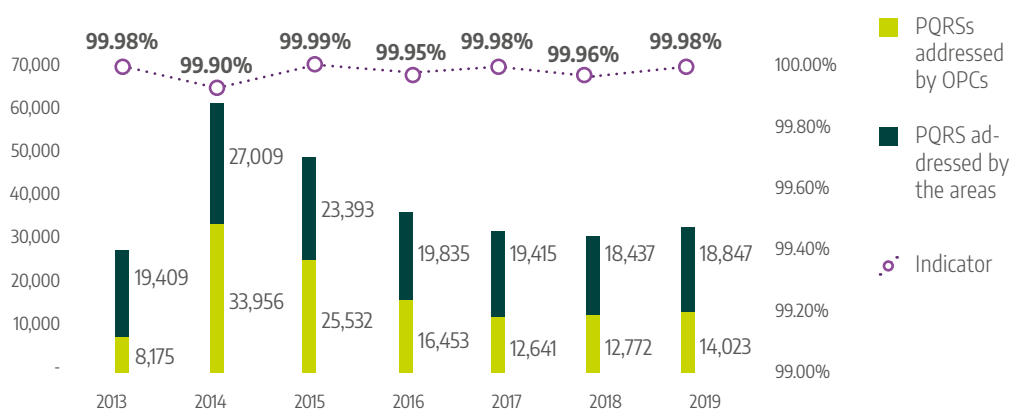
To guarantee the timely response to PQRSs, Ecopetrol has a network of over 300 solution providers distributed across all areas.

Since the opening of the Citizen Participation Offices in May 2005, around 400 thousand citizen requests have been addressed, half

of these within in the past seven years. The timely citizen service indicator level has on average been 99.96%, and in the 2019 it reached a **99.98%** level of compliance (see Figure 6), given that of a total of 37,871 PQRS received, only seven of these were addressed beyond the established term.

Figure 6.

Citizen services



Source: Ecopetrol. Vice Presidency of Sustainable, OPCs

The results for each stakeholder group are shown in Figure 7.

Figure 7.

Timely Citizen Compliance Indicator – 2019



Source: Ecopetrol. Vice Presidency of Sustainable

OPPORTUNITIES FOR PARTICIPATION AND DIALOGUE

GRI | 413-1 |

During these opportunities for engagement, the **expectations and needs of the stakeholders** are heard and the operational results of the Company are

disclosed. Although fewer activities were carried out in 2019, participation was substantially higher than that achieved the previous year (see Table 7).

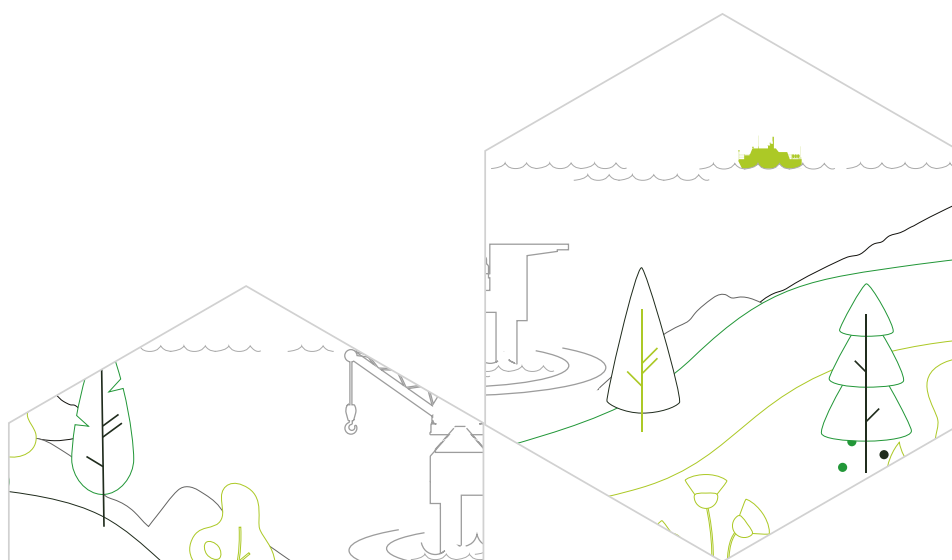
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Table 7. Opportunities for participation and dialogue with stakeholders

Year	Number of Attendees			
	Caribbean Pacific	Central	Orinoco and Eastern	South
2015	508	1,159	608	451
2016	183	510	1,052	137
2017	33	406	3,091	390
2018	224	1,175	3,972	358
2019	439	2,377	5,330	611

Year	Number of Events			
	Caribbean Pacific	Central	Orinoco and Eastern	South
2015	18	116	18	21
2016	19	67	19	22
2017	4	36	12	14
2018	23	102	122	23
2019	20	111	176	27

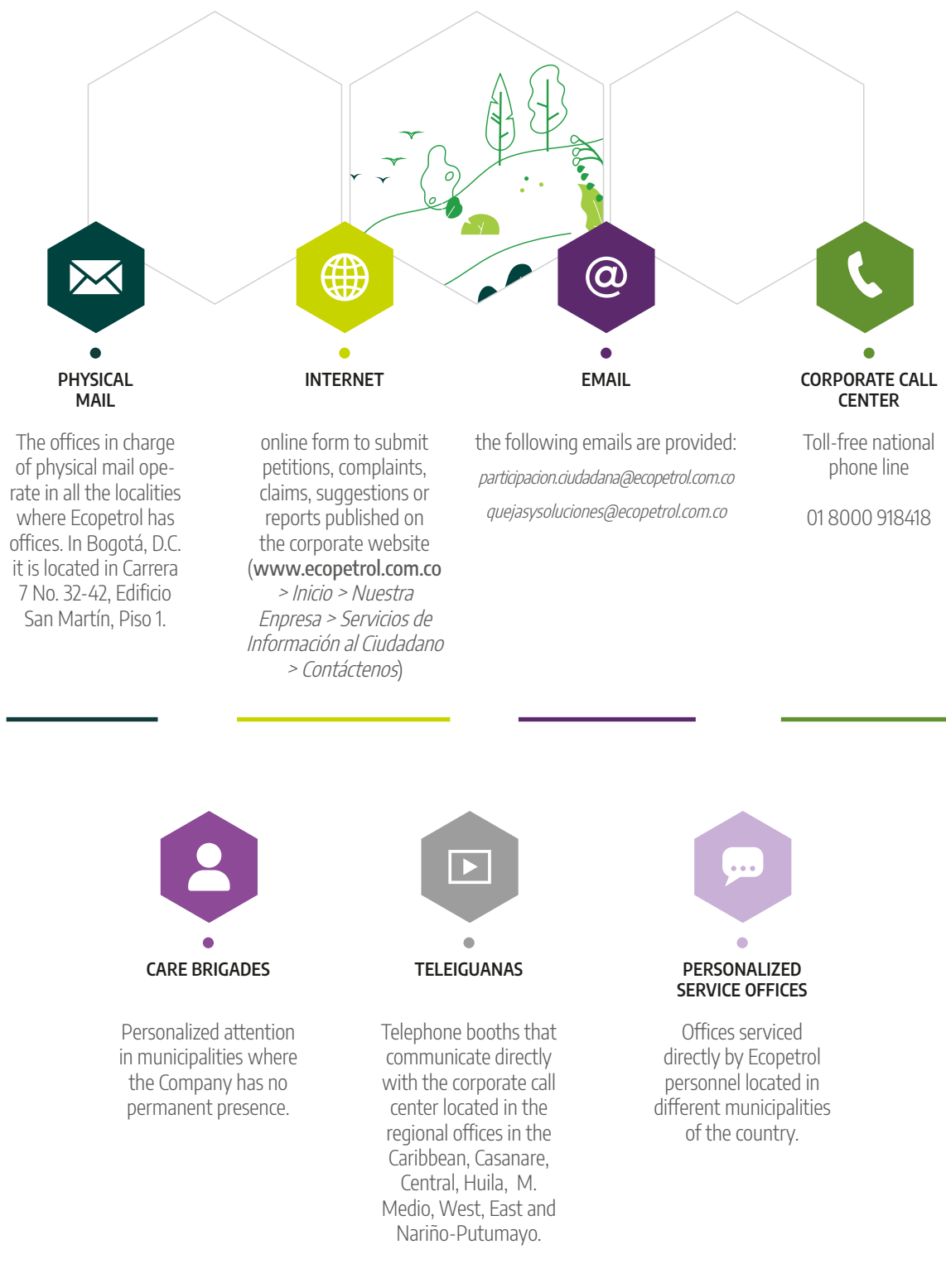
Source: Ecopetrol. Vice Presidency for Sustainable and Environmental Development, OPCs



COMMUNICATION CHANNELS

In addition to the Citizen Participation Offices located in the different regions of the country, during 2019 Ecopetrol provided stakeholders the following communication channels:

46

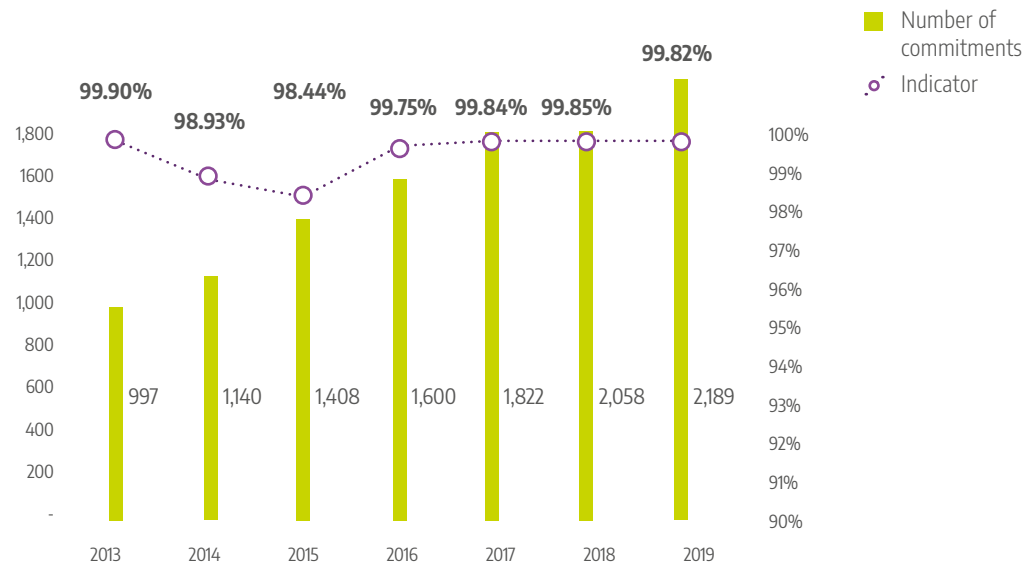


COMMITMENT MANAGEMENT

As a result of the processing of PQRs and the different dialogue opportunities provided, it is common for commitments between Ecopetrol and its stakeholders to emerge thereof, whose compliance strengthens the construction of long-term relationships. This process is measured

thru the commitment management indicator, which presents an accrued result for 2019 of 99.82% (see Figure 8), to the extent that out of a total of 2,189 commitments, only four commitments were addressed outside of the established terms.

Figure 8.
Commitment management



Source: Ecopetrol. Vice Presidency for Sustainable and Environmental Development, OPCs

MONITORING OF STAKEHOLDER ENGAGEMENT

GRI | 102-29 |, | 102-44 |

As an expression of its commitment to continuous improvement, the OPCs analyze and monitor the PQRs submitted by the different stakeholders. This serves to identify the root causes from which they originate and identify opportunities for improving the Company's processes, in turn permitting their eradication or allowing for their control.

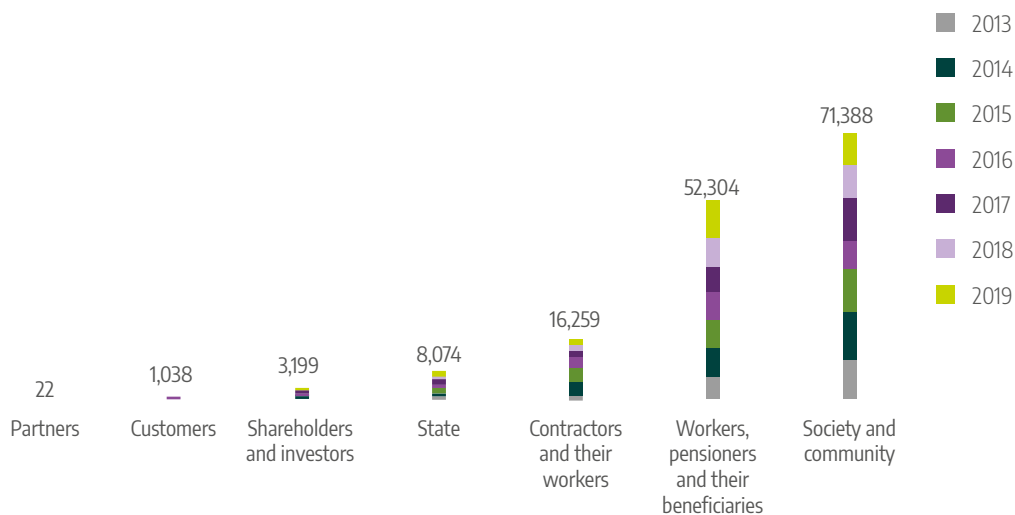
Which are conveyed through different media to senior management and key professionals in the different areas of the Company.

The analysis of the PQRs submitted during the past seven years (see Figure 9) and included in the monitoring reports, evince that the groups exhibiting the most dissatisfactions are Community and Society and Workers, Pensioners and their Beneficiaries, and Contractors.

During 2019, monitoring of stakeholder engagement included the preparation of **12 national and 36 regional stakeholder monitoring reports.**

Figure 9.

Complaint and dissatisfaction behavior (accrued 2013 - 2019)



Source: Ecopetrol. Vice Presidency of Sustainable, OPCs

In addition to monitoring reports, an **Interest Group Dissatisfaction Alert Report** is carried out monthly, the purpose of which is provide a behavioral alert on issues that represent the greatest risks to the organization.

By conducting root cause analysis and establishing improvement or mitigation plans, we seek for the

dissatisfactions related to these issues to veer towards zero.

Since 2013, the performance of this exercise has allowed the implementation of improvement plans in key issues, including: dissatisfaction with healthcare services, alleged breaches of the civil and labor obligations of contractors, and damage to third parties generated by Ecopetrol or contractors.

ACCOUNTABILITY

Ecopetrol systematically carries out the legal accountability processes with its stakeholders. Among the mechanisms it employs, the general shareholders' meeting,

public accountability hearings, scenarios for participation, the website, the integrated sustainable management report and addressing requests for information are worth noting.



ENVIRONMENTAL CLAIMS

In 2019, 406 complaints on the following topics about alleged environmental impacts generated by Ecopetrol or its contractors in the course of their industrial and commercial activities were addressed, as follows (see Table 8):

Table 8. Claims about alleged environmental impacts

Type of damage	Number of cases
Crops and vegetation	112
Affectations to bodies of water	108
Management of chemical substances or waste	68
Odors	41
Noise	34
Atmospheric emissions	24
Property damage	19
Total	406

Source: Ecopetrol. Vice Presidency for Sustainable and Environmental Development, OPCs

Regarding the validity of these claims, 47% of the cases were valid, that is, they corresponded to events for which the Company had to provide remedial measures.

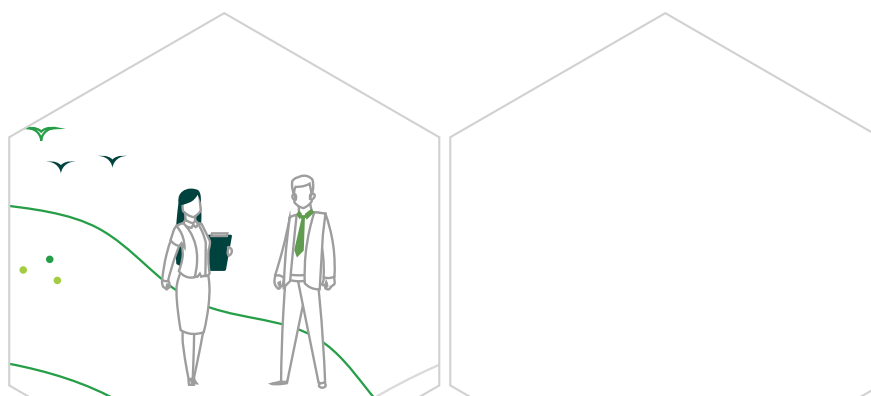
The details of said claims can be accessed through the Citizen Participation Office. It should be clarified that the data in Table 8 does not include requests.

LABOR PRACTICES AND DISCRIMINATION CLAIMS

During 2019, there were no complaints by Ecopetrol workers regarding labor practices. The contractors' workers submitted 16 claims, which Ecopetrol conveyed to the corresponding companies, given that these companies bear the condition of employer and therefore were responsible for ensuring adequate working conditions for their workers.

2019 corresponding to "Alleged lack of transparency / discrimination in a selection process" and "Workplace discrimination", and none were considered valid. That is to say, no facts or circumstances were found to corroborate that these individuals were effectively discriminated against by Ecopetrol or its partners.

Pertaining to discrimination, seven complaints were received during





GOVERNANCE



Governance is understood as the system and principles that ensure the decision-making process that guides the behavior of the Ecopetrol Group in order to contribute towards the achievement of corporate objectives, of economic, social

and environmental development, and the protection of human rights, taking into consideration the expectations of its stakeholders. It promotes integrity, transparency and accountability at the corporate level.

CORPORATE GOVERNANCE

Corporate Governance encompasses the set of rules and practices governing the decision-making process between the governing bodies of the Ecopetrol Group, as well as the relationship among the companies that comprise it.

In the Company, Corporate Governance is managed through a Governance Model and Structure that ensures proper decision-making by the governing bodies.

The Board of Directors, through its Corporate Governance and Sustainability Committee, is the competent body that adopts and implements best practices in relations with the different stakeholder groups.

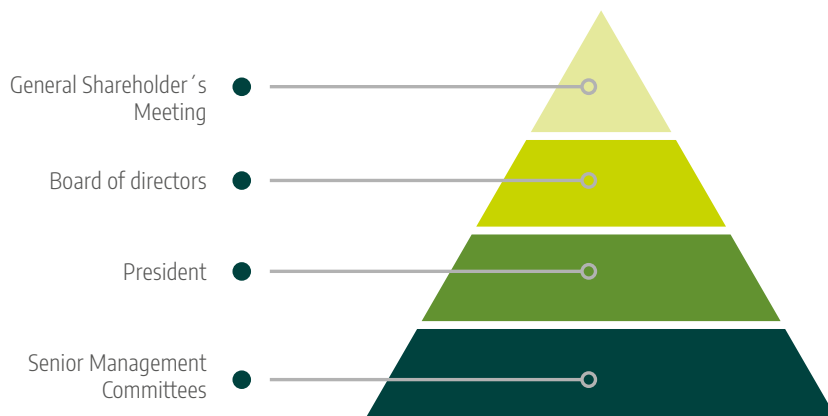
In 2019, among others, this Committee verified the process for the nomination and election of the Board of Directors, determined the issues to raise at the ordinary and extraordinary meetings of the General Shareholders' Meeting, as well as the evaluation of the President of the Company.

The Corporate Governance Model was defined based on the legal requirements, international standards, best practices and the Group's strategy, in order to ensure adequate decision-making by the governing bodies in terms of agility, clarity and consistency, as well as to encourage synergies between Ecopetrol and the Group companies.

GRI | 102-18 |

GOVERNANCE STRUCTURE

Ecopetrol has a clearly defined governance structure that ensures adequate decision-making, control, accountability and value generation. The detail of the different organs and committees that comprise the governance structure can be found in the Annual Corporate Governance Report found on page 82 of this report.



General Shareholders' Meeting

It is the highest corporate directive body and consists of the holders and/or proxies of the subscribed share capital, meeting in accordance with the regulations established in the Law and the Corporate Bylaws.

Board of Directors

It is the highest administrative body, it acts according to the rights of the shareholders and ensures the sustainability and growth of the Company. It is comprised of nine members, without alternates, elected by the General Shareholders' Meeting through the electoral quotient system, for periods of two years, and has six committees comprised by members of the Board to assist the fulfillment of their functions: Audit and Risks, Business, Corporate Governance and Sustainability, Remuneration and Appointments, HSE

and Technology and Innovation. All the Chairpersons of the aforementioned Committees are independent members.

The current Board of Directors was elected by the General Shareholders' Meeting at the ordinary meeting of March 29, 2019, except for the members Hernando Ramírez Plazas and Carlos Gustavo Cano, who were elected at the meetings of March 23, 2018 and March 31, 2017 respectively. As of December 31, 2019, none of the members of the Board of Directors had lost their independent status.

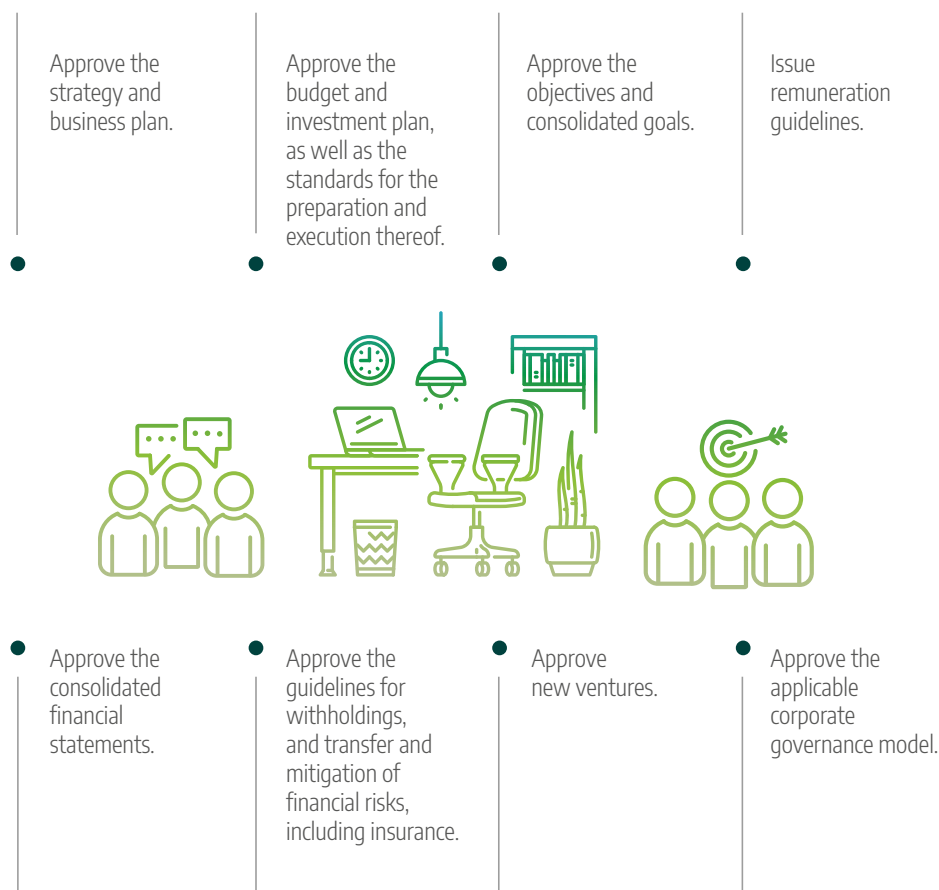
Additional information on the Board of Directors of Ecopetrol can be found on the Company's website, at



Rubiales Production Field



In accordance with the Corporate Governance Model, **the Board of Directors of Ecopetrol exercises the role of Strategic Conductor for the Group.** The Company's Bylaws establishes the following as part of its duties at the Ecopetrol Group level:



GRI | 102-23 |

President

Is in charge of directing and administering the Company. It is the person in charge of executing all the operations and activities included in the corporate purpose and acts as Ecopetrol's legal representative.

The President is elected by the Board of Directors for periods of two years, **and their election is conducted taking into account suitability, knowledge, experience and**

leadership criteria, and they may be re-elected or dismissed at any time by the Board of Directors.

In accordance with the provisions of the Corporate Bylaws, in accordance with best practices for corporate governance, the President of Ecopetrol cannot be appointed as Chairperson of the Board of Directors.

GRI | 102-19 |, | 102-18 |, | 102-26 |

Steering Committees

The structure and practices of the Steering Committees was one of the Corporate Governance elements updated in 2019. The Model's objective for this element sought

to optimize the operation of the Steering Committees in order that they become more agile in their decision-making, through the following:



Alignment of decisions in accordance with the competence of the committees



Increased fluidity and security in discussions



Optimization of agendas

Ecopetrol's Corporate Governance defined the Steering Committees as those collegiate bodies that constitute a **management tool to support the President of Ecopetrol in its activities**, within the framework of the proper fulfillment of the corporate purpose. Ecopetrol has 12 Steering Committees

that are chaired by the President and made up of senior Company executives: Directive, Executive (ExCo), Investments and Business, Operations, Legal Defense and Conciliation, Ethics, Internal Audit, Resources and Reserves, Segments: Upstream, Midstream, Downstream and Commercial.

The administration and continuous improvement mechanisms of the Steering Committees include:



Operating guidelines: the internal guidelines detail their competence or topics under their care, participants, roles, voting mechanisms, type of documentation required prior to the sessions, times for preparing and formalizing minutes, among others.



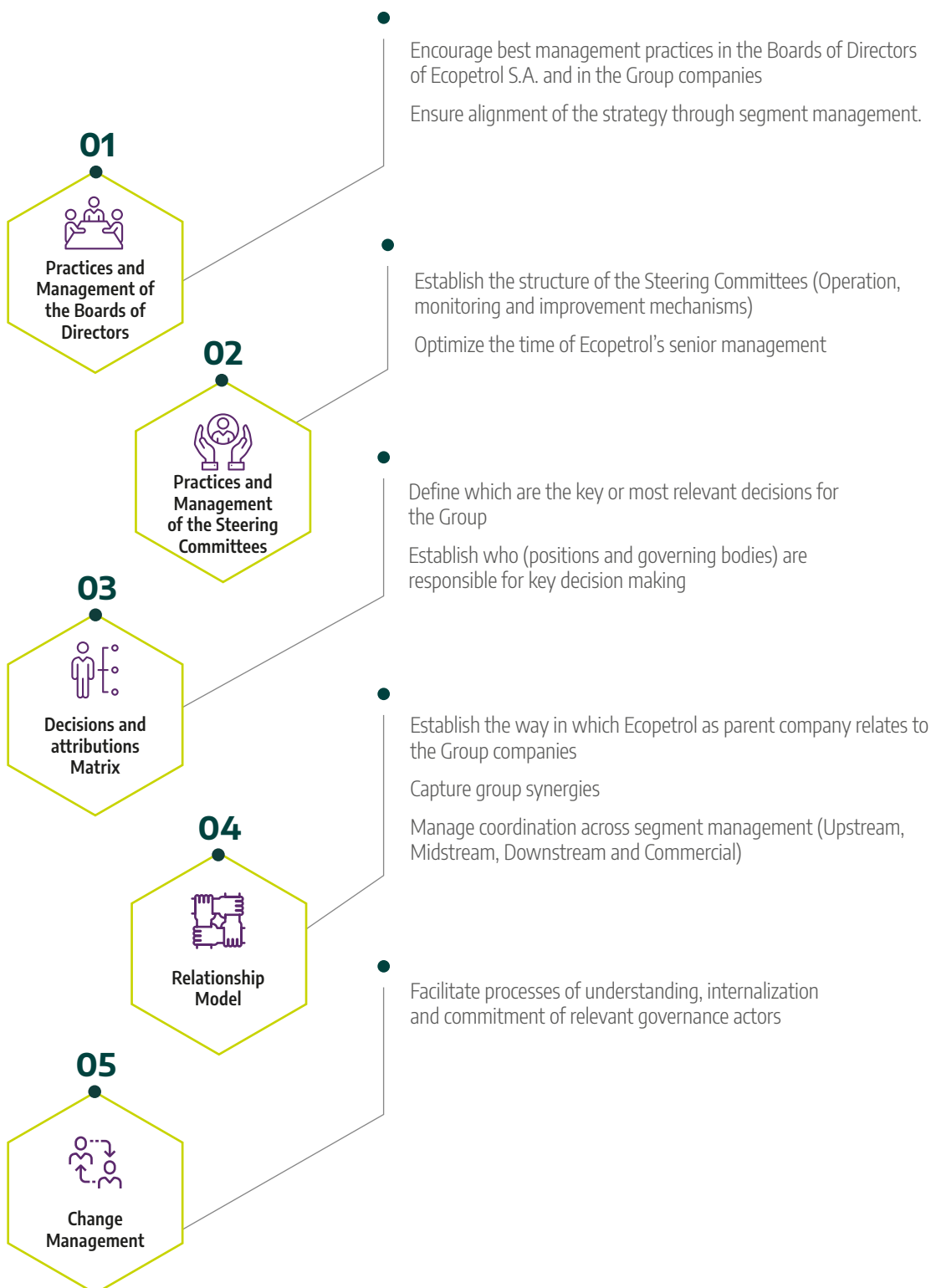
Structure: each Committee has a predetermined Chair, Leader and Secretary.

CORPORATE GOVERNANCE MODEL

To leverage the business strategy, Ecopetrol has a Corporate Governance Model whose purpose is to provide a consistent and sustainable action

framework in order to safeguard Ecopetrol's governance, as well as generate concurrence and coordination with the Ecopetrol Group companies.

The elements of Ecopetrol's Corporate Governance Model are:





Scope and Principles

The scope of the Corporate Governance Model is the Ecopetrol Group. Its implementation has focused on the Group companies wherein we hold 100% control (wholly owned). In the remaining companies, not wholly owned, the Model will be adopted gradually, emphasizing the adoption of identified best practices.

The Corporate Governance Model defined by Ecopetrol is based on the principles of agility, clarity and consistency in decision-making and its structuring around value generation for the Ecopetrol Group.

In order to assess the effect and the perception of improvements regarding decision-making within the Ecopetrol Group, main leaders or decision-makers in the organization were surveyed in this regard. The result of the survey demonstrated that, on average, **77%** of Ecopetrol's leaders or decision-makers consider there have been improvements in terms of greater clarity, agility and consistency, while **19%** maintain a neutral position. ■

Barrancabermeja refinery, Santander department



CORPORATE GOVERNANCE CODE

GRI [102-16]

The Corporate Governance Code compiles the best corporate governance practices, governance, transparency and control.

Ecopetrol's Corporate Governance Code incorporates best corporate practices that generate confidence among stakeholders and the market in general. It is framed within the principles of transparency, governance in business management and is intended for administrators, workers and other

stakeholders. The Corporate Governance Code was not modified in 2019 and can be accessed at:



QR Code of good
government

The corporate governance practices established in the Code are developed in nine chapters:

01

Shareholder rights
and equal treatment

02

General
Shareholders' Meeting

03

Board of Directors

04

Senior executive
and other executives

05

Corporate
social responsibility

06

Transparency, fluidity and
integrity in communications
and information

07

Control

08

Conflicts of interest

09

Securities trading

The Corporate Governance Model defined by Ecopetrol is based on the principles of agility, clarity and consistency in decision making and its articulation around the generation of value for the Ecopetrol Group.



MATERIAL TOPIC

ANTI - CORRUPTION

Standard

GRI | 205 |
Anti - corruption



● Why is this considered a Material topic?

GRI | 103-1 |

Violations of the Code of Ethics and Conduct, fraud, bribery, corruption, money laundering and financing of terrorist activities can negatively impact the value of a Company's intangible assets and decrease its ability to generate future income.



● How is the topic managed?

GRI | 103-2 |

It is managed through compliance with the Comprehensive Policy of Zero Tolerance of Corruption, the Compliance Program, and the practices aimed at monitoring and avoiding the materialization of compliance risks corresponding to issues of fraud, bribery, corruption, and money laundering and financing of terrorism (LA/FT) and violations of the Foreign Corrupt Practices Act ("FCPA").



● How is the topic assessed?

GRI | 103-3 |

It is assessed through internal audits, external audits, UNDP evaluations, assessments by the Ministry of Transparency, the results of the commitment to transparency, statistics and the fiscal auditor, among others.

Impact Scope

GRI | 103-1 |



● Process within Ecopetrol where the most significant impact is generated

Supply chain, value chain



● Stakeholder group where the most significant impact is generated

All stakeholders



● Area managing the impact

Corporate Vice Presidency of Ethics and Compliance

COMPREHENSIVE
POLICY OF ZERO
TOLERANCE OF
CORRUPTION

TRANSPARENCY AND CONTROL ENVIRONMENT

GRI | 102-17 |, | 103-2 |

Ecopetrol has a Comprehensive Policy that includes ethics and transparency within its fundamental pillars, as follows:

"We frame our actions in ethics and transparency, therefore we have zero tolerance for the occurrence of acts constituting fraud, corruption, bribery, money laundering, financing of terrorist activities and FCPA violations, in compliance with applicable national and international laws."

Likewise, the Company's Bylaws publicly reiterates the commitment of the Ecopetrol Group, its administrators and workers to:

- ◆ Refrain from carrying out unethical actions.
- ◆ Promote, maintain and strengthen the Compliance Program and the Internal Control System.

- ◆ Have in place tools that identify the Company's risks and include control measures to mitigate them.

- ◆ Zero-tolerance for acts of favoritism, cronyism or nepotism in the recruitment processes.

- ◆ Have in place adequate and confidential channels to receive and manage concerns, enquiries and complaints submitted by workers and interested parties regarding the Company's transparency, among others (Art. 46).

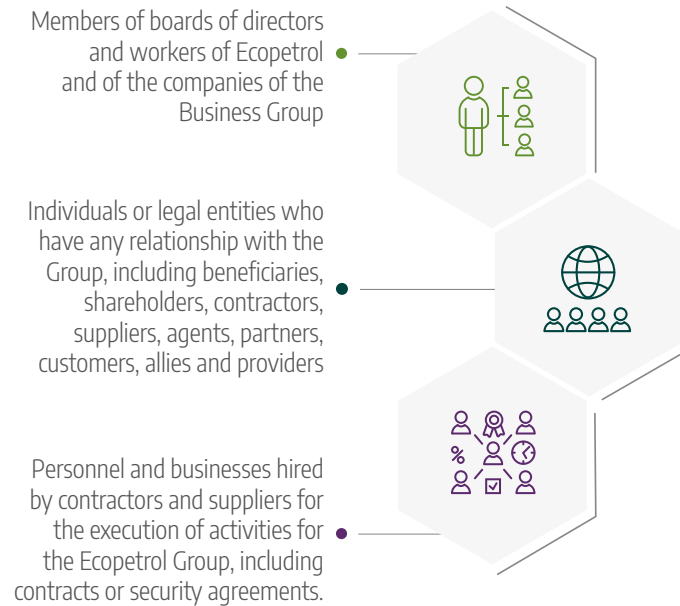
The Board of Directors, through the **Audit and Risk Committee**, defines the Company's strategy regarding the control and risk environment, as well as the monitoring and continuous improvement of the internal control and risk management systems, in order to guarantee the adoption of the best standards in the field.

In 2019, **this Committee met 13 times, to discuss**, among other topics, the evaluation of the Statutory Auditor and the Internal Auditor, the approval of the General Audit Plan, the business risk map, the individual and consolidated financial statements, and the profit distribution project to be proposed at the General Shareholders' Meeting.

CODE OF ETHICS
AND CONDUCT
OF ECOPETROL
AND ITS
BUSINESS GROUP

GRI | 102-16 |, | 103-2 |

The Code of Ethics and Conduct is a compendium of norms that define the organization's expected behavior standards and guide the course of action of the Ecopetrol Group. This Code is applicable to:



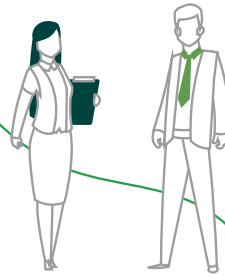
This Code was prepared taking into account the applicable regulatory framework, national and international standards, benchmarks for Oil & Gas sector companies worldwide, best practices guidelines, assessments of ethical and compliance issues, and the results of surveys and engagements with workers. It was approved by the Board of Directors.

The Code of Ethics and Conduct is published in Spanish, English and Portuguese on the Company's website as the following location:



Ecoreserva La Tribuna, department of Huila





Ethical principles

The Code of Ethics and Conduct establishes the following ethical principles of Ecopetrol and its Group:



INTEGRITY

"It is the behavior that makes us visible as a straight-forward, loyal, fair, objective, honest and transparent person before the Company and society. A person of integrity acts in a manner consistent with the aforementioned characteristics, the applicable internal and external regulations, the principles and rules adopted by the organization to prevent violations of the standards and ethical expectations referred to in this Code. Acting in accordance with this behavior allows us to advocate that acts of money laundering, financing of terrorist activities, fraud, bribery and corruption (violations of the FCPA Act, gifts and hospitalities, conflicts of interest) or unethical behaviors are not tolerated."



RESPONSIBILITY

"It is the moral obligation to make the best effort to achieve business objectives and guarantee the efficient management of resources. Based on this principle, it is mandatory to do everything necessary to carry out the activities assigned and the goals of Company, accepting the applicable provisions contained in the Political Constitution, national and foreign laws, internal regulations, as well as adopting the Internal Control System. Under this principle, we assume the consequences of the decisions we adopt, as well as any omissions and overreaches."



RESPECT

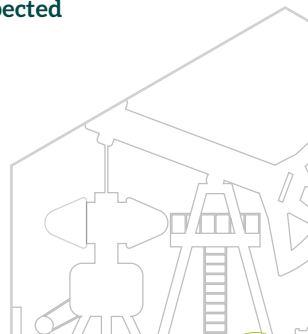
"It is the ability to accept and recognize the differences between you and others. Based on this principle, human, fundamental and social rights are protected, and it fosters the recognition of others without distinctions of sex, orientation, race, nationality or family origin, language, religion, political or philosophical opinions, or economic, physical or mental conditions. By virtue of this principle, we act in a cordial manner, without discriminating against, mistreating or attacking others, we do not speak ill of others, nor do we affect the image of individuals or of the Company."



COMMITMENT TO LIFE

"Are self-care actions inside and outside of the workplace, applying the rules of hygiene, safety and care for the environment endorsed by Ecopetrol, as a mechanism for the defense of life, health and the environment."

The Code of Ethics and Conduct also describes, for each principle, the expected behaviors to ensure compliance.





Ethical guidelines for the prevention of acts of fraud, corruption and bribery for Ecopetrol and the Group companies

Ecopetrol includes within its ethical guidelines the prohibition of facilitating payments, political contributions or donations and payments for lobbying services (Anti-corruption Handbook).

The cost of these actions in 2019 for the Company was \$0. ■

01

Comply with applicable law in business dealings, according to the jurisdiction where they are carried out, taking into account the legal nature of the Company

02

Comply with internal regulations

03

It is prohibited to incur in situations posing a conflict of interest and ethical conflict

04

Bribery at local and transnational level is prohibited

05

Facilitating payments, political contributions and donations, payments for lobbying services, as well as the diversion of monies from social investment or sponsorship activities are prohibited

06

Ensure accounting integrity, through the internal control system

07

Duty to act against money laundering and the financing of terrorist activities

08

It is prohibited to receive, offer and request gifts, hospitalities and handouts, in accordance with national and international regulations.

09

Protect and use and the Company's resources properly

10

Treat personal and sensitive data appropriately, and protect Company information

11

Act with social responsibility and respect for human rights, complying with the regulations and standards that guarantee their protection

12

Duty to report actions that violate the Code of Ethics and Conduct and follow the due process to address them, without tolerating any retaliation against the individual presenting the complaint

13

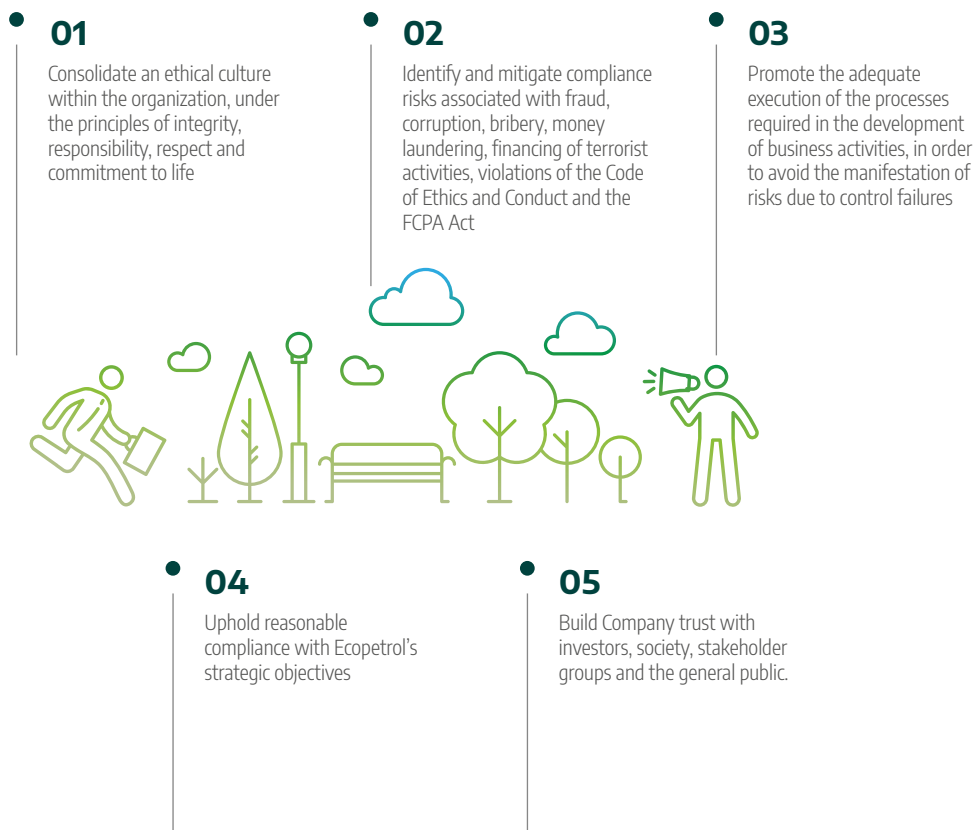
Termination of contracts or agreements by Ecopetrol and its Business Group for violations of ethical principles and guidelines

COMPLIANCE PROGRAM

GRI | 103-2 |

In order to comply with the Comprehensive Policy and ethics guidelines, Ecopetrol and its Business Group have a Compliance Program applicable to all of the organization's

businesses, whose general objective is to promote comprehensive ethical individuals, with special emphasis on internal control. This program has the following specific objectives:



The Compliance Program is carried out through four (4) focal components:



Prevention

Incorporates actions aimed at promoting integrated ethical behavior in senior management, workers, beneficiaries, contractors, suppliers and other related parties. These actions include, among others: training, communication, advice, preventive monitoring and assessments regarding potential compliance risks (corruption, fraud, national and transnational bribery, money laundering and financing of terrorist activities, violations of the Code of Ethics and Conduct and the FCPA) and with counterparties, due diligence, subscription of the clauses and documents that ratify knowledge and application of ethics issues by contractors, risk identification and assessment, risk management assurance in the different processes and internal controls, subscription of the transparency commitment by workers and declaration by the members of the Board of Directors, participation in collective initiatives, among others.

Detection

Relates to the activities regarding the management of ethical and compliance complaints, as well as the due process of disciplinary investigations, in accordance with the provisions of Law 734 of 2002. The process established in the internal regulations of the Company is applied in ethical investigations, and disciplinary investigations carried out using the steps established in the aforementioned law.

Within the framework of this component, cooperation with national and international control bodies is also carried out in the execution of their investigations or control activities.

Response

Refers to sanctions or corrective actions resulting from the detection activities.

In ethical matters, corrective actions may be as follows: ethics talk, signing of the commitment agreement in compliance with the Code of Ethics and Conduct, transfer to control bodies or to different areas of the Company for its management, termination of the employment contract, impact of variable remuneration, termination of contracts or agreements in Ecopetrol and the Business Group, impact to the contractor's evaluation.

In disciplinary proceedings, penalties for breaches in the duties of public servants are those established in Law 734 of 2002: dismissal, general disqualification, suspension, fine and reprimand.

Continuous improvement

Carries out the actions aimed at strengthening the organization, through different activities such as: communicating and feedback on the results of the previous components; updates regarding the regulatory, process, business, or in general, of the entire organization; adjustments to controls and strengthening of competences of the work teams, among others.

Cartagena Refinery - Reficar





Cupiagua Production Field

LEADERSHIP AND RESPONSIBILITIES

GRI | 102-16 |, | 102-30 |, | 103-2 |

Board of Directors

It is responsible for: approving the Corporate Governance Code and the Code of Ethics and Conduct; ensure the effectiveness of internal control and risk management systems; promote, maintain and strengthen the Compliance Program, the Internal Control System and an ethical and transparent culture within the organization to prevent and mitigate the materialization of compliance risks; periodically review the reports of the Statutory Auditor and the Compliance Officer and follow-up on their recommendations; fulfill the functions that are assigned to it regarding the prevention and control of money laundering and financing of terrorist activities in current and applicable regulations; among others (Bylaws Art. 23 and 46). The Board of Directors is committed to leading the Compliance Program and complying with the ethical and compliance principles and guidelines by subscribing the information and obligations declaration form for the Board of Directors (102-16).

Audit and Risk Committee of the Board of Directors

Is responsible for being aware of and following up on matters related to the effective compliance with the Code of Ethics and Conduct, as well as complaints on corruption – bribery; accounting and financial fraud that impact Ecopetrol's financial statements; monitor the efficiency of the fraud, corruption - bribery, money laundering and financing of terrorist activities prevention and control duties;

monitor the proper functioning of the Internal Control System; verify the instituting of the Risk Management System; be aware of and monitor the management of the subordinate companies that comprise the Group, on issues such as: the internal control model and process, ethical and compliance complaints, and the risk management system; periodically review the reports of the Statutory Auditor, the Audit and the Compliance Officer. All the members of this Committee are independent.

Ethics Committee

It is in charge of evaluating the ethics environment of the organization and issuing recommendations the strengthening thereof.

Corporate Vice Presidency of Compliance / Compliance Officer

Independent area reporting to the Audit and Risk Committee of the Board of Directors, responsible for: the adoption and monitoring of the Compliance Program and the Risk Management and Internal Control System at Ecopetrol and its Business Group; the risk management assurance in the different processes of the organization and the Group; the periodic review and update of the activities resulting from the Compliance Program for the Group, and generating improvement actions, in accordance with its effectiveness results; carrying out preventive and corrective monitoring against potential compliance risks (corruption, fraud, national and transnational bribery, money laundering and financing of



terrorist activities, violations of the Code of Ethics and Conduct and the FCPA Act) and for counterparties; issue guidelines, in matters within its competence, to the Group companies and monitor their fulfillment; the processing of ethical, compliance and disciplinary complaints, among others.

In order to carry out these duties, the Vice-presidency relies on Risk Assurance and Internal Control Management, Ethics and Compliance Management and Disciplinary Control Management, as well as Compliance Management in the Ecopetrol Group companies.

Corporate Risk Assurance and Internal Control Management

Is responsible for ensuring the adequate management of business and process risks, as well as the implementation and operation of the internal control system, both in Ecopetrol and in subordinates, in accordance with the guidelines issued by senior management and the applicable regulations.

The Board of Directors is committed to Compliance Program leadership and with compliance with the principles and ethical and compliance guidelines through the signature of the format declaration of information and obligations for the Board of Directors.

Corporate Ethics and Compliance Management

Is responsible for the development of prevention, detection, response and continuous improvement activities associated with the application of the Code of Ethics and Conduct, which guarantees that comprehensive ethical behavior is fostered within the organization.

Disciplinary Control Management

Area that oversees the first line disciplinary processes of Company workers, in compliance with the provisions of Law 734 of 2002, which regulates the disciplinary system for public servants.

Regular reports on the measures taken by the Vice Presidency and its work teams are submitted to the Risks and Audit Committee and to the Board of Directors.

The Ecopetrol Group

The Boards of Directors and the Audit and Risk Committees also lead the execution of the Corporate Compliance Program guidelines and have assigned the corresponding responsibilities.

Additionally, the Vice Presidency of Corporate Compliance has a Compliance Managers that report thereto, and are responsible for the management of ethical issues and risk management and internal control system assurance, as well as the carrying out the activities determined annually for the Compliance Program. They must submit regular reports to the parent Company regarding their activities.

GRI | 103-2 |

The Compliance Program is underpinned by applicable regulations, as well as national and international standards, guides and best practice manuals for the fight against corruption, fraud, bribery, money laundering and financing of terrorist activities, such as:

- Foreign Corrupt Practice Act (FCPA)
- Sarbanes-Oxley Act (SOX)
- Committee of Sponsoring Organizations of the Treadway Commission (COSO) 2013 and 2017 Guidelines
- Control Objectives for Information and Related Technology (COBIT)
- Basic Legal Circular of the Colombian Financial Superintendence
- Basic Legal Circular of the Colombian Superintendence of Companies
- External Circular 009 of 2016 from the National Health Superintendence (this provision is applicable insofar as Ecopetrol is in a regime exempt from the comprehensive social security system provided for in Art. 279 of Law 100 of 1993).
- Law 610 of 2002
- Law 734 of 2002
- Law 1118 of 2006
- Law 1474 of 2011
- Law 1778 of 2016
- Law 1712 of 2016
- Regulations of the National Unit of Financial Information and Analysis (UIAF)
- Principle 10 of the United Nations Global Compact
- United Nations Convention against Corruption
- Inter-American Convention against Corruption of the Organization of American States (OAS)
- Annex II: Good Practice Guidance on Internal Controls, Ethics, And Compliance, recommended by the Organization for Economic Co-operation and Development (OECD) in the Convention Combating Bribery of Foreign Public Officials in International Business Transactions (in the 1997 Convention)
- Guide for Companies in Colombia of the Office of the Secretary of Transparency of the President of the Republic
- Recommendations for the implementation of an UNODC Anti-Corruption Ethics and Compliance Program for Companies
- Guidance for Department of Justice (DOJ) Compliance Programs
- DOJ Compliance Program Evaluation Guide
- Financial Action Task Force (FATF) Recommendations
- Benchmarks for compliance programs defined in the Partnering Against Corruption Initiative of the World Economic Forum and Business Principles for Countering Bribery of Transparency International
- Recommendations established in the technical standards ISO 37001 for the prevention of bribery, 19600 on compliance systems and 31000 on risk management
- Transparency and the Fight against Corruption Compact of the Office of the Secretary of Transparency of the President of the Republic.

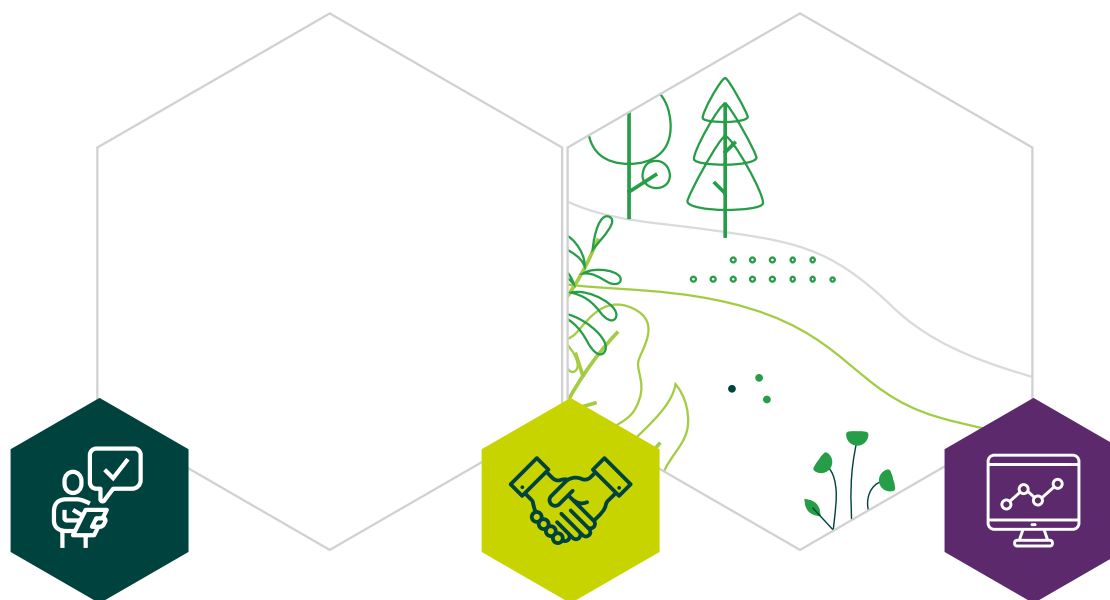


In order to carry out the provisions listed above, the following codes, policies, handbooks, guidelines and procedures that are, have been established:

- | | |
|--|--|
| <ul style="list-style-type: none"> • Anti-fraud, anti-corruption and anti-bribery handbooks, and handbook for managing the risks of money laundering (ML) and the financing of terrorism (FT). the management of the risk of money laundering (LA) and financing of terrorist activities (FT) • Instructions for handling conflicts of interest, recuses, incompatibilities and prohibitions. • Guide for handling gifts, handouts and hospitalities • Guide for the prevention of corruption in land and easement negotiations • Management procedure for ethical and compliance issues • Guide for the Prevention of Corruption and Fraud in New Business Processes, Mergers and Acquisitions • Procedure for the Attention of the Congress of the Republic | <ul style="list-style-type: none"> • Ecopetrol Risk Management Guidebook • Ecopetrol Group Process Risk Management Procedure • Ecopetrol Group Procedure for the Management of Business Risks • Ecopetrol Group Internal Control System Handbook • Bwise Internal Control Management guidelines • Ecopetrol Group Instruction Handbook for the Assessment of Internal Control Failures • Ecopetrol Group Control Management Procedure and Treatment Actions • Implementation guidebook for the Internal Control System in affiliates and subsidiaries. • Handbooks for the management of contracts and agreements • Procedure for planning, authorizing and subscribing sponsorships and promotional procurement |
|--|--|

The following regulations have been established regarding human talent management:

- | | |
|---|---|
| <ul style="list-style-type: none"> • The internal work regulations containing the internal code of discipline • Employment contracts, through which workers undertake to act transparently and not to violate the Code of Ethics and Conduct • Procedure for granting variable remuneration, which includes the possibility of non-payment of this benefit when the ethical guidelines of the Company are breached or internal control failures have been incurred | <ul style="list-style-type: none"> • Evaluation of behavioral competencies of workers - Integrity • Values assessment to all the workers of the organization and integrity assessments in areas with special risk, to evaluate the profile of the candidates • Induction training for new workers in ethical issues, training and communications for all personnel |
|---|---|



GRI | 103-2 |, | 205-1 |, | 205-2 |

THE COMPLIANCE PROGRAM INCLUDES SPECIFIC ACTIVITIES FOR THE PREVENTION OF ACTS OF CORRUPTION, BRIBERY, FRAUD, MONEY LAUNDERING AND THE FINANCING OF TERRORIST ACTIVITIES

1. **Risk and Internal Control Management of the Ecopetrol Group** to ensure the identification and management of its risks based on the COSO 2013 and COSO ERM 2017 standards, by virtue of which, the process and business risks cycle is executed annually, carrying out activities such as: identification, evaluation, treatment-monitoring and communication of risks (including bribery, corruption, fraud and M/TF) in all the organization's processes and in areas of special risk. Furthermore, the Company has an Internal Control System that aims to provide reasonable assurance that its Consolidated Financial Statements comply with the SOX and FCPA requirements. In order to carry out this assurance, self-evaluations, monitoring, reports, alerts, design tests and operations are carried out on controls and key risk indicator (KRI), among others, in order to implement preventive, corrective and improvement actions that serve to strengthen the control environment at Ecopetrol.
2. **Oversight of compliance with regulations** corresponding to the prevention of compliance risks and the proper implementation and advancement of the anti-corruption strategy, with emphasis on higher risk areas, and the reporting of significant events to the Presidency and the Audit and Risk Committee of the Board of Directors
3. **Due diligence and monitoring of counterparties** including suppliers, customers, contractors, allies, partners in new ventures, mergers and acquisitions and suppliers, including those who provide security services.
4. **Regular monitoring of the presence of counterparties and workers** on restrictive and control lists of national and international organizations and publicly available information; payments made to politically exposed persons (PEPs), negotiation activities carried out by workers including shares, controlled products, payments to customs agents; recuses, incompatibilities and conflicts of interest; economic pressures to detect warning signs; contracts (including for the procurement of security services); sponsorships; receiving or offering gifts, hospitalities and handouts; cash transactions; management of cash on hand, among others.



5. Subscription by counterparties of ethical clauses included in a contract or agreement, including those third-parties that provide security services, in order to guarantee: i) the understanding, commitment and application of the ethical and anti-corruption norms that govern the business practices at Ecopetrol; ii) the commitment to act transparently and report events that violate ethical principles via the ethics hotline; iii) the obligation to maintain records and reports, with a reasonable accounting that records transaction details; iv) the prohibition of cash transactions and of incurring in a conflict of interest; v) the obligation to train third-party personnel regarding Ecopetrol's ethical provisions and to agree on ethical anti-corruption clauses with third parties and subcontractors; vi) termination for non-compliance, among others.

6. Subscription of agreements/documents by contractors and partners regarding the following matters: i) the prevention of money laundering and the financing of terrorist activities, establishing therewith the legality of the resources, relevant information on the Company and the processes where it or its workers may be involved, the commitment not to incur in these crimes and to report any alteration of the reported conditions; ii) the commitment to contractual integrity, whereby the counterparties ratify the duty to act in accordance with Ecopetrol's ethical principles and not to incur in situations of conflict of interest that may affect the development of business.

7. Technological tools to consolidate and verify information, which permits cross-referencing different records and generating preventive alerts.

8. Ethical hotline to communicate concerns and questions, and to present ethical and compliance complaints.



Pumping House Barrancabermeja Refinery, Santander department

9. **Ethics and Compliance Office** to provide in-person or telephone advice on the application of the organization's ethical and compliance principles and guidelines, and regarding alarms or events that be events associated with compliance risks. In 2019, 97 visits were addressed.
10. **67 ethical mentors** nationwide, who support the execution of the Compliance Program activities for disseminating, encouraging and strengthening the internalization of the Company's ethical guidelines, through communication, training, promoting the use of the ethical hotline, receiving complaints, advising workers on compliance with the Code of Ethics and Conduct and encouraging a commitment to transparency.
11. **Training and communication** that is ongoing, general and focused with senior management, workers, special risk areas and contractors, without distinction.
12. **Induction training** for workers on the guidelines and ethical principles of the organization.
13. **Compulsory virtual courses** for self-training on the guidelines and ethical principles of the organization.
14. **Cooperation with control entities**, reporting and transfer of information by competence as required.
15. **Assurance** of the information handled in development of the compliance program activities.
16. **Annual commitment to transparency** by the Company's workers, including senior management, through which the knowledge and application of ethical guidelines is evaluated. Through this instrument, the rejection of acts of corruption, local and transnational bribery, fraud and violations of the provisions of the Code of Ethics and Compliance is ratified.
17. **Preparation, publication and follow-up of the Annual Anti-Corruption Plan**, through which annual actions are defined to mitigate corruption risks in the organization, which were fully implemented during the period.
18. **Participation in collective initiatives** that comply with applicable regulations, as well as national and international benchmarks, such as:
 - The United Nations Global Compact (Principle 10 "Businesses should work against corruption in all its forms,



GRI | 103-2 |

including extortion and bribery”).

- United Nations Integrity Initiative against Drugs and Crime (UNODC) Colombia.
- Sectorial Pact for Transparency and the Fight against Corruption, with the Colombian Chamber of Petroleum Goods and Services (Campetrol).

COMPLIANCE PROGRAM INTERNAL AND EXTERNAL ASSURANCE

The Internal Control Management assures the controls that mitigate the process risks (including bribery, corruption, fraud and ML/FT) through management tests, which are carried out by an independent audit firm.

Likewise, the Corporate Ethics and Compliance Management performs permanent monitoring of special risk areas and activities.

The Statutory Auditor carries out independent verification procedures as regards to compliance and ethics, as well as the controls to prevent financial fraud at Ecopetrol and the Group companies. ■

In 2019, Ecopetrol endorsed two new initiatives:



Transparency Compact from the Office of the Secretary of Transparency of the President of the Republic



Pathway to Business Integrity from the Office of the Secretary of Transparency of the President of the Republic .

Likewise, participation in the Extractive Industries Transparency Initiative (EITI) in Colombia was upheld, which is detailed below.

In 2019 Ecopetrol was part of the National Tripartite Committee and the Technical Support Group, wherein it contributed to

the preparation of the EITI Report for fiscal year 2018.

It's a remarkable statement, considering that of the 51 countries comprising the EITI worldwide, only five have achieved this status. Detailed information on this initiative can be found at <http://eiti.upme.gov.co>

ADVISORY AND REPORTING MECHANISMS

72

GRI | 102-17 |, | 205-1 |, | 205-3 |

Ecopetrol has different advisory and reporting mechanisms that encourage contributing towards the process of prevention, detection, and monitoring of infringements of the Code of Ethics and Conduct.

1. Ethical hotline

Ecopetrol has an ethical hotline line available to the public and provides advice and the submission of complaints on ethical issues, by submitting:



Concerns



Enquiries



Ethical and
compliance complaints

In 2019, 370 concerns and 329 consults were received (for a total of 699), seeking advice and guidance on ethical issues and how best to proceed in order to ensure compliance with the law and corporate ethical principles; 100% of these submissions were addressed. The main typologies were: ethical or conflicts of interest, due diligence of counterparts, compliance with internal rules and procedures.

A total of 447 complaints were received, of which 296 were on ethical issues and 151 on compliance issues. The main typologies received were: breach of rules and procedures, disrespect and third parties faults.

Of the cases addressed, 80% were found to be uncorroborated complaints. The remaining 20% were distributed as follows: 71% ethical, 19% third-party events and 10% compliance.

In accordance with the GRI glossary, it is evident that in 2019, two of the cases corroborated correspond to the corruption

typology (one associated with the receipt of a loan by an employee, who was dismissed from the Company, and another with inconsistencies in the reporting of information, still undergoing disciplinary investigation). A matter associated with third party actions was verified, and as a result the corresponding agreement was terminated.

None of the verified issues were related to bribery, FCPA violations, financial fraud, or events affecting the accounting or reasonableness of the Company's financial statements.

GRI | 406-1 |

The ethical hotline did not receive any reports of discrimination.

No public legal claims of corruption were filed against the organization or its workers in the reporting period.

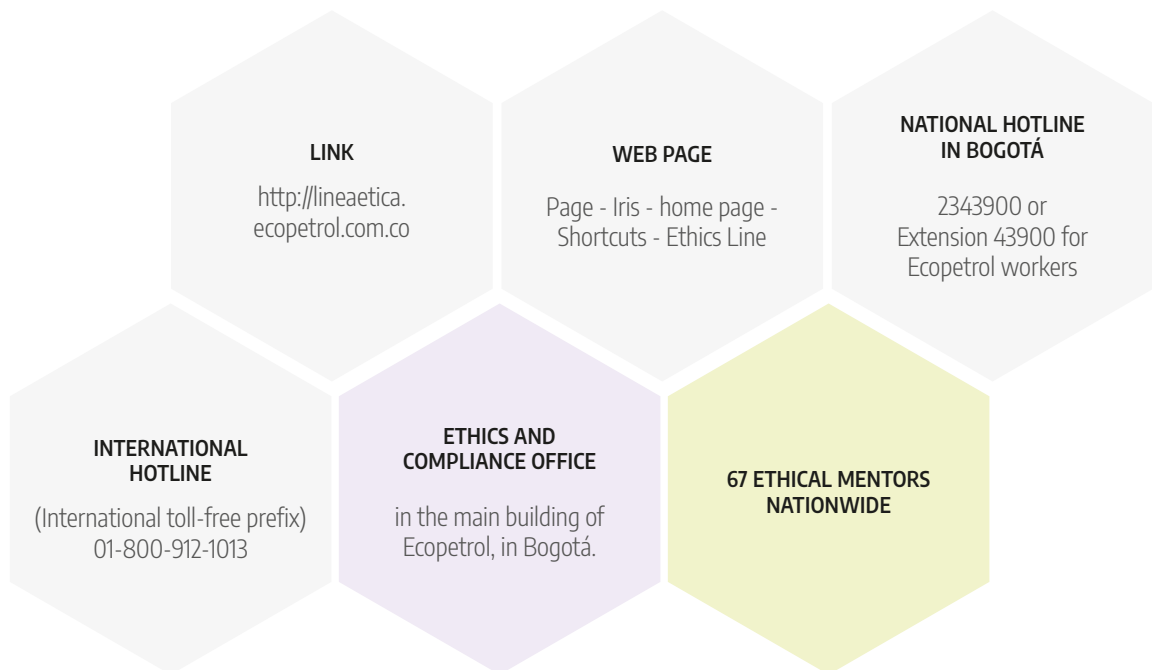


2. Ethics and Compliance Office and Ethical Mentors

Ecopetrol has an ethical and compliance office in Bogotá and 67 ethical mentors nationwide, which provide, in-person guidance on ethical and compliance concerns, enquiries and complaints:

GRI | 102-17 |

Channels for addressing concerns, enquiries and complaints



The ethics hotline is corporate but is operated by an independent international company, ensuring total transparency in this process. This system guarantees: i) year-round availability, 24/7; ii) can submit reports in Spanish, English and Portuguese; iii) possibility to submit anonymous

complaints; iv) the confidentiality of the information, as well as the non-adoption of retaliatory measures and protection of the complaining party and the data stored therein, in accordance with applicable international regulations.

The management of the issues registered in the ethical **hotline are the responsibility of the Corporate Vice Presidency of Compliance**, and are distributed among its different working groups, according to their subject.

The ethical hotline is published on the Company's website, in the Code of Ethics and Conduct, in institutional magazines and communiqués. On the website there is a chapter that explains how to use the ethical hotline. The ethical hotline is divulged in all communication and training activities,

PROCESSING OF CONCERNS, ENQUIRIES AND COMPLAINTS

The processing of these matters guarantees:

- They can be submitted anonymously
- The identity and processing of the report is confidential
- The system registers the reported information, guaranteeing data protection, in accordance with the applicable data protection guidelines
- Retaliation is prohibited and the complaining party is protected
- The matter is objectively verified by an independent team
- Whoever submits a request can follow up on its process, even if it was submitted anonymously, through the technological tool.
- A response is issued on the handling given to the issue ■

GRI | 103-3 |



Effectiveness assessments and achievements of the Compliance Program

- **The United Nations Global Compact - Network Colombia - Advanced CoP Report**

It evaluated the “Robust Anti-Corruption Management Policies and Procedures”, granting 100% score, compared to 97% achieved the previous year.

In its measurement, Global Compact - Network Colombia highlighted that the result obtained reflect commitment, leadership and excellence in the fight against corruption.

GRI | 102-16 |

- **Transparency Commitment**

Annual measurement, by an independent third party, of the organization's transparency indexes, through the annual survey completed by all workers, including senior management, called Transparency Commitment, which yielded the following results:

- The participation rate was 98.9% compared to 89.9% in 2015, when the Corporate Compliance Program was implemented.
- Perception of transparency index was 98.8%, compared to 87.6% obtained in 2015.
- Ethical environment index was 88%, compared to 62.6% in 2015.
- 99.6% of the workers who subscribed the commitment know about the ethics hotline and 95% trust it.

| 102-17 |

- **Self-evaluation of the Integrity and Compliance Program of the Office of the Secretary of Transparency of the President of the Republic, through the Integrity App, which gave a score of 100 points.**

- **Effectiveness of ethical communications and compliance program**

The effectiveness of internal communication is measured by the corporate communications area, which reported that, in 2019, the information disseminated on ethical issues was one of the three that had the greatest impact on the organization, of 92.76%.



Additional achievements of the Compliance Program

- The Statutory Auditor found no accounting fraud or violations of the SOX and FCPA Acts, nor did they note any material deficiencies that affect the Internal Control System and the Consolidated Financial Statements.
- The payments made for political enablement, contributions or donations and for lobbying services totaled \$0.
- Between 2015 and 2019, concerns and consults increased by 125%, which demonstrates the internalization of a prevention culture.
- Between 2015 and 2019, ethical and compliance complaints decreased by 23%.

75

CONFLICTS OF INTEREST

GRI | 102-25 |

The President, the members of the Board of Directors and all Ecopetrol workers must disclose any conflict between their personal interests and the interests of Ecopetrol, when dealing with its majority shareholder and its subordinates, customers, suppliers, contractors and any person

who performs or intends to carry out business with the Company or with the companies in which it has a stake or interest, directly or indirectly. Details of the procedure for reporting, managing and avoiding conflicts of interest can be found in the Corporate Governance Report (page 82 of this document).

The procedure for reporting, managing and avoiding conflicts of interest for senior management is contained in articles 48 and 49 of the Corporate Bylaws, and in the Guidelines regarding Conflicts of Interest, recuses, incompatibilities and prohibitions, as follows:

- In the event that the conflict of interest involves a worker of the Company, other than the Administrators thereof, they must inform their hierarchical superior in writing so that the latter may decide on the matter, and if they deem the conflict of interest exist, appoint who will replace the person incurring it.
- In the event that the conflict of interest involves an Ecopetrol Administrator, matters shall proceed as provided for in Numeral 7, Article 23, Law 222 of 1995 or the rules that add to, amend or replace it.

In 2019, **104 reports were made that were referred to the Corporate Ethical Affairs and Compliance Management** (VCU for its Spanish acronym), following the procedure established by the Company.



RISK MANAGEMENT SYSTEM

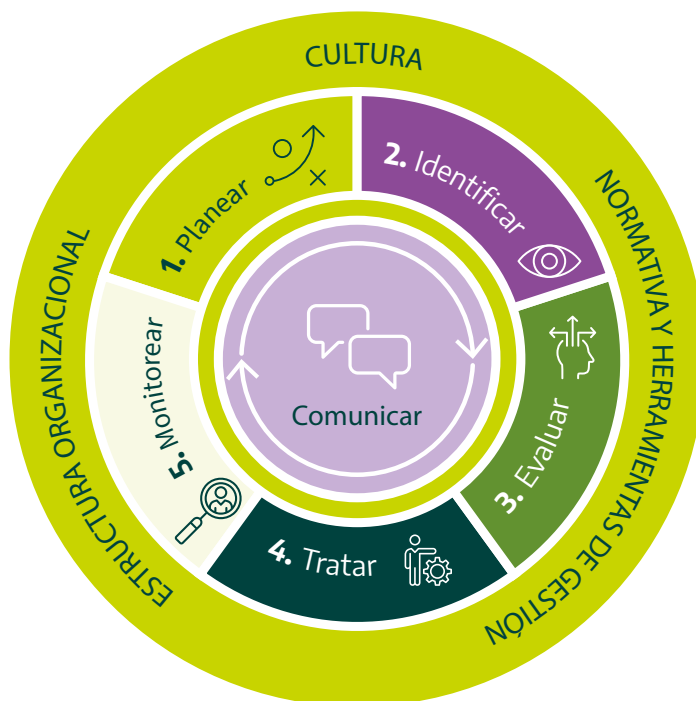
GRI | 102-15 |, | 102-25 |, | 102-30 |

To ensure that all risks are properly identified, valued and managed, the Company utilizes the business risk cycle that employs the COSO 2017 ERM (Enterprise Risk Management) standard, which is aligned with the strategic framework of

the organization. Three fundamental pillars interact in risk management both systematically and dynamically: culture, organizational and regulatory structure. These are taken into consideration to develop the risk management cycle:

Figure 10.

Risk Management Cycle



Source: Ecopetrol, Corporate Vice Presidency of Compliance

Adaptándonos a las necesidades y realidad de Ecopetrol, se ajustó el mapa de riesgos empresariales de la compañía en 2019 a fin de encausar los recursos tanto económicos como humanos, en lo que resulte prioritario para garantizar el logro de los objetivos de mediano

y largo plazo de la compañía. A continuación se presentan los 13 riesgos empresariales identificados en el año 2019, los cuales se encuentran alineados con el Pan de Negocio 2020+ de Ecopetrol y aprobados por la Junta Directiva en el primer trimestre del año 2019.

Figure 11.
Business Risk
Map 2019

GRI | 102-29 |, | 102-30 |, | 102-31 |



STRATEGIC

1. Organic strategy for adding discovered resources for appraisal and unsuccessful reserves.
2. Onorganic growth strategy regarding discovered resources for appraisal and unsuccessful reserves.
3. Employment of unsuccessful recovery factor technologies.
4. Impact on financial sustainability
5. Subordinates that fail to fulfill their value promise

GENERAL ENVIRONMENT

6. Operational disruption caused by the general environment, climate change, crisis and continuity events.
7. Changes in the regulatory environment and energy transition.

OPERATIONAL

8. HSE incidents due to operational events.
9. Projects that fail to achieve their value promise.
10. Ethical and compliance filings and negative impact on the reputation.
11. Cyber-attacks, leaks or loss of information and obsolescence of operational technology.
12. Exploration and production partners that fail their contractual commitments.
13. Impact to operability due to control bodies.

Source: Ecopetrol, Corporate Vice Presidency of Compliance

As part of the identification of said risks, global or industry trends that could have an impact on the organization such as climate change, new energy sources and increased dependence on technology were taken into account, determining their inclusion in the following business risks:



Operational disruption caused by general environment, climate change, crisis and continuity



events. Changes in the regulatory environment and energy transition.



Cyber-attacks, leaks or loss of information and obsolescence of operating technology.

TRAINING AND COMMUNICATION

GRI | 205-2 |

Training

The Company continuously carries out training for senior management, workers, business partners and their staff, as well as communities, both nationally and in companies abroad.

and equipment operators, temporary or permanent). All workers of the entity participate in training activities, no exclusion is made for seniority or the modality of their work contract.

Trained workers are found at all organization levels (managers, professionals, technicians

The purpose of the trainings is to disseminate and raise awareness of the following subjects:

- Corporate compliance program
- Ecopetrol's Comprehensive Policy of Zero Tolerance of act of fraud, corruption, bribery, money laundering, financing of terrorist activities and FCPA violations, in compliance with applicable national and international laws
- Ethical principles and guidelines defined in the Code of Ethics and Conduct
- Responsibilities and commitment of senior management, workers and partners in compliance with the principles and ethical guidelines of the organization
- Compliance risks (fraud, corruption, bribery - locally and transnationally, money laundering and financing of terrorist activities, FCPA)
- Anti-fraud, anti-corruption, and risk prevention policy, handbooks, guidelines and procedures regarding money laundering and the financing of terrorist activities
- Disabilities, incompatibilities, conflict of interest and ethics
- The mechanisms to submit concerns, enquiries and complaints
- Prevention of acts of sexual harassment
- Internal control and risk management systems
- Internal procedures and controls to mitigate compliance risks

During 2019, the training activities were carried out through different means, such as: in-person training, virtual courses, supplier and contractor conferences, higher ethics workshops, recreational

activities, ethical moments and streaming, in order to generate understanding about ethical issues and compliance, as well as the adoption of the Company's ethics and anti-corruption standards.

The following results are highlighted:

• 100%

of the Board of Directors members received training on ethical issues and the guidelines of the Compliance Program.

128

leaders participated in the ten Senior Management training sessions in the workshops called "Towards a Higher Ethics".

800

leaders from all regions of the country participated in the Event "Ethics belongs to everyone, for everyone" held in Bogotá.

All new vice presidents were trained on ethics issues.

98.1%

of workers at all levels and throughout the national territory received virtual training, including the leaders of the organization, through the ethics and compliance course.

• 4,956

workers nationwide received training via streaming.

437

workers received in-person training on ethical issues.

The country's Ethical Mentors participated in a meeting to strengthen ethics at the national level.

SENA apprentices and temporary employees Company received in-person training on ethical issues.

11,766

people (workers and their families) participated in recreational activities to promote ethics.

1,477

business partners nationwide trained on ethics issues and the compliance program. The activities sought to promote the implementation of compliance programs in companies. The meetings were held in Bogotá, Barrancabermeja, Bucaramanga, Yopal, Neiva, Cartagena, Barranquilla, Villavicencio, Puerto Gaitán (Rubiales).

Training was provided for communities in Magangué, Alto Pompeya (Villavicencio) and Catatumbo on issues of ethics and transparency.

In-person training activities were carried out in Bogotá, Barrancabermeja, Bucaramanga, Yopal, Neiva, Cartagena, Barranquilla, Villavicencio, Puerto Gaitán (Rubiales). **The virtual training activities provided access to the organization's work teams and those of its subordinates at the national and international levels.**

Communication

Ecopetrol communicates the ethical principles and guidelines to the administrators, senior management, workers, counterparts and staff hired via the respective contracts, through different means, without any exclusion, such as:



Content was developed that would have national relevance, which was delivered to **100%** of workers and/or the corresponding counterparts, according to on the topic, totaling **257,109** recipients.

Transparency in its relationship with the Congress of the Republic of Colombia

Ecopetrol, as a mixed economy Company belonging to the decentralized sector for national services and by constitutional mandate, is expressly prohibited from making donations or contributions to political parties, movements or candidates (Articles 110 and 355 of the Political Constitution of Colombia). Consequently, Ecopetrol did not make any donations to political parties in 2019 or in any of the previous years.

Likewise, due to its legal nature, Ecopetrol does not engage in lobbying, understood as activities seeking to influence the public

policy determinations of decision-makers. Therefore, it is important to note that the Company can formally communicate to the Ministry of Mines and Energy, as the leading sector entity and before other governmental entities, its observations regarding the different legislative and regulatory initiatives that may affect the oil and gas sector in Colombia.

Additionally, The Company has a procedure regulating its relationship with the National Congress, specifying internal procedures to be followed for:



Participating in meetings requested by congressmen, and the necessary follow-up regarding the commitments that arise thereof.



Provide a timely and opportune reply to the requests for information and summons questionnaires for policy oversight debates submitted by the congressmen.



Address summons to policy oversight debates.



Follow-up on and monitor the bills that are pertinent to Ecopetrol.





ANNUAL CORPORATE GOVERNANCE REPORT

• • •

- Corporate Governance in Ecopetrol is not only a key element for our organizational management, it is as well a **strategic enabler** which our stakeholders value and monitor continuously, inasmuch as it provides confidence, sustainable enduring results and culminates in valuable long-term relationships.

Ecopetrol's Corporate Governance is permanently aligned with market practices and the **highest international and national standards** in the field. Its purpose is to guide correct decision-making within the Company, strengthening the latter with clear and consistent procedures, resulting in a more transparent and dependable process.

| 102-45 |

The results of the Ecopetrol Group are the guided by the analysis and decisions undertaken by a diverse group of Stakeholders

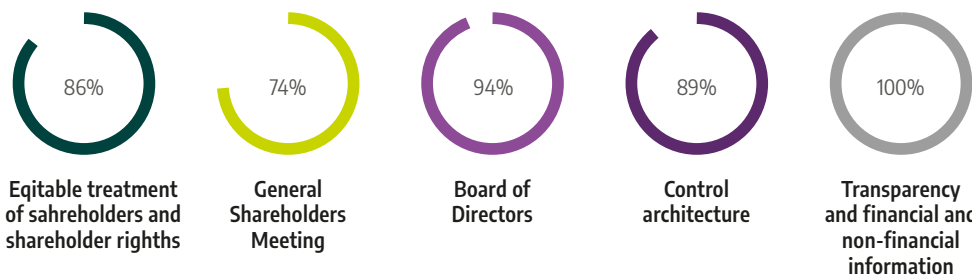




Offshore platform, Kronos Discovery

In accordance with the provisions of the Bylaws of Ecopetrol S.A. (Corporate Bylaws)* and the Corporate Governance Code,** the Board of Directors of Ecopetrol S.A. (and/or the Company), makes available to all its shareholders at its General Meeting the following 2019 compliance report as regards to its Corporate Governance Code.

This report is structured to align with the recommendations of the Code of Best Corporate Practices of Colombia, commonly referred to as the Country Code,** where Ecopetrol has endorsed approximately 90% of the recommendations included therein:



Source: Ecopetrol, Secretary General and Assistant to the President

* Numeral 19 of Article 23 of the Corporate Bylaws of Ecopetrol S.A. approved by the General Shareholders' Meeting on March 29, 2019.

** Title III, Chapter III, Section 2 of the Corporate Governance Code

*** In compliance with the provisions of External Circular No. 028 of 2014, issued by the Financial Superintendence of Colombia, Ecopetrol S.A. completed and submitted the Report on the Implementation of the Code of Best Corporate Practices of Colombia. The Report can be found on the Superintendence website at www.superfinanciera.gov.co and on the Ecopetrol S.A. website at www.ecopetrol.com.co.

A primary strategic **function of Ecopetrol's Board of Directors and the Corporate Governance and Sustainability Committee is the responsibility** of ensuring good corporate governance of Ecopetrol and the GE. After facing a complex economic situation in crude prices and undergoing a company-wide transformation process, in 2018 the Board of Directors requested the Administration (hereinafter the Administration) to begin the process of updating the corporate governance model of the Ecopetrol Group through the acknowledgement of this issue as an enabler of the Ecopetrol Group's 2020+ Strategy, thus providing clear, agile and consistent governance. ■

THE CORPORATE GOVERNANCE MODEL OF THE ECOPETROL GROUP (GE)

Ecopetrol's Corporate Governance encompasses the set of rules and practices governing the decision-making process between the governing bodies of the Ecopetrol Group (GE for its Spanish acronym), as well as the relationship among the companies that comprise it.



Source: Ecopetrol, Secretary General and Assistant to the President

The update of the corporate governance model focused holistically on the company's key decision-making, and therefore addressed four elements:

01.

The Board of Directors of Ecopetrol adopted the highest national and international corporate governance standards for securities issuers, such as those recommended and established by the OECD, the New York Stock Exchange and the Financial Superintendence Colombia. Likewise, the performance of the Boards of Directors of the GE companies was assessed in order to pursue **strategic alignment** within the Group companies and the adoption of best corporate governance practices.

02.

An appraisal of the architecture of senior management committees that assist in guiding and monitoring the performance of the company's President was carried out. This served to strengthen the review and decision-making process for key issues within the organization.

Ecopetrol's Corporate Governance instituted 12 Senior Management Committees as the collegiate bodies composing a management tool to support the President of Ecopetrol in their activities, within the framework of fulfilling its corporate purpose.

Regarding decision mechanisms for various processes of Ecopetrol were analyzed 32 processes and were identified around 450 key decisions.



Source: Ecopetrol, Secretary General and Assistant to the President / Corporate Governance Management

03.

The delegation decision-making authority for the company's key decisions was updated, providing clarity on the Administration's individual and collegiate competencies apropos its decisions and responsibilities.

04.

We update the relationship model of GE companies with its parent company, Ecopetrol, resulting in greater clearness regarding the value maximization mission that each provides the Business Group.

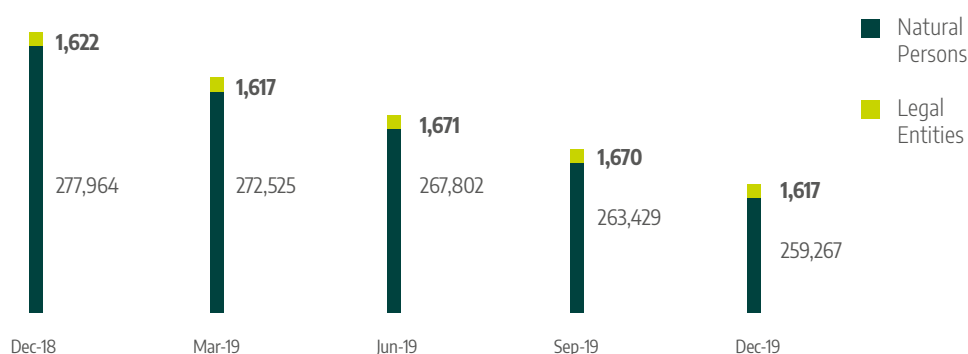
The updated Corporate Governance Model was launched in mid-2019, and it **has been implemented on all company leadership levels**, including the Board of Directors, the President of Ecopetrol and, in general, all the leaders of every GE company.

ONERSHIP STRUCTURE OF ECOPETROL S.A.

Capital, ownership and shareholder structure

As of December 31, 2019, the total number of Ecopetrol S.A. shareholders was 260,884, representing a - 6.7% variance with respect to the number of shareholders as of December 2018.

Figure 12.
Evolution of number of shareholders
(in thousands of shareholders)

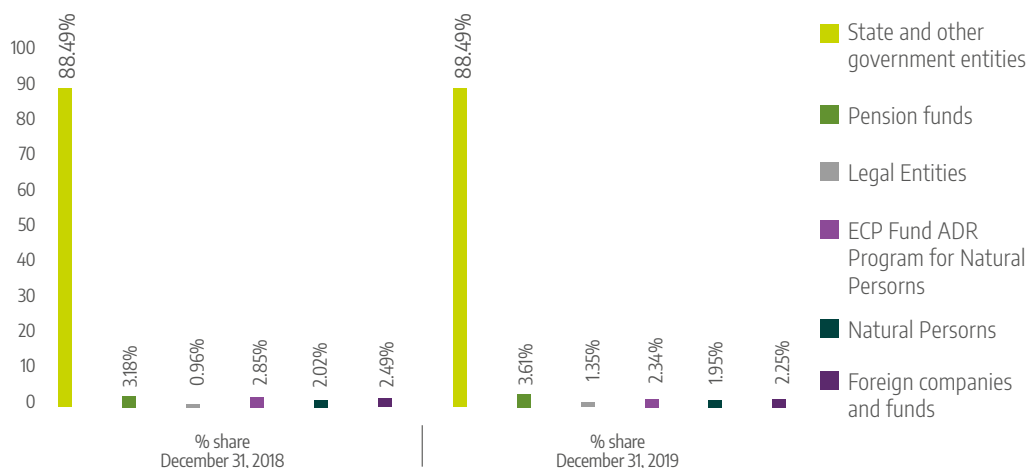


Source: Ecopetrol SA, Corporate Vice Presidency of Finance

Most noteworthy regarding the shareholding structure of Ecopetrol S.A. as of December 31, 2019 is the confidence in the local stock market, represented by an increased interest held by

local legal entities and Colombian Pension and Severance Funds, as well as the increased conversion of ADRs (American Depositary Receipts) into ordinary shares.

Figure 13.
Ecopetrol Shareholding Structure*



Source: Ecopetrol SA, Corporate Vice Presidency of Finance

* In February 2019, the classification methodology for Ecopetrol shareholders was changed in order to adequately reflect the different types of Company investors and the stakeholder group to which they belong.



CONFIDENCE IN LOCAL MARKET

Increase in local legal entities
and Colombian pension and
severance funds. ■

Identification of main shareholders

The following table lists the twenty five (25)
largest shareholders by number of shares of
Ecopetrol S.A. as of December 31, 2019:

Table 9. Identification of main shareholders

Investors	No. Shares Dec. 2019	% No. Shares Dec. 2019
MINISTERIO DE HACIENDA COLOMBIA	36,384,788,817	88.49%
JPMORGAN CHASE BANK NA FBO HOLDERS OF DR ECOPETROL	962,255,080	2.34%
FONDO DE PENSIONES OBLIGATORIAS PORVENIR MODERADO	448,497,895	1.09%
FDO DE PENSIONES OBLIGATORIAS PROTECCION MODERADO	356,577,087	0.87%
FONDO BURSATIL ISHARES COLCAP	277,441,259	0.67%
FONDO DE PENSIONES OBLIGATORIAS COLFONDOS MODERADO	133,003,612	0.32%
FONDO DE PENSIONES OBLIGATOR, PORVENIR MAYOR RIESGO	72,020,570	0.18%
FONDO BURSATIL HORIZONS COLOMBIA SELECT DE S&P	71,885,714	0.17%
OLD MUTUAL FONDO DE PENS, OBLIGATORIAS-MODERADO	70,189,071	0.17%
FONDO DE PENSIONES OBLIGATORIAS PROTECCION MAYOR R	69,991,754	0.17%
ABU DHABI INVESTMENT AUTHORITY JP, MORGAN	62,248,260	0.15%
VANGUARD TOTAL INTERNATIONAL STOCK INDEX FUND	57,081,853	0.14%
FONDO DE PENSIONES OBLIGATORIAS PROTECCION RETIRO	45,858,621	0.11%
ISHARES CORE MSCI EMERGING MARKETS ETF	43,462,060	0.11%
VANGUARD EMERGING MARKERT S STOCK INDEX FUND	39,691,902	0.10%
NORGES BANK-CB NEW YORK	33,970,367	0.08%
FONDO DE CESANTIAS PORVENIR	33,251,331	0.08%
FONDO DE CESANTIAS PROTECCION – LARGO PLAZO	30,679,784	0.07%
OLD MUTUAL FONDO DE PENSIONES VOLUNTARIAS	30,312,941	0.07%
THE BANK OF NOVA SCOTIA	27,102,705	0.07%
MSCI EQUITY INDEX FUND B – COLOMBIA	25,599,027	0.06%
ISHARES MSCI EMERGING MARKETS ETF	23,311,499	0.06%
FDO PENS OBLIGATORIAS COLFONDOS MAYOR RIESGO	23,038,153	0.06%
FONDO ESPECIAL PORVENIR DE RETIRO PROGRAMADO	22,476,450	0.05%
EMERGING MARKETS CORE EQUITY PORTFOLIO OF DFAINVE	21,604,701	0.05%
HSBC BANK PLC	19,756,711	0.05%

Source: Ecopetrol SA, Corporate Vice Presidency of Finance

According to the definition of the Code of Best Corporate Practices in Colombia issued by the Financial Superintendence of Colombia, with the exception of the State no shareholder in Ecopetrol S.A. holds a “**significant interest**” therein, (equal to 10% or more of outstanding shares). In accordance with the provisions of Colombian law (Article 2, Law 1118 of 2006) and by virtue of the authorized share capital process, it must be ensured that the State retains at least eighty percent (80%) of the Company’s outstanding voting shares.

It should be emphasized that all elected members of the Board of Directors **represent all shareholders**, and therefore do not act in the interest of particular shareholders or shareholder groups. Board members perform their duties in good faith and in accordance with their fiduciary duties and obligations, independently, with due diligence and care, always ensuring

their decisions to be in the best interest of Ecopetrol.

Shares trading

During 2019, no administrator of Ecopetrol S.A. requested authorization from the Board of Directors to sell their Company shares.

Family, commercial, contractual or corporate relationships between owners of significant shareholding and the Company, or between owners of significant shareholding and each other

Transactions between companies within the Ecopetrol Business Group (GE) may be found in the Special Report of the Business Group, pursuant to the provisions of Article 29 of Law 222 of 1995, as well as the numerals 7 and 8 of this report titled “Operations with Related Parties” and “Conflicts of Interest”.

Share Capital as of December 31, 2019

Table 10. Share Capital as of December 31, 2019

ECOPETROL AUTHORIZED CAPITAL	COP 36,540,000,000,000*
TOTAL SHARES	60,000,000,000
PAR VALUE	COP 609**

Source: Ecopetrol SA, Corporate Vice President of Finance.

* Equivalent to USD \$ 11,149,966,129

** Equivalent to USD \$ 0.19

These figures were calculated using the Market Equivalent Exchange Rate as of December 31, 2019: \$3,277.14

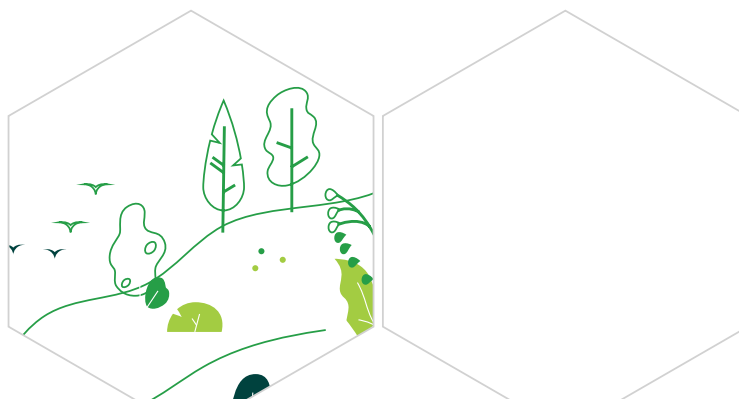
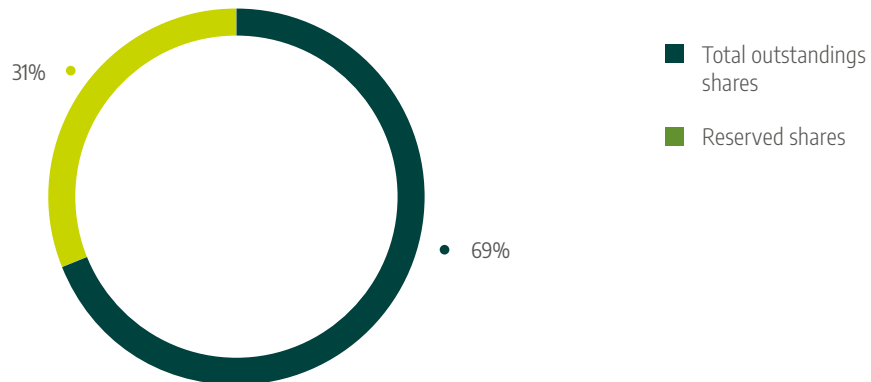


Figure 14.
Shares
of Ecopetrol



Source: Ecopetrol SA, Corporate Vice Presidency of Finance

The shares of Ecopetrol S.A., are registered ordinary shares and confer the owner **equivalent rights** to the corporate assets and the benefits distributed thereto, and each provides the right to vote in the deliberations of the General Shareholders' Meeting, within the established legal constraints. There are no company-held shares.

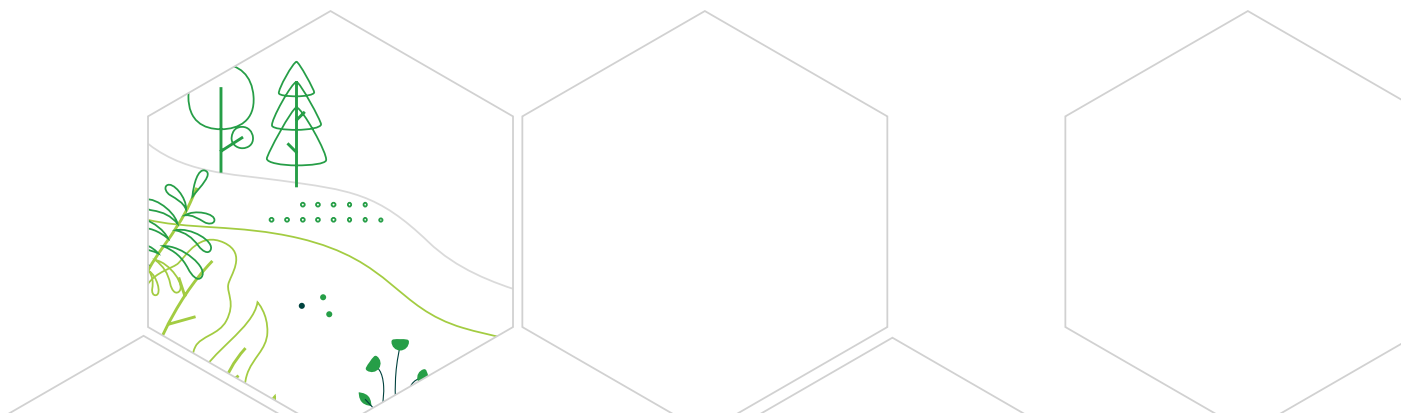
Shareholder's Agreement

In accordance with the commitment incorporated in the **Declaration of the State**, in its capacity as majority shareholder of Ecopetrol S.A., ratified on February 16, 2018 and ratified by the Company's Bylaws, the State must include within its candidate ballot list, in the ninth line, an individual chosen by the ten (10) minority shareholders with

the greatest shareholding. Consequently and derived from the foregoing, said shareholders must subscribe a Shareholder's Agreement in the years corresponding to the appointment and election of the Board of Directors members, wherein they nominate the candidate they wish the Ministry of Finance and Public Credit to include in the candidate ballot list it will submit to the General Shareholders' Meeting.

During the 2019 term, the minority shareholders with the largest shareholding in the Company endorsed on January 28 the Shareholder's Agreement signed by the representative of four (4) pension and severance funds, wherein they agreed to nominate Carlos Gustavo Cano Sanz as a candidate to the Board of Directors, who was included as an independent member nominated by the minority shareholders with the greatest shareholding, in the ninth candidate position in candidate ballot list submitted to the Board of Directors for consideration at the ordinary meeting of the General Shareholders' Meeting of March 29, 2019.

Pursuant to the provisions of Article 43 of Law 964 of 2005, Ecopetrol S.A. **informed the market about the agreement signed amongst its shareholders.**



As of December 31, 2019, Ecopetrol had around **1,030,000** followers on Facebook and Twitter, **providing additional information channels for our shareholders and stakeholders.** ■

GENERAL SHAREHOLDERS' MEETING

Operation of the General Shareholders' Meeting: Compliance with minimum regulatory requirements and adoption of best corporate governance practices

The General Shareholders' Meeting is a milestone event providing shareholders the opportunity to make central decisions regarding the Company's direction.

Ecopetrol has determined it will surpass the legal requirements in its corporate governance practices, and the Assembly is exemplary of this commitment. The following are the practices we have adopted, emblematic of the transparency and protection afforded to all our shareholders.



Extended call period:

In accordance with the provisions of the Bylaws, and in order to provide our shareholders more ample time to be informed in order to exercise their rights at the meeting, the call to ordinary meetings of the General Assembly of Shareholders is made thirty (30) calendar days in advance of the date on which the meeting will take place, and fifteen (15) calendar days in the case of extraordinary meetings.



Meeting reminder:

In order to achieve the greatest possible participation, on the Sunday prior to the ordinary or extraordinary meeting convened, the Administration reminds its shareholders through a posting on the corporate website and by publishing a reminder in a newspaper with wide distribution, including the date of the meeting and the proxy representation mechanism therein.



Publishing of documents:

In order to ensure the required transparency, Ecopetrol publishes on its website the supporting documents for the General Shareholders' Meeting, such as the notice of call, meeting reminder, agenda, proposals by the Administration and resumes of the candidates nominated to serve as members of the Board of Directors and Statutory Auditor.



Live broadcast:

The General Shareholders' Meeting is broadcast live on Ecopetrol S.A.'s website in order that shareholders and other stakeholders who cannot personally attend the meeting may remain informed regarding any developments therein. Additionally, information regarding the call to the meeting is also published on Facebook and Twitter.



Publishing of minutes:

Likewise, details of the issues presented at the meeting, approvals and authorizations granted by the General Shareholders' Meeting and the comments made by the shareholders can be accessed in the complete text of the minutes provided to shareholders on the Company's website.



Commitments of the majority shareholder:

The State, as majority shareholder, **in the pursuit of guaranteeing the participation of minority shareholders**, has committed in the corporate Bylaws to:

• 01

In accordance with its shareholding, that the allocation of assets whose amount is **equal to or greater than 15%** of the market capitalization of Ecopetrol will be discussed and decided within the General Shareholders' Meeting, and the State may only vote in assent thereof if the vote of the minority shareholders is equal to or greater than 2% of the shares held by shareholders other than the State.

• 02

Support with its vote at the extraordinary meetings of the General Shareholders' Meeting the initiatives aimed at **allowing the inclusion of additional topics** to those foreseen in the agenda, if these are submitted by one or more shareholders representing by at least two percent (2%) of the outstanding shares.

Meetings of the corporate body

In 2019, two General Shareholders' Meetings of Ecopetrol S.A. were held. The ordinary meeting was held on March 29, 2019 and the extraordinary meeting on December 16, 2019. In each of these meetings, the company ensured the protection of shareholders' rights by properly disseminating the information and by safeguarding the proper representation of the shareholders who participated therein.

To facilitate the adequate representation of the shareholders at the General Meeting, Ecopetrol S.A. made available to the shareholders a handbook and five proxy form templates that could be used as applicable. The templates were provided for

illustration purposes only, and shareholders may freely draft their own proxy forms, which are valid insofar as these comply with the compulsory legal requirements (Article 184 of the Colombian Code of Commerce, or the norms that modify, replace or enhance them).

Additionally, voting guidelines with a template are published in order that shareholders voting through proxy can let the latter know their intended voting preference regarding the items on the agenda subject to voting. The foregoing is carried out in order to **facilitate the participation and voting of shareholders and their proxies during the meeting**.

Photo taken at the General Shareholders' Meeting, held on March 29, 2019





A total of **5,514** people attended the General Shareholders' Meeting and **4,930** shareholders were represented therein. ■

Ordinary Meeting

The call notice to the ordinary General Shareholders' Meeting held on March 29, 2019 was published on the website and in the newspaper *El Tiempo*, a newspaper with extensive distribution, thirty (30) calendar days in advance thereof.

The relevant documents were made available to the shareholders so they may exercise their inspection right during the term established by law and in the bylaws of fifteen (15) business days preceding the meeting of the highest corporate body.

The ordinary General Shareholders' Meeting had the deliberative and decisive quorum required by law and Article 19 of the Bylaws. The shareholders exercised their right to vote and the items on the agenda subject to voting were approved. Seven (7) of the nine (9) members of the Board of Directors attended the ordinary General Shareholders' Meeting.

In accordance with the securities market regulations applicable to Ecopetrol S.A., a copy of the Minutes was sent to the Financial Superintendence of Colombia within the fifteen (15) business days following the General Shareholders' Meeting.

The principal decisions adopted in this meeting were:

- Approval of the Management Report of the Board of Directors and the President.

- Approval of the separate and consolidated Financial Statements as of December 31, 2018.

- Election of the Board of Directors for a period of two years.

- Election of the Statutory Auditor for the 2019 term and with option for 2020, and assigning of fees.

- Approval of Bylaws Amendment.

- Approval of the amendment of the Internal Regulations of the General Shareholders' Meeting of Ecopetrol S.A.

- Approval of the profit distribution of COP \$225 per share, corresponding to COP \$169 in ordinary dividends and COP \$56 in extraordinary dividends. The dividends of the minority shareholders are to be paid in a single installment on April 25, 2019 (100% of the ordinary and extraordinary dividend). The dividend of the majority shareholder will be paid in three installments, on April 25 (50% of the ordinary dividend), June 25 (50% of the ordinary dividend) and September 25, 2019 (100% of the extraordinary dividend).

Measures taken by Ecopetrol to ensure adequate representation of shareholders at the Ordinary Meeting on March 29, 2019

Ecopetrol informed shareholders through its website regarding the implementation of the following measures approved by the Board of

Directors intended towards ensuring adequate representation of shareholders at the ordinary General Shareholders' Meeting held on March 29, 2019:

93



Direct the Company's Administration to inform shareholders on their right to be represented via the appointment of a proxy, and specify the legal requirements for the proxy form necessary for granting the latter.



Direct the Company's Administration to inform the administrators and employees that they should not offer suggestions, coordinate on or come to an agreement with the shareholders regarding voting in favor or against any proposal presented at the Meeting.



Direct the Company's employees who review of the proxy forms submitted by shareholders, that they may not accept as valid those that fail to meet the minimum requirements set forth in the law, and that they should not accept proxy forms where the name of the respective proxy is not clearly established.



Ensure the Administration informs shareholders they may not select as their proxies any person directly or indirectly associated with the administration or the employees of Ecopetrol S.A.



Direct the Company's Administration to inform administrators and employees of the Company that they cannot recommend shareholders to vote on a certain candidate ballot list.



Ensure the administrators adopt all the necessary measures so that the Company's employees labor under neutrally in relation to the different shareholders.



Direct the Company's Administration to inform administrators and employees of the Company that they should not offer suggestions, coordinate on or come to an agreement with the shareholders regarding the submission of proposals at the Meeting.



Appoint the General Secretary of Ecopetrol S.A. as the employee responsible for verifying proper compliance with the previous measures.



Appoint the Legal Vice Presidency as the area responsible for the review of the proxy forms.

The previous measures adopted by the members of the Board of Directors of Ecopetrol S.A. were imparted to the general market by the Chairperson of the Board of Directors **through the Delegate Superintendent for Issuers prior to the holding of the respective General Shareholders' Meeting.**

Extraordinary Meeting

The extraordinary General Shareholders' Meeting of Ecopetrol are convened: a) when required by unforeseen or urgent needs of the Company; b) when convened by the President, the Board of Directors, or the Statutory Auditor; or c) by order or direct summons of the Superintendent, or whoever acts in their stead, **when it is requested by a plural number of shareholders representing at least five percent (5%) of the total outstanding shares, and in the additional instances provided for in the law.**

The extraordinary meeting was held on December 16, 2019 in order for the General Shareholders' Meeting to deliberate on the proposed distribution of the occasional reserve for **financial sustainability**, in view of the positive results provided by Ecopetrol during the 2019 term, the Company's cash

flow sufficiency and its compliance with its investment plan. The call was made under the terms of Article 17 of the Bylaws and the notice of call to the extraordinary meeting was published on the website and in the newspaper *El Tiempo*, a newspaper with extensive distribution, fifty (15) calendar days in advance thereof.

The extraordinary General Shareholders' Meeting had the deliberative and decisive quorum required by law and Article 19 of the Bylaws. The shareholders exercised their right to vote and the items on the agenda subject to voting were approved. The President of Ecopetrol S.A. and four (4) members of the Board of Directors **attended the extraordinary General Shareholders' Meeting.**

The decisions included in the minutes and subject to registration were duly registered in the Chamber of Commerce of Bogotá.

A total of **37,497,815,610** shares were represented in the extraordinary meeting, corresponding to **91.20%** of outstanding shares.

The principal decisions adopted in this meeting were:

Approval of the change in destination of the occasional reserves established at the General Shareholders' Meeting of March 29, 2019, in order to distribute an extraordinary dividend of COP \$89 per share. The minority shareholder dividend was paid on December 23 and the majority shareholder's on December 26, 2019.





Rubiales Production Field

Shareholders and investors engagement and communications*

Ecopetrol grants equitable treatment to all shareholders, **without favoring the interests of any one over the others**, taking into account that each shareholder has the same rights according to the type of share they possess. Therefore, in order to guarantee shareholders the full exercise of their rights and a straightforward fulfillment of the Company's obligations with their investors and shareholders, it

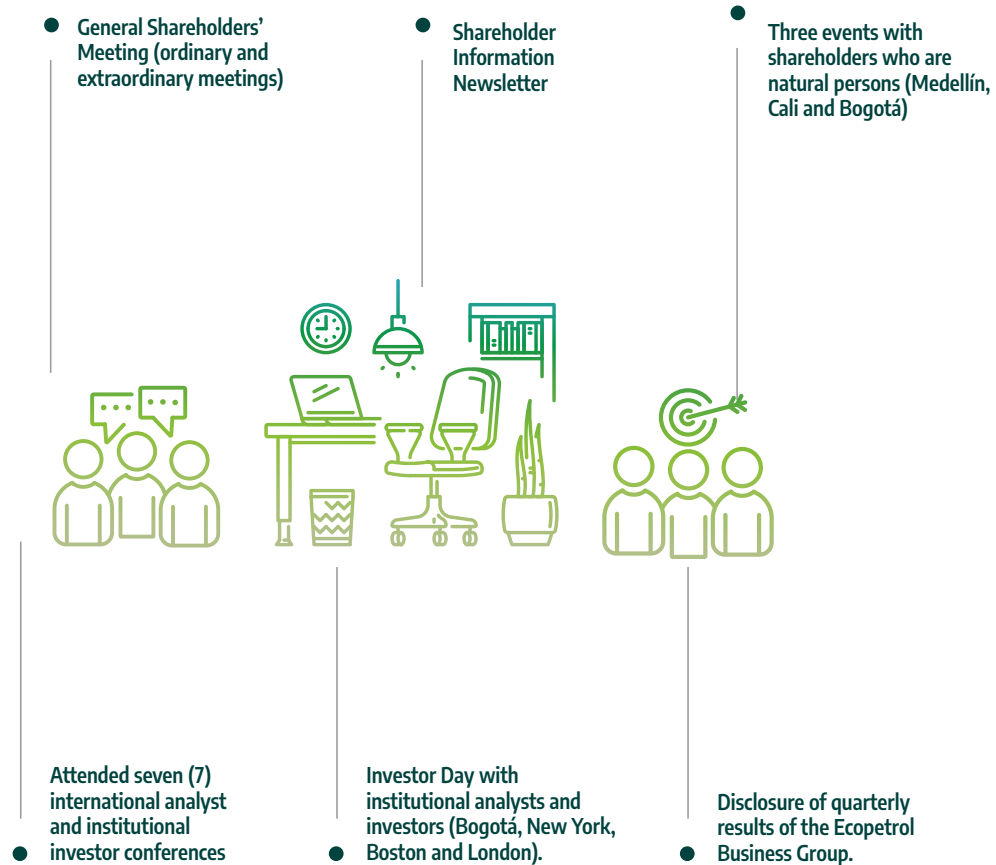
offers them the same treatment in terms of addressing their requests, claims and information requirements, regardless of the worth of their investment or the number of shares it represents.

A total of **31,084** surveys were completed regarding the service received by shareholders and investors. The satisfaction level reached was **96.25%** versus the target of **90%**, resulting in **106.95%** compliance.

In 2019, a total of 58,905 shareholder requests were received through our service channels, **and 99.53% of these requirements were addressed in a timely manner.**

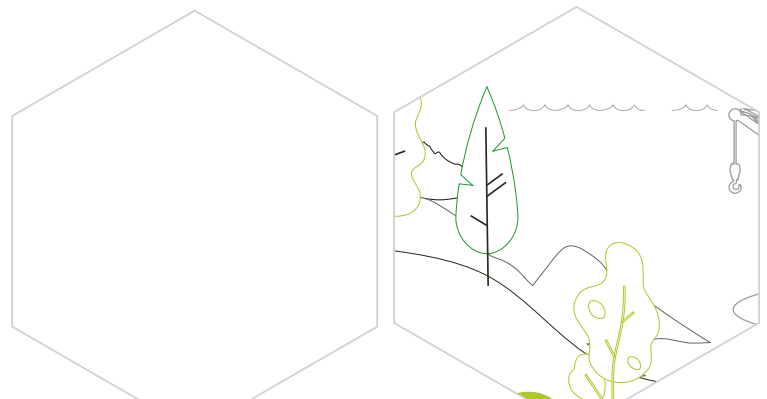
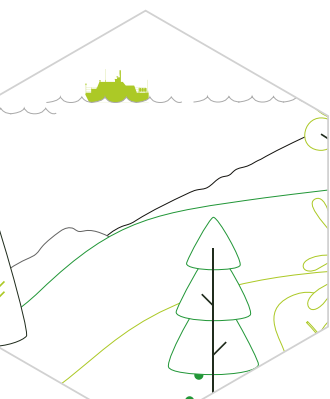
* The complete listing of available communication channels with the Company is provided in Corporate Responsibility chapter of our Integrated Sustainable Management Report.

Other notable shareholder loyalty activities carried out during 2019 were:



Ecopetrol S.A. has been granted the IR (Investor Relations) recognition by the Colombian Securities Exchange, highlighting the commitment of issuers that have best practices in terms of

information disclosure and investor relations. Further information on this acknowledgement can be accessed on the website of the Colombia Securities Exchange: www.bvc.com.co.



OPERATIONS OF THE BOARD OF DIRECTORS AND ITS COMMITTEES

STRUCTURE OF THE BOARD OF DIRECTORS

GRI | 102-22 |

In accordance with the provisions of the Bylaws, the Board of Directors of Ecopetrol S.A. is comprised of nine (9) principal members, without alternates, elected by the General Shareholders' Meeting for periods of two (2) years through the electoral quota system and may be re-elected indefinitely. This period is consistent with the period of the Chairperson and the Statutory Auditor.

A member of the Board may be appointed in a personal capacity or for a specific position. **The majority of the members of the Board of Directors are independent.**

The service period of the Board of Directors responds to the need to provide greater stability to this Corporate Body, offering continuity to the learning curve of the members of the Board of Directors, who acquire greater knowledge of the industry and the Company during the exercise of their duties. The General Shareholders' Meeting has the power to remove them at any time. If it is necessary to replace any or some of the members of the Board of Directors, partial elections may be held, provided that the vacancies are filled unanimously. ■

APPOINTMENT PROCESS FOR THE MEMBERS OF THE BOARD OF DIRECTORS

GRI | 102-24 |

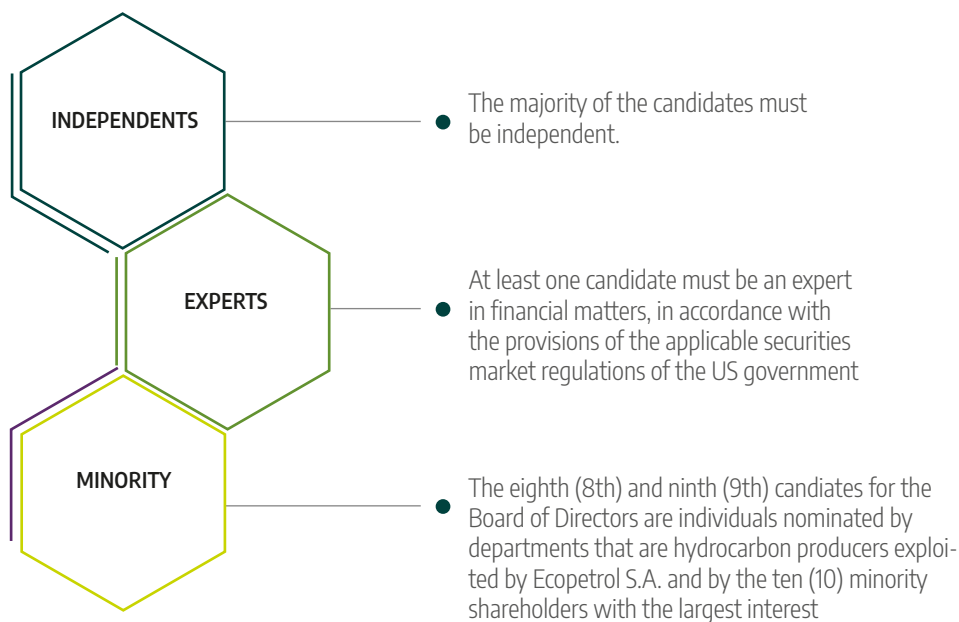
On March 29, 2019, the General Shareholders' Meeting elected for a period of two (2) years the new Board of Directors of Ecopetrol, according to the candidate list submitted with their respective resumes, presented by the majority shareholder of Ecopetrol S.A., the State, represented by the Ministry of Finance and Public Credit. It is emphasized that, during the General Shareholders' Meeting, the other

shareholders have the same right to submit alternate candidate lists to that proposed by the majority shareholder.

In accordance with the provisions of the Bylaws, the Board of Directors of Ecopetrol S.A. is composed of nine (9) principal members, without alternates, elected through the electoral quota system.

*In accordance with Article 20 of the Bylaws (latest amendment made and approved by the General Assembly of Shareholders on March 29, 2019.)

To ensure the best composition of the Board of Directors, the proposed candidate list must meet the following requirements:

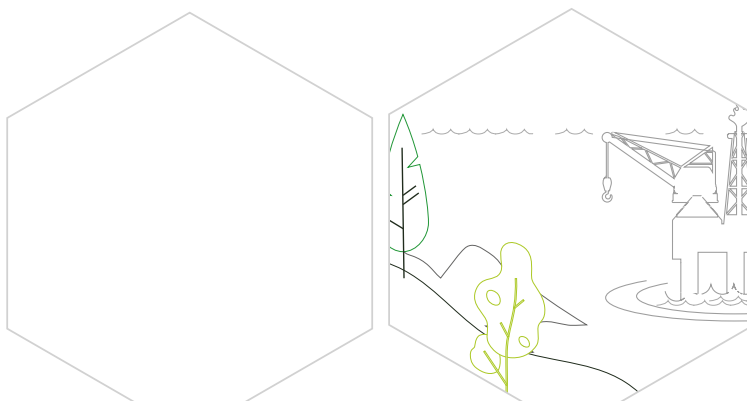


The rules governing the nomination and remuneration process of the Board of Directors of Ecopetrol S.A. are found in the Internal Regulations of the Board of Directors, which is published on the Ecopetrol website.

INDEPENDENT MEMBERS OF THE BOARD OF DIRECTORS

In accordance with the provisions of the Bylaws, **the majority of the members of the Board of Directors must be independent.**

As of December 31, 2019, **89%** of Board members (8 of 9) satisfy the requirements for independent members, surpassing the legal minimum set by the Colombian securities market (25%: 3 out of 9 members) and that established in the Corporate Bylaws (majority: 5 out of 9 members). ■



In the second paragraph of Article 44 of Law 964 of 2005, it is established that an independent member shall be understood as a person who in no case is:

• 01

An employee or director of Ecopetrol S.A. or any of its affiliates, subsidiaries or controlling entities, including those who held such a position during the year immediately prior to the appointment, unless it is the re-election of an independent person.

03

A partner or employee of associations or companies that provide advisory or consulting services to the issuer or to the Companies that belong to the same economic group of which it is a part, when the income from said element represents for these 20% or more of the operational expenses of Ecopetrol S.A. or of the operating income of the advisor, consultant or supplier.

05

An administrator of an entity whose board of directors includes a legal representative of Ecopetrol S.A.

• 02

A shareholder who directly or under an arrangement directs, guides or controls the majority of the voting rights of the entity or determines the controlling structure of the administrative, management or control bodies thereof.

04

An employee or director of a foundation, association or company that receives significant donations from Ecopetrol S.A. Significant donations are those that represent more than 20% of the total donations received by the respective institution.

06

A person who receives from Ecopetrol S.A. any remuneration other than the fees as a member of the Board of Directors, the Audit Committee or any other Board committee.

Both the Chairperson and the Vice Chairperson of the Board are independent members

Board members Directive they are elected as independent they commit in writing, upon accepting the post, keep your status independent during the exercise of their functions.

The acceptance letters of application are in the Board of Directors section of the Ecopetrol website. ■

If for any reason, any member of the Board loses their independent quality, they must resign from the position and the respective vacancy will be presented at the next ordinary General Shareholders' Meeting where the election of the Board of Directors will be submitted for consideration by the shareholders, as long as the quorum of the Board of Directors is not affected. If the quorum is affected, the President of the Company may call an extraordinary meeting to restructure the Board of Directors.

If the list of nominated candidates submitted includes the minimum number of independent members required by law and the Bylaws, the election of all the members of the Board of Directors will be carried out in a single vote. If not, according to the procedure established in Decree 3923 of 2006 (regulating Law 964 of 2005) the election of independent members of the Board shall be carried out through independent votes of the General Shareholders' Meeting from a list of candidates that includes at minimum the number of independent members required by law and the Bylaws.

PROFILE OF THE MEMBERS OF THE BOARD

In accordance with the provisions of Article 21 of the Bylaws of Ecopetrol S.A., the members of the Board of Directors must, at a minimum:

• 01

Have knowledge and experience in the activities pertaining to the Company's corporate purpose and/or have knowledge and experience in the industrial and/or commercial, financial, securities, administrative, legal or related sciences field.

• 02

Have over 15 years of professional experience.

• 03

Have a good reputation and be recognized for their professional competency and integrity.

• 04

Not belong simultaneously to more than five (5) boards of directors of corporations including that of Ecopetrol.



The profiles of the members of the Board of Directors are reviewed and updated by the Board of Directors and the Corporate Governance and Sustainability Committee of the Board. The current members of the Board of Directors **comply with the profile composition**

required in the Bylaws, thus contributing towards enriching discussions in Board meetings and its supporting committees in order to fulfill the corporate strategy, in accordance with their competences and experience, as summarized in the following section.

COMPOSITION OF THE BOARD OF DIRECTORS

GRI | 102-22 |

The current Board of Directors was elected by the General Shareholders' Meeting at the ordinary meeting of March 29, 2019, except for the members Hernando Ramírez Plazas and Carlos Gustavo Cano, who were elected at the meetings of March 23, 2018 and March 31, 2017 respectively. As of December 31, 2019, none of the members of the Board of Directors had lost their independent status.

The resumes of the members of the Board of Directors are published on the website of Ecopetrol S.A.



QR Board Directors



Luis Guillermo Echeverri Vélez

- Independent
- lawyer, Masters in Agricultural Economics
- **Profile:** Legal, Technology and Innovation, Strategy and Leadership, Corporate Governance, Government and Public Policy Issues, Global Business and Senior Management expertise
- Board member since March 29, 2019
- **Committees:** Technology and Innovation (Chairperson), Corporate Governance and Sustainability
- 100% attendance to Committee meetings
- 100% attendance to Board of Directors meetings (12 of 12 meetings in 2019)
- Holds no shares in Ecopetrol S.A.
- **Other Boards of Directors:** Chairperson of the Board of the Bogotá Chamber of Commerce, member of the Boards of Telefónica S.A. and Pragma S.A



Carlos Gustavo Cano Sanz

- Independent Nominated by the minority shareholders
- Economist, Masters in Economics, Government, Business and International Economics
- **Profile:** Senior Management, Finance and Internal Controls, Sustainability (ESG), Government and Public Policy Issues, Global Business expertise
- Board member since March 31, 2017
- **Comités:** Business (Chairperson), Corporate Governance and Sustainability, HSE, Technology and Innovation
- 100% (Business, Governance and Audit) and 50% (Technology) attendance to Committee meetings
- 100% attendance to Board of Directors meetings (19 of 19 meetings in 2019)
- Holds no shares in Ecopetrol S.A.
- **Other Boards of Directors:** Inversiones Minka S.A.S., Cultivos Casa S.A.S., Inversiones Inmobiliaria Santa Cruz S.A.S., Tusautos S.A.S.



Orlando Ayala Lozano

- Independent
- Information Systems Administrator, Honorary Doctorate degree
- **Profile:** Technology and innovation, Strategy and Leadership, Global Business and Senior Management expertise
- Board member since March 29, 2019
- **Committees:** Corporate Governance and Sustainability, Remuneration and Appointments, Technology and Innovation
- 100% (Governance and Technology) y 80% (Remuneration) attendance to Committees
- 92% attendance to Board of Directors meetings (11 of 12 meetings in 2019)
- Holds no shares in Ecopetrol S.A.
- **Other Boards of Directors:** Universidad Jorge Tadeo Lozano and Centene Corp. (CNC)



Germán Quintero Rojas

- Non-independent General Secretary of the Ministry of Finance and Public Credit
- Lawyer, Specialist in Administrative Law
- **Profile:** Senior Management, Legal, Strategy and Leadership, Corporate Governance, Government and Public Policy Issues, Global Business and Industry expertise
- Board member since March 29, 2019
- **Committees:** Remuneration and Appointments, HSE, Technology and Innovation
- 100% attendance to Committee meetings
- 100% attendance to Board of Directors meetings (12 of 12 meetings in 2019)
- Holds no shares in Ecopetrol S.A.
- **Other Boards of Directors:** Financiera de Desarrollo Nacional (FDN) and Gecelca S.A. E.S.P.



Juan Emilio Posada Echeverri

- Independent
- Business Manager, MBA, International Financial Law
- **Profile:** Senior Management, Finance and Internal Controls, Strategy and Leadership, Corporate Governance, Government and Public Policy Issues and Global Business expertise
- Board member since March 29, 2019
- **Comités:** Remuneration and Appointments (Chairperson), Audit and Risks, Business, Corporate Governance and Sustainability
- 100% (Remuneration, Business and Governance) and 89% (Audit) attendance to Committee meetings
- 100% attendance to Board of Directors meetings (12 of 12 meetings in 2019)
- Holds no shares in Ecopetrol S.A.
- **Other Boards of Directors:** Avianca Holdings S.A., Sociedad Hotelera Tequendama S.A., Allianz Life, Allianz General in Colombia, Táximo Ltda., Direktio, Fundacion Plan and Plan International (Brazil).



Sergio Restrepo Isaza

- Independent
- Business Manager, MBA
- **Profile:** Senior Management, Strategy and Leadership, Corporate Risks, Finance and Internal Controls, Corporate Governance, Global Business expertise
- Board member since March 29, 2019
- **Committees:** Audit and Risks (Chairperson and expert in corporate finance, auditing and risks) Business, Technology and Innovation.
- 100% attendance to Committee meetings
- 100% attendance to Board of Directors meetings (12 of 12 meetings in 2019)
- Holds no shares in Ecopetrol S.A.
- **Other Boards of Directors:** Odinsa S.A., Grupo BIOS S.A.S., and Consorcio Financiero (Chile).



Luis Santiago Perdomo Maldonado

- Independent
- Business Manager
- **Profile:** Senior Management, Finance and Internal Controls, Strategy and Leadership, Industry, Government and Public Policy Issues, Sustainability (ESG), Global Business expertise
- Board member since March 29, 2019
- **Committees:** Audit and Risks, Remuneration and Appointments, Technology and Innovation
- 100% (Remuneration) 89% (Audit) y 50% (Technology) attendance to Committee meetings
- 100% attendance to Board of Directors meetings (12 of 12 meetings in 2019)
- Holds no shares in Ecopetrol S.A.
- **Other Boards of Directors:** Mineros S.A.



Esteban Piedrahíta Uribe

- Independent
- Economist, Masters in Philosophy and History of Science
- **Profile:** Senior Management, Finance and Internal Controls, Strategy and Leadership, Government and Public Policy Issues, Technology and Innovation expertise
- Board member since March 29, 2019
- **Committees:** Corporate Governance and Sustainability (Chairperson), Remuneration and Appointments, Business.
- 67% (Governance), 83% (Remuneration) y 78% (Business) attendance to Committee meetings
- 83% attendance to Board of Directors meetings (10 of 12 meetings in 2019)
- Holds no shares in Ecopetrol S.A.
- **Other Boards of Directors:** Cementos Argos S.A. and Centro de Eventos Valle del Pacífico.



Hernando Ramírez Plazas

- Independent Nominated by the hydrocarbon producing departments
- Chemical Engineer, Masters in Public Health, Specialist in Gas Engineering
- **Profile:** Senior Management, Finance and Internal Controls, HSE, Strategy and Leadership, Government and Public Policy Issues, Technology and Innovation expertise
- Board member since March 23, 2018
- **Committees:** HSE (Chairperson), Audit and Risks, Business
- 100% attendance to Committee meetings
- 95% attendance to Board of Directors meetings (18 of 19 meetings in 2019)
- Holds no shares in Ecopetrol S.A.
- **Other Boards of Directors:** none

Source: Ecopetrol, Secretary General and Assistant to the President

All absences were reported to the General Secretariat. From January to March 2019, the Board of Directors of Ecopetrol SA was comprised of Jorge Londoño, Claudia González, Jaime Ardila, Camilo Barco, Carlos Alfredo Cure, Joaquín Moreno, Mauricio Cabrera, Carlos Gustavo Cano and Hernando Ramírez.

No member of the Board of Directors of Ecopetrol S.A. may participate as a board member in any of the Group's subordinate companies, nor occupy an executive position thereto.



DUTIES AND RESPONSIBILITIES OF THE BOARD OF DIRECTORS

GRI | 102-26 |

In accordance with the provisions set forth in the Bylaws, the Board of Directors is the highest administrative body of Ecopetrol S.A., and is responsible for defining and implementing the Company's strategic direction. It acts in the best interests of its shareholders'



Business strategy and plan



Budget and investment plan, as well as the standards for the preparation and execution thereof



Consolidated objectives and goals



Guidelines of compensation.



Consolidated financial statements



Withholdings, transfer and financial risk mitigation guidelines, including insurance



New ventures



Corporate governance model

As part of its strategic role, the annual agenda for Board of Directors Meetings includes **sessions exclusively designated for discussion and review of the Company's Strategy**. In 2019, two (2) such sessions were held in January and February, whereby the reviews completed in October and December of 2018 for the 2020+ Strategy were continued, with the aim of acknowledging any relevant advancements, challenges and next steps.

The Chairperson of the Board determines, in conjunction with the Secretary, the suggested agenda for each Board meeting, prioritizing those issues considered critical and material for the Company. Furthermore, **the Chairperson leads and guides the communication and management between other Board members.**



Qr code for
bd charter

rights and the Company's sustainability and growth.

The Board of Directors, in its condition as **strategic conductor**, is responsible for approving the following for the Ecopetrol Group:

Chairperson, Vice-Chairperson, and Secretary of the Board of Directors

The duties of the Chairperson, Vice-Chairperson and Secretary of the Board of Directors are provided in the Board's Internal Charter, and are substantially different from those assigned to the President of Ecopetrol S.A. in the Corporate Bylaws.

Article 22 of the Bylaws, which addresses the appointment of the Chairperson and Vice-Chairperson of the Board, establishes that these positions will be filled by election from among its members for two (2) year terms. Their primary duty is to preside over and guide the Board's ordinary and extraordinary meeting.

The Secretary to the Board of Directors is responsible for providing support to the Chairperson of the Board in his/her duties, and must guarantee the proper operation of the Board. The performance evaluation of the Secretary to the Board is carried out once a year by said body.

Furthermore, the Secretary General must complete the due diligence on or review the resumes of the candidates to the Board of Directors.

The following are included in this review process:



Accredited experience,



Academic background, and



Positions held,



Boards of Directors in which he/she is currently a member,



Compliance with general and technical requirements,



Disciplinary, tax, and criminal background checks,



Inclusion in restrictive lists,



Compliance with independence (for those Board Members aspiring to the position of independent member of the Board),



Availability to assume the duties and responsibilities of the position.

Duties of the Secretary General
The work completed by the Secretary General is the contribution employed by the Board of Directors, through the Corporate Governance and Sustainability Committee, to review candidate resumes and verify they have the knowledge and expertise proper to Ecopetrol's corporate purpose, and the experience and knowledge in the corresponding industrial, commercial, financial, stock

market, administrative, legal or related sciences field, and that they have a good reputation and are recognized for their professional competency and integrity. This Committee also verifies that there are no grounds for disqualification or incompatibilities associated to any candidate to the Board of Directors.

During 2019, Mónica Jiménez González acted as Secretary General to the Board of Directors.

Duties of the Secretary General

01 >>>

Carry out the call for the meetings

02 >>>

Provide information for the deliberation and decision-making process in a timely and satisfactory manner

03 >>>

Provide counsel to the members of the Board with regards to compliance with their duties

04 >>>

Include in the book of Minutes the discussions held in the meetings

05 >>>

Act as witness to the decisions of the Board

06 >>>

Guarantee the legal formalities of the Board's actions and decisions

07

Carry out due diligence regarding the resumes of candidates to the Board of Directors, among others.

REMUNERATION FOR MEMBERS OF THE BOARD OF DIRECTORS

GRI | 102-35 |, | 102-36 |, | 102-37 |

In accordance with the approval given by the General Shareholders' Meeting, the amount of the fees paid to the members of the Board of Directors of Ecopetrol S.A. amounts to

six (6) minimum monthly salaries in force (SMLMV for its Spanish acronym), which for 2019 was equivalent to **COP \$4,968,696** per in-person session of the Board of Directors and/or its Committees.

Board members do not receive any sort of variable remuneration

Information on the total fees paid to the Board of Directors during 2019 can be found in the section on "Key Management Guidelines" of the Company's separate financial statements, section 28.

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OPERATION OF THE BOARD OF DIRECTORS, DECISION-MAKING PROCEDURES AND DATA MANAGEMENT

As proof of Ecopetrol S.A. Board of Directors' involvement and commitment, during 2019, 12 ordinary and five (5) extraordinary Board meetings were held, plus two (2) votes by circulation, with the participation of 95% of the Directors. The schedule for these meetings was approved by this body and the calls thereof were promptly confirmed by the Secretary General to the board members prior to each corresponding date.

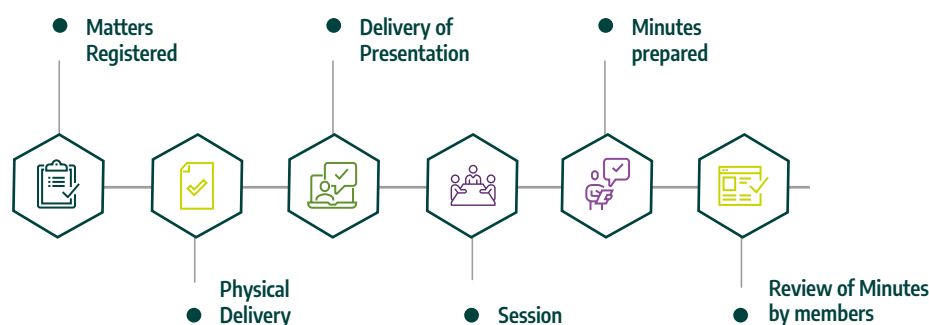
The Secretary General, in coordination with the Chairperson of the Board, prepared the matters to be addressed in each meeting and the respective drafts for the agendas. Eight (8) days prior to each meeting the corresponding agendas and preparative documents were

delivered to the Board Members, in accordance with the annual agenda and the matters presented by the Administration.

The decision-making process within the Board of Directors guarantees that in each stage the decisions are made in an informed manner, respecting the powers granted to the different internal bodies; consequently, the issues that are presented to the Board are framed within its strategic role and the exercise of its legal and statutory duties.

The Secretary General organizes the matters to be addressed by the Board of Director's supporting Committees, in order for the latter to complete a preliminary analysis thereof. During the Committee sessions, the members study and analyze the issues, and based on this present their recommendation to the Board of Directors. Subsequently the Chairperson of each Committee shares its observations, instructions and comments with the Board in full, as well as the commitments undertaken and the corresponding recommendations. After completing this process, the Board of Directors decides and adopts the corresponding decision.

During 2019, the Board of Directors and its Committees reviewed **80** informative matters and approved **53** items, in accordance with their duties.



Board of Director Meeting minutes are prepared by the Secretary General, and once approved are printed and filed in a paged ledger in consecutive order, and signed by the Chairperson and the Secretary General of the Board of Directors. The Secretary General acts as custodian to the minutes as well as

the ledgers that contain the corresponding supporting documents.

Deliberations by the Board of Directors are carried out with five (5) or more of its members, and decisions were approved unanimously.

THE MOST
RELEVANT ISSUES
ANALYZED BY
THE BOARD OF
DIRECTORS

During 2019, in terms of the Environment,

Sustainability and Governance (ESG), the Board of Directors addressed the following issues, among others:



Creation of the Technology and Innovation Committee, the purpose of which is supporting technology innovation and digital transformation processes within the Company.



Carry out the performance assessment of Ecopetrol's President.



Approve the 2020 Budget and Investment Plan with a forward vision to 2022 where long-term sustainability goals are established, such as decarbonization goals.



Updating of the 2020+ Strategy and alignment with its enablers, where Energy Transition, Corporate Governance and Corporate Responsibility are worth highlighting.



Approval of the adoption of the Public Works with Tax Exemption mechanism, whereby funds allocated for the payment of taxes are rerouted to the direct execution of public works for the development of municipalities designated as high priority in the post-conflict.



As part of the monitoring activities carried out on corporate risk management, the results and the Audit Enhancement Plan for the Management of Environmental Obligations, as well as the Environmental Abandonment and Recovery process for E&P were analyzed.



Approval of the measures to guarantee adequate shareholder representation in the Ordinary Meeting held on March 29, 2019.



The Board of Directors' Audit and Risk Committee analyzed ethics and compliance cases, generated by actions classified as corruption, fraud, money laundering and funding of terrorism, and sexual harassment, among others.

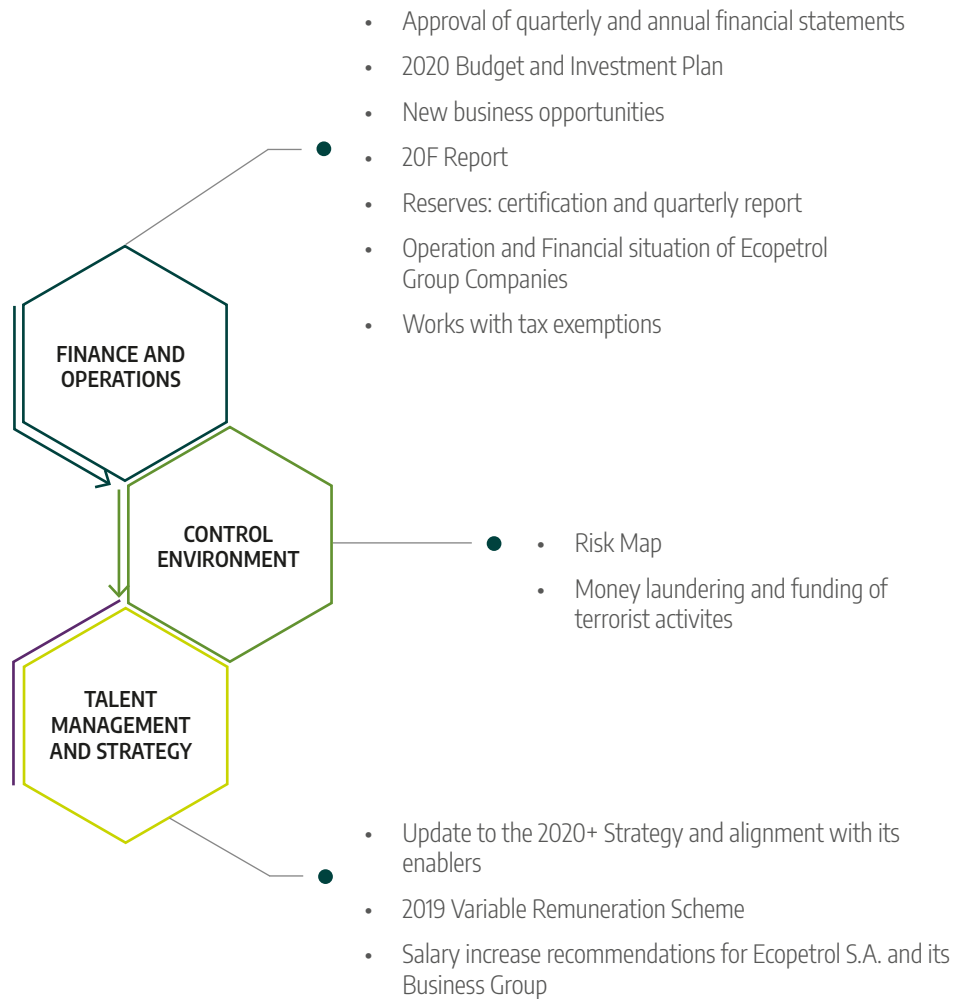


In order to guarantee all aspects of the right to freedom of association, the Board of Directors analyzed union relationships within the Company.



Review of Ecopetrol's Human Talent general planning and strategy, as well as the results for the salary competitiveness study, and the increases in salaries and incentives suggested for 2020.

Among other relevant matters that were studied and analyzed by Part of the Board of Directors in 2019 are the following:



Similarly, regarding issues presented by the Board members and the Company's President, **the Board of Directors reviews the monthly reports presented by the Chairmen of each Committee.**



UPDATING OF RELEVANT ISSUES

GRI | 102-27 |, | 205-2 |

During 2019, and given the changes to the composition of the Board of Directors, the Company implemented **an induction program** which was offered to all members of the Board, and was performed between April and May of 2019. This induction included, among other issues, an introduction to Corporate Strategy and Management, the regulatory framework, roles and responsibilities of the Board, new businesses, HSE, corporate areas, Ecopetrol Group finances, introduction to the different operating segments (upstream, midstream,

downstream and sales & marketing) and their most significant processes.

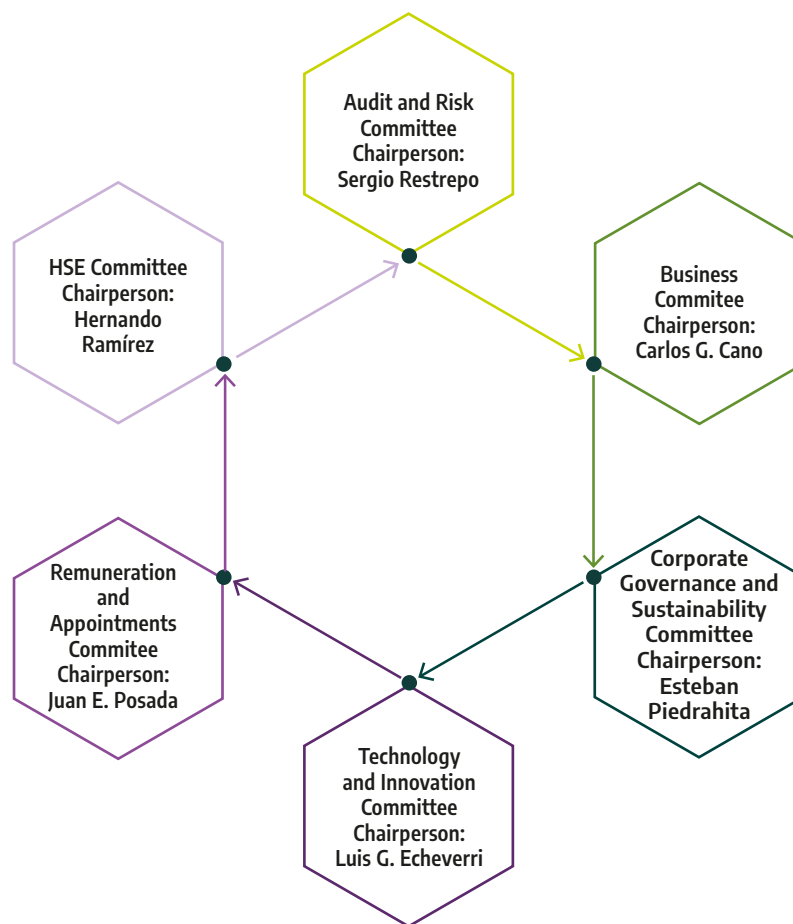
At the request of the different Directors, the Administration responded to each specific inquiry by means of induction sessions which enriched and strengthened their role.

In order to keep the Board of Directors updated on relevant sector issues and leadership matters, two (2) of its members participated in CERAWEEK.

BOARD OF DIRECTORS COMMITTEES

GRI | 102-22 |, | 102-23 |, | 102-34 |

In order for the Board of Directors to directly address its responsibilities, the following Committees provide support:



QRcode for BD
committee charters

Each Committee has a Chairperson elected from among its members, bearing in mind the provisions set forth in the internal charter of each body; all Committee Chairmen are independent Board Members.

DUTIES AND STEWARDSHIP OF THE BOARD OF DIRECTORS' COMMITTEES

The Technology and Innovation Committee was created in 2019, thus confirming the Company's commitment to best practices, with the Board of Directors assuming the position of ally in the digital transformation and innovation processes, with the aim of making Ecopetrol a leader in the use of digital technology and innovation in the hydrocarbon sector.

GRI | 102-29 |, | 102-30 |, | 102-31 |, | 102-34 |

The following is a brief summary of the management report for each of the Board of Directors' Committees, as of December 31, 2019.

■ Duties

■ 2019 Stewardship



CORPORATE GOVERNANCE AND SUSTAINABILITY COMMITTEE (5 MEETINGS)

■ This Committee provides support to the Board of Directors regarding Company governance and sustainability, as well as recommendations on the systems for the adoption, monitoring and improvement of corporate governance and sustainability practices. It is comprised by at least three (3) members of the Board of Directors; the majority of its members must be independent, and it must have at least one (1) non-independent member. All Committee members must have knowledge or experience in matters related to their duties.

■ In 2019, the Committee verified the nomination and election process for the Board of Directors, as well as the following, among others:

- Performance evaluation of the President.
- Review of resumes of the suggested candidates to the Board, as well as grounds for inabilities and incompatibilities.
- Analysis and recommendations of the Board of Directors' approvals on issues proper to the General Shareholders' Meetings (ordinary and extraordinary).
- Recommendations to the Board of Directors' approvals to modifications to the corporate structure of the Ecopetrol Group for the incorporation of new businesses.
- Monitoring of the implementation of Corporate Governance Model
- Lessons learned on fiscal liability



TECHNOLOGY AND INNOVATION COMMITTEE (2 MEETINGS)

■ This Committee supports the Board of Directors on matters related to technological and digital changes and the Company's ongoing cultural change process.

It is comprised by at least three (3) members of the Board of Directors who will be appointed directly by the Board for terms of up to two (2) years with the possibility of reelection for another two-year term; the majority of its members must be independent. All Committee members must have knowledge or experience in matters related to their duties.

■ The Technology and Innovation Committee was created in 2019, as an ally in digital transformation and innovation processes, with the aim of making Ecopetrol a leader in the use of digital technology and innovation in the hydrocarbon sector.

During 2019, the following were some of the most relevant topics addressed by this Committee:

- Approval of the Committee Charter
- Ecopetrol Technology Strategy
- Role of the Vice Presidency of Digital Development - VDI and the Digital Agenda.
- Role of the Colombian Petroleum Institute - ICP and Business Technology.
- Digital Innovation.
- Progress on Cybersecurity.



AUDIT AND RISK COMMITTEE (13 MEETINGS)

■ This Committee is the highest control body in Ecopetrol and is responsible for overseeing the effectiveness and management of the Internal Control System (SIC for its acronym in Spanish) and the Risk Management System (SGR for its acronym in Spanish)

This Committee also supports the Board of Directors in overseeing compliance with the internal audit program, compliance with the statutory audit process and/or external auditors, as well as ensuring that internal

control procedures meet the needs, objectives, financial, administrative and operational goals and strategies determined by the Company.

It is comprised by a minimum of three (3) Board members, **all of them independent**, with experience or knowledge of the matters relating to their duties, and at least one member must be an expert in financial and accounting matters.

■ The Audit and Risk Committee is the body that defines the Company's control environment, risks and financial reporting strategy, as well as the monitoring and continuous improvement of their related systems, in order to guarantee the adoption of the best standards on the matter. In 2019, the most relevant topics addressed by this Committee included:

- Performance evaluation of the Statutory Auditor, the internal auditor and the Committee
- Approval of the General Audit Plan.
- Analysis and recommendations on the Board of Directors' approvals of the Business Risks Map.
- Analysis and recommendations on the Board of Directors' approvals of the balance of reserves.
- Analysis and recommendations on the General Shareholders' Meeting approvals regarding the election of the Statutory Auditor.
- Analysis and recommendations on the General Shareholders' Meeting approvals regarding the Individual and Consolidated Financial Statements, and the dividend distribution.
- Analysis and recommendations on the Board of Directors' approvals of the hedging policy
- Analysis and recommendations on the Board of Directors' approvals of the 2019 Variable Remuneration Calculations.
- Monitoring Ecopetrol and Group companies' actions and decisions regarding their internal control systems, risk management systems, ethical, corruption and fraud complaints.
- Monitoring ongoing legal proceedings.
- Analysis and recommendations on the Board of Directors' approvals of final conditions for committed facilities.



HSE COMMITTEE (2 MEETINGS)

■ This Committee supports the Board of Directors in matters relating to monitoring and management of health-related risks and Ecopetrol employee and contractor safety, as well as environmental management performance for Ecopetrol and other Group Companies.

It is comprised by at least three (3) members of the Board of Directors; the majority of its members must be independent. All Committee members must have knowledge or experience in matters related to their duties.

■ During 2019, the HSE Committee continued monitoring health and safety-related risks for Ecopetrol employees and contractors, and those from other Group Companies, in an effort to guarantee the implementation of the highest international HSE standards in all company operations, based on a safe, healthy and environmentally responsible operations strategy. During 2019, the following were some of the most relevant topics addressed by this Committee:

- Presentation on the investigation on the fatal incident involving an Ecopetrol worker in the Magdalena River.
- Presentation on the investigation on the fatal incident involving a worker in Tuscany.
- Presentation on progress made on the Plan for Strengthening HSE
- Overview of the "bowtie" methodology and application thereof in the definition of disaster scenarios



REMUNERATION AND APPOINTMENT COMMITTEE (6 MEETINGS)

This Committee reviews and provides recommendations to the Board of Directors on remuneration systems and selection criteria for senior management positions, as well as for other key positions within the organization.

It is comprised by at least three (3) members of the Board of Directors; the majority of its members must be independent, and it must have at least one (1) non-independent member. All Committee members must have knowledge or experience in matters related to their duties.

The Remuneration and Appointments Committee is responsible for reviewing and making recommendations to the Board of Directors of Ecopetrol on issues including strategic guidelines for human talent, organizational structure, selection criteria, organizational staff size, remuneration policy and guidelines for the Ecopetrol Group, including succession plans for the President and senior management positions within Ecopetrol. In 2019, the most relevant topics addressed by the Committee included:

- Analysis and recommendations on the Board of Directors' approvals of salary increases in Ecopetrol and remuneration guidelines for compensation increases within other Group companies
- Analysis and recommendations on the Board of Directors' approvals of the 2019 Variable Remuneration scheme
- Analysis and recommendations on the Board of Directors' approvals of the Traders Remuneration Proposal
- Analysis of the General Strategy for Human Talent
- Analysis and recommendations on the Proposal for the renewal and optimization of personnel.
- Talent Review of the President's direct reports.
- Analysis of the corporate performance process and guidelines for the construction of the 2020-2022 Balanced Scorecard (TBG for its Spanish acronym).



BUSINESS COMMITTEE (12 MEETINGS)

This Committee supports the Board of Directors in terms of the definition of investment strategy, analysis of portfolio and investment projects requiring the approval of the Board, as well as the assessment and monitoring of the investment portfolio and its results.

It is comprised by at least five (5) members of the Board of Directors; the majority of its members must be independent, and it must have at least one (1) non-independent member. All Committee members must have knowledge or experience in matters related to their duties. The other members of the Board of Directors may assist as guests to the Committee meetings.

During 2019, the Business Committee provided support to the Board of Directors, among others, with the review and recommendations for entering into and/or the early termination of agreements for the acquisition, divestment, and or transfer of hydrocarbon exploration and/or production rights, capital discipline criteria for the Group and the approval of new business ventures for the Ecopetrol Group that are aligned with the previously defined strategy. During 2019, the following were some of the most relevant topics addressed by this Committee:

- Analysis of new businesses, and recommendations for the approval of the Board of the participation by Ecopetrol and Hocol in the ANH's

competitive process; the acquisition of a percentage of the Gato do Mato discovery, owned by Shell, and the joint venture with Occidental Petroleum Corp. for the development of unconventional deposits in the Midland Permian Basin located in the state of Texas in the US.

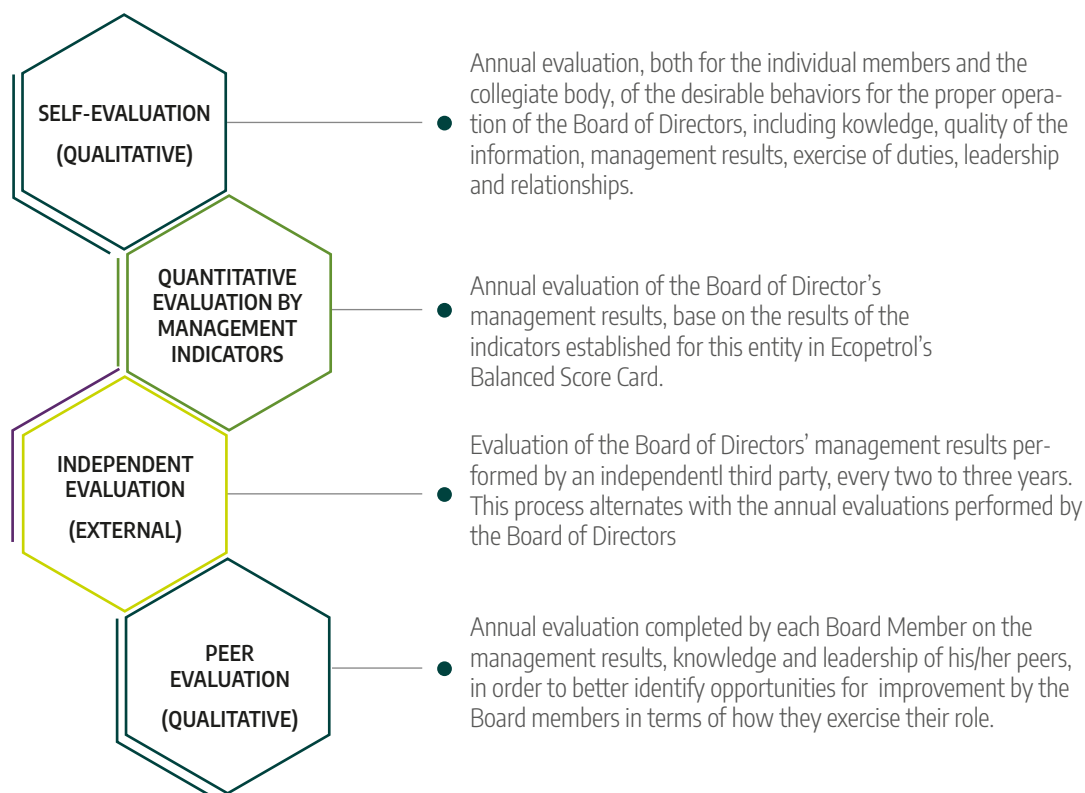
- Analysis and recommendations on the Board of Directors' approvals of capital discipline criteria
- Analysis and recommendations on the Board of Directors' approvals of the budget and the investment plan

PERFORMANCE EVALUATION OF THE BOARD OF DIRECTORS

GRI | 102-28 |

In order to guarantee the alignment between shareholder interests and the performance of the Board of Directors, and in accordance with corporate

governance best practices, Ecopetrol S.A. has implemented the following performance evaluation mechanisms for its Board of Directors.



Results of the Board of Directors' Performance Evaluation

In accordance with the above, the Board Members complete their qualitative evaluations during the ordinary meeting held on February of 2020, with the results reflecting not only the individual performance of each, but that of the Board as a collegiate body as well; the performance evaluation of the Chairperson and Secretary of the Board for the previous year are

also completed. As a result of the self-evaluation, for 2019 the performance of the Board of Directors, its Chairperson and Secretary were described as outstanding. On the other hand, and as part of the peer evaluation, the Secretary prepares a confidential report for each Board Member evaluated, which contains the observations and comments of their peers.

As a result of the self-assessment, the management of the Board of Directors, its President and Secretary was qualified as highlighted during 2019

In addition to the above, during that same month, the closing of the annual objectives and goals is presented to the Board of Directors through the Balanced Management Scorecard, results that make up the quantitative evaluation and its contribution to the achievement of the strategic goals proposed for 2019. The Company's performance, thanks to the support of its corporate bodies and the efforts

of its workers and allies, highlights: i) the financial results obtained in 2019, classified as the best in the last six years; ii) ongoing activities aimed at the energy transition, such as the incursion into renewable energies, emission reduction, improvements in air quality, among others; iii) the strengthening of reserves and the production of gas and oil, through the exploitation of Conventional and Unconventional Deposits; and, iv) the consolidation of a safe operation.

During 2020, the Board of Directors decided to implement the **360 evaluation** as a mechanism to assess its management for 2019. This type of evaluation is based on the

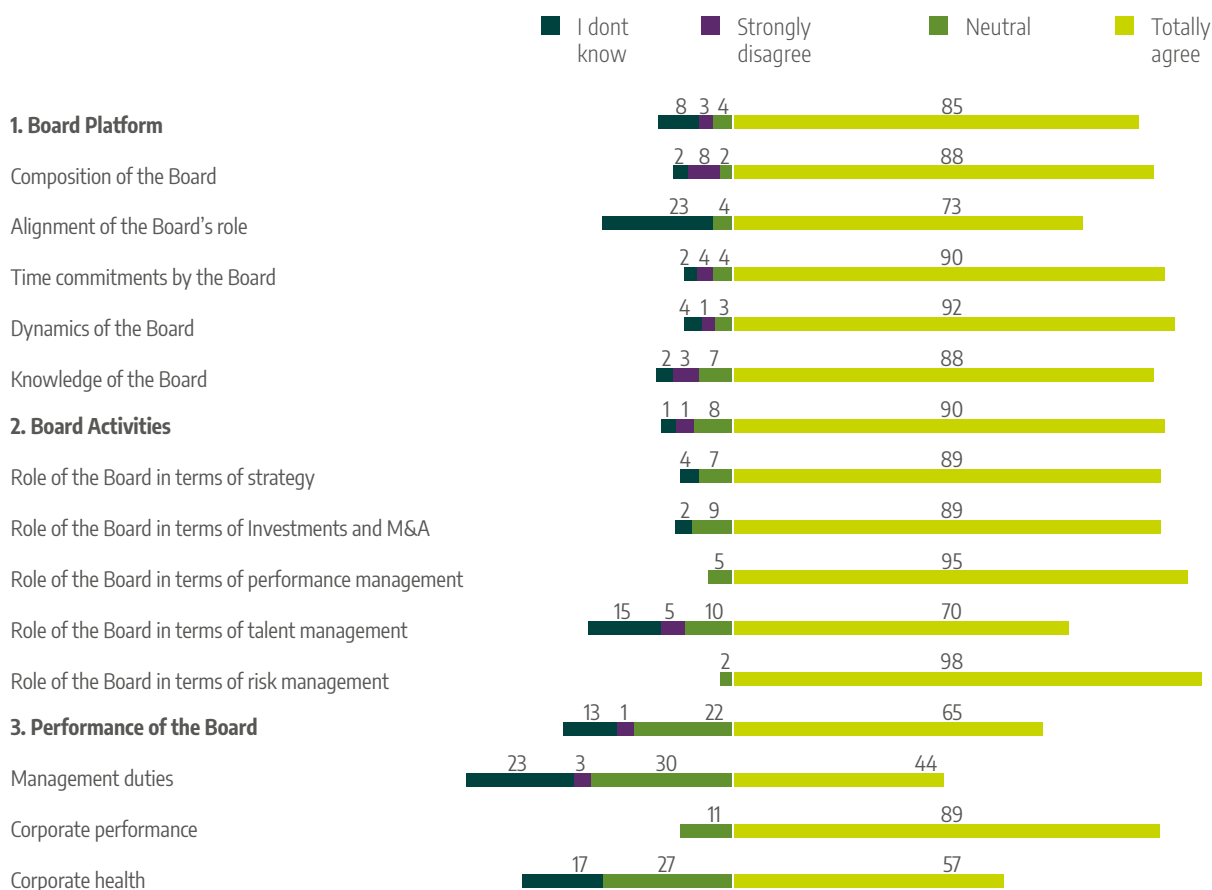
perception of the Administration regarding the Board of Directors' performance. The results show and highlight the teamwork and trust that inspires the relationship and alignment of interests of the Board of Directors and the Administration with the Company's strategy.

In order to evaluate the **effectiveness** of the Board of Directors of Ecopetrol, in December of 2019 an analysis was completed, with the help of an external third-party, where close to 100 attributes were evaluated with the participation of the members of the Board of Directors, which were compiled in three chapters.

Figure 15.
Results of
360 evaluation

Survey results indicate a good level of alignment

% of participants who are completely in agreement or disagreement with the statements of a specific category



Source: McKinsey measurement instrument; self-evaluation completed by members of the Board of Directors.

In general, the evaluation results are positive; issues such as the composition, the commitment and the work dynamics of the Board Members, and the role of the Board in terms of strategy, investments, performance and risk management received positive scores. Some of the

items received “neutral” or “I don’t know” responses, which can be attributed to the fact that some Board Members were just recently elected in 2019, and a full year cycle in the position is required in order for them to complete the evaluation in a comprehensive manner.

RELATIONS DURING THE YEAR OF THE MEETING DIRECTIVE WITH THE TAX REVIEWER AND OTHERS

In accordance with the provisions set forth in Ecopetrol’s Board of Directors Audit and Risk Committee’s Charter, a representative from the Statutory Auditor firm participates as a guest in its meetings. **During 2019, this representative**

participated as a guest in 100% of the meetings held by this Committee.

During this year, the Board of Directors received financial and market analyses, as well as credit agency reports.

EXTERNAL CONSULTING SERVICES EMPLOYED BY THE BOARD OF DIRECTORS

In order to supplement the necessary competencies for the comprehensive execution of the strategy by the Board of Directors, this entity has the power to hire external consultants to assist it in gaining additional insight and closing any gaps identified in the risk management exercises associated with

the execution of the activities carried out by the Board of Directors.

In 2019, the Board requested external expert consulting for the review of the Company’s strategy, as well as for the analyses required for the adoption of the corresponding decisions for the execution thereof.

Cusiana Production Field



SENIOR MANAGEMENT SELECTION, DEVELOPMENT AND REMUNERATION

SENIOR MANAGEMENT SELECTION POLICY

The Selection Policy for the position of President of Ecopetrol S.A. is included in the powers granted to the Company's Board of Directors and is governed by the conditions stipulated in the Bylaws and the Good Governance Code.

The selection process for all other senior level positions, as well as any position within Ecopetrol is carried out in accordance with the Human Talent Department's corporate selection process. All selection processes for positions within Ecopetrol take into consideration the following aspects: academic background, professional experience, technical organizational and leadership competencies associated to each position, independent of gender, race, nationality or family origin, language, religion, disability, political or philosophical opinions. This guarantees that the process

is completed in accordance with the transparency and equal opportunity corporate statements, and based on the guidelines contained in the Company's Diversity and Inclusion Program, as well as those derived from its strategic framework.

The Company's Diversity and Inclusion Program includes metrics to monitor the improvement of opportunities for women to reach senior level or leadership positions. These metrics aim to increase the probability of women accessing these positions, promoting that vacancies for these positions include at least one woman candidate in the final short-list.

Details on the Company's Selection Policy, including Senior Management, can be found in Chapter 4, Social Dimension, "Selection and Mobility". Page 227

GRI | 102-35 |, | 102-36 |

SENIOR MANAGEMENT REMUNERATION POLICY

Ecopetrol S.A.'s remuneration policy is approved by the Board of Directors and framed within the following parameters:



Its purpose is to ensure a competitive market remuneration that attracts and retains the best talent available.



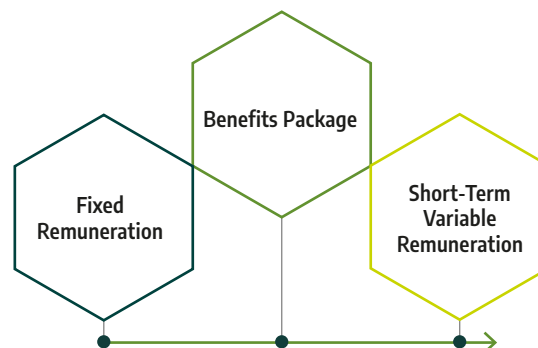
To do this the policy establishes that the Company position its remuneration within the average of the energy market in Colombia.



Each year, the Company contracts an independent salary competitiveness study with a firm specialized in quantitative methodologies for the valuation of positions and best remuneration and organizational practices, in an effort to monitor the Company's position in the market, and make the necessary adjustments to ensure it attracts and retains the human talent required for the implementation and completion of the Company's Strategy plan and needs.

As of December 31, 2019, Ecopetrol's Remuneration Policy, approved by its Board of Directors, **does not contemplate special payment mechanisms or stock options as remuneration for its employees or Directors.**

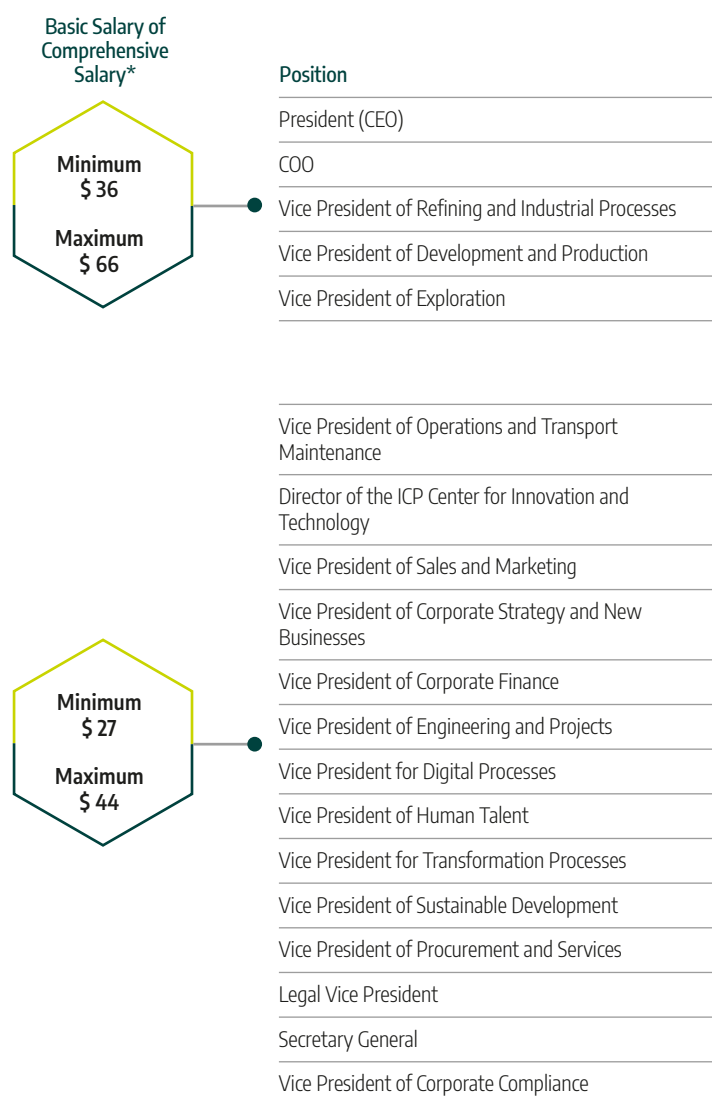
Structure of Total Remuneration



Short-term Variable Remuneration uses a percentage of the Fixed Remuneration as a reference point, which, modified at the end of the year according to Company, area and individual performance results, and is subject to the approval of the Board of Directors.

GRI | 102-38 |

For 2019, the Fixed Remuneration for the President was eight (8) times the average fixed remuneration of a Company employee, and a general salary increase of 4.88 was applied across the board for all employees.



Source: Ecopetrol S.A., Vice Presidency of Human Talent.

* A 70% withholding on benefits is calculated as a fixed component payment over this amount.



SENIOR MANAGEMENT PERFORMANCE EVALUATION

In 2019, the Ecopetrol Group achieved solid operating and financial results, due to the good performance of the business segments, the commercial positioning of its crude oil and products in markets that generate greater value, and the materialization of efficiencies and benefits generated throughout the Business Group.

The Group continues to move along the path outlined in the strategy, achieving results that exceed the goals defined in the 2019-2021 Business Plan and the business objectives that were defined for the 2019 Balanced Scorecard for the Business Group (TBG GE for its Spanish acronym), the results of which are an essential input for the evaluation of Company executives.

The **TBG GE** for 2019 is comprised by 10 objectives associated with operational (35%), financial (30%), strategic (25%) and HSE (10%) targets, **all of which have been achieved.**

Finally, in terms of the achievement of the Group's strategic milestones, the progress made in the Decarbonization Program is worth noting, having achieved a cumulative reduction of 1.6 million tons of CO₂ equivalent by 2019, thanks to the implementation of energy efficiency projects, reduction of flare burnings and the use of renewable energies. On this last matter, during 2019 the Castilla Solar Park was inaugurated with a capacity of 21 MW, which contributes to the goal of incorporating nearly 300 MW of clean energy by 2022. Progress was also made on the path to improving fuel quality, with a sustained reduction in the sulfur content of the domestic diesel and gasoline supplied. The above reiterates Ecopetrol and its Business Group's commitment to the preservation of the environment.

All these results were achieved with the commitment and support of Ecopetrol's President, its management team, and all Business Group employees, working under the principles of operational excellence, integrity, social responsibility, collaboration and financial discipline, whilst encouraging these behaviors in their work teams. Details on the performance evaluation of Ecopetrol's senior management is found in Chapter 4, Social Dimension, "Performance Evaluation". Page 244.

CONTROL ENVIRONMENT

EXTERNAL CONTROLS

Statutory Auditor:

In the meeting held on March 29, 2019, the General Shareholders' Meeting approved the election of Ernst & Young Audit S.A.S., as the Company's Statutory Auditor, for the 2019 fiscal year, for an amount of **COP \$4,050,000,000** plus VAT. During the year this firm supported the Board of Director's duties regarding internal control matters, the results of which have been presented to the Audit and Risk Committee of the Board of Directors.

Inspection, Oversight and Control Bodies:

In Colombia, the main regulatory authorities for activities related to Ecopetrol S.A.'s corporate purpose are the Ministry of Mines and Energy, the National Hydrocarbons Agency (ANH) and the Energy and Gas Regulation Commission (CREG); the Ministry of the Environment and Sustainable Development; the National Environmental Licensing Authority (ANLA); the Ministry of the Interior and the Regional Autonomous Corporations.

On the other hand, the Superintendencies that exercise surveillance and control duties over Ecopetrol S.A.'s main activities are the Superintendence of Finance, the Superintendence of Corporations, the Superintendence of Public Services, the Superintendence of Ports and Transportation, the Superintendence of Health and the Superintendence of Industry and Commerce.

Regarding the activities and responsibilities of public servants, given the legal nature of Ecopetrol S.A., Company employees are subject to disciplinary control by the Attorney General's Office. Additionally, given the management of public resources, Ecopetrol S.A. is subject to fiscal control by the Comptroller General of the Republic.

Exchange Commission (SEC) regulations, respectively. The Superintendence of Finance of Colombia and the Securities Market Self-Regulator are the authorities that exercise inspection, vigilance and control over specific securities market activities and the provision of information thereto.

Ratings Agencies:

The main risk rating agencies recognized Ecopetrol S.A.'s progress in terms of its growth strategy, in addition to the soundness of the financial metrics, which reflected in positive actions, mainly in the Company's individual credit rating. As a result, for 2019 Ecopetrol S.A. maintained its investment grade with the three (3) rating agencies, as presented below:

Finally, given that Ecopetrol S.A.'s shares are traded in the Colombian Stock Exchange and the New York Stock Exchange, in the US, it is subject to **Colombian Stock Exchange and the Securities and Exchange Commission (SEC)** regulations, respectively.



- The Company's international long-term rating remained at 'Baa3', with a stable outlook, and the individual credit rating at 'ba1'. The agency highlighted the strengths of Ecopetrol S.A. as a leading company in Colombia, the improvement in its operational performance and capital efficiency, as well as the stable cash flow generation of its Transport and Logistics segment



The Company's credit rating remained at 'BBB' with a negative outlook, and an individual credit rating of 'bbb'. By the end of 2019 Ecopetrol's Outlook changed from Stable to Negative, as a result of the change in Outlook for the Republic of Colombia. Notwithstanding the above, the agency maintained the credit rating at 'BBB', with investment grade. The agency highlighted the strength of Ecopetrol's financial profile, thanks to the continuous improvement in credit metrics in 2019, as well as the solid liquidity position, cash flow generation capacity, access to capital market and adequate debt maturity profile.



It upgraded its individual credit rating to 'bbb-' and maintained its long-term international rating at 'BBB-', with a stable outlook. The agency recognized the Company's continued strong operating performance through increased production, increased refinery throughput, and operating efficiencies achieved. It also highlighted the good levels of liquidity, and the strengthening of credit metrics.

The Rating Agency reports are available on the Company's web page at:



INTERNAL CONTROLS

The Board of Directors of Ecopetrol S.A. oversees and monitors the Internal Control System (SCI for its acronym in Spanish), and reviews Company policies on internal control and risk systems.

Internal Audit Corporate Management:

During 2019, audits were carried out on processes that posed a significant risk assessment for the fulfilment of the Company's strategic objectives, and on high impact projects due to their level of investment and weight on the fulfilment of the strategic objectives

During 2019, the General Audit Plan covered elements from **22 of Ecopetrol S.A.'s 27** current processes: integrated

portfolio management, development drilling, deposits, asset management with partners, environmental abandonment and restoration, refining, maintenance, strategic planning, internal and external communications, change management, shared services, investment vehicles, HSE management system, environmental management, risk management system, contracting, human talent, volumetric measurement and accounting, ports system and business technology.

Audits included assurance and advisory projects; as well as compliance activities with existing applicable external and internal standards associated to the duty. As a result of the execution of the General Audit Plan, the responsible areas designed improvement plans aimed at mitigating the observations of the Corporate Internal Audit Management, these have been permanently monitored by the Board of Directors, to ensure their application and effectiveness.

100% compliance was achieved during 2019 for the General Audit Plan (31 audits executed of the 31 intended)

Internal Control System (SCI for its Spanish acronym)

Ecopetrol S.A.'s Internal Control System (SCI), seeks to provide reasonable security in the achievement of strategic, operational, information reporting and regulatory compliance objectives,

through the timely management of risks and assurance of the effectiveness of its controls, whilst using the practices recommended by the international reference framework COSO (Committee of Sponsoring Organizations of the Treadway Commission) as a reference.

Thus, it is important to emphasize that this system considers five (5) elements which are constantly interacting, and can be identified as follows:

- 

01 Control environment
Establishes the bases for the internal control of the Company's risk philosophy and its tone; in addition it serves as the basis for all other system components, providing discipline and structure. Its elements include, ethical principles, and worker capabilities, management philosophy as well as style of management, and the assignment of authority and responsibility
- 

02 Risk management assessment
Responsible for the identification of events and situations that may affect the Company, value the risks and assign priorities, provide a response to risks through adequate risk management.
- 

03 Control activities
These are found within the operation, and are integrated into the procedures, controls and other established measures executed to mitigate or avoid the materialization of the issues that cause the risks.
- 

04 Information and communication
Contemplates management of material information that must be identified and communicated for decision-making processes and the correction of errors.
- 05 Monitoring activities**
These are elements that evaluate and aim to ensure the proper operation of the entire internal control system, and is supervised through management activities and independent evaluations.

In this context, the SIC is aligned with the Company's strategy and processes, which not only results in the assignment of control duties for the Administration, but employees also undertake a responsibility for ensuring

risk management, the effectiveness of the controls under their charge, the reporting of incidents and deficiencies found, as well as ensuring the continuous improvement of their processes.

Risk Management System

The Internal Control Assurance Corporate Management Office (GCI for its Spanish acronym) is responsible for monitoring process and business risk management at Ecopetrol S.A., while managing these and executing the controls **that mitigate them is under the responsibility of each business**. To ensure that all risks are properly identified, assessed and managed, the Company has an ERM (Enterprise Risk Management) system, a method that is aligned with the organization's strategic framework. COSO 2013 with its five components is used at the process level and serves as the reference framework for the internal control system (SIC).

In risk management, **three fundamental pillars interact in a systematical and dynamic manner: culture, organizational structure and regulations**, around the risk management cycle that is comprised by the following stages: planning, identification, assessment, treatment, and

monitoring of risks, as well as a transversal communication stage, to ensure that possible deviations from the objectives set are adequately managed.

2019 Business Risk Map

The definition of the proposed 2019 business risk map was based on the analysis of Oil & Gas sector risks worldwide, risks in other sector companies and materialization of risks that have occurred in recent years at Ecopetrol, including, in tune with the best international standards, those related to the environment, which highlight the need for monitoring operational disruption risks due to the environment, climate change, labor abnormality and crisis and continuity events, by the Board of Directors, as well as risks due to changes in the regulatory environment and energy transition. The business risk map 2019 will found on page 77 of this Report.

Fundamental pillars of risk management



CULTURE



ORGANIZATIONAL
STRUCTURE



REGULATIONS



Input for the definition of the 2019 Business Risk Map:



Analysis of the main risks in other Oil & Gas sector companies:

The risks reported to the SEC (Securities and Exchange Commission) in forms 20F and 10K by different companies in the Oil & Gas sector worldwide were reviewed. Regarding this information, similarities were identified with the business risks identified by Ecopetrol, which proved to be adequate in the proposed 2019 risk map.



Analysis of materializations of risks presented:

The materialization history (frequency and impacts) of main risks for the Company and the subordinate companies of the group was reviewed, in order to identify problems

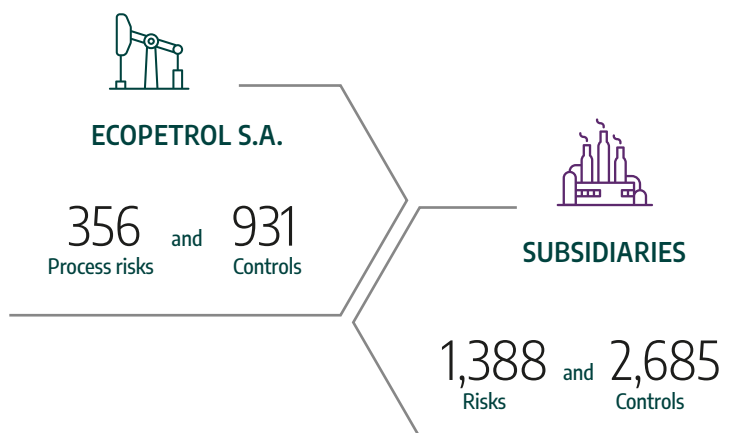
that required visibility and direct strategic management by the different Vice Presidents within the organization.



Association of the risks to the pillars of the 2017-2020 Business Plan: An analysis carried out to determine the direct impact of each of the proposed risks against the pillars of the Business Plan, proved to be adequate in terms of business risks for 2019.

During 2019, risk management was a part of all Ecopetrol S.A. processes, which included planning, identification, valuation, treatment, monitoring and communication phases.

In addition to the above, the Internal Control Assurance Corporate Management Office (GCI) **monitored the Business Group's risk management and corresponding controls**, which are distributed as follows:



Some of the activities carried out during 2019, include the realization of preventive monitoring and special actions. The GCI, in its duty as a second line of defense, proactively defined and implemented continuous monitoring prevention schemes on the different Internal Control

System (SCI) elements, activities that helped provide reasonable assurance of the achievement of the strategic objectives and processes, guaranteeing the sustainability and improvement of Ecopetrol, its affiliates and subsidiaries.

OPERATIONS WITH RELATED PARTIES

In accordance with the provisions set forth in the Bylaws, the Board of Directors is responsible for ensuring that the economic relations between Ecopetrol S.A. and its shareholders, including the majority shareholder, and with its subordinates, are carried out within the limitations and conditions established by Law, the regulations on prevention, management and resolution of conflicts of interest and market conditions. The transfer pricing guideline between Ecopetrol S.A.'s related parties mentions the parameters that must be taken into account when determining the compensation to be agreed in operations carried out between Ecopetrol S.A. and its subordinates, regarding either goods or services, in such a way that the conditions established in the operations subject to the analysis are consistent with those agreed with or between independent

third parties, thus avoiding an impact to the income statements due to control or subordination relationships.

To this end, economic relations with the Nation and the subordinate companies, consolidated during 2019 by means of agreements or contracts, were carried out under the previous parameters. **These relationships are not intended to benefit the Nation or subordinate companies, nor are they detrimental to the interests of minority shareholders.**

Each semester, the Tax Management and Planning Department submits a report to the Company's Board of Directors regarding the operations, agreements or contracts that the Company has entered into with its subordinates during said period, where it indicates that the conditions thereof correspond to market conditions.

In the event of a conflict of interest between Ecopetrol Group companies, the parties involved must comply with the procedure established for this, in accordance to applicable regulations.

Details on the operations of Ecopetrol Group's subordinate companies are disclosed in the Group's financial statements **and the Business Group's annual report, in accordance with article 29 of Law 222 of 1995.**

GRI | 102-25 |

CONFLICTS OF INTEREST

The process to report, manage and avoid conflicts of interest involving senior management is contained in articles 48 and 49 of the Bylaws.

The President, the members of the Board of Directors and all Ecopetrol employees must disclose any conflict between their personal interests and the interests of Ecopetrol, when dealing with the majority shareholder and its subordinates, customers, suppliers, contractors and any individual or entity who carries out or intends to enter into a business agreement with the Company or with companies in which it has a stake or interest, either directly or indirectly.

In 2019, **104** cases were reported to the Office of Ethical Matters and Compliance of the Corporate Vice Presidency of Compliance (VCU for its Spanish acronym), whereby the established corporate procedures were followed and the situations. ■

The process for addressing any conflict of interest is as follows:

- a) if the conflict of interest involves a Company employee, other than the Directors, the employee must inform his/her immediate supervisor in writing; the supervisor will then analyze the situation, make a decision and, if there is a conflict of interest will appoint the employee's replacement.
- b) In the event of a conflict of interest involving a Director, which includes any of the members of the Board of Directors, the provisions set forth in subparagraph 7, Article 23 of Law 222 of 1995 will apply, or any regulation that adds, amends or replaces it.

One of the Members of the Board of Directors stated two possible conflicts of interest, whereby he will not participate in any decisions associated thereto, in compliance with the applicable internal and external regulations

DISPUTE RESOLUTION MECHANISMS

Ecopetrol S.A., has alternative mechanisms for the resolution of disputes in order to promote foreign investment, commercial relations and facilitate coexistence between shareholders, stakeholders and the Company's Administration.

Regarding arbitration proceedings in which Ecopetrol S.A. is a party, as of December 31, 2019, awards were reported.

The most significant administrative disputes resolved in 2019, through alternative mechanisms, were the following:

Table 11. Controversias administrativas de 2019

falta traducción

Parties	Type	Amount agreed	Effective date of payment
Luis Alfonso Vargas Lozano Vs Ecopetrol S.A.	Direct reparation for damages	COP\$335,508,828	March 29, 2019
Edgar Daniel Ruiz Riascos Vs Ecopetrol S.A.	Legal - easement	COP\$6,520,500	October 22, 2019
Luis Argenis Duran Rojas Vs Ecopetrol S.A.	Direct reparation for damages	COP\$15,000,000	December 4, 2019
Ecopetrol Vs. Seguros Generales Suramericana S.A.	Legal transaction	COP\$3,627,611,504	June 25, 2019

Source: Ecopetrol S.A., Legal Vice Presidency

TRANSPARENCY, FLUENCY AND INTEGRITY OF INFORMATION

For Ecopetrol, communication with its stakeholders is of the greatest importance, and as such it uses all the channels enabled for this. That is why, in conjunction with the traditional communication channels, it

has sought to strengthen its participation in channels that facilitate interaction through technological platforms such as Facebook, Twitter, Instagram and LinkedIn, with outstanding results.

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During 2019, an average increase of **15%** followers was reported in Facebook, Twitter and LinkedIn, and **409%** in Instagram followers

Similarly, during 2019, 54 Material Information releases were published with the Colombian Superintendence of Finance, as well as 82 press releases. In the United States, 27 documents were published under the different formats required by the SEC.

All communications were disclosed in a timely manner to the market and are available in the material information

section of Colombian Superintendence of Finance's website, <https://www.superfinanciera.gov.co>;

On the SEC website, <https://www.sec.gov/>, under the "Filings" section.

As well as on Ecopetrol S.A.'s website, <https://www.ecopetrol.com.co>.

CLAIMS BY SHAREHOLDERS AND INVESTORS

For 2019, **no claims were filed** by shareholders and investors related to compliance with the Corporate Governance Code.

The Board of Directors highlights the continued commitment of Ecopetrol S.A. and all its workers in the application **of best corporate governance practices, ensuring the Company's governance, transparency and control environment.**



02 VALUE

Santa Clara field, department of Huila



GRI | 102-9 |

Ecopetrol participates in all the links of the hydrocarbon chain, from the exploration and production of oil and gas, to the transformation into higher added value products and, subsequently, their sale in national and international markets.

Each of these steps implies risks and opportunities for the Company, for the regions where these activities take place, and for the Country that, owing to the presence of Ecopetrol, is empowered to undertake new social initiatives aimed at improving the quality of life of Colombians.



EXPLORATION

• • •

GRI | 102-2 |, | 102-9 |

It is the first link in Ecopetrol's value chain. Its main objective is to explore, discover and appraise commercially viable hydrocarbon accumulations, seeking to ensure the reserve replacement required for the sustainability of the Ecopetrol Group.

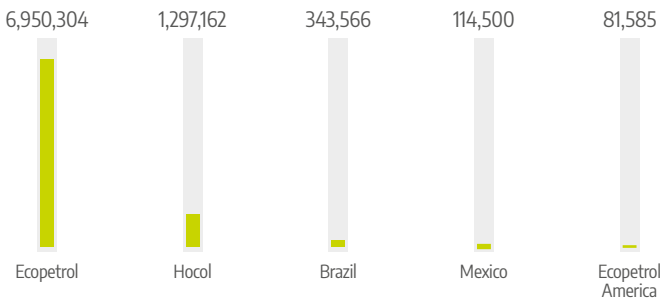
To centralize, unify and manage hydrocarbon exploration activities, Ecopetrol has an exploration process that integrates all the subsidiaries of the Group, and determines the requirements and decision-making instances throughout the life cycle of an exploration project, in order to promote operational discipline and planning in exploration opportunities. Additionally, the exploration process seeks to optimize exploration portfolio management, while maintaining high technical assurance standards, directing efforts towards compliance with the exploration strategy and to streamline the process of maturing opportunities, converting them to discovered contingents and reserve resources.



DISTRIBUTION OF EXPLORATION AREAS

In total, the Ecopetrol Group has access to 8.79 million hectares distributed among the different subsidiaries and areas of interest in the various countries where it operates (see Figure 16).

Figure 16.
Distribution of
Exploration Areas
(Ha) of Ecopetrol and
its Subsidiaries



Source: Ecopetrol, Vice Presidency of Exploration

EXPLORATION STRATEGY

The Exploration strategy has focused on three time horizons, characterized by their impact on the Ecopetrol Group's production:

- **Short-term (2018-2020)**
 - Near Field Exploration
- **Medium-term (2021-2025)**
 - Conventional Onshore exploration focused on the Piedemonte Llanero and the Mid-Magdalena Valley (VMM for its Spanish acronym).
 - Monetizing Offshore Gas discoveries in the Colombian Caribbean.
 - International expansion through the execution of exploration plans in the US (Gulf of Mexico, Brazil and Mexico).
 - Assessment of transport technologies for heavy crude in the Llanos Orientales region (eastern plains).
- **Long-term(2026-2030)**
 - Ultra deepwater exploration in the Colombian Caribbean Sea (with option to discover liquid hydrocarbons).
 - Development of new boundary areas in Colombia.

During 2019, the execution of the exploration strategy focused on three work fronts: **Onshore Colombia, Offshore Colombia and International Portfolio.**

ONSHORE COLOMBIA

Ecopetrol

The Near Field Exploration, NFE, program was established, which includes an accelerated maturity plan and execution of integrated projects with an emphasis on synergies, high probability of success and capacity to generate short-term value.

Because the Piedemonte Llanero is the largest gas production source in the country, it is operated and managed in an integrated manner, from exploration to development. This guarantees capturing greater value for the Company, by implementing synergies that empower it to address the technical challenges and operational characteristics of the area. This consolidated plan will also allow it to meet the feasibility challenges of well drilling.

In 2019, Ecopetrol was assigned the LLA-121 block, where it will hold a 100% stake, and the LLA-122 block in association with Parex, who holds a 50% stake therein. These blocks are located in the Piedemonte Llanero and will permit Ecopetrol to strengthen its presence in this area of the country, where it already has significant oil and gas assets.

Hocol

An important part of the execution of the Colombian Onshore exploration strategy falls on Hocol. The strategic definition approved in 2019 focuses on the exploration of medium and light crudes in the Higher Magdalena Valley (VSM for its Spanish acronym) and in the central part of the Llanos basin, as well as gas exploration in the north coast and the Lower Magdalena Valley (VIM for its Spanish acronym).

In the Llanos Orientales (eastern plains), progress has been made on two fronts: 1) maturity and drilling of prospects in the northern area of Arauca, where light crudes are sought in high-productivity fields associated with the Arauca-Caño Limón chain; and 2) exploration and appraisal of heavy crude prospects near to the Chichimene-Acacias-Lorito and Castilla production trains, whose development will leveraged on existing infrastructure and on Ecopetrol's experience in this type of fields.

In the Mid-Magdalena Valley basin, work has been carried out to acquire seismic information and to understand new exploration concepts. In alliance with strategic partners in this VMM region, exploration campaigns have been carried out in recent discoveries, applying cost optimization and productivity analysis criteria.

Finally, as part of the expected long-term growth in border areas, Ecopetrol has been evaluating the Paleozoic plays in the Llanos Orientales (eastern plains) and deep plays in the VMM.

In 2019, Hocol was assigned in the Llanos Orientales blocks LLA-86, LLA-87, LLA-109, LLA-123 and LLA-124 in association with the Company Geopark, and LLA-100 block, where it will holds a 100% stake, while in the Cordillera (mountain range) area, it was assigned the COR-9 block with a 100% stake therein.



Offshore drilling rig - Orca

OFFSHORE COLOMBIA

Progress is being made to evaluate the Orca and Santa Ana discoveries, with the intent of accelerating their appraisal and development. In 2020, the drilling of the Uchuva-1 well (Tayrona block, north of La Guajira) is planned, in conjunction with Petrobras.

Complementing the growth strategy in the Colombian Caribbean Sea, during the first cycle of the Permanent Process for Allocation of Areas, Ecopetrol was assigned the GUA OFF-10 block with a 100% stake thereof.

During 2019, a process was carried out to incorporate partners with experience in deepwater exploration, which resulted in an important milestone for the development of the Colombian Offshore culminating in the

signing of an agreement in 2020 between Ecopetrol and Shell, whereby Shell will acquire a 50 % interest in the Fuerte Sur, Purple Angel and COL-5 blocks, located in deepwater Colombian Caribbean Sea. The assignment of interests to Shell is subject to the approval by the National Hydrocarbon Agency (ANH for its Spanish acronym).

After the commercial agreement, Shell will assume the operation of the blocks, and the drilling of a delimiter well in the area will be carried out at the end of 2021, once the respective approvals by the authorities are completed. Additionally the first production test will be carried out in 2021. If these activities have positive outcomes, the discoveries could be developed and thus gas supply for the country will expand in the medium-term.

INTERNATIONAL PORTFOLIO

Brazil

In Brazil, the strategy focuses on the incorporation of assets through purchases, farm-ins and participation in exploration rounds. We managed to be included in the Pau Brazil and Saturno exploration prospects, and acquired as well 30% of the Gato do Mato discovery located in blocks BM-S-54 and in the Sul de Gato do Mato production-sharing agreement.

US

The deepwater strategy in the US Gulf of Mexico is focused on the search and development of opportunities in the Miocene and Jurassic reservoirs, prioritizing opportunities with low exploration risk and close proximity to existing infrastructure.

For 2019, block MC-726 was incorporated into the portfolio by acquiring a 21.43% stake from the company Chevron. The operator of the block is the Company Hess. In the MC-726 block, the Aquex-1 well was drilled during the second half of 2019, resulting in a discovery of liquid hydrocarbons that will begin production in the first quarter of 2020.

Additionally, as part of the first round of 2019 (Lease Sale 252), the MC-904 block located in the Mississippi Canyon area was assigned to the subsidiary Ecopetrol America. The subsidiary's stake in this block is 31.5%, while the operator Fieldwood owns 58.94% and Company Talos the remaining 9.56%.

Mexico

In Mexico, work is currently underway to develop Offshore opportunities in blocks 6 and 8; and the drilling of the Moyote Well operated by Petronas is planned for 2020.

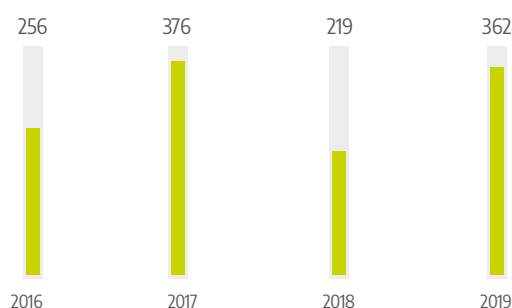
INVESTMENTS IN EXPLORATION

133

The Ecopetrol Group's investments in exploration reached USD \$362 million for 2019 (see Figure 17). Most of this investment was allocated to the drilling of 20 wells, distributed among exploratory and delimiting wells. The budget for the

purchase and acquisition of 3D seismic information in the Colombian Offshore was also significant. Internationally, seismic information was purchased in Brazil, and in Mexico the 3D seismic information was rented for a period of 24 months.

Figure 17.
Ecopetrol Group
Exploration
Investments
(millions of USD)



Source: Ecopetrol, Vice Presidency of Exploration

Executed activities in exploration investment with partners increased 7% versus 2018, which was due to an increase in Onshore exploratory well drilling activities with partners, mainly with Parex and Oxy, and drilling of the Esox well -1 in the Gulf of Mexico.

Ecopetrol and its partners drilled 14 wells, of which seven were in the Llanos basin, mainly in Capachos (in association with Parex), Cosecha and Chipirón (in association with Oxy) and seven wells in the Mid-Magdalena Valley.

The Hocol subsidiary drilled five wells, three of them in the Sinú San Jacinto basin. Additionally, the subsidiary Ecopetrol America drilled one well in the Gulf of Mexico.

Exploration investments executed by the Ecopetrol Group in 2019 increased by 65% versus 2018, which includes the payment of the bonus for entry into the Brazil block, the acquisition of Offshore seismic in block COL-5, the drilling of wells and purchases of seismic information in Brazil and Mexico. ■

BUSINESS RESULTS

SEISMIC

In 2019, the Ecopetrol Group executed several programs for the purchase, rental and acquisition of seismic information (see Figures 18 and 19).

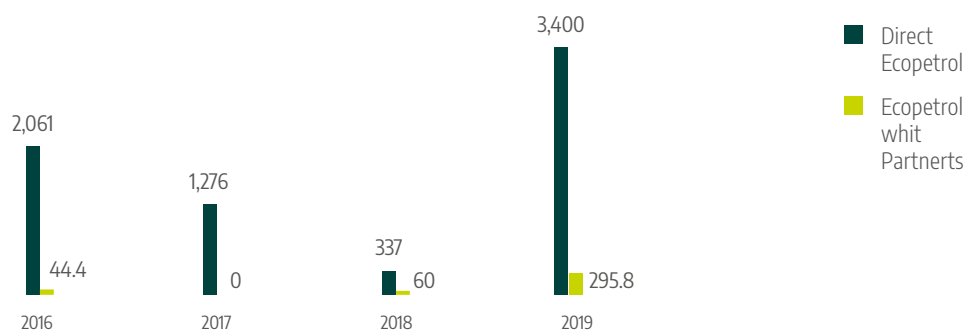
A relevant milestone was the acquisition of 2,000 km² of 3D seismic data in the COL-5 block, located in deepwater southwest of the Gulf of Morrosquillo, in the Colombian Offshore.

In association with Parex, 174 km² of 3D seismic data was acquired for

the Colombian territory, in the Fortuna Association Contract. Seismic data was also purchased for Putumayo (969 km²) and in the Llanos Orientales (402 km²).

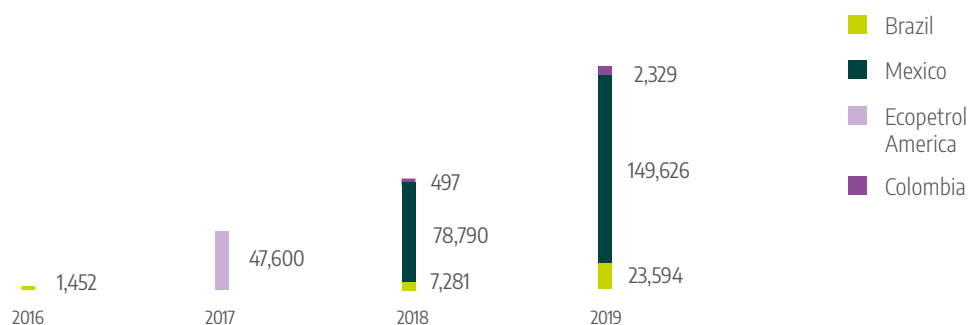
Most notable in the international front are the rental of 3D seismic data for 88,015 km² in the Campeche program for a period of 24 months, and the purchase in Brazil of 12,314 km² of 3D seismic data and 2,660 km of 2D seismic data, in order to evaluate prospectivity and participate in the rounds of the Santos and Campos basins.

Figure 18.
Ecopetrol Group seismic data acquisitions
(kilometers²)



Source: Ecopetrol, Vice Presidency of Exploration

Figure 19.
Purchase / rental of seismic data by the Ecopetrol Group
(kilometers²)



Source: Ecopetrol, Vice Presidency of Exploration

EXPLORATORY DRILLING

| 102-7 |

In 2019 the Ecopetrol Group drilled 20 wells, of which eight were successful, nine were dry and three are currently under assessment (see Table 12).

Table 12. Exploration wells 2019

Name	Initial Well Classification (Lahee)	Block	Operator/Partner	Status
Jaspe-8	A1	Quifa	FRONTERA (70%) Ecopetrol (30%)	Successful
Cira 7000 ST	A2C	La Cira Infantas	Oxy (52%) Ecopetrol (48%)	Dry
Provenza-1	A3	CPO-8	Ecopetrol (100%)	Dry
Mamey West-1	A2C	Samán	Hocol (100%)	Dry
Andina Norte-1	A3	Capachos	Parex (50%) Ecopetrol (50%)	Successful
Pastora Sur-1	A3	Chipirón	Oxy (70%) Ecopetrol (30%)	Dry
Boranda-2 ST	A1	Playón	Parex (50%) Ecopetrol (50%)	Successful
Cosecha CW-01	A3	Cosecha	Oxy (70%) Ecopetrol (30%)	Dry
Cosecha CW-01-ST-1	A3	Cosecha	Oxy (70%) Ecopetrol (30%)	Successful
Habanero-1	A3	Fortuna	Parex (80%) Ecopetrol (20%)	Dry
Boranda-3	A2B	Playon	Parex (50%) Ecopetrol (50%)	Successful
Bullerengue SW-1	A1	SSJN-1	LEWIS (50 %) Hocol (50 %)	Under Assessment
Flamencos-1	A3	VMM	Ecopetrol (100%)	Successful
Esox-1	A3	GoM	Hess (57.14%) Chevron (21.43%) Ecopetrol America (21.43%)	Successful
Bullerengue-3 Porquero	A2A	SSJN-1	LEWIS (50 %) Hocol (50 %)	Successful
Venganza Oeste-1	A3	Espinal	Hocol (100%)	Dry
Merecumbe-1	A3	SSJN-1	LEWIS (50 %) Hocol (50 %)	Under Assessment
Caño Limón Deep-1	A3	Chipirón	Oxy (70%) Ecopetrol (30 %)	Dry
Aguas Blancas 11	A1	Aguas Blancas	Parex (60%) Ecopetrol (40%)	Under Assessment
Santa Barbara-1	A3	Las Monas	Petrosantander (70%) Ecopetrol (30%)	Dry

Source: Ecopetrol, Vice Presidency of Exploration

The drilling of the Nafta-1 exploration wells located in the VMM block, operated 100% by Ecopetrol and Lorito Este-1 operated 55% by Ecopetrol in association with Repsol (45%).

Additionally, Hocol began drilling the Olini Oeste-1 well, operated 100% by this subsidiary. At the end of 2019, these wells were still in the drilling stage.

RELATIONSHIP WITH EXPLORATION PARTNERS

GRI | 102-43 |

As part of the implementation of its exploration strategy, the Ecopetrol Group has been developing strategic alliances with partners to jointly contribute towards the sustainability of the business and the proper management of the general environment.

The relationship with partners is regulated by Joint Operating Agreements (JOA) or Partnership Contracts, and focuses on the execution of sustainable operations, in accordance with Corporate Responsibility guidelines, ensuring the safeguarding and strengthening of the Company's reputation and that of its partners in the operation.

Additionally, strategic alliances are developed with new partners in areas of interest to Ecopetrol, while relationships with existing partners are strengthened.

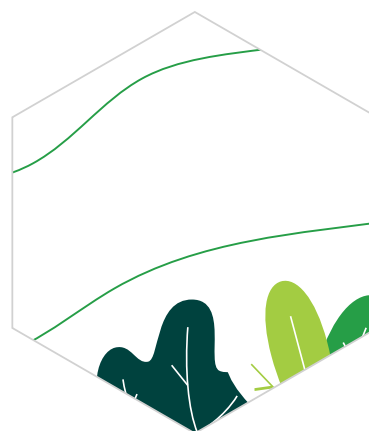
At the end of 2019 Ecopetrol, had 29 exploration assets in force in Colombia, of which 15 are 100% wholly-owned by Ecopetrol. Of the ventures with partners, four are operated by Ecopetrol and the remaining ten are operated by partners.

Of the 29 agreements in force by the end of 2019, 21 are for Hydrocarbon Exploration and Production (E&P for its Spanish acronym), one is for technical assessments (TEA), two are Partnership Agreements, four are Exploration Agreements and one corresponds to the Shared Risk modality. Likewise, there are four Exploitation Agreements wherein exploration activities are being carried out.

Internationally, the Brazilian subsidiary has five exploration assets in its portfolio (Saturno, Pau Brazil, Ceará, Foz Do Amazonas, BM-S-54 and Gato do Mato), in association with world-class companies such as Shell, BP, Chevron, CNOOC, Total, Petrobras and JX Nippon.

Additionally Ecopetrol America has 30 active blocks with first-rate partners such as Mufphy, Oxy, Repsol, Hess, Talos and Fieldwood, strengthening our presence in the US Gulf basin.

At the Ecopetrol Hidrocarburos Mexico subsidiary, two exploration blocks are in force, which are operated by the partners Petronas and Pemex.





Drilling in the department of Meta



PRODUCTION

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The second link in the value chain is the production of crude oil and gas, which is carried out directly or in association with other companies.

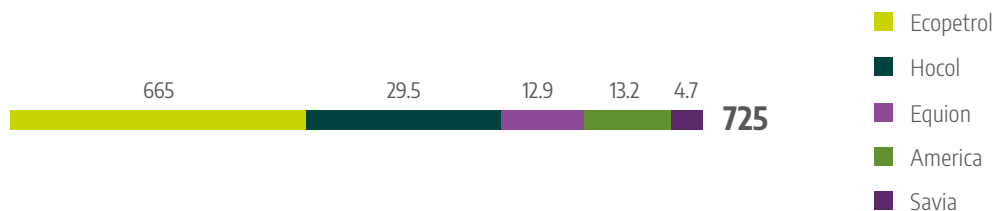
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In 2019, the production of the Ecopetrol Group was 725 thousand barrels of oil equivalent per day (Kboed), which fulfilled by 100% the target for the year and exhibited an increase of 0.6% versus 2018 (see Figures 20 and 21).

Figure 20.

Production by
Ecopetrol Group
Company 2019

(Kboed)



Source: Ecopetrol, Vice Presidency of Development and Production

Figure 21.

Crude oil and gas (Kboed) equivalent production of the Ecopetrol Group, 2019



Source: Ecopetrol, Vice Presidency of Development and Production

Regarding new businesses, during 2019, the Joint Venture with the Occidental Company (OXY) was signed, for the development of unconventional outside Colombia, expected

to produce 95 thousand barrels of oil equivalent per day by 2027, incorporating 164 million barrels of proven reserved (1P) in its first year.

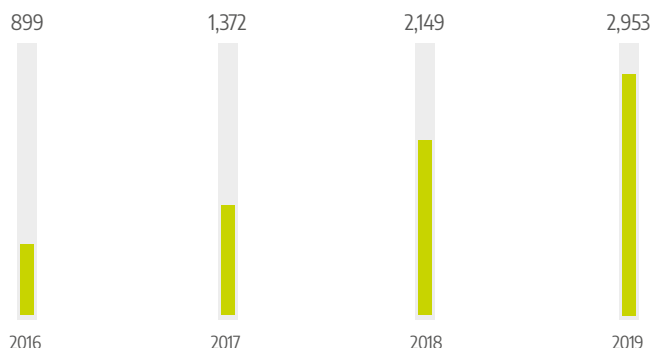
WELL DRILLING

During 2019, 606 wells were drilled, 27 additional wells to those drilled in 2018, and 468 workover works were carried out. Regarding facilities, the entry into operation of the Cupiagua LPG plant

and the expansion of the water management facilities in Rubiales are worth highlighting, the latter with an investment of USD \$2,953 million, the highest in the past four years.

Figure 22.

Ecopetrol's Investments in Development, 2019



Source: Ecopetrol, Vice Presidency of Development and Production

Of the total number of wells drilled and completed, 301 are 100% wholly owned by Ecopetrol's operation, **273 were executed in conjunction with Associates and Partners, 30 by Hocol and two by Ecopetrol America.**

ECOPETROL'S RELATIONS WITH PRODUCTION PARTNERS

Ecopetrol's relationship with its Associates or Partners, as a key element of the Corporate Strategy, is focused on maximizing the value and sustainability of assets, optimizing its operations and managing risks, promoting respectful and collaborative relationships, within the ethical and transparency guidelines of Ecopetrol.

Within the continuous improvement process, a specific relationship plan was created for each Company and a measurement carried out annually in order to identify the aspects that can be strengthened and those in which Ecopetrol

is successful. In the last measurement carried out in 2019, its Associates / Partners recognized respect in the management of the relationship, the technical and environmental knowledge of the workers, access to information and best practices as a benefit of their association, as well the stability, trust and seriousness derived therefrom. In terms of matters to improve, agility in decision-making and process execution were identified.

At the end of the 2019 term, Ecopetrol administered 52 Collaboration Contracts in the exploitation phase (see Table 13), with 27 Associated companies (see Table 23).

Table 13. Collaboration Contracts *

Type of Contract	Contract
Partnership Agreement (includes 8 in Risk Only)	41
Incremental Production Contract (Palagua, Suroriente, Neiva and Orito)	4
Shared Risk Contract (CRC Guariques)	1
Business Collaboration Contract (LCI and Teca)	2
Service Contract and Technical Collaboration (Casabe)	1
JOA (CPO-09, Capachos and Aguas Blancas)	3
Total	52

Source: Ecopetrol, Vice Presidency of Development and Production

*Includes five contracts transferred to Hocol in July 2018 wherein Ecopetrol has an area assignment.

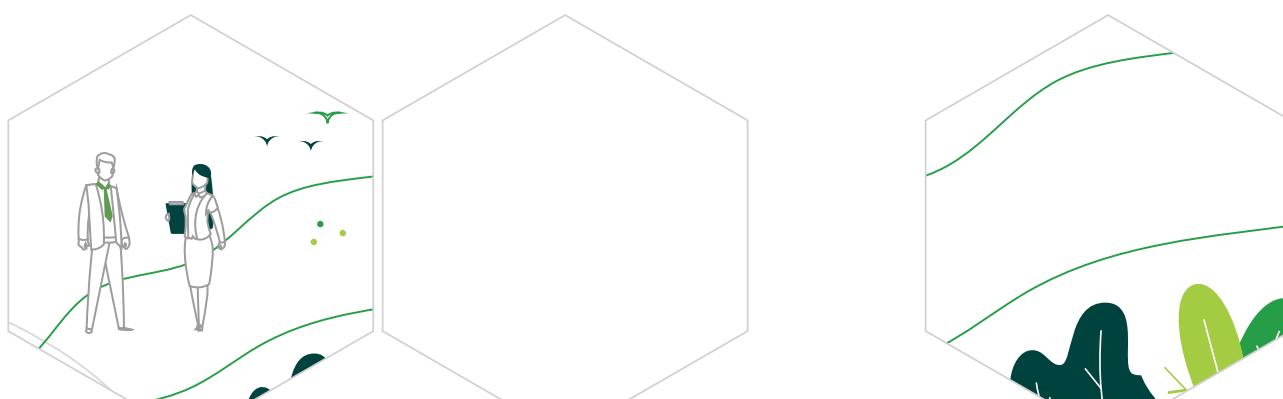


Figure 23.
Production partners
as of December 2019



Source: Ecopetrol, Vice Presidency of Development and Production

Of the total contracts, as of December 31, 2019, four have clauses that include human rights topics (two JOAS and two Business Collaboration Contracts) as follows:

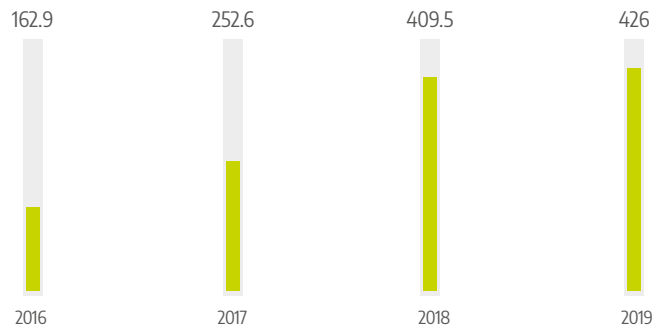


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The projected executed investment at the end of 2019 in the partnership agreements in Colombia is USD \$426 million, which is the

largest investment of the past four years, with an increase of 4% versus the investment of 2018 (see Figure 24).

Figure 24.
Investments
in Operations
with Partners in
Colombia, 2019
(millions of USD)



Source: Ecopetrol, Vice Presidency of Development and Production

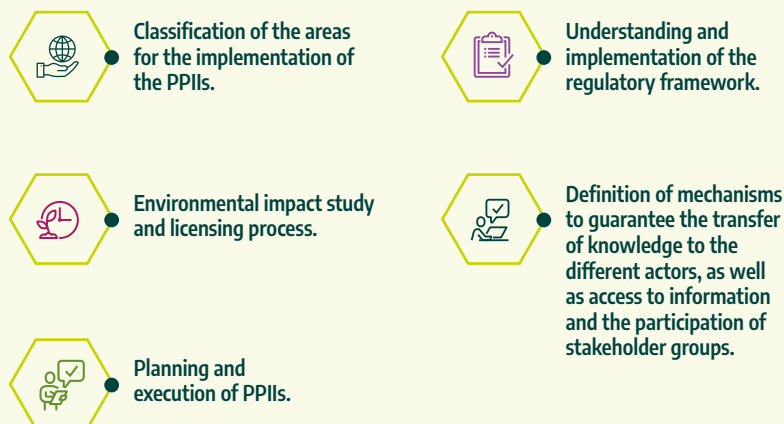
UNCONVENTIONAL RESERVOIRS

As regards to unconventional reservoirs (YNC for its Spanish acronym), the Company is preparing for the execution of the Comprehensive Research Pilot Projects (PPII for its Spanish acronym), heeding the recommendations given by the Commission of Experts convened by the National Government, ensuring transparency and operational excellence, and observing the decisions of the Council of State and any regulation issued for this purpose.

In furtherance of the aforementioned, Ecopetrol has advanced in the following aspects:

- Identification of the potential areas for the PPII.
- Conceptualization and characterization of the baselines required to acquire the necessary information, in order to measure the real impacts that the YNC operation would have in Colombia.
- Search for alliances with strategic partners with experience in unconventional reservoir operations worldwide, which will allow the implementation of the best available technologies for multi-stage hydraulic fracking activities in horizontal wells.
- Training and specialization for Ecopetrol workers on YNC.
- Strengthening of information systems that guarantee transparency and access by stakeholders. ■

Once the Protocols have been established by the National Government, the next steps to be carried out by Ecopetrol are:



The objectives of the PPII are:

- Identify the possible environmental effects of the development of unconventional reservoirs, by generating technical evidence concerning air quality variation, water resources, biotics, soil, environmental noise and seismology with respect to the established baseline prior to the project's operation.
- Define and implement instruments, methods and techniques for minimum impact, reducing the possible impact on the environment and the community in the area of influence.
- Obtain sufficient information to evaluate the feasibility of the projects, defining whether the scientific, environmental, institutional, social and technical conditions exist to advance to the stage of commercial exploration and exploitation of unconventional reservoirs.
- Generate information to strengthen institutional and stakeholder knowledge on the hydrocarbon industry, the technique of hydraulic fracking, geology, biodiversity, the hydrological system and social risk management.
- Promote transparency and disclosure of information to stakeholders on the development of PPII, by producing a technical report.
- Assist the territory from an institutional framework, and promote participation of the communities and the local authorities in the area of influence.



Plataforma Dolphin

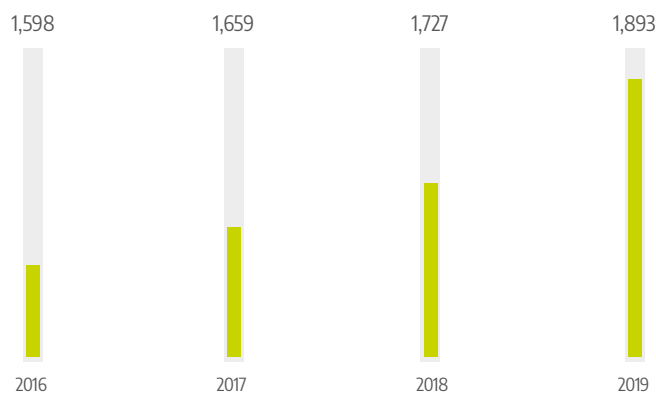
BALANCE OF RESERVES

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The Ecopetrol Group increased its proven hydrocarbon reserves (1P) to 1,893 million barrels of oil equivalent at the end of 2019.

The reserve replacement ratio was 169% and the average reserve life 7.8 years (7.2 years for crude and 10.4 years for gas).

Figure 25.
Balance of proven reserves per year - Ecopetrol Group
(million barrels of oil equivalent)



Source: Ecopetrol, Vice Presidency of Development and Production

Ecopetrol, including its participation in affiliates and subsidiaries, incorporated 408 million barrels of oil equivalent from proven reserves (1P), of which 164 million barrels of oil equivalent correspond to

unconventional reservoirs being developed in association with Occidental in the United States. (Permian), and 224 million barrels of oil equivalent were replacement of current fields (see Table 14).

Table 14. Ecopetrol Group 2019 Proven Reserves (Million barrels of equivalent - Kboe)

	2016	2017	2018	2019
Initial reserves	1,849	1,598	1,659	1,727
Revisions	-54	174	121	83
Enhanced recovery	11	73	129	94
Purchases	0	4	0	164
Extensions and discoveries	27	44	57	67
Production	-235	-234	-239	-242
Proven Reserves at Year-end	1,598	1,659	1,727	1,893

Source: Ecopetrol, Reserves Management

Of the total reserves, 86% are from Ecopetrol, with an average life of 7.3 years.

Subsidiaries such as Hocol, Equión, Savia, Ecopetrol America Inc. contribute 5% and Ecopetrol Permian 9%.

The Ecopetrol Group reserves were 99.99% certified by five specialized certifying companies, following international standards for the estimation, categorization and reporting of reserves, framed within the definitions and Rule 4-10 of Regulation S-X regulation of the Securities and Exchange Commission (SEC).

The reference price used to estimate the reserves is the reference price of the Securities and Exchange Commission (SEC), which for the year 2019 was \$ 63 USD / bbl, decreasing the reserves by 20 million barrels of crude oil equivalent compared to 2018, whose reference price was \$ 72.20 USD / bbl.

It is important to highlight that a large part of the reserves incorporated from current fields are the outcome of the recovery program, where we can highlight the performance of water injection in the Chichimene, Castilla, Yarigui, La Cira Infantas, Cohembí and Apiay-Suria fields, and the implementation of this technology in the Akacias field.

The contribution of recovery mainly corresponds to the performance of projects in the Rubiales and Caño Sur fields, while extensions and discoveries continue to increase, with the incorporation of 67 million barrels of oil equivalent, demonstrating the Company's ability to manage its assets.



Acacias Station, department of Meta



TRANSPORT



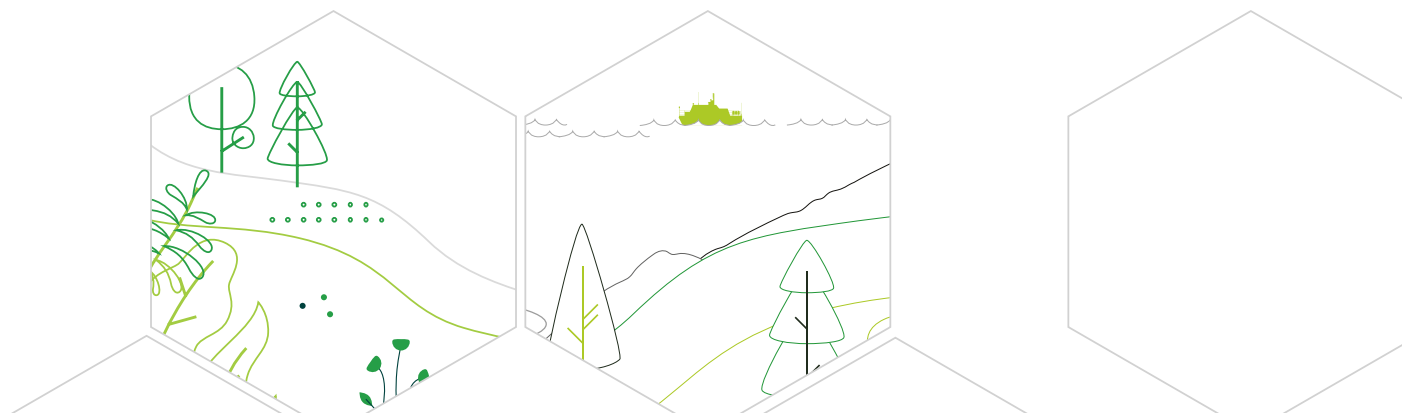
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The third link in Ecopetrol's value chain is the transport business, which is carried out through pipelines, multi-purpose pipelines (polyducts) and multimodal transport systems (river fleet and tanker trucks), which carry crudes from production fields to the refineries or export ports.

Since 2013, the Ecopetrol Group's transport business has been led by Cenit, which is a wholly-owned (100%) subsidiary of Ecopetrol S.A. The Vice Presidency of Transport and Logistics (VIT for its Spanish

acronym) carries out the operation and technical supervision of the maintenance of the hydrocarbon transportation infrastructure of Ecopetrol's subsidiaries.

As of September 2019, the Vice Presidency received the Logistics Operations Department and the Fluvial Operations and Maintenance Department, in order to focus on their core processes areas, taking advantage of the technical capacity and expertise of each of these collaborators.



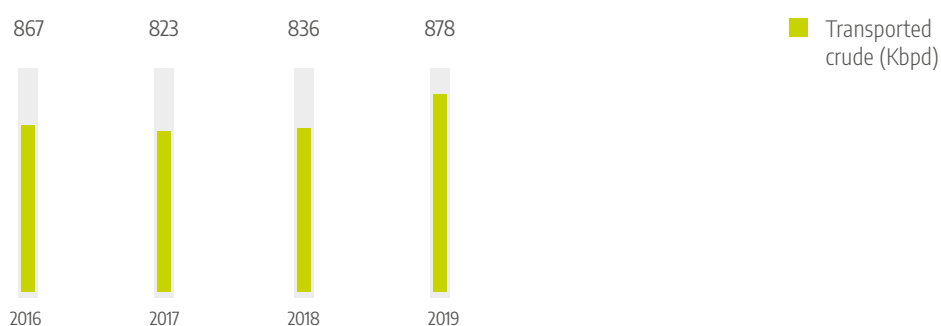
TRANSPORTED VOLUMES

In 2019, an average of 878 Kbpd was transported by pipelines (see Figure 26) and 275 Kbpd by polyducts (see Figure 27), registering a total transported volume of 1,153 Kbpd. Crude oil transport increased by 5%, and refined products by 0.7%, attributed to the increase in local fuel demand.

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Figure 26.

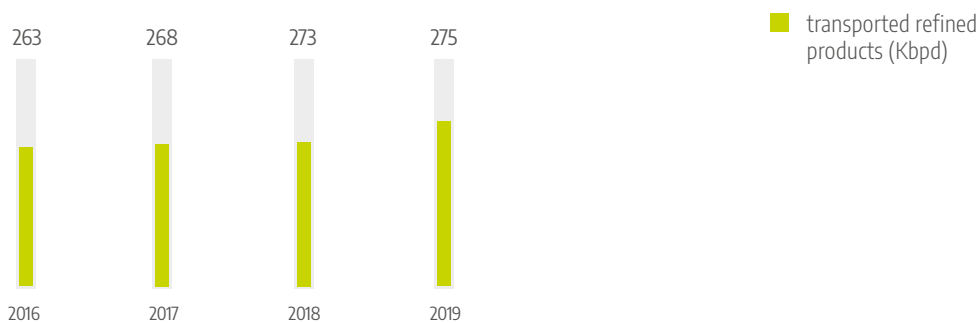
Volumes transported by oil pipelines (Kbpd)



Source: Cenit

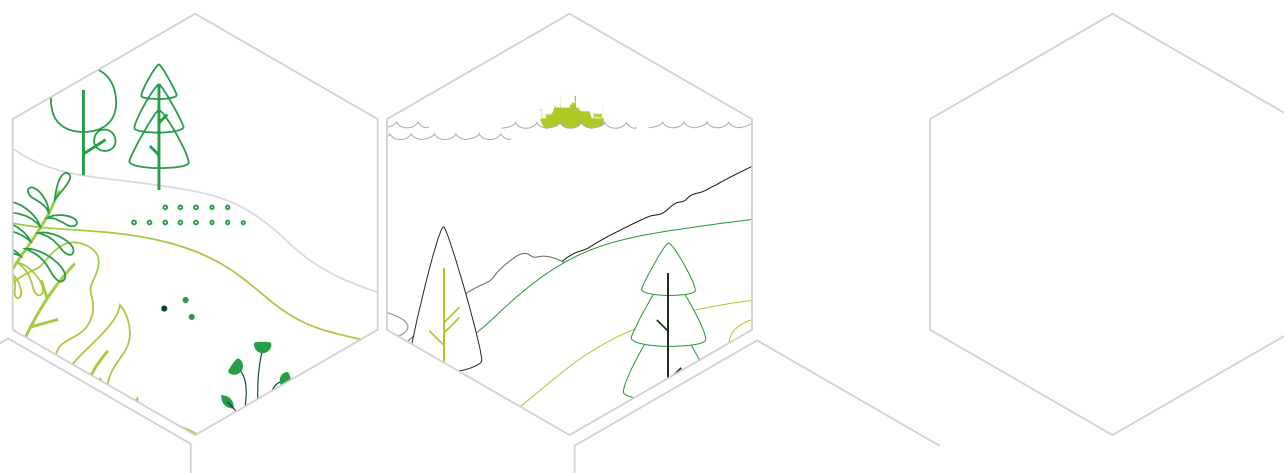
Figure 27.

Volumes transported by polyducts (Kbpd)



Source: Cenit

Of the volumes transported in 2019, **78.1%** of the crude and **32.9%** of the refined products were owned by Ecopetrol.



CENIT - NEW BUSINESSES AND PROJECTS

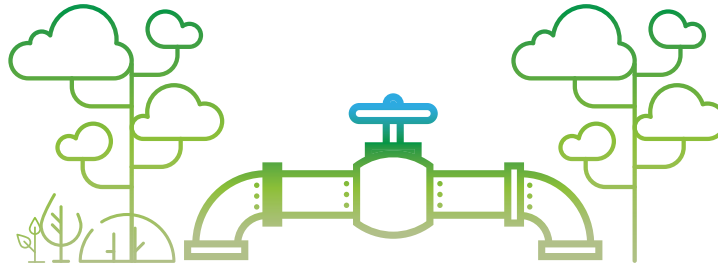
During 2019, important projects were carried out to strengthen the transport infrastructure, which are:

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Project V Sectors: replacement of 8,100 meters of pipeline in the Ayacucho - Galán 14" pipeline.

Chinchina-Pereira Project: diverting the line from the most densely populated areas of the municipalities of Chinchiná, Santa Rosa de Cabal, Dosquebradas and Pereira, through the construction of a variant in the Salgar-Cartago-Yumbo polyduct.

Development of a variant to change the course of the Salgar-Cartago-Yumbo polyduct.



Construction of variants, geotechnical activities and overpasses in the Salgar-Mansilla polyduct system.

Directed Horizontal Drilling (PDH) carried out on the Ayacucho - Coveñas 16" pipeline.

Between 2018 and 2019, three projects were developed that provided logistical solutions for heavy crudes, which resulted in costs reductions in the handling of naphtha for our customers and bringing the crudes to

the specifications required for transport by the pipeline network of the Ecopetrol Group; The projects were carried out in two strategic points in the country: the Llanos area (Apiay and Monterrey) and Vasconia.

Monterrey Dilution

Development of facilities to allow the reception of diluents by the Monterrey Polyduct, for on-site dilution with heavy crude streams passing through this station. This project results in savings for the senders in the transport of the diluent and enables its conveyance through the Ecopetrol Group's pipeline systems. The project began operation in February 2019.

Vasconia dilution

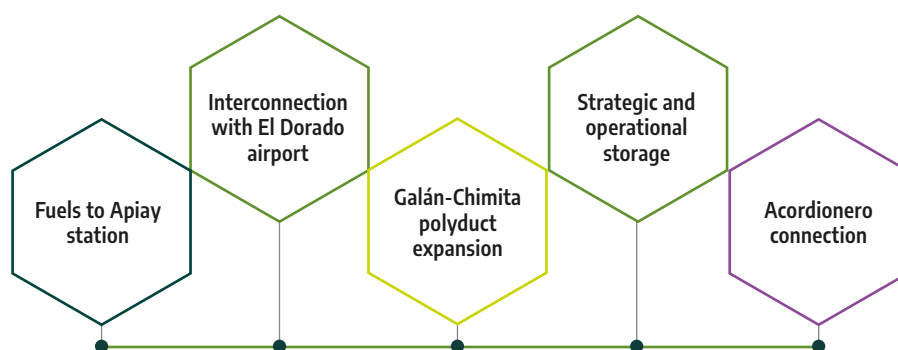
Development of facilities to allow the reception of diluents brought by tanker trucks at the Vasconia station for on-site dilution with heavy crude streams with high growth potential, Jasmine and Teak, adjacent to this station. This project results in savings for the senders in the transport of the diluent and enables its conveyance through the Ecopetrol Group's pipeline systems, ensuring its evacuation and incremental production viability. It is currently under construction and is expected to start operations in March 2020.

Apiay co-dilution

The viability of the project was approved in 2019 and its construction will start in 2020. It consists of the development of facilities to use LPG as a diluent source of heavy crude in Apiay, which will offer significant savings in dilution costs to customers and generate heavy crudes with permissible transport conditions by the Ecopetrol Group's pipelines. The estimated entry into operation is January 2021.

Similarly, growth and continuity projects were carried out in the operation, with the most relevant among them being the Llanos Node Optimization, which is still in progress.

Regarding new businesses and projects in maturation phases, the following were worked on during the year 2019:



INVESTMENTS

The historical investment execution in Cenit and its subsidiaries is shown below, including

growth, existing asset optimizations, studies and operational continuity investments.

Table 15. Investments of Cenit and its subsidiaries (millions of dollars)

Company	Interest held	2016	2017	2018*	2019**
CENIT	100%	197	147	174.6	213.9
OCENSA	72.65%	138	33.6	42.2	83.2
Oleoducto de los Llanos Orientales - ODL	65.00%	2	0.5	0.5	1.4
Oleoducto Bicentenario - BIC	55.00%	5	3.5	0.1	1.3
Oleoducto de Colombia - ODC	51.28%	2	2.1	4.1	9.6
TOTAL		343	186.6	221.4	311.4

Source: Cenit

* Includes capitalized maintenance for USD \$111 million

** In 2019, investments in the Midstream segment were monitored without adjusting for Cenit's shareholding in its subsidiaries

In 2019, highly complex projects were executed, given their capital intensity and their strategic importance for the segment and the Ecopetrol Group.

In terms of maintenance that may be capitalized, more than 600 mechanical repairs were carried out on Cenit's transportation systems. These interventions are part of the asset conservation and maintenance plan and guarantee the preservation of the hydrocarbons transport infrastructure in optimal conditions.

Additionally, more than 50 geotechnical works were executed to mitigate constantly

recurring risk of geo-threats in pipelines due to the country's particular geological conditions.

The Chinchiná - Pereira Variant project, recognized for its vital importance for the security of the communities surrounding the Salgar - Cartago pipeline, specifically in the section of the Dosquebradas municipality, was completed in July 2019 with the connection of a new 55,2 km section. It should be noted that, during the construction process, around 30 thousand ceramic fragments were recovered in 81 archaeological sites in the municipalities of Marseille, Pereira, Santa Rosa and Chinchiná. By 2020, the project is expected to be technically concluded with the completion of complementary geotechnical and social management works.

HYDROCARBON CONTAINMENT AND LOSS EVENTS

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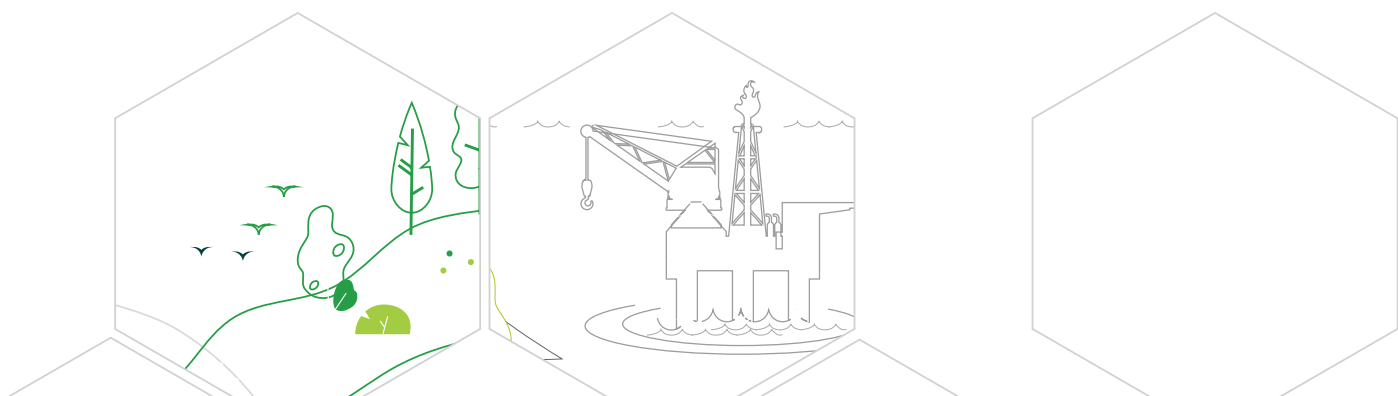
During 2019, 152 incidents reflecting a loss of hydrocarbon containment or fires were reported to the Environmental Authorities and Entities of the National Disaster Risk Management System in compliance with Decree 321 of 1999, which represented a confirmed volume of 45,348.4 barrels in 104 events. To date, confirmation is pending of the spilled volume in 48 events.

Of these incidents, 134 were due to the intentional acts of third parties (terrorist attacks, installation of illicit valves and burning), nine corresponded to containment incidents in the operation, two due to acts of nature and for seven their cause is still to be determined.

CONTINGENCY PLANS

Cenit has 28 emergency plans that cover its 28 transport systems. The internal structuring of the emergency plans includes individual documentation for the 54 stations and individual

documentation for 25 pipeline sections. The ratio of emergency plans for 2018 and 2019 remains constant. During the 2019 term, 35 emergencies were addressed.





Barrancabermeja refinery, Santander department



REFINING AND PETROCHEMICALS

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The fourth link in the value chain is the refining and petrochemical activity, which originates from the Barrancabermeja and Cartagena refineries. It is there where

the crude oil originating from the fields is transformed into value-added products, which contributes towards job creation and revitalizes regional economies.

BUSINESS RESULTS

2019 was characterized by an unfavorable environment, mainly attributable to two circumstances that surfaced during this period:



Differentials in international product prices versus Brent, where the benchmarks (cracks) of gasoline and naphtha reached their lowest levels in the past 25 years.



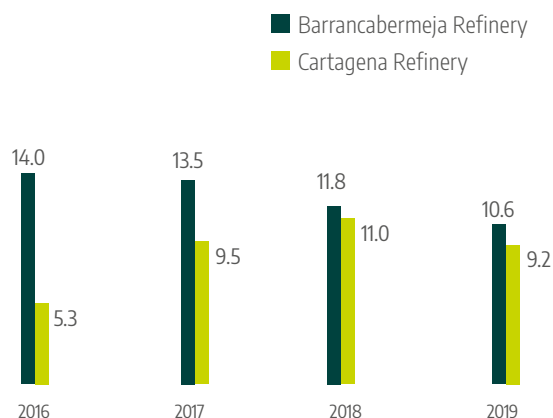
Fuel oil in the last quarter of 2019 reached USD \$ -22 / bbl versus Brent, to a greater extent attributable to MARPOL coming into force. (International convention aimed at preventing pollution from ships caused by operational or accidental causes)

Conversely, there was a strengthening of the international price of crude that make up the diets (slate) of the refineries.

Figure 28.

Refining margin

(USD per barrel)



Source: Ecopetrol, Vice Presidency of Refining and Industrial Processes

At the Barrancabermeja refinery, the gross refining margin decreased from **USD \$11.8 / bbl** in 2018 to **USD \$10.6 / bbl** in 2019. This decrease of **US \$1.2 / bbl** is mainly associated with the higher cost of crude oil slate to the refinery (diet). At the Cartagena refinery, the margin decreased from **USD \$11.0 / bbl** in 2018 to **USD \$9.2 / bbl** in 2019, mainly due to the higher cost of crude oil slate to the refinery, despite the increase in the proportion of domestic crude in the throughput, and a product basket weakened by lower naphtha export prices (see Figure 28). ■

REFINERY THROUGHPUT

In 2019, we achieved the highest annual average throughput in the history of Colombian refining: 373.7 thousand barrels per calendar day (Kbpcd), leveraged by the increase throughput at the Cartagena refinery. In August, the average monthly throughput reached 391.5 Kbpd, the highest of the year and a historical record.

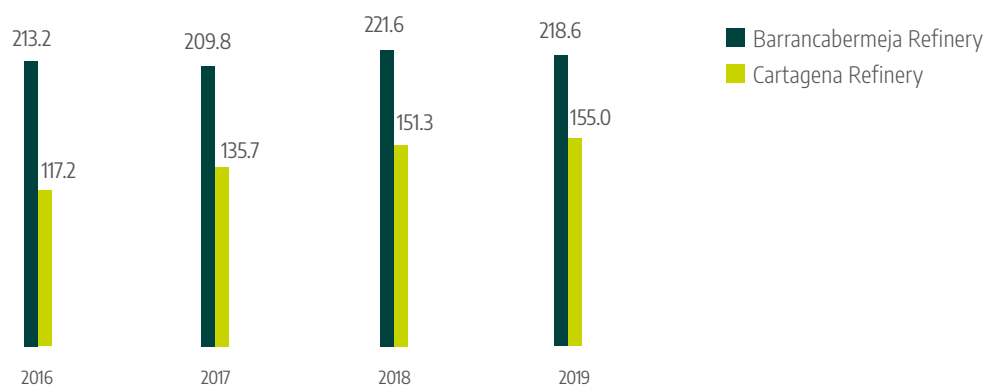
The crude throughput of the Barrancabermeja refinery decreased 3 Kbpd in 2019 compared to 2018, with an average annual load of 218.6 Kbpd. This was the result of a lower reception of Caño Limón crude and a light mix due to restrictions in the transport system, a situation partially mitigated by the success of the strategy to

incorporate third-party crude, as well as the execution of scheduled shutdowns for maintenance.

The Cartagena refinery had an average annual throughput of 155.0 Kbpd, an increase of 2% versus the 2018 throughput, as a consequence of the increased operational availability of the crude unit, which in 2018 was affected by operational restrictions.

The increase in the proportion of national crudes in the diet in Cartagena is noteworthy, from 77% in 2018 to 87% in 2019, as a result of the successful strategy to purchase crude from third parties and royalties (see Figure 29).

Figure 29.
Refinery crude
throughput
(Kbpcd)



Source: Ecopetrol, Vice Presidency of Refining and Industrial Processes

UTILIZATION FACTOR

The refinery utilization factor shows a decrease due to reliability challenges in the Barrancabermeja cracking units, and the Diesel Alkylation and Hydrotreatment units in Cartagena.

In 2020, efforts will be concentrated on recovering unit reliability (see Figure 30).

Figure 30.
Refinery
utilization
factor (%)



Source: Ecopetrol, Vice Presidency of Refining and Industrial Processes

INVESTMENTS

The description of investments for each of the refineries is shown below.

BARRANCABERMEJA REFINERY (GRB)

During 2019, there was a total of 86 investment initiatives for USD \$171 million, to guarantee the reliability, operational continuity, integrity and environmental management of the Barrancabermeja Refinery.

The following projects stand out, focused on:



Reliability for USD \$99 million: major maintenance on the Aromatic Train; tankers; rotors; U-2000 Vacuum and Atmospheric; U4700 Prime D; U4650 H2; Industrial Services; as well as the equipment replacements to ensure reliability in the Cracking Orthoflow Converter; Static Equipment 2018 and Bridge cranes Module I.



Operational continuity for USD \$27 million: procurement and commissioning of TG-953; medium enrichment with oxygen; operational consolidation in the COR of Ethylene II; Turboexpander; HDT and pump house; update of the control and protection system for the industrial services area; balancing, implementation safety, reliability and availability of the GRB and hydrogen network; and technological update of M-2 tanker trucks filling process.



Environment for USD \$24 million: new WWTP Wastewater Treatment Plant, major maintenance in U470 Acid, Environmental Train, U4800 Sulphur IV, U4860 Amina, U4840 Wastewaters and U2870 Amina; as well as in the improvement of spent sodas, SOX emissions control and closed aromatic drainage system.



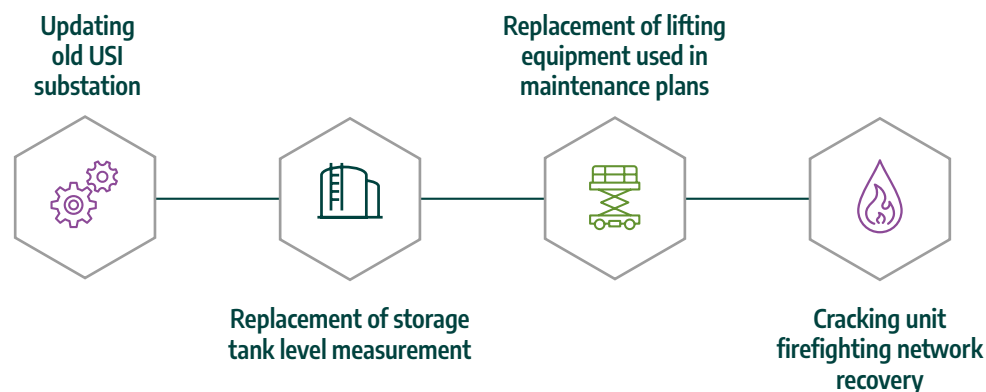
Integrity for USD \$20 million: GRB firefighting network, Ethylene Settlement II, Ribera del Rio Recovery, oven safeguard update and new GRB laboratory.

CARTAGENA REFINERY (GRC)

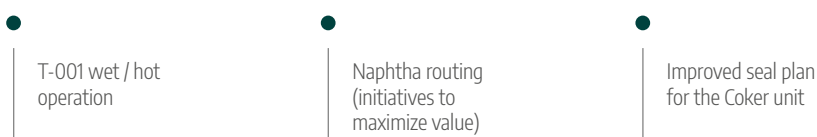
The Cartagena Refinery invested USD \$79 million in 2019, corresponding to the Interconnection of the Cartagena Crude Plants - IPCC (USD \$12 million), operational continuity initiatives - ICOS (USD \$28 million), optimization initiatives (USD \$6 million) and increased maintenance (USD \$33 million). Phase 3 of the Interconnection

of the Cartagena Crude Plants - IPCC project was approved for construction in the last quarter.

The main Operating Continuity Investments (ICOS for its Spanish acronym) aligned to the integrity and reliability strategies included in the maintenance plan, are shown below:



Regarding Optimization Initiatives, those focused on margin improvement were prioritized and carried out, followed by those providing the greatest impact:



Finally, the major investments carried out for maintenance were:

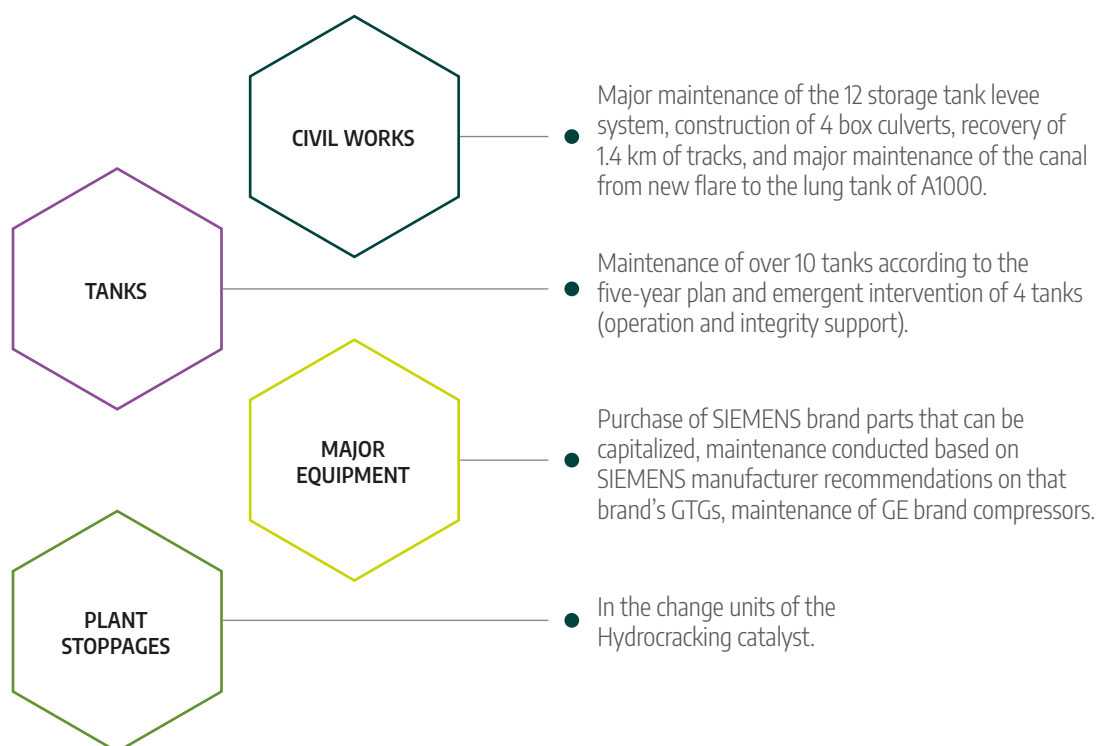


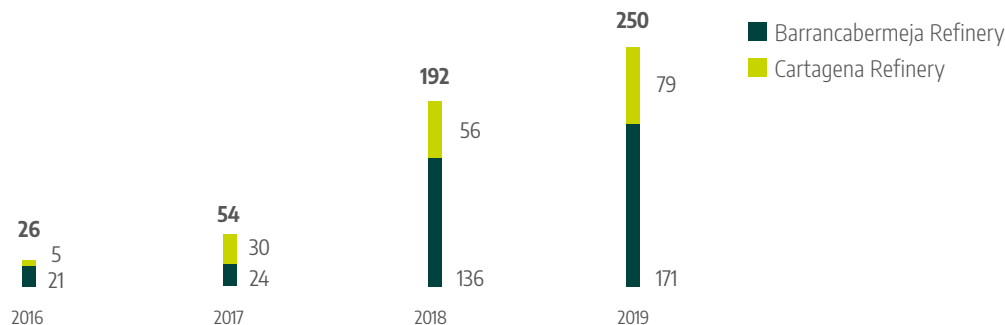
Figure 31 shows the consolidated investments carried out by the Vice Presidency of Refining and Industrial Processes over the past five

years. For the Cartagena refinery, the Operating Continuity Investments (ICO) are shown.

Figure 31.

Current investments in refineries

(millions of USD)



Source: Ecopetrol, Vice Presidency of Refining and Industrial Processes



Tanker loading in the Colombian Caribbean



SALES AND MARKETING

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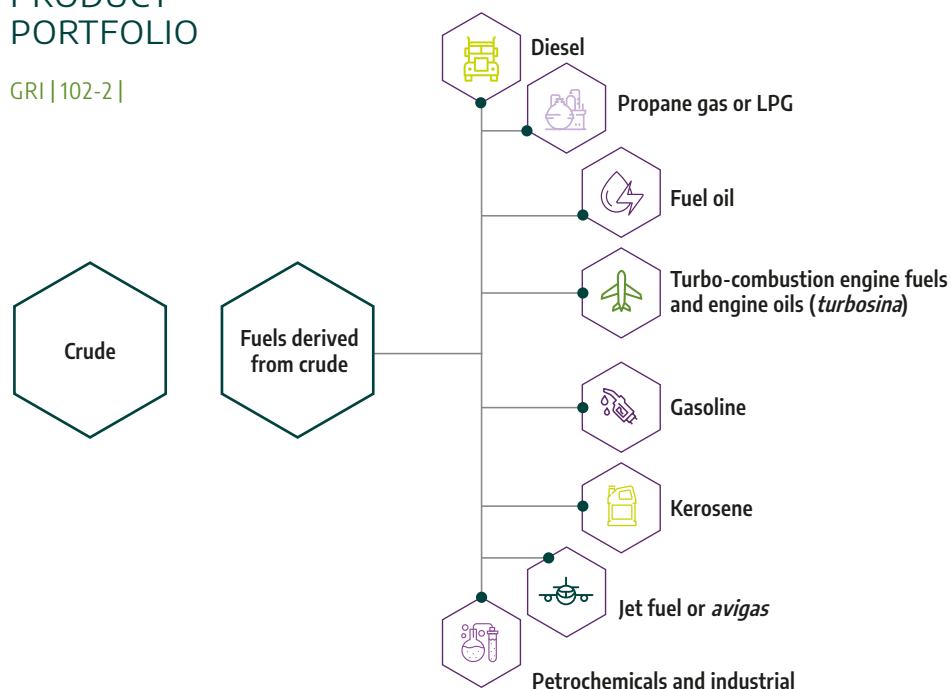
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The sales and marketing function is the last link in the value chain, which connects Ecopetrol with the markets in Colombia and the world, seeking to maximize value added for the Ecopetrol Group through excellence in the sale

of crude; products; clean, safe and sustainable petrochemical products, gas and energy, leveraging its human talent, internal optimization, digital tools and building long-term relationships with our customers.

PRODUCT PORTFOLIO

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Sales and Marketing is responsible for the following issues:



Sale of the crude and gas extracted in the fields, as well as the petrochemical and industrial products produced in the refineries, which are commercialized in the most profitable national and international markets.



Purchase of crude oil from royalties and from third parties to optimize the refinery throughput and the import of diluents required for the transport of heavy crude by the pipeline systems. Likewise, it purchases in the international market the fuels and petrochemicals that are required to complete its own product portfolio in order to meet customer commitments.



Leads the Company's energy planning and optimization strategy exercise, manages the purchase of energy for Ecopetrol and its subsidiaries and carries out the sale of surpluses from its production units and from the Ecopetrol Group.

ECOPETROL'S SALES AND MARKETING STRATEGY

Ecopetrol is committed to being a system optimizer and asset-based marketer. Additionally, it has the challenge of providing Colombia and the world with quality fuels

that contribute towards improving the air we breathe, as well as the petrochemicals required as raw materials for the productive development of the country.

BUSINESS RESULTS

GRI | 201-1 |

In 2019, Ecopetrol implemented the transformation process of this area, which began in 2018 with the objective of achieving commercial excellence and internal optimization, seeking to generate greater value for the Ecopetrol Group, in order for Ecopetrol to become a value chain optimizer and an asset-based marketer.

This transformation led to adjustments in the structure and processes of this area, seeking to further functional and product specialization, which has allowed for a greater focus on the client, as well as the construction of a culture based on four pillars: external focus, proactivity, collaborative work and risk management.

In 2019, 99% of Ecopetrol's revenues came from the sale of crude, gas and products (including fuels and

petrochemicals) and the remaining 0.1% came from the provision of services.

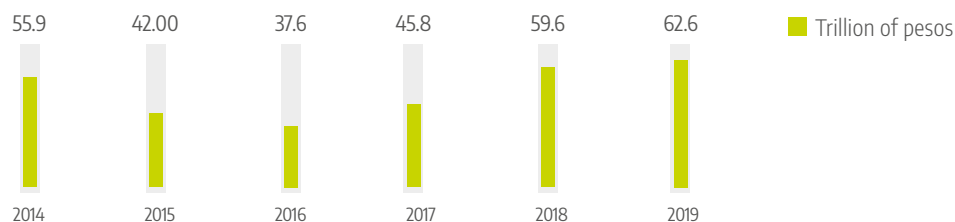
Sales revenue amounted to \$62,6 trillion of pesos (see Figure 32), an amount that represents a growth of 4% compared to 2018, owing to higher sales volumes (3%), higher exchange rate (10%), and the implementation of sales and marketing strategies aimed towards improving the spreads of the crude basket. As an Ecopetrol Group, sales were \$70.8 trillion of pesos.

The benchmark average price of Brent export crude oil in 2019 was quoted at USD \$64 / bbl, which showed a decrease of USD \$7.5 / bbl versus 2018, due to factors such as the increase in hydrocarbon production in the United States.

In volumetric terms, crude oil exports showed an increase of 5% between 2018 and 2019, reaching 396 Kbpd. This increase is attributable to the increase in production and purchases from third parties, which offset higher sales to local refineries.

In volumetric terms, crude oil exports showed an **increase of 5% between 2018 and 2019, reaching 396 Kbpd.**

Figure 32.
Sales revenue *



Source: Ecopetrol, Corporate Vice Presidency of Finance
*Does not include income from services or hedging operations

888 Kbpd were distributed as follows: (see Figure 33)

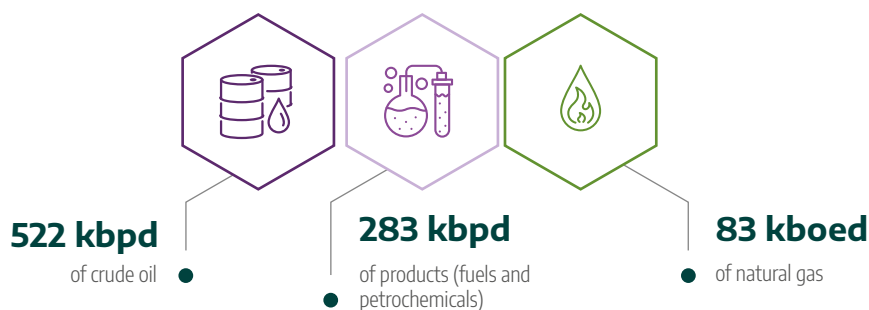
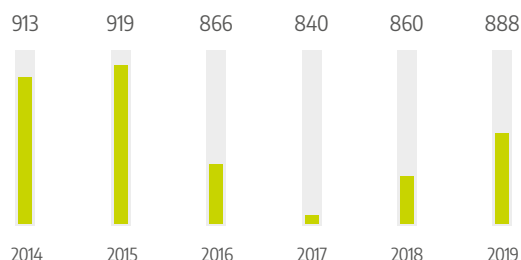


Figure 33.
Sales volume
(Kbpd) *



Of the total volume sold, exports were 48% and domestic sales 52%, including sales to the free trade zone. Additionally, crude sales increased by 5% (+27 Kbpd) as a consequence of the increase in production and greater purchases from third parties.

Source: Ecopetrol, Vice Presidency of Sales and Marketing
* Only includes Ecopetrol sales (does not include Reficar)

GRI | 102-6 |

EXPORTS

Crude oil is mainly destined for customers in Asia and the United States, and to a lesser extent Europe, Central America, and South America. Moreover, the main destination for petroleum products is the United States. Asian countries also represent a significant share thereof, and to a lesser extent the markets of Central America and the Caribbean.

CRUDE EXPORTS

The Castilla blend remains the main crude export, with sales of 367 Kbpd in 2019. This level represents an increase of 10% (33 Kbpd) compared to the previous year due to an increase in crude oil production. The Mares blend was the second most

representative crude in the basket, with exports of 9 Kbpd, an increase of 542% (+7 Kbpd) compared to the previous year, owing to higher production and better valuation of residue flows from the Barrancabermeja Refinery.

GRI | 102-6 |

MARKET DIVERSIFICATION STRATEGY

Ecopetrol's diversification strategy is focused on market efficiency and consists of selling to those regions that generate the greatest value for our crude oil. The selling of barrels in the target markets has been achieved in a sustainable and profitable way, owing to the diversification of destinations.

In 2019, Asia was the main crude export destination, representing 48% of the volume sold, exhibiting a growth of 5% compared to that observed in 2018. The United States was the second crude export destination, representing 42% of the volume sold versus 40% registered in 2018. Europe was the third export destination, with a share of 5%, and Central America and the Caribbean had a share of 3%, which corresponds to an intermediate storage point used by customers for subsequent shipment to other destinations, mainly in Asia and the United States. ■

Crude oil export revenues increased as a result of the strengthening of international prices because of:



Lower supply of heavy and intermediate crude associated with production cuts as a result of the OPEC / Non-OPEC agreements to stabilize the market.



Increased demand for heavy crude by independent refiners in the Asian market.

Product sales increased slightly compared to the previous year (+2 Kboed), due to stable production and demand for fuels that compensated the lower sales of residues from Barrancabermeja (GRB for its Spanish acronym), and gas sales behaved very similar to 2018, reaching 83 Kboed.

FUEL OIL EXPORTS

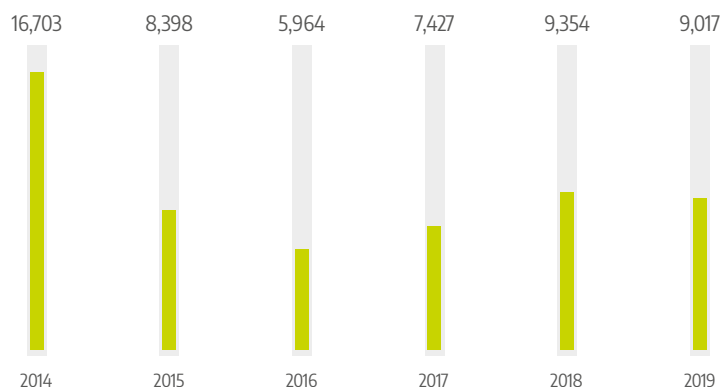
Ecopetrol's fuel oil exports reached a volume of 30 Kbpd in 2019, which exhibited a decrease of 1% compared to 2018 (-0.2 Kbpd), due to the reduction in production in order to guarantee sales of more valuable products such as asphalt and reconstituted crude.

Fuel oil exports were sold mainly in Central America and the Caribbean, with a 40% share, which corresponds to an intermediate storage point used by customers for subsequent shipment mainly to destinations in Asia and the United States. The second export destination was the United States, with a 35% share, followed by Asia, with a 25% share.

The average differential for exported fuel oil in 2019 was USD \$-13.4 / bbl versus Brent, which showed a decrease of USD \$-1.4 / bbl compared to 2018, due to the weakening of the prices of residues with high sulfur content due to the impact of regulation by the International Maritime Organization - IMO 2020, which restricted the content of sulfur in fuels used by ships from 3.5 to 0.5%.

In 2019 the total value of Ecopetrol's exports reached USD \$9,017 million, a decrease of -3.60% compared to 2018 (see Figure 34).

Figure 34.
Value of exports
(millions of USD)



Source: Ecopetrol, Vice Presidency of Sales and Marketing

IMPORTS

In 2019, the crude oil import structure by Ecopetrol for the Barrancabermeja refinery continued through multimodal transport,

with a total volume of 5 Kbd, which allowed access to a greater number of suppliers and crude oils, obtaining more competitive offers.

REDUCTION OF DILUTION COSTS

The strategy implemented by Ecopetrol in the cost reduction and efficiency improvement program, identified that, in order for the heavy crude production project sold by the Ecopetrol Group to be viable, it is important to reduce dilution costs. Therefore, during 2019, focused

efforts continued to increase dilution savings through the sale of Castilla crude oil at viscosities above 400 cSt (at 30 °C). In this way, average viscosities of 435 cSt were achieved, obtaining incremental savings of **USD \$54 million** due to a lower diluent requirement.

FUELS, PETROCHEMICAL AND INDUSTRIAL PRODUCTS

The information on the sales volumes of fuels and petrochemicals is shown below, as well as information on product imports.

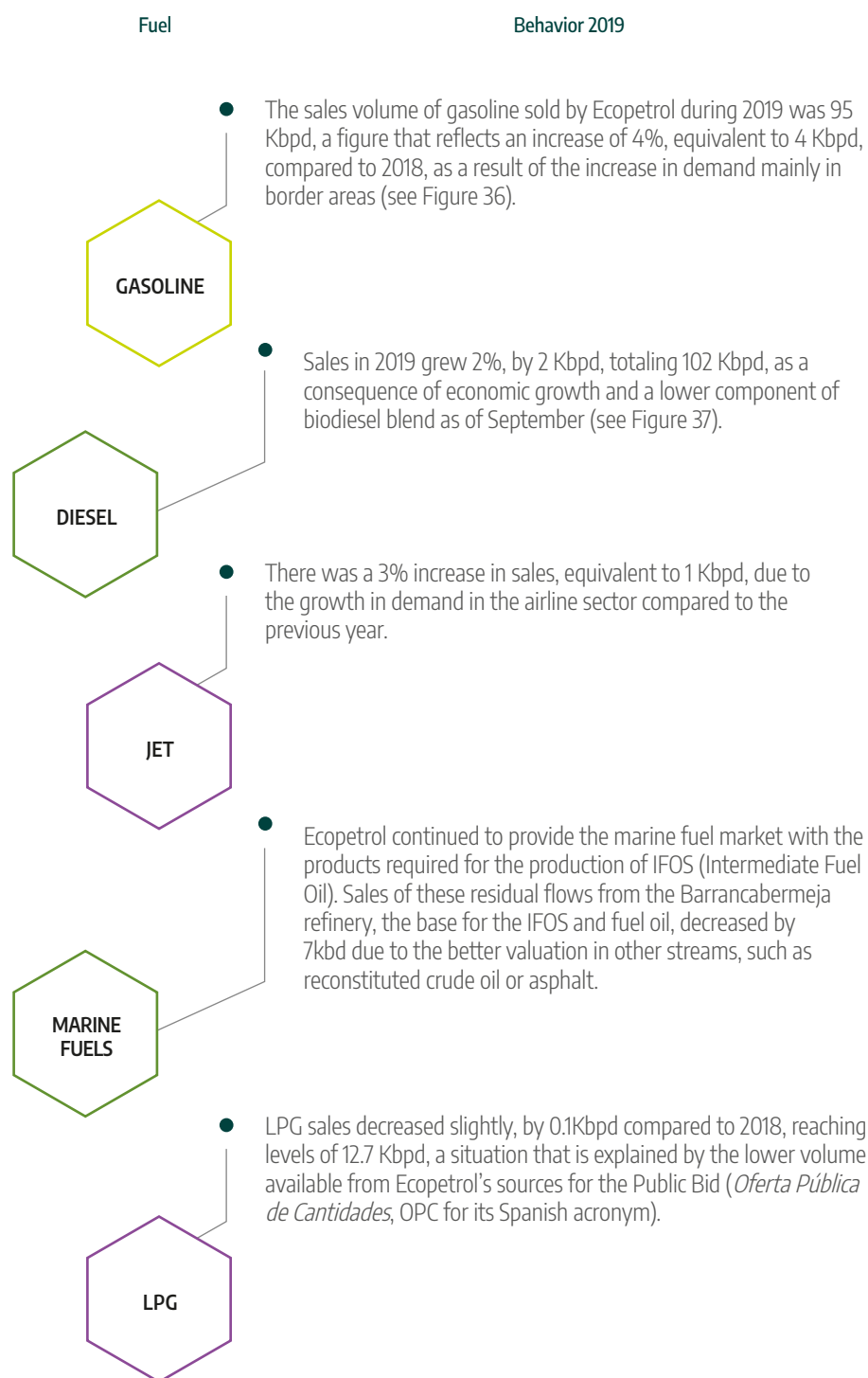
GRI | 102-6 |

FUELS - DOMESTIC SALES

Ecopetrol's fuel portfolio is mainly made up of gasoline, diesel, jet, marine fuels and LPG.

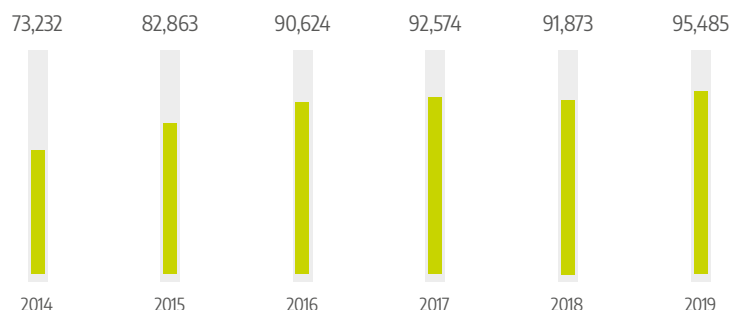
The sales volume behavior in 2019 for each of these products is shown in Figure 35.

Figure 35.
Behavior of
fuel sales



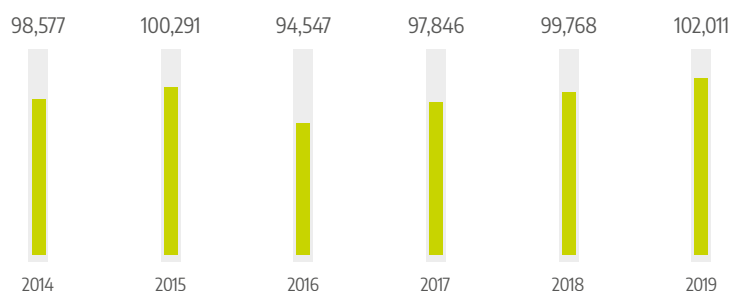
Source: Ecopetrol, Vice Presidency of Sales and Marketing

Figure 36.
Gasoline sales
volume
(Bpd)



Source: Ecopetrol, Vice Presidency of Sales and Marketing

Figure 37.
Diesel sales
volume
(Bpd)



Source: Ecopetrol, Vice Presidency of Sales and Marketing

PETROCHEMICAL AND INDUSTRIAL PRODUCTS

Through international distributor companies, the products reach destinations such as Ecuador, Peru, Brazil, Venezuela, Argentina, Central America, the Caribbean and the United States in the case of solvents, polyethylene, asphalt and sulfur.

Total income from the sale of petrochemical and industrial products was \$1.2 trillion of pesos, a figure that shows a growth of 7% compared to the previous year.

NATURAL GAS

The gas strategy focuses on monetizing the Ecopetrol Group's gas reserves through a price signal that makes long-term projects viable and leverages gas development. To this end, the following activities were carried out:

- Endorsement and development of new Onshore and Offshore offers
- Sales excellence and efficiency in supply with an integrated vision of the value chain.
- Securing supply for refineries.
- Sales management that supports the development of projects.
- Incremental sales in the Onshore fields and encouraging the development of the natural gas vehicle (NGV) market.

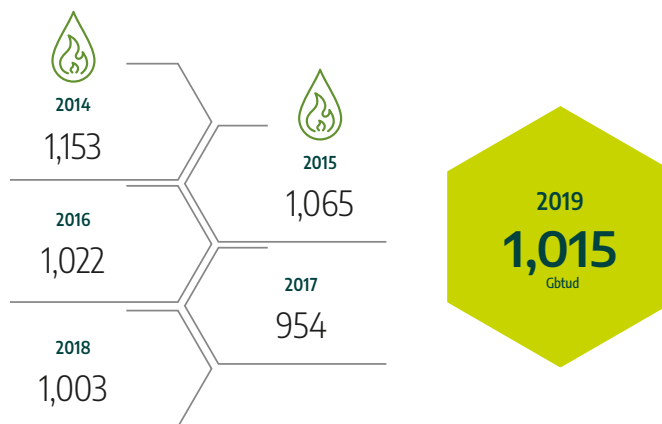
The total estimated domestic demand at the end of 2019 was 1,015 Gigas of British thermal unit per day (Gbtud), that is, 12 Gbtud above what was reported for 2018, which represents an increase of 1.2% (see

Figure 38). The main cause of this behavior was the higher gas consumption reported for thermal generation both on the Atlantic Coast and in the interior of the country compared to the projections for the sector.

162

Figure 38.

Domestic consumption of natural gas by volume (Gbtud)



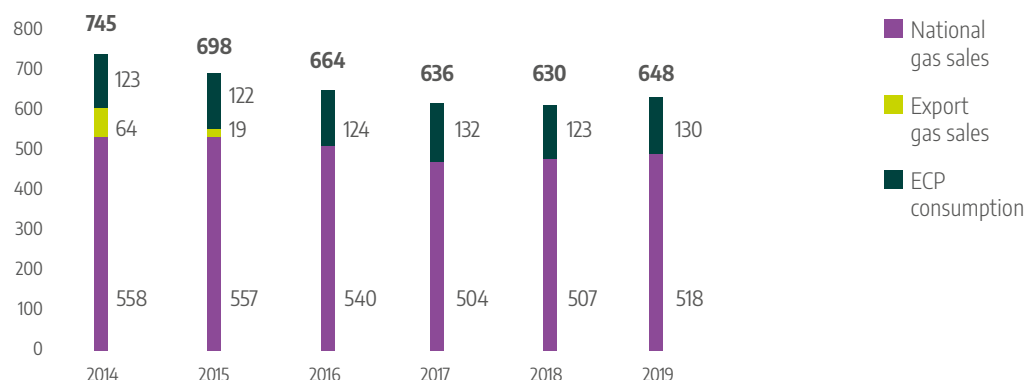
Source: Ecopetrol, Vice Presidency of Sales and Marketing

Ecopetrol delivered 648 Gbtud of natural gas to meet demand, including consumption by the Cartagena and Barrancabermeja refineries, as well as

other requirements of the production fields, reaching a share of 64% in the Colombian market and an increase of 3% (18 Gbtud) compared to 2018 (see Figure 39).

Figure 39.

Gas sales and consumption (Gbtud)



Source: Ecopetrol, Vice Presidency of Sales and Marketing

In 2019, Ecopetrol carried out gas auctions for the first time in its sales process and

for smaller and isolated fields. With the processes carried out, total sales of 96.7% of certain product availability were achieved for the year 2020 and 98.5% for the year 2021. It was possible to maximize sales, leveling them to market prices, on account of the auction mechanism used.

The gas sales made in 2019 ensure a maximization of production in terms of both quantity and income.

We ended 2019 having sold almost the totality of gas that fulfills the firm sales profile, and a clear strategy for the selling of the surpluses remaining in the fields through monthly (interruptible) or bimonthly (firm) auctions in the case of major fields or through interruptible contracts for minor and / or isolated fields.

Amount paid for gas royalties

Below is the amount of gas royalties paid in the years 2016 to 2019:

Table 16. Amount of gas royalties paid (Figures in pesos)

Year	Royalties
2016	478,250,377,695
2017	385,669,210,463
2018	423,939,421,009
2019	594,620,868,555

Source: Ecopetrol, Vice Presidency of Sales and Marketing

LNG liquefaction capacity

Colombia has a regasification plant in the Caribbean coast with a capacity of 400 MMcf/d, providing 350 MMcf/d

for the thermal sector of the coast. The additional 50 MMcf/d were contracted by TermoBarranquilla SAESP-TEBSA, Ecopetrol's customer and supplier.

CUSTOMERS

GRI | 102-6 |, | 102-43 |

Ecopetrol aims to build trusting and long-term relationships with its 324 customers, seeking to become an ally to achieve their business needs and add value through reliable, close and transparent relationships.

CRUDE

Ecopetrol's has an international crude oil client base of **26 active companies**, of which 80% are refiners who use crude as their raw material for the refineries' throughput and produce therewith refined products for different uses. The remaining **20%** are marketers whose role is to serve as sales intermediaries to access new customers and markets. Ecopetrol's domestic crude oil client portfolio consists of 13 active companies. ■

LIQUID FUELS

Ecopetrol has 81 customers nationwide who purchase gasoline, diesel, jet, marine diesel, LPG, fuel oil, crude at the wellhead, kerosene and avigas. These customers must have authorization from the Ministry of Mines and Energy and / or the Commission for Electricity and Gas Regulation (CREG) to buy these products. Additionally, Ecopetrol has eight companies that market these products in the international market, for a total of 89 registered customer companies. ■

PETROCHEMICAL AND INDUSTRIAL PRODUCTS

Regarding its petrochemical and industrial products, Ecopetrol has 145 customers that are either transformers or marketers. Among the products that customers buy are: solvents, lubricating bases, paraffin, polyethylene, asphalt, sulfur and propylene, among others, which are raw materials to manufacture a wide variety of products for the final consumer, such as: glues, paints, plastics, candles and lubricants. ■

NATURAL GAS

Ecopetrol has 51 natural gas customers, which are distributors that serve the residential, vehicular and industrial sectors, as well as power generation companies. ■

RELATIONSHIP WITH CUSTOMERS AND SERVICE CHANNELS

GRI | 102-43 |

Ecopetrol's customer relationship model is based on personalized attention provided by sales and logistics personnel, who are responsible for addressing customer requirements and concerns and

serve as the main contact channel with the Company. Additionally, the following communication channels have been established to respond to customer requests:



CONTACT CENTER



ELECTRONIC CUSTOMER SERVICE MAILBOX



WEBSITE



CITIZEN PARTICIPATION OFFICE

CUSTOMER SATISFACTION

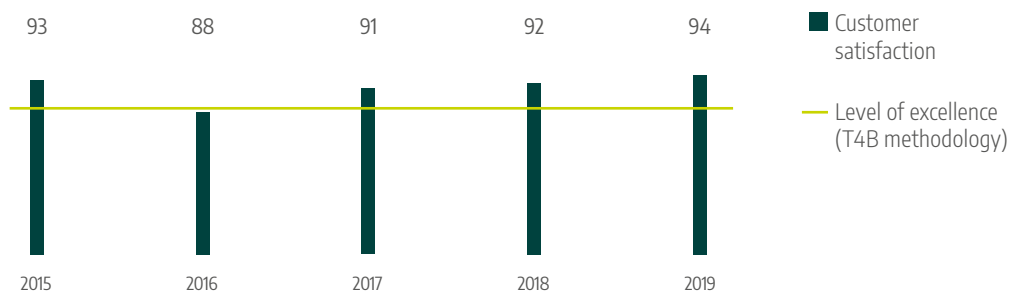
Ecopetrol annually measures customers' experience regarding the service offered through an expert third party in such assessments.

In 2019, 94% of the customers surveyed rated their satisfaction in a range of 7

to 10 regarding the general quality of their experience with Ecopetrol (according to the Top Four Boxes methodology), improving 1 percentage point versus 2018 and achieving once again a higher result than the minimum level of excellence established for such assessment (89%).

Figure 40.

Level of customer satisfaction (%)



Source: Ecopetrol, Vice Presidency of Sales and Marketing

RESPONSIBILITY IN HANDLING OF PRODUCTS

In its work to minimize the risks and impacts associated with the manufacture, use and disposal of its products and their effects on people and the environment, Ecopetrol has specific processes and procedures, complies with national

regulations and applies best practices for the international oil industry.

For the management of liquid fuels, Ecopetrol applies NFPA 30 (National Fire Protection Association), which establishes

	<p>standards for the design of tank storage and piping systems, as well as the applicable technical standards and regulations issued by the Ministry of Mines and Energy of Colombia.</p> <p>Regarding fire protection, the NFPA (National Fire Protection Association) and API (American Petroleum Institute) standards are applied, as well as the regulations issued by the national, regional and local governmental control authorities.</p> <p>In the case of petrochemicals and industrials, Ecopetrol takes special care given they are volatile products that may</p>	<p>cause explosions under certain pressure and temperature conditions. For this reason, they are stored, handled and disposed of in accordance with the technical specifications of each product and in accordance with national regulations for the handling and disposal of hazardous waste.</p> <p>API, ANSI, ASME, NFPA, DOT and ICONTEC standards, and regulations issued by the Ministry of Mines and Energy, the Ministry of Environment, Housing and Territorial Development Authority and the other competent bodies are applied in the design, construction and operation of facilities for the transport and handling of hydrocarbons.</p>
FUEL TRANSPORTATION	<p>The transporter/carrier must comply with the requirements established in Decree 1609 of July 31, 2002 or in the regulations that modify, add or replace it. The activity of transporting liquid fuels derived from oil by pipeline will</p>	<p>be governed by the transport regulations issued for this purpose by the Ministry of Mines and Energy. Vessels that transport liquid fuels derived from petroleum that are mobilized by sea or river must carry the required waybill.</p>
SALE OF CONTROLLED SUBSTANCES	<p>In accordance with current regulations, as a public entity of the national order, Ecopetrol does not need to have <i>Certificado de Carencia de Informes Técnicos de Estudefacientes</i> - CCITE, a clearance certification on the absence of narcotic substances. It is neither obliged to carry out any control with respect to the agents in the fuel distribution chain registered in SICOM, nor is it responsible for verifying the CCITE of its customers.</p>	<p>Notwithstanding the foregoing, Ecopetrol has implemented actions regarding controlled substances, such as requesting a clearance certification from its customers prior to signing a contract or sales order and verifying the available quota against the amounts to which they are committing. The quota of the certificates is also verified during the monthly dispatches; and there is a detailed procedure for the marketing of controlled chemicals and substances.</p>
REGULATIONS FOR PRODUCT LABELING AND DELIVERY	<p>In line with the National Action Plan for the Management of Chemical Substances in Colombia (2013-2020) established by the Ministry of the Environment and Sustainable Development (MADS), during 2019 Ecopetrol continued with the implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).</p>	<p>The Technical Guidelines to determine the specific requirements for the acquisition of chemical products was also developed in Ecopetrol, in which a transition period of one year was established for suppliers to deliver chemical products with safety sheets and labeling based on the GHS.</p>
CLAIMS FOR PRIVACY VIOLATION AND CUSTOMER DATA LEAK	<p>In 2019, there were no complaints about violation of privacy and leaks of customer information.</p>	



MATERIAL TOPIC

HEALTH AND SAFETY AT WORK

Chimita Station



Standard

GRI | 403 |
Occupational Health
and Safety

GRI | OG-13 |
SProcess Safety

● Why this is considered a topic material?

GRI | 103-1 |

A weak performance in occupational and process safety and health has a negative impact on labor costs and business productivity. Additionally, it affects corporate reputation, reduces employee motivation and increases operational costs associated with fines and other contingent liabilities.



● How is this topic managed?

GRI | 103-2 |

Ecopetrol's industrial safety, process safety and occupational health strategy focuses on managing risks, reducing accidents in operations and achieving sustainable and efficient results. It seeks to contribute to the well-being of workers and their families and to the profitable growth of the Company.



● How is the topic assessed?

GRI | 103-3 |

The evaluation is carried out mainly through indicators of the frequency of accidents, fatalities, absenteeism and occupational diseases. Likewise, frequency and number of process safety incidents are assessed.

Impact scope

GRI | 103-1 |



● Ecopetrol process with the greatest impact

Value chain (exploration, production, transport, refinancing, sales and marketing, petrochemical and support areas



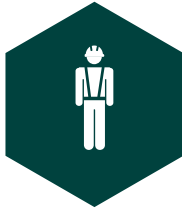
● Stakeholder group with the greatest impact

Contractors and their workers; workers, pensioners and their beneficiaries



● Area that manages the impacts

Vice Presidency of Human Talent; Executive Vice Presidency and HSE Management



OCCUPATIONAL HEALTH, INDUSTRIAL AND PROCESS SAFETY

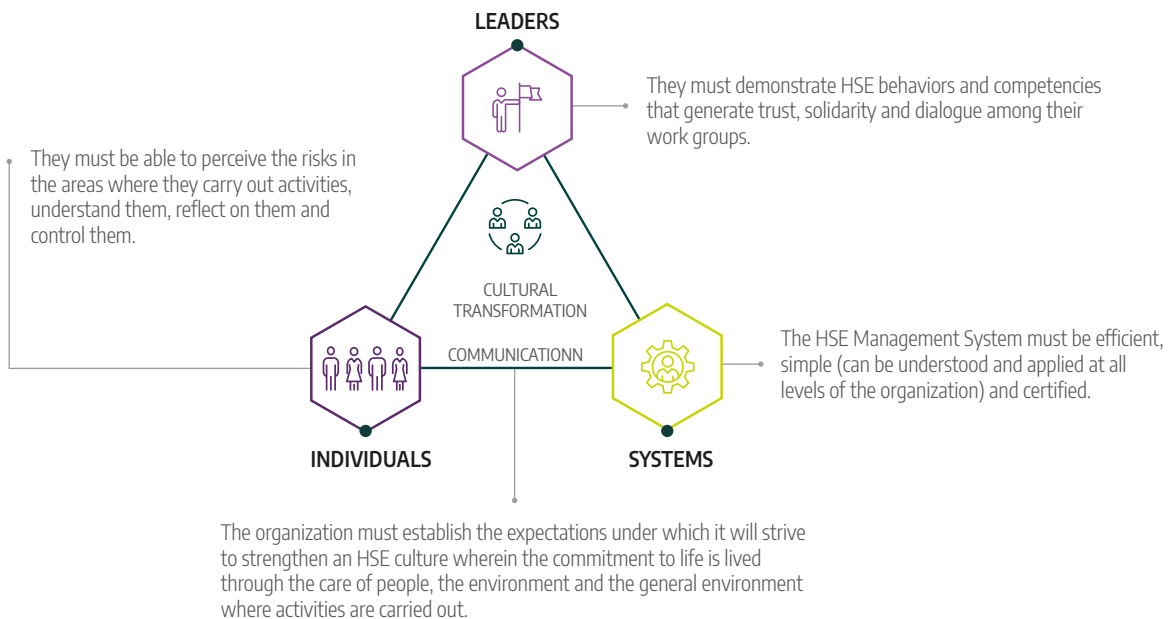
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SALUD OCUPACIONAL Y SEGURIDAD INDUSTRIAL

GRI | 103-1 |, | 103-2 |, | 103-3 |

The comprehensive management of occupational health and industrial safety of workers and contractors is a fundamental enabler throughout the links of the business. Consequently, Ecopetrol has a strategy that establishes three strategic axes and underpins the cultural transformation in Ecopetrol's HSE (Health, Safety and Environment).

The HSE strategy is monitored by the HSE Committee of the Board of Directors of Ecopetrol, which met twice in 2019, in order to guarantee its alignment with the statements the Company has made regarding safe, healthy operations and a responsible environment.

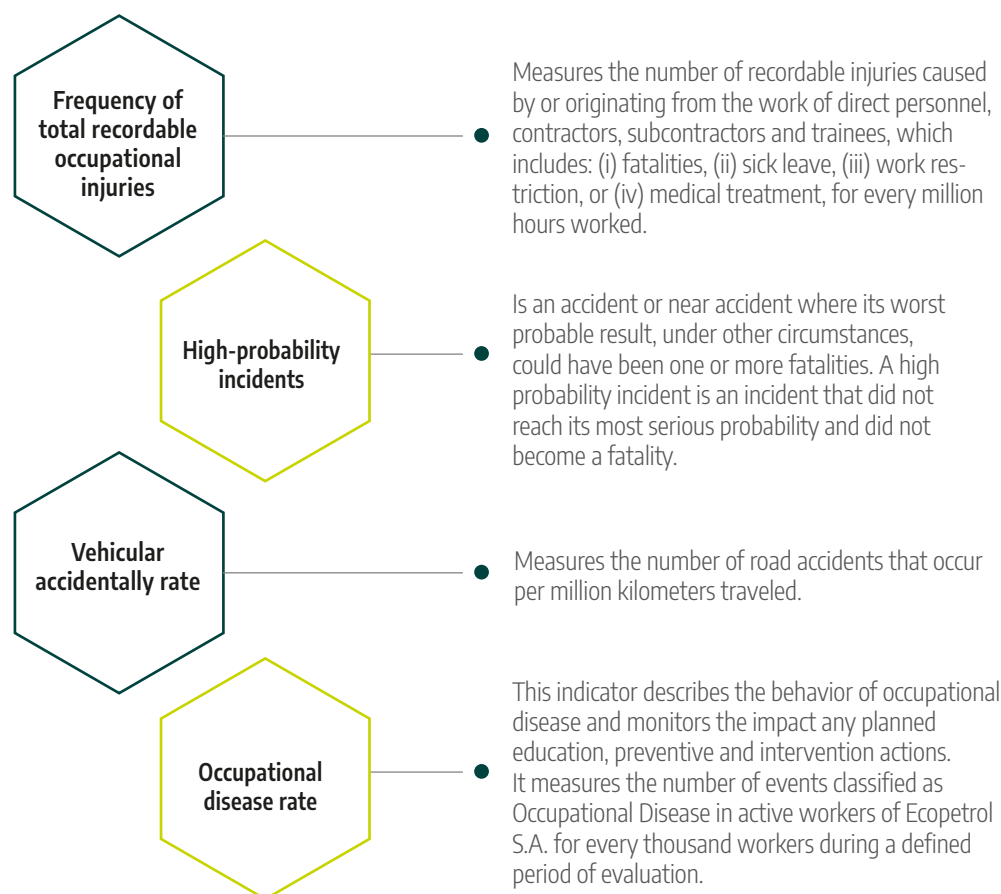


Ecopetrol has defined a value promise that compiles with the commitments that we as workers have regarding the care for people, Ecopetrol and the country. In this way it establishes:

Because we protect people's lives and the environment with the highest standards of safety and health at work

Ecopetrol has been implementing the highest international HSE standards in all operations in order to guarantee operational excellence and, therefore, safe, healthy and environmentally responsible operations.

The main indicators on occupational health and industrial safety management at Ecopetrol are:



RISK PREVENTION AND CARE MANAGEMENT

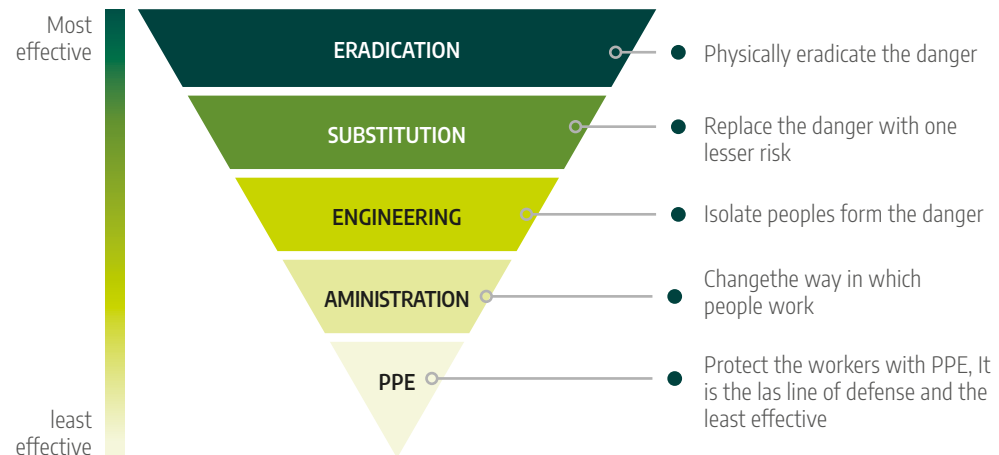
Everyone must be able to distinguish the risks in the areas where they perform their activities, understand them, reflect on them, control them and, in general, take care of themselves and of others.

Dangers are present in all our activities, and therefore it is important to first identify the different types of hazards (electrical, *in situ*, chemical, physical, among others) and the source of the dangers, which may originate

from people, the activity, the work environment, tools and equipment, and / or materials.

Once the dangers and risks have been identified, their handling/management should be determined, which may be to avoid, accept, reduce or transfer it; then the risk is assessed, and finally, the controls or barriers to prevent it are established. The types of controls are shown below.

Figure 41.
Types of controls
or barriers



Source: Ecopetrol, HSE Management

In order to effectively manage risks, the following is required:

- Note and reflect on the dangers associated with the activity and the risks derived therefrom.
- Identify good practices and safe habits, potential improvements and unsafe acts.
- Discuss, highlight and celebrate good practices, communicate deviations and agree to their eradication.
- Verify that risk is controlled at all times.

OCCUPATIONAL HEALTH DISEASE MANAGEMENT

Occupational diseases

Work-related illness or disease is understood as that which is contracted as a result of exposure to risk factors inherent in the work activity or the environment

in which the worker is forced to work according to Law 1,562 of 2012. Table 17 presents the results of the behavior of the occupational disease rate.

Table 17. Behavior of the occupational disease index in active Ecopetrol workers per 1,000 workers

Incidence rate of occupational illnesses (workers) *	2015	2016	2017	2018	2019
Men	8.2	3.2	1.8	1.5	0.4
Women	3.9	1.5	1.5	3.7	0.0
Total	7.3	2.8	1.6	2.0	0.3

Source: Ecopetrol, HSE Management

* The occupational disease index refers exclusively to new cases.

It should be noted that during 2019 there were no NEW occupational disease incidents in Ecopetrol women.

Expression of interest regarding work-related hazards

A work-related hazard (EIO for its Spanish acronym) is a permanent or temporary pathological state that has been diagnosed by the health professional and is of interest because it may be related to the type of work performed by the worker, but has not yet been classified as an occupational disease or work-related illness; in other words, it is still considered a disease of common origin. Within this the EIO framework, the following concepts are applied:



Probable EIO case: the case of a worker who has one or more ICD 10 diagnoses (International Statistical Classification of Diseases and Related Health Problems) that, according to the risks present in the jobs performed by the worker, could be related to the working conditions and needs to be reviewed to determine if, due to a causal relationship, it becomes a confirmed EIO case. The diagnoses may be extracted from the table of occupational diseases for Colombia and from Ecopetrol's Occupational Epidemiological Surveillance Systems.



Confirmed EIO case: the case of a worker who has one or more ICD 10 diagnoses, who has been entered as a probable case and who, from the study and analysis of their causal relationship with occupational risk factors regarding the job or class of work performed by the worker for Ecopetrol, has been confirmed as a disease of occupational interest.

The cases of absenteeism or morbidity of the workers who show occupational interest must be managed, because they can impact health conditions at work and productivity in the Company.

GRI | 403-2 |

Frequency index of work-related hazards

The Absenteeism Frequency Index of occupational disease of interest for 2019 was 1.7 events for every million person-hours worked for the entire organization (see Table 18). In the case of men, the frequency rate of occupational disease

of interest increased from 1.1 in 2018 to 1.8 in 2019, impacted mainly by diseases of the musculoskeletal system, relevant for 86% of cases, since these pathologies could be related to ergonomic hazards in work environments.

Table 18. Absenteeism frequency rate for work-related hazards, distributed by gender.

	2015	2016	2017	2018	2019
Men	1.1	1.0	1.1	1.1	1.8
Women	1.7	1.9	1.7	1.6	1.3
Total FI for EIO	1.75	1.62	1.5	1.5	1.7

Source: Ecosalud - Occupational Health Viewer web

* Events in the frequency index correspond to information prior to the application of the entirety of the Guidelines for the definition and management of work-related hazards - EIO.

Severity index of work-related hazards- EIO

The severity index for the year 2019 decreased by 51.23% compared to 2018, explained by the lower impact on diseases of occupational interest in men (see Table 19).

Table 19. Severity Index of the absenteeism for work-related hazards, distributed by gender*

	2015	2016	2017	2018	2019
Men	20.4	38.2	32.6	37.9	17.9
Women	12.4	10.2	1.0	5.9	7.6
Total FI for EIO	18.8	37.0	25.0	29.98	15.36

Source: Ecosalud - Occupational Health Viewer web

* Events in the frequency index correspond to information prior to the application of the entirety of the Guidelines for the definition and management of work-related hazards - EIO.

ACCIDENT RATES

GRI | 403-2 |

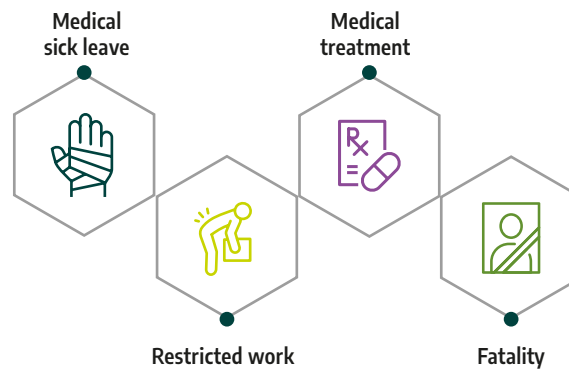
Accident rates corresponds to injuries that result in medical sick leaves, restricted jobs and medical treatments, which occur for every million hours worked.

The criteria applied to determine the accident index are those established in OSHA 29 CFR 1904.4- 7, independent of the work accident classification according to the Colombian

legal framework, which is operative for all labor and legal aspects of the country.

Accidents and accident frequency rates

The Recordable Injury Rate per Million Hours Worked measures the number of recordable injuries caused by the worker or caused by the work of direct personnel, contractors, subcontractors and trainees, such as:



Recordable injury frequency rate

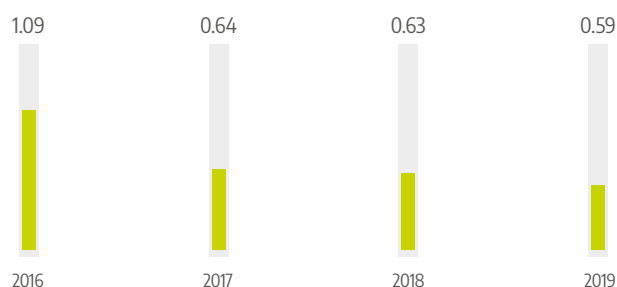
The combined recordable injury frequency rate (workers and contractors) showed an improvement, and has been the best result of the Company's in the

past years. However, the index increased for Ecopetrol's own workers. The results of the recordable injury frequency indices are shown below (see Figures 42, 43 and 44).

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Figure 42.

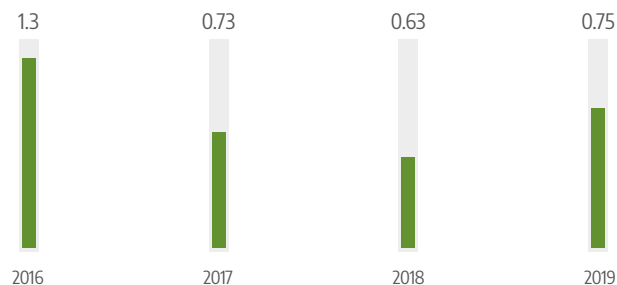
Frequency Index of total recordable injuries - workers and contractors



Source: Ecopetrol, HSE Management

Figure 43.

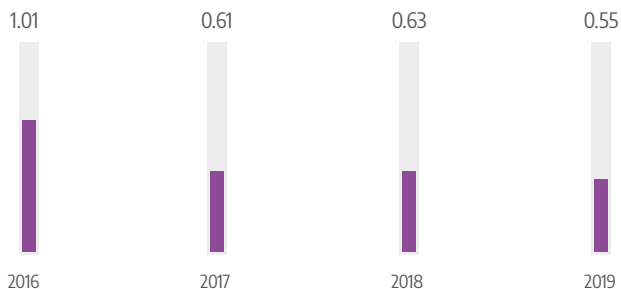
Frequency Index of total recordable injuries - direct Ecopetrol workers



Source: Ecopetrol, HSE Management

Figure 44.

Frequency Index of total recordable injuries - contractor workers



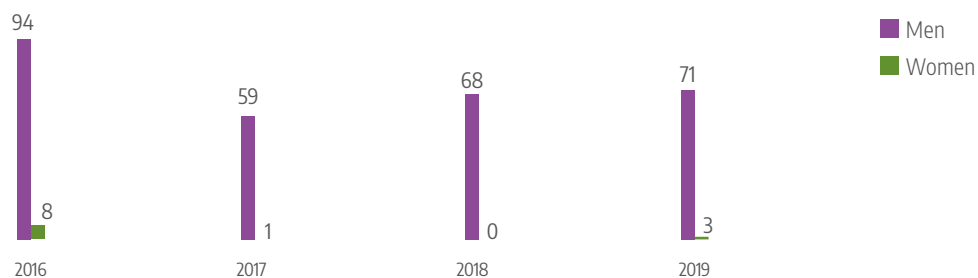
Source: Ecopetrol, HSE Management

Distribution of the number of accidents

Although the frequency of recordable accidents decreased for 2019, the severity of the events had a significant increase owing to the occurrence of three fatalities (see Figures 45, 46 and 47).

Figure 45.

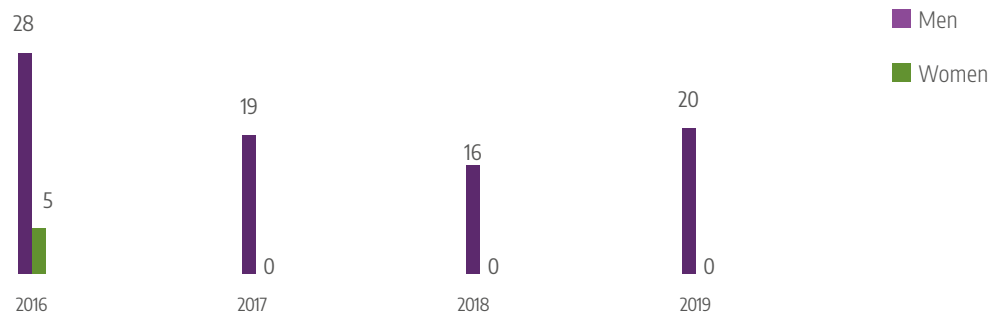
Distribution of the number of accidents by gender - workers and contractors



Source: Ecopetrol, HSE Management

Figure 46.

Distribution of the number of accidents by gender - Ecopetrol workers



Source: Ecopetrol, HSE Management

Figure 47.

Distribution of the number of accidents by gender - contractor workers



Source: Ecopetrol, HSE Management

Although the frequency of recordable accidents decreased for 2019, unfortunately the severity of the events had a significant increase given that three fatalities occurred, which is evidenced in the behavior of the Severity Index in 2019.

GRI | 403-1 |, | 413-1 |

OCCUPATIONAL HEALTH COMMITTEES

There are 12 Joint Occupational Health Committees - COPASOS and 34 Local Occupational Health Committees - COLOSOS, operating in the entirety of the Organization (administration and worker representatives).

COPASOS: are advisory bodies created to promote and monitor compliance with Occupational Health Programs.

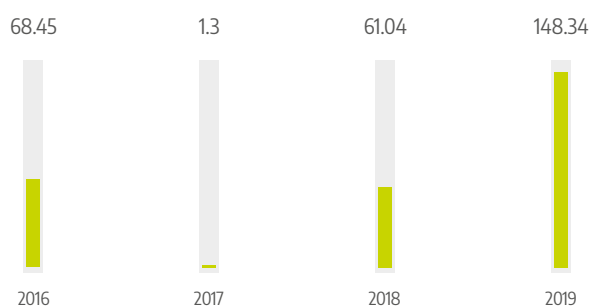
COLOSOS: mechanism of participation for the workers' representatives to collaborate jointly with the Administration in activities for the promotion, prevention and control of occupational risk factors. This is carried out through measures and solutions within their scope or, alternatively, through proposals before the competent authorities.

The percentage of workers represented through COPASO* and COLOSOS is 100%. ■

*For the purposes of the Collective Labor Agreement, the abbreviation COPASO, is kept versus the COPASST referred to in national legislation.

Figure 48 represents the Severity Index of recordable cases, including fatalities that corresponds to the number of days lost per million hours worked, where one fatality adds 6,000 days lost.

Figure 48.
Behavior of the Severity Index of recordable cases



Source: Ecopetrol, HSE Management

Absenteeism

The Occupational Absenteeism Rate (TAL for its Spanish acronym) corresponds to those events that have been determined to be of work origin. The cases wherein absenteeism due to that cause occurred in 2019 (see Table 20), must have been classified as of work origin in previous periods.

Table 20. Occupational Illness Absenteeism Rate by events per 1,000 workers

	2015	2016	2017	2018	2019
Men	1.7	2.3	2.0	2.7	3.0
Women	3.9	3.0	8.3	6.9	8.2
Total absenteeism rate	2.2	2.5	3.4	3.7	4.2

Source: Ecosalud - Occupational Health Viewer web

Alternatively, for 2019, the absenteeism trend due to occupational illnesses characterized by lost workdays increased both in frequency and in severity, mainly seen in the female gender and corresponding to 64% of

the events classified under Mental and Behavioral Disorders, and Musculoskeletal and Nervous System Disorders, with 88% of the lost workdays classified into these three diagnostic groups (see Table 21).

Table 21. Occupational Illness Absenteeism Rate by lost workdays per 1,000 workers

	2015	2016	2017	2018	2019
Men	35.9	59.9	23.3	13.7	13.0
Women	91.2	32.9	23.4	14.7	47.8
Total absenteeism rate	48.5	53.9	23.3	13.9	21.0

Source: Ecosalud - Occupational Health Viewer web

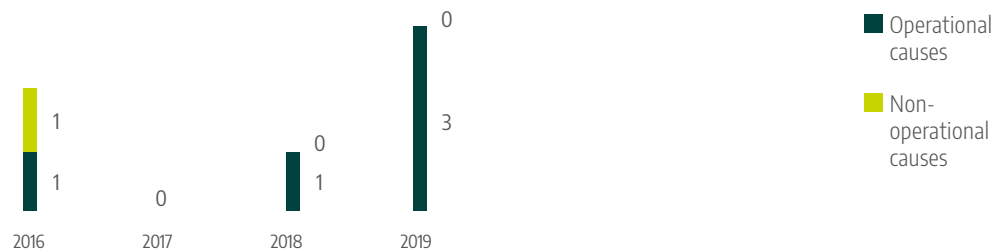


Fatalities of direct workers and contractors

Ecopetrol mourns the death of Juan Carlos Campillo Sarmiento, Supervisor of the Barrancabermeja Refinery; Noel Salazar Ballestas, *Cuñero* in the Cantagallo drilling area; and Jhonnatán Andrés Sánchez, Technician in the subsoil production area.

Figure 49.

Fatalities of direct workers and contractor workers due to operational and non-operational causes

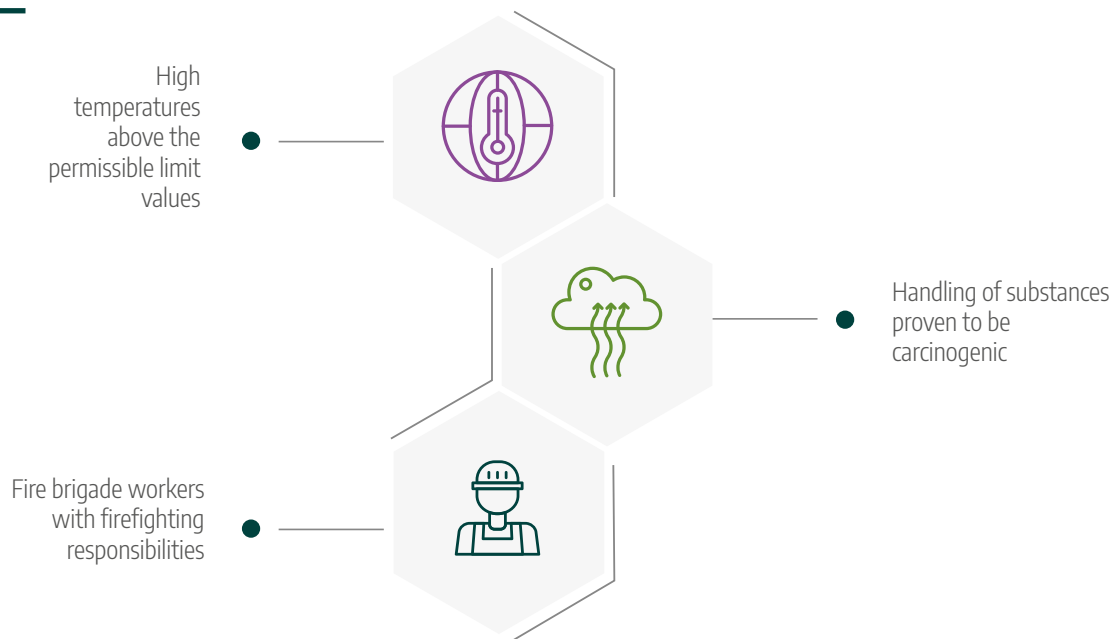


Source: Ecopetrol, HSE Management

GRI | 403-3 |

WORKERS WITH
HIGH-RISK OR
INCIDENCE
OF DISEASES
RELATED TO
THEIR ACTIVITY

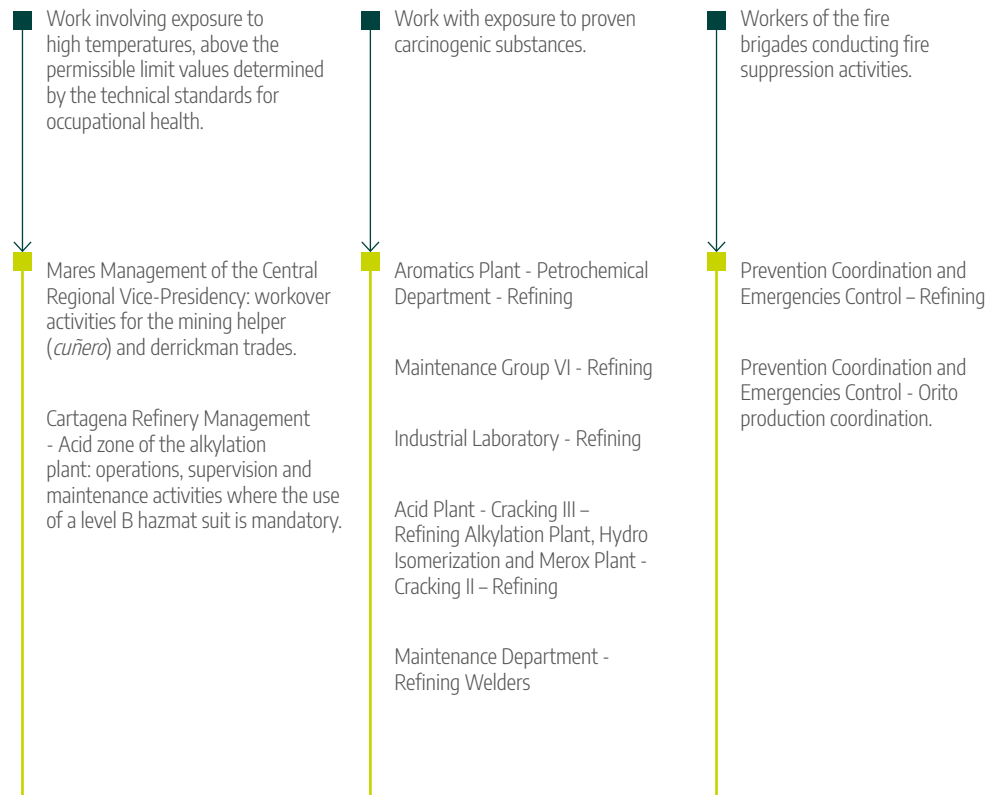
Decree 2090 of 2003, extended for ten years by Decree 2655 of 2014, establishes a series of activities considered high risk. In compliance therewith, Ecopetrol identified as high-risk those activities related to:



The following describes the areas of the Company where high-risk activities are carried out, in accordance with current regulations:

Figure 50.
High-risk activities identified

- High-risk activity
- Area of the Company



Source: Ecopetrol, HSE Management

GRI | 403-3 |

For these activities, in addition to making the additional legal contributions required by law, there are specific risk mitigation and epidemiological

surveillance programs, which resulted in zero cases of Occupational Diseases associated with the activities related herein in 2019.



PSYCHOSOCIAL RISK

Ecopetrol identifies and evaluates psychosocial risk, complying with the provisions of Resolution 2646 of 2008, applying the battery of instruments for the assessment of psychosocial risk factors recommended by the Ministry of Labor, through which intra-occupational, overtime and stress risks are identified and assessed. Based on these, the corresponding intervention plans are defined and implemented.

Actions were carried out that improve the quality of life of our workers, through 68 intervention plans, wherein emphasis was given to strategies of assistance and individual intervention, which in turn, strengthened our worker's personal resources.

Some of the actions carried out during 2019 are listed below:

• 01

Application of COPING scale to 771 workers, as an assessment instrument that allows identifying work plans regarding their work, personal and individual situations.

03

Conducted 493 workshops focused on topics that directly impact psychosocial factors such as: time management, use of free time, teamwork, stress management, solving problems and difficult situations, coping capacity and improvement of mental health, among others.

05

Training on Mental Health and Psychosocial Factors to the members of the Joint Occupational Health Committees through the Ecopetrol University, through courses provided by the Universidad Javeriana.

07

Participated in suicide prevention and "hug therapy" campaigns (the importance of the hug) on World Mental Health Day.

• 02

Provided psychosocial counseling to 1,662 workers, individual intervention that allows delving into manifestations of psychosocial conditions in and outside of work, and provides them with strategies and tools to strengthen their personal resources.

04

Psychosocial support through the help line (*Linea Amiga*) targeted to direct Ecopetrol workers, administering to 402 people during the year.

06

Participating in promotion and prevention activities in the *SemanaSO*, reaching approximately 1,000 workers nationwide.

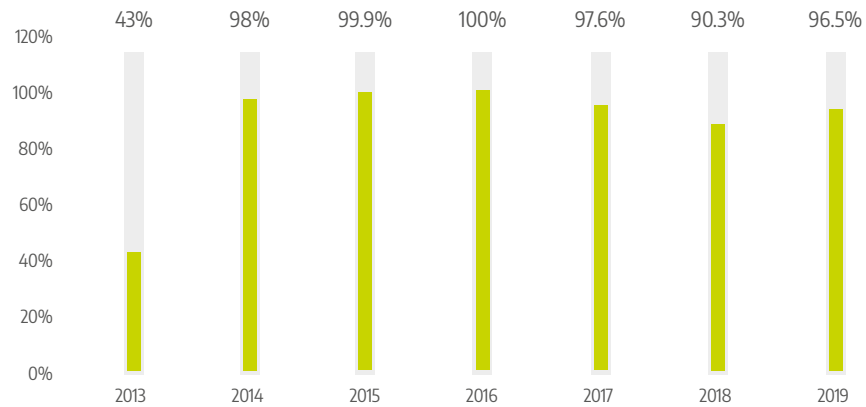
08

Campaign to promote and prevent the consumption of psychoactive substances "*Pacto con la vida*", a reaching approximately 600 people.

Intervention **plan results have remained above 90% in recent years** and compliance increased compared to 2018.

The execution of the intervention plans is part of the risk management conducted by the business areas within the psychosocial risk intervention framework (see Figure 51).

Figure 51.
Comparison of the compliance percentage of psychosocial intervention plans



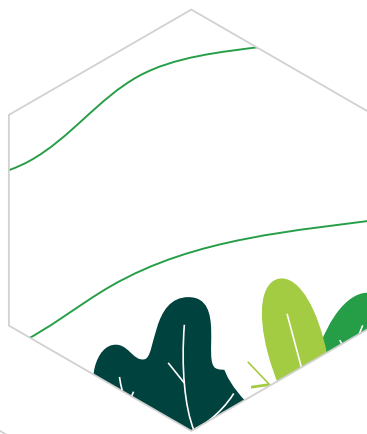
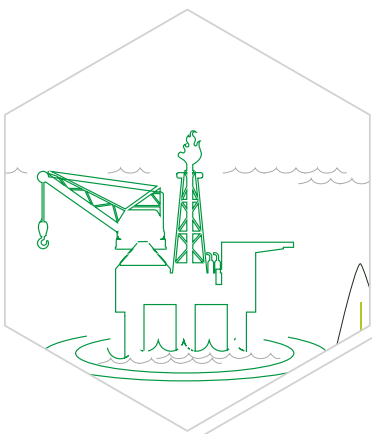
Source: Ecosalud - Occupational Health Viewer web

PROCESS SAFETY

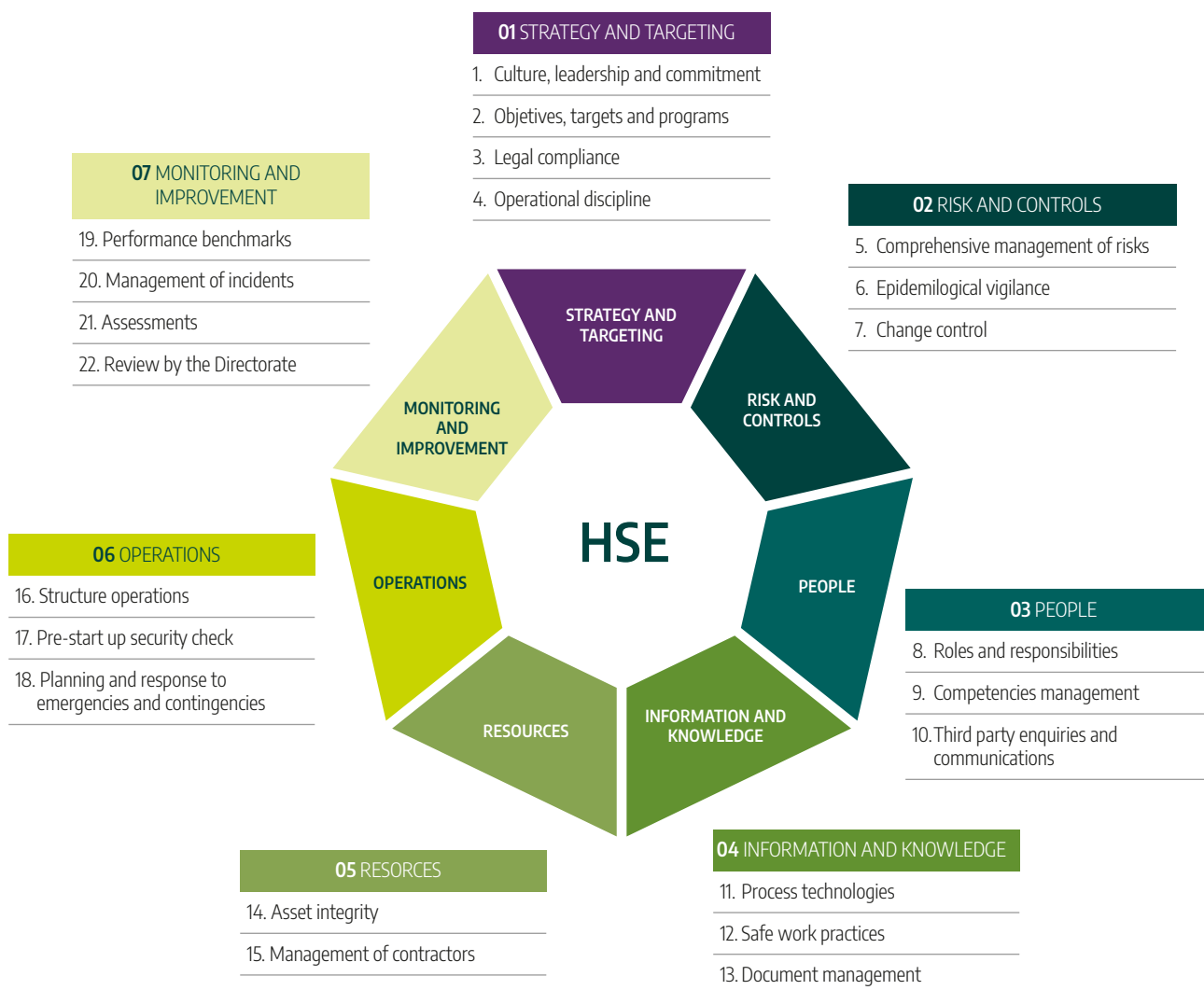
GRI | 103-1 |, | 103-2 |, | 103-3 |

Process Safety at Ecopetrol aims to reduce the frequency and impact of incidents caused by containment loss of unplanned or uncontrolled of dangerous

substances or energy release with the potential to cause harm to people, the environment, to infrastructure or the Company's reputation.



To ensure this implementation, we have an HSE Management System that is comprised of the process safety elements listed below:



Ecopetrol has a process to **record, investigate and implement** corrective actions that result from process safety incidents, ensuring that **lessons learned** are incorporated therein, thus reducing the probability of recurrence and improving performance.

Process Safety Incidents TIER classification

Table 22. Number of Process Safety incidents classified by TIER level

No. of Incidentes	2016	2017	2018	2019
TIER-1	6	5	5	4*
TIER-2	11	15	13	15
TIER-3	941	906	888	899
TOTAL	958	924	906	918

Source: Ecopetrol, HSE Management

*Description of TIER-1 Incidents

No.	Description
1.	The flare system had a high level of liquid in its drum, consequently the gas volume to the flare decreased, which caused the flame to go out, resulting in gas emissions and hydrocarbon overflow.
2.	Separators present high levels, affecting process tanks and shutting down the flare. Evacuation alarm is sounded for associated personnel and the flare drum drain control is activated.
3.	Worker suffered a burn from the sudden discharge of condensate steam that occurred because of a flange that was being worked on
4.	The presence of naphtha is detected in the vicinity of the naphtha duct. The fluid is displaced by a water runoff that flows to the gutter.

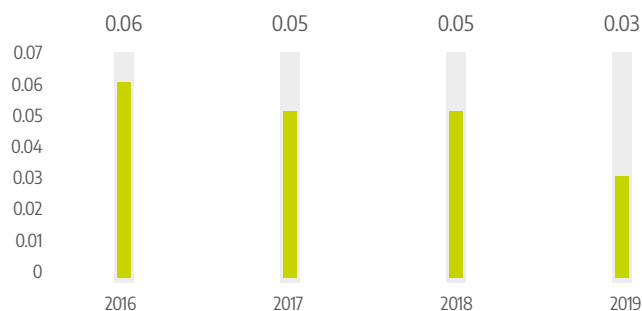
Source: Ecopetrol, HSE Management

IFSP - Process Safety Incident Frequency Rate

The Process Safety Incident Frequency Index (IFSP for its Spanish acronym) details the number of Process Safety accidents that exceed the TIER-1 API 754 threshold / total

person-hours worked per 1 million. The improvement in the performance of this indicator in 2019 is due to fewer process safety accidents for every million hours worked.

Figure 52.
IFSP Process
Safety Incident
Frequency Rate



Source: Ecopetrol, HSE Management

Progress in the asset integrity monitoring and maintenance program

Critical equipment for process safety that have an inspection, testing and preventive maintenance plan: 90.1%.

Compliance with the process safety of critical equipment inspections, tests and preventive maintenance program: 99%.

182

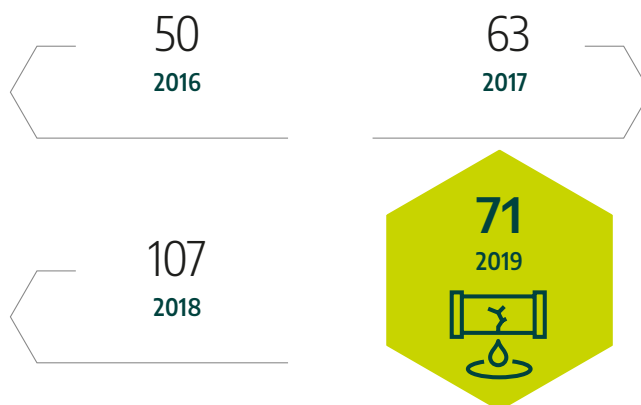
ATTACKS ON INFRASTRUCTURE

In 2019, there were 71 attacks against Ecopetrol's infrastructure, 42 on the Caño Limón Coveñas Pipeline (OCC for its Spanish acronym), 23 on the Transandino Pipeline

(OTA), 2 on the Mansoyá Orito Pipeline (OMO), 1 on the San Miguel Orito Pipeline (OSO) and 3 on the production infrastructure in the municipalities of Tibú and Orito.

Figure 53.

Attacks on Ecopetrol infrastructure



Source: Ecopetrol, Vice Presidency of Sustainable Development

The main target of the attacks was the OCC. The damages caused to this system decreased by 53% compared to 2018, resulting in 660,052 barrels of deferred production in the operation in 2019. However, due to the area's conditions, a longer time was required to repair the damage caused by these events.

Management of impacts generated by third parties

The Physical Security area has a plan in place that is implemented to mitigate the impacts generated by third parties when an attack occurs which results in loss of containment, whether this attack is reported by the community, law enforcement agencies or identified in the selfsame operation.

Integrated actions have been determined within Ecopetrol's areas to ensure timely reaction through employment of the

emergency plans, such as containment barriers and protection of water sources. Permanent and operational points for critical point reactions have been identified, as well as protection and surveillance provided by public law enforcement forces to guarantee the security of the area and avoid potential harm to those workers who carry out the repair.

With regard to the environment, once the event's location, magnitude or level of impact has been established and the area has been secured by physical security personnel, the Contingency and Emergency Plan is activated and executed. This plan established contingencies due to oil spills or substances that have certain effects on the environment or impact biodiversity, including the following activities:

• 01

Containment: mechanical and / or absorbent barriers are installed.



• 02

Collection: of the hydrocarbons or substances spilled as a result of the attack, which are then transported to the operating areas.



• 03

Cleaning: with biodegradable material, absorbent fabrics, hydro-washes, among others.

04

Environmental monitoring and inventory: of the biodiversity impacted and its future management.

05

Report to environmental authorities: on the location and scope as established by current national environmental regulations.

In accordance with the provisions of Decree 321 of 1999, when events take place which are the product of attacks, thefts or actions by third parties, the restoration or recovery of the area or the biodiversity impacted is the responsibility of the national government. Therefore, in these cases, assistance is provide up to the

clean-up, inventory of affected biodiversity, and report to the respective environmental authority stages. However, in certain cases, environmental authorities have requested that Ecopetrol comprehensively recover or restore the area affected by this third party impact, including the affected biodiversity, based on a restoration plan.

Ecoreserva La Tribuna, department of Huila





Cusiana Field, Casanare department



PROCUREMENT

...

GRI | 102-9 |, | 103-1 |, | 103-2 |

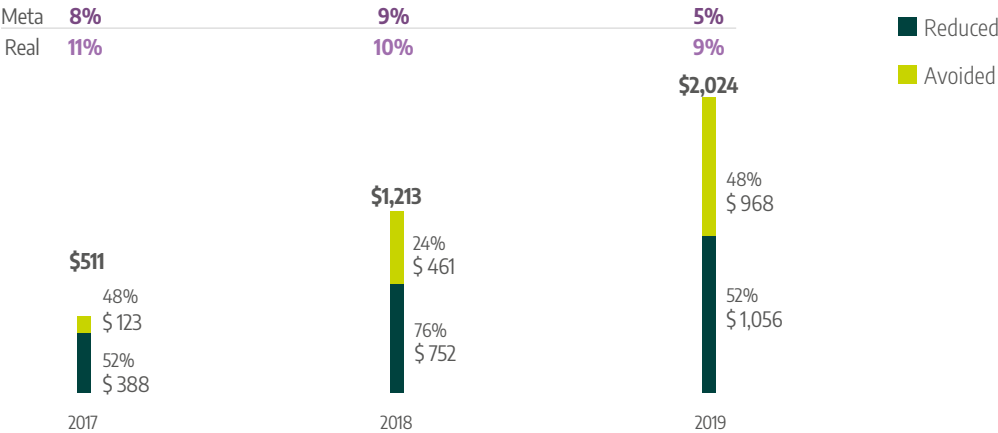
The contracting of goods and services at Ecopetrol is carried out through transversal procurement strategic model, strengthening the supply chain in order to ensure the effective, responsible and long-term sustainable supply of goods and services, segmenting in terms of cost, opportunity, quality and level of risk. The model does not apply to raw materials and products, financial operations, new businesses, supply chain, management of agreements and sponsorships

and energy supply, since these areas have their own specific processes in place.

The model's effectiveness is measured by the timely provision of critical goods and services and the resulting savings and avoided costs.

Since the transformation of the supply model, which occurred in 2017, we have achieved accumulated savings of over \$3.7 trillion of pesos, exceeding the target of \$2 trillion of pesos.

Figure 54.
Resultant savings
from supply
management, 2019
Trillion of pesos



Source: Ecopetrol, Vice President of Procurement and Services

CONTRACTOR SELECTION AND PROCUREMENT MECHANISMS

Ecopetrol invites those potential suppliers who are able to meet its needs, taking account magnitude or complexity, and in accordance with its contractual procedures, to participate in its contractors selection process.

Participants are selected through different sources of information, such as market intelligence and the Ecopetrol Supplier Information System (SIPROE).

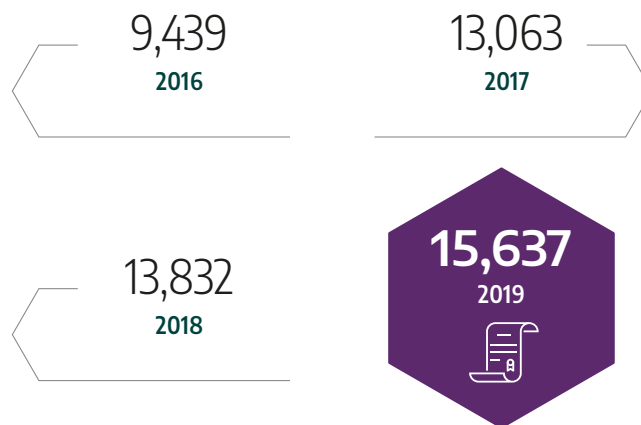
In 2019, Ecopetrol contracted with 5,018 SIPROE- enabled providers in the different categories of goods and services required, and carried out 6,679 selection process following the selection methodology.

The main criteria analyzed in the supplier accreditation stage include legal standing, experience, financial capacity, HSE conditions, performance, compliance with previous contracts, and commitment to ethics and transparency.

GRI | 103-3 |

In 2019, there were **\$2.0 trillion of pesos** savings generated, from the **\$14.6 trillion** managed. Of these savings, 63% (**\$1.3 trillion**) impacted CAPEX and 37% (**\$0.7 trillion**) corresponded to OPEX. The most significant savings were in Drilling, Completion and Subsoil Services (**16%**), Purchases (**11%**) and Maintenance (**10%**). This amount saved includes all activities carried out by the Procurement area. ■

Figure 55.
Number of contracts
managed per year



Source: Ecopetrol, Vice Presidency of Procurement and Services

These contracts correspond to contracts for goods and services in force in each year (concluded, executed or in the closing stage).

Table 23. Number of contractors at the end of each year, who serviced the contracts

Origin	2016	2017	2018	2019
Domestic	3,527	3,628	3,575	3,660
Foreign	145	184	242	266
Total	3,672	3,812	3,817	3,926

Source: Ecopetrol, Vice Presidency of Procurement and Services

PUBLICIZING ITS PROCUREMENT MECHANISMS

Ecopetrol publicizes its contracting of goods and services through:



WEBSITE

(www.ecopetrol.com.co/wps/portal/es), with a specific section for suppliers and contractors that provides the information on relevant regulations and main changes in the Procurement Process.



SUPPLIER SITE IN SAP

Comprised of the SIPROE-SLC, SRM and SUS modules, where suppliers submit their portfolios of goods and services, receive electronic offers and file the documents of the contractual execution.

100% of the offers received in Ecopetrol are submitted electronically, are saved in the system and become unchangeable after the term for their receipt has expired.

ETHICS, TRANSPARENCY AND COMPLIANCE OBLIGATIONS IN CONTRACTING

Ecopetrol requires its contractors, workers and companies that hire them to strictly comply with ethical principles and regulations regarding conflict and interest prevention, fraud, corruption, bribery, money laundering, financing of terrorist activities and restrictive free competition practices.

All Ecopetrol contractors declare to understand and comply with the obligations of ethics, transparency and compliance in

contracting, which are an essential part of the contract details and include, among others: Code of Good Governance, Code of Ethics and Conduct, anti-bribery laws, accounting regulations and implementation of internal control mechanisms. Failure of contractors, their workers, subcontractors, suppliers, agents and their respective workers to comply with ethical, transparency and compliance obligations, results in the termination of their contract with Ecopetrol and the companies of the Ecopetrol Group.



GRI | 204-1 |

TOTAL AMOUNT OF PROCUREMENT, ECOPETROL

Of the total acquisitions of goods and services made by Ecopetrol in 2019, 96% correspond to purchases and contracts with domestic suppliers and the remaining 4% with foreign suppliers, for a total amount of \$13.4 trillion of pesos.

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Table 24. Total procurement in Ecopetrol, in pesos*

Origin of Supplier	Amount 2016 (\$)	Amount 2017 (\$)	Amount 2018 (\$)	Amount 2019 (\$)
Foreign	\$ 440,349,590,239	\$ 560,312,191,574	\$ 338,376,995,881	\$ 486,974,439,366
Domestic	\$ 9,984,741,842,891	\$ 9,003,743,520,566	\$ 10,102,266,315,612	\$ 12,882,710,288,371
General total	\$ 10,425,091,433,130	\$ 9,564,055,712,140	\$ 10,440,643,311,493	\$ 13,369,684,727,737

Source: Ecopetrol, Vice Presidency of Procurement and Services

* Excludes contracting with Ecopetrol Group companies, reimbursable expenses, agreements and sponsorships

LOCAL PROCUREMENT

Ecopetrol encourages the acquisition of local goods and services as a lever for generating shared prosperity in the regions, and encourages its suppliers to procure locally the required goods and services.

In 2019, Ecopetrol increased by 6% its contracting for local goods and services, totaling \$7.2 trillion of pesos with suppliers domiciled in the selfsame municipality or department where the contract is executed.

Table 25. Distribution of national procurement*

Local procurement in general commercial environment (Amounts en pesos)	2018	2019
(A) Local procurement in general commercial environment	\$ 5,106,717,402,056	\$ 7,299,754,112,650
(B) Procurement - rest of country	\$ 4,995,548,913,555	\$ 5,582,956,175,721
Procurement A + B	\$ 10,102,266,315,611	\$ 12,882,710,288,371
Percentage of local procurement	51%	57%

Source: Ecopetrol, Vice Presidency of Procurement and Services

* Excludes contracting with Ecopetrol Group companies, reimbursable expenses, agreements and sponsorships

LOCAL RECRUITMENT AND SELECTION MECHANISMS

GRI | 102-16 |

In 2019, obligations for “Encouraging Local Offerants” were included in 251 contracts, including production chains, training of local suppliers and strategies for the mitigation and prevention of environmental events.

Additionally, the local business directories were updated through the LOCAL APP, which includes more than 136,000 Company records with potential to provide services associated with the Oil & Gas industry, represented in 200 municipalities and 16 departments nationwide.

LOCAL SUPPLIER DEVELOPMENT

In 2019 Ecopetrol continued supporting the following initiatives:

- **SACUDETE Centers**
(health, culture, sports, technology and entrepreneurship), in the municipalities of Puerto Wilches (Santander), Guamal (Meta) and Orito (Putumayo), an initiative of the National Government to promote entrepreneurship through creativity, knowledge and innovation, with 560 people benefited.
- **Workshops on closing HSE gaps**
(SG- SST Management Systems), held in 12 municipalities in the country, benefiting 461 people.

COORDINATION WITH ACTORS TO MITIGATE REGIONAL CONFLICT

Ecopetrol incorporates its efforts to those of institutions and business associations at the national and local levels focused on mitigating conflicts that occur regionally, associated with the contracting of local goods and services:



Territorial Hydrocarbon Strategy (ETH) under the responsibility of the National Hydrocarbon Agency (ANH), providing workshops to strengthen businesses in the towns where Ecopetrol has operations.



Cooperation with CAMPETROL and its associates to promote the contracting of goods and services with local entrepreneurs.

HIRING OF LOCAL LABOR

In 2019, Ecopetrol's suppliers hired 35,711 workers, of which 83% (29,462 workers) are local labor.

Table 26. Number of workers of Ecopetrol contractor companies

Distribution of contractors' workers by origin (number of workers)	2016	2017	2018	2019
Local workforce*	22,878	20,169	29,202	29,462
Non-local workforce**	3,750	4,112	5,603	6,249
Total	26,628	24,281	34,805	35,711
Percentage of local workforce	86%	83%	84%	83%

Source: Ecopetrol, Vice Presidency of Procurement and Services

* Local workforce: suppliers whose domicile is in the same place where the contract is executed

** Non-local workforce: suppliers whose domicile is in other regions of the country

Of the total indirect jobs generated by Ecopetrol during 2019, 20% benefited women, of which 23% are heads of household. A great share of the jobs generated comprised the younger population, between 18 and 28 years of age (7,379 jobs).

Regarding the "prioritization of local labor", Ecopetrol acts in accordance

with the provisions of Colombian legislation, Decree 1668 of 2016, in its development of hydrocarbon exploration and production projects.

In the event that the required manpower is not found in the municipality where the projects are carried out, it will be sought in the neighboring municipalities.

Therefore, Ecopetrol imposes a contractual obligation on its contractor companies to comply with the following principles of the abovementioned legislation:

• 01

For 100% of unskilled labor to be from the region where the hydrocarbon exploration and production projects are carried out. However, it should be noted that not all contracts signed by Ecopetrol and executed by contractor companies are carried out in municipalities where hydrocarbon exploration and production projects are carried out.

• 02

For 30% of the skilled labor to be from the municipalities where production and exploration projects are carried out; a workforce that today corresponds to over 70% of total workforce.

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In this manner, Ecopetrol is always in the forefront regarding compliance, respecting national provisions.

SUPPLIER MANAGEMENT

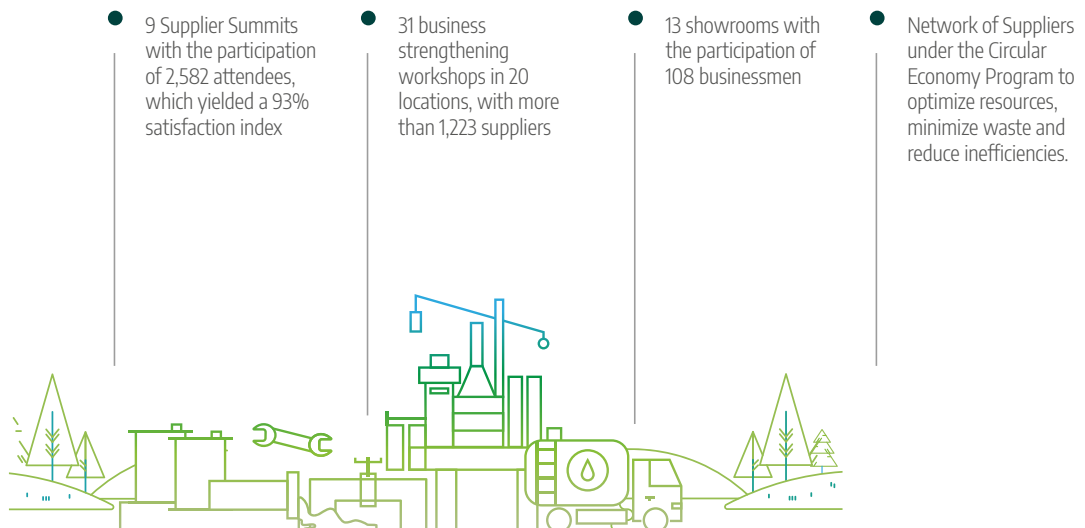
SUPPLIER SEGMENTATION

Ecopetrol segments its suppliers according to their procurement cost and the risks and impacts in the development of the business strategy (Strategic, Core, Lever and Routine suppliers).

SUPPLIER ENGAGEMENT

GRI | 102-43 |

The main channels of engagement with suppliers during 2019 were:



Ecopetrol migrated to Performance Review Meetings (PRM 's) structures for strategic suppliers, which are those where 40% of this area's expenditure is concentrated. ■

SUPPLIER EVALUATIONS

Ecopetrol has a methodology for evaluating the performance of its suppliers, which ensures the execution of contracts and objectively establishes long-term business relationships.

Operational efficiency, fulfillment of deadlines, administrative issues, and environmental management criteria are evaluated to identify potential social matters, and HSE indicators are used to measure matters of occupational health, environment and safety.

PERCEPTION OF THE STAKEHOLDER GROUP - SUPPLIERS

Ecopetrol annually performs a perception analysis of the Supplier stakeholder group to identify opportunities for improvement and strengthen the mutual relationship. In 2019, 509 suppliers were surveyed 363 in-person and 146 online. The result was a 90% positive perception of the Suppliers stakeholder group and its workers, versus the target 80%. This represents an increase of 9.78% compared to 2018.

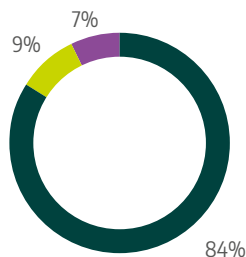
The main results of the survey are identified below:

Figure 56.

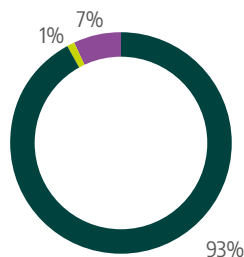
Results of perception of the Suppliers stakeholder group

■ Yes ■ No ■ Dk / Nr

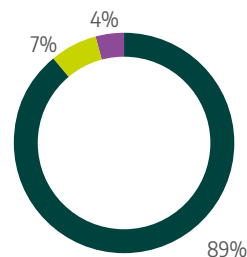
Do you consider the procurement process of the Ecopetrol's BG to be transparent?



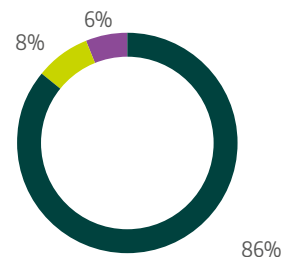
Are you committed to acting in an ethical and transparent manner?

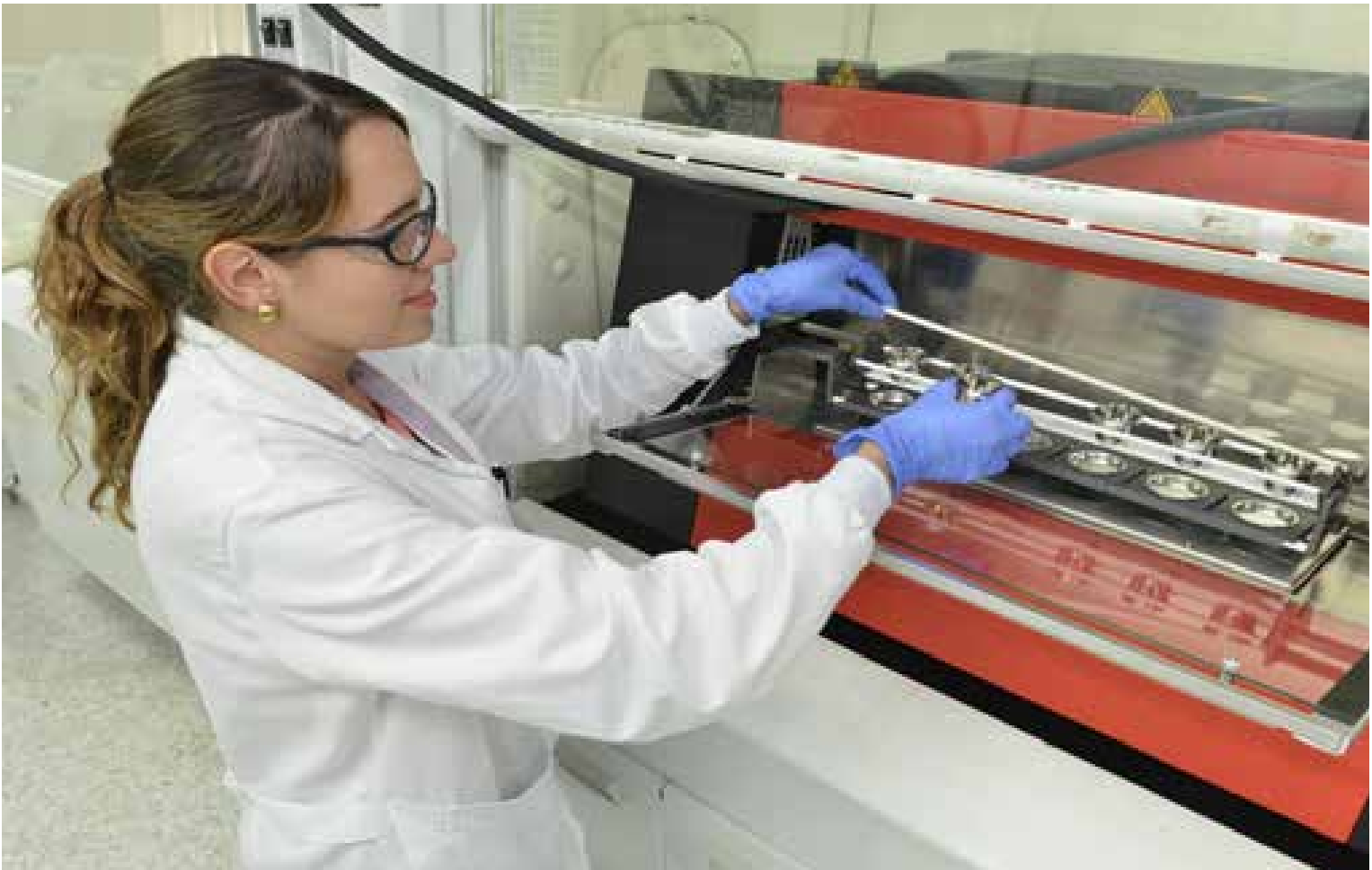


Does your company have a Code of Ethics?



Does your company have a compliance program?





Centro de Innovación y Tecnología ICP



INNOVATION, TECHNOLOGY AND DIGITAL TRANSFORMATION

...

Ecopetrol develops science, innovation and technology leveraged on two strategic areas: the Digital Vice Presidency, responsible for the digital transformation of the Ecopetrol Group,

and the Colombian Petroleum Institute, which focuses on generating understanding, research and the development of technologies inherent to our business.

TECHNOLOGY STRATEGY

The Technology and Innovation Committee of the Board of Directors, reviewed and commented on Ecopetrol's 2019 Technology Strategy, founded on four technology pathways and focused on attracting and retaining exceptional talent for its execution.

EXTENDING THE LIMITS FOR ECONOMIC GROWTH

- ◆ Successful exploration in areas with complex geology and the development of fields with technological barriers
- ◆ Reducing the break even in order to progress in the development of strategic fields
- ◆ Make a viable the exploitation of unconventional deposits (YNC)
- ◆ Development of offshore discoveries



CHAMPIONING SUSTAINABILITY

- ◆ Extending the fields' economic limits
- ◆ Energy efficiency in operations
- ◆ Optimizing refineries to improve the quantities of fuels
- ◆ Efficient and profitable production of petrochemicals and plant optimizations
- ◆ Transport efficiencies and solutions to future restrictions
- ◆ Providing clients with made-to-measure crude blends

- ◆ Energy diversification (solar, geothermal, and green hydrogen)
- ◆ Optimize water use (reuse, agroindustrial use, optimal quality)
- ◆ Decreasing fugitive emissions, zero flaring, and capture and use of CO₂
- ◆ Oil residue petrochemicals (asphalt binders, charcoal fossils, carbon fibers graphene)
- ◆ Stable and profitable production of ethanol, biodiesel, and biocetano

TOWARDS ENERGY TRANSITION AND CARBON NEUTRALITY

The technological pathways seek to:



Break techno-economic barriers to achieve successful exploration in areas with complex geology and for the profitable development of discovered resources.



Achieve greater efficiencies in operations, leveraged by technology.



Progress in the appropriation of technologies that enable the operation's decarbonization and the energy transition.



Progress in the digitization of operational processes and of the operations.

The business strategy seeks technological differentiation and adopts positions described as follows:

*"We incorporate technologies and develop key **Technological Differentiators** for the segments, with a view to generating and preserving **Competitive Advantages**."*

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In this sense, Ecopetrol seeks to be a Selective Technology Leader, in key issues for its business strategy, and to be a **Premium Follower** of key

technological developments for its results, such as digital technologies for the optimization of gross refining margin.

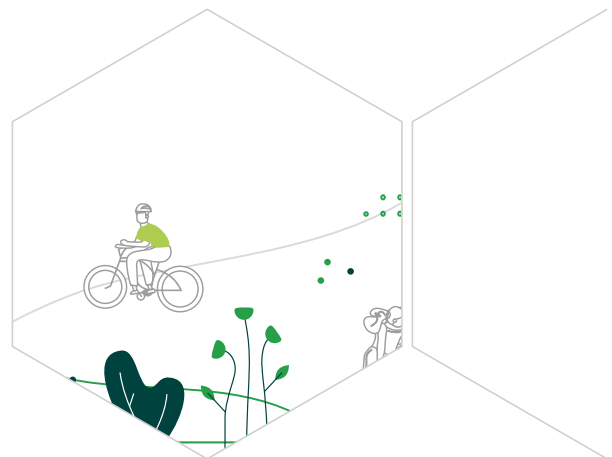
TECHNOLOGY AND BUSINESS INNOVATION PROCESS

The Technology and Innovation process has the following characteristics:

- Unique process that consolidate Business Technology and Digital Technology.
- Has the potential to be implemented in the Ecopetrol Group in the short and medium term.
- Guarantees consistency in the roles and responsibilities of the segments, without losing their distinctiveness.
- Allows systematic and standardized decision making regarding the incorporation of technology.

To make the strategy a reality, Ecopetrol has a Technology Plan, consisting of Technology Roadmaps (MRT for its Spanish acronym) for each business segment and for certain

transversal topics, such as decarbonization. The MRTs include the technology challenges and the actions that must be completed in order to fulfill with the business strategy.



CENTER OF INNOVATION AND TECHNOLOGY ICP

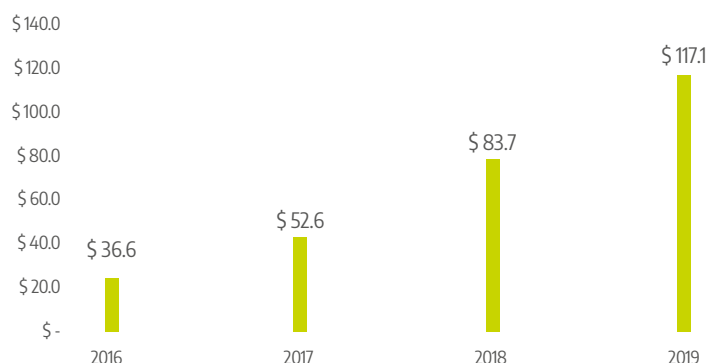
The main research, technological development and expository activities of new technologies from Ecopetrol and third parties are carried out through the Center

of Innovation and Technology ICP . In 2019, Ecopetrol invested \$117.1 trillion pesos in the ICP, which represents an increase of 40% compared to that of 2018 (see Figure 57.)

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Figure 57.

Center for Innovation and Technology (ICP) Investments and Expenses



Source: Ecopetrol, Center of Innovation and Technology ICP

In 2019, 10 new technological cooperation agreements were established for research, development, demonstration and innovation (R + D + d + i), with resources of \$25,467 million pesos. Most notable are agreements on the topics of recovery, geophysical exploration, optimization of production costs and energy

efficiency are highlighted. These agreements were subscribed with institutions such as: the *Red de Universidades del Nororiente Colombiano*, UNIREN (network of universities of the north east), and the Alexander Von Humboldt Biological Resources Research Institute.

Center of Innovation and Technology ICP



Ecopetrol is committed to strengthening regional universities in its areas of operational influence through long-term strategic alliances. The strengthening of the alliances established with the

Universidad Industrial de Santander - UIS, the Universidad de los Llanos, the Universidad Surcolombiana - USCO and the Santander Technological Units are highlighted, strengthen institutional capacities and promote an environment of sustainable growth in Santander, the Orinoquia and the Huila regions.

As a contribution to the *Mision de Sabios* (wise men mission) summoned by the national government, which defined a roadmap for the new Ministry of Science, Technology and Innovation, and a CTel agenda for the country, Ecopetrol promised to invest USD \$30 million certain of its suggested topics, which are aligned with the Company's strategy.

Additionally, we have a Digital Agenda that has over ten prioritized initiatives that can be addressed with fourth industrial revolution technologies and which we hope to execute over the next five years, with an investment of USD \$120 million.

TECHNOLOGY LICENSING

To strengthen regional and national technology-based companies, Ecopetrol grants licenses for the operational use or commercialization of some of its proprietary technologies. In this way, the portfolios of the licensee companies are enhanced and strengthened, improving their competitiveness, as well as those of regional and national economies.

The following technologies were licensed in 2019:



ECOTEB:

Technology to improve the quality of biodiesel, granting therefrom two licenses to national producers.



Well de-sanding tool:

Technology to remove sand bridges that form in oil wells, decreasing their productivity.



Dynamic crude de-sander:

Technology to remove surface solids that are produced along with crude and can corrode the separation equipment.



Effisflow:

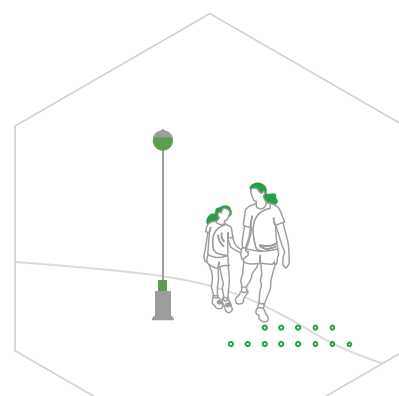
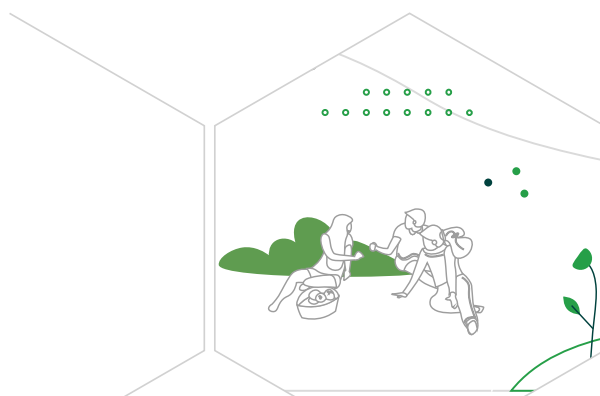
Digital technology based on edge computing to monitor energy efficiency of artificial lift systems.



Pressure-temperature system:

low cost tool to monitor pressure and temperature at the downhole.

As of December 2019, Ecopetrol had **46 technologies licensed** to national companies.



KEY TECHNOLOGY DIFFERENTIATORS

In 2019, Ecopetrol made progress in different R&D technological initiatives that will generate savings and efficiencies for its business segments. The following stand out:

- Conceptual engineering for central production facilities (CPF) in block CPO-09, based on technologies developed by Ecopetrol, which will provide over USD \$120 million CAPEX savings, avoid greenhouse gas emissions by eliminating heating processes, and operate with a lower dilution factor than the best commercially available alternative.
- Naphtha change for collection and dehydration in Chichimene, which reduced the dilution factor and diluent evaporation.
- Successful demonstration of downhole application of the eco-FI additive, developed with two national technology partners, which resulted in the recovery of inactive wells of extra-heavy crude, increasing production by more than 2,300 Kbpd (barrels of oil per day), and reducing deferred production by more than 240 Kbp (thousands of barrels).
- Successful application of the eco-FI additive in the Norte A mainline of Chichimene, which resulted in the elimination of naphtha for collection in a sector of the field, and resulted in the production of 1500 Kbpd from wells in that sector.
- Successful semi- industrial scale demonstration of ECODESF technology, which reduces the viscosity of Chichimene extra-heavy crude oil (8.9 °API), from 195,000 cSt (centistokes) to less than 600 cSt (centistokes).
- Successful demonstration of steam-foam-flood in two depleted wells in the Cocorná field, which reached record production levels in ten years.
- Support for the enhancement of the Barrancabermeja Oil Cluster, within the framework of the sophistication and internationalization program, *Innpulsa Colombia*, of companies in the metalworking sector.

INTELLECTUAL PROPERTY

The Intellectual Property inventory related to technological products and registered between 2016 and 2019 is as follows (see Table 27):

Table 27. Intellectual Property inventory

Intellectual property inventory	2016	2017	2018	2019
Patents granted	10	5	15	8
New patent registries submitted	15	12	17	19
Copyrights obtained	34	39	25	41

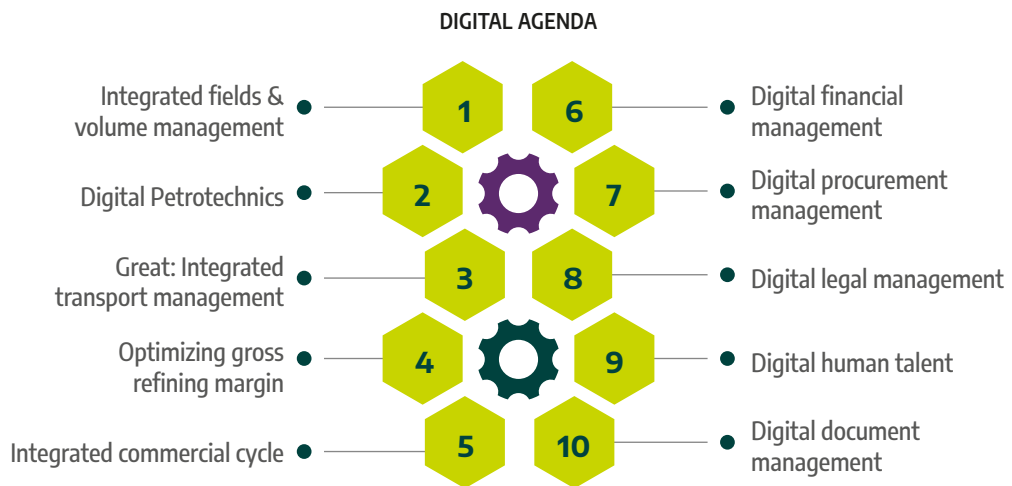
Source: Ecopetrol, Center of Innovation and Technology ICP

DIGITAL AGENDA

The Digital Agenda consists of ten projects geared towards processes that increase the Company's efficiency and savings through the use of technologies from the fourth industrial revolution: blockchains, artificial

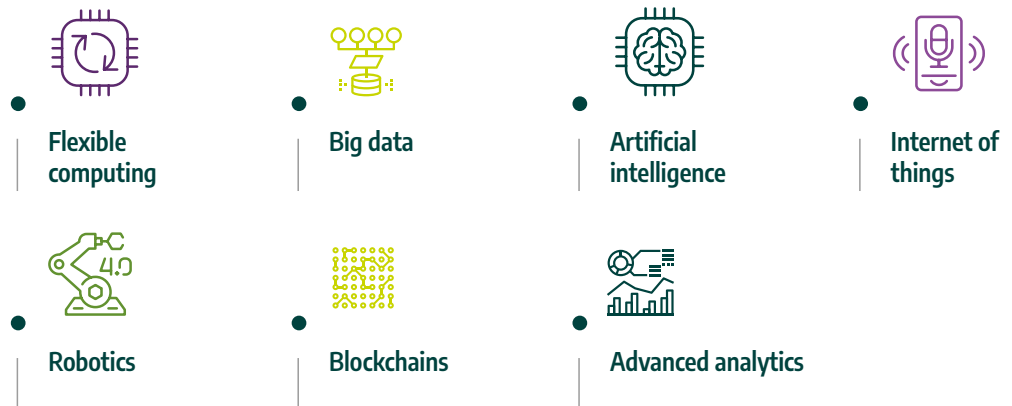
intelligence, internet of things, machine learning, among other. The first phase, which culminates at the end of 2020, is underway with the following projects:

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DIGITAL CAPABILITIES

The Digital Agenda projects are connected with the technologies defined in the National Science and Technology Plan 2017-2022:



Ecopetrol already investigates, develops and deploys these technologies in the different business segments. In Exploration and Deposits, for example, flexible computing is being used to better understand the subsoil revealed in seismic information. This reduces analysis times

from days to minutes. In 2019, virtual positions were created that allow collaboration and the use of knowledge in geology and geophysics anywhere in the world.

In Production, with the Integrated Fields project, the Internet of Things (IoT) is used

to bring real-time information from the production fields to a data lake that permits monitoring their individual status online. Machine learning algorithms are used to

process these large volumes of information, which generate early alerts and allow decisions to be made and actions to be taken to maintain production.

The Ecopetrol supply chain, in the margin of the Volumetric Management project, is deployed in blockchain, with the following achievements:

- Maintain an immutable state of volumetric information for every moment of time
- Obtain information using open protocols that enable the Internet of Things
- Automate its consolidation, making this information visible and transparent

Finally, robotics has made it possible to automate manual and repetitive tasks in important processes such as finance or procurement. Over 100 robots have been implemented to date owing to the available capacity of four digital factories immersed

in the Campo D concept. These robots saved around 12,500 person-hours. It should be noted that these workers now take advantage of their knowledge and experiences to conduct investigation activities that provide better results.

In 2019, the investment for the first phase of the Digital Agenda was USD \$51 million.

DIGITAL ECOSYSTEM

In 2019, Ecopetrol signed an agreement with the Government of Colombia, through *iNNpulsa*, and inaugurated the first Digital Innovation Study at *CEmprende Bogotá*, an innovation and entrepreneurship campus. This Study will launch the 100x100 Challenge, to take place between 2020 and 2021, which will seek to solve one hundred Ecopetrol challenges with the help of 100 Colombian technology-based entrepreneurs, seeking to strengthen the country's digital ecosystem.

Similarly, Ecopetrol subscribed various initiatives with major players in innovation and digital transformation, such as MIT (Massachusetts Institute of Technology) and Plug and Play, US accelerator startups. This provides access to the international innovation ecosystem applied to oil and gas, being able to reference solutions and best practices.

CEmprende, an opportunity for technological entrepreneurship and open innovation



2020-2030 + SCIENCE, TECHNOLOGY AND INNOVATION VISION IN ECOPETROL

The innovation and technology capabilities offered by the Digital Vice Presidency and the Colombian Petroleum Institute are an important strength for Ecopetrol and its Business Group. For this reason, at the end of 2019, a review of the Ecopetrol Technology and Innovation process began, in order to have a unified and structured process that allows for the

best ideas provided by the Ecopetrol Group's workers to be developed.

The Technology and Innovation Committee requested the development of a Science, Technology and Innovation (CTI) strategy that allows us to glimpse the aspiration of Ecopetrol within a short, medium and long-term, the strategic horizon and an implementation route for the planned initiatives up to 2030.

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TECHNOLOGY STRATEGY

Regarding the potential challenges that impact the current and future development of the O & G sector, a strategy has been defined taking into account two possible horizons:

● **Business as usual**

Oriented to current challenges involving increased reserves, sustained production, sustained refining production margin, transport optimization, sustainable economic and environmental development of assets. In this case, Ecopetrol has been identified as working to extend the limits for increasing reserves.

● **New business models and development domains**

Focused on energy transition challenges, such as decarbonization, renewables, water as a business, capture / conversion to products / CO₂ carbon sequestration, its high-level vision and evaluation of value enablers.

This is supported by new digital capabilities aimed at information transparency and openness.

Ecopetrol has in its vision the co - creation of an open, transparent, unchallengeable, secure and scalable platform that enables Stakeholders to quickly connect or disconnect to the digital ecosystem in order to exchange information.

An example of its relevance is the need in Colombia to make public make the

unconventional reservoirs pilots process, reaching academics, communities, territorial entities and regulatory entities, among others. The implementation of available and reliable technologies such as Big Data and the Internet of Things, will allow the real time capture of information, its storage and processing with descriptive analytical models for its publication.



03

ECONOMIC DIMENSION



**Standard
GRI applied**

GRI | 201 |
Economic performance

GRI | OG1 |
Production and reserves

● **Why this is considered a
topic material?**

GRI | 103-1 |

Generating economic value is the focus of Ecopetrol's strategy. The adoption of a sustainable business approach is based on a concept of value generation for our shareholders and other stakeholders through risk management and by capitalizing on economic, social and environmental opportunities.



● **How is this
topic managed?**

GRI | 103-2 |

The Business Plan of Ecopetrol for the period 2019 - 2021 identifies as its fundamental axes the pursuit of sustainability, profitability and value generation.



● **How is the
topic assessed?**

GRI | 103-3 |

The economic value generated and distributed by Ecopetrol is exemplified through financial metrics (income, costs, profits, EBITDA), volumetric metrics (production, exports, and reserves) and value metrics (such as contracting, social investment, wages and benefits, among others.)

Impact scope

GRI | 103-1 |



● **Process within
Ecopetrol where the
most significant impact
is generated**

Value chain (exploration, production, transportation, refining, sales and marketing, petrochemicals and support areas).



● **Stakeholder group
where the most
significant impact
is generated**

Shareholders and investors; contractors and their workers; workers, pensioners and their beneficiaries; society and community



● **Area managing the
impact**

Corporate Vice Presidency of Finance, Executive Vice Presidency



THE INTERNATIONAL MARKET – GENERAL ENVIRONMENT

Crude oil prices began in 2019 with an upward trend due to factors that placed pressure on the supply.

Foremost was, since the end of 2018, the acceptance of OPEC to reduce its supply by 1.2 million barrels per day as regards to October production. Additionally, the United States imposed sanctions on Venezuela, which decreased the exports of this Latin American producer by nearly 500 thousand barrels per day.

Added to the above was the termination of the exemptions granted to buyers of Iranian crude, which occurred in early May, which decreased this nation's exports in 2019 by more than 1.2 million barrels per day versus 2018.

Due to these events, total OPEC production decreased by 2.09 million barrels per day between 2018 and 2019.

Meanwhile, production of non-OPEC countries increased by about 2.07 million barrels per day, mainly due to the greater availability of crude from the United States (around 1.7 million barrels per day). Ultimately, world production registered a slight drop of 20 thousand barrels per day in 2019.

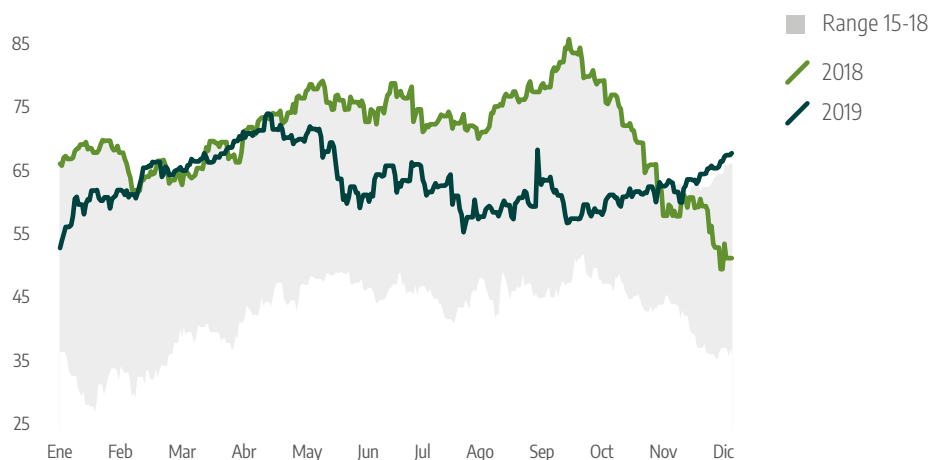
However, the lower supply was more than offset by a significant weakening

in demand that translated into a drop in the price of crude, especially in the second half of the year. Factors that affected demand included the China-US trade war, the contraction of global industrial production and the stagnation of world trade.

The aforementioned events, together with the weak growth of the global economy, estimated at 3.3%, set the price of Brent at USD \$64 per barrel in 2019, USD \$7 below the average of 2018.

One of the significant events that temporarily affected the crude price in 2019 was the drone attack on Saudi Arabia's crude oil processing infrastructure. This attack translated into a point increase of USD \$9 per barrel between September 13 and 16 (see Figure 58).

Figure 58.
Historical Brent
spot price
USD/bl



Source: Bloomberg

With respect to products, refining margins were globally low in 2019 due to the weakening of the price of some products, and the strengthening of the diet of the refineries. Wood Mackenzie's global margin indicator, which averages refining margins across Europe, Asia, and the United States, stood at USD \$3.8 per barrel in 2019, below the average margin of USD \$4.9 per barrel in 2018.

The global economic slowdown affected the margins of the main products, especially light distillates.

Alternately, the growth in the demand for natural gas was stable during 2019, especially in the energy sector, due to lower global prices and the search for a cleaner energy matrix. The demand for liquefied natural gas revealed the same behavior, with a growth of 11%, supported by greater export capacity and lower prices.



BEHAVIOR OF THE NATIONAL ECONOMY

According to the National Administrative Department of Statistics, DANE, the Colombian economy grew 3.3% in 2019, above the growth of 2.5% in 2018. Internal demand continued to play a leading role in domestic behavior. Private consumption grew at a rate of 4.6% year-on-year, a higher rate than 3.0% in the same period of 2018. Despite the fact that employment figures have declined, the migration from Venezuelan and the greater purchasing power of households provided a boost in consumption.

Investment has also helped accelerate domestic demand. The significant increase in the execution of civil works projects by local and regional governments, characteristic in recent years, the progress of the 4G road program and the incentives provided by the 2018 financing law for the purchase of machinery and equipment help explain this positive performance.

In general, the Colombian economy continued to recover its economic growth within a challenging external context and demonstrated greater balance in its sectoral composition.

Ecopetrol geology department



CONTRIBUTION OF ECOPETROL TO THE NATIONAL GDP

Mining GDP in 2019 reverted to a positive terrain, growing at an average rate of 2.1% In this manner, this sector once again contributed towards the growth of the economy, after registering downward growth trends between 2015 and 2018.

In this sector, oil and gas extraction grew at a rate of 2.4% in 2019, and was the most significant item that propelled the growth of mining, offsetting the low growth of other sectors such as coal production.

According to preliminary 2019 GDP growth figures for the country (3.3% according to the DANE), Ecopetrol's contribution to the national GDP was 2.83%. Ecopetrol's share has remained stable, with a slight variation due to higher growth in the production of crude oil and gas of other companies in the sector with respect to Ecopetrol's growth during the same period (see Table 28).

Tabla 28. Contribution of the oil sector to GDP (Trillions of constant 2015 Colombia)

	2018	2019 Py
National GDP	853,600	881,958
Oil extraction GDP	29,025	29,723
Oil's contribution to GDP	3.4%	3.4%
Ecopetrol's contribution to GDP	2.87%	2.83%

Source: DANE, Ministry of Mines and Energy and Ecopetrol, Corporate Vice Presidency of Finance

GRI | 103-2 |

FINANCIAL STRATEGY AND RESULTS

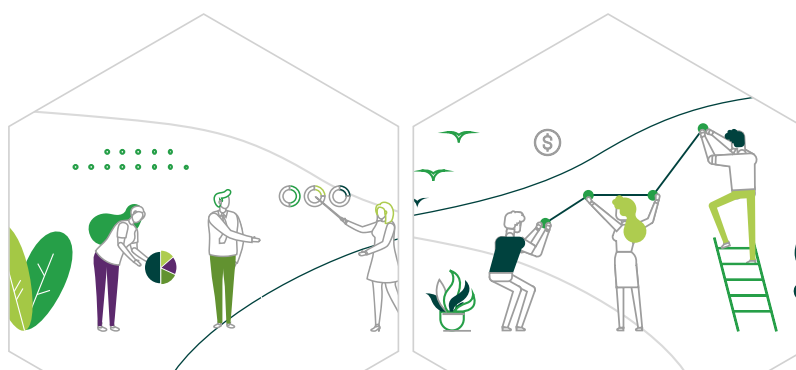
In 2019, the average Brent price declined versus the previous year, from USD \$72 per barrel in 2018 to USD \$64 per barrel in 2019, as explained above. Despite this, the Company registered income of \$13.3 trillion of pesos, the highest in the past six years.

These positive financial results achieved are a reflection of constructive operating performance and the market positioning of oil in markets that generate greater value, reaching in the fourth quarter of 2019 a record spread of USD \$(-4.7) per barrel.

Factors such as a better average exchange rate, savings in financial expenses obtained from early debt payments and a lower nominal tax rate were also influential in attaining this favorable outcome.

2019 results evidences Ecopetrol's ability to adapt to changes in general market conditions, reflected in a lower income break-even of USD \$29.9 per barrel.

We remain committed to the Company's operating and financial efficiency plan.



REVIEW OF OUR INVESTMENTS

During 2019, the Business Group's cumulative efficiencies ascended to \$ 3.3 trillion of pesos, a 22% increase versus 2018 and exceeded the target foreseen in the 2019-2021 plan.

Finally, 2019 income was positively impacted as a result of the increase interest in Inversiones de Gases de Colombia (Invercolsa),

from 43% to 52%. This came about as result of the ruling of the Supreme Court of Justice in October 2019, generating a change in the control situation whereby this company ceased to be a subsidiary and became an associate, generating the recognition of a one-time income \$1 trillion of pesos.

In 2019, the cumulative investment of the Ecopetrol Group amounted to USD \$4.4 billion, allocating 80% to organic investments and 20% to inorganic investments resulting from international agreements such as the strategic alliance with Oxy in the US Permian Basin. Investments grew by 51% versus 2018, organic investment showed an increase of 21% compared to 2018.

Executed organic investments activity totaled USD \$3.5 billion. This value includes approximately US \$400 million of efficiency savings associated with tax benefits, project execution, controlled risk management and the devaluation of the peso.

Of the total investment for 2019, 79% was concentrated in the production and

exploration segments; 67% was targeted towards increasing hydrocarbon reserves and production (see Table 29); 92% of total investments were executed in Colombia, and the remainder to position the Ecopetrol Group in high prospect basins in the United States and Brazil.

Tabla 29. Organic investments 2019 - Ecopetrol Group

Millions (USD)	Ecopetrol S.A.	Affiliates & Subsidiaries	Total	% Interest
Production	2,201	219	2,420	68.7%
Refining, Petrochemicals and Biofuels	171	153	324	9.2%
Exploration	125	237	352	10.3%
Transport*	2	309	311	8.8%
Corporate	104	0	104	3.0%
Total	2,603	918	3,521	100.0%

Source: Ecopetrol, Corporate Vice Presidency of Finance

* Includes the total amount of the investment of each of the companies in the Ecopetrol Group (Interest of Ecopetrol S.A. and non-controlling interest)

2020-2022 BUSINESS PLAN UPDATE

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The Ecopetrol Group (GE) updated its business plan for the 2020-2022 period, framed within the strategic priorities of achieving profitable and sustainable growth under a strict discipline of capital and cash flow protection, while simultaneously proceeding to address the challenges posed by energy transition, climate change, respect for the environment and biodiversity, the protection and responsible use of water, including an innovation and technology component to leverage integrated value generation for the Group.

The Plan foresees investments between USD \$13 and USD \$17 billion concentrated in Colombia and aimed at continuing the growth trajectory of reserves and production, seeking and developing investment opportunities to encourage portfolio diversification, and ensuring the reliability of operations. Likewise, the plan addresses the sustainability of the operation with specific goals for achieving decarbonization, incorporating renewable energy and making headway in digital transformation.

Among the most relevant operating and financial goals of the 2020-2022 Plan are: (i) reach organic production levels to between 745 - 800 thousand barrels of oil equivalent per day; (ii) maintain the organic reserve replacement ratio above 100%, without allowing for the price effect; (iii) reach throughput in the integrated refining system of 370 - 420 thousand barrels per day; (iv) reach transported volumes of 1.10 -1.25 million barrels of oil equivalent per day, in line with the behavior of production and the national demand for liquid fuels; (v) reduce cumulative emissions to between 1.8 - 2 MtCO₂e; and (vi) install ~ 300 MW of renewable energy.

In line with the objectives of having a low-carbon operation and reducing operating and infrastructure vulnerability to the variability of climate change, we plan to invest between

USD \$320 and USD \$430 million in projects that will provide GHG reductions of between 200 and 400 KtCO₂e, in line with the cumulative goal of decreasing GHG between 1.8-2.0 MtCO₂e by 2022.

In order to comprehensively manage water under operating efficiency, wastewater reuse, environmental water security and water governance, the investment plan has allocated USD \$165 and USD \$195 million for wastewater treatment and final water disposal wells, and to provide drinking water to 900 thousand people and sanitation in 40 prioritized municipalities.

Through profitable growth and greater cost efficiencies, the GE is expected to generate an operating cash flow of between USD \$20 - 21 billion in the period, providing flexibility for growth notwithstanding variant pricing cycles.

At a Brent price of USD \$57 per barrel, the Group's ROACE would remain at levels above 11%, based on generating a solid EBITDA and applying investment efficiency amid strict capital discipline. The plan improves the resilience of the business, which expects to structurally lower its net profit break-even to around USD \$30 per barrel. The gross debt-to-EBITDA is anticipated to remain at < 1.5.



FINANCIAL RESULTS

STATEMENT OF FINANCIAL POSITION

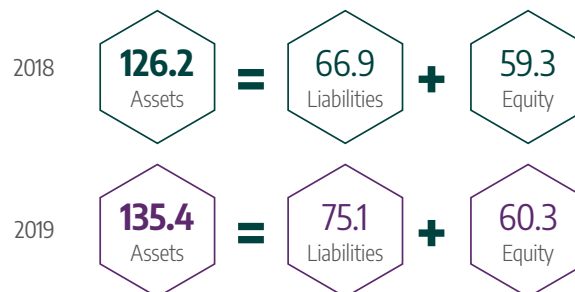
At the end of December 2019, the assets in the Ecopetrol Group's balance sheet increased 7% (\$9 trillion of pesos), reaching \$135.4 trillion.

This increase was triggered by the collective effect of the increase in natural resources, property, plant and equipment, deferred taxes and investments in companies, mainly characterized by higher CAPEX investments (the most representative is the development of assets in the Permian Basin) and the inclusion of investments in associated companies, as a result of acquiring control over Invercolsa.

Liabilities amounted to 55% of total assets. The latter exhibited an increase of \$8 trillion of pesos versus the previous year, mainly due to an increase in provisions for employee benefits (as a result of the decrease in the discount rate used in their assessment) and for litigation and contingencies (due to the update of abandonment costs).

Total equity increased to \$60.3 trillion of pesos, of which \$56.4 trillion pesos is assignable to Ecopetrol's shareholders and \$3.9 billion of pesos to non-controlling shareholders, (see figura 59).

Figure 59.
General balance in
Trillions of pesos



Detailed information of Ecopetrol's financial statements (consolidated and unconsolidated) is provided at the end of this report.



FINANCIAL
PERFORMANCE
INDICATORS

GRI | 103-3 |, | 201-1 |

The results of the financial indicators for 2019 were:**Liquidity indicators**

Represent the resources required by the Business Group to operate in the short-term, maintaining a margin to cover cash fluctuations resulting from current assets and liabilities operations.

For year-end 2019, current assets had decreased by 14% compared to the previous year, mainly due to the decrease in fixed income investments in the short-term investment portfolio and the decrease in the account receivables from the price stabilization fund for gasoline and diesel (\$2.5 trillion of pesos).

The increase of 22% in the current liabilities portion is due to the increase in accounts payable to suppliers of crude and products and the higher income tax, because of the higher income for the period.

**Debt indicators**

Represents the share of the Company's investment that has been financed with debt, that is, with third-party resources.

The total obligations payable to third parties with respect to the level of assets was 59% for 2017, 53% for 2018 and 55% for 2019. Likewise,

the concentration of short and long-term debt stood at 29% and 71%, respectively.

Total assets increased by \$9 trillion of pesos, mainly due to the increase in investments in natural resources, property, plant and equipment, deferred tax assets and investments in associates.

**Performance indicators**

EBITDA margin for 2019 was 43.9% versus 45.4% in 2018, as a result of the positive operating performance and the commercial positioning of crude in markets that generate greater value, in addition to a favorable currency devaluation environment.

The return on the assets of the Ecopetrol Group in 2019 was 11%, reflecting an upwards trend compared to that of 10% in 2018, mainly due to the better results (\$14.5 trillion of pesos) compared to the net income of the previous year (\$12.5 trillion of pesos).

**Activity indicators**

As a result of the foregoing, the Company's activity index stood at 0.52 (compared to 0.54 in 2018).

La Cira Infantas production field



ECONOMIC VALUE GENERATED AND DISTRIBUTED

GRI | 201-1 |

The economic value generated and distributed illustrates the basic way in which an organization has created wealth for stakeholder groups. The economic value generated corresponds to the revenue of the Company.

The economic value distributed includes: operating costs, worker salaries and benefits, payments to providers of capital, payments to government and community investments (see Table 30).

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Tabla 30. Economic Value generated and distributed - Ecopetrol Group (Millions of pesos)

Item	2018	2019
Economic value generated		
Revenue	67,819,935	70,846,769
Economic value distributed		
Operating costs (Cost of sales and operating expense)	46,108,576	50,431,637
Worker salaries and benefits (expense)	978,644	1,161,855
Payments to capital providers	2,382,251	1,711,133
Payments to government	22,027,434	26,336,534
Community investments	52,334	245,462
Total economic value distributed	71,549,239	79,886,621

Source: Ecopetrol, Corporate Vice Presidency of Finance

PENSION OBLIGATIONS

GRI | 201-3 |

Ecopetrol belonged to the special pension scheme. Under this regime, the monthly pension allowances were the responsibility of Ecopetrol, not the responsibility of a Pension Administrator. However, Law 797 of January 29, 2003 and Legislative Act 001 of 2005 established that Ecopetrol would no longer belong to said regime, but that from now on its workers would be subscribed to the General Pension System.

Consequently, workers who retired from Ecopetrol up to July 31, 2010 continue to receive monthly allowances from the Company. Similarly, these workers are entitled to said pension bonus if they worked with Ecopetrol before January 29, 2003, but

their employment contract ended before said date without being reinstated.

All the social benefits of workers hired before 1990 are the responsibility of Ecopetrol without the involvement of a social security body or institution. The health services cost of the employee and their registered family members is established by means of the morbidity table, prepared based on the events that occurred during the year.

For workers who were hired after Law 50 of 1990 came into effect, the Company makes periodic contributions for severance payments, pensions and occupational risk insurance to the respective pension funds that fully assume these obligations.

FINANCIAL ASSISTANCE RECEIVED FROM THE GOVERNMENT

In 2008, Ecopetrol partially commuted the corresponding value of the monthly allowances of its pension liabilities, transferring said obligations and the monies that support them to autonomous pension funds (PAP's for its Spanish acronym). The transferred monies, as well as their returns, cannot be altered insofar as their destination or be reimbursed to the Company until all pension obligations have been met. The commuted obligation

covers the payment of monthly allowances and pension bonuses; whatsoever involves healthcare and education remains within Ecopetrol's labor liabilities.

The amount of the provisions for employee benefits is shown in the notes to Ecopetrol's financial statements (consolidated and unconsolidated), which are provided at the end of this report.

GRI | 201-4 |

The current tax regulations do not foresee tax deductions that can be used by the Company. Additionally, tax regulations include tax credits that can be used by the Company in its calculation of the income tax. As of December 31, 2019, Ecopetrol has \$237 trillion pesos in

tax credits that will be used to determine the income tax to be paid in 2020.

Alternatively, in 2019 no financial assistance was received from the Export Credit Agencies (ECAs).

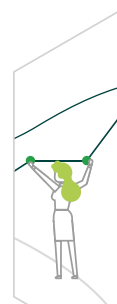
TRANSFERS TO THE STATE

Ecopetrol is one of the most significant national and territorial taxpayers in Colombia. Its fiscal policy encourages compliance with its legal obligations contained within current regulations and achieving the greatest amount of tax benefits for the Company. Ecopetrol's taxes are summarized in Table 31.

Tabla 31. Breakdown of Ecopetrol's tax obligations

Type of tax	Tax
National	<ul style="list-style-type: none"> Income and complementary VAT common regime Income withholding agent, VAT National ACPM (engine oil for its Spanish acronym) surcharge National tax on gasoline and ACPM Tax on financial transactions
Territorial	<ul style="list-style-type: none"> Industry and trade tax, notices and boards Withholding industry and trade tax agent Public lighting Vehicles Property Gasoline surcharge Transportation tax

Source: Ecopetrol, Corporate Vice Presidency of Finance



The amount paid by Ecopetrol includes the taxes assumed by the Company and the tax withholdings or collection it makes to third parties and then transfers to the different tax authorities in its capacity as withholding agent. The effective tax rate for 2019 was 24.07% (Table 32).

Tabla 32. Amount of taxes and transfers paid at the national and territorial levels by Ecopetrol S.A. (in millions of COL)

Type of tax	2016	2017	2018	2019	Destination
Own taxes					
Income tax	-	372,438	272,763	-	National
Self-withholding for CREE tax withholdings	634,400	75,130	-	-	National
Self-withholding for income tax	548,792	1,407,033	5,094,734	2,172,632	National
Equity tax/ Wealth tax (in effect until 2017)	368,844	147,168	-	-	National
National gasoline and ACPM tax	304,193	2,706	45	45	National
Carbon tax (in effect as of 2017)	-	556	619	1,128	National
National ACPM surcharge	934	40	29	26	National
Sales tax	2,525	865,288	765,949	756,350	National
Industry and trade tax	136,758	136,819	136,012	167,124	Municipal
Property tax	18,538	22,801	22,641	22,439	Municipal
Transportation tax	103,875	113,412	73,786	77,267	Municipal
Tax on financial transactions	84,672	95,579	137,975	142,312	National
Vehicle tax	795	182	239	173	Municipal
Public lighting tax	12,367	13,775	10,590	11,646	Municipal
Gasoline surcharge	-	5	6	5	Departments/ Municipal
Total own taxes	2,216,693	3,252.932	6,515,387	3,351,145	



Collection of taxes from third-parties

National gasoline and ACPM tax	2,737,738	1,181,870	983,425	1,188,018	National
Withholdings at source for income, VAT and stamp taxes	580,003	639,167	985,174	1,060,373	National
Stamp pro-Universidad Nacional (*)	-	-		3,132	Ministry of Education
National surcharge ACPM	36,986	44,278	49,658	50,870	National
Carbon tax (in effect as of 2017)	-	345,762	224,730	363,930	National
Withholdings at source industry and trade tax	45,509	35,495	46,791	68,940	Municipal
Subtotal third party tax collection	3,400,236	2,246,571	2,289,778	2,735,263	
Total	5,616,929	5,499,503	8,805,165	6,086,408	

Source: Ecopetrol, Corporate Vice Presidency of Finance

The amounts paid by the Ecopetrol Group to the Nation in 2019 translated into effective transfers of \$26.3 trillion of pesos, corresponding to the following:



SHARE PERFORMANCE

IN COLOMBIA

The Colombian Securities Exchange (BVC for its Spanish acronym) experienced an upsurge during 2019, in line with the performance of the price of crude. The COLCAP index, the main benchmark of the Colombian Securities Exchange, increased by 25% during 2019.

Ecopetrol's share price closed year-end at \$3,315 pesos, which represents an increase of 25%. The stock peaked in 2019 at \$3,565 on March 21, with its year low of \$2,615 on August 23, (see table 33, figure 60).

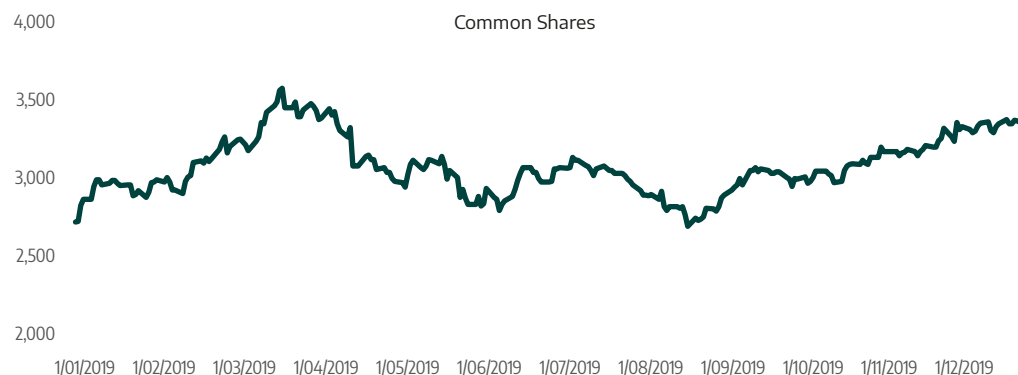
213

Tabla 33. Behavior of Ecopetrol's shares in the BVC (in COL)

Description	Amount
Price Jan 1, 2019	\$2,645
Price Dec 31, 2018	\$3,315
Average price	\$3,030
Minimum price	\$2,615
Maximum price	\$3,565
ECOPETROL increase	25%
COLCAP increase	25%

Source: Ecopetrol, Corporate Vice Presidency of Finance

Figure 60.
Ecopetrol's share
price in the BVC
(Colombian pesos)



Source: Ecopetrol, Corporate Vice Presidency of Finance

ADR PERFORMANCE ON THE NEW YORK STOCK EXCHANGE

Ecopetrol's ADR closed 2019 with a price of US \$19.96, which is equivalent to an increase of 26% compared to year-end 2018. Although oil and gas companies performed well in 2019, Ecopetrol's ADR exhibited a better performance versus the sector.

ADR peaked at \$23.03 on March 21 and hit its low of \$15.29 on August 23, (see table 34, figure 61).

Tabla 34. Ecopetrol's ADR performance on the NYSE (in USD)

Description	Amount
Price Jan 1, 2018	\$ 15.88
Price Dec 31, 2018	\$ 19.96
Average price	\$ 18.50
Minimum price	\$ 15.29
Maximum price	\$ 27.65
ADR increase	26%
S&P 500 Oil & Gas increase	10%

Source: Ecopetrol, Corporate Vice Presidency of Finance

Figure 61.
Ecopetrol's ADR price
on the NYSE
(in USD)



Source: Ecopetrol, Corporate Vice Presidency of Finance



REGULATORY COMPLIANCE

GRI | 419-1 |

During 2019, Ecopetrol complied with all its obligations regarding the publishing of relevant information required by the Sarbanes-Oxley Act (SOX) as a securities issuer before the Colombian Stock Exchange (BVC) and the New York Stock Exchange (NYSE).

RELEVANT INFORMATION

In 2019, all obligations to disclose relevant information in Colombia and abroad were met. The following provides as summary thereof:



In Colombia:

54 relevant information reports were published before the Financial Superintendence of Colombia and 82 releases of press.



In the United States:

27 documents were published under the different formats required by the Securities and Exchange Commission (SEC).

All communications were disclosed in a timely manner to the market and are available in:



Webpage for the Superintendence of Finance of Colombia: www.superfinanciera.gov.co, in the "Información relevante" section.



SEC webpage: www.sec.gov, section "Filings", "Search for Company Filings", "Company or fund name, ticker symbol, CIK (Central Index Key), file number, state, country," or SIC (Standard Industrial Classification).



Ecopetrol webpage: www.ecopetrol.com.co

Ecopetrol's guiding principle is to operate in compliance with the applicable regulations regarding environmental, social and corporate governance matters. Recognizing global tendencies, the Company has committed to incorporating voluntary standards and sustainability suggestions in order to provide greater transparency and disclosure of the company's ESG performance (Environmental, Social and Governance) that are financially material and beneficial for our investors' decision-making. This commitment has been validated for 2020, and the Company hopes to continue progressing on the execution of projects delivering great socio-environmental impacts, including decarbonization initiatives and the continued strengthening of corporate governance, as well as progressing on the inclusion of these topics in financial and accounting disclosures. ■

TOTAL
CAPITALIZATION

Table 35 provides the value of Ecopetrol's market capitalization, as of December 31, 2019.

Tabla 35. Total capitalization

Number of shares	41,116,694,690
Price per share (December 31, 2019)	\$3,315
Market capitalization (COP)	\$136,301,842,897,350

Source: Ecopetrol, Corporate Vice Presidency of Finance

GRI | 419-1 |

TAX MATTERS

Tax planning in Ecopetrol is related to the following key matters:

- Use of the tax benefits included in the current regulations in order to:
 - Decrease the nominal income tax rate
 - Decrease the presumptive income rate
 - VAT discount on the acquisition, construction, etc. of real productive fixed assets.
 - 50% discount on the effective industry and commerce tax (ICA for its Spanish acronym) paid during the year
 - Others
- Active participation in tax structuring and optimization of the tax burden of the Group's new businesses
- Communicate changes in tax legislation to the areas of the Company and its subsidiaries Ecopetrol.
- Collaborate with the Ministry of Finance and Public Credit (MHCP for its Spanish acronym), Ministry of Mining and Energy (ME) and DIAN
- Ecopetrol Group Tax Committee

TAX RISKS

Ecopetrol has identified certain tax risks that, if they were to materialize, could cause business losses and require the payment of penalties and default interest to the tax authorities.

The main risks are:

- 01

Changes in the tax legislation of the countries wherein the Company has operations.
- 02

Assuming aggressive fiscal positions that may cause controversies with the fiscal authority.
- 03

Lack of knowledge of the tax risks related to the Company's operations abroad.

The document containing the Company's risk matrix and the procedure to assess the economic impact associated with the occurrence of the risk is published at www.ecopetrol.com.co



SHAREHOLDER ENGAGEMENT

Ecopetrol's assurance to its shareholders is its prerogative, in order to ensure the sustainability of the business through ethical, transparent and responsible management. In order to achieve

this, in addition to maximizing the value of its shares, it must maintain a relationship that allows its 260,884 shareholders (figure as of December 31, 2019), to learn about the

economic, operating, social and environmental management carried out by the Company, as its long-term success depends thereon.

During 2019 Ecopetrol addressed the needs of its shareholders through different loyalty-building activities summarized below:



In 2019, a total of 58,905 shareholder requests were received through all accessible service channels, of which 99.53% were addressed within a timely manner, versus as target of 90%. The main categories of shareholder requests were related to: dividends, share trading, information

requirements, certificate requests and modifications of secondary data.

A total of 31,084 satisfaction surveys were carried out regarding the service received by shareholders and investors. The satisfaction level reached 96.25%, with a target of 90%.



LEGAL MATTERS

GRI | 103-1 |, | 103-2 |, | 103-3 |

In compliance with the provisions of Law 1231 of 2008, modified by Law 1676 of 2013, the Company has not hindered the free movement of invoices issued by vendors or suppliers, and this has been conveyed in our report on the annual management thereof.

In 2019, no complaints were filed for unfair competition, monopolistic practices and hindering of free competition. Likewise, no fines or penalties were imposed as a result of non-compliance with regulations regarding

the supply, use and labeling of products and the services of the organization. Neither were there breaches of regulations on intellectual property and copyrights by Ecopetrol.

MARKET MATTERS

SPONSORSHIPS

In compliance with the procedure that is followed in Ecopetrol for the planning, subscription, execution and monitoring of sponsorships and the acquisition of promotional items to support the Company's brand positioning efforts, in accordance with the Ecopetrol Corporate Strategy and the Communications Strategy, in 2019 the Sponsorship Committee recommended the contribution to sponsorships for a total

amount of \$3,235,731,440 COL in events such as the Oil Summit, International Book Fair, Expoartesanas, Colombia Genera, Foro de Transformación Energética, SPWLA Workshop: Developing Unconventional Resources in Colombia, National Renewable Energy Forum, Colombian Energy Conference, International Digital Ethics Forum, I Circular Economy Conference, among others.



Castilla Solar Park

SOCIAL DIMENSION



WORK PRACTICES



The 2018 Human Talent Strategy continued in force for 2019, thus ratifying our strategic objective, which is to have people and teams with the required competencies and behaviors to ensure exceptional performance.

THE MAIN CORNERSTONES FOR ACHIEVING THIS OBJECTIVE ARE:



During 2019, the Human Talent Strategy moved forward in all its cornerstones, where the following is worth highlighting:

- Evaluation of 347 leaders using the 360 method (193 more than in 2018).
- Talent evaluation for the Internal and Ecopetrol Group Succession program.
- Completion of the second annual “Semillero” Program, with graduations held in February of 2019.
- Compliance with the proven competency level required by Ecopetrol to address current and future challenges.
- Improved salary competitiveness for petro-technical personnel.
- Implementation of special training programs in unconventional deposits, offshore and digital, key elements in the Company’s strategy.
- Implementation of the Diversity and Inclusion Program (D&I) with the creation of the D&I community, having achieved more than 5,300 participants in program activities, which were open to all Ecopetrol Group workers. In terms of gender, the Peer Ranking measured by Aequales saw an increase of 12 points (from 58 to 70), exceeding the target of 65 points.
- Implementation of flex-time nationwide, offering five (5) work shift alternatives, in addition to the usual shift. ■





A detailed explanation of each cornerstone was included in the 2018 Integrated Sustainable Management Report, which can be found in the following link

<https://www.ecopetrol.com.co/wps/portal/es/ecopetrol-web/responsabilidad-corporativa/informes-de-gestion-y-sostenibilidad/informes-de-gestion-y-sostenibilidad>

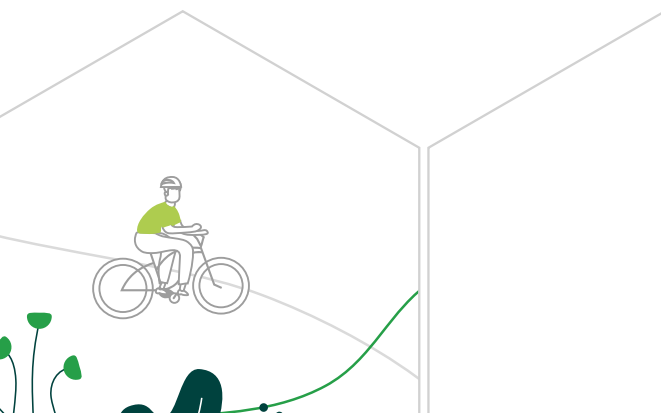
GRI | 103-3 |

The strategic indicators measured in 2019 and the subsequent results are shown in Table 36.

Table 36. Indicator results

Name of indicator	2019 Goal	% Compliance
Talent Planning Management	100	105%
Culture Management	100	98%
Leadership Management	100	101%
Knowledge and Learning Management	100	107%
Diversity and Inclusion Management	100	104%
Health Service Management	100	114%
Digital transformation Change Management	100	101%

Source: Ecopetrol, Vice Presidency of Human Talent



Standard
GRI appliedGRI | 401 |
Employment● Why is this considered a
Material topic?

GRI | 103-1 |

Workers are one of the Company's most valuable assets. Maintaining good relationships with them is key in achieving our business goals. Furthermore, having satisfied, qualified and highly competent workers is an essential element in ensuring our business competitiveness.

● How is the
topic managed?

GRI | 103-2 |

Human talent management is a key component of Ecopetrol's strategy. Its purpose is to generate value for the organization, through work practices that contribute to the workers' professional and personal growth as well as the sustainable development of the Company.

● How is the
topic assessed?

GRI | 103-3 |

Monitoring of the Company's human talent management strategy includes indicators for: new hires, training and development programs, worker benefits.

Impact scope

GRI | 103-1 |

● Process within
Ecopetrol where the
most significant impact
is generated

Human talent management

● Stakeholder group
where the most
significant impact
is generated

Workers

● Area managing
the impactVice Presidency of
Human Talent

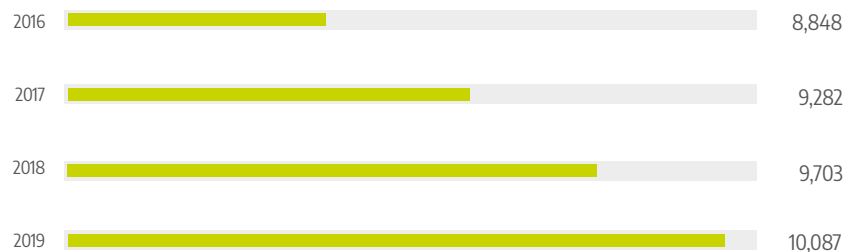
GRI | 102-7 |, | 102-8 |, | 401-1 |, | 405-1 |

DISTRIBUTION OF WORKFORCE

As of December 31, 2019, Ecopetrol's workforce amounted to 10,087 direct workers, distributed nationwide in more than 90 work locations.

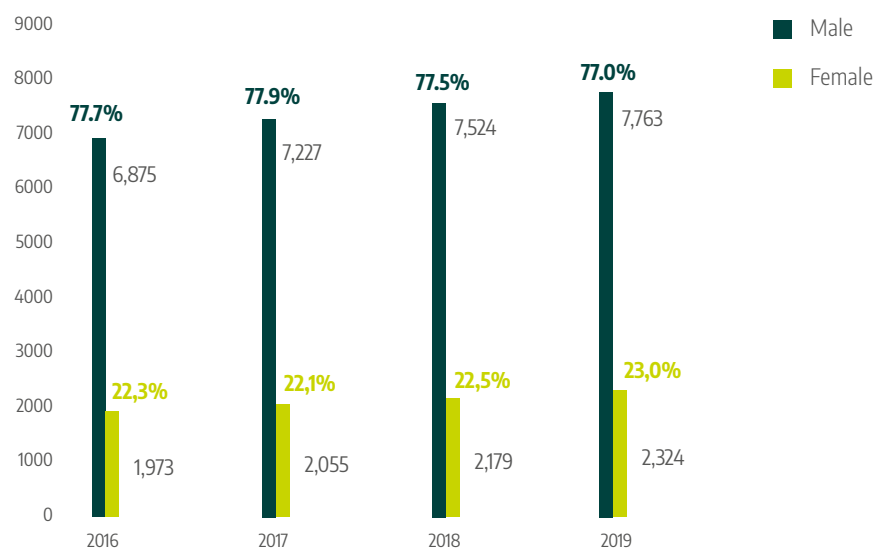
222

Figure 62.
Number of
Direct Workers



Source: Ecopetrol, Vice Presidency of Human Talent

Figure 63.
Number of workers
by gender



Source: Ecopetrol, Vice Presidency of Human Talent

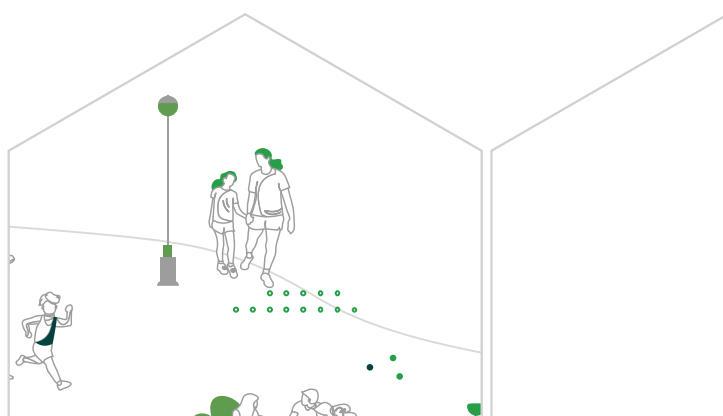
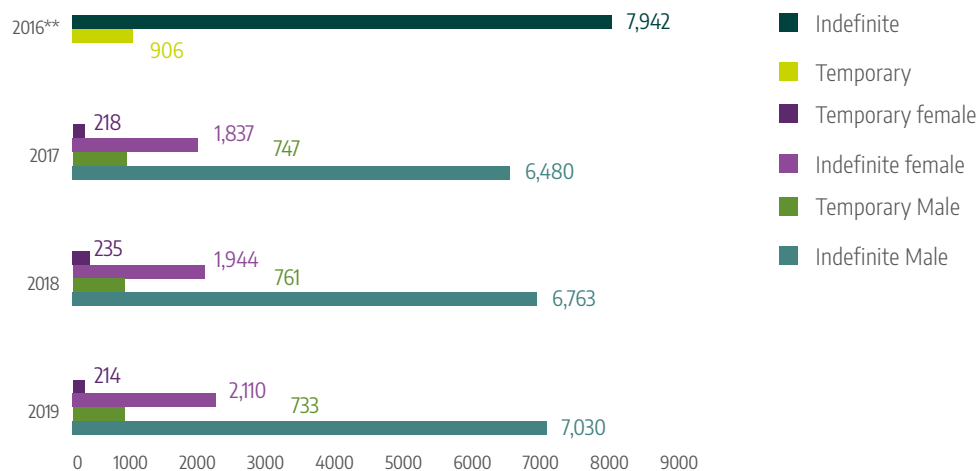


Figure 64.
Number of workers
by type of work
contract* and
by gender

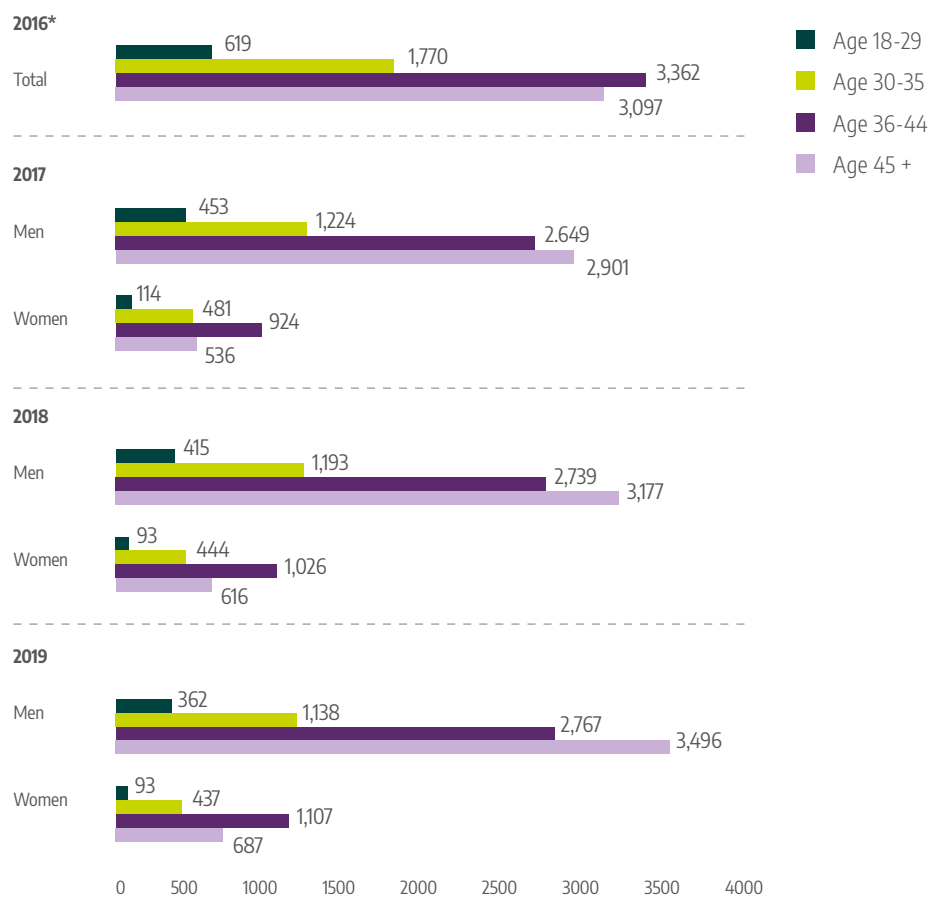


Source: Ecopetrol, Vice Presidency of Human Talent

*Ecopetrol does not have part time workers.

** 2016 historical data does not include information by gender.

Figure 65.
Number of workers
by age and gender

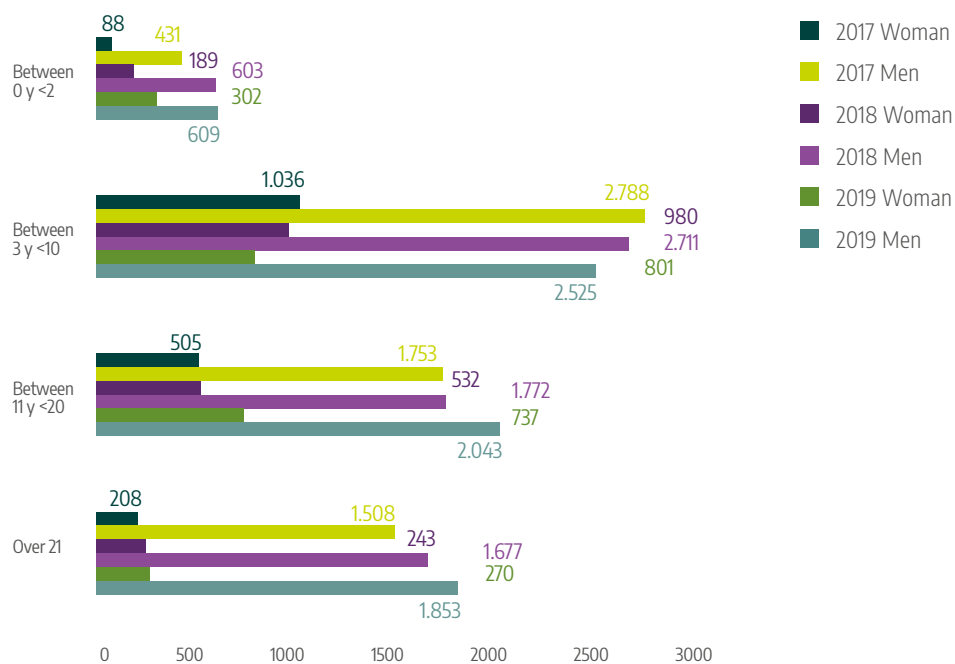


Source: Ecopetrol, Vice Presidency of Human Talent

* 2016 historical data does not include information by gender.

Figure 66.

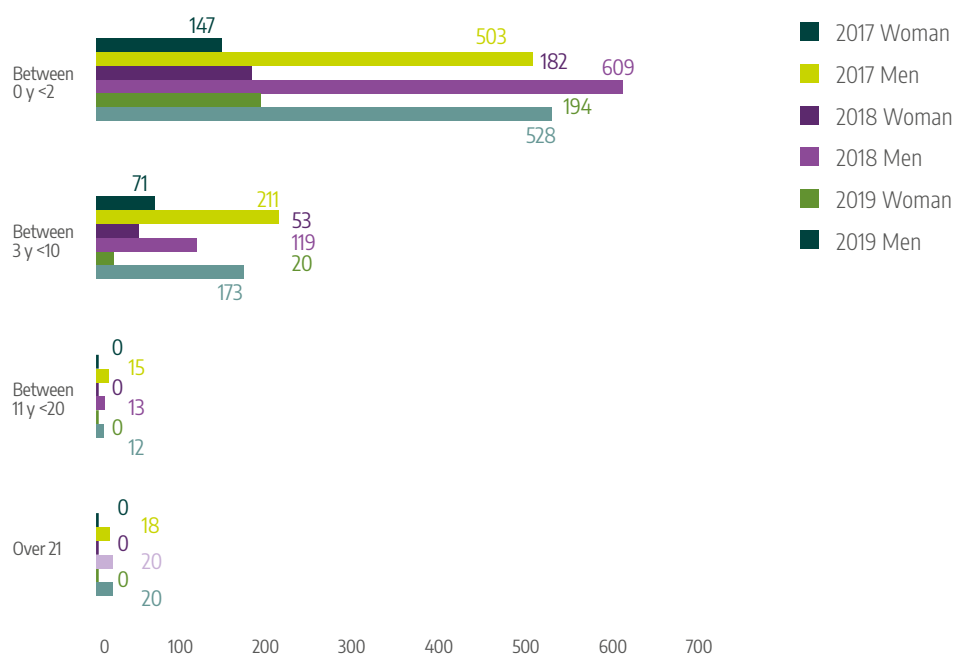
Number of workers with an indefinite term work contract by seniority



Source: Ecopetrol, Vice Presidency of Human Talent

Figure 67.

Number of workers with a temporary work contract by seniority



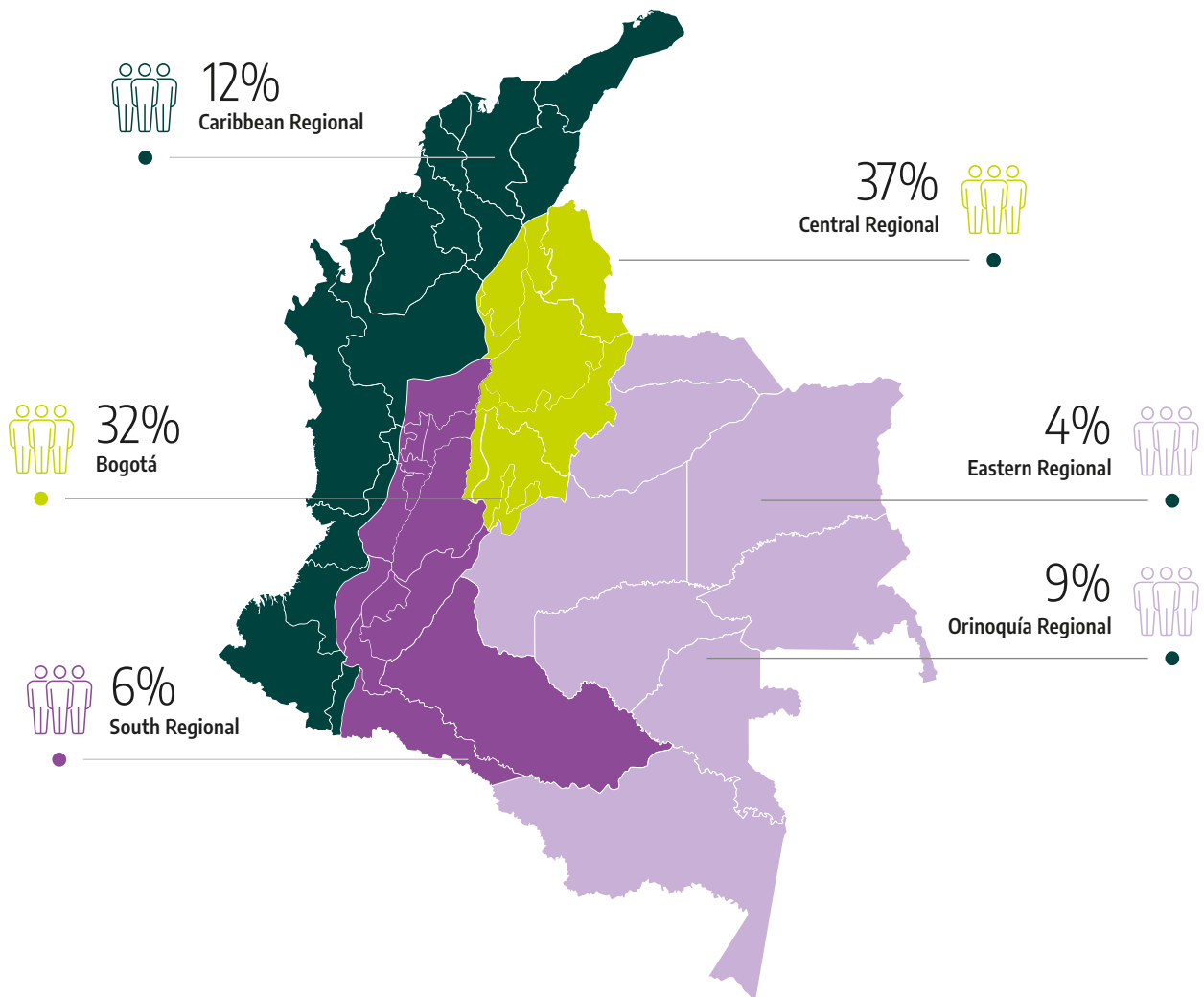
Source: Ecopetrol, Vice Presidency of Human Talent

* Seniority is accrued throughout the different fixed term contracts for each individual.

DISTRIBUTION OF WORKFORCE BY REGION

Ecopetrol's operations are geographically widespread. The region with the largest workforce is the Central region, where the production operations are concentrated in Santander and the Barrancabermeja Refinery.

225



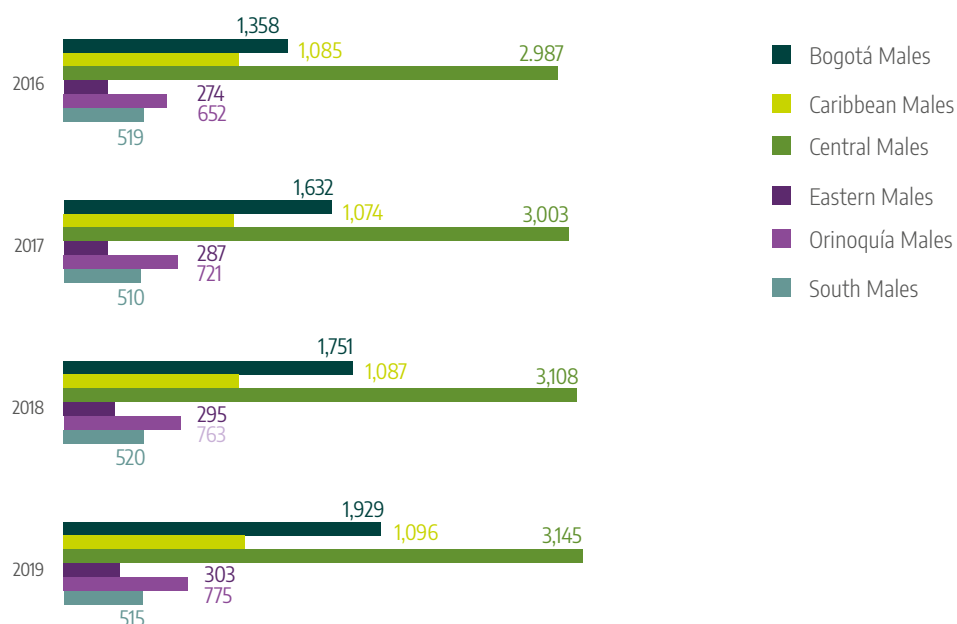
Source: Ecopetrol, Vice Presidency of Human Talent

Figure 68.
Number of women
by Regional



Source: Ecopetrol, Vice Presidency of Human Talent

Figure 69.
Number of men
by Regional



Source: Ecopetrol, Vice Presidency of Human Talent

Data is collected using the SAP IT system, and official reports are presented by Data Maestra with a cut-off date of December 31, 2019.

GRI | 103-1 |, | 103-2 |, | 103-3 |, | 401-1 |

SELECTION AND MOBILITY

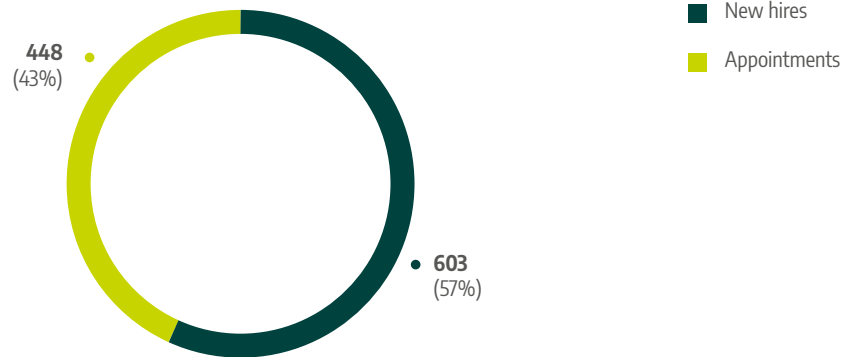
HUMAN TALENT SELECTION

Ecopetrol attracts, select and hires experienced workers with technical, organizational and leadership competencies, who fit the required job description.

In response to the Company's changing needs, 1,051 vacancies were filled during 2019, including internal appointments and new hires.

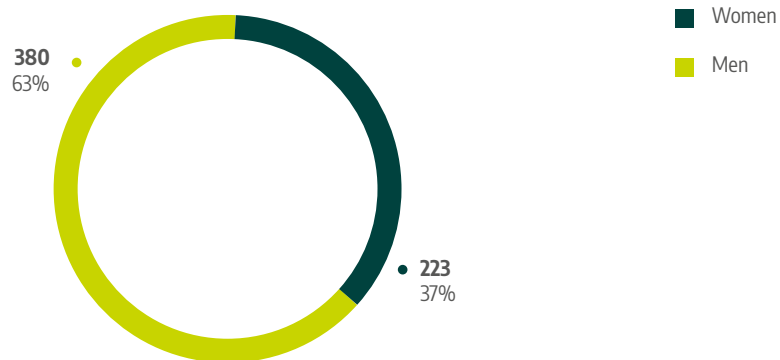
227

Figure 70.
Distribution of
completed selection
processes



Source: Ecopetrol, Vice Presidency of Human Talent

Figure 71.
New hires
by gender

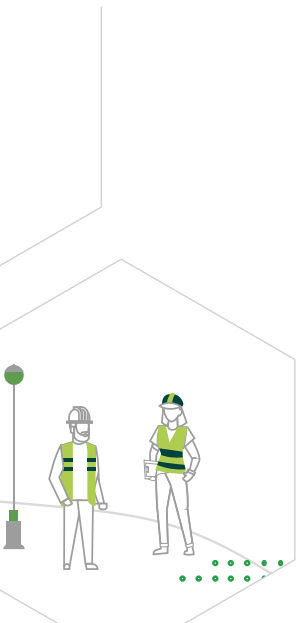


Source: Ecopetrol, Vice Presidency of Human Talent

GRI | 406-1 |

These processes are completed indiscriminate of gender, race, nationality or family origin, language, religion, disability or political and

philosophical opinion, and are framed within the organization's values and principles of equity, transparency and rigor.



GRI | 401-1 |

Of the 603 new workers hired, 8.5% (48 people) corresponded to the hiring of personnel living abroad, who received an induction and, following the trial period, defined their performance goals.

Table 37. Hiring of personnel living abroad

International search results	2016	2017	2018	2019
Foreigners	7	36	21	41
Colombians living abroad	8	15	2	7

Source: Ecopetrol, Vice Presidency of Human Talent

In addition, a national job fair was organized in 2019 focused on filling the 166 new vacancies required for the annual projects.

MOBILITY WITHIN GROUP COMPANIES

During 2019, 42 workers were reassigned within Ecopetrol (10 foreigners and 32 nationals), in addition to the seven workers from the Ecopetrol Group that were reassigned. The organizations to which these workers were transferred include **Bioenergy, Cenit, Ecopetrol Costa Afuera, Ecopetrol Brasil, Ecopetrol América LLC,**

Esenttia, Hocol, Reficar, Savia Perú, DIAN and the Ministry of Mines and Energy.

The positions to which the workers were assigned include: professionals, geologists, technical leaders, coordinators, heads of department, managers and vice presidents

WORKER TURNOVER RATE IN ECOPETROL

GRI | 401-1 |

The worker turnover rate (IRP for its Spanish acronym) in Ecopetrol for the years 2016 to 2019 was:

Table 38. Worker turnover rate

Worker turnover rate	2016	2017	2018	2019
Male	4.7	4.5	3.1	3.4
Female	4.8	5.7	4.9	6.6*

Source: Ecopetrol, Vice Presidency of Human Talent

* Despite the fact that the number of women leaving the Company is lower than the number of men, their rotation rate is higher because the proportion of women in Ecopetrol is lower than that of men.

REMUNERATION

Ecopetrol's Remuneration Policy seeks to ensure job conditions that motivate workers to give their maximum commitment and potential to the Company, thus ensuring attraction and loyalty.

This policy is approved by the Board of Directors, and is based on the recommendations made by the Remuneration and Appointments Committee, which analyses and makes recommendations regarding the Company's and Ecopetrol Group companies' remuneration scheme.

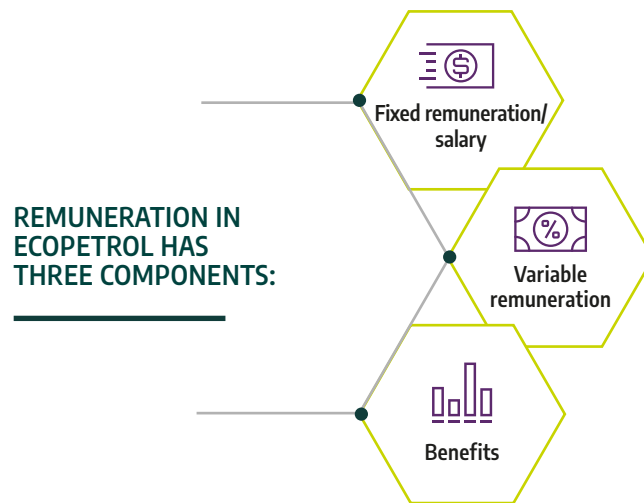
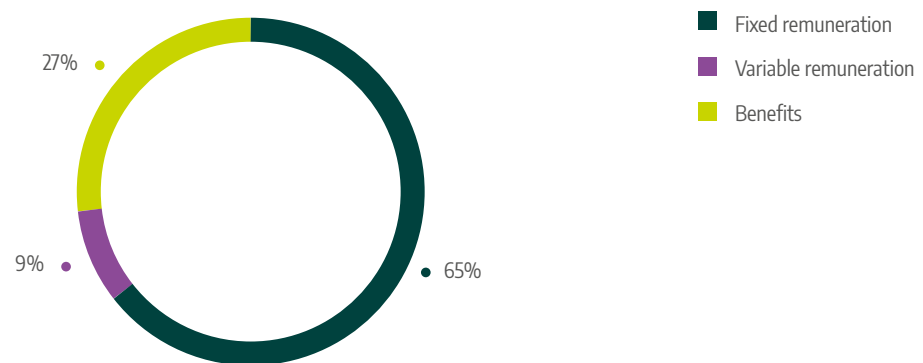


Figure 72.
Total Remuneration



Source: Ecopetrol, Vice Presidency of Human Talent

Fixed remuneration is determined as a measurement of the duties assigned to each worker, variable remuneration is paid based on Company's results and individual performance, and benefits are paid in kind, as a contribution to the workers' quality of life.

The remuneration recognized is annually reviewed against a market competitiveness study, which measures information from benchmark markets, ensuring competitiveness, attraction and retention of Company workers.

FIXED
REMUNERATION

The following is a general overview of the remuneration structure components:

GRI | 102-30 |, | 102-35 |

Fixed remuneration includes all payments received by our workers (salary, legal and extralegal labor benefits, and other components).

In terms of fixed payments (cash income) Ecopetrol uses a salary band between 80% and 120% of the benchmark market, which allows for progressive worker salary increases, based on performance, experience and competencies

requirements, among other criteria, and the established labor expenditure budget allocated for growth.

Using fixed payments as the benchmark, a systematic equality analysis is completed, in an effort to ensure that workers in equivalent position receive a fixed remuneration within the established ranges, in accordance with the position.

The following is some specific data on fixed remuneration:

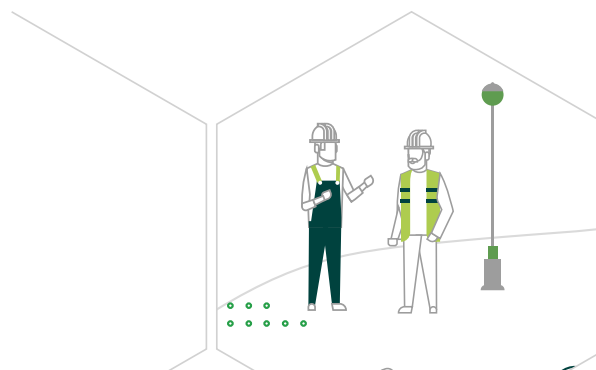


For 2019, the legal minimum wage in force (SMLV for its Spanish acronym) in Colombia was \$828,116; in Ecopetrol, based on the salary structure, the lowest monthly salary established for January 2019 was \$1,983,570, which is 2.4 times the SMLV or 140% above the Colombian minimum wage. Table 39 shows information for the years 2016 to 2019.

Table 39. Difference between minimum monthly salary and that of Ecopetrol

Year	Minimum salary in Colombia (SMLV)	Minimum salary in Ecopetrol	No. of SMLV equivalent to the minimum salary at Ecopetrol	Percentage difference (%)
2016	\$689,455	\$1,721,850	2.5	150%
2017	\$737,717	\$1,811,400	2.5	146%
2018	\$781,242	\$1,891,290	2.4	142%
2019	\$828,116	\$1,983,570	2.4	140%

Source: Ecopetrol, Vice Presidency of Human Talent





The general salary increase recognized for 2019 was 4.88%, which is 0.47% higher than the 4.41% increase for 2018. Table 40 shows the general salary increase recognized for the years 2016 to 2019:

Table 40. General salary increase

Years	% of general increase
2016	9.81%
2017	5.20%
2018	4.41%
2019	4.88%

Source: Ecopetrol, Vice Presidency of Human Talent



For 2019, the fixed remuneration of the best paid person in the Company is equivalent to eight times the average cash income of all other workers. Table 41 indicates this same information for the years 2016 to 2019:

Table 41. Average fixed payment of the best paid worker

Years	Times the average fixed payment of the best paid worker
2016	8.6
2017	8.4
2018	8.2
2019	8

Source: Ecopetrol, Vice Presidency of Human Talent

GRI | 102-39 |, | 405-2 |

Ecopetrol guarantees equal remuneration for men and women, taking into consideration that the reference remuneration applied is associated to the position, regardless of whether it is occupied by a man or a woman. Average monthly cash income between women and men shows some percentage differences, which are explained by the gender ratio (1 woman for every 3.34 men).

Acacias Station, department of Meta



The remuneration ratio of women to men for the different position levels is shown below.

Table 42. Average salary difference between men and women (Men 100%)

Map of positions	Level	Ratio
		Women vs Men
Professional technical and leadership	23	101%
	22	99%
	21	96%
	20	94%
	19	97%
	18	98%
	17	100%
	16	100%
	15	98%
	14	98%
	13	96%
	12	86%
Operations	11	88%
	13	95%
	12	104%
	11	116%
	A	83%

Source: Ecopetrol, Vice Presidency of Human Talent

VARIABLE REMUNERATION

The Company's variable remuneration is approved by the Board of Directors based on the recommendation of the Remuneration and Appointments Committee, provided in keeping with business performance results as determined on the Balanced Scorecard (TBG for its Spanish acronym). These results are supplemented by individual

performance, which aligns the worker's work with the business objectives for the year. This variable element of remuneration is determined and assigned considering factors such as the result of financial and management indicators, compliance factors, HSE and the individual performance of each worker.

Table 43. Eligible for variable remuneration and % paid vs. budgeted

Year	No. of eligible employees	% paid vs. budgeted (Company Global)
2016	8,706	90.10%
2017	9,057	108.40%
2018	9,311	92.50%

Source: Ecopetrol, Vice Presidency of Human Talent

Variable remuneration based on results for 2019 is reviewed between January and April of 2020, after the review and completion of the individual performance evaluation process currently in force.

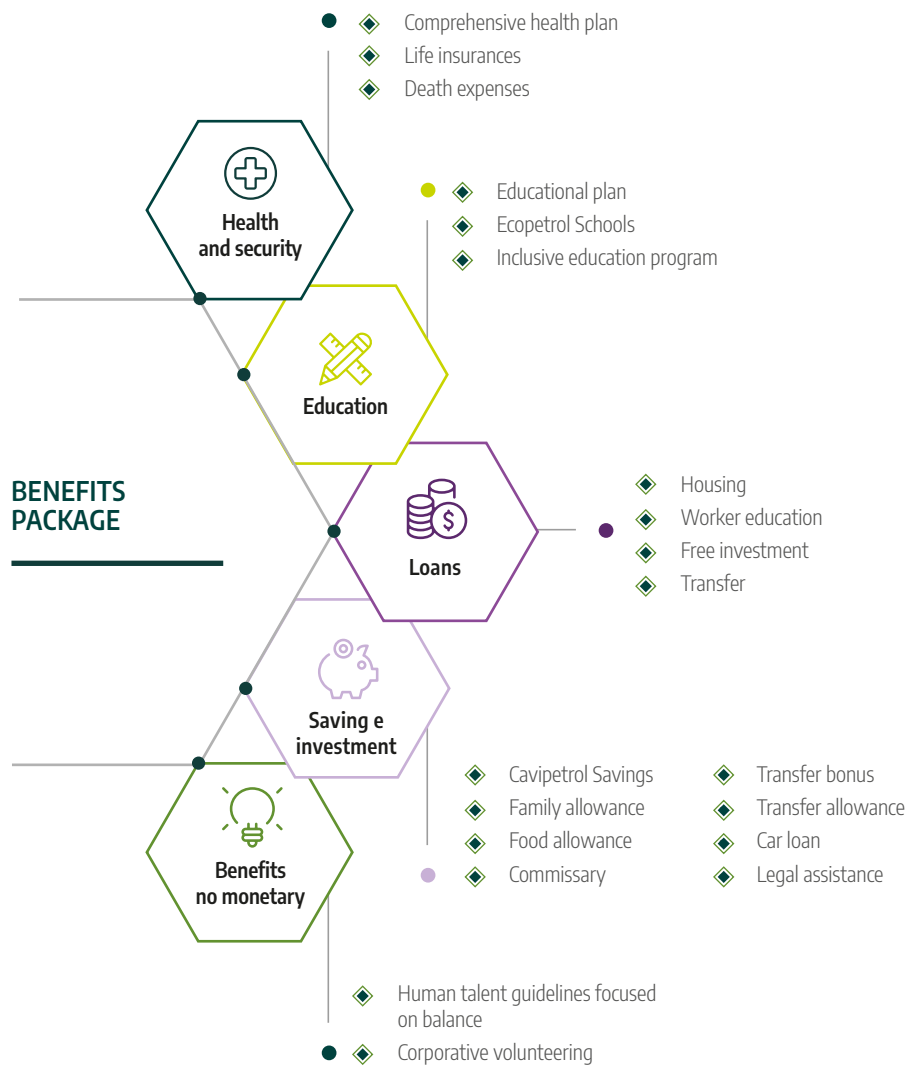
BENEFITS

GRI | 401-2 |

opetrol offers an attractive and competitive benefits package for its workers and their families, focusing on five large components:

Figure 73.

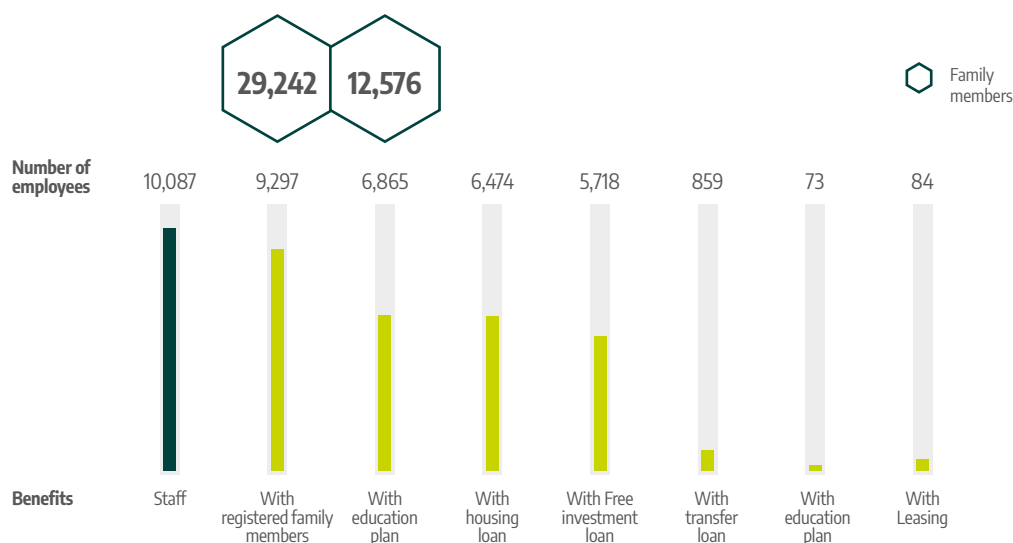
Benefits Package



Source: Ecopetrol, Vice Presidency of Human Talent

Figure 74 shows benefit coverage and the application thereof as of December 31, 2019.

Figure 74.
Benefits coverage



Source: Ecopetrol, Vice Presidency of Human Talent

Health

Regarding health services, within the framework of the General Social Security Health System exception scheme foreseen in Law 100 of 1993, Ecopetrol acts as insurer and health service provider, and as the occupational hazard administrator of its workers.

Education

In 2019, Ecopetrol invested \$171,748 million pesos in education benefits for its workers and their family members. Table 44 shows the investment in education for the years 2016 to 2019.

Table 44. Investment in education (millions of pesos)

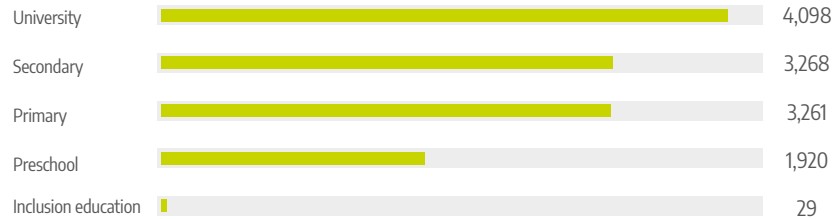
	2016	2017	2018	2019
Investment in education	\$112,689	\$131,517	\$163,807	\$171,748

Source: Ecopetrol, Shared Services Management



Figure 75 shows the distribution of beneficiaries of the 2019 Education Plan.

Figure 75.
Beneficiaries of
the Education Plan
for 2019



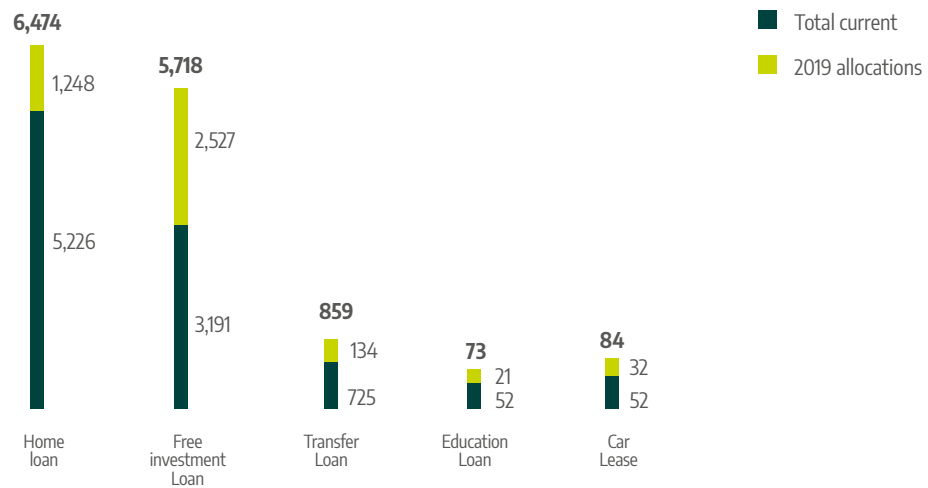
Source: Ecopetrol, Vice Presidency of Human Talent

235

Loans

Figure 76 shows the total number of loans and allocations carried out for the year 2019.

Figure 76.
Total number of
loans and allocations
for 2019



Source: Ecopetrol, Shared Services Management

In accordance with the restriction established by the Securities and Exchange Commission (SEC) regarding the granting of personal loans to Executive Officers, the incumbents

of the positions of President, Executive Vice President of Operations and Corporate Vice President of Finance may not be beneficiaries of this loan.

Non-monetary benefits

Ecopetrol offers its employees a series of non-monetary benefits and incentives, such like permits, corporate volunteering, fractional holidays and extended motherhood and fatherhood.

GRI | 401-3 |

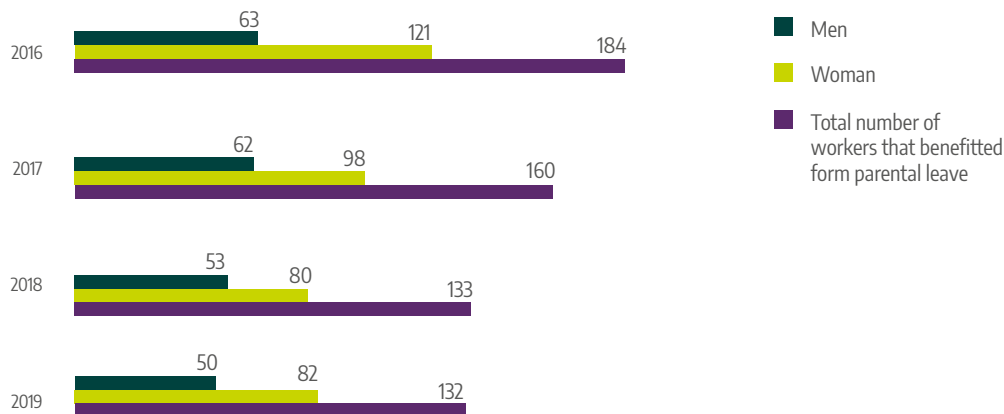
Extended maternity and paternity leave are paid leave that provide an additional period of time to the one stipulated by law, allowing working mothers to gradually return to their

jobs, and providing fathers with the possibility of spending three more days with their babies.

As of December 31, 2019, 100% of the workers who benefitted from the extended maternity and paternity leave continued working for the organization; 130 of these workers have returned to their jobs, and two are still on leave.

Figure 77.

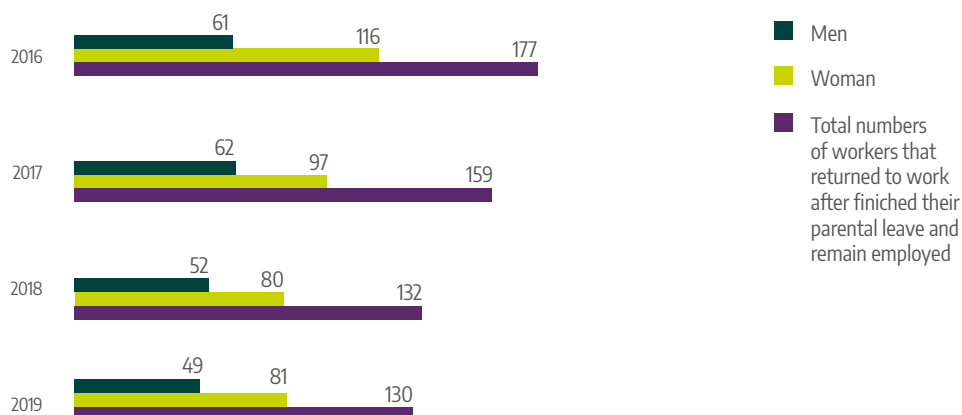
Total number of workers who have benefitted from the maternity/paternity leave, by gender



Source: Ecopetrol, Vice Presidency of Human Talent

Figure 78.

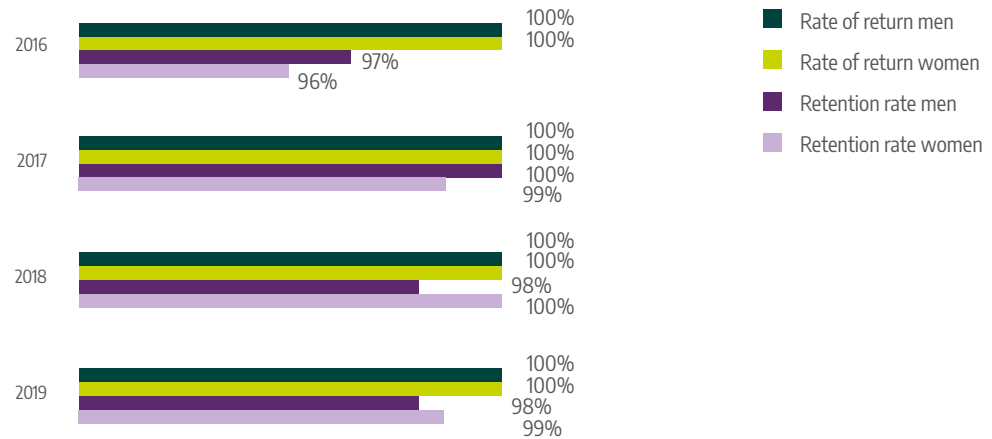
Total number of workers who return to their position after completing their maternity/paternity leave, and continue working for the organization, by gender



Source: Ecopetrol, Vice Presidency of Human Talent

Figure 79.

Rate of return to work for workers who benefitted from the maternity/paternity leave, by gender



Source: Ecopetrol, Vice Presidency of Human Talent

In 2019, flex-time was implemented nationwide, with the cities of Bogotá, Piedecuesta and Neiva reporting the use of this measure. Workers can opt for up to five work shift alternatives, in addition to their usual shift. Furthermore, a telecommuting pilot program was started with the participation of 71 workers.

PENSION OBLIGATIONS AND RETIREMENT PROGRAMS

In 2019, the nationwide engagement strategy with Pensioners and Pensioners' Associations focused on strengthening the relationship of trust between Ecopetrol and this stakeholder group, through the fulfillment of commitments; addressing of requests, complaints and claims; and the offering of direct dialogue spaces in Barrancabermeja, Cartagena, Barranquilla Sincelejo, Bogotá, Cali, Bucaramanga. In these dialogues, relevant and significant agenda issues for this population were addressed, such as the provisional replacement of the pension, inclusive education, delivery of responses and solutions to requests, claims and complaints, etc.

In accordance with Colombian labor regulations, 12% of the social security pensions are covered by Ecopetrol while the worker contributes with 4% of their base income.

Likewise, pensioners and their families are subject to health and education benefits in accordance with Ecopetrol's exception regime. In 2019, health services were provided to 12,713 pensioners and 13,784 family members. Likewise, 3,703 children of pensioners were covered by an educational plan, with an investment of 45,864 million pesos.

In 2019, there were no plans associated with voluntary worker retirement.

LEARNING, KNOWLEDGE AND PERFORMANCE EVALUATION

GRI | 103-1 |

LEARNING

Ecopetrol University is an essential component to ensure Company workers acquire the competencies required to achieve the corporate strategy. The following are the main approaches and initiatives developed during 2019:

Academies

As of 2016, Ecopetrol University has created and implemented training academies within the framework of the organization's duties, in order to provide learning courses for training programs and practice scenarios to develop and/or strengthen competencies. This includes the definition of competencies,

curricula or training plans and the implementation of actions for their completion.

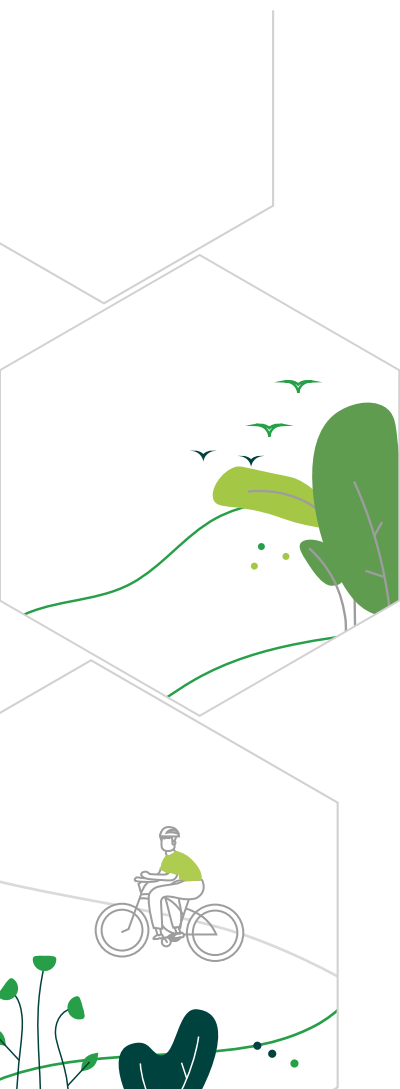
GRI | 103-2 |

There are currently 23 academies, where different activities were carried out throughout the year:

GRI | 404-1 |

Table 45. Academies developed in 2019

Academy	Relevant actions executed
Petro-technical	<ul style="list-style-type: none"> • +6,800 training activities executed • +100 thousand hours of training • +5 training activities and +85 training hours by worker • +200 participation in external events; 27% of actions occurred in external scenarios
Operations	<ul style="list-style-type: none"> • +67 thousand training activities executed • +227 thousand hours of training • +22 training activities and +75 training hours by worker • +140 participation in external events
Maintenance	<ul style="list-style-type: none"> • +11,000 training activities executed • +90 thousand hours of training • +7.7 training activities and +62 training hours by worker • +130 participation in external events
Supply chain	<ul style="list-style-type: none"> • + 1,100 training activities executed • +13 thousand hours of training • +7.7 training activities and +87 training hours by worker • +20 participation in external events
Sales and marketing	<ul style="list-style-type: none"> • + 670 training activities executed • +5,500 hours of training • +9,7 training activities and +80 training hours by worker • +110 participation in external events



Academy	Relevant actions executed
HSE	<ul style="list-style-type: none"> • +700 training activities executed • +12,800 hours of training • +6 training activities and +100 training hours by worker • +400 participation in external events <p>Note: Figures do not include transversal activities in HSE</p>
Product quality	<ul style="list-style-type: none"> • +500 training activities executed • +3,400 hours of training • +5 training activities and +36 training hours by worker • 20 participation in external events
Digital	<ul style="list-style-type: none"> • +620 training activities executed • +7,000 hours of training • +4,5 training activities and +50 training hours by worker • +60 participation in external events
Innovation and Technology	<ul style="list-style-type: none"> • +280 training activities executed • +2,900 hours of training • +2,6 training activities and +28 training hours by worker • 42 participation in external events
Leadership	<ul style="list-style-type: none"> • +11,000 training activities executed • +76 thousand hours of training • +10 training activities and +72 training hours by worker • +80 participation in external events
Projects	<ul style="list-style-type: none"> • +980 training activities executed • +9,600 hours of training • +3 training activities and +30 training hours by worker • +25 participation in external events
Human Talent	<ul style="list-style-type: none"> • +870 training activities executed • +7,100 hours of training • +4,4 training activities and +36 training hours by worker • +95 participation in external events
Procurement	<ul style="list-style-type: none"> • +2,500 training activities executed • +23,000 hours of training • +5,8 training activities and +50 training hours by worker • +100 participation in external events
Finance	<ul style="list-style-type: none"> • +1,200 training activities executed • +13,500 hours of training • +3 training activities and +40 training hours by worker • +20 participation in external events
Strategy and New Businesses	<ul style="list-style-type: none"> • +300 training activities executed • +2,400 hours of training • +6 training activities and +50 training hours by worker • +40 participation in external events

Academy	Relevant actions executed
Legal	<ul style="list-style-type: none"> +500 training activities executed +3,800 hours of training +4,5 training activities and + 33 training hours by worker +45 registrations to external events
Internal Audit	<ul style="list-style-type: none"> +130 training activities executed +1,100 hours of training. +4 training activities and +34 training hours by worker 7 participation in external events
Health	<ul style="list-style-type: none"> +1,200 training activities executed +7,500 hours of training +5 training activities and +33 training hours by worker 40 participation in external events
Administrative Services	<ul style="list-style-type: none"> +1,000 training activities executed +7,800 hours of training. +3,9 training activities and +28 training hours by worker +40 participation in external events
Real estate services	<ul style="list-style-type: none"> +100 training activities executed +550 hours of training +4 training activities and +20 training hours by worker 14 participation in external events
Compliance	<ul style="list-style-type: none"> +400 training activities executed +7,300 hours of training +6 training activities and +100 training hours by worker 16 participation in external events
Sustainability and the Environment	<ul style="list-style-type: none"> +700 training activities executed +21,000 hours of training +3,7 training activities and +100 training hours by worker +50 participation in external events
RSE – Social Responsibility	<ul style="list-style-type: none"> +180 training activities executed +3,000 hours of training +3,7 training activities and +60 training hours by worker 24 registrations

Source: Ecopetrol, Vice Presidency of Human Talent



COMPETENCIES

Worker competencies are essential to meet the challenges arising from the 2020+ Strategy, consequently, Ecopetrol has made a significant effort to assess, develop and consolidate competencies in both the petro-technical worker population and the general worker population.

Table 46 shows the results obtained in the past three years, which indicate a significant increase both in the base of the population assessed and in the percentage of the population with proven competencies.

Table 46. Valuation of competencies

Type of Population	2017		2018		2019	
	% of population with proven competencies	Base	% of population with proven competencies	Base	% of population with proven competencies	Base
Petro-technical population	46.8%	716	71.3%	931	82.8%	1,195
General population	66%	696	65.5%	7,282	71.2%	7,472

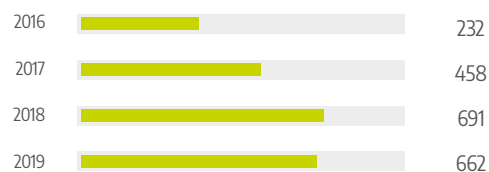
Source: Ecopetrol, Vice Presidency of Human Talent

GRI | 103-3 |

Development

During 2019, more than 662 thousand hours of training were given, with an average of 65.6 approx. hours/person of training per worker.

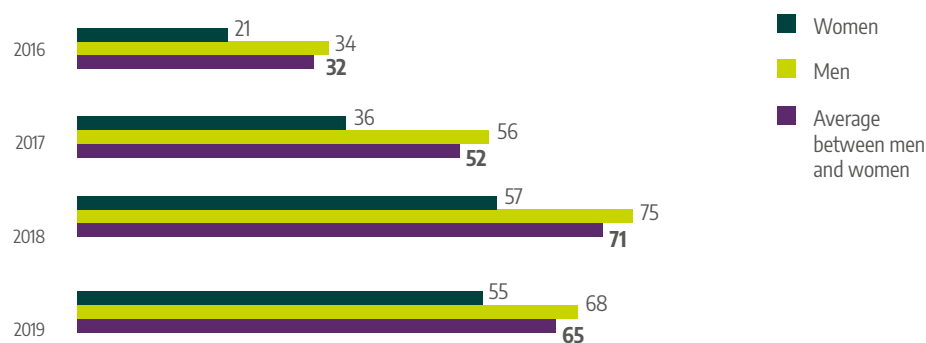
Figure 80.
Hours of training
(thousands)



Source: Ecopetrol, Vice Presidency of Human Talent

During 2019, the number of hours of training given to men and women show less dispersion in terms of hours of training than that of 2018, as can be seen in Figure 81.

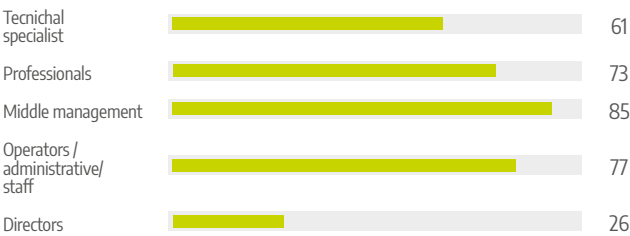
Figure 81.
Average of hours of
training by gender



Source: Ecopetrol, Vice Presidency of Human Talent

During 2019, the average hours of training for operators, technicians, professionals and middle management was above 60 hours.

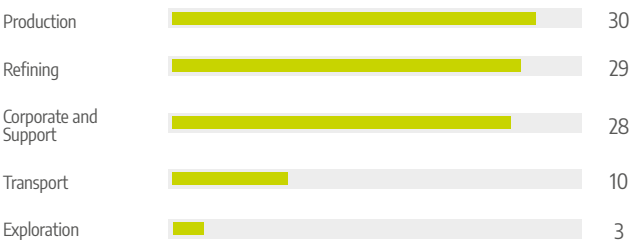
Figure 82.
Average hours of training by type of position



Source: Ecopetrol, Vice Presidency of Human Talent

In 2019, more than 70% of hours of training focused in the Company’s productive chain businesses (see Figure 83).

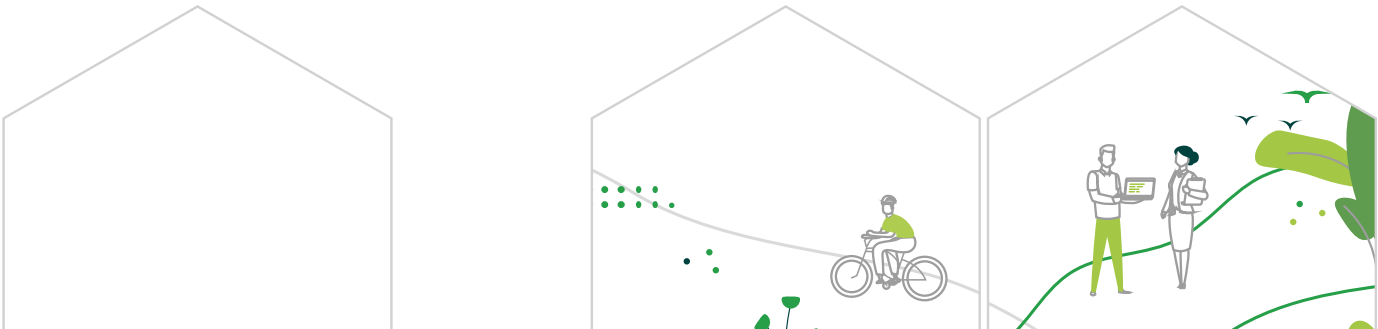
Figure 83.
Distribution of hours of training by business segment (%)



Source: Ecopetrol, Vice Presidency of Human Talent

During 2019, the University offered more than 1,500 training activities, 182 on-the-job trainings and 145 virtual courses accessed

from the corporate learning platform and from mobile devices, and virtual contents offered to Ecopetrol Group companies.



KNOWLEDGE

The path of more than 15 years that knowledge management has traveled in Ecopetrol continues to consolidate. Below are the management mechanisms of knowledge most used during the term.

Technological Environment Forums:

used when a trend or critical situation needs to be reviewed and to generate initiatives needed to adjust the strategy. Four forums were held in 2019:



Air quality 2019



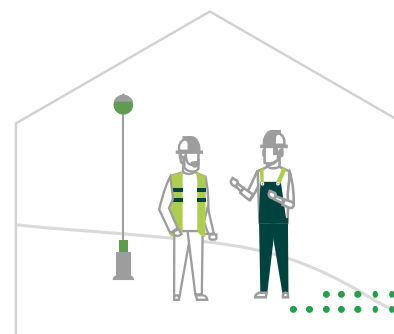
2nd International Projects Forum



Oil Recovery Enhancement



Comprehensive Water Management in Unconventional Deposits



Expert Level Meetings (RANE):

are used to solve specific problems, standardizing or sharing best practices. During 2019, three RANEs were held on:

- Energy efficiency –Artificial Lift Systems
- Electric and steam generation
- Emergency management for the Business Group

E+ talks:

Foster knowledge transfer, organizational learning and leverage a culture of collaboration and creativity in Ecopetrol and its Group. During 2019, 50 E+ Talks were held on different topics of significant interest and impact for Ecopetrol, such as Exploration, Deposits, Production, Refining, Transportation, Sales, Marketing, Projects, Research and Development, Human Talent, Welfare, Ethics and Transparency, among others.

Practice Communities:

To date there are more than 30 active Practice Communities, comprised by groups of people who voluntarily meet to share their common interests and knowledge.

Knowledge Transfer Plans:

We continued to structure and implement knowledge transfer plans for workers with critical knowledge, relevant to the corporate strategy.

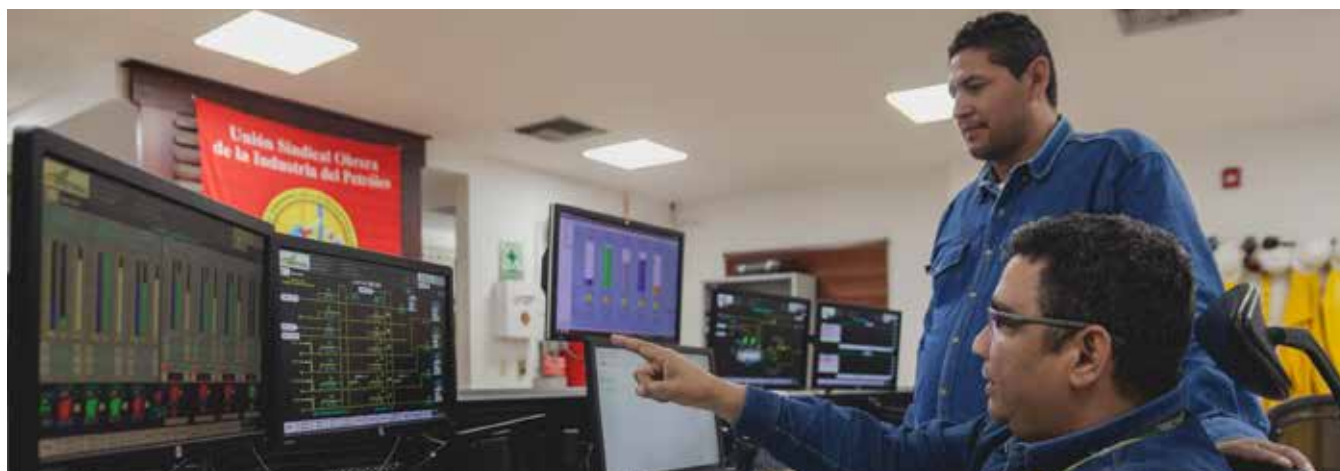
GRI | 404-3 |

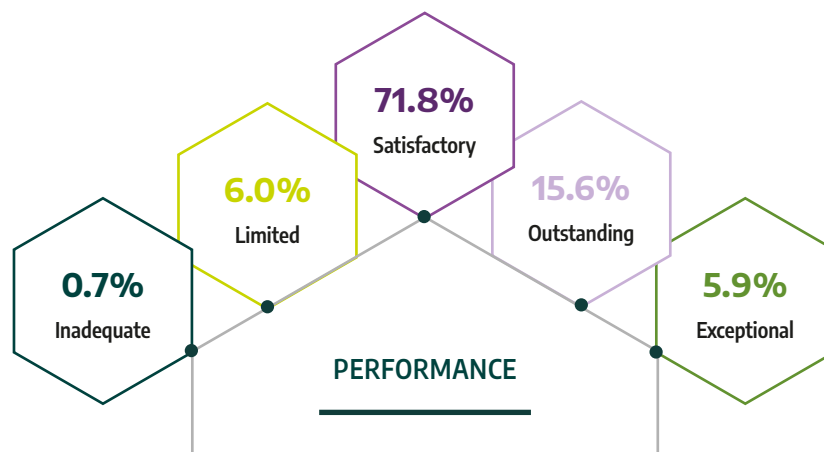
PERFORMANCE EVALUATION

The Performance Evaluation Model retains its essence and structure since 2016. The cycle covered by the evaluation is January to December.

During 2019, the evaluation focused in the following elements:

- Development of feedback competencies for heads of the operational areas.
- Alignment of personal and organizational goals.
- Alignment and assurance of the individual performance evaluation model with the Ecopetrol Group.





Source: Ecopetrol, Vice Presidency of Human Talent

The classification of individual performance evaluations for 2019 results will be completed in 2020.

DEVELOPMENT AND LEADERSHIP

During 2019, Ecopetrol continued to strengthen the competencies of the Company's leadership team and the development of a new generations of leaders, building and consolidating organizational abilities that allow for sustainable organizational growth through the following initiatives:

360° leadership competency evaluation

For the third year running, leader evaluations were completed, with the following noteworthy results:

- Increased coverage to department head level, from 117 leaders assessed in 2017, 154 in 2018 to 347 in 2019.
- Exceeded the results of the evaluation with a 3.95 for 2019 compared to 3.88 in 2018.
- 73% of leaders evaluated in the leadership dimensions scored in the competent leader range and for 27% of them, developmental level factors were identified.



Ecopetrol Leadership Academy

The evolution that has taken place in terms of leadership competencies can be attributed to the significant advances and contributions provided by the Leadership Academy, through a range of development actions aligned with the 70/20/10 development model: 70% experience and practice (exposure, rotation,

internships, self-development), 20% personal and relationship development (coaching, mentoring and tutoring) and 10% classroom training (formal courses, conferences and e-learning).

The following is a summary of the main actions completed and their coverage:

Table 47. Actions completed by the Leadership Academy

Actions completed by the Leadership Academy	Coverage (People)
UEC Collective leadership module 1	104
UEC Collective leadership module 2	89
UEC Immersion Silicon Valley	43
UEC Leadership – Evolution with purpose	886
UEC Leadership - The art of self-leadership	146
UEC Leadership - Performance Model and Feedback tools	562
UEI Comprehensive Program for Supervisors – HT Management	287
UEI HSE Leadership in the Oil & Gas industry	309
Direct Coaching Processes	121
Team alignment	23 sessions
UEC Challenging conversations Mckinsey Academy	143
UEC Managing work teams Mckinsey Academy	136
UEC Conflict resolution Mckinsey Academy	415

Source: Ecopetrol, Vice Presidency of Human Talent



GRI | 404-2 |

Succession planning

We have a succession program wherein we continually assess leaders and candidates for succession planning, in order to define development plans that allow for early preparation. This is a cyclical process in which new critical leadership positions and new candidates are reviewed and included each year.

By year-end 2019, 195 critical leadership positions were defined for succession at the director, management and department head levels. Ecopetrol has a base of 660 candidates. The results of the process are consolidated in 29 talent maps, 26 for Ecopetrol and three for the Ecopetrol Group.

Developing New Generations

In order to foster the development of new generations to permit growth and generational change in Ecopetrol, new talent development in the organization continues to be consolidated, based on the following programs:

Young Potential and “Semillero” Programs

In 2019, we identified, assessed and developed young people with high growth potential in the organization, in an effort to build the foundation for the next generation of Company leaders.

In 2019, the participants of the *Semillero* Program (incubator program) completed their second year of training and received their degree to continue their professional life in the corresponding areas according to the organizational needs. The second group started the program, and currently we have 21 participants distributed in different areas according

to the growth strategy, who have started their learning and development program in conjunction with Ecopetrol University.

Their training plan consists of:

- Technical and human training.
- Assessment of potential and development.
- Field visits and mentoring.

WORK ENVIRONMENT AND WELFARE

ORGANIZATIONAL CLIMATE

In 2019, the Work Environment Index was measured using the international methodology of the Great Place To Work Institute (GPTW), where the Company obtained a score of 62.2 points.

WELFARE

Ecopetrol is dedicated to ensuring a suitable work environment for its workers. To this end, the 2017-2020 Wellness Program was created, which seeks the comprehensive wellbeing of each worker, promoting a balance between work and personal life, and the achievement of good physical and emotional health to develop their full

potential and thus contribute to the sustained growth of the Company's strategy. In accordance with the above, we continued working on the defined strategy, framed within three interrelated cornerstones, which respond to the needs of Ecopetrol's workers: have fun, share and take care of yourself.

7,585 people participated in the “have fun” component, 10,598 in “share” and 5,484 in “take care of yourself”. Transversal activities consisted of Wellness Talks wherein 8,534 people participated and the physical conditioning program for which 4,309 people registered.

The 2019 Ecopetrol National Olympics were held, with the participation of workers from all the of the Company’s regional offices. 4,984 workers participated in 10 different sports.

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ACKNOWLEDGMENTS

Ecopetrol’s Acknowledgment Program is comprised of the following elements:

Daily acknowledgements:

Ecopetrol has a tool whereby worker acknowledgements are recorded. For 2019, the figure reached 38,143 acknowledgements made by the workers themselves.

experience, acknowledging their 10, 20 and 30 years of continuous work in the Company.

“Abotonados”:

In 2019, a special award was given to 798 workers, for their contribution and

Ecopetrol 2019 Excellence Awards:

seeks to highlight workers who stand out as an example at Ecopetrol, both in terms of cultural behavior and results expected by the organization.



MATERIAL
TOPICLOCAL
COMMUNITIESStandard
GRI applied

GRI | 413 |

Local communities

GRI | OG-12 |

Resettlements

● Why is it a
Material topic?

GRI | 103-1 |

The design, implementation and monitoring of effective social management strategies are of great value both in terms of relationships and of their contribution to local development. An adequate relationship with the community, from the first development stages of projects and activities, becomes a key factor to avoid the emergence of conflicts and protests in the future.



● How is the
topic managed?

GRI | 103-2 |

Through its environment management strategy, Ecopetrol seeks to ensure the viability of its operations. The strategy includes the allocation of a social investment budget to support initiatives and projects that have an impact on environmental and generation of prosperity conditions. There is also a social impact management component, aimed at preventing negative impacts on the population and avoiding conflicts generated by the Company's operations.



● How is the
topic assessed?

GRI | 103-3 |

In order to evaluate the work with local communities, indicators are used for: development of programs with the participation of the local community, compliance with programs and management measures for the management of social impacts, monitoring of the timely handling of complaints and claims from stakeholders and consultation on stakeholder perception and expectations.

Impact coverage

GRI | 103-1 |



● Process within
Ecopetrol where the
most significant impact
is generated

Environment management.



● Stakeholder group
where the most
significant impact
is generated

Society and the community.



● Area managing
the impact

Vice Presidency of Sustainable and Environmental Development.



SOCIETY AND COMMUNITY

• • •

GRI | 103-2 |

MANAGING THE GENERAL ENVIRONMENT

The aim of the general environment management strategy is to contribute to the creation of shared prosperity conditions that support the viability of the projects and the consolidation of operations, thus ensuring the growth of Ecopetrol and the Group's economic value. Its specific goals are:



Maintain business operability and foster sustainable development in the territories, whilst maintaining the capacity to adapt to conditions in the environment.



Contribute to the generation of economic, social and environmental benefits, while ensuring that the stakeholder groups perceive and value the presence of Ecopetrol and the Group's in the territories.



Reach excellent levels of environmental performance in all corporate processes.

Ecoreserva La Tribuna, Chispiadal Waterfall, Huila department



This strategy establishes four strategic axes: Environmental Management, Physical Security, Engagement and Social Investment. These axes are aligned with the Sustainable Development Goals (SDGs) and the National Development Plan.

OBJECTIVES OF THE ENVIRONMENT MANAGEMENT STRATEGY

Builds relationships of trust with different actors in the territory, which favors the achievement of corporate objectives and contributes towards sustainable development.



Engagement

Prevents, controls, mitigates and compensates potential environmental impacts. Obtains the permits and authorizations. Carries out both voluntary and mandatory environmental investment projects.



Environmental Management

Contributed towards generating sustainable development. Foster the participation in territorial planning and the construct of long-term development outlooks.



Social Investment

Implements a prevention model through technology, support from law enforcement authorities and legal actions which help ensure the viability the operations and projects of Ecopetrol and its Business Group



Physical Security

SUSTAINABLE DEVELOPMENT GOALS

Plan Nacional de Desarrollo
2018 - 2022

KEY SOCIAL INDICATORS

The following are the 2019 results for two key social indicators, within the framework of the Environment Management Strategy, as well as the goals established for 2020:

Table 48. Key social indicators

Indicator	Description	Unit	Goal / Maximum limit* 2019	Real Value 2019	Goal / Maximum limit 2020
Level of perception of Stakeholder groups: Society and the Community and local government	Measures the effectiveness of socio-environmental investment within the framework of the Environment Management Strategy, through the level of perception of the stakeholders Society and Community and Local Government.	Percentage	60	72	70
Compliance with Socio-environmental Investment goals	Measures compliance with project goals and Sustainable Development Portfolio initiatives. This indicator allows for the verification of the delivery of project results and initiatives within the framework of compliance with the Environment Management Strategy	Percentage	95	93	95

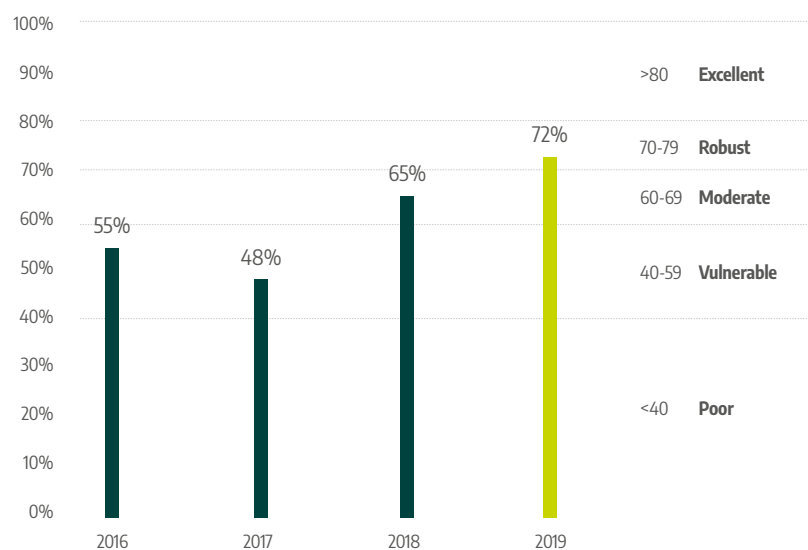
Source: Ecopetrol, Vice Presidency of Sustainable Development

The Stakeholder Perception Level indicator: Society and Community and local government, reached 72% in 2019, which means that the perception of this stakeholder group regarding the Company went from vulnerable in 2018 to robust in 2019. This result is the best in the last

5 years (9% increase compared to 2018), highlighting the good results in matters such as building relationships that generate trust, acknowledging the interests and expectations of the interest group, promotion of dialogue and communication and work for the welfare of communities.

Figure 84.

Perception Level of Stakeholder Groups Results: Society and Community and Local Government



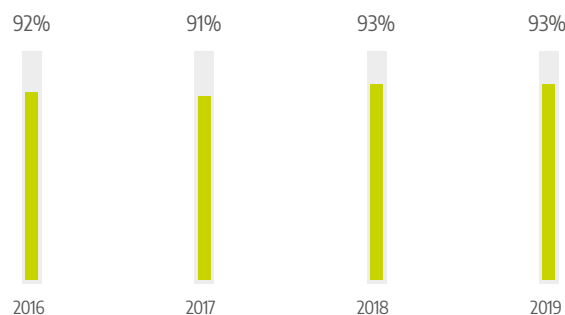
Source: Ecopetrol, Vice Presidency of Sustainable Development

The Social-Environmental Investment Target Compliance indicator reached 93% in 2019, which is equivalent to meeting the targets of 45 social-environmental investment projects planned for the period (12% more than in 2018), of which two delivered partial goals. Included in the main results delivered in 2019, within the framework of the

indicator's measurement baseline are: 6,155 school kits delivered, 98 families benefited from productive projects, 1,000 families supported through the Entrepreneurship and Business Development line, 153.6 km of suitable roads were built, and 1,380 families gained access to public services in their homes.

Figure 85.

Socio-environmental investment goals compliance results



Source: Ecopetrol, Vice Presidency of Sustainable Development

SOCIAL INVESTMENT

GRI | 201-1 |

In 2019, social investment projects and initiatives (strategic / voluntary and mandatory) were implemented for the amount of COL \$229,684 million, representing an increase of 50% in the amount invested, compared to the investments made in 2018.

The identification, execution and completion of social investment projects is part of Ecopetrol's General Environment Strategy.

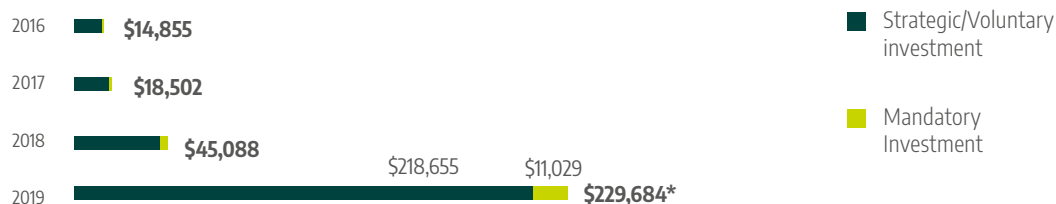
Below is the performance of social investments executed over the past four years (see Figure 86).

253

Figure 86.

Ecopetrol's social investments

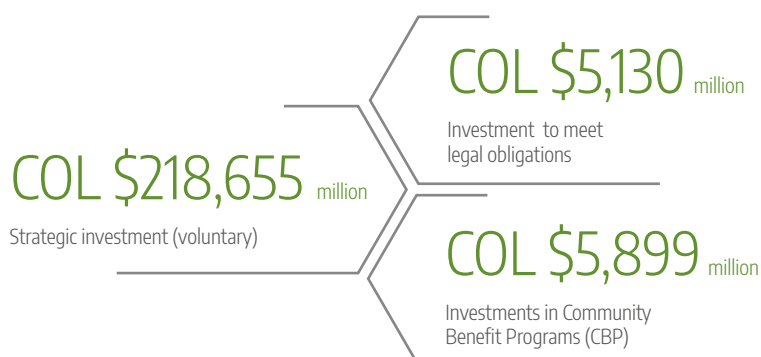
(figures in millions of pesos)



Source: Ecopetrol, Vice Presidency of Sustainable Development

* In 2019, Ecopetrol invested resources in socio-environmental projects and initiatives totaling COLOMBIAN (COL) \$245,462 million. Of this amount, COLOMBIAN (COL) \$229,684 million correspond to social investment projects reported in this chapter. The remaining COLOMBIAN (COL) \$15,778 million corresponds to voluntary environmental investment projects and are part of the environmental investments reported in the environmental chapter of this report.

The social investment projects and initiatives for the year 2019 are classified based on their origin as follows:



In 2019, the projects and initiatives by reason of voluntary investment were executed within the following areas and obtained the following results (see Table 49).

Table 49. Voluntary social investment projects for 2019

Area of investment	Amount invested (MCOP)	Results for 2019
Road and social community infrastructures	\$108,691	163 Km of road works* 10 Infrastructure works
Education, Sports and Health	\$49,509	130,166 Beneficiaries*
Access to public services	\$47,756	Gas: 3,588 Users Water: 7,456 Beneficiaries
Inclusive rural development	\$6,270	134 families benefitted from productive processes
Business entrepreneurship and development	\$5,424	184 entrepreneurs
Institutional and community strengthening	\$1,005	19,715 beneficiaries

Source: Ecopetrol, Vice Presidency of Sustainable Development

* Includes information on tax exempt public works

The projects and initiatives by reason of mandatory investment were executed within the following lines (see table 50).

Table 50. Compulsory social investment projects for 2019

Area of investment	Amount invested (MCOP)	% of investment
Road and social community infrastructures	\$6,225	56%
Inclusive rural development	\$1,710	16%
Education, Sport and Health	\$948	9%
Institutional and community strengthening	\$2,146	19%

Source: Ecopetrol, Vice Presidency of Sustainable Development

Social investment executed in 2019 focused on the regions where the Company has the greatest presence, in order to ensure the viability of investment projects, operations and development of the territories.

Table 51. Voluntary and mandatory Social Investment by region for 2019

Region	Voluntary investment (MCOP)	Mandatory investment (MCOP)	Inversión Total (MCOP)	%
Central	\$98,246	\$180	\$98,426	43%
Catatumbo Arauca	%	\$951	\$41,978	18%
Orinoco	\$38,974	\$2,559	\$41,533	17.6%
Corporate (National impact)	\$29,254	\$0	\$29,254	13%
South	\$7,670	\$5,642	\$13,312	6%
Eastern	\$2,535	\$1,698	\$4,233	2%
Caribbean	\$779	\$0	\$779	0.3%
Transport	\$170	\$0	\$170	0.1%
Total	\$ 218,655	\$ 11,029	\$ 229,684	100%

Source: Ecopetrol, Vice Presidency of Sustainable Development



GRI | 203-1 | 413-1 |

Areas of social investment

The most important areas of social investments and their results for 2019 were the following:

Education and sports

Ecopetrol is interested in promoting school quality, coverage and attendance in an effort to close educational gaps and foster healthy lifestyles:

**Better quality:**

Investments that allow children to learn better and learn more. This includes teacher trainings, school endowments, as well as monitoring to ensure sustainability.

In the municipalities of Tibú, Toledo, Cicuco, Acacías, Castilla, Villavicencio and Guamal, strategies were applied to implement classes on peace, sexual and

reproductive education and environmental education for more than 44,000 children and youngsters. In the rural areas of the municipalities of Puerto Gaitán, Puerto Wilches, Tauramena, Aguazul, Villavicencio, Acacías, Castilla, Guamal, Orito, Valle del Guamuez, Puerto Caicedo and Ipiales, 15,000 students have benefited from the *Escuela Nueva* methodology.

**Increased coverage:**

Includes activities that increase the number of available spaces for students, through new infrastructure or its improvement, reconstruction or rehabilitation, as well as through the offer of educational quotas or scholarships

In terms of investment in infrastructure, the construction of three (3) Child Development Centers (CDI) (Paujil, El Doncello and Toledo) and a new partnership agreement to build another 8 CDIs in Yopal, Palmira,

Condoto, Curillo, Mitú, Tibú, Aracataca and Neiva are noteworthy. Investments were also made to improve the conditions of educational institutions in Villavicencio and Tibú, and sports infrastructure in Huila and Magdalena Medio.

Additionally, Ecopetrol contributes towards providing higher education access to over 1,800 young people within the framework of the National Government's "*Generación E*", Ecopetrol High School and Utopia Programs.

**Decrease in school dropout rates:**

Includes activities that encourage children and youths to remain in the school system. It includes quality improvement interventions, as well as the extension of the school day through sports activities, music schools, or the endowment of teaching materials and school furniture.

"*Supérate*" Intercollegiate Games: Ecopetrol and its Group ratified its commitment to education and sports by supporting the Finals of the 2019 *Supérate* Intercollegiate Games in the department of Boyacá as part of the commemoration of the Bicentennial Celebration of Colombia's Independence. More than 5,000 people participated in 33 sports. As part of this initiative, 43 sports schools will be set up by 2020 to benefit nearly 24,000 children and youngsters, as well as the training of more than 300 coaches in the municipalities of interest to the company.

Ecopetrol received a commendation from the Ministry of Education for its support to the *Generación E* program, in the excellence component

In this same vein, in 2019, music schools were developed hand in hand with Fundación Nacional Battuta in nine municipalities, serving nearly 1,400 children and youngsters. Furthermore, music schools received instruments and a joropo school was opened, which, while promoting students remaining in school, also preserves local cultural traditions.

In addition, seven furniture endowment projects were carried out, which benefited 14 thousand children and young people from public educational institutions in six departments of the country. Within this framework, it should be noted that, through the tax exempt public works mechanism,

another 47 thousand children in the department of Nariño benefited from this initiative, thus promoting that children remain in school. In addition, nearly 45,000 school kits were provided in municipalities surrounding Ecopetrol and Cenit operations.

Below is the information on Education and Sports areas of investment by region. Among the most strategic projects, in addition to those mentioned at the corporate level, are those associated with educational quality (*Corpoeducación and Escuela Nueva*), preventing should dropout (Batuta) and coverage (*Generación E*, and school infrastructure):

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Table 52. Education and sports areas social investment by region

Region	Project	Municipality	Scope and impact	Objective
Caribbean	Improvement of Education in Cicuco - Corpoeducación	Cicuco (Bolívar)	Endowment of furniture and bicycles for the benefit of 600 students and 23 teachers at San Francisco de Loba Educational Institution (IE for its Spanish acronym)	Fosters children remaining in school
	Art and sports in Santa Marta	Santa Marta (Magdalena)	Purchase and delivery of musical instruments for 6500 children in public schools, within the framework of the local culture and arts training strategy	Fosters children remaining in school
Catatumbo Arauca	Improving education in Tibú – Corpoeducación	Tibú (Norte de Santander)	<ul style="list-style-type: none"> Endowment of learning material and training for the benefit of 15 students and 38 teachers in the Las Brisas IE Implementation of a Peace Class which benefitted 600 students and 20 teachers 	Fosters children remaining in school, improves the quality of education and addresses the issue of peace in a territory affected by conflict
	Construction of Child Development Centers (CDI) Dapre Findeter	Teorama (Norte de Santander)	Construction in one CDI for the benefit of 65 children in the municipality	Fosters school coverage



Region	Project	Municipality	Scope and impact	Objective
Central	Escuela Nueva Puerto Wilches	Puerto Wilches (Santander)	Implementation of the Nueva Escuela methodology for multi-age schools for the benefit of 540 students and 27 teachers	Fosters quality of education
	Santander: improvements to the Lizama II IE	San Vicente de Chucurí (Santander)	Remodeling, expansion and endowment for the Lizama II IE for the benefit of 62 students	Fosters coverage of education
	Santander: Phase II La Fortuna Agricultural School	Barrancabermeja (Santander)	Construction of an enclosure for the La Fortuna Agricultural School for the benefit of 525 students	Fosters coverage of education
Eastern	Implementation of the Escuela Nueva methodology	Puerto Gaitán (Meta)	<ul style="list-style-type: none"> Implementation of the Nueva Escuela methodology for the benefit of 2507 students and 98 teachers in indigenous areas located in Puerto Gaitán Completion of the agreement in force since 2017 for the benefit of 1200 students and 60 teachers in the municipality. 	Fosters quality of education
	Implementation of the Escuela Nueva methodology	Tauramena y Aguazul (Casanare)	<ul style="list-style-type: none"> Continuation of the project in the municipality of Aguazul, for the benefit of 542 students and 31 teachers. The same occurred in the municipality of Tauramena, for the benefit of 326 students and 23 teachers. Beginning of a project in four municipalities in the department of Meta, for the benefit of 3865 students and 202 New School teachers 	Fosters quality of education
Orinoco	Meta: Transversal education - Corpoeducación	Guamal, Acacías, Villavicencio and Castilla La Nueva (Meta)	Begin the implementation of transversal programs (Sex, peace, environmental education) in 200 schools	Fosters quality of education
	Improvements to the Infrastructure in Villavicencio	Villavicencio (Meta)	Improvements to the Alfonso López and Apiay Educational Institutions for the benefit of 975 students	Fosters coverage of education
	Musical education program - Batuta	Villavicencio (Meta)	Develop an Agreement with Batuta for the musical education of 320 children	Fosters children remaining in school
	Agricultural engineering training program Utopía	Aguazul, Tauramena and Yopal (Casanare) as well as other areas of influence of Ecopetrol	<ul style="list-style-type: none"> 10 students continued their training in Agricultural engineering in the municipalities of Aguazul, Tauramena and Yopal 30 students continued their training in areas of influence of Ecopetrol 	Fosters coverage of education and children remaining in school. Contributes to compliance of SDG 4

Region	Project	Municipality	Scope and impact	Objective
South	Implementation Escuela Nueva methodology	Orito, San Miguel, Valle del Guamez, Puerto Asís, Puerto Caicedo (Putumayo) and Ipiales (Nariño)	Completion of the Escuela Nueva methodology for the benefit of 1190 students and 62 teachers	Fosters quality of education
	Construction of the Paujil IE and El Doncello CDI	El Paujil and El Doncello (Caquetá)	Completion and delivery of CDIs for the benefit of 255 children	Fosters coverage of education
	Musical education program - Batuta	Palermo, Villavieja, Yaguará, Aipe, Neiva, Ishos, San Agustín (Huila)	A new agreement for musical education was set in place for the benefit of 1000 students	Fosters children remaining in school
Andean	School Kits	50 municipalities nationwide	19,231 school kits were delivered	Fosters children remaining in school
	School furniture – tax-for-works mechanism	Tumaco and Barbacoas (Nariño)	Furniture was delivered for the benefit of 47 thousand children in public schools	Fosters children remaining in school
	Musical education program – Batuta	Tumaco (Nariño)	A new agreement for musical education was set in place for the benefit of 100 students	Fosters children remaining in school

Source: Ecopetrol, Vice Presidency of Sustainable Development

Support for the Ecopetrol Batuta program



Healthcare

Ecopetrol is investing in healthcare infrastructure projects and the development of healthcare workshops, through which it promotes access to quality health services.

To this end, it supports projects to improve the provision of healthcare services, through endowments or infrastructure projects. The endowments in Huila and to the Humanitarian Logistics Centre attached

to Santander's Risk Management Unit are worth noting.

Health workshops were held in Barrancabermeja and Neiva, focusing on operations to treat malformations such as cleft lip or burns in children and young people. Our partners in these projects are the Red Cross of Barrancabermeja, the Rotary Club of the same municipality and the Healing the Children Foundation.

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Table 54. Healthcare projects implemented by regional

Regional	Project	Municipality	Scope and impact	Objective
SOUTH	Endowment of biomedical equipment and elements for the E.S.E. San Carlos Hospital in the municipality of AIPE (uila)	Aipe	Endowment of biomedical equipment and elements required for the ER and clinical laboratory of the E.S.E San Carlos Hospital in the municipality of Aipe-Huila.	Improvement in ER care in the town of Aipe, Huila
Central	Participate in the VII Plastic and Reconstructive Surgery Day for 60 children from the Magdalena Medio.	Barrancabermeja	Perform a maximum of 60 surgeries on children in Barrancabermeja and the areas of influence of the region, to treat congenital malformations, or burns, or after-effects of burns, (cleft lip, cleft palate, plastic surgery for after-effects of burns), each year	Improve access to health

Source: Ecopetrol, Vice Presidency of Sustainable Development

Inclusive Rural Development

Ecopetrol's investment in this area aims to connect communities in areas of interest to productive chains and facilitate the rural population's access to the public supply of programs, goods and services.

During 2019, Ecopetrol supported the implementation of 13 projects that will connect 1,848 farmworker families between 2020 and 2022 in the departments of Meta, Casanare, Arauca, Huila, Santander and Putumayo, strengthening the development of sustainable production chains in cocoa, coffee, plantains, fruit trees, vegetables, pepper, poultry and livestock, in

partnership with organizations such as FAO, Socodevi, Agrosavia, Fundesmag and the local governments of Saravena and Yaguará.

On the other hand, Ecopetrol, as part of its goal to formalize partnerships with the national entities responsible for guiding and executing rural development policies and instruments, signed two framework agreements with the National Land Agency and the Rural Development Agency in 2019, in an effort to foster, in areas of common interest, the implementation of the formalization and access to land programs and the comprehensive agricultural and rural development projects

program (PIDAR). The aim is for rural communities to be able to access the institutional offer and to contribute to the fulfilment of the goals contained in the National Development Plan.

Below is the information on Inclusive Rural Development and the most relevant agreements under execution in 2019:

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Table 55. Rural Development Projects developed by regional

Regional	Project	Municipality	Scope	Beneficiaries	Objective
Orinoco	Agroemprende Cacao Meta	10 municipalities	To improve the living conditions of rural households engaged in cocoa production by promoting the development of the cocoa value chain with a regional vision	1,000	Connect farmworker families to formal markets (National Development plan or PND for its Spanish acronym)
Orinoco	Inclusive model for the provision of foodstuffs	Villavicencio, Castilla, Guamal, Acacías	Generation of a marketing model for products in municipal, regional and institutional markets; through the development of Territorial Agrifood Systems and strengthening of organizations.	480	Develop productive chains with a regional scope
	Sustainable agribusiness model	10 municipalities	Consolidate business models for the production and marketing of value-added products through capacity building	125	Strengthen partnership models aimed at young people focusing on gender
Catatumbo Arauca	Strengthen the Citrus Production Chain	Saravena	Integrating capacities for the strengthening of the Citrus Production Chain	120	Foster sustainable use production models Bring public goods and services offer closer to communities located in areas of interest
Central	Strengthen the productive chains	Barrancabermeja	Support the strengthening of citrus and dairy production and waste processing enterprises	175	

Regional	Project	Municipality	Scope	Beneficiaries	Objective
South	Agroemprende Cacao	Puerto Asís, Puerto Caicedo, Orito, Valle del Guamuez and San Miguel	To improve the living conditions of rural households engaged in cocoa production by promoting the development of the cocoa value chain with a regional vision.	350	Connect farmworker families to formal markets (National Development plan or PND for its Spanish acronym)
	Strengthen the Citrus Production Chain	Yaguará	Developing agricultural businesses around lemon production	65	Develop productive chains with a regional scope
	Strengthen the pepper Production Chain in the Lower Putumayo	Puerto Caicedo	Develop the pepper production chain in the locality of Nueva Arabia	42	Strengthen partnership models aimed at young people focusing on gender
National	Framework Agreement with the National Land Agency	National	Support the comprehensive program for the formalization and access to land in favor of rural communities	TBD	Foster sustainable use production models
	Framework Agreement with the Rural Development Agency	National	Support the PIDAR project – Comprehensive Agricultural and Rural Development Projects	TBD	Bring public goods and services offer closer to communities located in areas of interest

Source: Ecopetrol, Vice Presidency of Sustainable Development

Business entrepreneurship and development

Strengthening the business fabric is a priority for Ecopetrol, as part of its commitment to contribute to local development. For this purpose, Ecopetrol fosters entrepreneurship and innovation initiatives, identifies and encourages enterprises with the potential for growth, the acceleration of SMEs under expansion and activities that strengthen the entrepreneurial ecosystem.

In 2019, the process begun in 2018 with the Centers for Entrepreneurship and Business Development, hosted by the government as part of the *Sacúdete* Strategy, continued in the departments of Putumayo, Meta and Santander, covering ten municipalities. From these Centers, help is provided to all those interested in consolidating and implementing their business ideas, including Ecopetrol suppliers or potential suppliers located in the first or second tier.

In 2019, an investment of more than \$2.4 billion pesos was made, benefiting 189 entrepreneurs through training and consulting in the strengthening and development of their management skills, in the preparation of their business, marketing, financial, operational and information technology and communications plans.

On the other hand, entrepreneurs who own small businesses were provided with assistance through the business habits methodology, reaching 69 small businesses. Additionally, 24 micro franchises are being implemented, which consists of replicating a business model that has already been tested, thus mitigating the risk of the learning curve, with the aim of improving income and sources of employment in these territories.

In addition to the above, training was offered on industrial safety and occupational health issues, and opportunities were created for the promotion and visibility of local entrepreneurs through trade fairs and entrepreneurship marathons.

Public and Community Infrastructure

The purpose of these Ecopetrol investments is to improve the conditions of communities regarding land accessibility and interconnectivity to facilitate trade and increase productivity, as well as to strengthen the generation of opportunities for coexistence, participation, education and recreation that contribute to the execution of programs sponsored by the territorial entities, in an effort to improve the quality of life and development of their inhabitants.



Road Infrastructure

During 2019, 163 km of road works were completed, with an investment of more than 22 billion pesos, through partnerships with territorial entities and by way of direct execution; making it possible to contribute to the improvement of mobility and land interconnection of the inhabitants of Ecopetrol's areas of influence.

During the award ceremony for SIGNIFICANT EXPERIENCES AND GOOD PRACTICES IN THE COUNTRY'S MINING ENERGY SECTOR, Ecopetrol was awarded third place, a distinction given by the Ministry of Energy and the ANH, for the Local Business Strengthening Program executed in the Teak-Cocorna field. This initiative is led by Ecopetrol and Oxy and was considered an example of good environmental and social practices. The program began in 2018 and has 72 active companies that contribute significantly to the development and competitiveness of the country. ■

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Main projects under execution during 2019 by regional

Table 56. Road infrastructure projects developed by regional

Regional	Project	Municipality	Scope and impact
Catatumbo - Arauca	Improvements to the main road between Tibú – Astilleros.	Tibú	Recover and improve the characteristics of 32 km of roads between the townships of La Cuatro, Refinería, Serpentino, Socuavo, Palmeras Km 16.
	Institutional strengthening through the purchase of machinery and new emergency response vehicles.	El Carmen	Execute maintenance activities for a 13.8 km stretch.
	Road maintenance Pategallina – Campo Giles	Tibú	Mantener las condiciones de transitabilidad adecuadas en 8 km de la vía en las Veredas La Bateria y Campo Giles
	Institutional strengthening through the purchase of machinery and new emergency response vehicles.	El Tarra	Execute maintenance activities for a 5.95 km stretch.
Orinoquia	Road works	Aguazul	19 km of road works in the municipality of Aguazul, (Casanare)
	Construction of rigid paving in the city roads in the municipality of Cubarral	Cubarral	Recovery and improvements of road characteristics in the 0.435 km stretch.
	improvement of rigid paving in the city roads in the municipality of Guamal	Guamal	Recovery and improvements of road characteristics in the 1.8 km stretch.
Central	Improvement of city roads in the jurisdiction of the municipality of Sabana de Torres	Sabana de Torres	Recovery and improvements of road characteristics in 500 metros of road.
	Improvement in the road between the township of La Lucha to Bocas del Sogamoso.	Puerto Wilches	Maintain the 5 km of road in adequate travel condition.
Eastern	Maintenance and improvements to the community roads between the townships in the areas of influence around the Rubiales and Caño Sur fields.	Rubiales	Maintain the 141.44 km of road in adequate travel condition.
South	Construction of an alternate road to the city in the municipality of Yaguará	Yaguará	Recovery and improvements of road characteristics in the 1.7 km stretch.
Andean	Improvement of 13.2 km of rural roads in the municipalities of Tumaco and Ricaurte	Tumaco	Recovery and improvements of road characteristics in the 12 km stretch.
	Improvement of 13.2 km of rural roads in the municipalities of Tumaco and Ricaurte	Ricaurte	Recovery and improvements of road characteristics in the 1.2 km stretch.

Source: Ecopetrol, Vice Presidency of Sustainable Development



Public Community Interest Infrastructure

Community interest infrastructure such as community halls, sports and recreation parks and infrastructure for practicing sports contribute to programs led local authorities to improve the quality of life of citizens.

In 2019, partnerships were established for the implementation of investment

projects in social infrastructure, including a contribution to cultural strengthening through the construction of contemplation centers for the Suratena and Altomira indigenous communities in the municipality of Marsella-Risaralda and the improvement of cultural center facilities in Guamal and the house of culture in San Martín de los Llanos.

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Table 57. Main projects under execution in 2019

Regional	Project	Municipality	Scope and impact	Objective
Central	Construction of Phase II of Agricultural School La Fortuna in Barrancabermeja-Santander	Barrancabermeja	Extension of the facilities in La Fortuna for the benefit of 600 students	
	Construction of a sports unit in the municipality of La Gloria-Cesar."		11 player soccer field, track and landscaping	
Orinoquia	10 public and community infrastructure projects	Guamual, San Martín de los Llanos and Villavicencio	Improvement of the facilities of the cultural center located in Guamual, cultural house in San Martín de los Llanos and four (4) educational facilities in rural Villavicencio	* Improve conditions of community infrastructure * Motivate the community to engage in more cultural and sports activities
	Phase I of the construction of classrooms for IE Henry Daniels in Castilla	Castilla	Construction of educational facilities in order to contribute to the implementation of a single school day	* Motivate learning in students, and support teachers, and parents in an effort to decrease school desertion
Andean	Construction and delivery of tow think centers in the indigenous communities of Suratena and Altomira in the municipality of Marsella in the department of Risaralda	Marsella	Construction of facilities for the benefit of 1,800 members of the indigenous community living in the Surantena reserve and 1,200 in the Altomira reserve.	* Provide VIP housing to the community for them to have a decent place to live.
South	Construction of Priority Interest Housing located in Las Marias complex in Aipe	Aipe	Construction of 199 Priority Interest Housing(VIP) units for the benefit of 796 inhabitants (under execution)	
	Improvements to the sports arena in Villavieja	Villavieja	Construction of the roof and improvements for the sports arena for the benefit of the population of Hato.	

Source: Ecopetrol, Vice Presidency of Sustainable Development

Public Services

Ecopetrol supports the extension of coverage of the domestic supply of electricity and fuel gas, as well as the development of sustainable arrangements for the comprehensive provision of these services.

Ecopetrol's Comprehensive Water Management strategy (see Environmental Dimension, page 317) seeks to articulate and strengthen the interventions of public and private actors present in the territory in an effort to reduce the gap to accessible drinking water and basic sanitation. Projects such as the construction of drinking water treatment plants, the improvement of conduction and distribution systems, the optimization of service provision systems, the structuring of projects with conventional and non-conventional solutions, and the definition of models for institutional strengthening of service providers will be some of the investments in the areas of interest.

Finally, Ecopetrol supports territorial entities in strengthening their capacity to formulate and structure projects. In this sense, it provides pre-investment resources

to carry out studies and designs in the pre-feasibility and feasibility phase, so that they can later be part of the banks of project available to the territorial entities and the Company.

During 2019, Ecopetrol supported the execution of three projects in the Public Services - Drinking Water investment line, with amounts close to COL \$ 5,592 million that benefit approximately 7,456 people in the municipalities of Castilla La Nueva and Puerto Gaitán (Meta) and Sabana de Torres (Santander). Similarly, as part of the support and technical assistance provided to territorial entities in the areas of interest of the Company and its business group, three projects were structured in the feasibility phase, benefiting about 6,632 people with investments of close to \$ 889 million.

Alternatively, Ecopetrol, as part of its objective of formalizing partnerships with national entities that help provide technical guidelines for structuring and financing projects in this investment line, signed the inter-administrative framework agreement with the Ministry of Housing City Territory (MVCT) in 2019, in order to join financial and technical efforts for project management, to help close gaps in access to drinking water and basic sanitation in the municipalities of interest.

Below is the information on the most relevant public service projects in terms of drinking water and basic sanitation for 2019:

The objective of the Public Services investment line is to increase the number of people who have access to drinking water and basic sanitation in urban and rural areas of interest to the Company, positively impacting their quality of life and health, also helping to close the gaps in coverage, continuity and quality of services in the country's rural areas.

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Table 58. Results in terms of drinking water and basic sanitation, by regional

Regional	Project	Municipality	Scope and impact	Objective
Orinoco	Project for the aqueduct system in the municipal center.	Castilla La Nueva	Increase the capacity of the collection and sand removal system, and PTAP in the municipal center aqueduct, for the benefit of 6,598 people	Decrease coverage gaps, continuity and quality of the drinking water service (PND) Improve the supply and storage capacity conditions for rural communities Optimization of aqueduct and supply systems

Regional	Project	Municipality	Scope and impact	Objective
Santander	Construction of an elevated tank for the aqueduct located in the town of Magará	Sabana de Torres	Increase in the storage capacity and usage regulation of the aqueduct, for the benefit of 155 people	
Eastern	Maintenance to the deep wells of the Santa Helena school and aqueduct systems in the El Porvenir sector in settlement of Rubiales	Puerto Gaitán	Improve service conditions to the Santa Helena School and the community of the settlement of Puerto Triunfo, for the benefit of close to 793 people.	

Source: Ecopetrol, Vice Presidency of Sustainable Development

Energy and gas

The purpose of the gas social investment line is to structure, co-finance and execute fuel gas projects through networks that are found within the regulatory framework in the municipalities of influence of Ecopetrol, framed within the pact for quality and efficiency of public services of the 2019-2022 National Development Plan, which seeks to close gaps and increase energy coverage. The projects to be financed refer to



Connection rights as part of comprehensive projects to expand gas networks (coverage of connection costs and meters).



Distribution infrastructure required to reach urban and rural areas where it is not economically viable for companies, as long as these investments are not included in the calculation of user tariffs.

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The most significant projects for 2019 are described below:

Table 59. Energy and gas projects by regional

Regional	Project	Municipality	Scope and impact	Objective
Catatumbo Arauca	Agreement No. 1 Gasification Tame Arauca stage one	Tame	Joint funding of the total amount of the connection charge or 1200 users within the city center	Access to residential fuel gas service through networks
Orinoquía	Construction of a natural gas grid, and domestic connections in the rural area of the municipality	Tamara	Construction of the distribution system and connection charges for 560 users in the rural area of the municipality	Access to residential fuel gas service through networks
Orinoquía	Agreement No. 1 Studies and designs for rural gasification.	Guamal	Preparation of studies, designs and budgets for the units built for natural gas supply for the rural population	Have access to technical studies for the selection of public service companies that build and supply residential fuel gas to the rural population, for the benefit of 1390 users.

Source: Ecopetrol, Vice Presidency of Sustainable Development

Activities common to all investment lines



Tax exempt public works

This is an initiative set forth by the National Government that allows companies to pay up to 50% of their income tax, through the direct execution of social investment projects in the Areas Most Affected by the Armed Conflict (ZOMAC for its Spanish acronym), aimed at the construction, improvement, optimization or expansion of infrastructure and the materials required for the supply of road infrastructure services, drinking water and sewerage, energy, education and public health.

In 2019, Ecopetrol continued being one of the leading companies participating in this mechanism, with nine approved projects, worth \$84.86 billion pesos that represent 34% of the national annual investment; which in addition to the efforts of the subsidiary Cenit, with six additional projects, amount to a total investment of \$121.156 billion pesos, representing 49% of the national total.

Included in the related projects are six endowment projects that benefit the departments of Antioquia, Arauca, Cesar, Meta and Nariño with an investment of \$16.927 billion pesos; seven road infrastructure projects in Arauca, Meta, Huila, Norte de Santander and Nariño with an investment of \$96.170 billion pesos and two drinking water and sewerage projects in the departments of Cesar and Bolivar worth \$8.059 billion pesos.

During 2019, Ecopetrol completed two education projects through which school furniture was delivered benefiting 36,276 students in 159 educational institutions in Tumaco and 9,869 students in 79 locations in Barbacoas, (both in the department of Nariño). In addition, a road infrastructure project was completed to pave 17th Street between the national road and the Olympic Village in the municipality of San Martín, benefiting 22,609 inhabitants of the department of Meta.



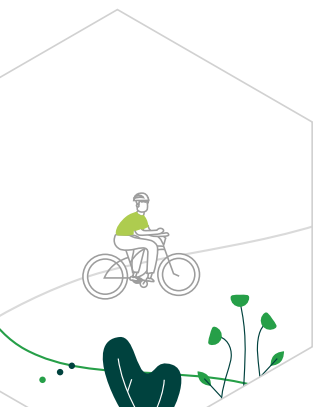
Project structuring

This initiative is aimed at strengthening the capacity of territorial entities in the formulation and structuring of projects through the provision of technical assistance for the development of studies and designs, supporting the structuring and management of resources for their funding.

During 2019, Ecopetrol supported the structuring of nine projects in road infrastructure, drinking water and basic sanitation, education and community social infrastructure in the amount of \$3.575 billion pesos, which leverage the execution of projects to \$75 billion pesos through

different financing sources such as Tax Exempt Public Works, Collegiate Administration and Decision Bodies (OCAD for its Spanish acronym), works for royalties and own resources.

In this manner, Ecopetrol seeks to facilitate the access of resources to territorial entities, in order for them to leverage high-impact investments, improve procedures in the presentation of projects to different financing sources, and contribute to the reduction of cost overruns during their execution and of delays in the fulfillment of agreed schedules.



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All Ecopetrol's activities or projects are defined within the framework of environmental instruments approved by the environmental authorities (Ministry of the Environment, the National Environmental Licensing Authority (ANLA) and the Regional Autonomous Corporations. Through these instruments, Ecopetrol ensures the identification and assessment of social and environmental impacts, and the definition of the compensation or mitigation measures necessary to manage them, ensuring responsible business management with the communities and the environment.

The process for the identification of impacts is carried out through Environmental

Management Plans (PMA for its Spanish acronym). The specific impacts of the activity are identified and assessed in a preventive manner by a team of competent professionals, who also identify the risks associated with these impacts and define the plans required to address them. Furthermore, the PMAs, specify the measures for their adequate management. For each of these variables, management files are created, which are monitored and assessed by the authorities.

Some of the impacts of the activities developed by Ecopetrol and of the measures adopted by the Company to manage them are shown in Table 60.

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Table 60. Impacts associated with the business activity and measures taken

Impacts	Measures
<ul style="list-style-type: none">Noise pollutionMaterial particle generationEmissionsPollutionWaste disposalUse of community property (i.e., roads)Changes in regional productive systems	<ul style="list-style-type: none">Dissemination of emergency and contingency plans for lines and plantsStrengthening of Risk Management Committees at the municipal level.Activation of contingency plans that include on-site spill control and activation of operational control points.Addressing the effects generated by the mobilization of equipment, guaranteeing that the lines remain in the same or better conditions than those initially found.Installation of equipment with new technologies that produce less noise.Joint work with national and regional authorities to prevent and counteract the crime of seizure of hydrocarbons and attacks, including social, police and judicial measures.

Source: Ecopetrol, Vice Presidency of Sustainable Development

The identification of impacts and the definition of measures is carried out continuously during the execution of projects and the development of Ecopetrol operations in all its areas of operation across the country.



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In order to ensure that all possible impacts and risks are identified, the process contemplates different participatory and stakeholder involvement mechanisms (see Table 61).

Table 61. Stakeholder group participatory and involvement mechanisms in social impact management

Participatory mechanism	Application within Ecopetrol
Socio-environmental impact assessment	<p>In the process of preparing or modifying environmental licenses, stakeholders are involved in identifying social and environmental impacts, for example through start-up briefings, monitoring and evaluation, and workshops to identify impacts and management measures.</p> <p>The application of this mechanism can be seen in the case of Llanos Exploratory Block 38, Califa Exploratory Drilling Area. Saravena (Arauca)</p>
Public content on the assessment results.	<p>Results of socio-environmental studies and other information of interest is disclosed, for example, through the establishment of environmental monitoring follow-up committees. E.g., Block VMM 6 - Naphtha exploratory well in Puerto Parra (Santander)</p>
Community development programs based on local community needs.	<p>In defining projects and initiatives supported by Ecopetrol's social investment resources, the Company takes into consideration the expectations of its stakeholders. These expectations are identified through the creation of opportunities for the construction of relationships that materialize in significant actions and investments at a regional and national level.</p> <p>The application of this participation mechanism is evident in the case of Barrancabermeja (Santander) where nearly 600 students from the district of La Fortuna received the second phase of La Fortuna Agricultural School.</p>
Participation plans based on mapping of stakeholder groups	<p>All the regional companies where Ecopetrol operates have Comprehensive Environmental Plans, which include different types of relationship activities. Most of them are defined and agreed upon with the communities within a process for the coexistence of business operations in the territory.</p>

Participatory mechanism	Application within Ecopetrol
Consultation processes with vulnerable groups	Ecopetrol carries out prior consultation processes, when required by the Ministry of the Interior and in each area of operation the ethnic groups are identified and an approach is sought to understand the cultural particularities of each community, which is conducive to the construction of a direct dialogue.
Formal petitions and complaint processes with local communities.	<p>In all the regional offices where Ecopetrol operates, formal channels are available for stakeholders to file their petitions, complaints, claims and requests (PQRS for its Spanish acronym). Among these, the Citizen Participation Office is worth noting.</p> <p>The information from the PQRS allows Ecopetrol to identify opportunities for improvement in the organization's processes and to build alternative solutions to situations causing dissatisfaction.</p>
Source: Ecopetrol, Vice Presidency of Sustainable Development	

GRI | 203-1 |

Addressing of the event that occurred in Pozo Lisama 158

The atypical crude oil spill in a field near Ecopetrol's Lisama 158 well on March 2, 2018, resulted in the pollution of the Lizama Creek and La Muerte Channel. In response to the event, a comprehensive action strategy was generated based on the incident command system to control the emergency and meet technical, environmental and socio-economic needs; in

the case of environmental management, a specific strategy was established to support emergency actions and the post-contingency stage.

The following is a description of the actions that continued to be carried out in the area of environmental management throughout 2019:



Tripartite conversations with the community, local government and Ecopetrol in the municipalities of Barrancabermeja and San Vicente de Chucurí identified the following high impact project initiatives, where Ecopetrol's contribution is estimated at COL \$13.878 billion.

Table 62. Projects identified in tripartite conversations*

Project	Status	Investment (col \$ millions)
Rural gasification La Fortuna	Under execution	\$617
2019-2020	\$617	\$3,100
Rural gasification Lizama	Under execution 2019-2020	\$3,100

Project	Status	Investment (col \$ millions)
Phase II La Fortuna School	Completed in 2019	\$4,802
Improvements to Lizama II School	Under execution 2019-2020	\$2,286
Improvements to Meseta de San Rafael School	Under execution 2019-2020	\$173
Improvements to Yacaranda School	Under execution 2019-2020	\$134
Improvements to La Unión School	Under execution 2019-2020	\$211
Improvements to El Guarumo School	Under execution 2019-2020	\$180

Source: Ecopetrol, Vice Presidency of Sustainable Development

* The project investments shown in the Table are approximate amounts subject to the approval of Ecopetrol Committees and other corporate bodies

In addition to the community interest projects, through a consultancy process with the Magdalena Medio Development and Peace Corporation (CDPMM for its Spanish acronym), projects were identified and formulated with the participation of the communities. These comprise four municipalities and an estimated investment of COL \$2,077 million.

Table 63. Projects identified by the CDPMM

Project	Status	Investment (COL \$ millions)
Endowment for IT and robotics classrooms in La Fortuna School- Barrancabermeja	Under execution	\$152
Strengthening of productive units in Pozo Quemado, La Fortuna and Casajera San Vicente de Chucurí - Barrancabermeja	Under structuring	\$476
Endowment for Tagui IE - Sabana de Torres educational facility	Completed	\$196
Improvements to the school in the settlement of La Lucha - Puerto Wilches	Under execution	\$169
Restructuring of the sports center and adjacent areas in Puerto Cayumba - Puerto Wilches	Under execution	\$330
Enclosure of the soccer field in Puente Sogamoso - Puerto Wilches	Under execution	\$348
Improvements of the cultural hall in the settlement of El Pedral - Puerto Wilches	Under execution	\$231
Road works in 5 Km between La Lucha and Bocas del Sogamoso - Puerto Wilches	Completed	\$166
Endowment for materials and costumes for the cultural house on El Pedral - Puerto Wilches	Completed	\$9

Source: Ecopetrol, Vice Presidency of Sustainable Development

In addition to the above, school kits have been delivered to students from schools in the area of influence. To date, more than 500 school kits have been delivered.



Actions for the improvement of the environment and reactivation of fishing activities

During 2019, planning began for phase two of the River Sentinels program, the aim of which is to sign contracts in 2020 for the development of the program in five sectors of influence of the Sogamoso River, through the structuring of five (5) different projects.

In compliance with the provisions of ANLA Order 4734, in 2019 the monitoring project for fishing activity was structured, which contributes to the ordinance and sustainability process of fisheries and for which an Agreement was signed with a fishermen association, thus allowing for compliance with the requirements set forth

by that authority, whilst agreeing to an investment of COL \$380 million.

As an action to comply with the Environmental Recovery Plan, a diploma course in capacity building was developed with UNIPAZ as part of an integration strategy in ecological rehabilitation and monitoring projects, in the amount of \$78 million. 35 members of the community belonging to the areas of influence of Lisama 158 participated in this project. This process culminated with a graduation ceremony in December of 2019 with the presence of representatives from the institutions and the community.



Relationships:

As part of the environment strategy, the development of opportunities for tripartite dialogue between communities, institutions and Ecopetrol, and the systematic meetings with artisanal fishermen of the Sogamoso River emerge as communication mechanisms in response to the Lisama 158 event, in order to level information on topics of shared interest, present progress on

socio-environmental investment projects and generate strategic relationships.

In addition to the above, opportunities to meet are generated with institutions and authorities, in order to present advances in the Environmental Recovery Plan, follow up on investment projects, generate institutional strengthening and foster synergetic actions for the benefit of the communities.

Construction phase II La Fortuna school



Opportunities for tripartite dialogue



COMMUNITY BENEFIT PROGRAMS (PBC FOR ITS SPANISH ACRONYM)

GRI | 203-1 |

PBCs are mandatory social investments made by oil industry companies, within the framework of Exploration and Production of Hydrocarbons and Technical Evaluation agreements, signed with the ANH, which through their execution foster sustainable development in the

respective areas of influence, whilst seeking community integration.

During 2019, the Company invested \$5,899 million pesos in PBCs, executed in the 21 projects mentioned below. (see Table 64).

Table 64. 2019 Investments in Community Benefit Programs

Name of project	Partner / Contractor	Departament	Municipality	Amount invested in 2019 (COP millions)
Maintenance services for roads and sites (SMVL for its Spanish acronym) from the Development and Production Operations Management at Huila – Tolima, Ecopetrol S.A.	INGENIERIA JOULES M E C LTDA	Huila	Neiva	\$807
Maintenance works for roads and sites (OMVL for its Spanish acronym) from the Development and Production Operations Management Putumayo Ecopetrol S.A.	UT 2020	Putumayo	Orito	\$733
SMVL Development and Production Operations Management at Huila - Tolima de Ecopetrol S.A.	INGENIERIA JOULES M E C LTDA	Huila	Aipe	\$696
OMVL from the Development and Production Operations Management Putumayo Ecopetrol S.A.	UT 2020	Putumayo	Puerto Caicedo	\$626
SMVL Development and Production Operations Management at Huila - Tolima de Ecopetrol S.A.	SOFORESTA S.A.	Huila	Aipe	\$513
SMVL Development and Production Operations Management at Huila - Tolima de Ecopetrol S.A.	SOFORESTA S.A.	Huila	Aipe	\$496
OMVL from the Development and Production Operations Management Putumayo Ecopetrol S.A.	UT 2020	Putumayo	Valle del Guamuez	\$490
Road works to the main road between Tibú and Astilleros in the sector between the bridge over the Tibú River and the settlement of Campo Dos, and road works to the main road that communicates the settlement of La Cuatro with the district of La Gabarra,		Norte de Santander	Tibú	\$342
SMVL Development and Production Operations Management at Huila - Tolima de Ecopetrol S.A.	INGENIERIA JOULES M E C LTDA	Huila	Neiva	\$230
Road works between Pategallina – Campo Giles		Norte de Santander	Tibú	\$200
SMVL Development and Production Operations Management at Huila - Tolima de Ecopetrol S.A.	INGENIERIA JOULES M E C LTDA	Huila	Neiva	\$195

Name of project	Partner / Contractor	Departament	Municipality	Amount invested in 2019 (COP millions)
School kits and school furniture to prevent school desertion by students		Norte de Santander	Toledo	\$122
School kits to prevent school desertion by students	INCOPROM S.A.S.	Norte de Santander	Tibú	\$112
School kits to prevent school desertion by students	INCOPROM S.A.S.	Arauca	Saravena	\$100
Integrate capacities for the installation and strengthening of 4 poultry production units for 40 families belonging to the RESCUR association in the municipality of Puerto Wilches, Santander.	FUNDESMAG	Santander	Puerto Wilches	\$94
Provide support to 12 educational institutions in the municipality of Tibú in Norte de Santander, in the implementation of peace classes.	CORPOEDUCACION	Norte de Santander	Tibú	\$45
Environmental training		Huila	Varios	\$30
Pre-feasibility study of the "Alternatives of drinking water supply for the population of the settlement of Paso de los Ríos" project in the district of San Faustino, rural area of the municipality of Cucuta		Norte de Santander	Cúcuta	\$29
OMVL from the Development and Production Operations Management Putumayo Ecopetrol S.A.	UT 2020	Putumayo	Ipiales	\$22
Implement the Escuela Nueva methodology for the improvement of the quality of education, in the municipality of Puerto Wilches	Fundación Escuela Nueva Volvamos a la Gente	Santander	Puerto Wilches	\$12
OMVL from the Development and Production Operations Management Putumayo Ecopetrol S.A.	UT 2020	Putumayo	San Miguel	\$ 5

Source: Ecopetrol, Vice Presidency of Sustainable Development

GRI | OG13 |, | 413-2 |

ENVIRONMENT INCIDENTS

Within the framework of the Environment Strategy, Ecopetrol considers it vital to know and understand the territories and their dynamics in terms of their relationship with the Company. To this end, the Company developed an Environment Monitoring process that consists of the identification and monitoring of critical variables, which, through technological and analytical tools, support decision making processes related to

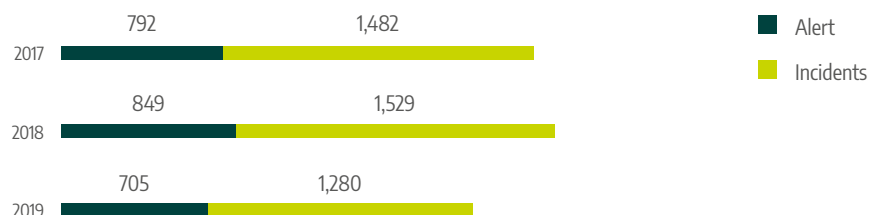
the sustainable development of the territory and the operation of the Ecopetrol Group.

An environment alarm is any situation, condition or circumstance that indicates the occurrence or proximity of an incident. On the other hand, an incident corresponds to the materialization of an alarm, generating an impact in the fulfillment of the objectives.

In 2019, the environment monitoring process recorded 1,985 environment situations, of which 705 corresponded to alerts and 1,280 to incidents. The following graph shows the number of incidents for the years 2017, 2018 and 2019.

276

Figure 87.
Alerts vs incidents



Source: Ecopetrol, Vice Presidency of Sustainable Development

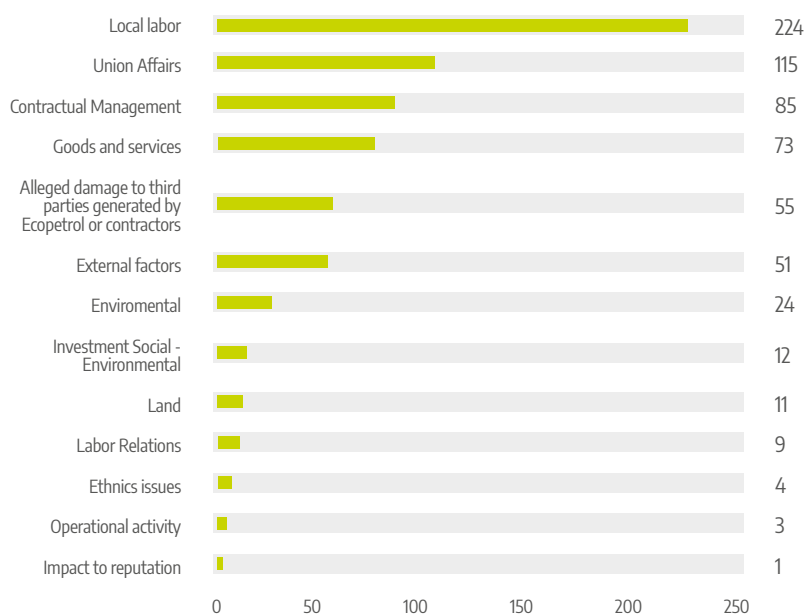
Due to the updating of the Environment Strategy, which prioritized an open dialogue with different parties, a comprehensive vision of the territory, compliance with commitments made to local communities and entities and the definition of specific lines of socio-environmental investment, in

2019 a 16.5% decrease was reported in the number of environment situations, in comparison to 2018 (249 fewer incidents and 144 fewer alerts). Similarly, there was a 36% decrease in physical security events, especially theft.

GRI | 413-2 |

In contrast, there was an increase in events associated with issues such as Local Labor, Goods and Services, Contractual Management and External Factors. The following is a breakdown by issue of environment incidents with the exception of physical safety:

Figure 88.
Main issues regarding environment incidents for 2019 (excluding physical safety)



Source: Ecopetrol, Vice Presidency of Sustainable Development

Ecopetrol has a framework normative in terms of contracting of labor, incentive to contracting of goods and services premises, security of peration, capital discipline developed by the Ecopetrol operation and projects.

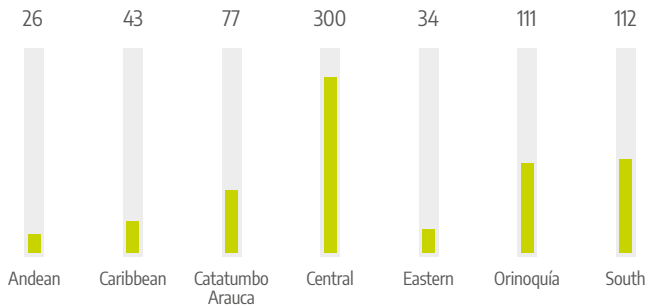
The highest share, 33.6% of incidents, were related to issues of discontent and negative expectations in the communities

due to hiring of labor, which materialize through blockades that interrupt operational activities in the territories.

The second largest corresponds to union issues, which represent 17.2%; third are incidents caused by contractual management (12.7%), which includes alleged non-compliance by contractors with subcontractors and suppliers, and goods and services that include the discontent generated in some communities by high expectations of local hiring.

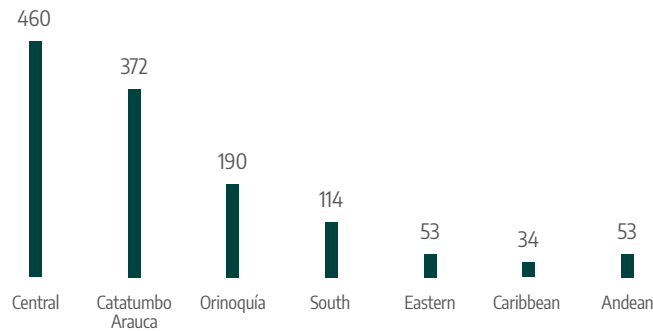
The following is the above information classified by regional:

Figure 89.
Environment alerts by regional for 2019



Source: Ecopetrol, Vice Presidency of Sustainable Development
* In 2019, two alerts due to external factor were reported nationwide

Figure 90.
Environment incidents by regional for 2019*



Source: Ecopetrol, Vice Presidency of Sustainable Development
* In 2019, four incidents were reported that had a national impact. Most incidents are associated with external factors such as calls for nationwide protests

MATERIAL
TOPIC

HUMAN RIGHTS

Standard GRI applied

GRI | 412 |

Human Rights assessment



● Why is it a Material topic?

GRI | 103-1 |

The responsibility to respect human rights (HR) is a global standard of conduct applicable to all businesses, wherever they operate. In this context, Ecopetrol has declared its commitment to respect and foster human rights, through adhesion to the Principles of the United Nations Global Compact, since 2009, and its recognition of the United Nations Guiding Principles on Business and Human Rights.



● How is the topic managed?

GRI | 103-2 |

Ecopetrol's management regarding its commitment to respect and foster human rights, is carried out through a management framework that allows for the establishment of actions to be executed in the short, medium and long term, according to stakeholder expectations and the organization's needs.



● How is the topic assessed?

GRI | 103-3 |

This issue is monitored through the use of indicators such as: information and training on human rights, monitoring of security practices, indigenous peoples' rights and stakeholders' perception of human rights, among others.

Impact coverage

GRI | 103-1 |



● Process within Ecopetrol where the most significant impact is generated

Value chain (exploration, production, transport, refining, marketing, petrochemicals and support areas).



● Stakeholder group where the most significant impact is generated

Society and community; workers, contractors and their workers.



● Area managing the impact

Secretary General, Vice Presidency of Sustainable Development, Regional Vice Presidencies.



HUMAN RIGHTS

...

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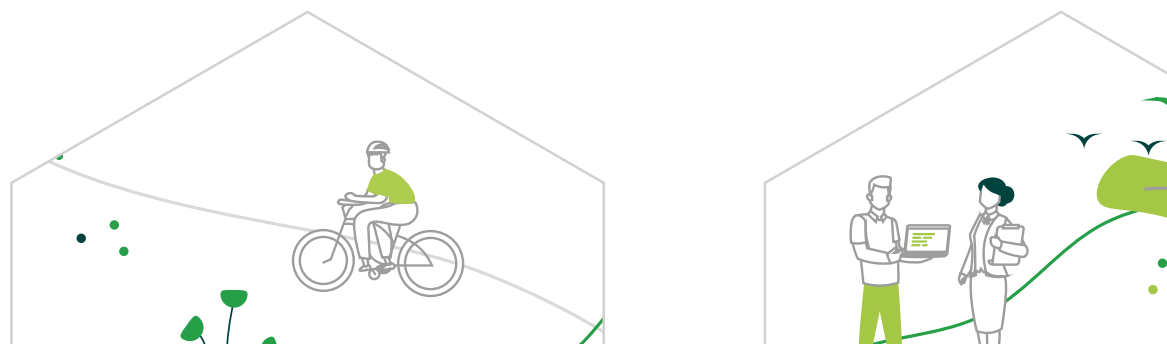
GRI | 103-2 |

Ecopetrol's new Corporate Responsibility Strategy has established "Business and Human Rights" as one of its working axes, which focuses on guiding the behavior of the Ecopetrol Group in terms of Human Rights, considering the changing expectations of the stakeholders, the corporate responsibility best practices and the international standards, in order to leverage the fulfillment of the business objectives.

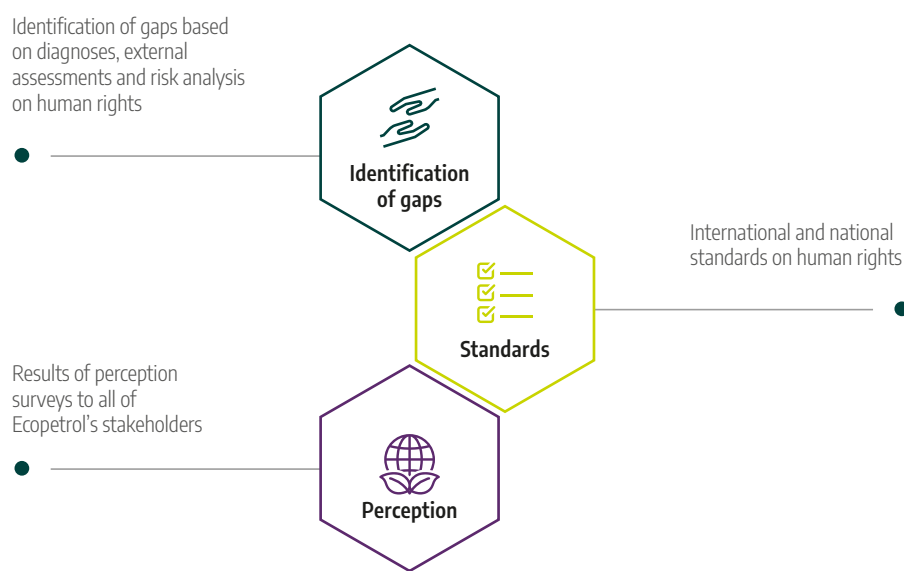
This cornerstone is managed based on three premises that guide the Company's actions in this matter:

- Ecopetrol has publicly declared its commitment to respect human rights.
- "Business and Human Rights" is a transversal issue for all of Ecopetrol's seven stakeholder groups.
- As a mixed economy Company, it must adopt "additional measures" regarding how human rights are managed, in order to avoid negative impacts thereof derived from its operations (Report prepared by the Working Group on human rights issues for transnational companies and other companies, 2016).

Based on the above premises, Ecopetrol's objective is to ensure that the Company carries out its activities in compliance with the United Nations Guiding Principles on Business and Human Rights (UNGPs).



To achieve this objective, Ecopetrol formulated the 2019 Action Plan, based on three sources of information:



The annual perception survey applied to the seven stakeholders, asked if they agreed with the statement “Ecopetrol respects human rights”; the results are presented in Table 65:

Table 65. Stakeholder perception on the Company’s level of respect for human rights

Stakeholder groups	% Of affirmative responses
Society, community and local government	82%
National government	85%
Workers, pensioners and their beneficiaries	94%
Suppliers and contractors	95%
Associates and partners	94%
Shareholders and investors	68%*

Source: Ecopetrol, Secretary General and Assistant to the Presidency

* An opportunity has been identified to improve the communication of human rights issues with this stakeholder group, and specific actions have already been taken through reports addressed to this group.

As a result of the analysis of the information provided by these three sources, a three-tier action plan was defined, namely:



01 GOVERNANCE

GRI | 412-1 |

This tier focuses on public commitment, planning and follow-up actions necessary to adequately develop human rights management throughout 2019.

In relation to public commitment actions, after internal consults with several areas within the organization, with its workers and with senior management, Ecopetrol issued the new Human Rights Guide, which updates the one in

force since 2013. The complete document is available at:



QR Guide of Human rights

Included in the new version of the Human Rights Guide, the following is worth noting:

- Human rights, besides being a cornerstone of the new corporate responsibility strategy, is one of the foundations of the Corporate Responsibility System, which is part of Ecopetrol's Comprehensive Management System.
- The Company's commitment to respect human rights is explicitly recognized, and its actions based on the following international standards: (i) United Nations Guiding Principles on Business and Human Rights, (ii) the Ten Principles of the Global Compact, (iii) the ILO Declaration on Fundamental Principles and Rights at Work, and (iv) the Voluntary Principles on Security and Human Rights.
- The framework of rights and/or freedoms is extended, for which the Company takes special consideration within the context of its operation.
- Five (5) principles are incorporated into human rights management: due diligence in human rights, continuous improvement, mainstreaming, complementarity and collaborative work.

Campo Dina, Huila department



02 HUMAN RIGHTS MANAGEMENT

GRI | 412-3 |

Ecopetrol is moving forward with its human rights management strategy based on a planning exercise carried out with several areas of the organization. As a result of this exercise, the Annual Human Rights Plan was generated, a document which compiles all activities to be carried out throughout the year, which will be subject to subsequent monitoring of compliance on a quarterly basis.

In accordance with the above, human rights management is measured through a compliance indicator of the actions set out in the Annual Plan. A compliance target of 90% was defined for 2019, however a higher percentage of execution was reported, i.e. 98%.

Self-diagnosis

As a member of *Guías Colombia*, Ecopetrol applied the "Self-diagnosis tool for the identification of human rights management gaps". Through this tool, Ecopetrol carried out a self-diagnosis of transversal issues related to due diligence and the actions that a company should take within the context of the purchase and acquisition of land for its operation. The tool allows

for a management diagnosis using forty-three (43) indicators that are set forth in the "Colombia Guide for the purchase and acquisition of land rights and right of use". Through this exercise, opportunities for improving the process of land management and resettlement were identified.

Among the opportunities for improvement, the following stand out:

- Incorporate new sources of information into the analysis prior to the process for acquiring property rights, with a human rights perspective.
- Incorporate specific analysis variables for different population groups that may be in a condition of vulnerability (gender, age, disability, etc.)
- Provide a single internal standard for resettlement, which includes, in addition to the provisions of law, international best practices. In the section on land management, reference is made to the new guide on resettlement.

GRI | 412-1 |

Human Rights analysis and risk management

In accordance with the principles defined in the Human Rights Guide (2019), Ecopetrol continued moving forward in its risk analysis by regional.



Central Regional

In terms of production, the Central region ranks third in Ecopetrol, after the Eastern and Orinoco regionals, where risk analyses were carried out during 2018.

Throughout 2019, the risk analysis for the Central region was completed, which corresponds to the Magdalena Medio region, where the Company has been present for over 60 years.

The municipalities where the exercise focused its efforts were: Puerto Berrío, Yondó, Puerto Wilches, Barrancabermeja, Sabana de Torres, Cantagallo, Puerto Boyacá, San Alberto, Aguachica and San Martín.

This risk analysis was carried out by the Ideas para la Paz Foundation, as an independent third party. Throughout the process,

members different stakeholder groups were consulted, including workers, contractors, the community, local authorities and non-governmental organizations.

The results of this analysis will be shared during 2020 in order to define the action plan to be implemented in accordance with the recommendations arising from the analysis.

Continuing with the 2018 human rights risk analysis exercise, during 2019 progress was made in the definition and implementation of human rights risk prevention and mitigation actions for the activities developed by Ecopetrol in its Eastern and Orinoco regionals.



Orinoco Regional

In the Orinoco region, in order to address the eight risks identified in the analysis, the process for defining the risk management plan was completed, divided into three stages: (i) design of the plan, based on the identification of variables, processes and areas; (ii) definition of actions, through a joint work plan; and (iii) validation of the plan with each of the area leaders and with the Regional Vice President. At present, compliance with the actions included in the plan is being monitored.

These include actions that have a positive impact on the work environment in the event of adverse psychosocial and cultural factors; those related to relations with the Police in accordance with the Voluntary Principles on Security and Human Rights; actions related to improving working conditions and access to information in the supply chain; and those associated with reducing the impact on the environment.



Eastern Regional

In the Eastern region, after identifying seven risks, actions were taken to improve working conditions (adverse psychosocial and cultural factors) for both direct workers and contractors, to foster good relations with the indigenous community and to strengthen the implementation of the Voluntary Principles on Security and Human Rights.

In relation to the “improve working conditions” variable, a series of actions were implemented with the aim of promoting the implementation of habits that would encourage healthy coexistence in the Rubiales field. These activities include (i) updating the field’s coexistence handbook; and (ii) preparing and disseminating various communications on healthy coexistence.

With regard to variables regarding security and human rights and relations with the indigenous community, actions associated with the prevention of the excessive use of force and respect for the rights of the indigenous community in the area were included. These actions are incorporated into the human rights and security prevention plan.



Diversity and equal opportunity

In compliance with the provisions set forth in its Human Rights Guidelines and the Code of Ethics and Conduct, Ecopetrol implements clear guidelines that mandate that workers need to watch over, foster and

respect Human Rights. Likewise, it has advisory and reporting mechanisms aimed at preventing, detecting and monitoring actions that violate said Code.

When a worker, contractor, shareholder or a citizen has information on or suspects that a certain situation goes against the Code of Ethics, he or she can report a complaint in any of the following channels:



Link:

<http://lineaetica.ecopetrol.com.co>



International hotline:

018009121013



Webpage:

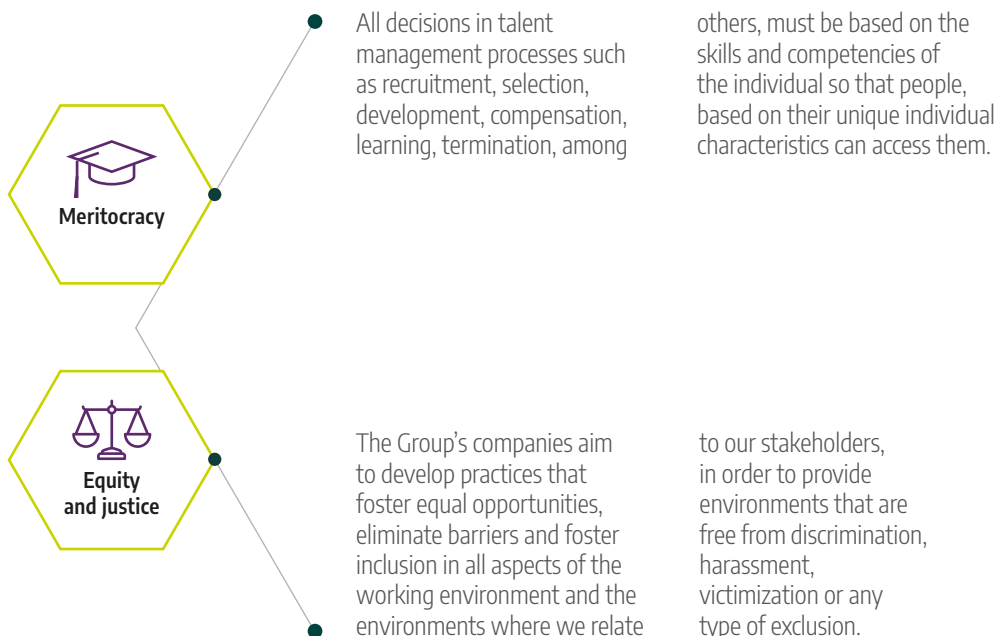
Iris>página principal>accesos rápidos> Línea ética



National hotline in Bogotá:

2343900 Ext.43900

On the other hand, regarding Human Talent, Ecopetrol has developed labor practices aligned with this regulatory framework, applicable to the Board of Directors, the Steering Committee and all persons working in the Company and in the Ecopetrol Group, in following with the general principles mentioned below:



GRI | 103-1 |, | 103-2 |, | 103-3 |

Diversity and inclusion program

Ecopetrol, in its commitment to sustainable growth and as part of its strategy, incorporates the Diversity and Inclusion Program (D&I) as a competitive capacity. This program was designed in 2018 and its implementation began in 2019.

“We understand and want to take advantage of the value provided by the diversity existing among all our stakeholders,” especially from:

- **From a talent standpoint**
To improve the work environment, commitment and happiness of people; in addition to helping close the talent gap that may arise in the industry over time.
- **From the corporate responsibility standpoint**
given that our responsibility to respect human rights must be active and must be based on the principle of equality and non-discrimination.
- **From a business standpoint**
It strengthens the innovation capacity of the teams, improves the productivity of our human talent and corporate standards; we generate value to our investors and the markets by committing to responsibly manage the environment and the people.

Diversity and inclusion management model

As a result of this process, the program now has a **Management Model** that includes comprehensive actions dictated by senior management, including policies, objectives, training, and partnerships, among other elements.

This model is deployed through initiatives developed in **five areas** fostered by

six Senior Management Sponsors who comprise the D&I Committee, and which today have more than **230 volunteers**. Each area has a specific purpose (see Table 66), framed within the general objective of strengthening a culture of inclusion, through the recognition and fostering of a collective awareness on the value of differences, as well as fostering equitable working conditions.

Table 66. Diversity and Inclusion Program areas

Edge	Purpose
Gender	Increase the participation of women in Ecopetrol's workforce, fostering fair labor practices, greater participation in leadership positions, development of high-performance women and labor conditions that facilitate their entry into the industry, such as family balance and prevention of gender violence.
Disability	Foster equitable working conditions for the population with disabilities, strengthening family and caregiver care and moving from integration to inclusion environments.
Victims, former soldiers and retired military personnel	Contribute to the reduction of social, cultural and economic gaps faced by retired members of the Armed Forces, victims of violence and individuals returning to normal society.
Ethnicity, origin and social-cultural conditions	Foster an inclusive work environment that fosters equal opportunities in the attraction, training and development of the population without independent of race, origin, ethnicity, religion or social status, as well as foster cultural diversity and a better "Citizens of the World" mentality.
Sexual orientation and gender identity	Foster an inclusive work environment that overcomes prejudice and fosters equal opportunities in the attraction, training and development of the population independent of their sexual orientation or gender identity.

Source: Ecopetrol, Vice Presidency of Human Talent

GRI | 103-3 |

DIVERSITY AND INCLUSION

Diversity and Inclusion Program From 0 to...

6

Senior Management Sponsors

230

Champion Volunteers

5.300

participations in D&I activities

GENDER

Women

23%

(2.324)



Men

77%

(7.763)

Pair Ranking (gender equality)

14

Colombia position (58 Points)

2017

9/69

Colombia position (70 Points)

2018

Public sector

% of leadership vacancies with at least one female short-list candidate

38%

2018

72%

2019

DISABILITY

Employees

6.0%

2018

% of people with disabilities (609)

7.59%

2019

% of people with disabilities (766)



Contractors

0.1%

2018

% of people with disabilities (38)

0.2%

2019

% of people with disabilities (69)

VICTIMS, EXCOMBATANTS AND WITHDRAWN FROM FFMM

2.9%

Victims of Conflict (294)



0.2%

Armed forces retirees (27)



0.01%

Former combatants (2)

SEXUAL ORIENTATION

28

volunteers who propel

6

initiatives that favor SOGI - friendly environments (Sexual Orientation and Gender Identity)

ETHNIAS, ORIGIN AND SOCIOCULTURAL CONDITIONS

4%

of people identify themselves as an ethnic minority

1.6%

People from other places in the world (165)

Age

4,183

From 45 to +

3,874

From 36 to 44

1,575

From 30 to 35

455

From 18 to 29

Source: Ecopetrol, Vice Presidency of Human Talent

GOALS

The D&I Program has defined a set of indicators and milestones for its implementation. Each of the areas has different initiatives that have already resulted in several milestones during 2019. Within the framework of the program, the following are the most relevant ones:

Transversal milestones



We have created a community consisting of by six sponsors, more than 220 volunteers, 28 partnerships and 15 ongoing initiatives in the five areas of the program.



Recognition Award for Best Practices in Diversity and Inclusion in the Oil & Gas sector by the Society of Petroleum Engineers (SPE) 2019.



More than 5,300 participants in our activities and training actions



The program is now offered to other Group companies.

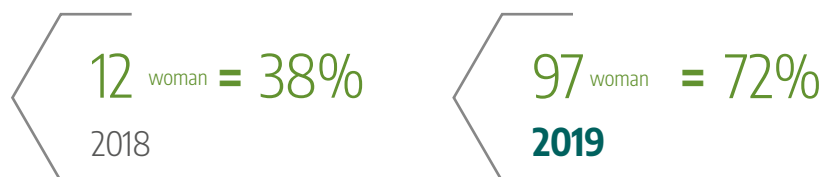
287

Gender cornerstone

- Ninth place in Peer Ranking as measured by *Aequus*, moving up six positions compared to 2017, exceeding the goal of 65, as well as the goal of having at least one female candidate in the final short-list of the selection processes for leadership positions.

- Recruitment of women in roles traditionally occupied by men.

Selection processes for leadership positions with at least one candidate woman



Women in office of leadership

2018

14%

Vice Presidencies (3)

14%

Management (14)

20%

Headquarters (46)

18%

Coordination Equivalent (56)

18%

Total positions of leadership (119)

2019

14%

Vice Presidencies (3)

18%

Management (20)

24%

Headquarters (56)

19%

Coordination Equivalent (72)

20%

Total positions of leadership (151)

- Integration of the First Technical Workshop for Gender Parity Initiative that launched the first Gender Equity Plan for Colombia.

- Adherence to the Equipares Seal fostered by the Ministry of Labor.

- Launch of the First Gender Violence Kit with tools such as: UN Violence Meter, VCU Sexual Harassment Thermometer, *Sofia App* Application, Yammer, 155 Hotline and Ethics Hotline.



Disability cornerstone

- Initiatives developed to strengthen our commitment to the employment of people with disabilities, which currently stands at 759 people.
- Structuring of a partnership with the High Council for Disability, the Ministry of Health and Social Protection and the Ministry of Labor.



- Signing of a partnership with the High Commissioner for Disability to foster technological tools for people with disabilities.

- Development of the first volunteer program with a focus on disabilities, with a visit to Hocaes, a home for children with disabilities which has a work learning model, provides opportunities for planting a vegetable garden and has physical and occupational therapy facilities.
- Recognition by the National High Council for its initiatives on disability.

Victims of the armed conflict, former soldiers and retired military personnel – veterans cornerstone

- Structuring partnerships with various organizations in order to boost initiatives.

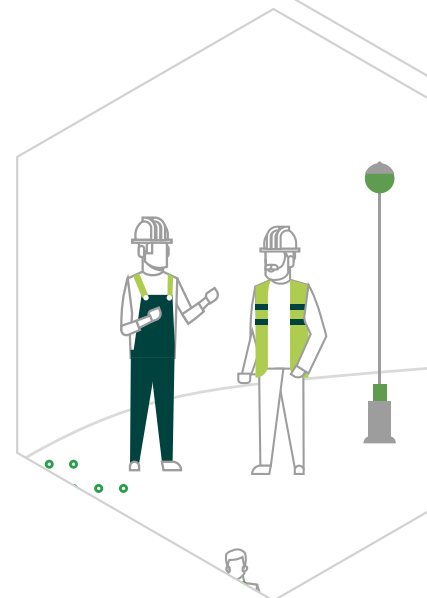
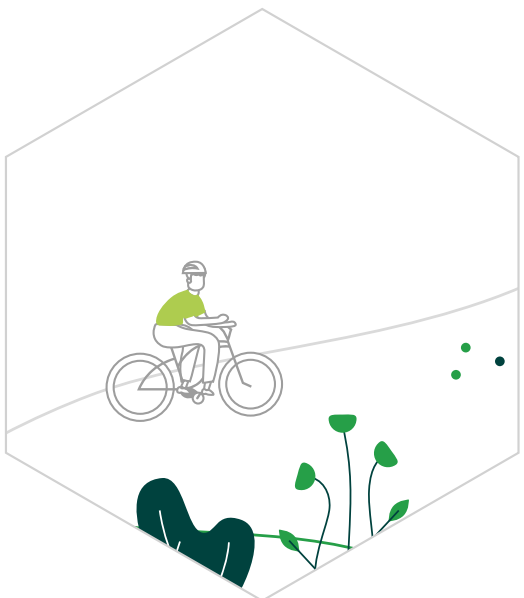
- Ecopetrol adhered to the National Pact for Diversity and Inclusion within the framework of the IOM/USAID Inclusion for Peace Program, focusing on victims.

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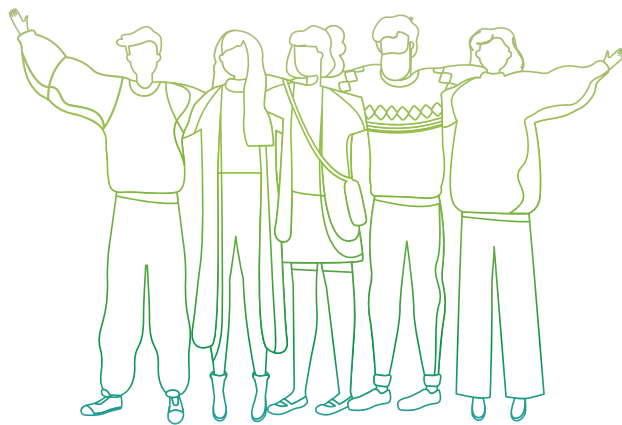


- The first edition of Ecopetrol's Diverse Market took place.

- Activities and talks on the issue of victims, former soldiers and retired military personnel addressed to more than 700 people.

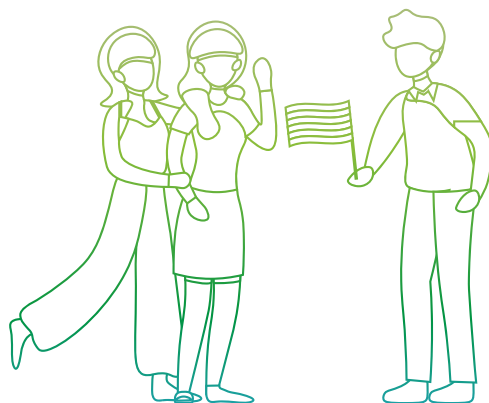


Ethnicity, origin and socio-cultural conditions cornerstone



- Ecopetrol adhered to the National Pact for Diversity and Inclusion within the framework of the IOM/USAID Inclusion for Peace Program focusing on ethnicity, and Ecopetrol structured its portfolio of associated initiatives.
- Training and communication activities on ethnic diversity and other socio-cultural conditions issues.

Sexual orientation and gender identity (SOGI) cornerstone



- Creation of a community of volunteers to support Sexual Orientation inclusion initiatives with the participation of 25 people.
- Launch of the first business meeting to share practices on sexual orientation and gender identity.

- Participation in events, talks, videos, commemoration of international days in Ecopetrol and Ecopetrol Group companies to foster area objectives. Highlights include the launch of the Bogotá Free of Discrimination Seal, the LGTBI+ Alternative Caribbean Forum, among others).



GRI | 103-1 |, | 103-2 |, | 413-1 |

Fostering multi-culturalism

In addition to the implementation of the Ethnicity, Origin and Socio-cultural Conditions area of the Human Rights Guide (2019), Ecopetrol has adopted a positive differential approach in the relationship with ethnic groups, with a perspective that goes beyond a Prior Consultation process, based on due diligence and intercultural dialogue that allows it to better understand the priorities of these communities within their territories..

In line with Ecopetrol's interest in maintaining relations with the ethnic communities, in 2019 Ecopetrol once more opened a direct dialogue with the U'wa people, in an effort to transform the dynamics with the indigenous communities. Within this framework, the Company plans to build on trust and mutual knowledge through an intercultural dialogue that allows for the clarification of assumptions surrounding the oil activity, better knowledge of the community and its worldview, as well as the generation of socio-environmental investment actions aimed at building a joint vision of the territory. ■

GRI | OG-9 |, | 103-3 |



Prior consultations completed

The monitoring of ongoing consultation processes, both those initiated and those in the process of protocolization, which have taken place in previous years, were implemented in order to keep the communities that have participated in the processes informed. As agreed in the framework of these consultations, progress was made in complying with the agreements established with the communities (see Table 67).

Table 67. Monitoring of prior consultation processes

Communities consulted / Location	Ecopetrol project	Developments / Stage reached on 2019
Uitoto de Coropoya Indian reservation, Coreguaje de Jericó, Consaya and La Teófila / Solano indian reservations (Caquetá)	Seismic Samichay 2D.	Consultation has been formally logged and is in the follow-up stage. The closing of the process was requested to the Ministry of the Interior because the seismic will not be executed. Contact has been established with the community to hold the closing meeting between January and February of 2020.

Communities consulted / Location	Ecopetrol project	Developments / Stage reached on 2019
Sikuani, Vencedor Pirirí, Guamito Matanegra Indian reservations / Puerto Gaitán (Meta)	Drilling and exploration area in Mago Norte	Consultation has been formally logged and is in the follow-up stage. The relationship with the reservation has been maintained in order to define the projects to be executed. Various changes by the community
Sikuani, Domo, Planas and Iwiwi Indian reservations / Puerto Gaitán (Meta)	Exploratory drilling area CPO-8 Sur	Consultation has been formally logged and is in the follow-up stage. The relationship with the reservation has been maintained in order to define the projects to be executed. Various changes by the community
Kichwa Indian reservation Calarcá / Puerto Leguizamo (Putumayo)	Seismic PUT-13 2D	Consultation has been formally logged and is in the follow-up stage. The project has not been initiated and neither has compliance with the agreements. Relationship with the community of Calarcá is maintained.
Embera Chami de Dachidrua Indian council/ Puerto Parra (Santander)	Naphtha exploratory drilling area	Consultation has been formally logged and is in the follow-up stage. The implementation of the Prior Consultation agreement was initiated, in parallel with the start of exploratory activities. The activity continues in 2020 so that compliance will continue until the end of the project.
Embera Chami de Suratena and Altomira Indian reservation / Marsella (Risaralda)	Transport relief road Chinchiná -Pereira	Consultation has been formally logged and is in the follow-up stage. Execution of the Prior Consultation agreements with the two reservations was completed.
Indian reservations of Cofán Ukumari Kanhke and Santa Rosa; Pasto Rumiayaco; Awá Ishu, and Nasa Uh. Community Council Liberación y Futuro / Ipiales (Nariño)	Modification to PMA Sur-Polígono Churuyaco	Previous consultation under execution. Dialogues with the community were resumed and progress was made in the Prior Consultation process with the implementation of impact workshops with 4 of the 6 communities. To be continued in 2020.
Indian reservation of Kichwa Calarcá / Puerto Leguizamo (Putumayo)	Tantalú Exploratory drilling area	Consultation has been formally logged and is in the follow-up stage. We are waiting to process the Environmental License to begin fulfilment of the agreements. Permanent contact has been maintained with the reservation.
Indian reservation of Sikuani Alto Unuma Meta / Puerto Gaitán (Meta)	Rubiales field	Consultation has been formally logged and is in the follow-up stage. The Reparation Consultation ordered in the second instance ruling of the writ of protection was formally logged and six (6) compensation projects were formulated. Progress is being made on the strategy for contracting and implementing the Agreements.

Communities consulted / Location	Ecopetrol project	Developments / Stage reached on 2019
African-American communities of La Palma and Cocosar / Saravena (Arauca)	Berilo exploratory drilling area	Consultation has been formally logged and is in the follow-up stage. The Prior Consultation process including agreements was formally logged. We are waiting to process the Environmental License to start complying with agreements.
Indian reservation of Paez Baché / Palermo (Huila)	Arbolito Norte exploratory drilling area	Consultation to be initiated. A transfer of the block to Hocol is in process.
African-American community of Cocosar / Saravena (Arauca)	Sesimic Llanos 38 3D	Consultation underway. Consultation started and reached the opening stage. It is expected to be developed in 2020.
Indian Council of Camentsá Biya y Cabildo Pasto Orito Siberia (Orito, Putumayo)	Development of the Occidente Norte (North-western) area	Consultation underway. The consultation started and reached the stage of rapprochement. It is expected to be developed in 2020.

Source: Ecopetrol, Vice Presidency of Sustainable and Environmental Development

GRI | OG-10 |, | 103-3 |



Prevention and management of intercultural conflicts

In order to avoid intercultural conflicts, Ecopetrol strictly complies with environmental legal regulations and the process to determine if ethnic groups are present in the areas to be intervened. Likewise, it carries out a prior consultation processes when these are required by the Ministry of the Interior.

In addition, for each area of operation, the Company determines which ethnic groups are present and it

approaches them in an effort to understand the cultural particularities of each community, which allows for the construction of a direct dialogue.

Despite the above, the lack of clear regulations on the implementation of the Prior Consultation process is considered to be the main cause of conflict with ethnic groups, especially in operational areas existing prior to the issue of Law 21 of 1991, which incorporates ILO Convention 169.



This situation has resulted in the establishment of Actions of Protection by ethnic groups against Ecopetrol and other entities of Government, as well as for its partners and subsidiaries. In front of these guardianships, Ecopetrol has been respectful of the judges' decisions and has been diligent in its implementation

GRI | OG-10 |, | 103-3 |

A summary of the three most significant conflicts with ethnic communities in 2019 is presented below:

● **Awá Indigenous Community (Ricaurte, Nariño):**

the Awá People who settled near the Trasandino Oil Pipeline (OTA), are requesting reparation for damages caused by attacks against the pipeline and contamination caused by illicit valves.

In the event of contingencies caused by third parties, Ecopetrol, as OTA operator, carries out the necessary actions to recover the oil spilled. The claim was filed before the Court of Cundinamarca. The judicial authority has not yet ruled. In spite of this situation, Ecopetrol has approached the community in order to formulate a collective benefit project.

● **Embera Chami de Simorna indian reservation:**

requested a Prior Consultation process for two wells drilled in 2003. They consider that they have been impacted, being upstream of the stream that delimits the reservation. A Writ of Protection (*Tutela*) ruled in favor of Ecopetrol, taking into account that the impacts related to the company's operations have no incidence in the community's territory.

● **Florida Kawianane Community:**

In 2019, threats were made to take legal action against Ecopetrol for the operation of the CPO8 South Exploratory Drilling Area.

The Special Administrative Unit for the Management of Stripped Land Restitution requested that a restitution judge hand over several pieces of land in the municipality of Puerto Gaitán to the Florida Kawianane community. Despite the above, the Ministry of the Interior indicated that it cannot register this community since, once the population census was reviewed, it determined that these people are registered with other Indian reservations in the department of Vichada. Without a registration process completed by the Ministry, no prior consultation can take place. Ecopetrol has asked the Ministry of the Interior for its opinion on the matter, but there has been no directive from that institution on how to proceed. The Company has remained in contact with community leaders, indicating that it is willing to dialogue within the framework of legality and according to the institutional guideline. For the time being, all entry into the premises where the community is located will be avoided until such time as the Ministry has made its decision.



GRI | 411-1 |



Cases of violations of the rights of indigenous peoples

During 2019, no situations of violation of the rights of indigenous peoples were identified. In cases resulting from a writ of protection from a prior consultation, Ecopetrol strictly complies with existing regulations. However, it is important to

clarify that no clear guidelines have been developed to establish the Company's actions in relation to activities that have been carried out prior to the issue of Law 21 of 1991 and even prior to the arrival of certain ethnic communities to the areas of operation.

GRI | 406-1 |



Ecopetrol's stance regarding the hiring of local labor from ethnic groups

The hiring of local labor from ethnic groups is based on respect for the right to non-discrimination on the basis of ethnic status in terms of employment and must be based on the provisions of the Political Constitution of Colombia and, in particular, ILO Convention No. 169 (art. 20).

Within the framework of Decree 1668 of 2016, which regulates the hiring of local labor for the hydrocarbons sector, it is

established that the area of influence of any Project, Work or Activity (PWA), in terms of labor, is the entire municipality and no differentiation can be practiced between the inhabitants. Thus, the Company avoids any negative discrimination between workers belonging to ethnic groups and ensures that at least the principle of bilingualism is applied, and that both the cultural differences of each community and its representative authorities are taken into account.

GRI | 103-1 |, | 103-2 |



Operations in locations where indigenous communities are present

Ecopetrol has operations that predate the establishment of the laws that establish the obligation to carry out Prior Consultation processes in areas where ethnic groups are present, as a mechanism to ensure their fundamental right to participation (Political Constitution of 1991 and Law 21 of 1991).

On the other hand, the vindication of the political, cultural, social and economic rights of these groups and their protection by the

Colombian State through a legal framework has led many communities to request their recognition and registration as an ethnic group. For this reason, communities that were previously organized as community action councils are now structured as indigenous and African-American communities, with which a relationship based on an ethnic differential approach must be established, regardless of whether the State has granted them a property over to a territory.



GRI | 103-3 |

Table 68 presents a summary of Ecopetrol's main operations in areas where Indian reservations and lands titled to Community Councils are located. It is important to take into account that there is no database to establish the location of the communities that do not have legally constituted lands, since the definition of the territorial limits must be legalized by the National Government.

Due to the above, every time a project, work or activity is planned in a new area, the respective certification of the presence of ethnic groups must be requested from the Ministry of the Interior, for which said authority assesses whether a verification visit is required to define whether or not a community is present.

Table 68. Operations in locations where indigenous communities are present

Department	Ecopetrol presence	Description
La Guajira	Chuchupa and Ballenas fields and Block RC-9 (Molusco exploratory well)	Prior consultation processes with 119 Wayuu communities (Molusco-1) and prior consultation processes with the Chuchupa and Ballenas fields, carried out by the partner company (Chevron).
Magdalena	Pozos Colorados maritime terminal	Initial approach with the Arhuaco reservation in the Sierra Nevada in an effort to establish the relationship strategy
Bolívar	Refinería de Cartagena Nestor Pineda maritime terminal.	There are no ethnic groups in the industrial district, however, community councils and cabildos from the Zenu community are present in the adjacent areas
Sucre	Coveñas maritime terminal.	Consolidation of community councils and councils from the Zenu community
Cesar	Galán multi-purpose pipeline	Presence of community councils
Norte de Santander	Production fields close to the Motilón Barí communities	Presence of Motilón Bari communities.
Santander, Boyacá and Arauca	Gibraltar field	Presence of the U'wa people and organization of community councils from African-American communities. Organization of Embera Councils in Santander.
Risaralda	Chinchiná – Pereira relief road, Puerto Salgar Cartago Yumbo multi-purpose pipeline	Prior Consultation process with the Embera Chami Indian reservation: Suratena and Altomira. The process is currently open, which guarantees that participation process with the community are completed through this mechanism.
Tolima and Huila	Production fields	Presence of Pijao communities in Ortega and Chaparral.
Valle del Cauca	Poliducto Puerto Salgar Cartago Yumbo	Community councils from the Mulaó and Pacífico Cimarrones communities.

Department	Ecopetrol presence	Description
Meta	Rubiales Field, Mago Field, Block CPO 08	Vencedor Pirirí, El Tigre, Alto Unuma Meta, Domo Planas and Iwiwi Indian reservations, with which Prior Consultation processes have been completed for the exploration projects of Mago Norte and CPO-8 Sur, as well as for the Rubiales production field.
Putumayo	Exploration and seismic areas	Presence of councils from the Embera, Nasa, Awá, Pasto, Kichwa, Pijao and Muruy peoples. Camentsá and Inga (Alto Putumayo) and Siona and Cofán (Bajo Putumayo) communities.
Nariño	Sucumbíos field and Trasandino pipeline.	Presence of Pasto, Awá, Nasa and Cofán communities, as well as community councils with which the consultation was begun.

Source: Vice Presidency of Sustainable and Environmental Development

GRI | 102-41 |, | 103-1 |, | 103-2 |, | 103-3 |, | 407-1 |

Freedom of association and collective bargaining

Ecopetrol is committed to the absolute respect for the right of association and freedom of association in accordance with constitutional and legal parameters, and in line with this, all its actions comply with the principles and provisions governing this matter.

During 2019, the implementation of the agreements contained in the current Collective Labor Agreement (2018-2022 CCTV for its Spanish acronym) was ensured, as well as other agreements signed within the framework of the collective bargaining completed in 2018. To this end, opportunities for dialogue with the unions remained open and

the area responsible provided ongoing support in order to guide the proper management of the union rights of its workers and the unions they represent.

In numbers, 249 meetings were held and 190 commitments were made with union organizations, related to issues such as: mapping of operational positions, contractors' work obligations, workers' performance and occupational health, among others. Likewise, the commitments agreed upon within the framework of the negotiations carried out in 2018 were ensured, regarding issues such as night surcharge, claims committee and social investment.



GRI | 407-1 |

In compliance with its obligations, Ecopetrol complies with union rights regarding discounts to union fees, permits and guarantees; it also fully observes the rules that regulate aspects such as union

jurisdiction and other rights related to union freedom. Consequently, during 2019, there were no cases in which the right to freedom of association and collective bargaining of suppliers could be at risk.



Unions

Ecopetrol currently has nineteen (19) union organizations, to which the Company's workers are affiliated. Ten (10) of them are industry or economic activity unions and nine (9) are company unions, as listed below:

Table 69. Ecopetrol Unions

Industry or economic activity unions:
Unión Sindical Obrera de la Industria del Petróleo – USO .
Asociación de Trabajadores, Directivos, Profesionales y Técnicos de las Empresas de la Rama de Actividad Económica del Recurso Natural del Petróleo, los Combustibles y sus Derivados – ADECO
Sindicato Nacional de Trabajadores de Empresas Operadoras, Contratistas, Subcontratistas de Servicios y Actividades de la Industria Petrolera, Petroquímica y Similares – SINDISPETROL.
Unión de Trabajadores de la Industria Petrolera y Energética de Colombia – UTIPEC.
Asociación Sindical de Trabajadores de la Industria del Petróleo – ASTIP
Sindicato Nacional de Trabajadores de la Industria de los Hidrocarburos – SINATRINHI.
Sindicato Nacional de Trabajadores de Mantenimiento de la Industria del Petróleo, Gas y Carbón – SINTRAMANPETROL.
Asociación Sindical de Trabajadores de la Industria de Hidrocarburos de Colombia – ASINTRAHC.
Unión Sindical de Trabajadores del Sector Energético – USTRASEN.
Sindicato de Trabajadores de la Industria Minero Energética – SINTRAMEN
Company unions
Asociación Sindical de Profesionales de Ecopetrol S.A. – ASPEC .
Asociación Sindical de Empleados de Ecopetrol – ASOPETROL.
Asociación Sindical de Trabajadores de Ecopetrol – TRASINE.
Asociación Sindical de Trabajadores de Ecopetrol – ASTECO
Sindicato de Trabajadores Petroleros de Ecopetrol – SINPECO.
Sindicato de Profesionales de Ecopetrol S.A. – SINPROECOP.
Asociación de Profesionales y Tecnólogos Empleados de Ecopetrol S.A. – APROTECO.
Asociación Sindical de Trabajadores de la Industria del Petróleo e Hidrocarburos de Ecopetrol S.A. – ASTIPHEC.
Sindicato de Trabajadores de Ecopetrol S.A. – SINTRAECO.

Source: Vice Presidency of Human Talent

GRI | 102-41 |

In 2019, 50.9% of Ecopetrol's workers were members of one of the previous unions. According to the above, in accordance with the legal provisions that regulate the matter, the Collective Labor Agreement in force applied to 79.0% of all Ecopetrol workers.

GRI | 403-4 |

Health in the Collective Labor Agreement in force

Chapter VI of the 2018-2022 Collective Labor Agreement sets forth the provisions agreed in terms of health services for Company's workers and their duly registered beneficiaries. It establishes various commitments on health issues that include the integration of a National Health Commission between ECP and the USO, as a bipartite body that

addresses issues pertaining to the provision of health services; additionally, ECP - USO Health Sub-committees are established at the regional level, for this same purpose.

Chapter X of the aforementioned Agreement includes provisions concerning occupational health and industrial safety for Company workers at its different locations nationwide.



Human Rights Commitments within the framework of the Collective Agreement

Chapter XVII on "Human rights and peace" (2018-2022 CCTV) establishes the joint commitment of Ecopetrol and USO to work together to encourage respect, compliance and dissemination of human rights within the Company and in the regions where it operates.

The objective of this chapter is currently being developed by the National Commission on Human Rights and Peace (ECP-USO) and the Human Rights Sub-Commissions, which are actively working towards thereto.

This committee is comprised by two (2) representatives appointed by management to represent the Company and four (4) workers appointed by the union to represent the USO.

There are seven sub-committees which are comprised by a Company representative and a union representative, across the entire Company, in the following manner: Magdalena Medio Sub-committee, Office of the Vice President of Transportation, Cartagena, Neiva, Orito, Llanos and Bogotá.

Some of the most important activities carried out by the Human Rights and Peace Commission are:

- The National Human Rights and Peace Commission, by consensus, took in a worker in order to apply the exceptional conventional mechanism for protection in the event of threats to his life and personal integrity. Over the past five years, this is the first such case by the National Human Rights Commission, given that the preventive and proactive actions to care for workers have been effective.
- Twelve ordinary and six extraordinary monthly meetings have been held by the National Commission, as well as eight meetings within the framework of due diligence in human rights and security to promote respect for life and the free exercise of union activity in the most critical areas of the country, with the participation of military, police and municipal authorities, control bodies, workers and the USO.
- Monitoring of agendas, cases of workers relocated for security reasons and construction of solutions that seek effective protection of human rights, following due diligence processes.

GRI | 402-1 |

Minimum term notices on organizational changes

Chapter XVIII of the 2018-2022 Collective Labor Agreement, in Article 165, includes normative aspects related to terms and provisions concerning collective bargaining. The collective labor agreement does not have established notice periods or provisions for consultation. However, whenever these occur, they are communicated in advance in accordance with the communications strategy designed for that purpose and through the heads of area. Similarly, permanent opportunities of dialogue are open with the most representative of the union organizations where they are informed of changes and business strategy.

GRI | 406-1 |

Preventing workplace harassment

Ecopetrol's Workplace Coexistence Committee fosters respect, impartiality, tolerance, serenity, and an open dialogue and conciliation that tends to improve work coexistence within an environment of absolute confidentiality. Under this framework, agreed improvement plans are built, monitored and cases closed with the aim to establish relationships based in mutual well-being.

In 2019, 31 reports were submitted, of which 15 are in the process of being analyzed and

heard, four are waiting for summons to reach an agreement, three are being monitored to ensure healthy coexistence agreements, six were rejected because they did not meet the characteristics of harassment in the workplace according to Law 1010 of 2006, and three were closed.

Between 2015 and 2019, 154 preventive disclosures have been made, in which 1,091 officials participated.

During 2019, no discrimination complaint was received through the ethics hotline. It is important to note that the Code of Ethics and Conduct prohibits discrimination, which is considered a violation of the ethical principle of respect.



Security and Human Rights

In its annual Human Rights Plan, Ecopetrol proposed addressing security issues from three fronts: Internal Management, Private Surveillance and Relations with Law Enforcement Authorities.



Internal Management

Efforts focused on the development of prevention plans regarding Security and Human Rights, which aim to design preventive measures with a differential approach, allow for the exercise of rights and above all prevent the materialization of risks that may affect the rights of our stakeholders, especially workers,

contractors' workers, members of the community and other partners.

Their formulation was based on the results of the human rights risk analysis carried out in 2018 (Eastern and Orinoco regions), taking into account the following methodological steps:



Source: Ecopetrol, Vice Presidency of Sustainable Development

As a result of each of the exercises completed, the risks identified were disaggregated through the construction of risk scenarios which, once assessed, allowed for the prioritization of actions and the definition of the parties responsible for their implementation. Six risk scenarios were identified for the Eastern regional and five for the Orinoco regional.



Private Security

Ecopetrol continues to strengthen its risk prevention actions in contracted security, continuing to monitor compliance with the Human Rights clause included in the contracts signed with private security companies "Contractor obligations of the contractor in terms of Voluntary Principles on Security and Human Rights". During 2019, six companies submitted biannual reports

on their contracts, in an effort to assess the degree of understanding and compliance thereof by the contractors.

In accordance with the above, the clause was revised and concepts adjusted, without losing focus of the international standard element of the Voluntary Principles on Security and Human Rights.



Relations with Law Enforcement Authorities

Based on the existing guidelines established in the agreements between Ecopetrol and the National Law Enforcement Authorities, a follow-up report on Human Rights activities carried out by the latter was requested every six months.

Ecopetrol officials visited the Armed Forces and National Police facilities to meet with their commanders and share with them their interest in strengthening human rights training by members of the Public Force.

This activity was also strengthened by training workers directly related to this activity in the regions.

Land rights

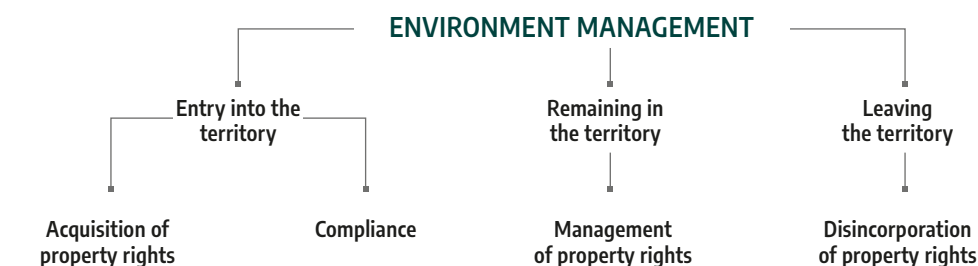
At Ecopetrol, land management in all phases of project development and operations adheres to procedures that seek to ensure the opportunity to acquire rights and long-term sustainability of the relationship with owners, holders and tenants, abiding by constitutional and legal principles and rights, such as good faith, the right to private property, treatment without discrimination, the rights of armed conflict victims and the prevalence of the general interest over the particular.

The actions proper to Land Management are framed within a compensatory scope whereby the action principles

are (i) certain existence of the damage; (ii) causal link between the existing damage and the activities carried out by the Company; and (iii) the absolute and clear identification of the natural or legal person subject to compensation.

The above is supported by a PHVA management cycle (plan, do, check and act) which is specified in the Land Management Procedure (2019) through which the Company's actions are regulated, for three moments in time, when it: (i) enters into the territory, (ii) remains in the territory and (iii) leaves the territory.

LAND MANAGEMENT PROCESS



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Source: Ecopetrol, Vice Presidency of Procurement and Services

When the Company enters the territory, the process to acquire the property rights is activated. By virtue of this process, an analysis of the information on the properties is carried out with the aim of establishing full legal and cadastral identification of the properties and their title analysis, while watching for risk factors to establish if the properties in question have been subject to dispossession or forced abandonment. Based on this information, it becomes evident who is entitled to incorporate property rights (sale or easement), the absence of legal limitations with respect to acquisition and the feasibility of reaching agreements with the enforceability of a public deed, for registration in the corresponding real estate registration log.

As part of the above, the Company verifies whether the owner is included in any of the restrictive lists, which poses a risk of inability or incompatibility to contract, or of money laundering or financing of terrorism. In the case of legal entities, verification includes all administrators (legal representatives, members of the board of directors) and partners with an interest of more than 5%. In the event of information or indications that associates the owner with activities that may compromise Ecopetrol's good name

and reputation, the Ethics and Compliance Management is informed of the situation, and guidance on the matter is requested. At the same time, the business is informed of the situation, in order to jointly assess the possibility of relocating the area required.

The methodology established in the easement compensation guidelines (GDE-I-008) is followed for easement compensation agreements, which are based on the principles of equity and transparency. The determination of the compensation values is based on the valuation techniques defined by the Instituto Geográfico Agustín Codazzi (IGAC), either through mass appraisals, or specific appraisals, which with the support of the IGAC itself or duly certified appraisers, determine the sales value of the properties of interest.

In relation to property damages, whether they occur when installing the infrastructure or during its life cycle, the owner of the improvements will identify and characterize the improvements found that will be subject to indemnity (for example, in the case of crops, the level of technology, phytosanitary status, technical specifications of the buildings, as well as their age and state of conservation), once the aforementioned information is

made available, the compensation process can continue through an indemnity agreement for the damages caused. Unlike easement indemnity agreements, which can only be reached with the registered owners of the properties, indemnity agreements must be reached with the owners of the affected improvements; thus, in cases where persons other than the registered owners are presented as owners of the improvements (as occurs with the owners, holders or tenants of vacant lots),

Ecopetrol implements a due diligence process prior to the payment of the indemnity.

When the activity to be carried out involves affecting households where a temporary relocation or definite resettlement of its inhabitants occurs, Ecopetrol compensates the affected persons for all costs incurred for the temporary relocation or resettlement, an aspect that is addressed in the following section.

GRI | OG-12 |



Resettlements

During 2019, the resettlement procedure was drawn up and formalized through a single document that complied with internal regulations and international standards.

As a result of this exercise, the Procedure for Population Resettlement was issued, due to the development of operations and projects, the purpose of which is to trace the conceptual and methodological route that will make it possible to prevent, mitigate, correct and compensate for economic and social impacts caused by the involuntary displacement of the population as a result of operations and projects, and to define the actions and responsibilities of each of the areas within the Company that will make it possible to re-establish the socio-economic conditions of the population and use the resettlement of the population

as an opportunity for improving the conditions of the population in question.

The document uses the UNRSPs, the International Policies on Population Resettlement: World Bank OP 4-12, the IDB standard OP-710 and the International Finance Corporation (IFC) Resettlement Plan Preparation Manual as benchmarks.

The document defines a series of principles, resettlement modalities and intervention components: technical environmental, social and legal real estate, which must be considered in each of the phases of a resettlement process. In this way, the scope of social risk assessment and support activities throughout the process increases for the resettled people.

GRI | OG-12 |

Resettlement cases

During 2019, two voluntary resettlements were carried out, one with ethnic communities and one with non-ethnic communities, in addition to a temporary relocation. No involuntary resettlement took place during this period.

Table 70. Voluntary resettlements

Municipality (Departament)	Description
Cartagena (Boyacá)	<ul style="list-style-type: none"> The Zenú de Membrillal Indian council, in conjunction with the government of Bolívar, continued with the resettlement process of the Bayunca district in Cartagena. The resettlement was necessary because the property where the community is located is up for sale. Resolution 5284 of 2013 issued by the Secretary of the interior and Citizen Coexistence, registered the Board of Directors of the Zenú de Membrillal Indian council. There is a total of 477 people (104 families) which are being resettled, their livelihoods have not suffered.

Municipality (Departament)	Description
Barrancabermeja (Santander)	63 families have been relocated in the district of El Centro, area of direct influence of the Operations Management of La Cira of the Central Regional Vice-presidency. The relocation process was supported by the Real Estate Management of La Cira Infantas and the Municipal Ombudsman of Barrancabermeja. As a result of these relocations, they are undergoing an adaptation process aimed at achieving positive change and an improvement in housing conditions and family welfare.
Acacías (Meta)	As part of the drilling campaign of 14 wells in clusters 1 and 2 of CPO9, located in the settlement of La Esmeralda, a temporary relocation was implemented as a noise mitigation measure to avoid any type of affectation that could be caused to the neighbors of the mentioned clusters for a period of five (5) months, which was completed in May 2019, during which time additional noise mitigation controls continued to be carried out simultaneously. It should be reiterated that the use of the Relocation or Resettlement Form was not needed for this temporary relocation.

Source: Ecopetrol, Vice Presidency of Sustainable Development

GRI | 103-1 |, | 103-2 |, | 103-3 |, | 408-1 |, | 412 - 3 |

Due diligence in the value chain



Rights of children and adolescents

During 2019, as part of the human rights risk assessment carried out in the Magdalena Medio region, special attention was paid to risks associated with populations in vulnerable situations, including children and adolescents. When the results are socialized in 2020, measures to prevent the risks identified will be established.

Continuing with the work developed in 2018 after the signing of the covenant for the prevention of exploitation of children and adolescents with the tank truck transport companies, Ecopetrol's new Human Rights Guide was shared twice with the interested parties, and doubts were resolved regarding the manner in which the Covenant was being implemented.

Furthermore, the commitments acquired were followed up, in which some of the companies reported fostering opportunities for communication and training among their workers, usually facilitated by the HSE or legal teams, incorporating a zero tolerance policy and respect for human rights into their codes of conduct, and implementing awareness campaigns in schools and colleges on the issues of human trafficking and commercial sexual exploitation of children and adolescents.



Inclusion in security services

Taking into account that the contracting of security services generates a significant and continuous income for many of the families in the regions where Ecopetrol operates (currently more than 2,300 people are employed nationwide), two technical elements were included in the selection process for contractors who will provide these services between 2020 and 2025. It was decided to endorse a diverse and inclusive employment strategy that takes into account women as a group suitable to carry out the position of security guard, where historically they have been excluded.

These technical factors are associated with the proposal for a diverse and inclusive employment strategy, in accordance with the guidelines presented by the ANDI Foundation, the Corona Foundation, and ACDI VOCA in the "Guidelines for the promotion of inclusive employment in businesses" and a proposal aimed at training women living in the areas where the contracts will be developed, providing this population group with the basic training required by law to provide security guard services. This favors the inclusion of female security guards in contracts with Ecopetrol and other companies that require these services.



Interaction with public and private entities

National Hydrocarbon Agency: after the adoption of the Human Rights Policy for the Mining and Energy Sector, Ecopetrol continued to participate in the activities defined by the National Hydrocarbon Agency. After receiving the document “Recommendations for the strengthening of human rights due diligence processes”, Ecopetrol has been adopting some of the recommendations suggested therein, such as those referring to institutional commitment.

Additionally, the company joined the Working Group on Human Rights and Hydrocarbons, created at the end of 2019, led by the Office of the President’s High Advisor for Human Rights and the National Hydrocarbon Agency.

Commission for the Clarification of Truth: during 2019 Ecopetrol was invited to participate in the Dialogues for Non-Repetition organized by the Commission for the Clarification of Truth, Coexistence

and Non-repetition, which were opportunities for participation and social discussion to delve further into the causes of the armed conflict and its impact on society. The Company participated in three of them: in Barrancabermeja as an active participant in the dialogue, and in Arauca and Bogotá as attendee.

Participating in these dialogues made it possible to open and strengthen relations with players in these territories, different from those with which the Company usually relates. This contributes to building trust with our stakeholders in the territory.

ANDI: Ecopetrol as a member of the *Asociación Nacional de Industriales* - ANDI (National business trade association), is part of its Human Rights Committee, which discusses and analyzes initiatives and training actions and socialization of good business practices in human rights.

GRI | 412-2 |

Training and communication in Human Rights

Internally, the Company organized a short cycle of talks on human rights for professionals in the areas of environment, physical security, human talent, supply, corporate responsibility and communications. Each of the talks dealt with highly Material topics in Ecopetrol’s management, which is why we turned to expert entities in each of these areas, such as:



GRI | 103-1 |, | 103-2 |, | 410-1 |, | 412-3 |

Security and Law Enforcement Authorities

Visits were made to Ecopetrol's seven regional offices, in which 45 training sessions were held, benefiting 1,328 people, including 30 security coordinators and security leaders and 543 security guards from the different companies. They were accompanied by 498 members of the National Army, 217 members of the National Police and 40 members of the National Navy.

The issues addressed during these trainings were two: Voluntary Principles on Security and Human Rights and Social Protest and Community Relations.

GRI | 412-2 |

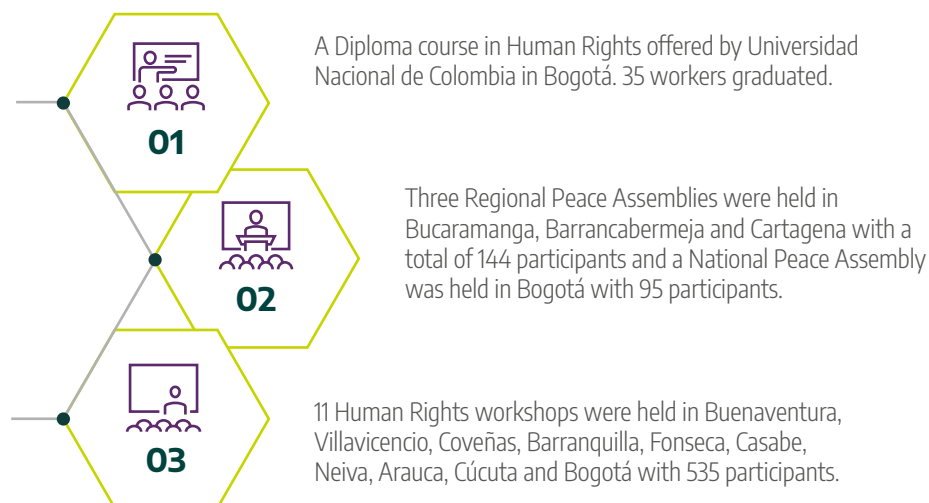
Training in Diversity and Inclusion

Ecopetrol organized multiple opportunities for participation and training on Diversity and Inclusion. Some of the issues included: Unconscious bias, Diversity and Inclusion in Ecopetrol (program), Basic D&I concepts, Prevention of gender violence, Women's

leadership and non-traditional roles, Gender equity workshops (impostor syndrome, glass ceiling, family co-responsibility, sorority, non-traditional roles, prevention of gender violence, etc.).

Human Rights and Peace Commission (Ecopetrol – USO)

In 2019, as part of the work plan defined by the Human Rights and Peace Commissioners (Collective Labor Agreement), training sessions were held for workers and communities on human rights and the culture of peace, including:



In addition, human rights training meetings were held twice each semester, with the participation of the Company's and the union's Human Rights commissioners and deputy commissioners. The issues discussed included migration law and

migrants' human rights in the case of Venezuela, the right of association and its essential core of protection, as well as the main violations that occur, according to the Observatory of the National Union School, among others.



GRI | 412-2 |

The activities described above are equivalent to at least 346 hours of training offered to 1,382 workers; plus 5,300 workers who participated in other Diversity and Inclusion

activities. This represents 10% of Ecopetrol's workers, all of whom hold key positions to ensure the proper management of these issues.

International Human Rights Day

The Company's President, Felipe Bayón, issued a message reiterating Ecopetrol's commitment to respect Human Rights by embracing the United Nations Guiding Principles on Business and Human Rights in all its operations and promoting the achievement of Sustainable Development Goals. The document can be found at <https://youtu.be/BTdfYkbe-Gs>.

It is also important to highlight D&I program communications, which include live and recorded streaming videos, podcasts, institutional videos and celebration of special dates.

GRI | 103-1 |, | 103-2 |, | 103-3 |, | 409-1 |

Human rights monitoring

Ecopetrol constantly monitors human rights risk behavior, through the use of different internal and external information sources. As a consequence, during 2019, seven situations of alleged or real human rights violations against members of different Ecopetrol stakeholder groups

were reported. The cases were brought to the attention of the authorities and/or were dealt with by the competent area.

After conducting human rights risk analyses at the regional level and permanent monitoring, no situations involving the risk of forced labor were identified.

03 BEST PRACTICES AND INTERNATIONAL STANDARDS

Guías Colombia

Taking into account the importance of participating in multi-stakeholder initiatives that allow for communication and the joint construction of better business practices in the field of human rights, Ecopetrol continued

to participate in the Guías Colombia initiative. Within this framework, it applied the "Self-Diagnosis Tool for the Identification of Human Rights Management Gaps" and also participated in the initiative's annual event.

309

United Nations Global Compact

Ecopetrol has adhered to the United Nations Global Compact since 2009. As part of its commitment, the Company supports the Compact's Local Network in Colombia, in the following manner:



Ecopetrol's management teams have followed the 10 Principles of the Compact during the last 10 years, using them to guide their business decisions in terms of human rights, environment, labor standards and the fight against corruption. For further information on the ten principles, please consult:



QR Principles
Pacto Global

In March 2019, the United Nations Global Compact awarded Ecopetrol the category of Advanced CoPs, for its progress in reporting on the implementation of these ten principles.





05

ENVIRONMENTAL DIMENSION



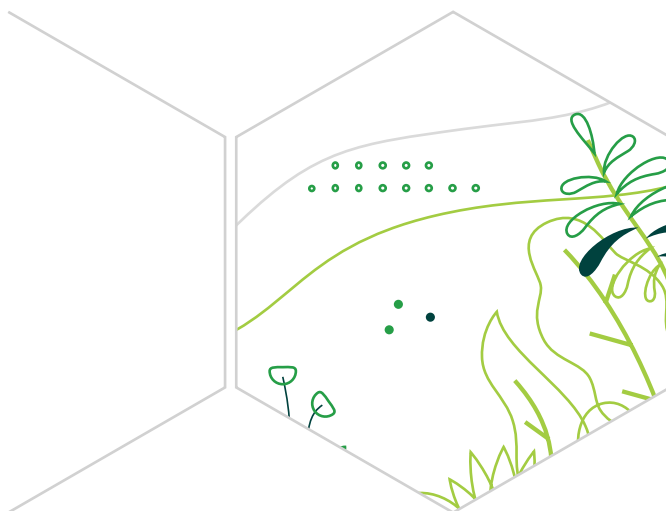
GRI | 103-1 |

STRATEGIC ENVIRONMENTAL GUIDELINES



Environmental management in Ecopetrol and its Business Group seeks to prevent, control, mitigate and compensate for the potential environmental impacts of their operations and projects, in accordance with the mitigation hierarchy, in order to contribute towards the improvement of the environmental quality of the territories where it operates and to sustainable development. Through environmental management, the Company seeks to ensure that its works, projects and activities have the required permits and authorizations, and that strict compliance is followed.

Ecopetrol's strategic environmental guidelines assign a high priority to the following issues:



GRI | 102-11 |

PRECAUTIONARY PRINCIPLE

As part of its environmental management, Ecopetrol applies the precautionary principle. Therefore, in the absence of knowledge regarding a potential impact or risk, the Company takes measures to study and scientifically understand the risk during the planning stages of its projects, that is, before the potential impacts occur, and takes preventive or mitigation actions, which have proven to be effective over time, and which are permanently monitored and assessed. This method helps prevent operational risks, even in the absence of scientific certainty. ■



COMPREHENSIVE WATER MANAGEMENT

GRI | 103-2 |

Its aim is to incorporate efficient water resource management within the Company's value chain, to enable projects and operations seeking sustainability for the Company, and to reduce environmental impacts and conflicts associated with water and water security.

By managing water in an integrated manner, it is possible to improve efficiency in the use of the resource, reduce operating costs, contributing to the reduction of conflicts associated with water, and improving credibility and relations with stakeholders and other sectors of civil society. It includes the following topics:

- Operational efficiency in terms of water management
- Environmental water sustainability and security
- Water planning and water governance

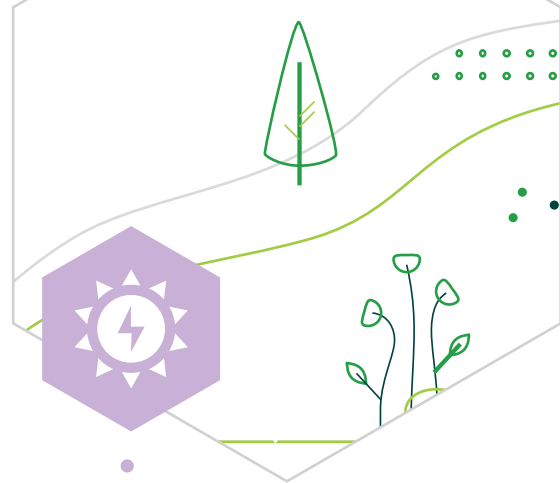


CLIMATE CHANGE

GRI | 103-2 |

The main objective of Ecopetrol's climate change strategy is to maintain low-carbon operations and reduce the operation's vulnerability to climate variability and change. Said strategy is aligned with the policies and plans that the national government has established to address and manage climate change. The areas where it is implemented are:

- Mitigation
- Vulnerability and adaptation
- Technology and research
- Participation in the construction of climate change policy documents



ENERGY

GRI | 103-2 |

Energy management is aimed at optimizing sources, uses, energy costs and emissions, in a reliable and sustainable manner. To this end, Ecopetrol has defined five strategic areas:

- Energy efficiency program
- Optimization of the energy matrix based on economic and environmental merits
- Improving competitiveness in terms of self-generation
- Optimization of electrical planning and use of synergies with Ecopetrol Group companies
- Participation in the wholesale energy market by means of direct marketing through Ecopetrol Energía S.A.S. ESP, the subsidiary of the Ecopetrol Group



BIODIVERSITY

GRI | 103-2 |

Aims to achieve the adequate management of biodiversity and ecosystem services for the well-being of communities through the diversification of local economies and the strengthening of their technical response capacities, generating direct results in the conservation and recovery of ecosystems and their resilience. The areas where it is implemented are:

- Incorporation of biodiversity criteria in project and operations planning, updating of the biodiversity baseline and resilience analysis
- Landscape-scale intervention in priority areas
- Compensation and conservation of ecosystems
- Solutions based on nature and sustainable use of biodiversity



CIRCULAR ECONOMY

GRI | 103-2 |

Ecopetrol and its Business Group's circular economy model was structured in line with the National Circular Economy Strategy. The main objective of the circular economy model is to incorporate this concept in management processes to promote economic growth, improve competitiveness and mitigate risks related to the environment and the volatility of raw material prices, in the medium term, through five actions:

- Efficient use of resources and new ventures
- Improvement and development of products and services
- Standards and public policies
- Territorial management, oriented towards circularity
- Generation of a circular economy culture within the Ecopetrol Group

GRI | 103-3 |

ENVIRONMENTAL MANAGEMENT INDICATORS

Environmental management is measured through three environmental indicators that are reported on the Company's balanced management scorecard. 2019 results for these indicators, as well as the goals set for 2020 are shown in Table 71.

Table 71. Environmental Indicators

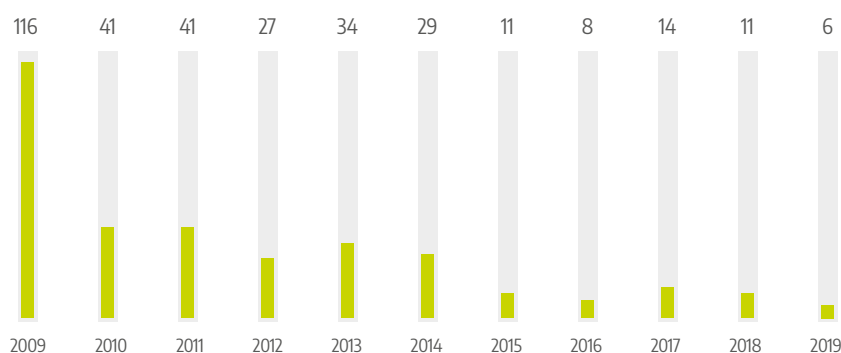
Indicator	Unit	Goal / Maximum limit* 2019	Real amount 2019	Goal / Maximum limit 2020
GRI 306-3 Environment incidents due to operational causes	Number	12	6	7
GRI 306-3 Barrels spilled in environmental incidents due to operational causes	Barrels	160	141.90	140
GRI 305-5 Reduction of greenhouse gas emissions, within a <i>business as usual</i> scenario	Tons reduced	163,528	380,603	148.000

Source: Ecopetrol, Vice Presidency of Sustainable Development

* The 2020 goals and maximum limits only take into account the operations of Ecopetrol S.A.

The 2019 indicator for environmental incidents due to operational causes met the maximum limit established by the Company, with a 50% reduction with respect to the maximum limit set for this year. The frequency of incidents decreased by 45% compared to 2018. Figure 91 shows the evolution of this indicator for the 2009 – 2019 period.

Figure 91.
Environmental incidents due to operational causes
(Number of incidents)



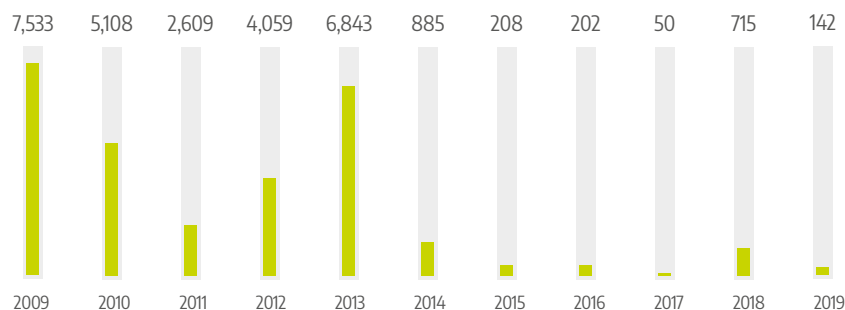
Source: Ecopetrol, Vice Presidency of Sustainable Development

The indicator for barrels spilled in environmental incidents due to operational causes met the maximum limit established by the Company, with a reduction of 11% with respect to the maximum limit proposed for this year. Additionally, the volume spilled in 2019 decreased by 80% with respect to the volume spilled in 2018. Figure 92 shows the evolution of this indicator for the 2009 – 2019 period.

Figure 92.

Barrels spilled in environmental incidents due to the operation

(Number of barrels spilled)



Source: Ecopetrol, Vice Presidency of Sustainable Development

GRI | 305-5 |

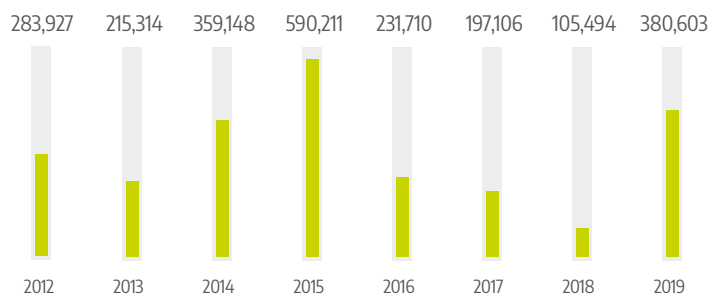
With respect to the indicator for Greenhouse Gas emissions (GHG) reductions (see Figure 93), it is important to mention that in 2019 a reduction of 380,603 tons of CO₂ equivalent was recorded in new projects implemented during the year.

This reduction is 232.7% higher than the target set for the year and was made possible by the implementation of projects to reduce gas flaring and venting, and the optimization of processes in production fields, which are discussed in the section "Climate Action".

Figure 93.

Reduction of GHG emissions

(Tons of CO₂ equivalents)



Source: Ecopetrol, Vice Presidency of Sustainable Development

Including the reduction achieved in 2019 (380,603 tCO₂e), the cumulative total reduction of GHG resulting from the implementation of projects executed since 2010 is 1,610,011 tCO₂e.

Currently, cost-effective mitigation projects have been identified that

will allow the Company to reach about 12% of the established GHG reduction target (20% by 2030) and additional opportunities are being identified to strengthen the portfolio of projects to be developed in the coming years.

6 CLEAN WATER
AND SANITATIONMATERIAL
TOPIC

WATER

Standard
GRI applied

GRI | 303 |

Water

GRI | OG-5 |

Water generated

Why is it a
Material topic?

GRI | 103-1 |

The responsible management of water resources is essential to guarantee the protection and conservation of the environment and the operational continuity of the different areas of the business. Ecopetrol is publicly committed to sustainable water management through its participation in the CEO Water Mandate.

How is the
topic managed?

GRI | 103-2 |

The environmental strategy includes an area of comprehensive water management. Its objective is to incorporate efficient water management in the value chain, to enable projects and operations, seeking the sustainability of the Company, the reduction of environmental impacts and conflicts associated with water and water security in the environment.

How is the
topic assessed?

GRI | 103-3 |

The comprehensive water management strategy is assessed through the following indicators: volume of water extracted per source, water sources significantly affected by water extraction and volume of water recycled and reused.

Impact coverage

GRI | 103-1 |

Process in Ecopetrol
where the most
significant impact
is generated

Production, refining, petrochemical and transport.

Stakeholder group
where the most
significant impact
is generated

All stakeholder groups.

Area managing
the impact

Vice Presidency of Sustainable Development.



COMPREHENSIVE WATER MANAGEMENT



Water is a vital resource for the development of Ecopetrol's operations, as well as for the communities in the areas where the Company carries out its activities. Ecopetrol's comprehensive water management aims to incorporate efficient water management in its value chain, to enable projects and operations, seeking Company sustainability, the reduction of environmental impacts and conflicts associated with water and water safety in the environment.

OPERATIONAL EFFICIENCY IN TERMS OF WATER MANAGEMENT

Through operational efficiency in this area, the Company seeks to implement comprehensive water management in its businesses, in order to generate value by enabling production and reserves, as well as to guarantee the availability and continuity of current and future water supply for projects and operations, considering the sustainability of water resources.

To consolidate all environmental information associated with the use and exploitation of

this resource in the facilities and projects of direct operation, Ecopetrol uses the Water Information System "*SIGAR-Aguas*". The data reported in this chapter includes all of Ecopetrol's direct operation segments including the Cartagena Refinery, CENIT Transportation Stations and Oleoducto de Colombia (ODC for its Spanish acronym), administrative buildings, local service centers and Ecopetrol's health centers.



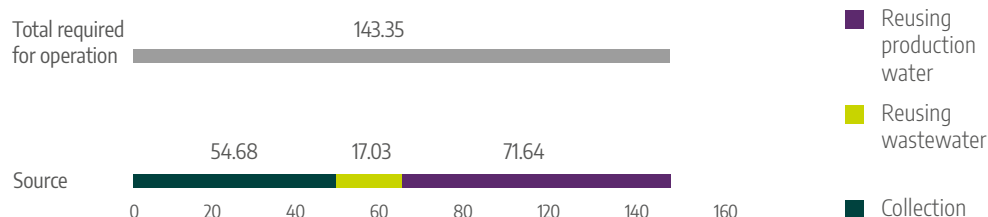
Tello field operation

WATER REQUIRED FOR THE OPERATIONS

In 2019 the total volume of water required to develop Ecopetrol's value chain activities was 143.35 million cubic meters. Of this volume, 61.9% (88.67 million cubic meters) came from

reusing wastewater and production water, and 38.1% (54.68 million cubic meters) was collected from natural sources and aqueducts. Figure 94 shows this distribution.

Figure 94.
Distribution of
water required for
the operation
(Millions of m³
per year)



Source: Ecopetrol, Vice Presidency of Sustainable Development

In 2019 we reused 88.67 million m³ of water, equivalent to 62% of the volume total water required to operate.

COLLECTION

GRI | 303-1 |

In 2019, 54.68 million cubic meters of water were collected. This represents a 5% decrease with respect to the volume collected in 2018; this was mainly due to decreases in water collected in the La Cira Infantas and Yariguí-Cantagallo production fields, as well as in the Cartagena Refinery. Figure 95 details these amounts.

Figure 95.
Water collection
by source
(Millions of m³
per year)



Source: Ecopetrol, Vice Presidency of Sustainable Development

GRI | 303-2 |

The Company's main sources of supply are water bodies above ground. 70% of the volume of water was collected through 47 points located in rivers, streams, canals and others. Next in importance are the 78 underground water wells and cisterns, from which 16% of the volume of water collected was obtained.

In some of our production facilities and exploration and drilling projects, rainwater is used as a source of supply for domestic and industrial uses. **In total, 7,381 cubic meters of rainwater were used in 2019.**

The remaining 14% was collected from 31 aqueduct points and external suppliers that have the approval to sell water for domestic and industrial use, which supplied operating facilities, administrative buildings, exploration projects, transportation and the Cartagena refinery.

Refining and petrochemical processes (Downstream) used 56.6% of water volume collected, followed by development and production (Upstream), with 42.69% of the total volume. The remaining percentage was allocated to the exploration (0.05%) and transport (0.49%) segments, and corporate areas (0.17%).

GRI | 303-2 |, | 306-5 |

Water sources affected by collection

During 2019, no surface bodies of water were affected by collections, given that the ratio of 5% between the volume collected and the available surface supply of a given hydrographic subzone was not exceeded.

GRI | 303-3 |, | OG-5 |

Ecopetrol is committed to reusing water as an alternative to avoid water collection and, consequently, reduce the volume of effluents.

For this reason, strategies have been implemented to increase the percentage of reuse and recirculation of water in Ecopetrol's facilities.

In 2019, 88,67 million cubic meters of water were reused, which equals to 61.9% of the total water required to operate, and likewise implies that Ecopetrol prevented collecting and discharging this same volume. This represents a

4% increase with respect to the volume reused in 2018. The two types of water reused in Ecopetrol are explained below:



Reuse of collected water

in 2019 Ecopetrol reused and recirculated a total of 17.03 million cubic meters of collected water *. The percentage of reuse, calculated as the ratio between the volume of water reused-recirculated and the total volume collected, was 31.1%, showing a slight increase as compared with the percentage registered in 2018. (See Figure 96).

WATER REUSE

Figure 96.
Historical data of collected water reused*
(Millions of m³)



Source: Ecopetrol, Vice Presidency of Sustainable Development

* Reuse of collected water: collected water that after being used in the productive processes is treated and returned to be used in the processes where it was generated or in other processes.



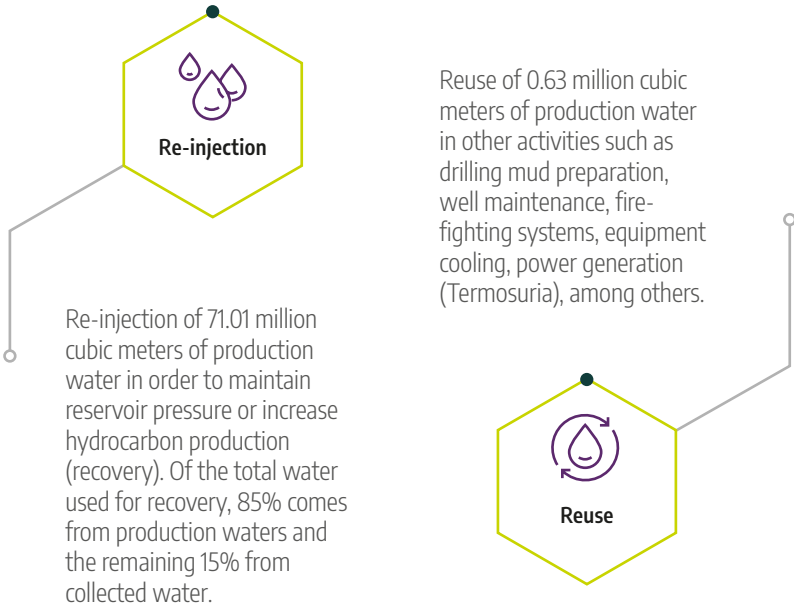
98.77% of the volume reused or recirculated was reported in the refining and petrochemical segment; 0.72% corresponds to the transportation segment; the remaining 0.51% corresponds to specific drilling activities, in which reverse osmosis and demineralization

processes have been implemented for the treatment of domestic and industrial waste water, allowing for the reuse of at least 90% of the treated water for reuse in the production of drilling mud, washing equipment, cooling water for pumps and industrial uses.



Reuse of production water*

in 2019, the Development and Production segment reused 71.64 million cubic meters of production water. The percentage of production water reuse, calculated as the ratio between the volume of production water reused and the total production water generated, was 18%. These results were achieved through the following initiatives:



* Reuse of production water: reuse of waters that comes with the oil and gas extracted from the fields, which once on the surface is separated and treated to be used in production processes

GRI | 306-1 |
MANAGEMENT
OF EFFLUENTS

322

The total volume of effluents generated by Ecopetrol's operations during 2019 was 429.14 million cubic meters, which include:

Production waters, which are the waters associated with the extraction of hydrocarbons.

Industrial wastewater, which is the wastewater resulting from the use of water collected for industrial purposes.

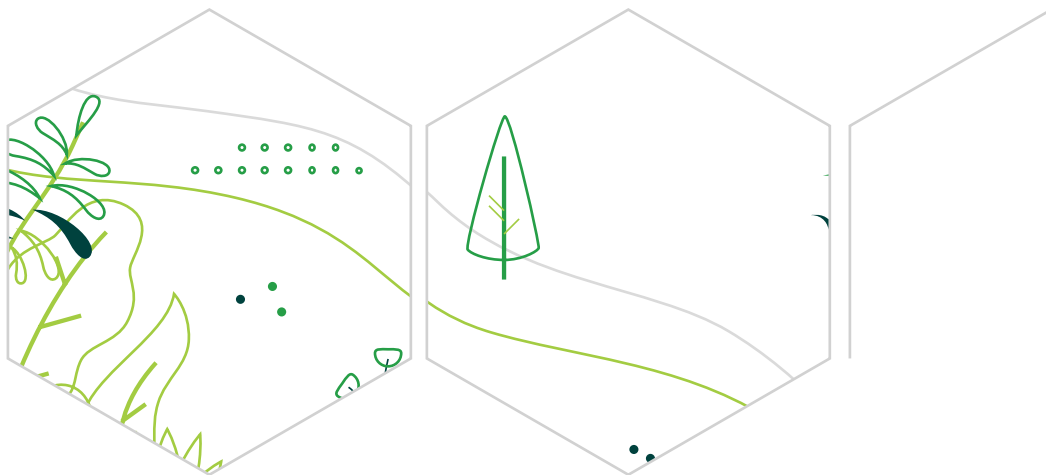
It is important to clarify that this figure does not include volumes of domestic wastewater or rainwater according to the 2016 GRI Standard guideline for Content.

Figure 97 shows the configuration of the effluents generated in 2019. Production waters represent 92.8% of total effluents, while industrial wastewater, generated mainly in refining processes, corresponds to 7.2%.

Figure 97.
Configuration of
Ecopetrol effluents



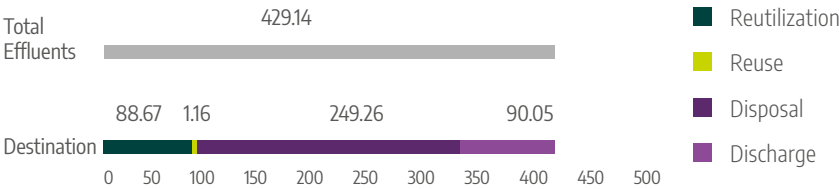
Source: Ecopetrol, Vice Presidency of Sustainable Development





Ecopetrol has established different alternatives for managing its effluents.

Figure 98.
Effluent management
by destination
(Millions of m³)



Source: Ecopetrol, Vice Presidency of Sustainable Development

REUTILIZATION

Reutilization is the first alternative considered for effluent management at Ecopetrol. During 2019, 88.67 million cubic meters of water were reutilized, that is, 20.6% of total effluents. This means that Ecopetrol stopped abstracting and discharging this same volume (see section “Water reutilization”).

**REINJECTION OF
PRODUCTION
WATERS**

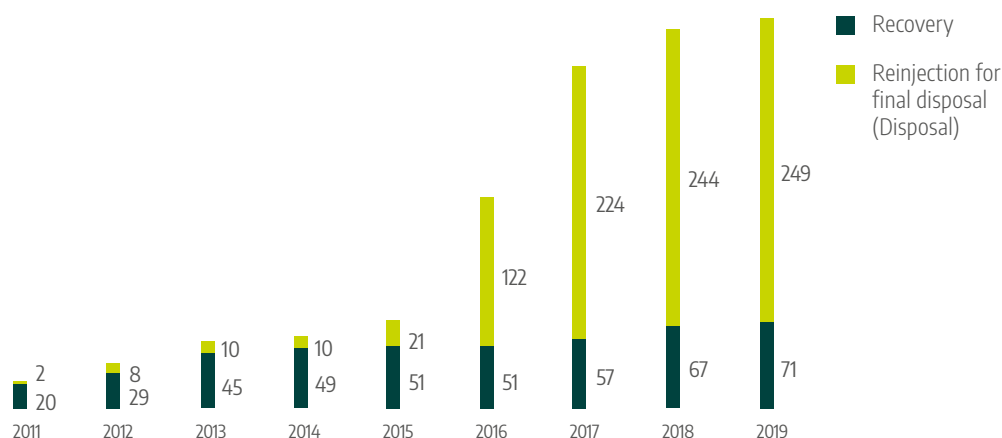
GRI | OG-5 |

In order to reduce the volume discharged into surface water bodies, Ecopetrol is carrying out activities aimed at injecting production water, either as a final disposal or for recovery (reutilization).

The volume of production water reinjected for final disposal in 2019 was 249.26 million cubic meters, which corresponds to 58.1% of total effluents, while the volume of

production water reinjected for recovery was 71.01 million cubic meters. Figure 86 shows historical data on the volume of production water reinjected. It is important to mention that the increase registered in 2016 and 2017 with respect to the trend of previous years is due to the inclusion of the Rubiales Field as an Ecopetrol asset.

Figure 99.
Historical data on
water reinjection
(Millions of m³)



Source: Ecopetrol, Vice Presidency of Sustainable Development

REUSE OF TREATED PRODUCTION WATERS

Water reuse is another alternative for wastewater management, within the framework of environmental regulations.

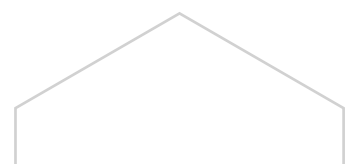
After a research process of more than five years, through a scientific study carried out by the Colombian Corporation of Agricultural Research (Corpoica-today Agrosavia), it was concluded that the production waters treated by Ecopetrol in its Apiay and Castilla fields in the department of Meta, are suitable for use in agricultural and livestock activities and in the irrigation of forest crops.

During 2019, 1,2 million cubic meters of production water tratadas en el Campo Castilla were reused for irrigation in the Sustainable Agroenergy Area (ASA), with peaks of up to 10,900 cubic meters per day.

This means an increase of 2109% compared to the volume reused in 2018. This field has authorization from the environmental authority to reuse up to 15,740 cubic meters per day.

DISCHARGES

The discharge of wastewater is the last alternative used by Ecopetrol in the management of effluents. For these cases, there are discharge points duly licensed by the competent environmental authorities, which determine the conditions that must be met so the discharge does not affect the natural characteristics of the receiving bodies.



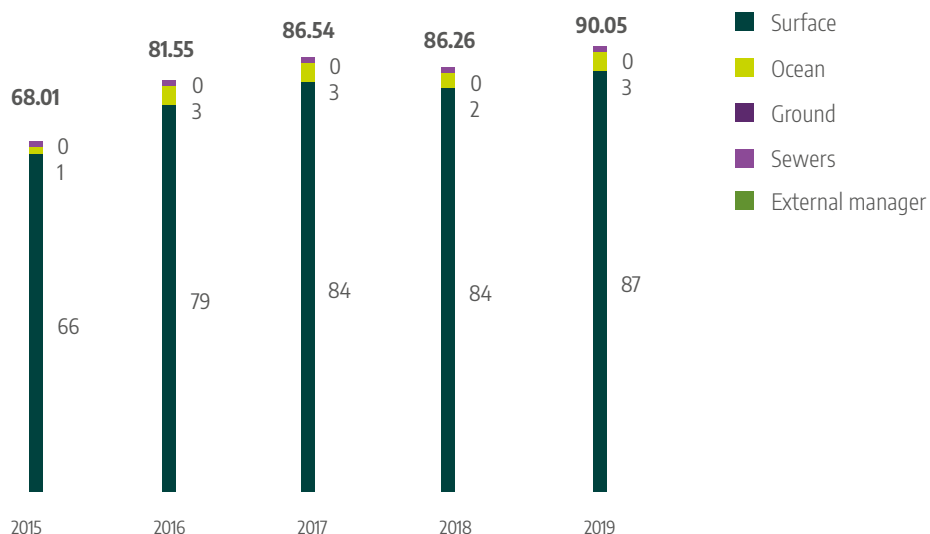
GRI | 306-5 |

In 2019, 74 points were used to dispose of domestic wastewater nationwide, the volume discharged was 90.05 million cubic meters. About 97.02% of the total volume of discharges is expelled onto surface water bodies, 2.97% to marine waters, and the remaining 0.01% to the ground and sewers. Figure 100 shows historical data on distribution of the volume discharged by destination. It is important to mention that the increase registered in 2016 and 2017 with respect to the trend of previous years is due to the inclusion of the Rubiales Field as an Ecopetrol asset.

325

Figure 100.

Historical data on distribution of discharges by destination
(Millions of m³)

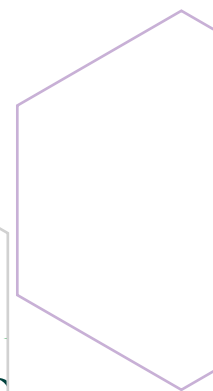
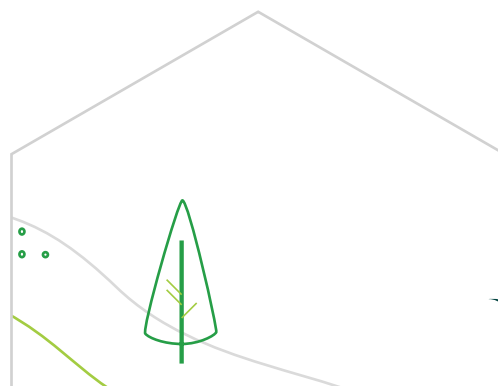
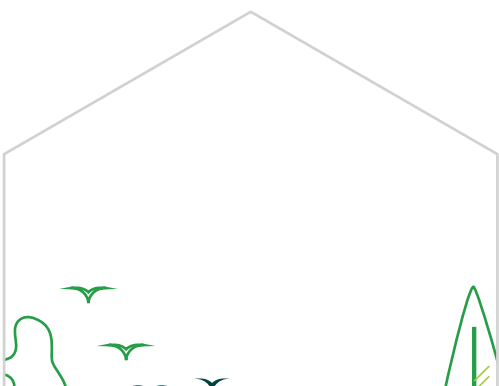


Source: Ecopetrol, Vice Presidency of Sustainable Development

With regard to the distribution of discharges by segment, 85.2% of the water discharged corresponds to the production segment (Upstream); 14.7% to refining and petrochemicals (Downstream); the remaining 0.1% corresponds to transport (Midstream).

QUALITY OF DISCHARGE

Ecopetrol treats 100% of the effluents before disposing of wastewater in surface water bodies, marine waters or the ground. These are subjected to treatment processes in order to remove the concentrations of substances of environmental interest and to comply with the permissible limits established by the environmental standards or by environmental authorities for their final disposal.



DISCHARGE OF CONTAMINANTS

GRI | 306-1 |

In 2019, the concentration of grease and oils in Ecopetrol's discharges to superficial bodies of water and ocean waters registered an average value of 10.2 parts per million, which is below the maximum permissible limit of 15 parts per million established in the environmental regulations for discharges to these

repositories. Alternatively, the Biochemical Oxygen Demand (BOD5) registered an average of 30.2 mg/L compared to the norm of 60 mg/L for production and 200 mg/L for refining. The average concentrations were calculated as the ratio between the annual load of each contaminant and the annual volume of discharges.

Improvement initiatives for wastewater management and treatment

During 2019, Ecopetrol continued with the scheduled implementation of its clean technologies conversion plans as regards to waste management (PRTLGV for its Spanish acronym) approved by the environmental authorities, which include 23 points on industrial wastewater discharge.

The activities included in these plans are focused on the implementation of water reuse alternatives in the refining processes

or the reinjection of production waters in the production fields. In other cases, the PRTLGV seek the improvement of current treatment processes, interventions at the source and studies of alternatives by employing new technologies, among others.

It should be noted that on December 28, 2019, the Chichimene Field achieved the goal of reusing 100% of its production water in secondary and tertiary crude oil recovery.

RISKS ASSOCIATED WITH WATER

Water is a vital resource for Ecopetrol's operations and projects. For this reason, the assessment of water risks is continually updated, wherein possible scenarios that can affect operations are evaluated and anticipated. These scenarios analyze variables such as water availability and quality deficits, changes in regulation and relationship with stakeholders.

GRI | 201-2 |

PHYSICAL RISKS

The volume of water collected by Ecopetrol during 2019 represents only 0.003% on average of the total surface water supply in the country, which is estimated at 2 billion cubic meters per year according to the 2018 National Water Study. This supply is not evenly distributed in space and time, since much of it is concentrated in the areas of lowest demand, such as the Orinoco and Amazon regions, while in the Andean and Caribbean regions, which are areas of high demand, there is less of the resource. This generates difficulties in some areas of the country due to its use, which can lead to conflicts between users.

To assess this risk, the data published in the 2018 National Water Study and the water vulnerability index (IVH for its Spanish acronym) are taken into account, which evaluate the conditions of water use (supply/demand)

and the water regulation index (the capacity of the basin to retain water in periods of drought). Hydrographic Sub-Zones (HZS for its Spanish acronym) with a very high HVI are thus catalogued when they have critical water use indices (>100%) and/or when they have water use indices greater than 20%, and very low regulation indices simultaneously.

Based on the data published by the 2018 National Water Study, 7 HZSs have been identified with a very high water shortage vulnerability index (IVH), and that also intersect with the areas where Ecopetrol operates. The following map shows all of the HZSs where Ecopetrol practices water collections, together with their vulnerability ratings, as well as details of the areas identified as being highly vulnerable.

WATER VULNERABILITY INDEX (IVH) IN HYDROGRAPHIC SUBZONES WHERE ECOPETROL PRACTICES WATER COLLECTIONS

1206-

Direct streams to the Caribbean Sea

The Cartagena Refinery purchased from the Cartagena Water Company a total of 7.68 million m³ of untreated water. This volume is equivalent to just 1.2% of the total superficial water offer from the Dique Canal HSZ, from where the aqueduct gets its water. As a strategy for the minimization of crude water, the refinery reuses 59% of the water received, and continues developing and implementing strategies that will help increase this percentage.

2631-

Arroyohondo River

The Yumbo Station receives its water from this basin. In 2019 it receives a total of 14 thousand m³. This volume represents 0.01% of the total superficial offer of the basin.

2111-

Fortalecillas River and 2112-Bache River

230 thousand m³ were collected to supply the Production fields of Balcón, San Francisco, Tello and Río Ceibas. This value represents 0.01% of the total superficial offer of the basin. These fields reuse 100% of its production waters for recovery processes, and collect water from underwater wells, thus avoiding additional pressure to the surface water.

1601-

Pamplonita River

The Villa del Rosario Warehouse collected 3,500 m³ of water in 2019. In addition to this being a low volume (0.0005%) of the superficial water offer, the water is collected from an underwater well that does not impact the pressure of the resources on the surface.

2120-

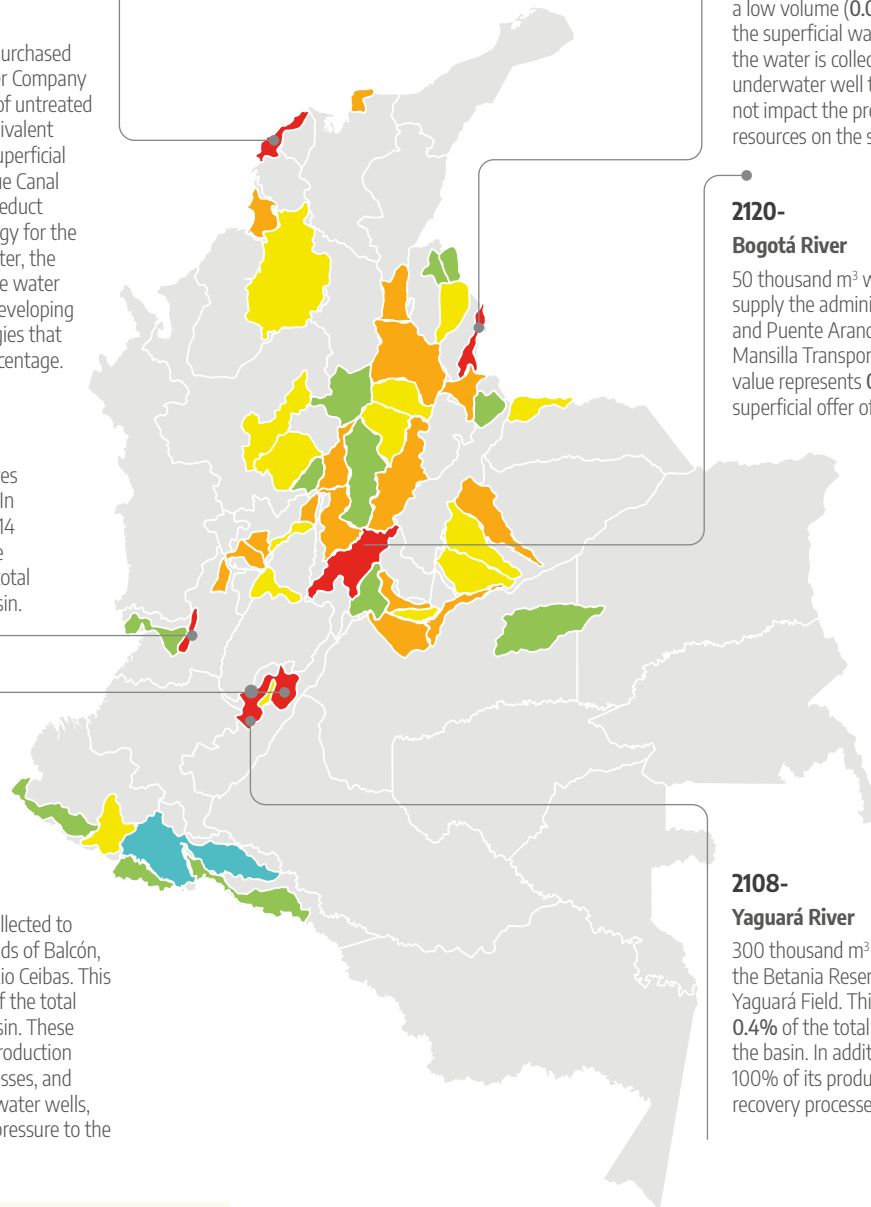
Bogotá River

50 thousand m³ were collected to supply the administrative buildings and Puente Aranda, Tocancipá and Mansilla Transport Stations. This value represents 0.003% of the total superficial offer of the basin.

2108-

Yaguará River

300 thousand m³ were collected from the Betania Reservoir to supply the Yaguará Field. This value represents 0.4% of the total superficial offer of the basin. In addition this zone reuses 100% of its production waters for recovery processes.



Legend

□ Department boundary

IVH-Año Seco

Very High
High
Medium
Low
Very Low

REGULATORY AND LEGAL RISKS

During 2019, Ecopetrol participated in an initiative led by the Ministry of the Environment and Sustainable Development to follow up on the implementation of Resolution 631 of 2015 and to draft the regulations for discharges into the ground soil. During this process, Ecopetrol submitted more than 800 domestic and non-domestic wastewater monitoring results. On the other hand, it also took part in the workshops for estimating consumption modules and participated in the process to update water reuse regulations.

REPUTATIONAL RISKS

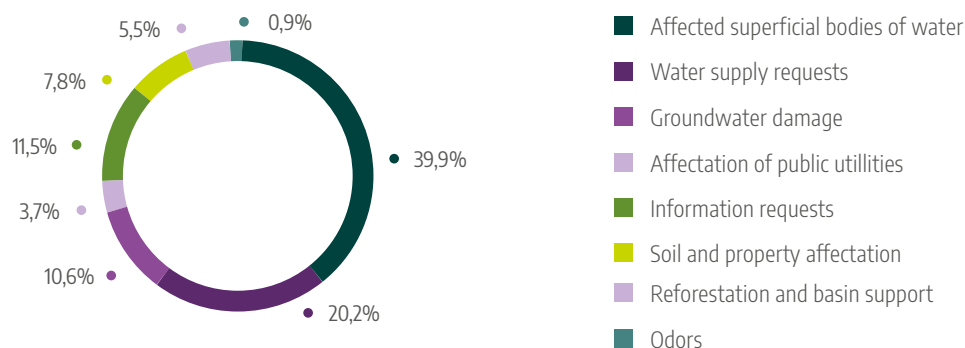
In order to identify the risks associated with water resources, which could impact Ecopetrol's reputation and its relationship with stakeholders, the Company carries out an annual analysis of the requests, complaints and claims (PQRs) received that are related to water. Once the communications are received by Ecopetrol's Citizen Participation Office (OPC), they are escalated to the corresponding areas for verification and analysis,

in which case the validity of the communications are validated and an action plan is proposed in accordance to the response given to the petitioner.

During 2019, Ecopetrol received 218 PQRs related to water resources. This is an increase of 23% compared to the previous period and corresponds to approximately 1.05% of the total PQRs received by the OPC.

Figure 101.

Distribution of PQRs associated with water resources



Source: Ecopetrol, Vice Presidency of Sustainable Development

Results show an increase in cases associated with requests for water supply and additionally Ecopetrol has identified as a reputational risk the level of access to water potable in the areas where it operates, since this generates the materialization of conflicts for the use of the resource. In response to this situation, Ecopetrol has been developing access projects to water and sanitation that will be described in a subsequent section.

SUSTAINABILITY AND WATER SAFETY IN THE ENVIRONMENT

The purpose of this action is to promote actions to improve the capacity to adapt of areas where the Company operates and develops projects.

NATURE CAPITAL MANAGEMENT

During 2019, 85 hectares were intervened for water regulation and availability, and the execution of immediate and preventive actions for the recovery and conservation of the Ciénaga de San Silvestre began.

ACCESS TO WATER AND SANITATION

Ecopetrol uses water resources in 71 municipalities where it works to articulate and strengthen the interventions of the different public and private actors present. According to the 2018 National Water Study, 391 municipalities are susceptible to water shortages due to natural causes and

infrastructure. The municipalities of San Martín (Cesar); Lebrija, Puerto Parra, Rionegro, Sabana de torres (Santander); Tibú and Sardinata (Norte de Santander), Puerto Caicedo and Puerto Asís (Putumayo) are worth noting.

In 2019 the areas of intervention for the development of water and sanitation access projects were defined, in terms of socio-environmental investment.

The map shows 30 municipalities with high intervention rates in the departments of Antioquia (one municipality), Bolívar (two municipalities), Meta (eight municipalities), Norte de Santander (eight municipalities), Santander (five municipalities) and Putumayo (six municipalities).

During 2019 the following Company projects were ongoing:



Construction of water and sanitation access projects

The Company provided support for the implementation of three projects in water access solutions that benefit nearly 7,456 people, from the municipal centers and outlying areas of the municipalities of Castilla La Nueva (municipal center) and Puerto Gaitán (settlement of Rubiales) in Meta and Sabana de Torres in Santander (district of Magará).



Studies and project designs for access to water and sanitation

Ongoing studies and designs for two water access projects in the department of Meta, in the municipalities of Cubarral (urban center) and Castilla La Nueva (settlement of Sabanas del Rosario), which will benefit over 5,694 people; and one sanitation project in the municipality of Cantagallo (Bolívar), which will benefit 938 people and will enable the treatment of 5 l/s of domestic wastewater.

WATER PLANNING AND GOVERNANCE

This action seeks to generate a positive impact on land use planning processes in the Company's areas of interest.

For Ecopetrol it is important to support and participate in the work being done in terms of water security at the international, national and regional levels, which is why it participates in the following initiatives:

CEO Water Mandate

Since August 2014, Ecopetrol has been publicly committed to sustainable water management through its adhesion to the Mandate for Water initiative, promoted by the United Nations Global Compact (CEO Water Mandate).

Through its actions set forth in the integrated water management strategy, Ecopetrol works on each of the key topics stipulated in the Mandate, which addresses direct operations, supply chain and basin management, collective action, public policies, community participation and transparency.

Coalition Water for Colombia

Since November 2018, Ecopetrol has participated in the *Coalición Agua para*

Colombia (Water for Colombia) group, a national multi-sector initiative that seeks to improve water security in 15 river basins.

ABC Water network, Biodiversity and Climate - Territory workshop

Since 2019 Ecopetrol has participated in collective forums that have met in an effort to move forward with the process of building the governance model for the Lebrija River Basin and Magdalena River Wetlands, which is led by the Government of Santander through the Zizua Foundation, in conjunction with the international cooperation of Dutch Water Authorities (DWA).

WATER GOVERNANCE

WATER PLANNING AND USAGE REGULATIONS

In 2019, the diagnosis on the watersheds subject to usage regulations where Ecopetrol's infrastructure is located was updated. In total, 204 HSZ were identified, of which 32 are in the process of formulating and/or updating the Basin Usage and Planning Plan - POMCA; 57 have updated and approved POMCAs, and 115 have not yet begun the usage regulation process.

13 CLIMATE ACTION



330

MATERIAL TOPIC

EMISSIONS



Standard GRI applied

GRI | 305 |
Emissions
| OG-6 |
Flaring and venting
| OG-8 |
Benzene, Lead and Sulfur content
| OG-14 |
Biofuels

Why is it a Material topic?

GRI | 103-1 |

Emission reduction prepares the Company to face increasingly demanding regulations. In the area of biofuels, the focus is on the production of cleaner, lower-sulfur fuels.



How is the topic managed?

GRI | 103-2 |

Climate change is part of the Company's environmental strategy. It specifically includes a mitigation axis, which seeks to reduce GHG emissions from the oil and gas value chain, in line with business objectives of growth and sustainable development.



How is the topic assessed?

GRI | 103-3 |

Emission assessment is measured using indicators on: greenhouse gas (GHG) emissions, emission intensity (GHG), emission reduction (GHG), emissions of ozone-depleting substances and other emissions.

Impact coverage

GRI | 103-1 |



Process within Ecopetrol where the most significant impact is generated

Production, refining, petrochemical and transport.



Stakeholder group where the most significant impact is generated

All stakeholder groups.



Area managing the impact

Vice Presidency of Sustainable Development.



CLIMATE ACTION



GRI | 201-2 |

Ecopetrol is very aware of the effects of climate change worldwide, the need to limit global warming to well below 2°C, to continue its efforts to limit it to 1.5°C, and as such is committed to reducing its carbon footprint and to developing ambitious and significant actions for the reduction and compensation of GHGs.

To achieve this, Ecopetrol will reduce its GHG emissions by 20% for the year 2030 under a business as usual scenario. This goal is in line with Colombia's contribution to the Paris Agreement and SDG Number 13 - Climate Action.

Ecopetrol's Climate Change Strategy is in line with the national government's policies and

plans. This strategy focuses on maintaining a low carbon operation and reducing vulnerability to climate variability and change.

Ecopetrol's climate change strategy has 4 main areas and 11 lines of action (see Table 72).

Ecopetrol is committed to reducing its GHG emission by 20% for the year 2030.

Table 72. Ecopetrol's strategic climate change guidelines

Areas	Lines of actions
Mitigation	<ul style="list-style-type: none">• Inventory of Greenhouse Gases (GHG).• Reduce GHG emissions from company operations.• Offset GHG emissions though nature-bases solutions• Promote the reduction of GHG emissions through the development of forest carbon projects.• Promote the reduction of GHG emissions in the supply chain.• Participate in carbon markets
Vulnerability and adaptation	<ul style="list-style-type: none">• Identify the vulnerability.• Adaptation and implementation plan of adaptive measures.
Technology and research	<ul style="list-style-type: none">• Analysis and evaluation of technologies and technological practices.• International technological alliances.• Research and technological development.
Participation in the drafting of public policy documents	<ul style="list-style-type: none">• Participate in the drafting of policy documents at the national level.

Source: Ecopetrol, Vice Presidency of Sustainable Development

MITIGATION

This area seeks to reduce and offset greenhouse gas emissions (GHG in terms of CO₂e) from the oil and gas value chain, in line with the Company’s objectives of sustainable growth and development. Ecopetrol has been implementing projects to reduce GHG emissions in different operational areas of the Company

through energy efficiency programs, gas use, reduction of flaring, reduction of fugitive emissions and venting, and renewable energies.

Moving forward with its plan to mitigate GHG emissions, Ecopetrol defined a decarbonization plan based on 4 lines of action:



ECOPETROL'S DECARBONIZATION PLAN

333



**Current Emission 11 million
tons of CO₂e/year**

53% **45%** **2%**
Refining Production Transport



Fugitive Emissions

- CCAC

Flare burnings

- World Bank*
- Zero Routine
- Flaring by 2030

Renewable energies

Energy efficiency

Venting

R&D



Analysis of the international carbon market

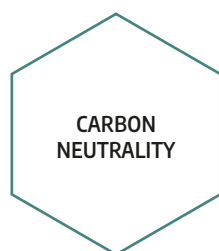
Nature based mitigation options

- Projects in land owned by Ecopetrol
- Projects with third parties

- National and regional interest projects
- 1% investment projects**

Implementation

- Compensation target
- Project prioritization
- Project implementation



Identification of potential segments, assets or processes

- Multi-criteria analysis for prioritization

Defining the carbon neutral plan

- Allocation of human, technical and financial resources

Implementation

- Neutrality certification

Source: Ecopetrol, Vice Presidency of Sustainable Development

* In the process of joining

** Once the obligation has been fulfilled

INVENTORY OF GREENHOUSE GASES

GRI | 305-1, 305-2 |

Ecopetrol has kept and inventory of GHG emissions since 2009, prepared under the methodology established by ISO 14064-1 and the GHG Protocol - World Resources Institute (WRI) and World Business Council on Sustainable Development (WBCSD). As of 2012, the SAP EC - Environmental Compliance IT solution was implemented, which allows the estimation of GHG emissions from information captured through the integration of existing tools in the operational areas.

In 2017, Ecopetrol's GHG emission inventory, which corresponds to the year 2016, was verified by AENOR in accordance with ISO Standard 14064-1:2006. The firm acknowledged that GHG emissions reported

by Ecopetrol are accurate, consistent, transparent and without notable discrepancies. The verification covered 100% of the emissions generated in Colombia, in the facilities where the Company has operational control, under the Vice-Presidencies of Refining and Industrial Processes (VRP), Development and Production (VDP) and Transport Operations and Maintenance (VIT).

For 2019, GHG emissions were estimated at 11,007 kilotons of CO₂e, remaining within the range of emissions recorded for 2018 (see Table 73). These emissions correspond to the emissions of the assets operated by Ecopetrol, including Reficar and Cenit.

Table 73. Total annual GHG emissions (kilotons)

SCOPE	2011	2012	2013	2014	2015	2016*	2017*	2018*	2019**
Direct/ <i>Scope 1</i>	7,067	7,273	7,756	7,406	7,831	8,707	10,800	11,005	10,586
Indirect/ <i>Scope 2</i>	210	261	244	227	245	379	408	453	421
TOTAL	7,277	7,534	8,000	7,633	8,076	9,086	11,208	11,458	11,007

Source: Ecopetrol, Vice Presidency of Sustainable Development. *Sistema de Gestión de Emisiones Atmosféricas* – SIGEA

* Data adjusted based on validation of actual information from 2016, 2017 and 2018.

** Corresponds to information reported for the first 10 months of 2019, and averaged for the months of November and December. This data may change once the final information is available.

DIRECT EMISSIONS/SCOPE 1:

corresponds to direct GHG emissions from sources owned or controlled by the Company. Within this scope combustion, fugitive, flares, venting and transport emissions are reported.

INDIRECT EMISSIONS/SCOPE 2:

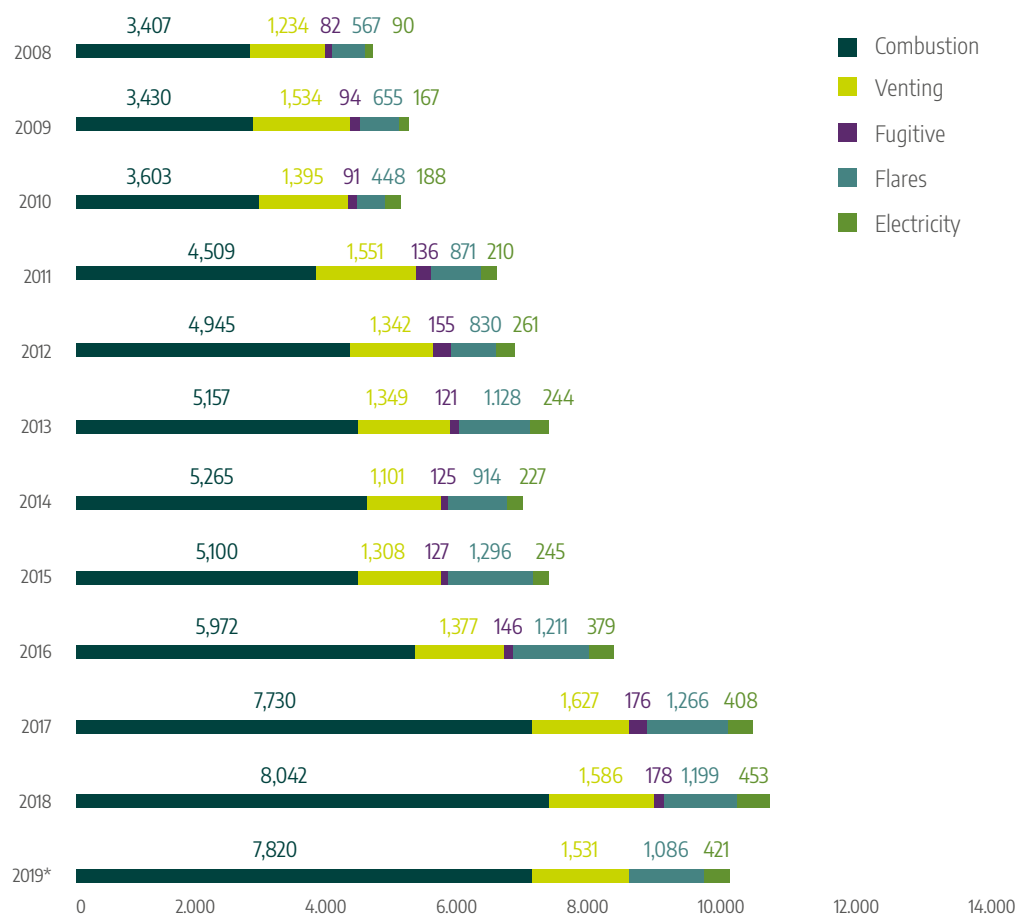
corresponds to the indirect GHG emissions derived from the generation of electricity acquired (bought from a third party) and consumed by the Company.

The increase in emissions between 2014 and 2017 is mainly due to constant improvements in the inventory and the incorporation of assets that have become operational at Ecopetrol, such as Cusiana, Rubiales and the expansion of the Cartagena refinery.

GRI | OG-6 |

Figure 102 shows the results of the GHG emissions inventory by type of emission source (combustion, mobile sources, venting/process, fugitive, flares and electricity consumption).

Figure 102.
Total GHG emissions
by type of source
(kilotons CO₂e)



Source: Ecopetrol, Vice Presidency of Sustainable Development. System for the Management of Atmospheric Emissions (*Sistema de Gestión de Emisiones Atmosféricas* – SIGEA)

* Corresponds to information reported for the first 10 months of 2019, and averaged for the months of November and December. This data may change once the final information is available.

Figures 103 and 104 show direct and indirect GHG emissions, by operational processes at Ecopetrol. Estimated direct emissions in the production process were 4,581 KtCO₂e (42%), in the refining process and industrial processes 5,837 KtCO₂e (56%), and in transport 168 KtCO₂e (2%).

Conversely, indirect emissions estimated in the production process were 366 KtCO₂e (86.93%), in refining and industrial processes, 7 KtCO₂e (0.02%) and in transport, 55 KtCO₂e (13.05%).



Cartagena refinery, Bolívar department

Figure 103.

Annual direct
emissions by
operating process

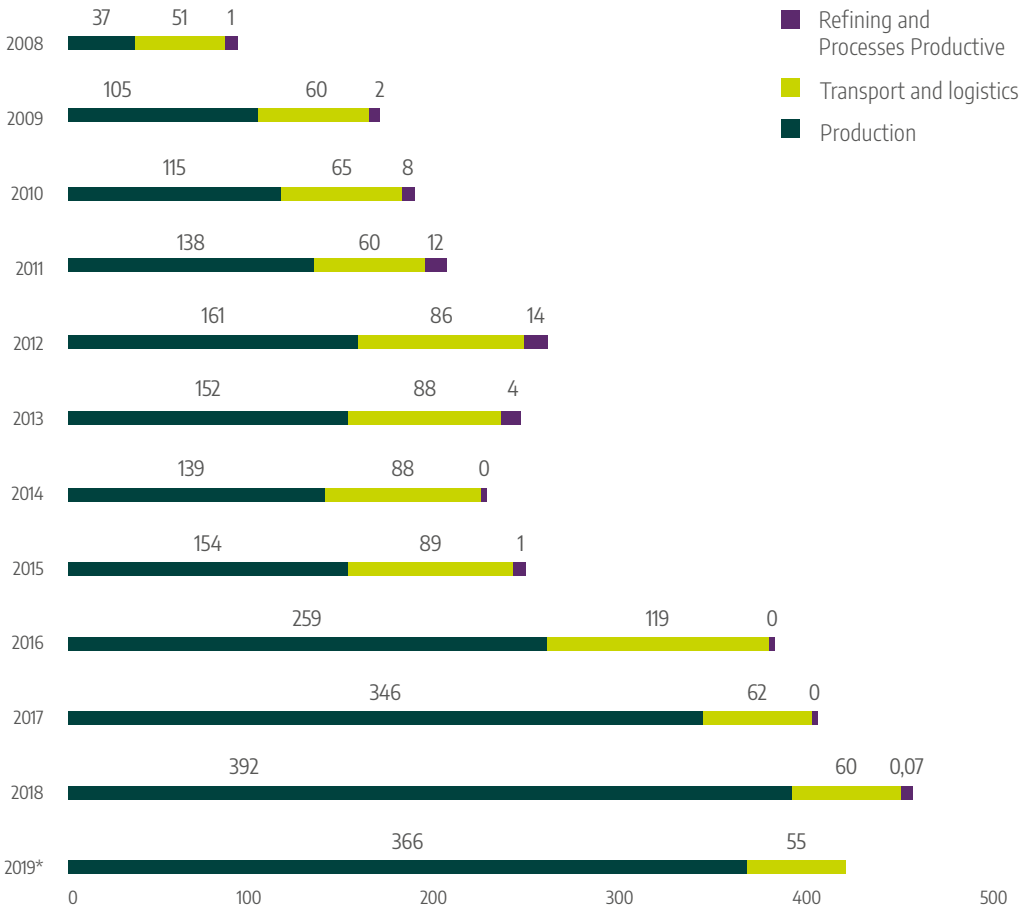
(kilotons CO₂e)



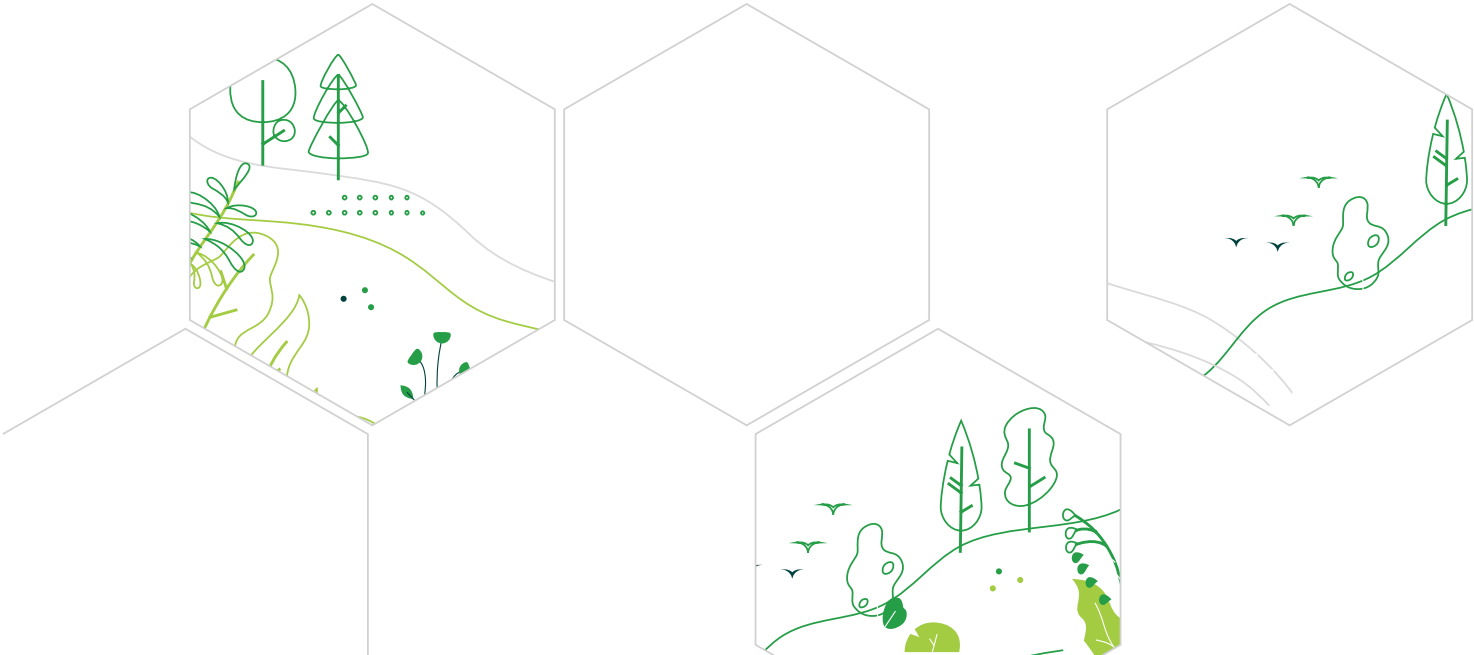
Source: Ecopetrol, Vice Presidency of Sustainable Development. System for the Management of Atmospheric Emissions– SIGEA.

* Corresponds to information reported for the first 10 months of 2019, and averaged for the months of November and December. This data may change once the final information is available.

Figure 104.
Annual indirect
emissions by
operating process
(Kilotons CO₂e)



Source: Ecopetrol, Vice Presidency of Sustainable Development. System for the Management of Atmospheric Emissions – SIGEA.
* Corresponds to information reported for the first 10 months of 2019, and averaged for the months of November and December. This data may change once the final information is available.



GRI | 305-4 |

Table 74 shows carbon intensity indicators for production, refining and petrochemical processes, calculated for the year 2019. Intensity calculations correspond to emissions from the assets operated by Ecopetrol,

estimated on the basis of production of 550,104 barrels oil equivalent per day (Boepd) and a refinery throughput volume of 373,700 Boepd.

Table 74. Carbon intensity by activity

Process	Unit	Carbon intensity					
		2015	2016*	2017*	2018*	2019**	
Production	kgCO ₂ eq/BEP	25.4	25.9	27.44	27.27	24.96	24.64
Refining and Petrochemical	kgCO ₂ eq/Barriles Cargados	41	46.1	47.7	42.12	45.86	42.81

Source: Vice Presidency of Sustainable Development. System for the Management of Atmospheric Emissions – SIGEA.

* Data adjusted based on validation of actual information from 2016, 2017 and 2018.

** Corresponds to information reported for the first 10 months of 2019, and averaged for the months of November and December. This data may change once the final information is available.

GRI | 305-2 |

Tables 75, 76 and 77 show data on direct and indirect GHG emissions by type of pollutant (CO₂, CH₄ and N₂O).

Table 75. Annual CO₂ emissions (kilotons)

Scope	2011	2012	2013	2014	2015	2016*	2017*	2018*	2019**
Direct/Scope 1	6,441	6,761	7,270	6,772	7,238	8,245	10,346	10,557	10,188
Indirect/Scope 2	209	260	243	226	244	378	408	452	421

Source: Ecopetrol, Vice Presidency of Sustainable Development. System for the Management of Atmospheric Emissions – SIGEA.

* Data adjusted based on validation of actual information from 2016, 2017 and 2018.

** Corresponds to information reported for the first 10 months of 2019, and averaged for the months of November and December. This data may change once the final information is available.

The increase in emissions between 2014 and 2017 is mainly due to constant improvements in the inventory and the incorporation of assets that have begun operations at Ecopetrol, such as Cusiana, Rubiales and the expansion of the Cartagena refinery.

Table 76. Annual CH₄ Emissions (kilotons)

Scope	2011	2012	2013	2014	2015	2016*	2017*	2018*	2019**
Direct/ Scope 1	24	19	18	24	22	17	17	17	14,6
Indirect/ Scope 2	<0,1	<0,1	<0,1	<0,1	<0,1	<0,1	<0,1	<0,1	<0,1

Source: Ecopetrol, Vice Presidency of Sustainable Development. Sistema de Gestión de Emisiones Atmosféricas – SIGEA.

* Data adjusted based on validation of actual information from 2016, 2017 and 2018.

** Corresponds to information reported for the first 10 months of 2019, and averaged for the months of November and December. This data may change once the final information is available.

Table 77. Annual emissions of N₂O (kilotons)

Scope	2011	2012	2013	2014	2015	2016*	2017*	2018*	2019**
Direct/ Scope 1	0.11	0.11	0.09	0.10	0.12	0.10	0.11	0.11	0.11
Indirect/ Scope 2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Source: Ecopetrol, Vice Presidency of Sustainable Development. System for the Management of Atmospheric Emissions – SIGEA.

* Data adjusted based on validation of actual information from 2016, 2017 and 2018.

** Corresponds to information reported for the first 10 months of 2019, and averaged for the months of November and December. This data may change once the final information is available.

GRI | 305-6 |

GHG emissions from ozone depleting substances (ODS) and their substitutes

Table 78 presents the total results obtained from GHG emissions by ODS.

Table 78. GHG emissions by ODS

Source of emission	CO ₂ e Emissions (tons)*			
	2016	2017	2018	2019
Cooling and air conditioning	1,432	2,002	1,940	2,765
Fire protection	N.D	N.D	N.D	N.D
Total ODS Emissions	1,432	2,002	1,940	2,765
Import	NA	NA	NA	NA
Export	NA	NA	NA	NA
Total	1,432	2,002	1,940	2,765

Source: Ecopetrol, Vice Presidency of Sustainable Development. Sistema de Gestión de Emisiones Atmosféricas – SIGEA.

* To calculate GHG emissions by ODS (ozone depleting substances) and their substitutes, the advanced Tier 2a method of the Intergovernmental Panel on Climate Change was used.

In 2109, CO₂e emissions increased due to a strengthening of equipment inventories which indicated that 35% of them contained ODS with higher global warming potential.

GRI | 305-7 |

Criteria pollutant emissions

Criteria pollutant emissions correspond to pollutants identified as harmful to the health and well-being of human beings. Table 79 shows the criteria pollutant emissions generated by the Company between 2013 and 2019.

Table 79. Criteria pollutant emissions (kilotonnes)

Pollutant	2013	2014	2015	2016*	2017*	2018*	2019**
NOx	18.1	21.7	19.2	21.1	28.7	27.8	30.1
SOx	17.1	16.3	16.6	21.2	26.6	25.7	25.8
CO	241.9	212.2	195.4	203.1	278.1	259.4	241.5
MP	3.2	2.3	2.4	2.9	4.4	4.1	4.1
VOC	83.9	84.5	108.6	107.3	109.3	112.3	116.6

Source: Ecopetrol, Vice Presidency of Sustainable Development. Sistema de Gestión de Emisiones Atmosféricas – SIGEA.

* Data adjusted based on validation of actual information from 2016, 2017 and 2018.

** Corresponds to information reported for the first 10 months of 2019, and averaged for the months of November and December. This data may change once the final information is available.

Tenay station, department of Huila



EMISSION REDUCTIONS

Since 2010, GHG emission reduction projects have been implemented in different operational areas of the Company, and since 2012 voluntary reduction targets have been defined on an annual basis, based on the identification of projects planned to begin operations in the following year.

GHG reductions achieved through new projects implemented in 2019 was 380,603 tCO₂e/year. Total GHG reduction for 2019, resulting from the implementation of projects

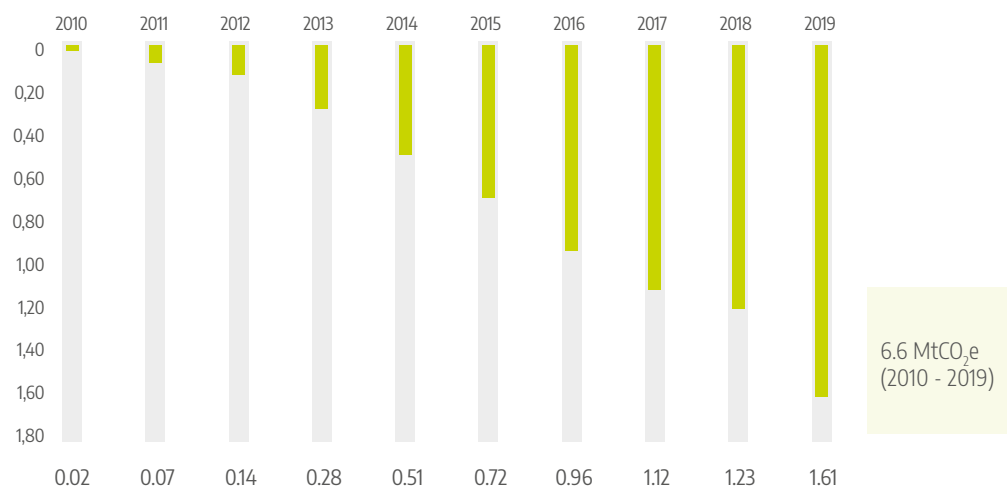
executed since 2010, was 1,610,011 tCO₂e. Total accumulated reduction during the 2010-2019 period was 6,662,908 tCO₂e. (See Figure 105).

The proposed target for 2020, as a result of the implementation of new emission reduction projects in the production and refining segments, is 148,000 tCO₂e, which would result in a total target for 2020 of 1,758,011 tCO₂e.

341

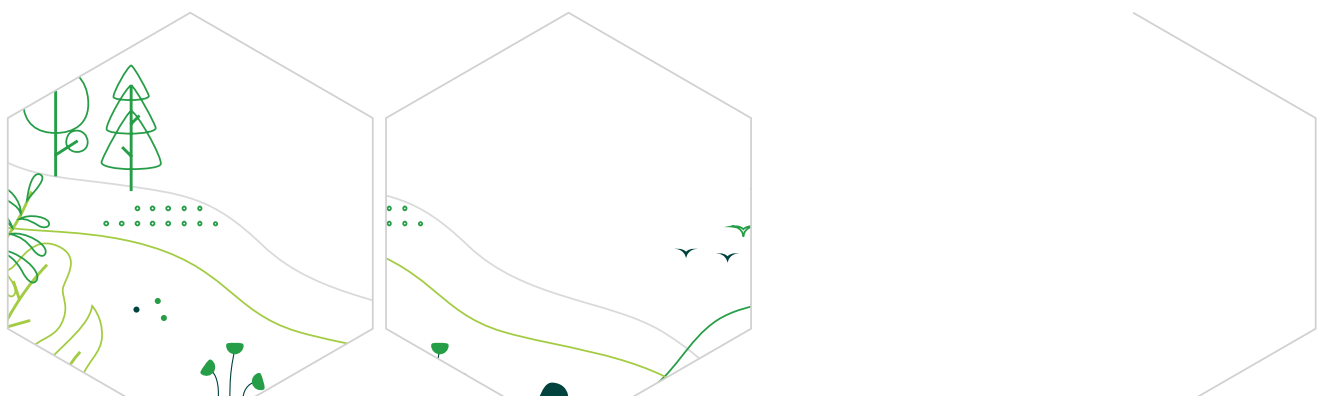
GRI | 305-5 |

Figure 105.
GHG emission reduction
(MtCO₂e)



Source: Ecopetrol, Vice Presidency of Sustainable Development. Sistema de Gestión de Emisiones Atmosféricas – SIGEA.

In general, the projects implemented can be grouped into three types of action: **process optimization, use of gas for electricity generation or sale, and energy efficiency.**



**ECOPETROL ACHIEVED
A REDUCTION OF MORE
THAN A MILLION TONS
OF CO₂**

In 2019, Ruby Canyon Engineering, and international auditing firm, verified that Ecopetrol reduced its emission by 1,068,394 tons of CO₂e, which are registered in the CCA GHG CleanProjects® Registry.

The verified projects were carried out at the Barrancabermeja Refinery (Santander) and at the Casabe Field (Yondó, Antioquia).

The first initiative corresponds to the execution of an efficiency program, which includes technological improvements in the delivery of energy and steam consumed in different processes at the Barrancabermeja refinery, where a reduction of 1,041,178 tCO₂e was achieved in the 2013-2017 period; the second to the use of gas in flares to generate electricity at the Campo Casabe, with a reduction of 27,216 tCO₂e for the 2016-2017 period. ■

The Technical Economic Energy Office project (Despacho Técnico Económico de Energía) developed by Ecopetrol at the Barrancabermeja refinery was recognized by the Ministry of Mines and Energy, the National Hydrocarbons Agency (ANH) and the National Mining Agency as one of the social and environmental projects that best helps promote the transformation of the sector in the country.

In 2019, the process of validating the methodologies of the photovoltaic solar renewable energy umbrella and burn reduction projects began, as well as the process of validation and verification of the project for the generation and co-generation of electricity from biomass waste at Bioenergy, a company that is part of GE.

GRI | OG-6 |

In terms of fugitive sources and venting, progress has been made in identifying, measuring, preparing action plans and eliminating leaks in 25 facilities. During 2020, leakage identification, correction and mitigation actions will be strengthened in the different operational areas. These will be identified through direct measurements ("Bottom up") and by using satellite images or frequent overflights ("Top Down") of the main sources of emissions, in order to measure the level of emissions and prioritize actions and implementation of the Leak Detection and Repair (LDAR) program.

Actions and goals related to reducing flaring, energy efficiency and renewable energy are presented in the energy section.

As part of the commitment to mitigate GHGs, Ecopetrol continues to be part of the Clean Air and Climate Coalition (CCAC), an initiative that seeks to accelerate reductions of methane and black carbon. Likewise, at the beginning of 2020 Ecopetrol formalized its adhesion to the "Zero Routine Flaring (ZRF)" initiative, launched in 2015 by the World Bank's Global Gas Flaring Reduction (GGFR) Partnership, in an effort to invite companies to voluntarily adhere to:



Eliminating routine flaring in new oil field developments;



Eliminating routine flaring in existing fields as soon as possible and no later than 2030, provided it is economically feasible; and



Annually reporting the volume of flaring to the GGFR.

FLARING REDUCTION

In 2019, a reduction of 12 million cubic feet per day (MCFD) was achieved, reaching 33 MCFD.

343

COMPENSATING EMISSIONS – NATURE-BASED SOLUTIONS

Emission reductions are achieved by combining the operational emission reduction measures described above with emission compensating measures, either through the purchase of carbon credits or through the implementation of forest carbon projects using nature-based mitigation options. In partnership with The Nature Conservancy

(TNC), work is being done to build a portfolio of projects for the Ecopetrol Group that, in addition to reducing emissions, will generate benefits for the communities near the areas of operation and contribute to the fulfillment of national goals in terms of conservation and reduction of deforestation.

Carbon neutrality

In order to obtain positive carbon neutrality results, based on a combination of emission reduction and compensation measures, progress is underway in the identification of segments, facilities, processes or activities that can achieve this objective in the medium term. In addition, during 2020 the Company roadmap to achieving carbon neutrality by 2050 will be drawn up.

GRI | 201-2 |

VULNERABILITY AND ADAPTATION TO CLIMATE VARIABILITY AND CHANGE

This strategic area seeks to reduce the risks and impacts on Company facilities, communities and nearby ecosystems that may be generated by the phenomena of climate variability and change.

Taking into account that in Colombia 47% of the territory presents high and very high risk levels of climate change impacts, Ecopetrol finds it essential to recognize the vulnerability to climate variability and change to which people and infrastructure are exposed, and the potential impacts on its operations and the environment.

In order to manage this concern, senior management included the “Incidents due to operational causes or climatic events” risk to the business risk map. To address this risk, the probability of occurrence of extreme weather events is monitored based on monthly

In 2019, six regional plans for Adaptation to Climate Variability and Change were formulated (El Niño, La Niña phenomena and the 2011-2040 Climate Change scenario based on the results of the Third National Communication on Climate Change). ■

FRAMEWORK FOR ADAPTATION PLANS TO CLIMATE VARIABILITY AND CHANGE

alerts issued by the Colombian Institute of Hydrology, Meteorology and Environmental Studies (IDEAM for its Spanish acronym), on the possible presence of the climate variability phenomena known as “El Niño” and “La Niña”. A Company-wide action plan is activated in the event of a probability of more than 80% of occurrence of any weather phenomenon.

A framework was also developed for the formulation of a climate change and variability adaptation plan for the Caribbean, Catatumbo, Central, Eastern, Orinoco and Southern regions, using the Integrated Climate Change Plan for the Mining and Energy sector as a reference.

Vulnerability and climate risks

The threat was assessed in terms of the exposure of Ecopetrol’s licensed areas with respect to the occurrence of the most threatening events for each region (water shortage, flooding, landslides, forest fires, storms and hurricanes, and rising sea levels), the influence of climate variability

(El Niño/La Niña phenomenon) and climate change scenarios (2011-2040 scenario).

Vulnerability was determined in terms of sensitivity and the capacity to adapt, based on the following criteria:

Table 80. Vulnerability measurement criteria

Variable	Measurement criteria
Sensitivity	Incidents due to weather variables
	Water needs for the operation
	Participation in production
	Environmental Management System
Capacity to adapt	Prevention strategy and control of risks inherent to the operation
	Legal restrictions on water
	Ability to respond to the probability of occurrence of extreme weather events

Source: Ecopetrol, Vice Presidency of Sustainable Development

Climate risks and potential impacts of climate variability and change on the Company’s operations were determined in this manner. Table 86 shows the risk levels for the different hazards (water shortage, forest fires, floods and landslides) whose unit of analysis includes all licensed areas.



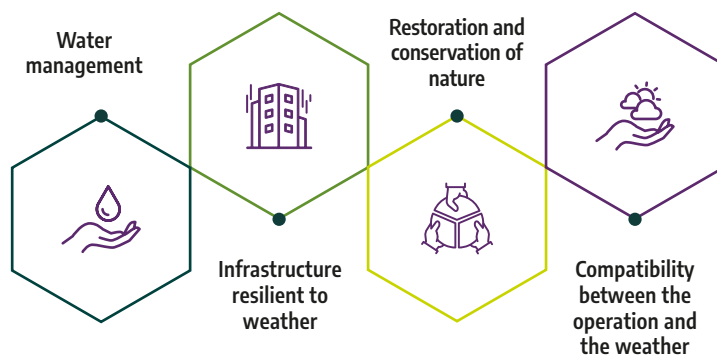
Table 81. Levels of Climate Risk in areas licensed by Ecopetrol

Climate risk	Water shortage	Forest fires	Floods	Landslide
Very high	0%	0%	0%	0%
High	7%	44%	1%	12%
Moderate	38%	42%	28%	52%
Low	55%	14%	71%	36%
Very low	0%	0%	0%	0%

Source: Ecopetrol, Vice Presidency of Sustainable Development

Regional Adaptation Plans

These plans include a portfolio of adaptation measures established to increase the resilience of Ecopetrol's operations to climate variability and change. The measures are associated with the following components:



The roadmap for the implementation, monitoring and follow-up of the plan will begin in 2020.

Technology and research

In 2019, the technological roadmap for decarbonization was defined. This roadmap identifies the actions which the Company must implement in terms of research and development to achieve the reduction of GHG emissions and meet the proposed goals.

The following have been defined as research and development issues:



Carbon capture, use and storage (CCUS)

Starting in 2020, the Colombian Petroleum Institute (ICP for its Spanish acronym) will be making efforts to: determine the potential for carbon capture in natural sinks (in Orinoco, coastal marine and Andean ecosystems); select technologies for the separation and purification of CO₂ present in dilute streams (such as flue gases); assess technological possibilities for the conversion of separated CO₂ into value-added products (such as CaCO₃ which is an input for production in Esenttia); and, support the process of establishing pilot CO₂ injection as a strategy for enhanced recovery.

The assessment of CO₂ sources at Ecopetrol will be carried out nationwide, to identify potential uses and possibilities for the recovery of these currents, with emphasis on the use of CO₂ in oil recovery projects, prioritizing and combining CO₂ sources with possible receptor deposits in Colombia. Initially, we will seek to generate a geographic information system of sources and receivers that will allow us to quickly visualize the best options for emission recovery.



Detection, measurement and mitigation of fugitive emissions

Opportunities for knowledge transfer will be provided within the Company regarding the latest technologies worldwide for the detection and measurement of fugitive emissions.



Green hydrogen generation

Since 2018, a study entitled "Assessment of the potential of the Hydrogen Economy at Ecopetrol" has been underway at the ICP, which is now in Phase 3 and covers four main work fronts: production of electric energy from hydrogen; hydrogen as an input at refineries; incorporation of hydrogen in mixtures with natural gas for transportation in gas pipelines; and electric mobility based on hydrogen and fuel cells.

In March 2020, the roadmap for the Hydrogen Economy in ECP will be established and the preliminary business cases for seven opportunities identified so far will be defined. Simultaneously, in 2020, a technological test will be carried out at the Cartagena refinery, lasting approximately 1 to 3 months, to determine the best conditions for water quality and energy consumption required for this technology.



“Gas to liquid”

Given the many sizes and high geographic dispersion of the flaring practiced by the Ecopetrol Group, defining the viable technological options for low scale currents is essential, which are far from the economic and technological possibilities derived from the generation of electricity with these currents to comply with the “Zero Routine

Flaring” goals. For these cases, progress will be ongoing throughout 2020, selecting technology proponents and structuring pilot business cases using the “Mini GTL” process using plasma arcs and catalytic beds that can provide diesel or gasoline type liquid fuels from flows of up to 2 MMPCSD (Million standard cubic feet per day).

GRI | 102-12 |

PARTICIPATION IN THE DRAFTING OF PUBLIC POLICY DOCUMENTS

Ecopetrol articulates its climate change strategy in accordance with the national government’s public policy, and contributes to the drafting of technical and normative guidelines to strengthen the country’s institutional capacity on climate change.

In 2019, Ecopetrol supported the Ministries of Mines and Energy and the Environment in drafting the “Methodology for the Reduction of Fugitive Emissions in the Colombian Hydrocarbon Sector”, an essential document for setting forth the rules for quantification, measurement, reduction, monitoring and reporting of fugitive emissions.

Ecopetrol also worked in conjunction with the Ministry of the Environment and the National Planning Department in drafting the Communications Strategy for the National Adaptation Plan for Climate Change.

The amendment to Decree 926 of 2017, which regulates the carbon tax, with regard to the accreditation of emission reduction and elimination of greenhouse gases verification agencies, is worth noting.

One of the country’s challenges in terms of climate change is the implementation by the Ministry of the Environment of the National Emission Reductions Register (RENARE for its Spanish acronym), which seeks to consolidate the efforts of companies in the implementation of projects to reduce GHG emissions, in order to meet the country’s target. As part of this process, Ecopetrol participated in the platform operability pilots tests by registering the projects verified in the Barrancabermeja Refinery and the Casabe Field.

The Company participates in the Ministry of the Environment’s prior consultations, regarding new regulations and modifications on climate change.

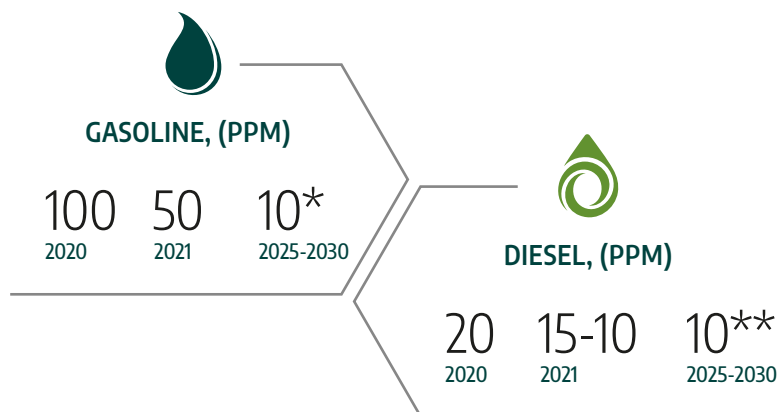
Casabe production field, departament of Antioquia



FUEL QUALITY

GRI | OG-8 |

In July 2018, public policy document CONPES 3943 for the improvement of air quality was issued, which indicates the general steps for the reduction of the sulfur content in diesel and gasoline:



Source: Ecopetrol, Commercial and Marketing Vice Presidency

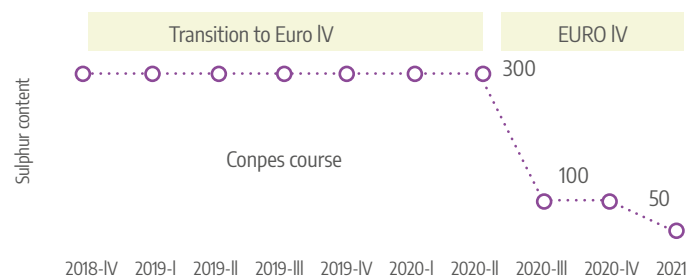
* Between 2026 and 2030

** Before year-end 2025

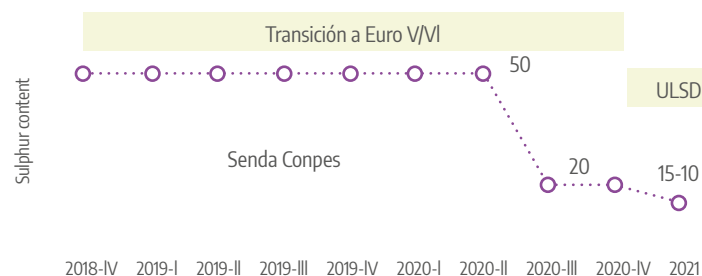
Figure 106 shows the course for fuel quality improvement defined in CONPES 3943 of 2018.

Figure 106.
Fuel quality
improvement

Gasoline



Diesel



Source: CONPES 3943 issued in 2018 and Ecopetrol, Vice Presidency of Sales and Marketing

GRI | OG-8 |

Ecopetrol produces regular and premium gasoline, according to the following quality criteria for benzene, lead and sulfur:

Table 82. Quality criteria for gasoline (benzene, lead and sulfur)

Quality parameter	Value	Amount
Maximum lead	g/l	0.013
Benzene (Regular gasoline)	% (vol/vol)	1
Benzene (Premium gasoline)	% (vol/vol)	2
Sulfur	ppm by weight	100

Source: Ecopetrol, Vice Presidency of Sales and Marketing

Maximum sulfur content for diesel is 20 ppm by weight. Lead and benzene quality parameters are not specified in the regulations in force for this fuel.

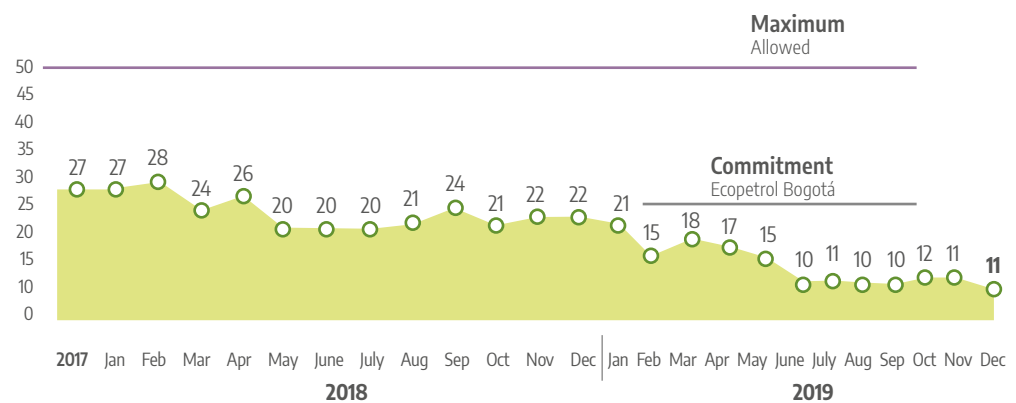
The following graphs indicate the evolution of sulfur content for both diesel and gasoline supplied during 2019, and in recent years for the cities of Bogotá and Medellín, as well as the national average.

Figure 107.

Sulphur content evolution B2 DIESEL BOGOTA

Sulphur content (ppm: parts per million)

○ Average



Source: Cenit

Measurements to Dec 31. Diesel B2: 98% fossil y 2% biodiesel

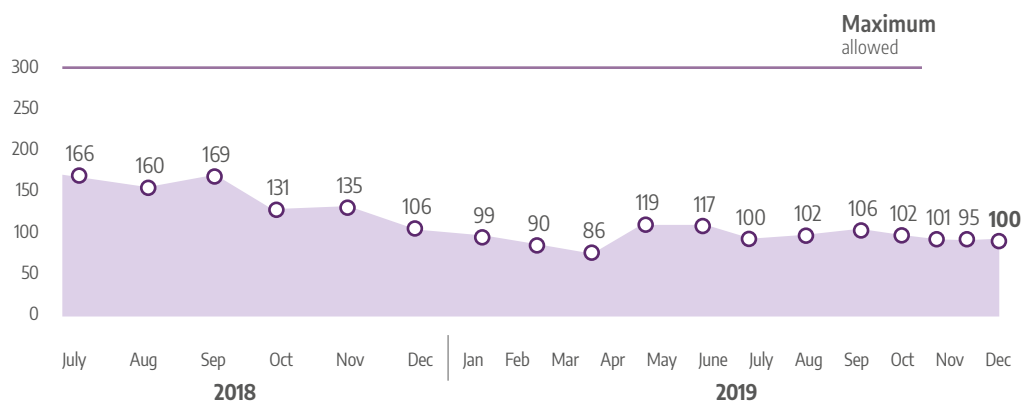
Mansilla, Puente aranda and Tocancipá plants. The weighted average is included for Bogotá as of Sept. 2018

Figure 108.

Sulphur content
evolution MOTOR
GASOLINE BOGOTA

Sulphur content
(ppm: parts per million)

○ Average



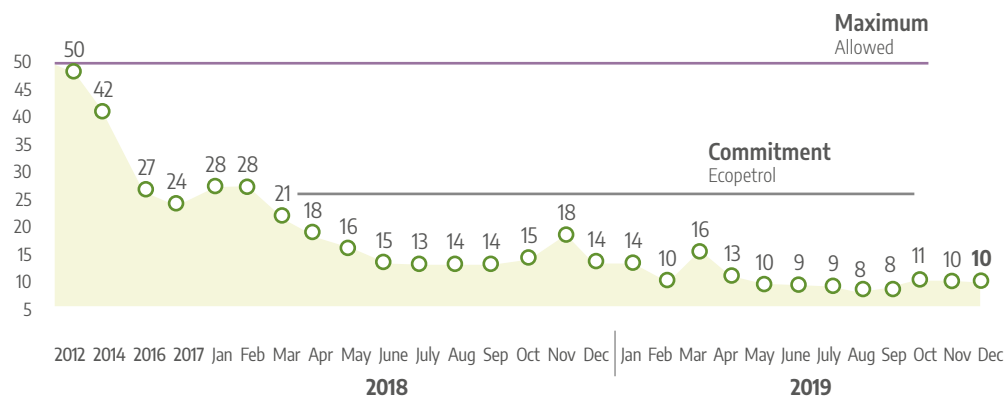
Source: Cenit
Measurements to Dec 31
Average for Mansilla, Puente Aranda Tocancipá planes

Figure 109.

Sulphur content
evolution B2 DIESEL
MEDELLIN

Contenido de azufre
(ppm = Partes por
millón)

○ Average



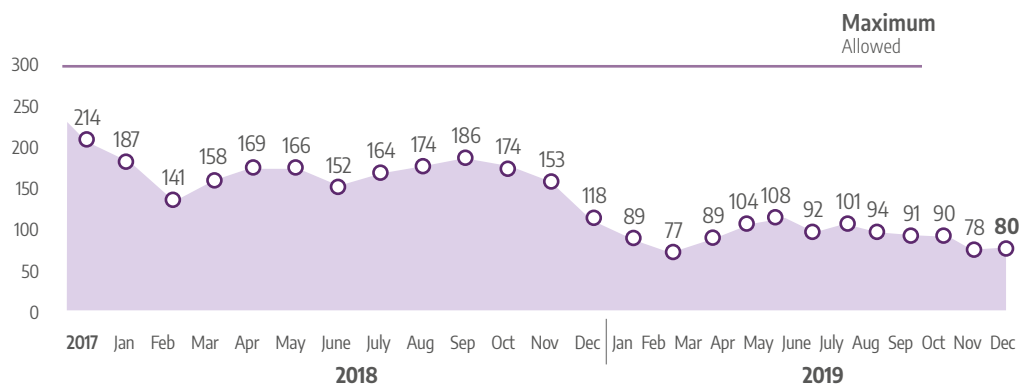
Source: Cenit. Statistic available with monthly observation
Measurements Dec. 31 B2 Diesel 98% fossil and 2% biodiesel ** Maximum amount in the Barrancabermeja Refinery
Mansilla, Puente Aranda and Tocancipá plants. As of Sep / 2018 weighted average for Bogotá is included - Sulfur content

Figure 110.

Sulphur content
evolution MOTOR
GASOLINE MEDELLIN

Sulphur content
(ppm: parts per million)

○ Promedio



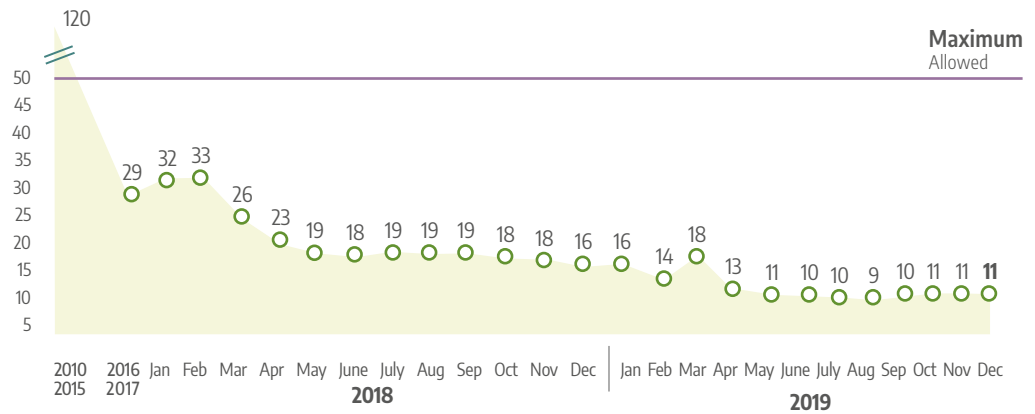
Source: Cenit
Measurements to Dic. 31

Figure 111.

Evolution content
DIESEL sulfur B2
AVERAGE NATIONAL
- PPM

Sulphur content
(ppm = parts per million)

○ Average



Source: Cenit. National average content

Measurements as of December 31. B2 Diesel: 98% fossil and 2% biodiesel. Ecopetrol delivers B2 diesel throughout the country. From September 2019 also delivers B2 diesel in Cartagena and Barranquilla

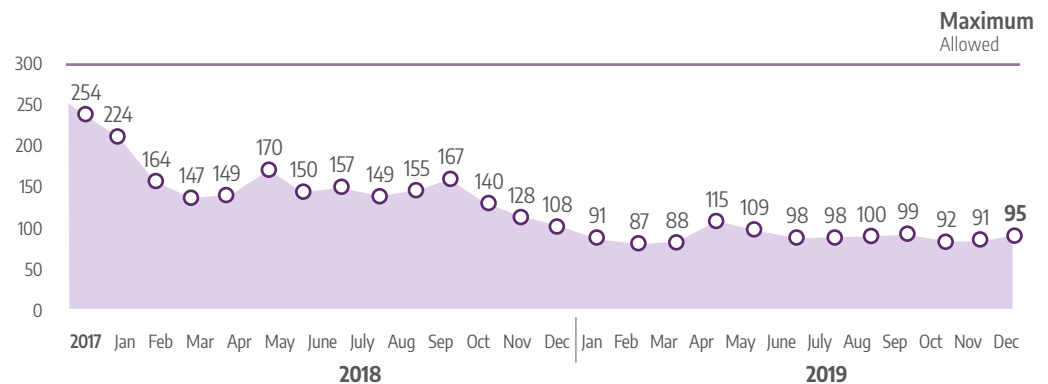
351

Figure 112.

Sulphur content
evolution MOTOR
GASOLINE NATIONAL
AVERAGE- PPM

Sulphur content
(ppm: parts per million)

○ Average



Source: Cenit. National average content

Measurements to Dec 31. Includes as of Jul 2018 the weighted volumetric average.

FUEL QUALITY RESEARCH PROGRAM

Since 2014 Ecopetrol and some of its strategic partners have been working on developing the Fuel Quality Research initiative.

The plan seeks to appropriate the necessary knowledge to leverage Ecopetrol's medium and long-term strategy regarding the quality of the fuels produced and their adequate alignment with the regulating authority's vision. The following is a description of progress made during 2019.



Air quality study in Transmilenio

Ecopetrol, in conjunction with the Universidad de los Andes, Transmilenio and the District Secretaries of Environment and Mobility, carried out a study during the second semester of 2019 to determine the improvement of the quality of the air breathed by the users of the Transmilenio system, by virtue of the first two stages of fleet renovation and the improvement of the fuel used in the buses. The study concludes that with the entry into operation of 50% of the new fleet, the particulate matter breathed in the system has been reduced by approximately 50%.

Furthermore, as a sign of Ecopetrol's interest in contributing to the improvement of air quality in the country and its main cities, the Company agreed to supply diesel with a maximum of 10 ppm of sulfur for the new Transmilenio fleet in Bogotá as of June 2019. In order to achieve this, 1,500 barrels per day (BPD) with a maximum of 10 ppm are being delivered from the Barrancabermeja refinery through the polyduct system to the Mancilla and Puente Aranda diesel stations; this operation began in April 2019 in order to guarantee the inventories required so that the wholesalers (Terpel, Primax and Crevron, Petromil) can deliver the product to the Transmilenio operator.

Environmental sticker pilot program in the Aburrá Valley Metropolitan Area

In conjunction with the Aburrá Valley Metropolitan Area and the Universidad de Antioquia, the Company developed the first environmental marker pilot program in Colombia. Its purpose was to assign, through a voluntary emissions test, an environmental marker that allows vehicles that comply with the limits established by AMVA during the particulate matter emissions test to move freely during contingent environmental "pico y placa" (daily restriction on vehicle mobility according to license plate number) measurements. A total of 1,547 vehicles participated in voluntarily testing, of which 49.9% obtained the environmental marker.

Particulate matter characterization study in the Aburrá Valley

In partnership with the Politécnico Jaime Isaza Cadavid and the Aburrá Valley Metropolitan Area, in 2019 the first campaign to characterize PM 2.5 particulate matter by nuclear techniques was carried out in the Aburrá Valley. This project is part of the UN ARCAL's macro project in Latin American, where particulate material is simultaneously characterized in 13 Latin American cities.



Study to establish the impact of T95 and cetane number for diesel on particulate emissions

Using specialized state-of-the-art equipment, research was carried out to establish the impact of diesel properties (T9% and cetane) on particulate matter emission. The conclusions indicate that for the ranges studied no statistical difference on emissions is reported.

Octane enhancement of premium gasoline at Ecopetrol's refineries

The Barrancabermeja and Cartagena refineries began providing domestic premium gasoline with the same octane levels as international premium gasolines.

353

VOLUME OF BIOFUELS PRODUCED AND PURCHASED

GRI | OG-14 |

Diesel commercialized by Ecopetrol S.A. includes a percentage of biodiesel (biofuel produced from palm oil), by virtue of the provisions of Law 939 of 2004. The pre-blended diesel marketed by Ecopetrol from the Barrancabermeja Refinery is known as B2E Diesel (98% Fossil Diesel and 2% Biodiesel). On the other hand, wholesale distributors mix B2E with an additional 8% of Biodiesel, generating a B10 blend (90% Fossil Diesel and 10% Biodiesel) which is the product consumed in the Colombian market.

Colombia has 12 biodiesel producers, including Ecodiesel, a subsidiary of Ecopetrol Group. During 2019 Ecopetrol bought 670 KB of biodiesel from Ecodiesel for the Barrancabermeja Refinery to produce B2E. Additionally, during 2019 Ecopetrol purchased 63.2 KB of biodiesel from Ecodiesel and BioSC, and began delivering B2E diesel from Reficar as of September 12, 2019.



7 AFFORDABLE AND
CLEAN ENERGYMATERIAL
TOPIC

ENERGY

Standard
GRI applied

GRI | 302 |

Energy

GRI | OG-2 |

Total Research
and Development
expenditure in
renewable energies

GRI | OG-3 |

Renewable energy
generated by source



- Why is it a
Material topic?

GRI | 103-1 |

Adequate energy management allows the Company to identify alternatives for the continuous optimization of sources and uses. Energy is Ecopetrol's second highest cost, after dilution. The integrated energy efficiency plan, in addition to reducing the environmental impact associated with the consumption of this resource, represents potential benefits of \$30 billion for the 2017 – 2020 period.



- How is the
topic managed?

GRI | 103-2 |

The energy strategy is a key component of the environmental strategy. Its aim is to achieve energy self-sufficiency, taking into account different possibilities for diversification. It involves the progressive incursion into unconventional renewable energy sources.



- How is the
topic assessed?

GRI | 103-3 |

The energy strategy is assessed through indicators such as: energy consumption, energy intensity, reduction of energy consumption and renewable energy generated, among others.

Impact coverage

GRI | 103-1 |



- Process in Ecopetrol
where the most
significant impact
is generated

Value chain (exploration, production, transport, refining, marketing, petrochemicals and support areas)



- Stakeholder group
where the most
significant impact
is generated

Society and community



- Area managing
the impact

Commercial and Marketing
Vice Presidency



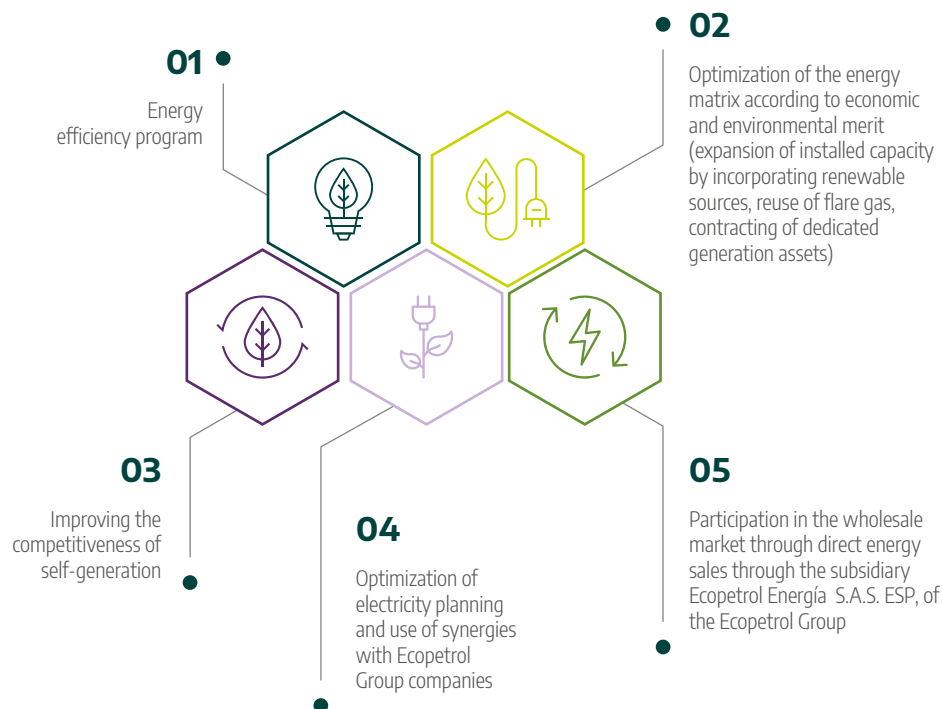
Castilla Solar Park



ENERGY



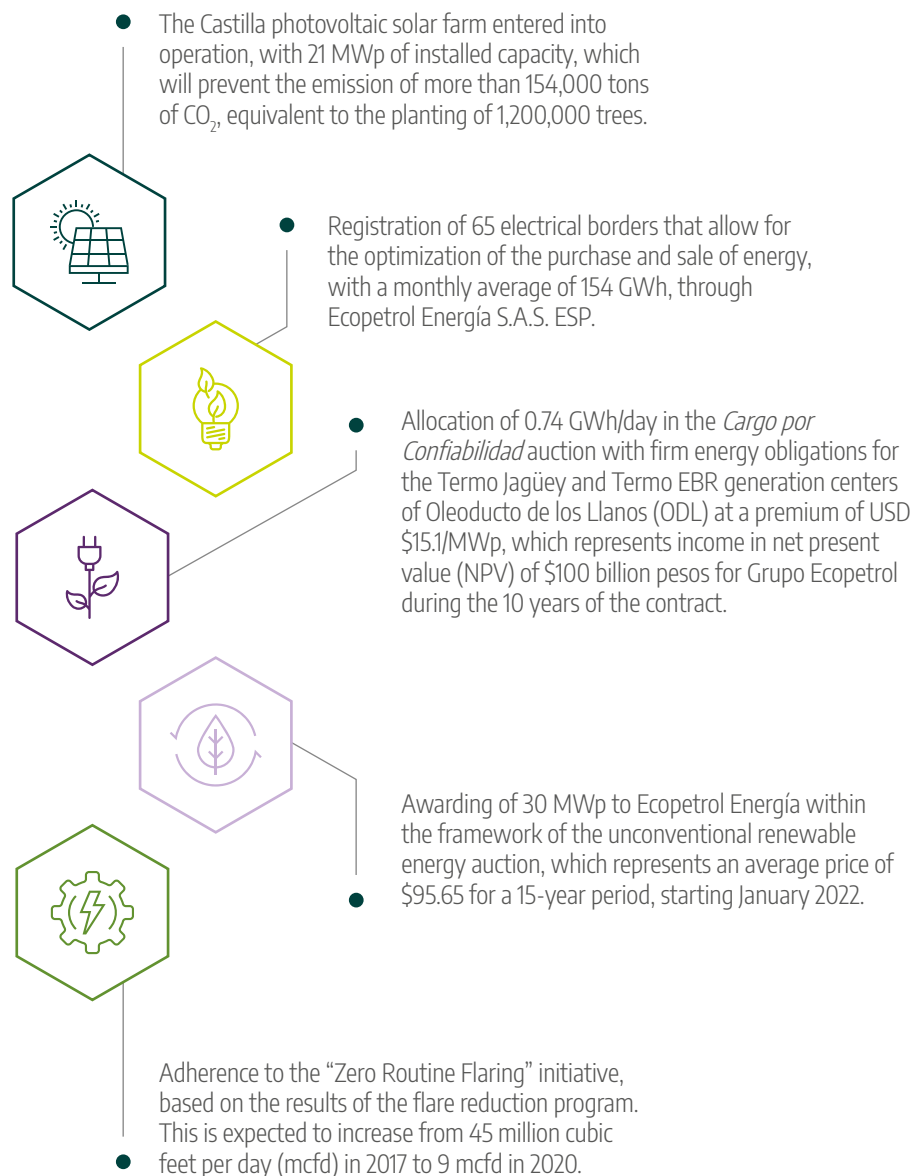
The aim of energy management is to optimize sources, uses, energy costs and emissions, in a reliable and sustainable manner. To this end, Ecopetrol implements the following strategic initiatives:



Energy management takes into account the diversification of the Company's energy matrix, and its aim is to achieve energy self-sufficiency through: the use of the operations infrastructure of the Ecopetrol Group's companies, access to fuel sources and progressive incursion into unconventional renewable energy sources.

The foregoing aims towards generation in regions where these technologies are cost competitive in contrast to purchasing from the National Transmission System (STN for its Spanish acronym) and/or the costs of self-generation with fossil fuels.

During 2019 the Company reached the following milestones:

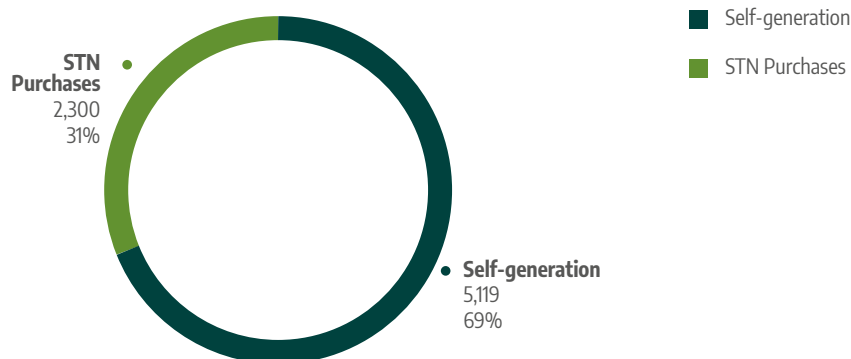


GRI | 302-1, 302-2 |

DESCRIPTION OF ECOPETROL'S ENERGY MATRIX

In 2019, Ecopetrol Group met 69% (5,119 GWh) of its electricity demand through self-generation, and the remaining 31% (2,300 GWh) through purchases from the National Interconnected System (SIN for its Spanish acronym).

Figure 113.
Energy Demand
by Ecopetrol
and the GE
(GWh/year)



Source: Ecopetrol, Vice Presidency of Sales and Marketing

ENERGY CONSUMPTION WITHIN THE ORGANIZATION

GRI | 302-1, 302-2 |

The figures reported include Ecopetrol and its affiliates in the Midstream segment (Cenit, Oleoductos de Colombia-ODC, Ocesa, Oleoducto de los Llanos-ODL, and Bicentenario) and the Downstream segment (Reficar, Bioenergy and Esenttia).

Ecopetrol's energy balance sheet includes self-generation and the purchase and sale of energy carried out by the Group in the Upstream, Midstream and Downstream segments. In the Upstream segment, self-generation was produced through gas, fuel oil No. 4 and No. 6, Liquid Petroleum Gas (LPG) and crude oil, and accounted for a total of 3,031 GWh/year during 2019. The energy purchased was 1,646 GWh/year (see detail Table 83).

For the Downstream segment, in 2019, self-generation in Bioenergy was 81.3 GWh/year from biomass and 6.8 GWh/year in the Castilla solar farm. On the other hand, in the Barrancabermeja and Cartagena refineries total self-generation was 1,822 GWh/year from gas and steam; the surpluses generated from Reficar and Bioenergy by 123.45 GWh/year, were sold to third parties.

The figure for total steam generated at both refineries and used for electricity generation, industrial purposes and process plants is 27,026,294 klb/year. In parallel, the Cartagena Refinery sells a total of 17,520 klb/year of steam.

Biofuels plant



Table 83. Energy consumption by Ecopetrol and its affiliates in the Midstream and Downstream segments

	Energy consumption Within the organization	Energy GWh 2018	Steam Klb 2018	Energy GWh 2019	Steam Klb 2019
(+)	Consumption of renewable fuels	105	-	88.2	-
(+)	Consumption of non-renewable fuels	3,036	-	3,297	-
(+)	Electricity, heating, refrigeration and steam purchased for consumption	2,414	-	2,300	-
(+)	Consumed self-generated electricity, heating, cooling and steam by refineries GEE	1,561	27,934,768	1,822	27,026,294
(-)	refrigeration and steam sold	117	17,520	123.5	17,520
(=)	Total Energy Consumption	6,999	27,917,248	7,384	27,008,774

Source: Ecopetrol, Vice Presidency of Sales and Marketing

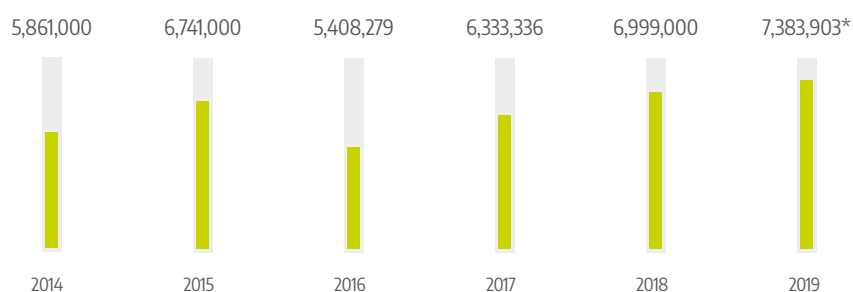
The methodology used in energy management at Ecopetrol corresponds to the ISO: 50001 Standard; the calculation factors used are those established in the International System of Units.

GRI | 302-1 |

As can be seen in Table 90 and Figure 114, the demand for energy in 2019 presented a 1.34% increase of in comparison with the preceding year.

ENERGY DEMAND

Figure 114.
Historical data
on Ecopetrol and
Ecopetrol Group
energy consumption
Consumption
(MWh - year)



Source: Ecopetrol, Vice Presidency of Sales and Marketing

* includes: Vice President of Production, Barrancabermeja Refinery, Cartagena Refinery (Reficar), Cenit, ODL, Ocesa, ODC, Bicentennial, Bioenergy and Esenttia.

ENERGY INTENSITY

GRI | 302-3 |, | 302-4 |

Ecopetrol has the Energy Efficiency Program, which aims to optimize the organization's energy performance, achieving a reduction in energy consumption and additionally a reduction in GHG emissions as part of its decarbonization program objectives (for more information, see the Climate Action section).

Energy intensity corresponds to the indicator that defines the energy required to produce, transport and refine a barrel of oil or its equivalent. Ecopetrol calculates an intensity indicator for the Downstream segment using a kWh/bl metric, while the Upstream segment is adjusted to the Solomon benchmarking methodology that includes additional parameters such as API (American Petroleum Institute) crude gravity, and process unit throughputs, and generates a dimensionless indicator.

With respect to energy sources, in the Upstream segment only electrical energy generated and purchased is taken into account, while for Downstream, thermal energy (steam at different pressure levels), fuels such as natural gas, fuel gas and LPG, electrical energy and energy integrations between process units are also included.

The energy efficiency reduction target is 2 to 3% by 2022, for which implementation cases have already been identified in all three Company segments: Upstream, Midstream and Downstream. ■

Energy Efficiency

The energy efficiency program was implemented in March of 2018 for the Upstream segment.

For the Upstream segment, the energy intensity indicator was 1.16 kWh/barrel

for 2019, an increase of 12% over last year, mainly due to the increase in the water cut, which increases energy requirements in all Upstream processes, as shown in Table 84.

Table 84. Energy Intensity Upstream Segment

Year	2016	2017	2018	2019
Energy intensity (kWh/bbl)*	1.0	1.18	1.04	1.16

Source: Ecopetrol, Commercial and Marketing Vice Presidency

* This indicator includes total production fluids (oil, water and gas).

For the Downstream segment, Ecopetrol has been using the Solomon Energy Intensity Indicator (IIE) for more than 10 years. Variations in this indicator correspond to changes in process unit throughput, restrictions in energy integration, variations in fuel gas quality, among others; and not only to optimizations associated with electricity consumption.

Taking into account the above, at end of year the IIE for the Barrancabermeja Refinery was 102 versus the plan of 103, while for the Cartagena Refinery it registered a value of 98 in compliance with the plan (See Table 85).

Table 85. Energy Intensity Indicator for Ecopetrol refineries

Year	Cartagena Refinery	Barrancabermeja Refinery
2016	108	109
2017	110	108
2018	104	104
2019	98	102

Source: Ecopetrol, Vice Presidency of Sales and Marketing

Regarding the Midstream segment, it is worth mentioning that for 2019, the analysis of 7 Cenit pumping stations was started, as planned in the Energy Efficiency Program, for which 52 opportunities for improvement were identified, both operational and technological, with potential savings of \$6.4 billion per year and a reduction in emissions of 8,127 tCO₂e/year. Additionally, energy efficiency-based operational control was implemented in the Pozos Colorados - Galán 12" 14" and 16" line (Stations: Pozos Colorados GN, Copey, Ayacucho, Galán 12, Galán 16) achieving savings as of November in the amount of \$438 million.

In the second half of 2019, a line associated with energy efficiency in non-industrial facilities was included, with the aim of making a diagnosis and obtaining real and verifiable information on energy consumption and the factors that determine it, considering construction aspects, equipment and consumption habits of those who occupy

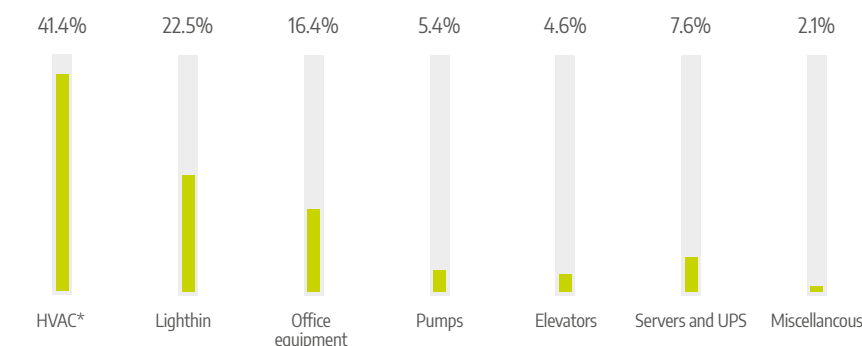
the facilities. This was completed as part of the compliance with the requirements set forth in Article 30 of Law 1955 of 2019, which calls for a minimum 15% saving in energy consumption by 2021, through energy efficiency measures and changes or adjustments to the infrastructure.

In July 2019, a plan for gathering information was launched in an effort to identify non-industrial facilities and define the scope of energy audits planned for 2020. In addition, as a result of conversations held with the Mining Energy Planning Unit (UPME for its Spanish acronym), the Teusacá building was included within the scope of a cooperation agreement with the French Government, through which the consulting firm TERAQ conducted an energy audit to identify energy-saving opportunities.

As a result of the audit of the Teusacá building, the following distribution of energy consumption was determined:

Figure 115.

Distribution of energy consumption in the Teusacá building - 2019



Source: Ecopetrol, Vice Presidency of Sales and Marketing
* HVAC: air conditioning, heating and mechanical ventilation

The main findings of the audit are associated with opportunities to improve the building's thermal insulation, rationalize the use of air conditioning, heating and mechanical ventilation, and finalize the plan to change lighting to a more efficient technology (from the current 65% LED lighting to 100%). The Company has an action plan that consists of savings strategies through operational control and awareness campaigns and investment initiatives.

During 2020, a contracting process will be carried out to implement energy management system in Company buildings, which is expected to be completed in May, with the aim of carrying out energy audits in the rest of the identified and prioritized buildings.

As a result of the energy audits, energy-saving objectives and opportunities will be established and identified, in order to comply with the requirements set forth in Article 30 of Law 1955 of 2019.

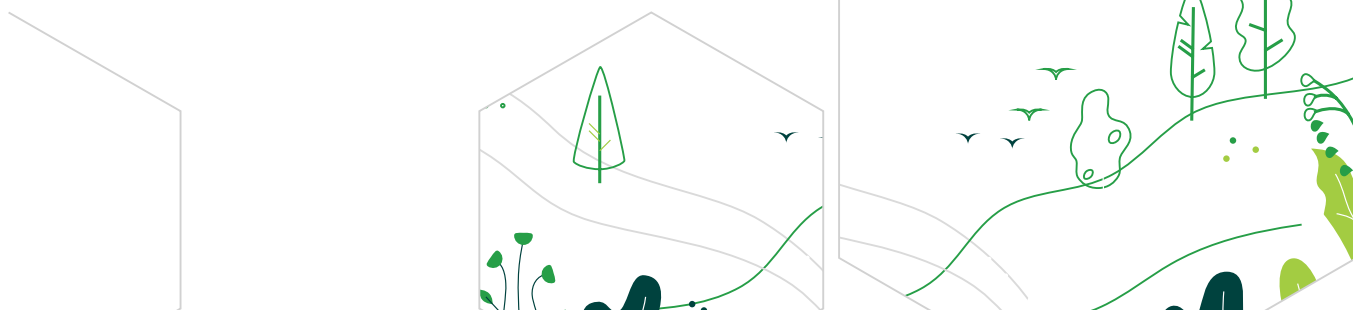
RENEWABLE ENERGIES

GRI | OG-2 |, | OG-3 |

In 2019, the Castilla solar park entered into operation, with a capacity of 21 MWp to supply the Castilla field, making it the largest self-generated solar park in Colombia.

Its operation will prevent the emission of more than 154 thousand tons of CO₂ into the atmosphere, which is equivalent to the planting of 1,200,000 trees.

In 2019, Ecopetrol set a goal of incorporating 300 MW of unconventional renewable energy sources (FNCR for its Spanish acronym) into its electricity generation matrix, which will allow it to increase the participation of these sources, from 5% in 2019 to 20% in 2022. With the implementation of the projects that represent these 300 MWp, an annual reduction of 165,000 tCO₂e/year is expected.





Ecoreserva La Tribuna



BIODIVERSITY

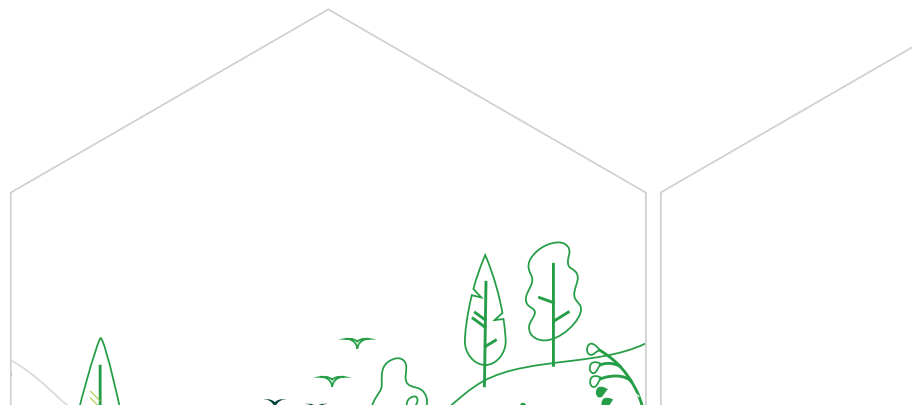
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GRI | 103-1,103-2 |

For Ecopetrol, protecting biodiversity and administering ecosystem services are essential components, warranting their incorporation in the planning of projects and operations, applying a hierarchy of mitigation and contributing to the welfare of local communities in the areas of operation.

The approach to biodiversity management in Ecopetrol seeks to prevent and mitigate impacts on biodiversity and offset and preserve ecosystems. ■



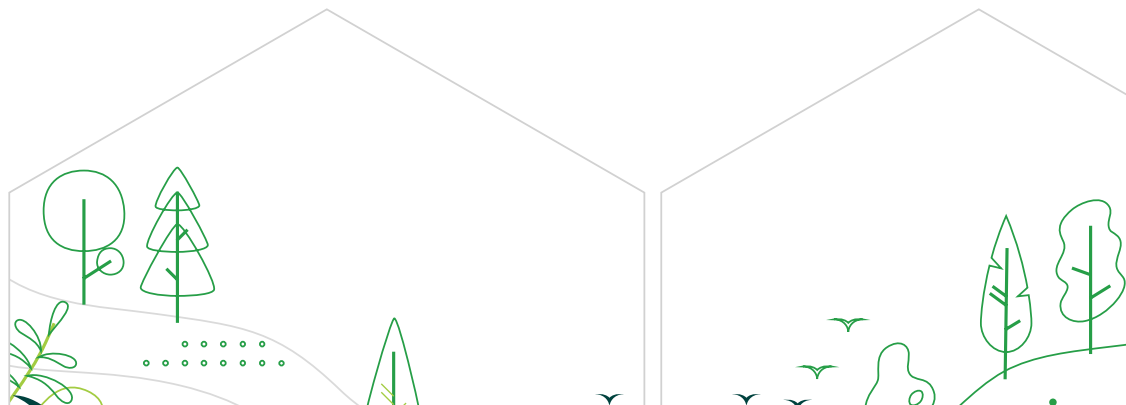
BIODIVERSITY STRATEGY



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ecoReserva
La Tribuna



The elements for the implementation of the Biodiversity Strategy are as follows:



Incorporation of biodiversity criteria in project and operations planning, updating of biodiversity baselines and resilience analysis:

this element seeks to identify, characterize and monitor current and potential interventions of the Company in relation to biodiversity and ecosystem services, as well as to incorporate mitigation hierarchy in projects and operations.



Compensation and conservation of ecosystems:

this element refers to the need to implement actions to compensate possible residual impacts on biodiversity, as well as in situ and ex situ conservation, so as to maintain viable populations of flora and fauna and the resilience of socio-ecological systems. Likewise, it seeks to offer support to the supply of ecosystem services in each of the areas of influence.



Landscape-scale intervention in priority areas:

based on land planning and the viability of Ecopetrol's projects and operations, this element seeks to reduce conflicts over land use and ecosystem services, achieving a balance between ecological, social and economic benefits, through the implementation of aggregate projects in the prioritized landscapes.



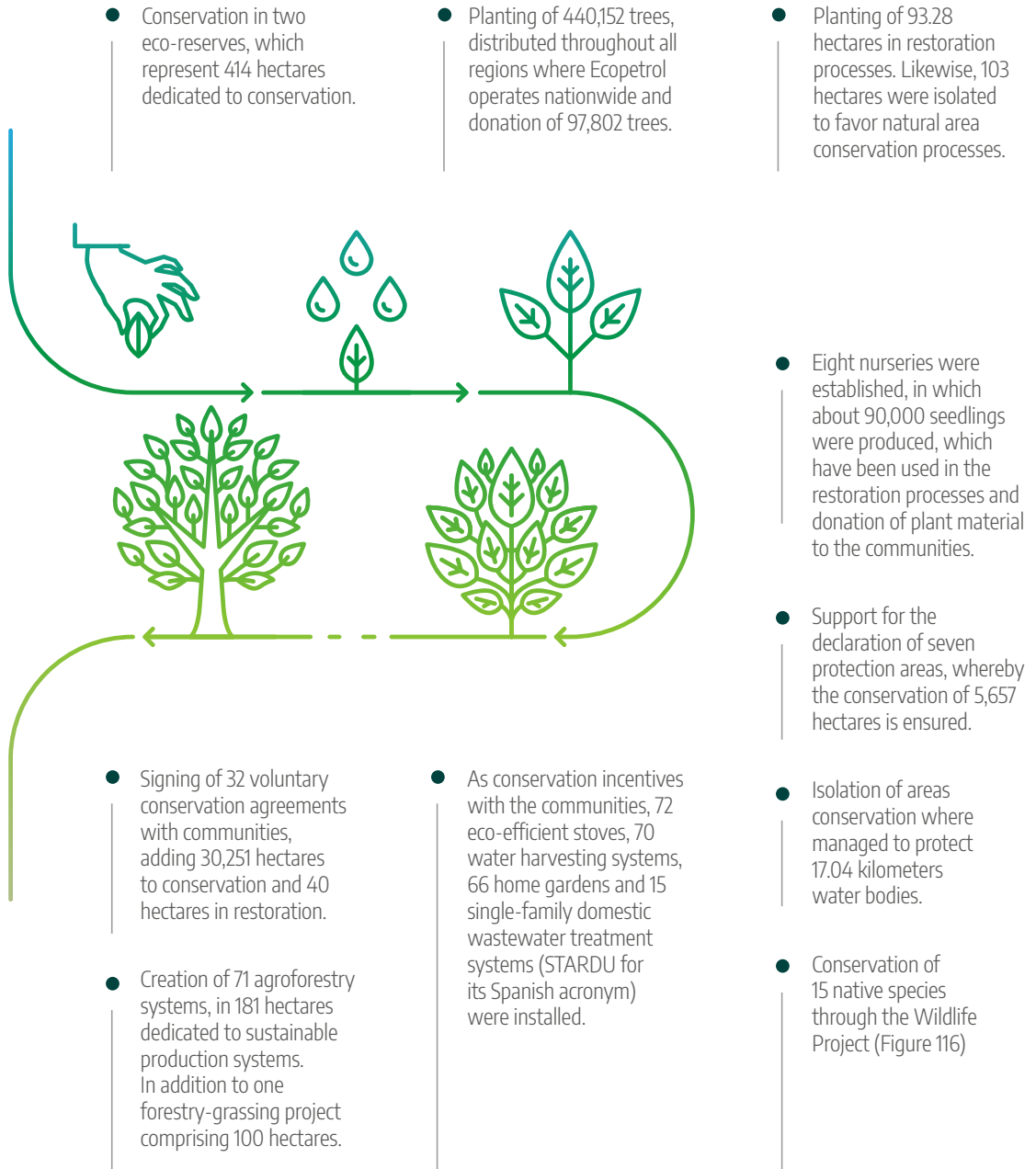
Nature-based solutions and sustainable use of biodiversity:

this element seeks the conservation of ecosystems and the restoration of degraded areas, through sustainable productive projects that allow the achievement of socio-environmental business objectives, the implementation of forest carbon projects and adaptation based on ecosystems, the implementation of eco-reserve network, and the strengthening of capacities to foster Bioprospecting and Bioeconomics.

These projects seek to contribute to maintaining the provision of ecosystem services such as water flow regulation, food provision, biodiversity conservation, CO₂ sequestration, adaptation and reducing the vulnerability of regions to climate change.

GRI | 103-3 |

The main achievements of the Biodiversity program for 2019 were:



Conservation of 15 native species through the Wildlife Project:

Figure 116.
Conservation of
native species
through the
Wildlife Project

Blue beaked curassow



Tapir



Mono Churucó

● Mid-Magdalena



Species:

- Blue beaked curassow (*Crax alberti*).
- Magdalena Brown Spider Monkey (*Ateles hybridus*).
- Caribbean Manatee (*Trichechus manatus*).
- Magdalena striped catfish (*Pseudoplatystoma magdaleniatum*).
- Peroba rosa (*Aspidosperma polyneuron*)

● Llanos Orientales



Species:

- Charapa turtle (*Podocnemis expansa*).
- Tapir (*Tapirus terrestris*).
- Moriche Palm (*Mauritia flexuosa*).
- Conger eel (*Acosmium nitens*).
- Llanero caiman (*Crocodylus intermedius*).

Piedemonte in Putumayo



Species:

- Margay "Tigrillo" (*Leopardus tigrinus*).
- White-lipped Peccary (*Tayassu pecari*).
- Spanish cedar (*Cedrela odorata*).
- Black Tinamu (*Tinamus osgoodi*).
- Brown woolly monkey (*Lagothrix lagotricha*).

GRI | 304-1 |

OPERATIONS IN HIGH-VALUE BIODIVERSITY AREAS

In its direct operations, Ecopetrol has five production facilities located in two Regional Integrated Management Districts (DRMI for its Spanish acronym) in the departments of Santander and Huila. These DRMIs were established between 2005 and 206.

On average, the percentage of operational area in the exclusion zones of the management areas is 9.12%, with the highest amounts in the DRMI San Silvestre in the municipality of Barrancabermeja.

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Table 86. Production operations located in protected areas

Regional integrated management districts - DRMI	Year declared	Area of the PA* (Km²)	Ecopetrol project	Size of the operation (Km²)	Year Ecopetrol operations began	Type of operation	Percentage of operation inside the PA (%)	Percentage of operation inside the areas of exclusion of the PA (%)
San Silvestre	2006	699,63	Centro	771,105	1951	Production	14.20	9.49
			La cira	189,37		Production	20.97	10.36
			Lisama	158,125		Production	42.40	22.44
			Llanito	110,953		Production	7.82	3.15
Serranía de los Yariques	2005	4,189.51	Centro	771,105	1951	Production	3.87	1.25
			Lisama	158,125		Production	57.60	8.04
								Average

Source: Ecopetrol, Vice Presidency of Sustainable Development

* PA: Protected Area

GRI | 304-2 |

SIGNIFICANT IMPACTS ON BIODIVERSITY

During 2019, the nature of the most significant impacts on biodiversity was associated with the transformation of the habitat. A total of 31.44 hectares were impacted; such impacts

are subject to compensation through the implementation of conservation or restoration projects through the implementation of conservation agreements.

Table 87. Significant impacts

Nature of the impacts	Introduction of invasive species	Reduction of species	Transformation of Habitats	Changes in ecological processes	Pollution	Construction or use of transport infrastructure*	Species affected	Extension of impacted areas (ha)	Duration of impacts	Reversibility or irreversibility of impacts
Catatumbo Regional										
Drilling of development wells in Tibú Field	No	No	Yes	No	No	Yes	Flora	1.73	Greater than 5 years	Reversible
Gas transfer line - Stretch 3 Sardinata Field	No	No	Yes	No	No	Yes	Flora	1.2	Greater than 5 years	Reversible
Peripherals Río Zulia Field	No	No	Yes	No	No	Yes	Flora	0.9	Greater than 5 years	Reversible
Orinoco – Meta Regional										
Permit for forest use and riverbed occupation, GCH air injection project	No	No	Yes	No	No	No	Flora	0.27	Greater than 5 years	Reversible
Permit for forest use, power line maintenance	No	No	Yes	No	No	No	Flora	2.53	Greater than 5 years	Reversible
Eastern Regional										
Contingency Rubiales Production Field	No	No	No	No	Yes	Yes	Flora	3.1	Greater than 5 years	Reversible
Rig construction: Mago Production Field	No	No	Yes	No	No	Yes	None**	14.71	Greater than 5 years	Reversible
South Regional										
GDH forest use (CEBU battery to DK'S)	No	No	Yes	No	No	Yes	Flora	0.1	Greater than 5 years	Reversible
Use of isolated trees GDH batteries	No	No	Yes	No	No	Yes	Flora	0.1	Greater than 5 years	Reversible
Central Regional										
Naphta exploratory drilling area	No	No	No	No	No	Yes	Flora	6,803	Greater than 5 years	Reversible

Source: Ecopetrol, Vice Presidency of Sustainable Development

* Corresponds to rigs and new road infrastructure

** In the construction of the Mago production field rigs, there was no forest use, but it was impacted by the change in land use

On the other hand, Ecopetrol continues working on the recovery of the impacts caused by the 2018 contingency involving the Lisama Well 158. For the area of Lizama Creek - Caño La Muerte, a recovery program approved by the ANLA was established. The main advances are:



Reincorporation of 2,400 animals from 13 species, which had been captured and assessed in a preventive manner and transferred to the Council Verde Natural Reserve in Sabana de Torres.



Installation of 30 modules for the creation of fauna micro-habitats, highlighting the effectiveness of the modifications implemented in terms of the direction of the palisades (from transversal to parallel), thus covering the areas of influence that presented the best biophysical conditions in the creek and the riparian forest.



Creation of habitats for ground and arboreal fauna, through the creation of structures that provide adequate spaces for the wild fauna that is returned to the ecosystem, providing refuge for different species of interest, a need that has become evident due to the loss of plant cover, as a result of the actions taken to attend to the contingency related to the Lisama 158 well. 135 terrestrial habitats were created, of which 68 correspond to perches, 61 to palisades, 5 to vines and 1 to burrow.



Three monitoring activities were completed, in which a total of 530 animals were observed along the delimited sections, from ground and arboreal fauna, including amphibians, reptiles, birds and mammals.



Replanting of 1,268 m² from sowing grasses.

Evolution of replanting activities in the area affected by the Lisama 158 event, which occurred in March 2018.



Design and planting of 1,496 forest trees, equivalent to 1.3 ha of riparian forest affected by the contingency.



Establishment of three riparian vegetation nurseries, focusing on about 16 native species and production capacity of 135,000 seedlings, in conjunction with the communities.



Ecopetrol has actively implemented the necessary measures for the recovery of the ecological integrity of the areas affected by the Lisama 158 contingency regarding flora and fauna. To this end, during 2019, the Company invested \$1,968 million pesos in flora and fauna recovery actions.

GRI | 304-3, OG-4 |

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PROTECTED OR RESTORED HABITATS

Between January 2015 and December 2019, Ecopetrol has protected or restored 3,046.3 hectares (ha) of which 1,838.21 ha correspond to projects dedicated to conservation and 1,208 ha to ongoing restoration process. These processes have been implemented through conservation agreement schemes, land acquisitions, protective reforestation, ecological restoration, isolation of areas for conservation, among others.

The methodology implemented for habitat restoration is based on the establishment of protective reforestation in water source protection zones located in the area of direct influence of the projects, in order to compensate for changes in land use and atmospheric emissions from the operation.

Table 88. Protected or restored habitats

Project	Protected/ Restored area	Size (ha)	Location	Protection restoration / scheme	Status on reporting date	Success of restoration measure approved by an independent third party*
Central Regional						
Bonanza Field - Unification	Conservation	53.7	Piedecuesta, Santander	Land acquisition	Execution	Non-applicable
Tisquirama - San Roque Fields - Compensation for effective use of forest land	Restoration	0.17	Rio de Oro, Cesar	Protective Reforestation	Execution	Non-applicable
Sonero Compensa- tion for effective use	Restoration	10	Cantagallo, Bolívar	Protective Reforestation and enclosure	Execution	Non-applicable
Cristalina Field - Compensation for water concession	Restoration	0.17	Sabana de Torres, Santander	Protective Reforestation	Pending closure	Pending final approval by the authority
PMRB - PAF FASE I - EXP. 1007-0009- 2010	Restoration	10	Barrancabermeja, Santander.	Protective Reforestation	Pending closure	Pending final approval by the authority
Barrancabermeja Refinery - Water concession in the San Silvestre marshlands	Restoration	15	Barrancabermeja, Santander	Protective Reforestation	Pending closure	Pending final approval by the authority
Monterrico - Las Vegas Unification of compensations	Restoration	7.4	Carmen de Chucuri, Santander	Protective Reforestation	Pending closure	Pending final approval by the authority

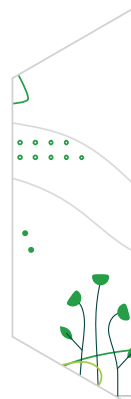
Project	Protected/ Restored area	Size (ha)	Location	Protection restoration / scheme	Status on reporting date	Success of restoration measure approved by an independent third party*
Catatumbo Regional						
Drilling of exploration well in Tibú Field – Tibú project	Conservation	2.6	Tibú, Norte de Santander	Protective Reforestation	Execution	Non-applicable
Module 1 Socuavo – Tibú project	Conservation	41	Tibú, Norte de Santander	Protective Reforestation	Execution	Non-applicable
Initial Module Tibú project	Conservation	17.5	Tibú, Norte de Santander	Protective Reforestation	Execution	Non-applicable
Trueno well APE Relámpago	Conservation	4.51	Cúcuta, Norte de Santander	Protective Reforestation	Execution	Non-applicable
Río Zulia Field peripherals	Conservation	1.8	Cúcuta, Norte de Santander	Protective Reforestation	Execution	Non-applicable
Orinoco Regional – Meta						
APE Cristal – Cristal well	Restoration	2	El Castillo, Meta	Protective Reforestation	Pending closure	Pending final approval by the authority
Final closure and recovery of environmental conditions of the bioremediation area	Restoration	210	Acacias, Meta	Protective Reforestation	Pending closure	Pending final approval by the authority
Extension of locations in Cluster SW 5, SW 37 Y CH 37 of the Castilla field	Restoration	1.5	Acacias, Meta	Protective Reforestation	Pending closure	Pending final approval by the authority
Contingency due to TEA oil spill	Restoration	1	Acacias, Meta	Protective Reforestation	Pending closure	Pending final approval by the authority
Construction of parking lot in the Chichimene station	Restoration	1.5	Acacias, Meta	Protective Reforestation	Pending closure	Pending final approval by the authority
Construction of civil, electrical and mechanical works in the H31 A CH30, CH122 a CH29 Y CH116 wells	Restoration	4	Acacias, Meta	Protective Reforestation	Pending closure	Pending final approval by the authority
Construction of the road plan for the Chichimene field	Restoration	7	Acacias, Meta	Protective Reforestation	Pending closure	Pending final approval by the authority

Project	Protected/ Restored area	Size (ha)	Location	Protection restoration / scheme	Status on reporting date	Success of restoration measure approved by an independent third party*
Construction of civil, electrical and mechanical works in the CH80 A CH30, CH26 – CMT0 A CL2- CMT0 A CH29-CMT0 a CH35-CH36 A CH30-SW4 A CH30 wells	Restoration	10.5	Acacias, Meta	Protective Reforestation	Pending closure	Pending final approval by the authority
Construction of civil, electrical and mechanical works in the SW 22 and Chichimene Este 1wells	Restoration	2	Acacias, Meta	Protective Reforestation	Pending closure	Pending final approval by the authority
Acacias Station-Contingency of oily water spill	Restoration	1.5	Acacias, Meta	Protective Reforestation	Pending closure	Pending final approval by the authority
Orinoco Regional - Casanare						
Ecological recovery actions in environmentally degraded areas	Restoration	130	Tauramena, Aguazul and Maní, Casanare	Conservation agreements	Pending closure	Pending final approval by the authority
Establishment and forest management of protective forest in the fields belonging to the development and production area of Ecopetrol's Piedemonte	Conservation	1636	Tauramena, Aguazul and Yopal, Casanare	Conservation agreements / Land acquisition	Pending closure	Pending final approval by the authority
Reforestation and protective type maintenance service, corresponding to compensations	Restoration	49	Tauramena and Aguazul, Casanare	Land acquisition	Execution	Non-applicable
Eastern Regional						
Rubiales Production Field	Reforestation	300	Puerto Gaitán, Meta	Protective Reforestation	Execution	Non-applicable
Rubiales Production Field	Reforestation	planting 284 seedlings	Puerto Gaitán, Meta	Protective Reforestation	Closed	Yes
Rubiales Production Field	Reforestation	0.05	Puerto Gaitán, Meta	Protective Reforestation	Closed	Yes

Project	Protected/ Restored area	Size (ha)	Location	Protection restoration / scheme	Status on reporting date	Success of restoration measure approved by an independent third party*
Rubiales Production Field	Reforestation	6	Puerto Gaitán, Meta	Protective Reforestation	Closed	Yes
Rubiales Production Field	Reforestation	398	Puerto Gaitán, Meta	Protective Reforestation	Pending closure	Pending final approval by the authority
Rubiales Production Field	Reforestation	40	Puerto Gaitán, Meta	Protective Reforestation	Pending closure	Pending final approval by the authority
Rubiales Production Field	Reforestation	0,3	Puerto Gaitán, Meta	Protective Reforestation a	Pending closure	Pending final approval by the authority
Rubiales Production Field	Reforestation	1	Puerto Gaitán, Meta	Protective Reforestation	Pending closure	Pending final approval by the authority
South Regional						
APE Kaxan compensation	Conservation	20	Santa Rosa, Cauca	Conservation agreements	Execution	Non-applicable
APE Goliat compensation	Conservation	14	Neiva, Huila	Conservation agreements	Execution	Non-applicable
Compensation for effective use of forest land in the Tinkhana well and Cluster 2	Conservation	51	Orito, Putumayo	Conservation agreements	Execution	Non-applicable
Compensation for effective use of forest land in the Río Ceibas field	Conservation	49.8	Neiva, Huila	Land acquisition	Pending closure	Pending final approval by the authority

Source: Ecopetrol, Vice Presidency of Sustainable Development

* The projects that as of December 31, 2019 were under execution, have not been reviewed and approved by an independent third party



With regard to voluntary initiatives, during 2019, agreements were signed and implemented with the Wildlife Conservation Society (Wildlife Project), the Alexander von Humboldt Institute, The Nature Conservancy, the National Association of Colombian Businesses (ANDI), the

Autonomous Corporation of Santander (CAS), the Metropolitan Area of the Aburra Valley (AMVA) and Cormacarena; in addition, a memorandum of understanding was signed with the Colombian branch of Chemonics International INC, to implement the Natural Wealth Program.

With these initiatives, Ecopetrol has managed to protect diverse habitats in the Mid-Magdalena, Llanos Orientales and Piedemonte Andino-Amazónico, regions which correspond to areas of interest for the Company's exploration and production activities.

GRI | 304-4 |

IMPACT OF IUCN RED LIST CLASSIFIED SPECIES

To develop activities related to the operation, in 2019 Ecopetrol obtained a partial lifting of the ban set by the Ministry of Environment and Sustainable Development (MADS), of which two are classified in the Minor Concern categories of the International Union for Conservation of Nature IUCN. None of the species for which the partial ban was lifted

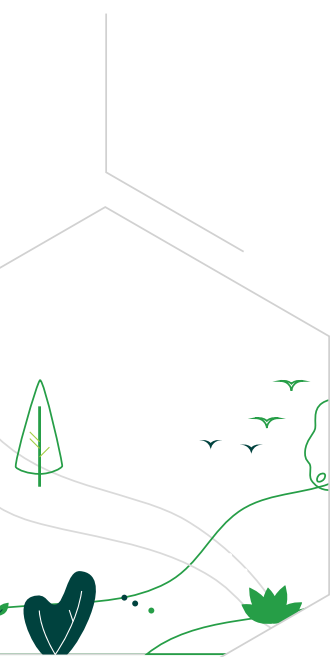
are threatened in accordance with MADS Resolution 1912 of 2017.

The protective order was lifted for vascular and non-vascular epiphytes of the taxonomic groups of Bromeliads, Orchids, Mosses, Liverworts and Lichens included in Resolution 0213 of 1977.

Table 89. Threatened Species

Projects	Critically endangered	Endangered	Vulnerable	Nearly threatened	Minor concern	Total
Rubiales production field	0	0	0	0	1	1
Arauca Norte -1 exploratory well	0	0	0	0	1	1
Total	0	0	0	0	2	2

Source: Ecopetrol, Vice Presidency of Sustainable Development





MATERIAL
TOPIC

**EFFLUENTS
AND WASTE**

Barrancabermeja Refinery, Department of Santander

**Standard
GRI applied**

GRI | 306 |
Effluents and waste
GRI | OG-7 |
Drilling waste



● **Why is it a
Material topic?**

GRI | 103-1 |

Integrated waste management contributes to the progressive reduction of environmental risks and impacts, and helps the Company move towards a circular economy. It helps generate value for some of the hazardous and non-hazardous waste generated in operations and be used by the Company or as a raw material by third parties, in some cases generating income or reducing the costs of treatment and/or disposal.



● **How is the
topic managed?**

GRI | 103-2 |

Effluent and waste management is ensured through the environmental management strategy through comprehensive water resource management and circular economy elements.



● **How is the
topic assessed?**

GRI | 103-3 |

The assessment is completed through indicators for volume of water discharged according to its quality and destination, captured volumes, quantity of waste generated and its different management options.

Impact coverage

GRI | 103-1 |



● **Ecopetrol process where
the most significant
impact is generated**

Value chain (exploration, production, transport, refining, commercialization, petrochemicals and support areas).



● **Stakeholder group
where the most
significant impact
is generated**

Society and community.



● **Area managing
the impact**

Vice Presidency of Sustainable Development and Environment.



CIRCULAR ECONOMY



In 2019, Ecopetrol built a circular economy model applicable to Ecopetrol Group companies, taking into account the international, domestic and business context, competitiveness for sustainable growth, and contribution to the Sustainable Development Goals (SDG).

This model is based on the understanding of Circular Economy as “production and consumption systems that promote efficiency in the use of materials, water and energy, taking into account the resilience of the ecosystems, the circular use of material flows through the implementation of technological innovation, partnerships and collaborations between players, and the promotion of business models that respond to the fundamentals of sustainable development”.

The purpose of a Circular Economy Model is “To strengthen the concept of circular economy as a business model in the Ecopetrol Group, ensuring the pillars of cost efficiency, capital discipline, growth in reserves and production cornerstones, as well as competitiveness and long-term sustainability, while promoting the conservation of natural resources and the well-being of society”. ■

The model includes the following components:



EFFICIENT USE OF RESOURCES AND NEW VENTURES

Action lines

- Circularity in the supply chain
- Efficiency in projects and operations
- Promotion of circular business



IMPROVEMENT AND DEVELOPMENT OF PRODUCTS AND SERVICES

Action lines

- Improve product and service quality



STANDARDS AND PUBLIC POLICY

Action lines

- Identification and participation in the drafting of standards and public policy



MOVING TERRITORY MANAGEMENT TOWARDS CIRCULARITY

Action lines

- Circular projects with positive socio-environmental impacts



CULTURE

Action lines

- Manage elements to leverage culture
- Communication for change
- Develop and assess competencies

During 2020, the Company will identify its portfolio of priority circular economy initiatives, and new sustainable production and consumption business models will be structured for the continuous assessment of resources, closing the cycle of materials, water and energy to optimize efficiency in the production and consumption of materials, and minimizing environmental impacts.

HAZARDOUS AND NON-HAZARDOUS WASTE MANAGEMENT

GENERATION AND MANAGEMENT OF WASTE

GRI | 306-2 |

Hazardous and non-hazardous waste in 2019 amounted to 530,948 tons, which represented an increase of 83% over that generated in 2018 (see Table 90) due to the execution of new drilling projects in the Central and Orinoco

regions, civil works activities, dismantling, maintenance and cleaning of treatment systems and/or tanks in the Barrancabermeja refinery and production fields.

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Table 90. Generation of solid waste (tons)

Year	Non-hazardous waste	Hazardous waste	Total
2015	29,669.77	117,150.51	146,820.28
2016	49,165.04	49,055.62	98,220.66
2017	103,627.22	35,185.76	138,812.98
2018	178,294.26	111,737.38	290,031.65
2019	211,506.61	319,442.65	530,948.80

Source: Ecopetrol, Vice Presidency of Sustainable Development

* Data for 2018 was adjusted based on information received by SAP-Waste Management (SAP-WA) after the close for this period.

Residue or waste refer to any object, material, substance, element or product in a solid or semisolid state, or a liquid or gas contained in containers or deposits, whose generator discards, rejects or delivers them because their properties do not allow them to be used again in the activity that generated them or because the current legislation or regulations so stipulates. Decree 1076 of 2015, Article 2.2.5.11.3.

Hazardous waste refers to any residue that due to its corrosive, reactive, explosive, toxic, flammable, infectious or radioactive characteristics, can cause risks, damages or unwanted effects, direct and indirect, to human health and the environment. Packaging, containers and wrapping that were in contact with these are also considered hazardous waste. Decree 1076 of 2015, Article 2.2.5.11.3

Ecopetrol S.A.'s operational and administrative areas have Comprehensive Waste Management Plans (PGIR for its Spanish acronym) which include all actions adopted by each area to maximize the use and manage non-usable waste in an environmentally adequate manner, as well as the strategies aimed at preventing and/or minimizing its generation at the source.

In addition, options for use are sought through the following circular initiatives: a) research with the Universidad Industrial de Santander-UIS to determine the technical and economic feasibility of transforming oily waste into cold product(s) to be applied to roads with low traffic volumes; b) encapsulation and stabilization of water-based drilling cuts to reuse them at the drilling locations instead of using stone aggregates from quarries or rivers.

In 2019, the operating processes that generated the most non-hazardous waste were drilling, production and refining. The most important non-hazardous wastes generated were: water-based drilling cuts, reused after stabilization

and mixed with excavation material in civil works and geotechnical engineering; metal scrap, waste brine production, debris and organic waste. The management given is summarized in Table 91.

Table 91. Management of non-hazardous solid waste (kg)

Treatment	2015	2016	2017	2018	2019
Reuse	25,843	41,938	42,221	94,454,413	163,913,132
Recycle	8,301,319	24,124,616	26,454,329	34,683,019	29,125,135
Composting	483,520	3,510,539	1,508,474	2,981,014	8,281,938.7
Recovery	0	2,095	536,151	3,000,000	0
Incineration	705,879	2,797,069	755,149	102,212	92,465
Others*	20,153,205	18,688,786	74,330,895	43,073,608	10,093,487
Total	29,669,766	49,165,043	103,627,219	178,294,266	211,506,158

Source: Ecopetrol, Vice Presidency of Sustainable Development

* Others includes: landfill, etc.

The amount of non-hazardous waste recycled was less than that for 2018, this was mostly due to the lower amounts of waste requested by the areas for third-party sale, mainly iron waste. However, it did generate significant income, \$15.9 MM.

With respect to hazardous waste, the largest generator was production, followed by refining. 96% of the generated hazardous waste was subjected to treatment through dehydration, thermal desorption, bioremediation and incineration, and other uses.

Table 92 describes the management of hazardous solid waste in the last few years.

GRI | 306-2 |

Table 92. Hazardous solid waste management (kg)*

Treatment	2015	2016	2017	2018	2019
Reuse	6,212	45,119	4,323	11,553	9,626
Recycle	1,937	13,640	5,443	61,049	82,666
Regeneration	159,305	59,890	1,568	62,072	-
Incineration	4,214,684	2,567,764	1,643,832	6,074,896	5,754,857
Bioremediation	33,419,409	31,579,204	11,652,568	88,885,827	307,583,429
Other**	79,348,958	14,789,999	21,878,023	16,641,992	6,012,070
Total	117,150,505	49,055,616	35,185,757	111,737,389	319,442,648

Source: Ecopetrol, Vice Presidency of Sustainable Development

* The data reported here corresponds to the internal management carried out by Ecopetrol as generator and through third parties for the management of hazardous waste, in accordance with the provisions of Decree 4741 of 2005.

** Others include: Safety cell, etc.

PERCENTAGE OF SOLID WASTE USED AND RECYCLING RATE

Taking into account the reuse, recycling, and regeneration treatments, the percentage of waste (hazardous and non-hazardous) used in 2019 was 38%, a percentage contributed mostly by the use of drilling cuts carried out at the Rubiales field and the recycling of metal

scrap from goods not required by the operation at the Barrancabermeja refinery. In this same period, the recycling rate was 6%, corresponding to the residues that are reintroduced in different production processes.

DRILLING WASTE

GRI | OG-7 |

Drilling waste contains chemical additives or hydrocarbons which, if not disposed of in a controlled manner, can have an impact on the environment. For 2019, oil-based drilling fluids were not required for drilling activities, because geological formations did not need this type of fluid, which brought positive impacts in term of the non-generation of oily waste and reduced

treatment costs. The following reports the amounts generated from these wastes according to the type of treatment, depending on the fluid used in the drilling activities. The amounts generated of these wastes broken down by method of disposal are reported below (Table 93).

Table 93. Drilling waste broken down by method of disposal (Tons)

Treatment	2016	2017	2018	2019
Reinjection	0	0	1,213	
Recycling	14	414	390	291
Water-based drilling cuts	110,372	171,302	279,745	570,912
Disposal in high-seas	0	0	0	0
Hazardous	0	0	0	814
Non-hazardous	0	0	0	164,808
Total Drilling waste	110,386	171,716	281,348	736,825

Source: Ecopetrol, Vice Presidency of Development and Production

Caño Sur production field, department of Meta



TRANSPORT OF HAZARDOUS WASTE

GRI | 306-4 |

Within the legal framework in force for the transportation of hazardous waste, the transportation companies hired to transport waste from Ecopetrol S.A. facilities to the handler's locations for the use, valorization, treatment or final disposal of hazardous waste must comply with the provisions set forth in

Single Regulatory Decree 1076 for the Environmental Sector 2015 and Decree 1079 for the Transport Sector, both issued in 2015.

To this end, during 2019 the following amounts of waste were transported:

Table 94. Hazardous waste transported (Tons)

Hazardous waste transported	2016	2017	2018	2019
Weight of hazardous waste transported (external handler)	13,290	97,616	148,083	319,310
Weight of imported hazardous waste	NA	NA	NA	NA
Weight of exported hazardous waste	NA	NA	NA	NA
Weight of hazardous waste treated (internal and external handler)	50,653	29,675	126,832	4,049
Total hazardous waste transported	63,943	127,291	274,915	323,359

Source: Ecopetrol, Vice Presidency of Sustainable Development

SUBSTANCES WITH POLYCHLORINATED BIPHENYLS (PCB)

In 2019, Ecopetrol completed the seventh PCB inventory report, which corresponds to 2018 (see Table 95).

Table 95. Inventory of equipment and residues likely to contain PCBs*

Years	Equipment and residues				Total
	In use	Not in use	Discarded	Liquid residues and other waste	
2015	4,809	1,084	191	18	6,102
2016	4,765	1,001	303	15	6,084
2017	5,736	1,032	316	14	7,098
2018	5,654	1,213	405	11	7,282
2019	5,018	1,196	429	11	6,654

Source: Ecopetrol, Vice Presidency of Sustainable Development

* The PCB Inventory corresponds to that of the preceding year

Compared to last year's inventory, the total number of reported equipment decreased by 8.6% given that some equipment was transferred to other companies as part of the asset delivery process. Of the total reported, 3,171 pieces of equipment are

free of PCBs (48%). In the operational areas, there are PCB Management Plans in place to meet the targets of 60% of equipment classified and marked for 2020, as established in Resolution 222 of 2011.

OZONE DEPLETING SUBSTANCES (ODS)

GRI | 305-6 |

Equipment in use

In 2019, 3,784 equipment in use containing ODS were reported, divided into three classifications: equipment category,

emission source and ODS substance. Table 105 lists the ODS loads by equipment category and their distribution.

Table 96. ODS loads by equipment category*

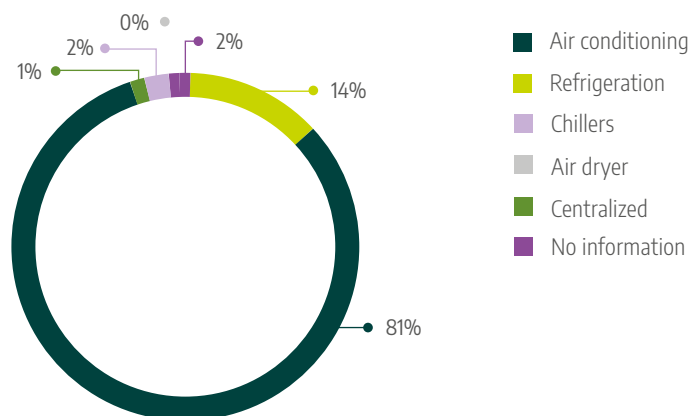
Equipment category	Load	Equipment quantities				
		2015	2016	2017	2018	2019
Small sized domestic/ commercial applications	Load between 0 and 5 lbs. or 0 and 2.3 Kg	653	489	1,277	2,261	1,882
Medium and large sized commercial applications	Load between 5 and 15 lbs. or 2.3 and 6.8 Kg	1,012	728	1,514	1,490	1,592
Industrial applications	Load greater than 15 lbs. or 6.8 Kg	137	6	126	182	310
TOTAL		1,802	1,223	2,917	3,933	3,784

Source: Ecopetrol, Vice Presidency of Sustainable Development

* ODS inventory corresponds to the previous year

Taking into account the distribution of ODS equipment in use (see Figure 117), most of it corresponds to air conditioning and cooling.

Figure 117.
Percentage of equipment in use by emission source



Source: Ecopetrol, Vice Presidency of Sustainable Development

Idle equipment

For 2019 no idle equipment or scrapped electronic equipment containing ODS was reported.

GRI | OG-11 |, | 103-1 |, | 103-2 |, | 103-3 |

ASSET DIVESTITURE

Divestment is the final phase in the life cycle of the industrial assets associated with the production process of the Company. This activity is carried out in three stages: technical well abandonment, dismantling of facilities and environmental recovery:



Technical well abandonment: Consists of ensuring the definitive closing of the well by means of the final plugging of the formations or producing zones, once the productive stage is over, in order to ensure permanent isolation so as to avoid: i) the flow of possible fluids to the surface, ii) cross-flow between formations and iii) contamination of aquifers. This activity is carried out due to low productivity or mechanical integrity problems of the wells to be abandoned and is performed according to the applicable standard in force, under Ecopetrol's Well Integrity Management System (WIMS).

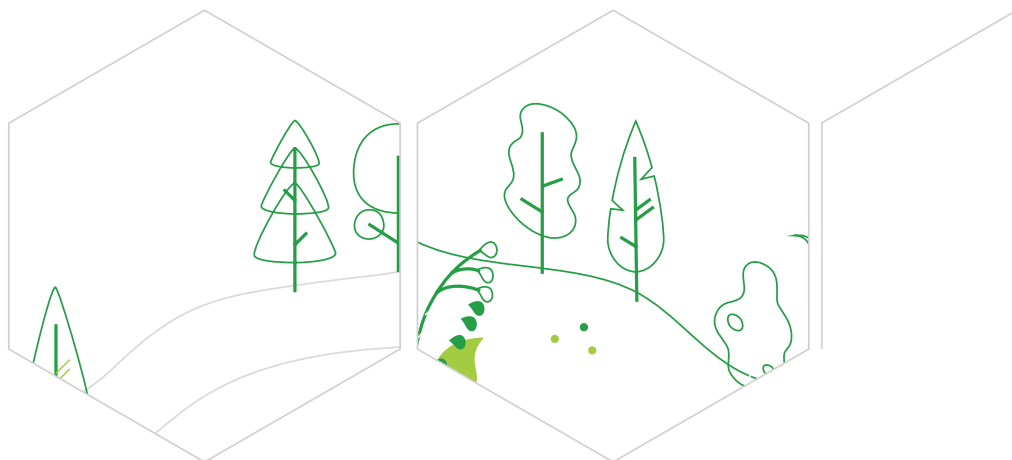


Dismantling of facilities: Consists of the dismantling or removal of the facilities and equipment that are part of the asset, such as flow lines, electrical systems, electromechanical equipment and civil works associated with the production wells to be abandoned. This activity is the last intervention of an asset in its operational life and is performed according to applicable regulations.



Environmental recovery: Consists of the execution of activities that guarantee the protection of the environment in accordance with the guidelines established in the environmental instruments of the areas and with the established legal norms. These activities include, restoration of areas, erosion control, re-vegetation or reforestation.

In 2019, 375 wells were abandoned following the process described above.

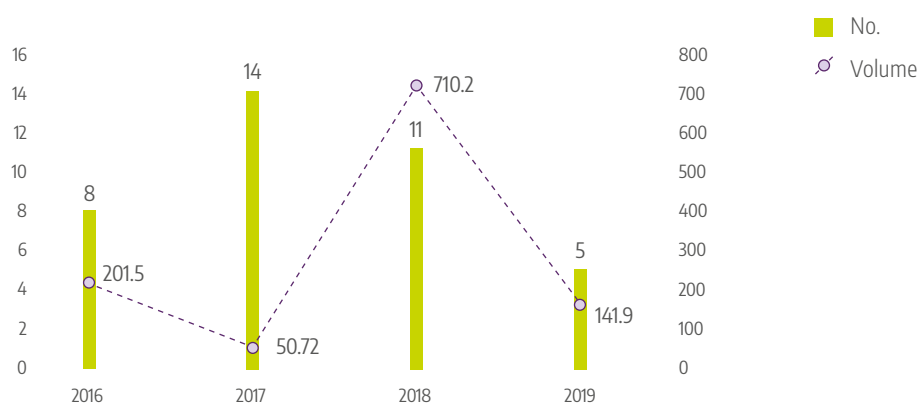


SIGNIFICANT SPILLS

GRI | 306-3 |

The number and total volume of significant spills recorded for the years 2016 to 2019 were:

Figure 118.
Significant spills
2016 - 2019



Source: Ecopetrol, Vice Presidency of Sustainable Development

The following table summarizes relevant information on significant spills

Table 97. Significant spills recorded for 2019

No.	Location of spill	Volume spilled	Material spilled	Impact
1.	Production – Central Regional - Dina Norte transfer line	13.6 Barrels	Hydrocarbon	Impact on soil
2.	Production – Orinoco Regional a – Chichimene station	94 Barrels	Hydrocarbon	Impact on soil
3.	Production – Orinoco Regional – Rubiales Field	8,8 Barrels	Hydrocarbon	GRI 306-5 Impact on water, soil and vegetation
4.	Production – South Regional – Putumayo	5,5 Barrels	Hydrocarbon	Impact on floodable land, vegetation and soil
5.	Production – Orinoco Regional a – Chichimene station	20 Barrels	Naphta	GRI 306-5 Impact on water, soil and vegetation

Source: Ecopetrol, Vice Presidency of Sustainable Development



Barrancabermeja Refinery, Santander department

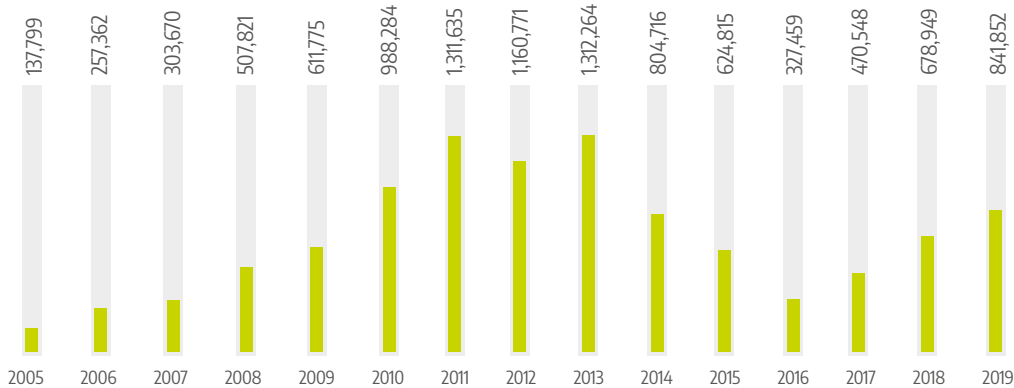


ENVIRONMENTAL INVESTMENTS AND EXPENDITURES

...

In 2019 Ecopetrol invested \$841,852 million pesos in environmental programs. This amount corresponds to the information on environmental investments and expenditures that is submitted to the General Comptroller's Office during the first quarter of each year (Figure 119).

Figure 119.
Ecopetrol
Environmental
Investments and
expenditures
(Millions of pesos)



Source: Ecopetrol, Vice Presidency of Sustainable and Environmental Development

GRI | 103-2 |

This number represents an increase of 24% with respect to 2018, which is mainly explained by operations associated with water treatment and disposal and drilling cuts due to the greater number of wells drilled during 2019, and maintenance to the acid plant and tanks at the Barrancabermeja refinery.

For 2019, the investment in environmental programs was distributed as follows.

387

• **\$118,396** million of pesos

in operating environmental investments for the execution of environmental studies, diagnoses, legal procedures, audits, operation and maintenance of equipment and monitoring networks.

• **\$26,483** million of pesos

in environmental investments in water, specifically programs for the recovery and protection of the natural resource, purchase and assembly of equipment for control and monitoring of the quantity and quality of surface and/or underground water resources, and the protection of hydrographic basins.

GRI | 201-2 |

• **\$12,516** million of pesos

in environmental investments in forest recovery and protection programs.

• **\$160,038** million of pesos

in programs for the recovery and protection of the soil, represented in the management and in physical works of soil protection (geotechnical protection programs).

• **\$101,512** million of pesos

in environmental investment in risk management, represented in disaster prevention programs, support for disaster response and post-disaster activities.

• **\$656** million of pesos

in urban environmental investment.

GRI | OG-2 |

• **\$53,809** million of pesos

in programs for the recovery and protection of the air, specifically in the acquisition of equipment and development of productive technologies for the reduction of atmospheric emissions.

• **\$13,891** million of pesos

in environmental investment in biodiversity, mostly in programs and projects for the preservation, conservation and rational use of biodiversity.

• **\$354,551** million of pesos

in environmental investment in drinking water and basic sanitation, represented in projects and programs for wastewater treatment, construction and implementation of drinking water supply works and solid and hazardous waste management and disposal.



MATERIAL
TOPICCUMPLIMIENTO
AMBIENTAL

Teca Field, Department of Antioquia

Standard
GRI appliedGRI | 307 |
Environmental
compliance● Why is it a
Material topic?

GRI | 103-1 |

Environmental compliance is the starting point for managing and obtaining the environmental authorizations required to make operations and projects viable in a timely manner, thus ensuring that business goals are met.

● How is the
topic managed?

GRI | 103-2 |

The environmental strategy operational model includes a legal department, which is responsible for managing environmental authorizations, environmental licenses, environmental management plans (EMPs) and natural resource use and exploitation permits.

● How is the
topic assessed?

GRI | 103-3 |

The assessment is completed through the monitoring of environmental compliance indicators and complaints regarding alleged socio-environmental impacts.

Impact coverage

GRI | 103-1 |

● Process in Ecopetrol
where the most
significant impact is
generated

Production, refining, petrochemical and transport.

● Stakeholder group
where the most
significant impact is
generated

All stakeholder groups.

● Area managing the
impact

Vice Presidency of Sustainable and Environmental Development Vice Presidency of Legal Affairs.



ENVIRONMENTAL VIABILITY

...

•

The object of environmental viability is manage and obtain the environmental authorizations required to make operations and projects viable, in a timely manner thus ensuring that business goals are met.

The process includes the preparation of environmental studies, the management, processing and systematic follow-up of applications filed with national and regional

environmental authorities. This process is fundamental, since it helps strengthen the inter-institutional relationship with environmental authorities, among others.



During 2019 no deferred production was reported due to the absence of environmental authorizations. The results obtained for 2019 are listed below.

390

15

Environmental authorizations obtained through the legal process known as minor change, which allowed the operations of the production fields to be made viable without having to take steps to modify the environmental licenses or modify the Comprehensive Environmental Management Plans, which represented savings in processing time before the environmental authorities and costs related to the preparation of environmental studies.

01

A modification of the environmental license via the official document of the Environmental Management Plan of Mares that made activities of the Aguas Blancas field viable, which represented savings in processing time before the environmental authorities and costs related to the preparation of environmental studies.

01

A modification of the environmental license for the Rubiales field.

04

Environmental licenses

03

Permits for lifting of protective orders

- Partial lifting of the national protective order for the Arauca Norte-1 Exploratory Well
- Lifting of the national protective order (global) for Teca Cocorná Field
- Lifting of the protective order for the Rubiales Field

06

Six appeals for reversal

77

77 environmental authorizations obtained for Permits for Use and Exploitation of Natural Resources and four Appeals for reversal granted by the Regional Autonomous Corporations - CAR.

Rubiales production field, department of Meta



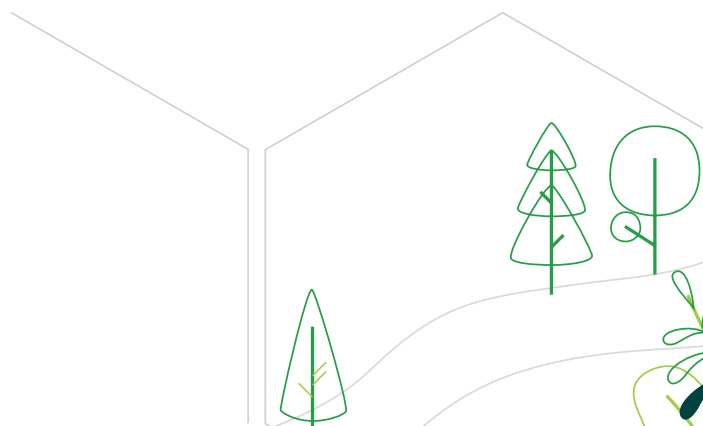
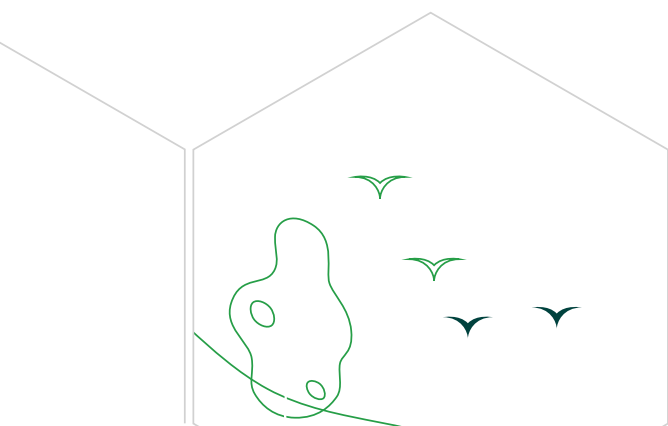
The environmental authorizations obtained during 2019 and which resulted in greater benefits in terms of contribution to the continuity of operations and projects include the following:

- Modification to the Rubiales Field Environmental License
- Environmental License for the Cumanday production field that allowed for the viability of the activities necessary for the development of the field (clusters, flow lines, power lines and transfer lines).
- Environmental License for the APE Berilo Llanos Block 38 that resulted in the environmental feasibility of the project for exploration facilities.
- Environmental License for the APE Basari, which resulted in the environmental feasibility of the facilities for exploration activities in the area of interest and thus the transfer of the license to Hocol S.A.
- Environmental License for the APE Marteja, which resulted in the environmental viability of the project for exploration facilities, but which is still awaiting a response to the appeal for reversal filed by the community.

In addition, during 2019, 173 procedures were filed before the Regional Autonomous Corporations and the National Environmental Licensing Authority.

During 2019, Ecopetrol worked on the following actions:

- Active participation in the discussion tables and regulation scenarios for Decree 138, which modifies the procedure for preventive archaeology programs.
- Identification of the needs for regulatory adjustments, as a requirement for the transition to the exploratory phase of unconventional deposits.
- Participation in opportunities for the construction of environmental and academic normative concepts with a view to strengthening the licensing and preparation of environmental studies processes for the Hydrocarbon sector.
- Structuring of the proposal for adjustment to the technical regulations and terms of reference of the exploratory phase for unconventional deposits.

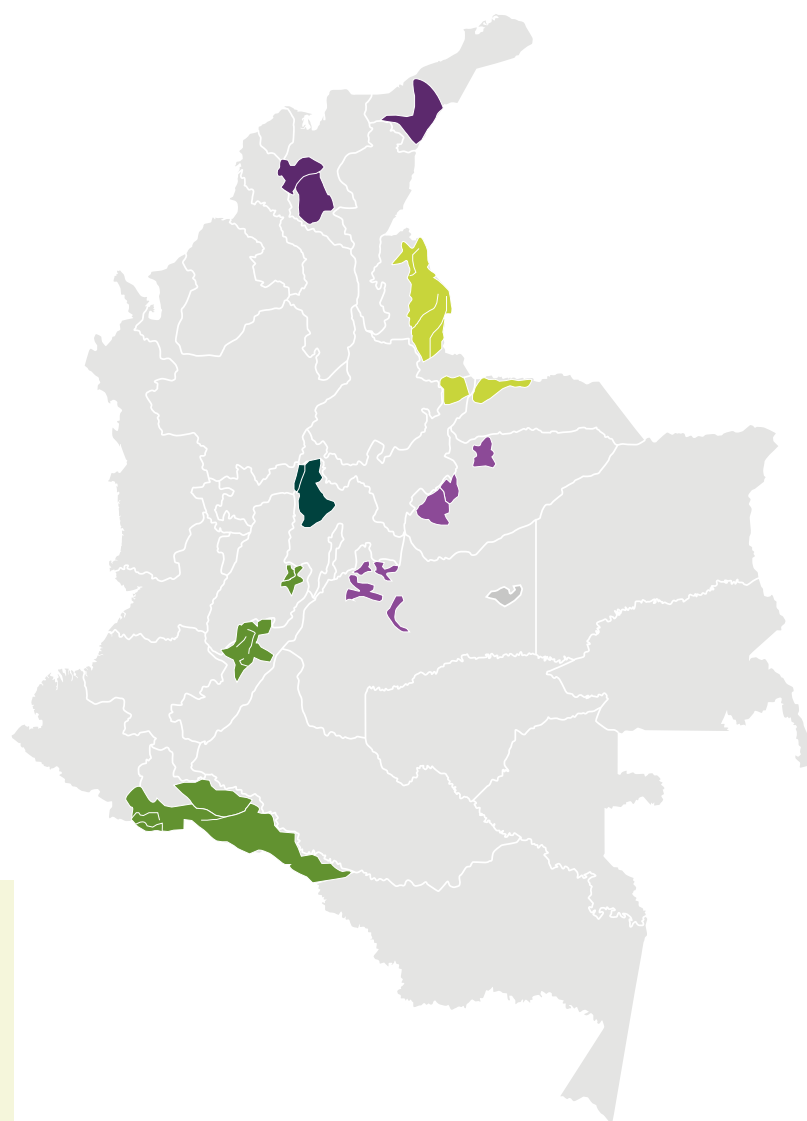


ENVIRONMENTAL COMPENSATION AND 1% INVESTMENT

For the implementation of the environmental compensation and 1% investment obligations, Ecopetrol has identified 24 nuclei, which constitute priority areas, in its different areas of operation, establishing multifunctional landscapes and identifying specific actions to be developed in each landscape.

In order to comply with the obligations, Ecopetrol's strategy defines that conservation agreements will be put in place, whereby it intends to favor conservation through incentives in kind that include agricultural and forestry and silvopastoral projects, beekeeping, efficient stoves, photovoltaic

systems, water harvests and ecological homes, among others. The nuclei prioritized for the implementation of Environmental Compensation and 1% Investment obligations can be seen in the following map.



Conventions

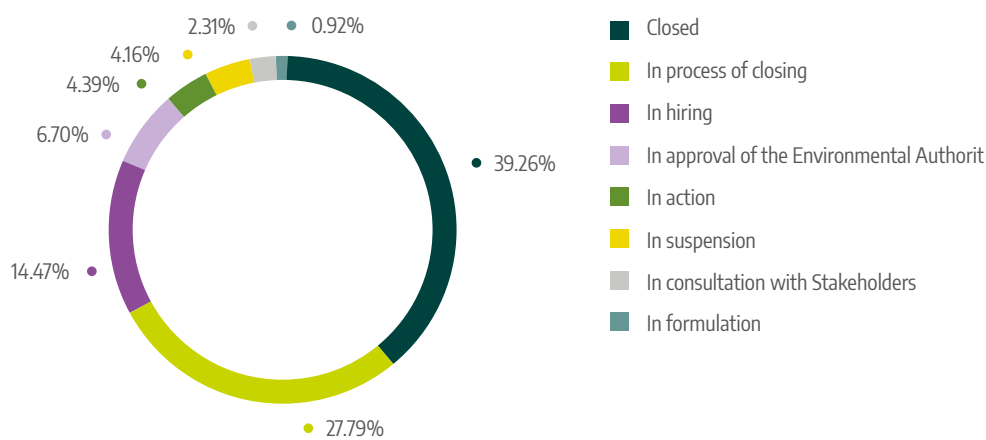
- Andean Core
- Caribbean Core
- Catatumbo Core
- Orinoquía Core
- South Core
- Tillavá Oriente Core

As of December 31, 2019, Ecopetrol S.A. had 1,299 obligations. The largest volume of obligations derives from the 1 % compulsory investment (349), followed by forest use permits with the regional environmental authorities (327), thirdly, compensation for felling and pruning permits (141) and fourthly, compensation for water concessions (135).

Of the 1,299 obligations, 510 are closed, 361 are in the process of being closed, 188 are in the process of being contracted, 87 are in the process of being approved by the environmental authorities, 57 are in execution, 54 are in suspension (the activity that would generate the obligation has not begun), 30 are in consultation with the interest groups and 12 are being drafted (see Figure 120).

Figure 120.

Stages of environmental and 1% investment compensation obligations

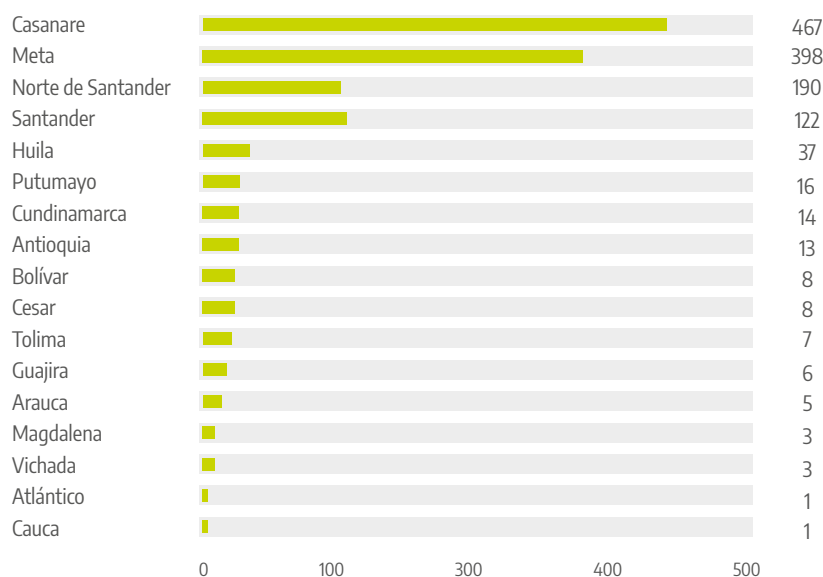


Source: Ecopetrol, Vice Presidency of Sustainable Development

The departments where the highest number of obligations are found are Casanare, Meta, Norte de Santander y Santander

Figure 121.

Number of obligations by department Total ECP



Source: Ecopetrol, Vice Presidency of Sustainable Development

In 2019, management of the 1% environmental compensation and investment obligations focused on:



Definition of multifunctional landscapes for the conservation of strategic ecosystems, sustainable productive projects and water resource protection, in Meta and Casanare.



Selection of properties and participants to implement conservation agreements through the implementation of sustainable use projects.



Preparation of the participative property design with the owners, possessors or holders of the participating properties.



Proceedings before ANLA and CARS for the change of measures in alignment with Ecopetrol's environmental strategy, especially the 1% investment plans that took advantage of the provisions of article 321 of the National Development Plan Law.



Generation of synergies between environmental compensation, 1% investments and non-binding strategic investments, by adding the implementation of measures in the prioritized landscapes.



Implementation of sustainable productive projects that generate real benefits for the communities.

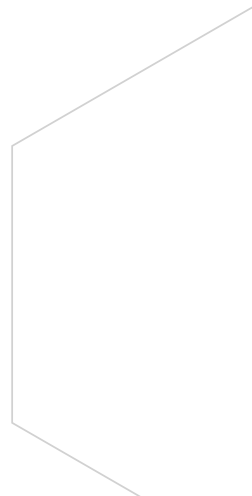
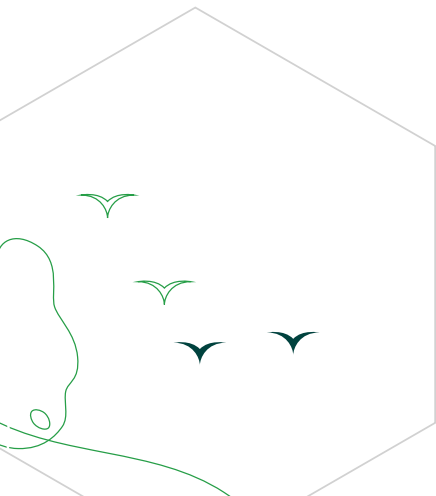


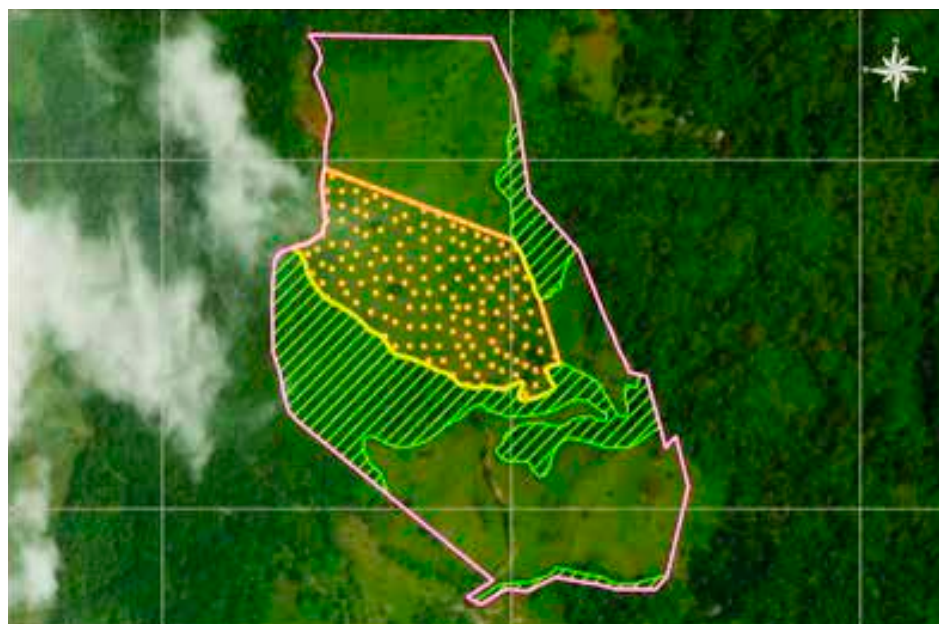
Selection of innovative alternatives for the implementation of obligations, generating non-oil revenues, conserving ecosystems and protecting water resources.



Development of a tool to pay for environmental compensation and 1% investment obligations.

Agricultural productive cacao project in Casanare with Fedecacao





- Property limit
- Project area
- Protection area: Preserve Fragmented Forest
- Project Type: System silvopastoral

Source: Ecopetrol, Vice Presidency of Sustainable Development

GRI | 307-1 |, | 419-1 |

ENVIRONMENTAL VIOLATIONS

For 2019, no non-monetary sanctions were imposed on Ecopetrol S.A. in environmental matters, derived from punitive processes. However, four (4) significant fines were imposed, which are listed in Table 98.

Table 98. Significant environmental fines

Authority	Penalty	Amount fined (\$ millions of pesos)
Corporación Autónoma Regional de la Orinoquía (Corporinoquía)	A fine for collecting water without a surface water concession permit, and for discharging domestic and industrial water without a discharge permit at the Monterrey Station Pumping Plant.	\$51,335,332
Corporación Autónoma Regional del Cesar (Corporcesar)	By means of Resolution No. 199 dated September 20, 2018, notified on May 14, 2019, a fine was imposed on Ecopetrol S.A.	\$66,772,113
Corporación Autónoma Regional de Santander (CAS)	By means of Resolution 0534 dated August 2, 2019, a fine was imposed on Ecopetrol S.A. for finding it environmentally liable for contaminating a flooded area in the La Macarena property with hydrocarbons, adjacent to the El Llanito Northeastern Station	\$1,351,631,784
	By means of Resolution DGL 0366 dated May 20, 2019, a fine was imposed on Ecopetrol S.A. for finding it environmentally liable for contaminating the El Tesoro property, adjacent to the El Llanito Northeast Station.	\$347,370,878

Source: Ecopetrol, Vice Presidency of Sustainable Development



06

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(Comprehensive compliance option) - GR

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For the period from January 1 to December 31, 2019,

The Report was published on March 27, 2020.

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"The Content Index Service was made in the Spanish version of the report"

Espacio para el content index de GRI

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GRI 102: General disclosures 2016						
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102-32 Highest governance body's role in sustainability reporting	17 The report is approved by the Corporate Governance and Sustainability Committee				Organization Government	
102-33 Communicating critical concerns	39		Si		Organization Government	
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Environmental Dimension

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General Content	Page/ Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)	
GRI 201: Economic Performance 2016							
201-1 Direct economic value generated and distributed 6	141, 156, 207, 208, 209, 253				Active participation of community. Generation of wealth and income. Social investment.	2.- Zero Hunger 5.- Gender Equality 7.- Affordable and Clean Energy 8.- Decent Work and Economic Growth 9.- Industry, Innovation and Infrastructure	401
201-2 Financial implications and other risks and opportunities due to climate change	326, 331, 343, 387	Information not available. Possible physical and reputation risks have been identified, associated to climate change, the impact thereof is currently under assessment. The environmental strategy includes a focus on climate change; more detailed information is expected by 2020.		Principle 7 Criteria 10	Mitigation and adaptations to climate change	13.- Climate action	
201-3 Defined benefit plan obligations and other retirement plans	209		Yes		Work conditions and social protection		
201-4 Financial assistance received from government	210				Responsible political participation		
Reserves							
GRI 103: Management Approach 2016							
103-1 Explanation of the material topic and its Boundary	201						
103-2 The management approach and its components	201						
103-3 Evaluation of the management approach	201						
OG-1 Volume and characteristics of production and identified reserves estimate	137, 143						
Indirect economic impacts							
GRI 103: Management Approach 2016							
103-1 Explanation of the material topic and its Boundary	201						

General Content	Page/ Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)
103-2 The management approach and its components	201					
103-3 Evaluation of the management approach	201					
GRI 203: Indirect Economic Impacts 2016						
203-1 Infrastructure investments and services supported	256, 271, 274					
203-2 Significant indirect economic impacts	257, 260, 261, 264, 265, 266, 267				Economic, social and cultural rights. Active participation of the community. Education and culture. Creation of employment and development of skills. Development and access to technology. Generation of wealth and income. Social investment	2.- Zero hunger 5.- Gender equality 7. Accessible and non-polluting energy 9. Industry, innovation and infrastructure 11.- Sustainable cities and communities
Acquisition policies						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	184					
103-2 The management approach and its components	184					
103-3 Evaluation of the management approach	185					
GRI 204: Procurement Practices 2016						
204-1 Proportion of spending on local suppliers	187			Principle 6	Promote social responsibility in the value chain. Employment relations and skill development. Income and wealth generation	1.- End to poverty 5.- Gender equality 8.- Decent work and economic growth 12.- Responsible production and consumption
Anti-corruption						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	57		Yes			
103-2 The management approach and its components	57		Yes			

General Content	Page/ Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)
103-3 Evaluation of the management approach	57		Yes			

GRI 205: Anti-corruption 2016

205-1 Operations assessed for risks related to corruption	68, 72		Yes			
205-2 Communication and training about anti-corruption policies and procedures	68, 78, 81		Yes			
205-3 Confirmed incidents of corruption and actions taken	72		Yes			

Enviromental Dimension

Content by Topic	Page / Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)
GRI 301: Materiales						
301-1 Materials used by weight or volume		Not actually it has information, it will start to implement in the year 2020				
301-2 Recycled input materials used						
301-3 Reclaimed products and their packaging materials						

Energy

GRI 103: Management Approach 2016

103-1 Explanation of the material topic and its Boundary	354		Yes			
103-2 The management approach and its components	354		Yes			
103-3 Evaluation of the management approach	354		Yes			

GRI 302: Energy 2016

302-1 Energy consumption within the organization	356, 357, 358		Yes	Principle 8, 9	Pollution prevention. Sustainable use of resources. Mitigation and adaptations to climate change	7. Accessible and non-polluting energy 8.- Decent work and economic growth 12.- Responsible production and consumptions 13.- Climate action
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General Content	Page/ Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)
302-2 Energy consumption outside of the organization	356, 357		Yes	Principle 8, 9	Pollution prevention. Sustainable use of resources.	7. Accessible and non-polluting energy 8.- Decent work and economic growth 12.- Responsible production and consumptions 13.- Climate action
302-3 Energy intensity	359		Yes	Principle 8, 9	Sustainable use of resources.	7. Accessible and non-polluting energy 12.- Responsible production and consumption 13.- Climate action
302-4 Reduction of energy consumption	359		Yes	Principle 8, 9	Sustainable use of resources	7. Accessible and non-polluting energy 8.- Decent work and economic growth 12.- Responsible production and consumption 13.- Climate action
302-5 Reductions in energy requirements of products and services		Not applicable. Ecopetrol as such has no energy requirements	Yes	Principle 8, 9	Sustainable use of resources	7. Accessible and non-polluting energy 8.- Decent work and economic growth 12.- Responsible production and consumption 13.- Climate action
Research and development investment in renewable energies						
OG-2 Total expenses in research and development of renewable energies	361, 387					
Renewable energy amount						
OG-3 Total amount of renewable energy generated by source	361		Yes			
Water						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	316		Yes			
103-2 The management approach and its components	316		Yes			
103-3 Evaluation of the management approach	316		Yes			

General Content	Page/ Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)
GRI 303: Water 2016						
303-1 Water withdrawal by source	319		Yes			
303-2 Water sources significantly affected by water extraction	319, 320		Yes			
303-3 Recycled and reused water	320		Yes			
Emissions						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	330			Principle 8, 9	Sustainable use of resources	6.- Clean water and sanitation
103-2 The management approach and its components	330			Principle 8, 9	Sustainable use of resources	6.- Clean water and sanitation
103-3 Evaluation of the management approach	330			Principle 8, 9	Pollution prevention. Sustainable use of resources	6.- Clean water and sanitation 8.- Decent work and economic growth
GRI 305: Emissions 2016						
305-1 Direct (Scope 1) GHG emissions	334			Principle 7, 8	Mitigation and adaptations to climate change	3.- Health and wellbeing 13.- Climate action 15.- Life of land ecosystems
305-2 Energy indirect (Scope 2) GHG emissions	334, 338			Principle 7, 8	Mitigation and adaptations to climate change	3.- Health and wellbeing 13.- Climate action 15.- Life of land ecosystems
305-3 Other indirect (Scope 3) GHG emissions		Not applicable. Ecopetrol does not foresee reporting GHG emissions (Scope 3)				
305-4 GHG emissions intensity	338			Principle 7, 8	Mitigation and adaptations to climate change	13.- Climate action 15.- Life of land ecosystems
305-5 Reduction of GHG emissions	314, 315, 341			Principle 7, 8	Mitigation and adaptations to climate change	13.- Climate action 15.- Life of land ecosystems
305-6 Emissions of ozone-depleting substances (ODS)	339, 383			Principle 7, 8	Pollution prevention	3.- Health and wellbeing

406

General Content	Page/ Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)
305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	340			Principle 7, 8	Pollution prevention	3.- Health and wellbeing 15.- Life of land ecosystems
Benzene, Lead and Sulfur						
OG – 8 Benzene, Lead and Sulfur content in refined fuels	348, 349					
Biofuels produced, bought and sold						
OG – 14 Volume of biofuels produced, bought and sold	353					
Effluents and residues						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	376		Yes			
103-2 The management approach and its components	376		Yes			
103-3 Evaluation of the management approach	376		Yes			
GRI 306: Effluents and Waste 2016						
306-1 Water discharge by quality and destination	322, 326		Yes	Principle 7, 8	Pollution prevention	3.- Health and wellbeing 6.- Clean water and sanitation 12.- Responsible production and consumption 14.- Underwater life
306-2 Waste by type and disposal method	379, 380		Yes	Principle 7, 8	Pollution prevention	3.- Health and wellbeing 6.- Clean water and sanitation 12.- Responsible production and consumption
306-3 Significant spills	314, 385		Yes	Principle 7	Pollution prevention	3.- Health and wellbeing 12.- Responsible production and consumption 14.- Underwater life 15.- Life of land ecosystems

General Content	Page/ Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)
306-4 Transport of hazardous waste	382					
306-5 Water bodies affected by water discharges and/or runoff	320, 325, 385		Yes	Principle 8, 9	Sustainable use of resources Protection of the environment, biodiversity and natural habitat restoration.	6.- Clean water and sanitation 14.- Underwater life 15.- Life of land ecosystems
Drilling residues						
OG-7 Quantity of drilling residues (muds and residues derived from drilling)	381		Yes			
Water from formations or sources						
OG-5 Volume of water formations or source	320, 323		Yes			
Volume of burned and vented hydrocarbon						
OG-6 Volume of burned and vented hydrocarbons as part or primary operations	335, 342		Yes			
Environmental compliance						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	388		Yes			
103-2 The management approach and its components	388		Yes			
103-3 Evaluation of the management approach	388		Yes			
GRI 307: Environmental Compliance 2016						
307-1 Non-compliance with environmental laws and regulations	269, 395		Yes		Pollution prevention	16.- Peace, justice and solid institutions
GRI 308: Supplier Environmental Assessment 2016						
308-1 New suppliers that were screened using environmental criteria		Not actually it has information, it will start to implement in the year 2020				
308-2 Negative environmental impacts in the supply chain and actions taken						

General Content	Page/ Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)
Social Dimension						
Employment						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	221					
103-2 The management approach and its components	221					
103-3 Evaluation of the management approach	221					
GRI 401: Employment 2016						
401-1 New worker hires and worker turnover	222, 227, 228 Information not available. Information by sex will be available for new hirings and personnel rotation by 2020			Principle 6	Work and labor relations	5.- Gender equality 8.- Decent work and economic growth
401-2 Benefits provided to full-time workers that are not provided to temporary or part-time workers	233				Work and labor relations Work conditions and social protection	8.- Decent work and economic growth
401-3 Parental leave	236				Work conditions and social protection	5.- Gender equality 8.- Decent work and economic growth
GRI 402: Labor/management relations 2016						
402-1 Minimum notice periods regarding operational changes	300					
Occupational health and safety						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	166		Yes			
103-2 The management approach and its components	166		Yes			
103-3 Evaluation of the management approach	166		Yes			
GRI 403: Occupational Health and Safety 2016						

General Content	Page/ Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)
403-1 Worker representation on formal joint management-worker health and safety committees	174		Yes	Principle 3	Health and safety at work	8.- Decent work and economic growth
403-2 Types of accidents and frequency rates, work-related illnesses, days lost, absenteeism, number of deaths due to labor accident or work-related illness	170, 171 La información por región se contará en el año 2020		Yes		Health and safety at work	3.- Health and wellbeing 8.- Decent work and economic growth
403-3 Workers with high incidence or high risk of activity-related illness	176, 177		Yes		Health and safety at work	3.- Health and wellbeing 8.- Decent work and economic growth
403-4 Health safety issues addresses in formal agreement with unions	299		Yes	Principle 3	Health and safety at work	8.- Decent work and economic growth
Process safety						
103-1 Explanation of the material topic and its Boundary	166					
103-2 The management approach and its components	166					
103-3 Evaluation of the management approach	166					
OG-13 Number of process safety incidents and events, by type of activity	149, 181					
Training and education						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	238					
103-2 The management approach and its components	238					
103-3 Evaluation of the management approach	241					
GRI 404: Training and Education 2016						
404-1 Average hours of training per year per employee	238				Human development and training in the workplace	4.- Quality education 5.- Gender equality 8.- Decent work and economic growth
404-2 Programs for upgrading employee skills and transition assistance programs	247				Human development and training in the workplace	8.- Decent work and economic growth
404-3 Percentage of employees receiving regular performance and career development reviews	244				Human development and training in the workplace	5.- Gender equality 8.- Decent work and economic growth

General Content	Page/ Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)
Diversity and equal opportunities						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	285					
103-2 The management approach and its components	285					
103-3 Evaluation of the management approach	285					
GRI 405: Diversity and Equal Opportunity 2016						
405-1 Diversity of governance bodies and employees	222			Principle 1, 6	Discrimination and vulnerable groups. Fundamental rights and principles in the workplace. Work and labor relations	5.- Gender equality 8.- Decent work and economic growth
405-2 Ratio of basic salary and remuneration of women to men	231			Principle 1, 6	Discrimination and vulnerable groups. Fundamental rights and principles in the workplace. Work and labor relations. Work conditions and social protection	8.- Decent work and economic growth 10.- Reducing equality
Non-discrimination						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	227		Yes			
103-2 The management approach and its components	227		Yes			
103-3 Evaluation of the management approach	227		Yes			
GRI 406: Non-discrimination 2016						
406-1 Incidents of discrimination and corrective actions taken	72, 227, 295, 300		Yes	Principle 1,2, 6	Avoid complicity. Claim resolution. Discrimination and vulnerable groups. Fundamental rights and principles in the workplace. Work and labor relations.	5.- Gender equality 8.- Decent work and economic growth 16.- Peace, justice and solid institutions

General Content	Page/ Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)
Freedom of association and collective bargaining						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	297		Yes			
103-2 The management approach and its components	297		Yes			
103-3 Evaluation of the management approach	297		Yes			
GRI 407: Freedom of Association and Collective Bargaining 2016						
407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	297		Yes	Principle 1, 2, 3	Due diligence. Human rights risk situations. Avoid complicity. Civil and political rights. Fundamental rights and principles in the workplace. Work and labor relations. Social discourse	8.- Decent work and economic growth
Child labor						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	305					
103-2 The management approach and its components	305					
103-3 Evaluation of the management approach	305					
GRI 408: Child Labor 2016						
408-1 Operations and suppliers at significant risk for incidents of child labor	305			Principle 1,2, 5	Due diligence Human rights risk situations. Avoid complicity. Discrimination and vulnerable groups Fundamental rights and principles in the workplace.	8.- Decent work and economic growth 16.- Peace, justice and solid institutions

General Content	Page/ Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)
Forced Labor						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	308					
103-2 The management approach and its components	308					
103-3 Evaluation of the management approach	308					
GRI 409: Forced or Compulsory Labor						
409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	308			Principle 1, 2, 4	Due diligence Human rights risk situations. Avoid complicity. Discrimination and vulnerable groups Fundamental rights and principles in the workplace.	8.- Decent work and economic growth
Security Practices						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	307					
103-2 The management approach and its components	307					
103-3 Evaluation of the management approach	307					
GRI 410: Security Practices 2016						
410-1 Security personnel trained in human rights policies or procedures	307			Principle 1, 2	Avoid complicity. Work and labor relations. Promote social responsibility in the value chain.	16.- Peace, justice and solid institutions
Rights of the Indigenous peoples						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	291					

General Content	Page/ Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)
103-2 The management approach and its components	291					
103-3 Evaluation of the management approach	291					
GRI 411: Rights of Indigenous Peoples 2016						
411-1 Incidents of violations involving rights of indigenous peoples	295			Principle 1, 2	Claim resolution. Civil and political rights. Respect for property rights.	2.- Zero hunger
Presence of indigenous peoples						
OG-9 Operations in sites with presence of indigenous communities, or in adjacent areas, affected by the activities; percentage of these sites that have specific participation strategies	291					
Human rights assessment						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	278					
103-2 The management approach and its components	278					
103-3 Evaluation of the management approach	278					
GRI 412: Human Rights Assessment 2016						
412-1 Operations that have been subject to human rights reviews or impact assessments	281, 282			Principle 1, 2	Human rights. Due diligence Human rights risk situations.	
412-2 Employee training on human rights policies or procedures	306, 307, 308		Si	Principle 1, 2	Due diligence Avoid complicity. Promote social responsibility in the value chain.	
412-3 Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	282, 307,			Principle 1, 2	Avoid complicity.	

General Content	Page/ Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)
Local Community						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	249					
103-2 The management approach and its components	249					
103-3 Evaluation of the management approach	249					
GRI 413: Local Communities 2016						
413-1 Operations with local community engagement, impact assessments, and development programs	256, 270, 291				Economic, social and cultural rights. Employment relations and skill development. Income and wealth generation. Respect to property rights.	
413-2 Operations with significant actual and potential negative impacts on local communities	269, 275, 276				Economic, social and cultural rights Pollution prevention. Protection of the environment, biodiversity and natural habitat restoration. Active participation and community development	1.- End to poverty 2.- Zero hunger
Number of litigations with local communities and indigenous communities						
103-1 Explanation of the material topic and its Boundary	291					
103-2 The management approach and its components	291					
103-3 Evaluation of the management approach	291					
OG- 10 Number and description of significant litigations with local communities and indigenous communities	293, 294					

General Content	Page/ Comment	Omission	Verification	Global Compact	ISO26000	Sustainable Development Goals (SDG)
Voluntary resettlement						
103-1 Explanation of the material topic and its Boundary	249					
103-2 The management approach and its components	249					
103-3 Evaluation of the management approach	249					
Regulatory socio-economic compliance						
GRI 103: Management Approach 2016						
103-1 Explanation of the material topic and its Boundary	217					
103-2 The management approach and its components	217					
103-3 Evaluation of the management approach	217					
GRI 419: Socioeconomic Compliance 2016						
419-1 Non-compliance with laws and regulations in the social and economic area	215, 216, 395				Respect for property rights. Generation of wealth and income	16.- Peace, justice and solid institutions
GRI 103: Enfoque de gestión 2016						
103-1 Explanation of the material topic and its Boundary	384					
103-2 The management approach and its components	384					
103-3 Evaluation of the management approach	384					
Dismantled sites						
OG-11 Sites that have been dismantled on the dismantling is underway	384					



CERTIFICATIONS



Bogotá D.C. marzo 26, 2020

Mr.
FELIPE BAYÓN PARDO
CEO
Ecopetrol S.A.
Bogotá D.C.

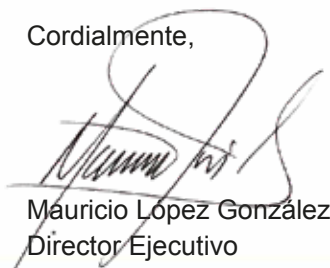
Below, the Global Compact Network Colombia presents its view resulting from reading and analyzing ECOPETROL's 2019 Sustainable Management Integrated Report, in accordance with the advanced COP criteria. Advanced COP is a reporting progress policy that reviews the adoption of and commitment with the following aspects, assessed by twenty-one criteria:

1. The 10 Principles' implementation in the Strategies and Operations
2. Strong Human Rights management policies and procedures
3. Strong Workforce management policies and procedures
4. Strong Environmental management policies and procedures
5. Strong Anti-Corruption management policies and procedures
6. Taking actions to support the widest reaching UN objectives and issues
7. Corporate Sustainability Leadership and Governance

The report's content demonstrates a 99% progress according to the advanced COP criteria analysis methodology. The instrument used to assess indicators and the thematic assessment documents are attached to this letter.

The Colombian Global Compact Local Network strongly acknowledges ECOPETROL S.A. for its management and commitment with the UN Global Compact's principles and objectives in its operations and with its stakeholders.
Sincerely,

Cordialmente,



Mauricio López González
Director Ejecutivo

Assurance Statement

Adherence to GRI Standards and AA1000 Principles



Independent Assurance Report

BSD Consulting has conducted, for the ninth consecutive time, the Independent Assurance Statement for Ecopetrol S.A.'s Integrated Sustainable Management Report, corresponding to 2019 period. The aim of the assurance is to provide an independent opinion on:

- The stakeholder engagement process and the response given through the report.
- The adherence to the AA1000AP 2018 principles.
- The application of the GRI Reporting Principles for defining report content and quality.
- The Standards compliance according to the in accordance claim.

Independency

BSD Consulting works independently and ensures that no member holds consulting contracts or other commercial ties with Ecopetrol S.A.

Proficiency

BSD Consulting is a global consulting company that provides knowledge and solutions for sustainable development. Has 20 years of experience preparing sustainability reports, implementing training courses and conducting external assurance. This assurance has been conducted by professionals with experience and training in sustainability reporting, stakeholder engagement and external assurance.

Ecopetrol S.A. and BSD Consulting responsibilities

The elaboration of the report, stakeholder engagement and materiality definition process are Ecopetrol S.A.'s responsibility. The report's evaluation based on AA1000AP principles and the GRI Standards, as well as the in accordance claim verification, are BSD Consulting's responsibility.

Scope and limitations

The scope of this assurance corresponds to the nonfinancial information of the Ecopetrol S.A.'s Integrated Sustainable Management Report 2019. The assurance process was conducted in accordance with the principles of Inclusivity, Materiality, Responsiveness and Impact of AA1000AP 2018, Type 1 and moderate level; as well as the 2016 GRI Reporting Principles for defining report content and quality for the general and topic-specific Standards. For this, BSD uses the AA1000AS 2008 standard, with the 2018 Annex, as an assessment reference. Likewise, is based on the principles and guidelines of the ISAE3000 Standard.

Methodology

BSD Consulting assurance process includes:

- Review of the materiality definition process.
- Review of internal documents.
- Interviews with key area managers to understand the sustainability context and verify the reporting of material topics.

- Review of the quality and reliability of the selected information, through interviews at the Bogota offices.
- Review of the sustainability issues of the industry and the company that had resonance in the media and those that are relevant to the specific context of sustainability.
- Critical reading of the final draft of the report and request for adjustments and clarifications.

General Findings and Conclusions

BSD Consulting made a critical reviewing of the Integrated Sustainable Report Management of Ecopetrol S.A. 2019, concluding that it complies with the Reporting Principles for defining report content and quality. There was no evidence that could suggest that the information and data contained in this report, did not come from reliable sources or management systems, nor that the information reported led the reader to misleading or erroneous conclusions about its performance.

The following are particular observations and opportunities for improvement in the application of the principles.

External Assurance AA1000 Principles and Global Reporting Initiative (GRI) Principles

Stakeholder Inclusiveness

The stakeholder engagement is framed in the Corporate Responsibility Model, based on the knowledge of the stakeholders and the engagement and involvement mechanisms, as input to guide the business management.

As in previous years, Ecopetrol conducted the Stakeholders Perception and Expectations Survey in order to identify opportunities for improve relationships and the perception of the corporate attributes aligned with the Ecopetrol Decalogue (top ten reasons for the higher purpose of the business mission).

3,753 surveys were conducted, covering seven Ecopetrol's stakeholders, resulting in a better perception of the CSR model in 4 of the 7 stakeholders: employees, customers, suppliers, society, community and National State.

Sustainability Context

The social, environmental and economic performance of the organization is presented within the context of the broader sustainable development for the sector, the region and the country.

Materiality

For the 2019 reporting period, there were no significant changes regarding the prioritization of material topics and their boundaries, maintaining the 11 topics relevant, according to the materiality analysis updated in 2017.

This analysis is based on the Stakeholders Consultation on Perception and Expectations, the strategy and business plan for 2015 – 2020, and the information on standards and relevant initiatives for Ecopetrol and the Oil & Gas sector.

Assurance Statement

Adherence to GRI Standards and AA1000 Principles



Completeness

In the 2019 report, the 11 material topics are reported in a broad and in-depth way, providing reasonable and precise information about their context, management and performance.

Responsiveness

During the 2019 period, adaptation efforts in Ecopetrol's operations are highlighted, towards the new scenarios and market demands for the Oil & Gas sector, especially with actions to face the Climate Change.

The energy transition stands out with the construction and start-up of two self-generation parks of 21MWp and 50 MWp; as well as the emissions reduction and decarbonisation, reaching a reduction of 1.6 million tons due to energy efficiency, reduction of operational burning routines and the use of renewable energy.

Also, throughout the report, responses are provided to the information requirements on the management of all material topics, as well as the initiatives within its strategy.

Impact

For the 2019 period, Ecopetrol discloses its Environmental Framework with five strategic lines on ecosystem management: Water, Energy, Climate Change, Biodiversity and Circular Economy. Additionally, it reports the management of its risks based on COSO 2013 and COSO ERM 2017 standards, developed on an annual cycle of risks (identification, evaluation, treatment-monitoring and communication).

However, a more specific definition of impact indicators is recommended, since the currently description is mainly about the contribution of its management.

Quality

The information in the report is adequate in accordance with the GRI Standards, presented under criteria of balance (achievements and challenges), clarity and accuracy (accessible and understandable), reliability (from credible management systems), timeliness and comparability (quantitative of various periods).

General and topic-specific disclosures

BSD Consulting reviewed in detail all the contents of the report, finding that:

Ecopetrol reports all the general disclosures corresponding to the GRI 102 Standard: General Contents (2016).

All management approaches of material topics are reported, as stated in GRI Standard 103 (2016), as well as its correspondent topic-specific disclosures, and the Oil & Gas Sector Guide contents.

Regarding the information presented, it is not clear the difference between the topic-specific disclosures and the additional topics considered relevant for Ecopetrol. For the next period, it is recommended to specifically indicate such relevant issues specific to the company.

Although the report is defined as integrated, there is no evidence of the articulation of the financial implications with the potential risks, typically on the environmental

issue. It is recommended to implement indicators for the next period.

The following disclosures are not reported as required by the GRI Standards. In the GRI Content Index, Ecopetrol includes an explanation or its reasons for omission:

201-2, 301-1, 301-2, 301-3, 302-5, 305-3, 308-1, 308-2

Additionally, BSD verified the traceability and quality of the information of the disclosures mentioned below, through interviews and review of supporting documents:

GRI disclosures	
Economic performance	201-3
Anti-corruption	205-1, 205-2, 205-3
Energy	302-1, 302-2, 302-3, 302-4, 302-5, OG – 3
Water	303-1, 303-2, 303-3
Effluents and waste	306-1, 306-2, 306-3, 306-5
Environmental compliance	307-1
Labor/Management Relations	402-1
Occupational Health and Safety	403-1, 403-2, 403-3, 403-4
Non-discrimination	406-1
Freedom of Association and Collective Bargaining	407-1

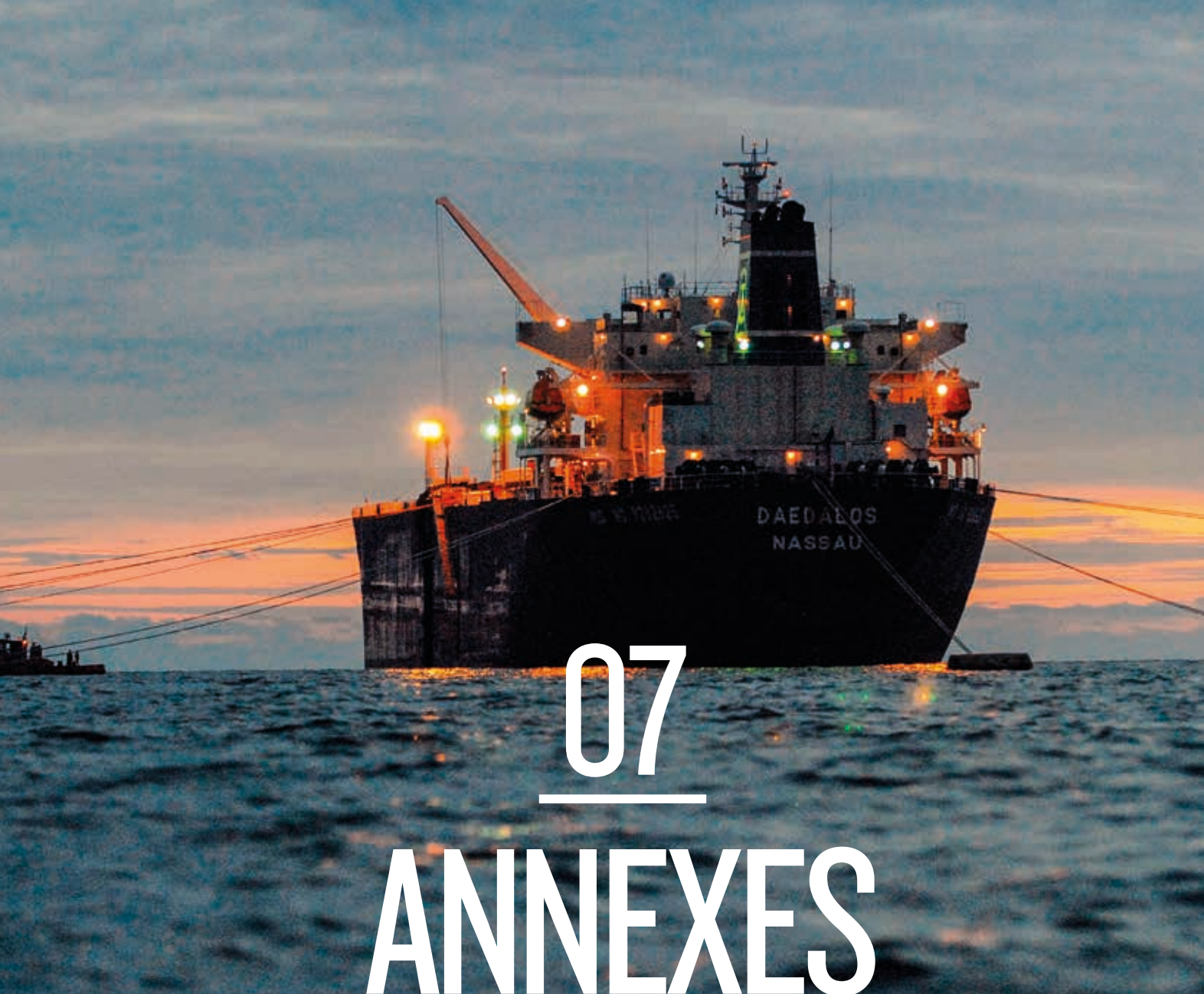
In accordance option

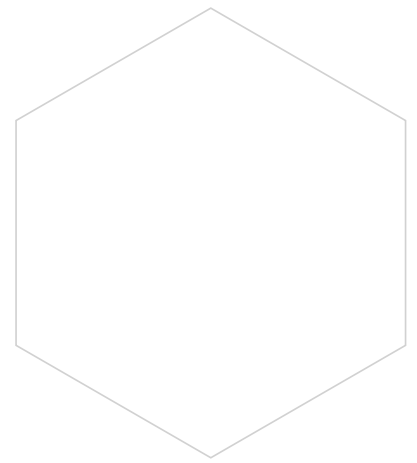
In line with the above, BSD Consulting states that Ecopetrol S.A.'s Integrated Sustainable Management Report 2019, meets the criteria of the "Comprehensive option" in accordance with the GRI Standards.


Marcela Romero Merino

Managing Director
BSD Consulting Colombia

Assurance support:
Jimena Lucio Giraldo
Consultant. BSD Consulting Colombia.





BUSINESS GROUP SPECIAL REPORT

In accordance with the provisions set forth in the Corporate Bylaws, the Board of Directors is responsible for ensuring that the economic relations of Ecopetrol S.A. with its subordinates (among others) are carried out according to the limitations and conditions established by law, regulations on the prevention, management and resolution of conflicts of interest and, in all cases, under market conditions.

The transfer price guidelines between Ecopetrol S.A.'s economic partners establish the parameters that must be taken into account when determining the compensation for goods or services operations carried out between Ecopetrol S.A. and its subordinates, in such a way that these are consistent with those established with or between independent third parties.

With regard to the special report to which Article 29 of Law 222 of 1995 refers, it states that transactions with related parties are duly disclosed in the notes to the 2019 financial statements. Likewise, the President of Ecopetrol S.A. presents a biannual report to the Board of Directors of the Company on the operations, agreements or contracts that the Company has entered into with its subordinates within said period, specifying their conditions, which in any case correspond to those of the market.

Therefore, economic relations established during 2019 with subordinated companies, carried out according to the parameters previously explained, are detailed below.



01

MAJOR OPERATIONS
WITH RELATED PARTIES**Ecopetrol S.A.**

Notes to the individual financial statements
December 31, 2019

(Figures expressed in millions of Colombian pesos, unless otherwise noted)

RELATED PARTIES

1.1

SUBSIDIARIES, ASSOCIATES
AND JOINT VENTURES**Subsidiaries, associates and joint ventures**

The balances with subsidiaries, associates and joint ventures as of December 31, 2019 are as follows:

	Accounts receivable	Accounts receivable-Loans	Other financial assets	Other assets	Accounts payable	Other liabilities
Subsidiaries						
Refinería de Cartagena S.A.S.	1,482,845	-	-	-	179,054	26,713
Cenit Transporte y Logística de Hidrocarburos S.A.S	84,683	-	-	15,893	259,460	11,139
Oleoducto de los Llanos Orientales S.A.	24,707	-	-	-	107,244	-
Oleoducto Central S.A.	17,124	-	-	9,294	404,561	3,923
Inversiones de Gases de Colombia S.A. y subsidiarias	12,485	-	-	-	1,006	-
Esenttia Masterbatch Ltda	8,061	-	-	-	-	-
Oleoducto Bicentenario de Colombia S.A.S.	3,180	-	-	248,822	17,203	-
Oleoducto de Colombia S.A.	2,798	-	-	42,508	40,927	32,309
Esenttia S.A.	2,695	-	-	-	-	-
Hocol S.A.	1,908	-	-	5,136	76,560	43
Ecopetrol Energía S.A.S. E.S.P.	199	-	-	-	80,728	-
Ecopetrol Costa Afuera	303	-	-	-	-	-

<i>Black Gold Limited</i>	96	-	-	-	-	-
<i>Hocol Petroleum Limited</i>	134	-	-	-	-	-
<i>Andean Chemicals Limited</i>	136	-	-	-	-	-
Ecopetrol Capital AG	324	-	967,555	-	-	-
Ecopetrol America LLC	338	-	-	-	7,048	-
Bioenergy S.A.	356	-	-	-	-	48
Ecopetrol del Perú	11	-	-	-	-	-

Joint Ventures

<i>Equion Energía Limited</i>	24,010	-	-	55,068	153,462	794
<i>Ecodiesel Colombia S.A.</i>	2,116	-	-	-	29,447	1
<i>Offshore International Group Inc (1)</i>	-	93,657	-	-	-	-

Associates

Serviport S.A.	-	-	-	-	4,668	-
Saldo al 31 de diciembre de 2019	1,668,509	93,657	967,555	376,721	1,361,368	74,970
Corriente	1,668,509	-	967,555	180,411	1,361,368	74,970
No corriente	-	93,657	-	196,310	-	-
	1,668,509	93,657	967,555	376,721	1,361,368	74,970
	(Note7)	(Note7)	(Note9)	(Note11)	(Note18)	

For comparative purposes, the balances with subsidiaries, associates and joint ventures as of December 31, 2018 are detailed below:

	Accounts receivable	Accounts receivable-Loans	Other financial assets	Other assets	Accounts payable	Other liabilities
Subsidiaries						
Refinería de Cartagena S.A.S.	1,557,179	-	-	-	71,399	566
Cenit Transporte y Logística de Hidrocarburos S.A.S.	194,123	-	-	20,203	271,802	-
Esenttia S.A.	10,907	-	-	-	-	-
Esenttia Masterbatch Ltda	5,501	-	-	-	-	-
Oleoducto Central S.A.	5,356	-	-	7,191	446,518	-
Oleoducto Bicentenario de Colombia S.A.S.	3,268	-	-	245,101	83,173	-
Oleoducto de los Llanos Orientales S.A.	2,734	-	-	-	87,916	-
Oleoducto de Colombia S.A.	2,482	-	-	28,281	49,198	-
Hocol S.A.	1,027	-	-	2,045	35,762	4,187

Ecopetrol Oleo & Gas do Brasil Ltda	752	-	-	-	-	-
Ecopetrol Capital AG	473	-	1,452,206	-	-	-
<i>Black Gold Limited</i>	356	-	-	-	-	-
Bioenergy S.A	343	-	-	-	-	-
Ecopetrol América LLC	296	-	-	-	6,627	-
<i>Andean Chemicals Limited</i>	84	-	-	-	-	-
Ecopetrol Costa Afuera	73	-	-	-	52	-
<i>Hocol Petroleum Limited</i>	34	-	-	-	-	-
Ecopetrol <i>Global Energy</i> S.L.U.	8	-	-	-	-	-
Ecopetrol <i>Germany</i> GMBH	6	-	-	-	-	-
Joint Ventures						
Equion Energía <i>Limited</i>	21,814	-	-	17,722	86,803	67
Ecodiesel Colombia S.A.	522	-	-	-	23,857	1
<i>Offshore International Group Inc. (1)</i>	-	117,824	-	-	-	-
Associates						
Serviport S.A.	-	-	-	-	5,482	-
Balance as of December 31, 2018	1,807,338	117,824	1,452,206	320,543	1,168,589	4,821
Current	1,807,338	-	1,452,206	124,233	1,168,589	4,821
Non-current	-	117,824	-	196,310	-	-
	1,807,338	117,824	1,452,206	320,543	1,168,589	4,821

Accounts receivable - Loans:

- (1) Savia Perú S.A. (subsidiary of Offshore International Group Inc.): Loan granted by Ecopetrol S.A. for USD \$57 million in 2016, with an interest rate of 4.99% E.A. payable semi-annually as of 2017 and maturing in 2021. The nominal value balance of this loan as of December 31, 2019 is USD \$28 million (2018 - USD \$35 million). On December 11, 2019, Savia was granted a credit amendment by Ecopetrol S.A. and Korea National Oil

Corporation ("KNOC") related to principal payments due on December 16, 2019 for USD \$7 million, on June 15, 2020 for USD \$7 million and on December 15, 2020 for USD \$7 million, whereby the debtor may pay said amounts on the maturity date of the loan, that is, on February 19, 2021, at which time they will make the final payment for USD \$28 million.

Pending amounts are not guaranteed nor will they be settled in cash. No expense has been recognized in the current period or in prior periods with respect to unrecoverable debts or doubtful accounts related to amounts owed by related parties.

The main transactions with related parties for the periods ended December 31, 2019 (compared to 2018) are detailed below:

	2019		2018	
	Revenue	Costs and expenses	Revenue	Costs and expenses
Subsidiaries				
Refinería de Cartagena S.A.S.	9,299,448	1,921,344	8,469,775	3,025,999
Ecopetrol Capital AG	1,099,164	1,040,144	100,859	42,718
Cenit Transporte y Logística de Hidrocarburos S.A.S.	417,183	3,108,557	488,834	2,717,819
Esenttia <i>Masterbatch</i> Ltda	84,106	-	131,032	-
Esenttia S.A.	25,975	-	43,168	-
Oleoducto Central S.A.	23,360	3,936,684	25,598	3,115,872
Inversiones de Gases de Colombia S.A. - Invercolsa S.A. y subsidiarias	12,967	518	-	-
Oleoducto de Colombia S.A.	11,176	371,564	13,171	325,212
Hocol S.A.	8,600	452,355	3,811	458,675
Oleoducto Bicentenario de Colombia S.A.S.	7,633	875,761	8,507	817,864
Oleoducto de los Llanos Orientales S.A.	6,488	843,019	6,900	761,290
Ecopetrol Costa Afuera	2,813	-	3,775	-
Ecopetrol America LLC	1,479	22,424	896	47,995
Bioenergy S.A.	1,544	-	793	-
<i>Black Gold Limited</i>	1,312	-	1,153	-
Ecopetrol Energía S.A.S. E.S.P.	822	378,829	-	-
Ecopetrol Oleo & Gas do Brasil Ltda	397	-	1,146	-
<i>Andean Chemicals Limited</i>	257	-	250	-
<i>Hocol Petroleum Limited</i>	116	-	781	-
Ecopetrol <i>Germany</i> GMBH	5	-	22	-
Ecopetrol <i>Global Energy</i> S.L.U.	-	-	20	-
Ecopetrol del Perú S.A.	10	-	-	-
Ecopetrol <i>Permian</i> LLC	4,586	-	-	-
Joint Ventures				
Equion Energía <i>Limited</i>	50,866	568,696	47,164	846,030
Ecodiesel Colombia S.A.	8,614	280,649	6,860	267,498
<i>Offshore International Group Inc</i>	3,245	-	2,386	-
	11,072,166	13,800,544	9,356,901	12,426,972



Chichimene production field

BALANCES

The balances with associated companies and joint ventures as of December 31, 2019 are detailed below:

	Accounts receivables	Accounts receivables - Loans	Others assets	Accounts payable	Loans	Other liabilities
Joint Ventures						
Equion Energía Limited (2)	25,333	-	57,016	153,501	1,108,403	794
Ecodiesel Colombia S.A.	2,116	-	-	29,447	-	1
Offshore International Group Inc (1)	-	93,657	-	-	-	-
Associated						
Serviport S.A.	-	-	-	4,668	-	-
Balance as of December 31, 2019	27,449	93,657	57,016	187,616	1,108,403	795
Current	27,449	-	57,016	187,616	1,108,403	795
Non-current	-	93,657	-	-	-	-
	27,449	93,657	57,016	187,616	1,108,403	795

For comparative purposes, the balances with subsidiaries, associates and joint ventures as of December 31, 2018 are detailed below:

	Accounts receivables	Accounts receivables - Loans	Others assets	Accounts payable	Loans	Other liabilities
Joint Ventures						
<i>Equion Energia Limited</i>	22,958	-	19,214	87,079	855,135	67
<i>Ecodiesel Colombia S.A.</i>	522	-	-	23,857	-	1
<i>Offshore International Group Inc (1)</i>	-	117,824	-	-	-	-
Associates						
<i>Serviport S.A.</i>	-	-	-	5,482	-	-
Balance as of December 31, 2018	23.480	117.824	19.214	116.418	855.135	68
Current	23,480	-	19,214	116,418	855,135	68
Non-current	-	117,824	-	-	-	-
	23.480	117.824	19.214	116.418	855.135	68
	(Note 7)	(Note 7)	(Note 11)	(Note 20)	(Note 19)	

(1) Savia Perú S.A. (subsidiary of Offshore International Group Inc.): Loan granted by Ecopetrol S.A. for USD \$57 million in 2016, with an interest rate of 4.99% E.A. payable semi-annually as of 2017 and maturing in 2021. The nominal value balance of this loan as of December 31, 2019 is USD \$28 million (2018 - USD \$35 million). On December 11, 2019, Savia was granted a credit amendment by Ecopetrol S.A. and Korea National Oil Corporation ("KNOC") related to principal

payments due on December 16, 2019 for USD \$7 million, on June 15, 2020 for USD \$7 million and on December 15, 2020 for USD \$7 million, whereby the debtor may pay said amounts on the maturity date of the loan, that is, on February 19, 2021, at which time they will make the final payment for USD \$28 million.

(2) The interest rate of the loan with Capital AG is 2.37%.

Pending amounts are not guaranteed nor will they be settled in cash. No expense has been recognized in the current period or in prior periods with respect to unrecoverable debts or doubtful accounts related to amounts owed by related parties.

The main transactions with related parties for the periods ended December 31, 2019, 2018 and 2017 are detailed below:

	2019		2018		2017	
	Sales and services	Purchases of products and other	Sales and services	Purchases of products and other	Sales and services	Purchases of products and other
Joint Ventures						
Equión Energía <i>Limited</i>	317,382	569,105	67,002	846,284	425,881	598,636
Ecodiesel Colombia S.A.	8,614	280,649	6,860	267,498	6,583	259,269
<i>Offshore International Group Inc</i>	3,245	-	2,386	-	15,188	-
	329,241	849,754	76,248	1,113,782	447,652	857,905

02

MAIN CHANGES IN THE STRUCTURE OF THE ECOPETROL GROUP DURING 2019

As of December 31, 2019, the Ecopetrol Group had nine (9) affiliates and 23 subsidiaries. Currently, the Ecopetrol Group has companies with operations in Colombia, Brazil, Peru, the United States and Mexico.

During 2019, the changes in the corporate structure were due to: (i) the incorporation of two companies in the USA: Ecopetrol Permian LLC and Ecopetrol USA Inc.; (ii) the transformation of Ecopetrol America Inc.

to Ecopetrol America LLC; (iii) the creation of the companies in Mexico Kalixpan and Topili Servicios Administrativos S. de R.L. de C.V. and Kalixpan Servicios Técnicos S. de R.L. de C.V.; and, (iv) the disclosure of controlling interest over Inversiones de Gases de Colombia S.A. – Invercolsa, recognizing Ecopetrol as a majority shareholder, pursuant to the ruling issued by the Civil Chamber of the Supreme Court of Justice of October 30, 2019.

SHAREHOLDING INTEREST

Company	Shareholder	Number of shares (d)	Interest (%)	Indirect interest (%)	Direct interest (%)	Direct - indirect interest (%)
CONCENTRA INTELIGENCIA EN ENERGIA S.A.S. ("INTELIGENCIA EN ENERGIA")	Ecopetrol S.A.	84.000	4,761904762%			
	Equion Energía <i>Limited</i>	84.000	4,761904762%	2,42857%	4,76190%	7,19048%
	Otros Accionistas	1.596.000	90,476190476%			
	TOTAL	1.764.000	100,000000000%			
ECODIESEL COLOMBIA S.A.	Ecopetrol S.A.	10.500.000.000	50,000000000%			
	Otros Accionistas	10.500.000.000	50,000000000%	0,00000%	50,00000%	50,00000%
	TOTAL	21.000.000.000	100,000000000%			

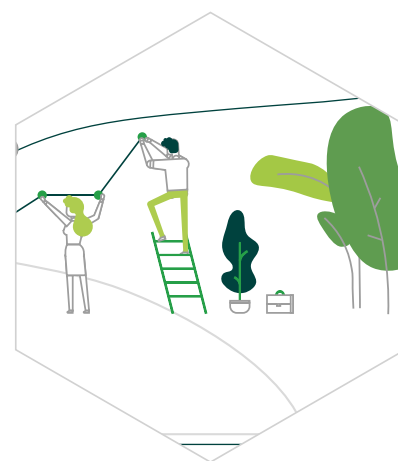
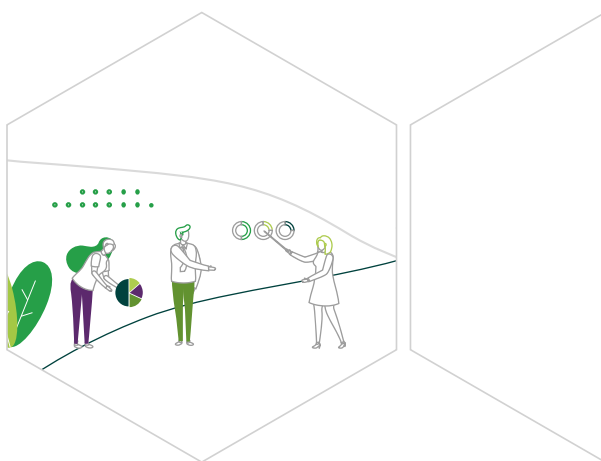
Company	Shareholder	Number of shares (d)	Interest (%)	Indirect interest (%)	Direct interest (%)	Direct - indirect interest (%)
OFFSHORE INTERNATIONAL GROUP INC.	Ecopetrol S.A	250	50,0000000000%			
	Korea National Oil Corporation -KNOC	250	50,0000000000%	0,00000%	50,00000%	50,00000%
	TOTAL	500	100,0000000000%			
SOCIEDAD PORTUARIA OLEFINAS Y DERIVADOS	Mexichem Resinas Color	350.000	50,0000000000%			
	Esenttia S.A.	349.992	49,9988571429%			
	Andean Chemicals Ltd.	4	0,0005714286%			
	Ecopetrol America LLC	2	0,0002857143%	50,00000%	0,00000%	50,00000%
	Ecopetrol Oleo e Gas do Brasil	2	0,0002857143%			
	Total	700.000	100,0000000000%			
SOCIEDAD COLOMBIANA DE SERVICIOS PORTUARIOS S.A. - Serviport S.A.	Operaciones Técnicas Marinas S.A.S.	60.840.000	50,7000000000%			
	Cenit Transporte y Logística de Hidrocarburos SAS	58.800.000	49,0000000000%	49,00000%	0,00000%	49,00000%
	Otros accionistas	360.000	0,3000000000%			
	TOTAL	120.000.000	100,0000000000%			
SOCIEDAD PORTUARIA DEL DIQUE	Esenttia Masterbatch Ltda.	200	0,5096839959%			
	Otros accionistas	39.040	99,4903160041%	0,50968%	0,00000%	0,50968%
	TOTAL	39.240	100,0000000000%			

Company	Shareholder	Number of shares (d)	Interest (%)	Indirect interest (%)	Direct interest (%)	Direct - indirect interest (%)
TRANSGAS DE OCCIDENTE S.A.	TCPL Marcali Company Limited	63.641.691	46,50000190700%			
	Colombia Pipelines Limited	27.372.771	20,00000131518%	10,20000%	0,00000%	10,20000%
	Otros accionistas	45.849.384	33,49999677782%			
	Total	136.863.846	100,0000000000%			
ZONA FRANCA DE CARTAGENA S.A.	Esenttia Masterbatch Ltda.	328	10,9993293092%			
	Otros accionistas	2.654	89,0006706908%	10,99933%	0,00000%	10,99933%
	TOTAL	2.982	100,0000000000%			

AFFILIATES

Company	Shareholder	Number of shares (d)	Interest (%)	Indirect interest (%)	Direct interest (%)	Direct - indirect interest (%)
ANDEAN CHEMICALS LIMITED	Ecopetrol S.A	645.707.273	100,0000000000%			
	TOTAL	645.707.273	100,0000000000%	0,00000%	100,00000%	100,00000%
BLACK GOLD RE LIMITED	Ecopetrol S.A	120.000	100,0000000000%			
	TOTAL	120.000	100,0000000000%	0,00000%	100,00000%	100,00000%
CENIT TRANSPORTE Y LOGÍSTICA DE HIDROCARBUROS S.A.S.	Ecopetrol S.A	167.775.741	100,0000000000%			
	TOTAL	167.775.741	100,0000000000%	0,00000%	100,00000%	100,00000%
ECOPETROL CAPITAL AG	Ecopetrol S.A	2.001.000	100,0000000000%			
	TOTAL	2.001.000	100,0000000000%	0,00000%	100,00000%	100,00000%
ECOPETROL GLOBAL ENERGY S.L.U.	Ecopetrol S.A	70151.927	100,0000000000%			
	TOTAL	70151.927	100,0000000000%	0,00000%	100,00000%	100,00000%

Company	Shareholder	Number of shares (d)	Interest (%)	Indirect interest (%)	Direct interest (%)	Direct - indirect interest (%)
EQUIÓN ENERGÍA LIMITED (a)	Ecopetrol S.A	114.836.072	51,00000014212%			
	Talisman Colombia Holdco Limited	110.332.696	48,99999985788%	0,00000%	51,00000%	51,00000%
	TOTAL	225.168.768	100,000000000%			
HOCOL PETROLEUM LIMITED	Ecopetrol S.A	17.126.358	100,0000000000%			
	TOTAL	17.126.358	100,0000000000%	0,00000%	100,00000%	100,00000%
INVERSIONES DE GASES DE COLOMBIA S.A. - Invercolsa S.A.	Ecopetrol S.A.	1.452.595.537	51,8784812194%			
	Inversiones Ecológicas S.A.S.	971.225.939	34,6866869357%			
	International Gas Supply Corp	338.528.244	12,0903105519%	0,00000%	51,87848%	51,87848%
	Others	37.646.546	1,3445212930%			
	TOTAL	2.799.996.266	100,0000000000%			
REFINERIA DE CARTAGENA S.A.	Ecopetrol S.A.	944.182.540	99,34008733637%			
	Andean Chemicals Ltd.	6.272.168	0,659912347996%			
	Ecopetrol Global Energy S.L.U.	1	0,000000105213%	0,65991%	99,34009%	100,00000%
	Essentia S.A.	1	0,000000105213%			
	Esenttia Masterbatch Ltda.	1	0,000000105213%			
	TOTAL	950.454.711	100,0000000000%			



SUBSIDIARIES

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Company	Shareholder	Number of shares (d)	Interest (%)	Indirect interest (%)	Direct interest (%)	Direct - indirect interest (%)
BIOENERGY S.A.S.	Andean Chemicals Ltd.	90.260.739	99,60965496363%	99,60966%	0,00000%	99,60966%
	Mitsubishi Corporation	353.706	0,390341725637%			
	Ecopetrol <i>Global Energy</i> S.L.U.	1	0,000001103577%			
	Esenttia <i>Masterbatch</i> Ltda.	1	0,000001103577%			
	Esenttia S.A.	1	0,000001103577%			
	TOTAL	90.614.448	100,000000000%			
BIOENERGY ZONA FRANCA S.A.S.	Bioenergy S.A.S	182.650.245	100,0000000000%	99,60966%	0,00000%	99,60966%
	TOTAL	182.650.245	100,000000000%			
COLOMBIA PIPELINES LIMITED	Equion Energía <i>Limited</i>	42.499.999	100,0000000000%	51,00000%	0,00000%	51,00000%
	TOTAL	42.499.999	100,000000000%			
ECOPETROL AMERICA LLC (c)	Ecopetrol USA INC	1	100,0000000000%	100,00000%	0,00000%	100,00000%
	TOTAL	1	100,000000000%			
ECOPETROL COSTA AFUERA COLOMBIA S.A.S.	<i>Hocol Petroleum Limited -HPL-</i>	2.305.000	100,0000000000%	100,00000%	0,00000%	100,00000%
	TOTAL	2.305.000	100,000000000%			
ECOPETROL DEL PERU S.A.	Ecopetrol <i>Global Energy</i> S.L.U.	125.562.388	99,99999920358%	100,00000%	0,00000%	100,00000%
	Ecopetrol America LLC	1	0,000000796417%			
	TOTAL	125.562.389	100,000000000%			

Company	Shareholder	Number of shares (d)	Interest (%)	Indirect interest (%)	Direct interest (%)	Direct - indirect interest (%)
ECOPETROL ENERGIA S.A.S ESP	Ecopetrol S.A	99	99,0000000000%	1,000000%	99,000000%	100,000000%
	Andean Chemicals Ltd	1	1,0000000000%			
	TOTAL	100	100,0000000000%			
ECOPETROL OLEO & GAS DO BRASIL LTDA.	<i>Ecopetrol Global Energy</i> S.L.U.	2.548.289.894	99,99999960758%	100,000000%	0,000000%	100,000000%
	Ecopetrol America LLC	10	0,000000392420%			
	TOTAL	2.548.289.904	100,0000000000%			
ECOPETROL PERMIAN LLC (c)	Ecopetrol USA Inc.	1	100,0000000000%	100,000000%	0,000000%	100,000000%
	TOTAL	1	100,0000000000%			
ECOPETROL USA INC	<i>Ecopetrol Global Energy</i> S.L.U.	1.000	100,0000000000%	100,000000%	0,000000%	100,000000%
	TOTAL	1.000	100,0000000000%			
ECP HIDROCARBUROS MEXICO	<i>Ecopetrol Global Energy</i> S.L.U.	1.197.116.732	99,999991647%	100,000000%	0,000000%	100,000000%
	Ecopetrol America LLC	100	0,0000008353%			
	TOTAL	1.197.116.832	100,0000000000%			
ECP OIL and GAS GERMANY GmbH (b)	<i>Ecopetrol Global Energy</i> S.L.U.	25.000	100,0000000000%	100,000000%	0,000000%	100,000000%
	TOTAL	25.000	100,0000000000%			
ESENTTIA MASTERBATCH LTDA - ESENTTIA MB LTDA.	Esenttia S.A.	100.512	99,90060827734%	100,000000%	0,000000%	100,000000%
	Andean Chemicals Ltd	100	0,099391722657%			
	TOTAL	100.612	100,0000000000%			

Company	Shareholder	Number of shares (d)	Interest (%)	Indirect interest (%)	Direct interest (%)	Direct - indirect interest (%)
ESENTTIA RESINAS DEL PERÚ SAC	Esenttia S.A.	4.303.499	99,9999767631%			
	Esenttia Masterbatch Ltda	1	0,0000232369%	100,00000%	0,00000%	100,00000%
	TOTAL	4.303.500	100,0000000000%			
ESSENTIA S.A.	Ecopetrol S.A	206.910.325	49,89999866417%			
	Andean Chemicals Ltd.	207.739.633	50,10000061232%			
	Ecopetrol del Perú S.A.	1	0,00000024117%			
	Ecopetrol Oleo e Gas do Brasil	1	0,00000024117%	50,10000%	49,90000%	100,00000%
	Ecopetrol America LLC	1	0,00000024117%			
	TOTAL	414.649.961	100,0000000000%			
HOCOL S.A. (a)	Hocol Petroleum Limited	102.570.935	100,0000000000%			
	TOTAL	102.570.935	100,0000000000%	100,00000%	0,00000%	100,00000%
KALIXPAN SERVICIOS TÉCNICOS S. de R.L. de C.V.	Hocol Petroleum Limited -HPL-	2.970	99,0000000000%			
	Andean Chemicals Ltd.	30	1,0000000000%	100,00000%	0,00000%	100,00000%
	TOTAL	3.000	100,0000000000%			
OLEODUCTO BICENTENARIO DE COLOMBIA S.A.S.	Cenit Transporte y Logística de Hidrocarburos S.A.S.	362.051	55,00221800902%			
	Hocol S.A.	6.371	0,967872291294%	55,970090300312%	0,00000%	55,97009%
	Others	289.826	44,02990969969%			
	TOTAL	658.248	100,0000000000%			
OLEODUCTO CENTRAL S.A. - OCENSA	Cenit Transporte y Logística de Hidrocarburos S.A.S.	3.747.910	72,64799379725%			
	Others	1.411.090	27,35200620275%	72,64799%	0,00000%	72,64799%
	TOTAL	5.159.000	100,0000000000%			

Company	Shareholder	Number of shares (d)	Interest (%)	Indirect interest (%)	Direct interest (%)	Direct - indirect interest (%)
OLEODUCTO DE COLOMBIA S.A. - ODC	Cenit Transporte y Logística de Hidrocarburos S.A.S.	9.395	51,282751092%			
	Hocol S.A.	3.979	21,719432314%	73,00218%	0,00000%	73,00218%
	Others	4.946	26,997816594%			
	TOTAL	18.320	100,000000000%			
OLEODUCTO DE LOS LLANOS ORIENTALES S.A.	Cenit Transporte y Logística de Hidrocarburos S.A.S.	130	65,000000000%			
	Pacific Midstream Holding Corporation/ Frontera	70	35,000000000%	65,00000%	0,00000%	65,00000%
	TOTAL	200	100,000000000%			
SANTIAGO OIL COMPANY (a)	Equion Energía Limited	1.502.220,0002	100,000000000%	51,00000%	0,00000%	51,00000%
	TOTAL	1.502.220,0002	100,000000000%			
TOPILI SERVICIOS ADMINISTRATIVOS S. de R.L. de C.V.	Hocol Petroleum Limited -HPL-	289.363	99,9896334742%			
	Andean Chemicals Ltd.	30	0,0103665258%	100,00000%	0,00000%	100,00000%
	TOTAL	289.393	100,000000000%			

Source: Ecopetrol, Vice Presidency of Legal Affairs

Notes:

(a) = Foreign company with a branch in Colombia.

(b) = Company undergoing liquidation process.

(c) = The share capital of this company is not divided into shares, as it has a sole owner. An additional digit is added to provide uniformity to the table.

The names of the shareholdings, affiliates and subsidiaries have a legal rather than an accounting connotation.

In this table, the interest percentage is illustrated with ten decimal places in order to visualize minor shareholding interests.

03

DESCRIPTION OF THE COMPANIES THAT
COMPRISE THE ECOPETROL GROUP AND
THEIR MAIN ACHIEVEMENTS IN 2019

3.1 UPSTREAM

HOCOL S.A.

**Ecopetrol's stake (%) in the business:**

100% indirect interest through Hocol Petroleum Limited in Bermuda.

**Company profile and activities it undertakes**

Acquired in May 2009. Hocol is dedicated to the search and production of hydrocarbons in different regions of Colombia. It currently has locations in different regions of the country: Northern Colombia (Lower Magdalena Valley, Sinú San Jacinto and Guajira), Llanos, Huila and Tolima (Upper Magdalena Valley). These areas where Hocol holds

an interest include both Blocks in the exploration stage and Blocks in production. Its current production originates mainly from the Ocelote, Bonga-Mamey, Bullerengue and Espinal fields, located in the department of Meta, and the upper and lower Magdalena Valley, respectively.

**Main achievements 2019**

- During 2019, Hocol reached an average production of 29.5 Kboed before royalties, was able to add 14.8 MMboe of 1P Reserves, achieved an IRR of 147.7%, and incorporated 17.7 MMboe of discovered resources for appraisal, all while running a clean and safe operation, with a year-end TRCF indicator of 0.49. Hocol's financial position allowed it to finance 100% of the 2019 investment plan with cash generated by the operations.
- In order to carry on its continued growth, during 2019 Hocol managed to sign seven new E&P contracts in the ANH's Permanent Process for Allocation of Areas: 1 Block in the upper valley of the Magdalena with a 100% stake (COR-9), 5 Blocks in the Llanos basin in association with Geopark, holding a 50% stake (LL 86, 87, 104, 123 and 124), and another Block in the Llanos basin with a 100% stake (LL 100).
- Strengthened the development of the Company through the agreement with Chevron Colombia to acquire 100% of Chevron's stake in the Guajira Association, which currently produces around 180 Mmscfd and wherein Chevron holds a 43% stake. This transaction is subject to the approval of the Superintendence of Industry and Commerce in Colombia, whose study is currently underway. This transaction is in line with Hocol's gas strategy.
- During 2019, Hocol was evaluated by McKinsey and ranked in the top 10% sample of companies in this international consultancy's Organizational Health Index (OHI).



Ecopetrol's stake (%) in the business:

100% indirect interest through Ecopetrol USA Inc., which in turn has indirect interest mainly through Ecopetrol Global Energy S.L.U.



Company profile and activities it undertakes

Established in 2007 with the objective of founding a presence in the US Gulf of Mexico, one of the areas with highest prospectivity in the world, in order to develop a long-term strategy for increasing reserves and expanding the investment portfolio.

Ecopetrol América (EA) has three assets in production, Gunflint, K2 and Dalmatian, where it holds an interest of 31.5%, 20.81% and 30%, respectively. It has a stake in 63 Blocks and focuses on deepwater and ultra-deep waters within the region.



Main achievements 2019

- In 2019, through a farm-out alliance with Chevron USA, EA participated in the drilling of the Esos # 1 well, which resulted in a light crude discovery announced in November. This well is located in the Mississippi Canyon Block 726 in the US Gulf of Mexico. EA's stake is 21.43% and first production is expected for the first quarter of 2020.
- During 2019, EA reached an average production of 13.2 Kboed before royalties, added 5.2 MMboe of 1P Reserves, achieved an IRR of 118%, and incorporated 9.9 MMboe of discovered resources for appraisal.



OFFSHORE INTERNATIONAL GROUP INC. (OIG)



Ecopetrol's stake (%) in the business:

50% direct interest held by Ecopetrol S.A.



Company profile and activities it undertakes

En febrero de 2009 se adquirió en asocio Acquired in February 2009, in association with the Korean company Korea National Oil Corporation (KNOC), whereby 50% is held by Ecopetrol S.A. and 50% by KNOC. OIG's main asset is Savia Peru (formerly Petro-Tech Peruana S.A.), a company dedicated to the exploration, development, production and processing of hydrocarbons in the Pacific. It currently has two Blocks therein:

- Z-2B is the main asset, located in the north of the country and currently in the exploitation and production phase.
- Z-6 is in the exploitation phase without production, in a situation of force majeure, with contingent gas resources and a potential market to be developed in that area of the country.



Main achievements 2019

- The equivalent production of lot Z-2B (84% owned by SAVIA and 16% Perupetro) reached 9.4 Kboed in 2019
- Maritime services efficiencies were achieved, and the necessary reliability activities were carried out in order to maintain production volumes.

EQUION ENERGÍA LIMITED



Ecopetrol's stake (%) in the business:

51% direct interest held by Ecopetrol S.A.



Company profile and activities it undertakes

As of January 2011, Ecopetrol has acquired 51% of this company. Equion is an oil producing company with a presence in

the Piedemonte Llanero; its investments have focused on the development of the reserves of the Piedemonte contracts.



Main achievements 2019

- During 2019, the Company achieved record HSE indicators: zero registered incidents and zero oil barrel spills. This was achieved owing to: (i) leadership by example from Senior Management; (ii) assurance and monitoring of the sustainability strategy, HSE and process safety; and, (iii) control and monitoring of incidents to end the year below the tolerance levels.
- It had two Partnership Agreements in force until January 2019, and since that time it has handled the Piedemonte Partnership Agreement, that is characterized by the generation of crude oil, gas and condensates. The operation's production, before discounting royalties, was 25 Kboed.
- Additionally, it is important to highlight that since its beginnings, Equión has paid out dividends of USD \$1,140 million to its two shareholders.

ECOPETROL OLEO E GAS DO BRASIL LTDA.



Ecopetrol's stake (%) in the business:

100% indirect interest through Ecopetrol Global Energy S.L.U. (99%) - Ecopetrol America LLC (1%).



Company profile and activities it undertakes

Established in December 2006 as part of the Upstream internationalization strategy. It currently holds an interest in four offshore exploration Blocks in Brazil:

- Block CE-M-715: PetroRio operator (50%) and Ecopetrol (50%)
- Block FZA-M-320: Ecopetrol operator (70%) and JX (30%)

- Pau Brasil Block: BP operator (50%), CNOOC (30%) and Ecopetrol (20%)
- Saturno Block: Shell operator (45%), Chevron (45%) and Ecopetrol (10%)
- BM-S-54 - Gato do Mato Sul Blocks*: Shell Operator (50%), Ecopetrol (30%) and Total (20%)

**Pending approval by the Ministry of Mines and Energy*



Main achievements 2019

- In October 2019, Ecopetrol Brasil signed an agreement to acquire from Shell 30% of the interest on the rights and obligations of the areas corresponding to Block BM-S-54 and Gato do Mato Sul, known as Gato de Mato.
- In December 2019, the Ministry of Mines and Energy approved the partial transfer to Ecopetrol Brasil of the stake of Shell and Chevron in the Shared Production contract for the Saturno Block.

ECOPETROL PERÚ



Ecopetrol's stake (%) in the business:

100% indirect interest, mainly through Ecopetrol Global Energy S.L.U.



Company profile and activities it undertakes

Established in 2007. Ecopetrol Peru currently holds a 30% stake in Lot 101, which after being returned to Perupetro is in the process of environmental cleanup

through the Block's operator (Repsol) in order to move on to close the Company, which is foreseen to happen in 2021, once the respective environmental procedures are completed.

ECP OIL AND GAS GERMANY GMBH



Ecopetrol's stake (%) in the business:

100% indirect interest through Ecopetrol Global Energy S.L.U.



Company profile and activities it undertakes

Established in 2014, with the purpose to manage Ecopetrol's entry strategy in exploration and production in the West African region. In the year it was incorporated, it acquired 10% of the rights in the deepwater Blocks 38 and 39 of Angola, which had an unsuccessful exploration campaign. Given the modification of the Ecopetrol Group's

strategy in August 2017, the decision was made to liquidate the Company, which was notified in the Federal Gazette of Germany on June 25, 2018. The requisite regulatory one-year waiting period concluded in June 2019, and final liquidation of the company is expected by 2020.

ECOPETROL COSTA AFUERA COLOMBIA S.A.S. (ECAS)



Ecopetrol's stake (%) in the business:

100% through the Company Hocol Petroleum Limited - HPL (HPL is a subsidiary of Ecopetrol wherein it holds 100% equity share).



Company profile and activities it undertakes

Established in 2016, and registered with the Bogotá Chamber of Commerce on January 18 of the same year. Its corporate purpose is the exclusive development, in one or more Offshore free trade zones, as an industrial user of goods or services, of the activities of the oil and gas industry, especially

exploration, exploitation, production, transportation, distribution, export, sale, commercialization of oil, gas and any other hydrocarbon or its derivatives and products, as well as any other activity related to the Offshore hydrocarbon sector.



Main achievements 2019

- Continued activities to finalize obligations with the ANH and ANLA Block RC-9.
- A waiver was requested of the existing permanent Offshore Free Trade Zone of Block RC-9.
- The Board of Directors approved that ECAS begin to ready itself for the future transfer of projects to this subsidiary in order develop and produce hydrocarbons with the intention of protecting the equity of the Business Group.



Ecopetrol's stake (%) in the business:

100% indirect interest through Ecopetrol Global Energy S.L.U. (99%) - Ecopetrol America LLC (1%).



Company profile and activities it undertakes

Established in 2017, with the sole purpose of hydrocarbon exploration and extraction in Mexican territory.



Main achievements 2019

- Completed the interpretation of seismic data and the maturity process of the prospects in Block 6.
- Progress was made on the regional assessment of Block 8 and the identification of prospects to be analyzed and prioritized during 2020 with our partner and operator in the Block, Pemex.
- The purchase of rights to use 88,015 km² of 3D seismic data of the Salina Basin was completed as part of the regional study to evaluate future opportunities.



Ecopetrol's stake (%) in the business:

(99%) indirect interest through Hocol Petroleum Limited -HPL (99%) and Andean Chemicals Ltd. (1%).



Company profile and activities it undertakes

Established in 2019 with the purpose of providing specialized services, either within the Mexican Republic or abroad, including services at the directorate and managerial level, advisory and consulting in administrative matters,

human resources, recruitment, organizational management, planning, analysis, data processing, procurement, IT, as well as tax, accounting and financial management for projects and operations related to the oil and hydrocarbon industry.



Main achievements 2019

- Was incorporated in the last quarter of 2019 and is currently in the pre-operations stage.

KALIXPAN SERVICIOS TÉCNICOS, S. DE R.L. DE C.V.



Ecopetrol's stake (%) in the business:

(99%) indirect interest through Hocol Petroleum Limited -HPL (99%) and Andean Chemicals Ltd. (1%).



Company profile and activities it undertakes

Established in 2019 with the purpose of providing specialized technical and professional consulting services and engineering, geophysics and geoscience services in the development, management and supervision of projects related to the oil and hydrocarbon industry.



Main achievements 2019

- Was incorporated in the last quarter of 2019 and is currently in the pre-operations stage..

ECOPETROL PERMIAN LLC



Ecopetrol's stake (%) in the business:

100% indirect interest through Ecopetrol USA Inc., which in turn has indirect participation mainly through Ecopetrol Global Energy S.L.U.



Company profile and activities it undertakes

Established in 2019 with the purpose of instituting a presence in the Permian basin of the United States, one of the most prolific areas and currently one holding the greatest global interest today, in order to develop a long-term

strategy that allows increasing reserves, expanding the investment portfolio to short-cycle assets, light crudes and gas, as well as deepening our knowledge regarding the development of unconventional deposits.



Main achievements 2019

- The strategic alliance or Joint Venture (JV) with Occidental Petroleum Corp. was announced in order to execute a joint plan for the development of unconventional reservoirs (YNC for its Spanish acronym) in the Midland of the Permian basin of the state of Texas, USA, which had formally began on November 13, 2019, with the closing of the transaction.
- The JV allowed Ecopetrol to incorporate of 164 MMboe of proven reserves (1P).
- The JV reached first oil on November 16, a few days after the closing of the transaction and by year-end 2019 had four wells online.



3.2 MIDSTREAM



Ecopetrol's stake (%) in the business:

100% direct participation of Ecopetrol S.A.



Company profile and activities it undertakes

Established in 2013, and since that date Cenit has been the leader in the hydrocarbon transport and logistics business in the country, claiming a pipeline network of 4,802 km and a total evacuation capacity of 1,497 thousand barrels per day (Kbpd), with Cenit operating directly 2,969 km thereof. Cenit also has a 3,681 km polyduct network, equivalent to a

transport capacity of 365 Kbpd; four unloading points in Monterrey, Araguaey, Vasconia and Ayacucho; two loading docks in Pozos Colorados and Tocancipá; three maritime terminals, one for importing refined products from the Pozos Colorados terminal and two for exporting crude oil, which are the Coveñas terminal and Tumaco terminal.



Main achievements 2019

- In 2019, an average of 878 Kbd were transported through the country's pipeline evacuation systems and 275 Kbd by polyducts, registering a total transported volume of 1,153 Kbd. In terms of crude exports by ports, 566.3 Kbpd and 10.7 Kbpd were exported from Coveñas and Tumaco, respectively. Additionally, Pozos Colorados imported 115.4 Kbpd refined products.
- Progress was made in the sales and marketing operations, which allowed the capture of 33.8 Kbpd that were being moved by alternative means and were incorporated this year into the systems of this segment.
- Additionally, during 2019, the Service Factor measurement and monitoring process was consolidated, providing a support tool for decision-making, achieving thereby a 34% reduction in electrical failures external to CENIT's power stations, which provided USD 5.2 million of additional income.
- The process of pumping interruptions was also optimized, which resulted in a 25% reduction in the hours the system was affected and a 17% decrease in the number of interruptions.
- In terms of growth in the transport segment, during 2019 certain initiatives of the Pipeline Business Plan have reached maturity and will begin construction in 2020. These are focused on capturing the growing demand for refined products and reducing operating capacity restrictions. Additionally, the projects and initiatives of this plan aim to ensure reliability in the supply of refined products in the country.
- Accordingly, the following projects are currently being developed:
 - Expansion of the Galán Chimitá polyduct: construction of a 15 km of alternate and a 12" pipeline
 - El Dorado airport interconnection
 - Construction of Pozos Colorados tank
 - Expansion of the Galán Mansilla polyduct
 - Operating storage, including a new station in Girardota

OLEODUCTO DE LOS LLANOS S.A. (ODL)



Ecopetrol's stake (%) in the business:

65% indirect interest through Cenit S.A.S.



Company profile and activities it undertakes

This company has a nominal transport capacity of 310 Kbpd, and operates in the departments of Meta and Casanare, through 235 km of pipeline from the

Rubiales Pumping Station (Meta) to Monterrey (Casanare), with a 25 km alternate from El Viento (Casanare) to Cusiana (Casanare).



Main achievements 2019

- In 2019 this pipeline increased its transported volumes versus 2018, from 209.4 Kbpd to 224.84 Kbpd. Additionally, it achieved the centralized operation of the Rubiales Pumping Station (EBR for its Spanish acronym) and the remote operation in Bogotá through a control room, the connection of the Llanos 34 pipeline and the installation of a thermoelectric plant at the EBR station, by the Rubiales field.
- In continuance of its transformation program, the current focus is on efficiency with an emphasis on process assurance at all levels, in addition to achieving yearly savings of about COL 9.5 billion.
- Financially, it obtained a 6% lower cost per barrel (USD / Bbl) versus the plan.

OLEODUCTO BICENTENARIO DE COLOMBIA S.A.S.



Ecopetrol's stake (%) in the business:

55.97% indirect interest through Cenit (55%) and through Hocol (0.97%).



Company profile and activities it undertakes

Created in August 18, 2010 by seven companies in the oil industry, assembled by Ecopetrol as strategic partners for the construction and operation of a transport system that would encourage national development by maximizing the country's oil wealth. Bicentenario addresses oil

production from the Piedemonte Llanero concentrated in the fields of Rubiales, Castilla, Casanare and Floreña, through 230 km of pipeline and a nominal capacity of up to 192 Kbpd. The crude transported is owned by the Company's partners.

OLEODUCTO
CENTRAL S.A.
(OCENSA)



Main achievements 2019

- In 2019 this pipeline provided transport to over 11.5 million barrels of Caño Limón crude. Additionally, it achieved yearly savings of around COL 6.9 billion.
- In light of its Transformation Program, it continues

to focus on efficiency, seeking process assurance at all levels.

- Financially, it obtained a 4% lower cost per barrel (USD / Bbl) versus the plan.

445



Ecopetrol's stake (%) in the business:

72.65%, indirect interest through Cenit S.A.S.



Company profile and activities it undertakes

The Company owns 836 kilometers of land based pipeline (nominal capacity of 570 Kbpd in Segment 3) and 12 kilometers at sea, ten pumping stations,

a pressure reducer, a maritime terminal, tanks for storage of up to five million barrels and a base from where to coordinate maintenance activities.



Main achievements 2019

- In 2019, Ocesa managed to efficiently service the evacuation of crude oil owing to the temporary closure of Caño Limón, maintaining business continuity and supplying the country.
- Operationally, transport volumes by Segment II for the year totaled 664 Kbpd of crude versus the 612 Kbpd estimated in the plan; this value represents an annual pumping record in Segment II. Similarly, in September and October the highest daily and monthly

pumping record was registered, reaching 751 Kbpd and 705 Kbpd respectively.

- Additionally, the segregation of a new product (extra heavy) was offered in 2019, generating a more expansive service portfolio for customers. During the year, 188 ships were serviced, corresponding to 148 million barrels exported.
- Financially, the Company had the best historic EBITDA reaching COP \$4,427 billion, with an EBITDA margin of 86.6%



OLEODUCTO
DE COLOMBIA
S.A. (ODC)

446

**Ecopetrol's stake (%) in the business:**

73% indirect interest through Cenit S.A.S. (51.25%) and through Hocol S.A. (21.72%)

**Company profile and activities it undertakes**

This company is mainly dedicated to executing activities to enable the transport of heavy and medium crudes between the Vasconia plant and the Coveñas terminal, as well as providing the

service of loading crude to tankers for export. The pipeline is 483 km long and with an approximate capacity of 248 Kbpd.

**Main achievements 2019**

- Operationally, it achieved the evacuation of 207 Kbpd of crude oil, equivalent to 75.5 Mmbp per year, guaranteeing a pipeline utilization factor of 97.9%. In the same way, ODC implemented new hydraulic optimization structures in order to maximize flow according to the qualities of crude to be transported (mixing and weighing). Additionally, the change to a new DRA (drag reducing agent) resulted in a reduction in the friction percentage which was beneficial for the Company.
- Financially, it reached an EBITDA of COP \$ 509 billion as a result of increased crude transport and strict cost controls that allowed the year to end without requesting additional resources to those initially budgeted.
- In 2019, the Company celebrated 30 years of operations with high standards of operating excellence.

Apiay transport station





3.3 DOWNSTREAM

REFINERIA
DE CARTAGENA
S.A.S.



Ecopetrol's stake (%) in the business:

100% includes direct and indirect participation.



Company profile and activities it undertakes

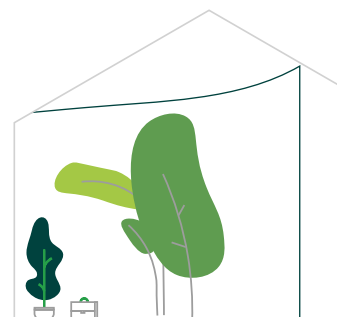
The Cartagena Refinery is one of the most modern refineries in Latin America, because it meets high international standards in the processing of heavy crudes and the generation of fuels that are classified as environmentally friendly due to their low sulfur level.

In 2019, the refinery reached a throughput of 160.5 Kbdp, the highest quarterly result since it entered into operation, and a conversion capacity of 97.5%. The remaining 2.5% is transformed into sulfur and coke, products that are sold at market prices in Colombia and abroad.



Main achievements 2019

- Production of gasoline with less than 40 ppm sulfur content, complying with Ecopetrol's clean fuels strategy, and the first preparation of extra gasoline with IAD 91 quality was carried out.
- Planned throughput was exceeded, achieving 155 Kbd, succeeding in the production of value added refined products.
- The percentage of national crude in the composition of the refinery's diet was increased to 86%.
- The first programmed plant shutdown was successfully carried out in Hydrocracking and Hydrogen Units 1 and 2.
- The refinery's process units reached an operating availability of 93.8% during the year.
- During the year, the Cartagena Refinery executed its processes safely and in harmony with the environment and its communities, with zero process safety events and zero environmental events, in addition to the implementation of initiatives to reduce environmental impacts:
- 11% decrease in raw water consumption (5.5 million barrels less than in 2018)
- 79,500 tons of CO2 equivalent decrease in GHS emissions versus 2018
- In accordance with its commitment to energy efficiency, the refinery reached the lowest Energy Intensity Index since its onset: 97.7 points, equivalent to 2° quartile of refineries of similar complexity in the Gulf Coast of USA, and 1° quartile of refineries in Latin America according to the Solomon Benchmark.
- In a low price environment, the Cartagena refinery obtained an EBITDA of USD \$115 million in 2019.
- The operations efforts made in the refining complex, in addition to the optimization initiatives, contributed USD \$69 million to the margin.



ESENTTIA



Ecopetrol's stake (%) in the business:

100% including direct and indirect interest.



Company profile and activities it undertakes

Company belonging to the petrochemical sector that joined the Ecopetrol Group in 2008. Located in the city of Cartagena, Esenttia is the leading producer in the polypropylene market in Colombia, with a production capacity of 470,000 tons/year.



Main achievements 2019

- Second best historical TRIF (Total Recordable Injury Frequency) results achieved in 2019 (only 1 incident), owing to the comprehensive operating discipline program.
- During 2019 Esenttia optimized raw material costs, and ensured the provision of raw materials from unconventional sources (chemical grade propylene or PGQ for its Spanish acronym).
- Esenttia ranked No. 21 in the Best Places to Work ranking in Latin America, 13th in Colombia and 11th among the Best Places to Work in Colombia for women, as a result comprehensive work environment management efforts.
- Efforts to develop a maintenance and production process reliability model provided 97% operation availability of its polypropylene plants.
- CAPEX execution in 2019 was a record year (USD \$27 million), a 105% compliance versus the target for the year.
- Initiated a project to expand the maritime dock and a new storage area that allows to reduce the cost of freight and ensure the supply of a greater quantity of raw material, which reduces volatility in the environment and the risk of shortage of raw material.
- Esenttia obtained 2nd place as the Company with the best nascent innovation system, according to the ANDI-Dinero innovation ranking.
- It donated the 1st sustainable innovation classroom to the Madre Gabriela de San Martín educational institution, located in the Olaya Herrera neighborhood of Cartagena, built with over 20 tons of recycled plastic, which works with photovoltaic energy, consisting of 32 solar panels that provide 100% of the classrooms' energy.
- Certified by of the Sustainability Seal, receiving the highest "Esencia" category awarded by Icontec and conTREEbute.
- Received the Silver level Equipares seal as a result of its commitment to labor equity, hiring five women to serve as shift operators.
- Cartagena Amigable Collection Center: recovered 258.4 tons of plastic waste and received the recognition as an Inclusive Green Business by the Ministry of Environment and Sustainable Development and the Cartagena EPA. Ratification as a Classification and Use Station, (ECA for its Spanish acronym) by the Superintendence of Public Domestic Services.

- Received the Ecopetrol Group Excellence Awards for the growth of polypropylene sales in the United States.
- Ranked in Top 10 Companies in Colombia with the Best Strategic Alignment in Social Investment, according to *Semana Sostenible* and Jaime Arteaga & Asociados.
- Received the Emerald Cross Medal of Merit, awarded by the Colombian Security Council, for good HSE practices.
- Recognition for being one of the three most innovative companies in the department of Bolívar, according to its Chamber of Commerce.
- Received the Colombian Sustainability Award for Good Labor Practices, awarded by ACRIP (national federation of human talent management).
- Included in the ranking of the 25 Companies that Contribute Most to Colombia, carried out by Semana magazine.
- Obtained the ISO 22000-2018 Certification, for the implementation of the Safety Management System, granted by Icontec.
- Zero Waste Certification and Zero Waste Colombia granted by Icontec.

BIOENERGY S.A.S.



Ecopetrol's stake (%) in the business:

99.61% indirect interest mainly through Andean Chemicals Ltd.



Company profile and activities it undertakes

Subsidiary acquired by Ecopetrol in 2008, dedicated to the production of ethanol using sugar cane as raw material. The plant has an

installed capacity of up to 504,000 liters per day, and is located in the municipality of Puerto López in the department of Meta.



Main achievements 2019

- Reached production of 48 million liters through the grinding of 686 thousand tons of cane. This demonstrates progress in plant stabilization, taking into account that 47 million liters were produced in 2018.
- The second sugarcane capacity building exercise was held in 2019, key to the Company's short and medium-term operational planning.
- The agricultural performance test was preformed, achieving compliance with all the defined operational variables.



Sugarcane harvesting - Bioenergy

ECODIESEL
COLOMBIA S.A.



Ecopetrol's stake (%) in the business:

50%



Company profile and activities it undertakes

Established in 2007, belonging to the biofuels sector, and operates a biodiesel production plant in the city of Barrancabermeja with a 120 thousand tons yearly production capacity.



Main achievements 2019

- Demonstrated continuous occupational health, industrial safety and the environment improvements, with a 67% TRIF decrease versus 2018 and zero environmental incidents.
- Reached total sales of 118,167 tons of biodiesel in 2019, of which 92,261 tons were sold to

Ecopetrol, 7,763 tons to Reficar and the remaining 18,143 tons were sold to wholesale distributors. The above positions Ecodiesel as an important player in its area and within the country's biodiesel sector, with a 22% national market share.



3.4 SALES AND MARKETING SEGMENT



Ecopetrol's stake (%) in the business:

99% held by Ecopetrol S.A. and indirect interest through Andean Chemicals LTD (1%).



Company profile and activities it undertakes

Established in 2018, and began operations on December 7, 2018 to meet the unregulated energy demand of the Ecopetrol Business Group. It belongs to the electric power commercialization sector.



Main achievements 2019

- Defined its organizational structure and achieved the stabilization and normalization of the Company's daily operations.
- Serviced 65 unregulated energy boundaries belonging to the Business Group, with a total consumption of 1,876 GWh (million kWh) in 2019.
- Its net profit in 2019 was COP \$4 billion.
- Awarded in October 2019, 32 MW in the FNCER energy auction (unconventional renewable energy sources) organized by the Ministry of Mines and Energy, which led to the signing of eight contracts with 15 year validity, from January 2022 to December 2036.
- As a result of the supply contracts signed with generating agents, achieved a 65% price hedge.



INVERSIONES DE
GASES DE COLOMBIA
S.A. (INVERCOLSA)



Ecopetrol's stake (%) in the business:

51.88%, direct interest held by Ecopetrol S.A.



Company profile and activities it undertakes

Corporation established in 1990 whose main corporate purpose is related to activities in the energy sector.



Main achievements 2019

- On November 6, 2019, the Civil Chamber of the Supreme Court of Justice notified its decision not to overturn the ruling of January 11, 2011 issued by the Superior Court of Bogotá within the proceeding introduced by Ecopetrol SA, Explotaciones Cóndor S.A. and South American Gulf Company against Fernando Londoño Hoyos,

Corredor y Albán S.A. Comisionista de Bolsas, Inversiones Gases de Colombia S.A. and Sociedad Arrendadora Financiera Bolivariana - AFIB S.A. By approving this decision, Ecopetrol increased its shareholding by 8.53% and its interest it was therefore consolidated with 51.88% of the share capital thereof.



3.5 FINANCIAL VEHICLES

BLACK GOLD
RE (BGR)



Ecopetrol's stake (%) in the business:

100% direct interest through Ecopetrol .



Company profile and activities it undertakes

Black Gold Re Limited is the reinsurance captive of the Ecopetrol Group (GE), incorporated on August 24, 2006 and responsible for facilitating and optimizing the placement of the Corporate Insurance Program of Ecopetrol and its subsidiaries by adjusting the levels of assignment or retention of risks, in order to guarantee the protection of its assets and operations, strengthening its negotiating capacity in the insurance market, and minimizing the adverse effects of market cycles. BGR designs and implements individual hedging strategies and deductible instruments in accordance with the requirements of each business segment of Ecopetrol and its subsidiaries, capturing and controlling part of the intermediation costs, and therefore generating economic benefits for the GE.



Ecopetrol's stake (%) in the business:

100% direct interest through Ecopetrol



Company profile and activities it undertakes

Investment vehicle that enters the portfolio as part of the acquisition of Esenttia (formerly Propilco). It has the role of investment vehicle in the Group for Downstream companies (Reficar, Esenttia, and Bioenergy).

It has expressly dedicated to the capitalizations of Bioenergy and Reficar, asset management payments in Louisiana and taxes in Colombia, as well as dividend income from Esenttia (formerly Propilco) and Esenttia Masterbatch (formerly Comai).



Ecopetrol's stake (%) in the business:

100% direct interest through Ecopetrol .



Company profile and activities it undertakes

Investment vehicle that reaches the portfolio as part of the acquisition of Hocol S.A. for the Upstream companies with operations in Colombia (Hocol S.A. and Ecopetrol Costa Afuera Colombia).

It has expressly dedicated to the capitalizations of Ecopetrol Costa Afuera Colombia, administrative payments and taxes in Colombia, as well as dividend income of Hocol S.A. and interest on deposits of Ecopetrol Capital AG.



Ecopetrol's stake (%) in the business:

100% direct interest through Ecopetrol .



Company profile and activities it undertakes

Investment vehicle for companies in different segments with international operations, with an emphasis on Upstream. Incorporated under the Spanish tax regime of ETVE companies (for foreign-securities holding companies), with its administrative headquarters in Spain.

It has expressly dedicated to the financial synergies derived from dividends from interests held in foreign companies, in accordance with the ETVE Regime.

ESTADOS FINANCIEROS SEPARADOS

CERTIFICACIÓN DEL REPRESENTANTE LEGAL Y CONTADOR DE LA COMPAÑÍA

• • •

A los señores Accionistas de Ecopetrol S.A.:

21 de febrero de 2020

Los suscritos Representante legal y Contador de la Compañía certificamos que los estados financieros separados de la Compañía al 31 de diciembre de 2019 y por el periodo de doce meses terminado en esa fecha, han sido fielmente tomados de los libros, y que antes de ser puestos a su disposición y de terceros, hemos verificado las siguientes afirmaciones contenidas en ellos:

1. Todos los activos y pasivos, incluidos en los estados financieros separados al 31 de diciembre de 2019, existen y todas las transacciones incluidas en dichos estados se han realizado durante el año terminado en esta fecha.
2. Todos los hechos económicos realizados por la Compañía, durante el año terminado al 31 de diciembre de 2019 se han reconocido en los estados financieros separados.
3. Los activos representan probables derechos económicos futuros y los pasivos representan probables obligaciones actuales y futuras, obtenidos a cargo de la Compañía al 31 de diciembre de 2019.
4. Todos los elementos han sido reconocidos por sus valores apropiados, de acuerdo con las normas de contabilidad y de información financiera aceptadas en Colombia.
5. Todos los hechos económicos que afectan a la Compañía han sido correctamente clasificados, descritos y revelados en los estados financieros separados.

(Original firmado)

Felipe Bayón Pardo

Presidente – Representante legal

(Original firmado)

Javier Leonardo Cárdenas Laiton

Contador Público

T.P. 116770-T

Informe del Revisor Fiscal

A la Asamblea de Accionistas de:
Ecopetrol S.A.

Opinión

He auditado los estados financieros separados adjuntos de Ecopetrol S.A., que comprenden el estado de situación financiera al 31 de diciembre de 2019 y los correspondientes estados de resultados, de resultados integrales, de cambios en el patrimonio y de flujos de efectivo por el año terminado en esa fecha, y el resumen de las políticas contables significativas y otras notas explicativas.

En mi opinión, los estados financieros separados adjuntos, tomados de los libros de contabilidad, presentan razonablemente, en todos sus aspectos de importancia, la situación financiera de la Compañía al 31 de diciembre de 2019, los resultados de sus operaciones y los flujos de efectivo por el año terminado en esa fecha, de conformidad con las Normas de Contabilidad y de Información Financiera aceptadas en Colombia (NCIF) adoptadas por la Contaduría General de la Nación.

Bases de la Opinión

He llevado a cabo mi auditoría de acuerdo con Normas Internacionales de Auditoría aceptadas en Colombia. Mis responsabilidades en cumplimiento de dichas normas se describen en la sección *Responsabilidades del Auditor en la Auditoría de los Estados Financieros* de este informe. Soy independiente de la Compañía, de acuerdo con el Manual del Código de Ética para profesionales de la contabilidad, junto con los requisitos éticos relevantes para mi auditoría de estados financieros en Colombia, y he cumplido con las demás responsabilidades éticas aplicables. Considero que la evidencia de auditoría obtenida es suficiente y apropiada para fundamentar Colombia mi opinión.

Asunto Clave de Auditoría

Los asuntos clave de auditoría son aquellos asuntos que, según mi juicio profesional, fueron de mayor importancia en mi auditoría de los estados financieros separados adjuntos. Estos asuntos se abordaron en el contexto de mi auditoría de los estados financieros separados tomados en su conjunto, y al momento de fundamentar la opinión correspondiente, pero no para proporcionar una opinión separada sobre estos asuntos. Con base en lo anterior, a continuación, detallo la manera en la que cada asunto clave fue abordado durante mi auditoría.

He cumplido con las responsabilidades descritas en la sección *Responsabilidades del Auditor en la Auditoría de los Estados Financieros* de mi informe, incluso en relación con estos asuntos. En consecuencia, mi auditoría incluyó la realización de los procedimientos diseñados para responder a los riesgos de incorrección material evaluados en los estados financieros separados. Los resultados de mis procedimientos de auditoría, incluidos los procedimientos realizados para abordar los asuntos que se mencionan a continuación, constituyen la base de mi opinión de auditoría sobre los estados financieros separados adjuntos.



**Building a better
working world**

Determinación de la Depreciación, Agotamiento y Amortización y el Deterioro de Activos de Larga Vida

457

Descripción del Asunto Clave de Auditoría

Como se describe en la nota 3.1 y 3.2 de los estados financieros separados, el cálculo del método de unidades de producción que se utiliza en la determinación de la depreciación, agotamiento y amortización (DD&A) de propiedades, planta y equipo relacionados con la exploración y producción, los recursos naturales y ambientales, así como en la determinación de los flujos de efectivo futuros que se utilizan en los análisis de deterioro de activos de larga vida, utilizan anualmente la estimación relacionada con las reservas de petróleo y gas.

La estimación de las reservas de petróleo y gas utilizadas para calcular el DD&A y realizar el análisis de deterioro es un proceso complejo y requiere juicio profesional. La gerencia utiliza ingenieros independientes externos (en adelante "especialistas") al estimar las reservas como factores geológicos, técnicos y económicos. Las estimaciones de las reservas de petróleo y gas dependen de una serie de factores variables y suposiciones clave, incluidas las cantidades de petróleo y gas que se espera recuperar, el momento de la recuperación, la producción, los costos operativos, de capital y el precio de venta, entre otros.

La determinación del DD&A de la Compañía y el cálculo del deterioro de activos de larga vida es especialmente complejo debido a la naturaleza inherente de ingeniería técnica del proceso de estimación el cual requiere el uso de especialistas y la evaluación de la Administración en la determinación de los supuestos descritos anteriormente utilizados por los especialistas en la estimación de las reservas de petróleo y gas.

Respuesta de Auditoría

Obtuvimos un entendimiento del proceso, evaluamos el diseño y probamos la efectividad operativa de los controles sobre el proceso de la Compañía para calcular el DD&A y realizar el análisis de deterioro de activos de larga vida, incluidos los controles de la Administración sobre la integridad y la precisión de los datos financieros proporcionados a los especialistas para la estimación de reservas de petróleo y gas.

Nuestros procedimientos de auditoría incluyeron, entre otros, evaluar las calificaciones profesionales y la objetividad de las personas responsables de supervisar la preparación de las estimaciones de reserva por parte de los especialistas. Evaluamos la calificación y competencia de los especialistas contratados por la Compañía para desarrollar estas estimaciones. Adicionalmente evaluamos la integridad y precisión de los datos financieros y los supuestos descritos anteriormente utilizados por los especialistas en la estimación de las reservas de petróleo y gas con el fin de obtener documentación y evaluar evidencia corroborativa. Para las reservas no desarrolladas probadas, evaluamos el plan de desarrollo de la administración para cumplir con la regla de la SEC de que las ubicaciones no perforadas están programadas para ser perforadas dentro de los cinco años, a menos que circunstancias específicas justifiquen un tiempo más largo, evaluando la consistencia de las proyecciones de desarrollo con el plan de perforación de la Compañía y disponibilidad de capital en relación con el plan de perforación. También probamos la precisión matemática de los cálculos de DD&A y evaluamos la consistencia entre la estimación de las reservas de petróleo y gas preparada por los especialistas con las proyecciones de flujo de efectivo utilizadas en los análisis de deterioro de activos de larga vida.



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working world**

Responsabilidades de la Administración y de los Responsables del Gobierno de la Entidad en Relación con los Estados Financieros

La Administración es responsable por la preparación y correcta presentación de los estados financieros separados de acuerdo con las Normas de Contabilidad y de Información Financiera aceptadas en Colombia (NCIF) adoptadas por la Contaduría General de la Nación; de diseñar, implementar y mantener el control interno relevante para la preparación y correcta presentación de los estados financieros separados libres de errores materiales, bien sea por fraude o error; de seleccionar y de aplicar las políticas contables apropiadas; y, de establecer estimaciones contables razonables en las circunstancias.

Al preparar los estados financieros separados, la Administración es responsable de evaluar la capacidad de la Compañía para continuar como negocio en marcha, revelando, según corresponda, los asuntos relacionados con este y utilizando la base contable de negocio en marcha, a menos que la Administración tenga la intención de liquidar la Compañía o cesar sus operaciones, o no tenga otra alternativa realista diferente a hacerlo.

Los responsables del gobierno de la entidad son responsables de la supervisión del proceso de información financiera de la Compañía.

Responsabilidades del Auditor en la Auditoría de los Estados Financieros

Mi objetivo es obtener una seguridad razonable sobre si los estados financieros separados tomados en su conjunto están libres de errores materiales, ya sea por fraude o error, y emitir un informe que incluya mi opinión. La seguridad razonable es un alto nivel de aseguramiento, pero no garantiza que una auditoría realizada de acuerdo con las Normas Internacionales de Auditoría aceptadas en Colombia siempre detectará una incorrección material cuando exista. Las incorrecciones pueden surgir debido a fraude o error y se consideran materiales si, individualmente o acumuladas, podría esperarse que influyan razonablemente en las decisiones económicas que los usuarios tomen con base en los estados financieros separados.

Como parte de una auditoría de acuerdo con las Normas Internacionales de Auditoría aceptadas en Colombia, debo ejercer mi juicio profesional y mantener mi escepticismo profesional a lo largo de la auditoría, además de:

- Identificar y evaluar los riesgos de incorrección material en los estados financieros separados, ya sea por fraude o error, diseñar y ejecutar procedimientos de auditoría que respondan a esos riesgos, y obtener evidencia de auditoría que sea suficiente y apropiada para fundamentar mi opinión. El riesgo de no detectar una incorrección material debido a fraude es mayor que la resultante de un error, ya que el fraude puede implicar colusión, falsificación, omisiones intencionales, declaraciones falsas o sobrepaso del sistema de control interno.
- Obtener un entendimiento del control interno relevante para la auditoría, para diseñar procedimientos de auditoría que sean apropiados en las circunstancias.
- Evaluar las políticas contables utilizadas, la razonabilidad de las estimaciones contables y las respectivas revelaciones realizadas por la Administración.

- Concluir sobre si es adecuado que la Administración utilice la base contable de negocio en marcha y, con base en la evidencia de auditoría obtenida, si existe una incertidumbre material relacionada con eventos o condiciones que puedan generar dudas significativas sobre la capacidad de la Compañía para continuar como negocio en marcha. Si concluyo que existe una incertidumbre importante, debo llamar la atención en el informe del auditor sobre las revelaciones relacionadas, incluidas en los estados financieros o, si dichas revelaciones son inadecuadas, modificar mi opinión. Las conclusiones del auditor se basan en la evidencia de auditoría obtenida hasta la fecha de mi informe, sin embargo, eventos o condiciones posteriores pueden hacer que una entidad no pueda continuar como negocio en marcha.
- Evaluar la presentación general, la estructura, el contenido de los estados financieros separados, incluyendo las revelaciones, y si los estados financieros representan las transacciones y eventos subyacentes de manera que se logre una presentación razonable.

Comuniqué a los responsables del gobierno de la entidad, entre otros asuntos, el alcance planeado y el momento de realización de la auditoría, los hallazgos significativos de la misma, así como cualquier deficiencia significativa del control interno identificada en el transcurso de la auditoría.

Otros Asuntos

Los estados financieros separados bajo normas de contabilidad y de información financiera aceptadas en Colombia (NCIF) adoptadas por la Contaduría General de la Nación de Ecopetrol S.A. al 31 de diciembre de 2018, que hacen parte de la información comparativa de los estados financieros adjuntos, fueron auditados por mí, de acuerdo con normas internacionales de auditoría aceptadas en Colombia, sobre los cuales expresé mi opinión. Sin salvedades el 25 de febrero de 2019.

Otros Requerimientos Legales y Reglamentarios

Fundamentado en el alcance de mi auditoría, no estoy enterado de situaciones indicativas de inobservancia en el cumplimiento de las siguientes obligaciones de la Compañía: 1) Llevar los libros de actas, registro de accionistas y de contabilidad, según las normas legales y la técnica contable; 2) Desarrollar las operaciones conforme a los estatutos y decisiones de la Asamblea de Accionistas y de la Junta Directiva, y a las normas relativas a la seguridad social integral; y 3) Conservar la correspondencia y los comprobantes de las cuentas. Adicionalmente, existe concordancia entre los estados financieros adjuntos y la información contable incluida en el informe de gestión preparado por la Administración de la Compañía, el cual incluye la constancia por parte de la Administración sobre la libre circulación de las facturas con endoso emitidas por los vendedores o proveedores. El informe correspondiente a lo requerido por el artículo 1.2.1.2 del Decreto 2420 de 2015 lo emití por separado el 21 de febrero de 2020.

(Original firmado)
Víctor Hugo Rodríguez Vargas
Revisor Fiscal y socio a cargo
Tarjeta Profesional 57851 -T
Designado por Ernst & Young Audit S.A.S. TR-530

Bogotá, Colombia
21 de febrero de 2020

ESTADOS DE SITUACIÓN FINANCIERA SEPARADOS

(Expresados en millones de pesos colombianos)

460

		A 31 de diciembre de	A 31 de diciembre de
	Nota	2019	2018
Activos			
Activos corrientes			
Efectivo y equivalentes de efectivo	6	1,477,493	2,259,319
Cuentas comerciales y otras cuentas por cobrar, neto	7	5,177,568	7,641,902
Inventarios, neto	8	3,821,906	3,459,332
Otros activos financieros	9	2,444,824	6,610,813
Activos por impuestos corrientes	10	1,210,988	827,130
Otros activos	11	1,109,725	839,208
		15,242,504	21,637,704
Activos mantenidos para la venta		6,025	23,917
Total activos corrientes		15,248,529	21,661,621
Activos no corrientes			
Cuentas comerciales y otras cuentas por cobrar, neto	7	637,631	575,872
Otros activos financieros	9	2,789,135	2,402,041
Inversiones en compañías	12	52,643,915	45,142,444
Propiedades, planta y equipo	13	21,183,092	21,040,668
Recursos naturales y del medio ambiente	14	22,217,138	19,383,783
Activos por derecho de uso	5.1	3,481,271	-
Intangibles	15	231,501	249,762
Activos por impuestos diferidos	10	3,557,160	2,309,439
Otros activos	11	967,281	996,193
Total activos no corrientes		107,708,124	92,100,202
Total activos		122,956,653	113,761,823
Pasivos			
Pasivos corrientes			
Préstamos y financiaciones	17	3,283,987	2,587,667
Cuentas comerciales y otras cuentas por pagar	18	8,878,626	7,683,016

		A 31 de diciembre de	A 31 de diciembre de
	Nota	2019	2018
Provisiones por beneficios a empleados	19	1,855,549	1,760,832
Pasivos por impuestos corrientes	10	1,198,097	517,083
Provisiones y contingencias	20	671,286	744,074
Otros pasivos		752,544	282,784
Total pasivos corrientes		16,640,089	13,575,456
Pasivos no corrientes			
Préstamos y financiaciones	17	33,014,135	30,705,995
Provisiones por beneficios a empleados	19	9,551,977	6,789,669
Pasivos por impuestos diferidos	10	141,971	143,947
Pasivos por impuestos no corrientes	10	34,247	-
Provisiones y contingencias	20	7,144,226	5,313,565
Otros pasivos		17,678	19,584
Total pasivos no corrientes		49,904,234	42,972,760
Total pasivos		66,544,323	56,548,216
Patrimonio			
Capital suscrito y pagado	21	25,040,067	25,040,067
Prima en emisión de acciones		6,607,699	6,607,699
Reservas		3,784,658	5,138,895
Otros resultados integrales		6,702,221	7,844,339
Resultados acumulados		14,277,685	12,582,607
Total patrimonio		56,412,330	57,213,607
Total pasivos y patrimonio		122,956,653	113,761,823

Las notas adjuntas son parte integral de los estados financieros separados.

(Original firmado)
Felipe Bayón Pardo
 Presidente

(Original firmado)
Javier Leonardo Cárdenas Laiton
 Contador Público
 T.P. 116770-T

(Original firmado)
Víctor Hugo Rodríguez Vargas
 Revisor Fiscal
 T.P. 57851-T

ESTADOS DE GANANCIAS Y PÉRDIDAS SEPARADOS

(Expresados en millones de pesos colombianos, excepto la utilidad básica por acción que está expresada en pesos)

462

Por los años terminados a 31 de diciembre de			
	Nota	2019	2018
Ingresos por ventas	22	62,615,849	60,025,772
Costos de ventas	23	(47,218,412)	(42,282,952)
Utilidad bruta		15,397,437	17,742,820
Gastos de administración	24	(1,362,190)	(941,128)
Gastos de operación y proyectos	24	(1,337,760)	(1,145,852)
(Gasto) recuperación impairment de activos a largo plazo	16	(2,082,725)	644,943
Otros ingresos (gastos) operacionales, neto	25	1,077,516	(148,217)
Resultado de la operación		11,692,278	16,152,566
Resultado financiero	26		
Ingresos financieros		2,468,872	1,106,094
Gastos financieros		(4,247,655)	(3,240,062)
Utilidad por diferencia en cambio, neta		152,817	427,958
		(1,625,966)	(1,706,010)
Participación en los resultados de compañías	12	6,283,608	2,407,248
Utilidad antes de impuesto a las ganancias		16,349,920	16,853,804
Gasto por impuesto a las ganancias	10	(3,098,437)	(5,297,399)
Utilidad neta del período		13,251,483	11,556,405
Utilidad básica por acción (pesos)		322.3	281.1

Las notas adjuntas son parte integral de los estados financieros separados.

(Original firmado)
Felipe Bayón Pardo
Presidente

(Original firmado)
Javier Leonardo Cárdenas Laiton
Contador Público
T.P. 116770-T

(Original firmado)
Víctor Hugo Rodríguez Vargas
Revisor Fiscal
T.P. 57851-T

ESTADOS DE OTROS RESULTADOS INTEGRALES SEPARADOS

(Expresados en millones de pesos colombianos)

463

		Por los años terminados a 31 de diciembre de	
	Nota	2019	2018
Utilidad neta del periodo		13,251,483	11,556,405
Otros resultados integrales:			
Elementos que pueden ser reclasificados posteriormente			
a ganancias o pérdidas (neto de impuestos):			
Utilidad (pérdida) no realizada en operaciones de cobertura:			
Flujo de efectivo para futuras exportaciones	27.1.2	668,299	(53,596)
Flujo de efectivo instrumentos derivados		3,311	-
Inversión neta en negocio en el extranjero	27.1.3	(61,267)	(971,954)
Utilidad método de participación patrimonial	12	47,368	2,447,797
		657,711	1,422,247
Elementos que no pueden ser reclasificados posteriormente			
a ganancias o pérdidas (neto de impuestos):			
Pérdidas actuariales		(1,799,829)	(4,290)
		(1,799,829)	(4,290)
Otros resultados integrales		(1,142,118)	1,417,957
Total resultado integral		12,109,365	12,974,362

Las notas adjuntas son parte integral de los estados financieros separados.

(Original firmado)
Felipe Bayón Pardo
Presidente

(Original firmado)
Javier Leonardo Cárdenas Laiton
Contador Público
T.P. 116770-T

(Original firmado)
Víctor Hugo Rodríguez Vargas
Revisor Fiscal
T.P. 57851-T

ESTADOS DE CAMBIOS EN EL PATRIMONIO SEPARADOS

(Expresados en millones de pesos colombianos)

464

	Nota	Capital suscrito y pagado	Prima en emisión de acciones	Reserva legal	Otras reservas	Otros resultados integrales	Utilidades acumuladas	Total Patrimonio
Saldo al 31 de diciembre de 2018		25,040,067	6,607,699	2,088,192	3,050,703	7,844,339	12,582,607	57,213,607
Utilidad neta del periodo		-	-	-	-	-	13,251,483	13,251,483
Liberación de reservas	21.3	-	-	-	(3,050,703)	-	3,050,703	-
Dividendos decretados	21.4	-	-	-	(3,659,386)	-	(9,251,256)	(12,910,642)
Apropiación de reservas								
Legal		-	-	1,155,640	-	-	(1,155,640)	-
Fiscales y estatutarias	21.3	-	-	-	509,082	-	(509,082)	-
Ocasionales	21.3	-	-	-	3,691,130	-	(3,691,130)	-
Otros resultados integrales								
Utilidad no realizada en operaciones de cobertura:								
Flujo de efectivo para futuras exportaciones		-	-	-	-	668,299	-	668,299
Inversión neta en negocio en el extranjero		-	-	-	-	(61,267)	-	(61,267)
Flujo de efectivo instrumentos derivados		-	-	-	-	3,311	-	3,311
Método de participación patrimonial	12.1	-	-	-	-	47,368	-	47,368
Pérdidas actuariales		-	-	-	-	(1,799,829)	-	(1,799,829)
Saldo al 31 de diciembre de 2019		25,040,067	6,607,699	3,243,832	540,826	6,702,221	14,277,685	56,412,330

	Nota	Capital suscrito y pagado	Prima en emisión de acciones	Reserva legal	Otras reservas	Otros resultados integrales	Utilidades acumuladas	Total Patrimonio
Saldo al 31 de diciembre de 2017		25,040,067	6,607,700	1,426,151	751,718	6,426,382	7,646,613	47,898,631
Utilidad neta del periodo		-	-	-	-	-	11,556,405	11,556,405
Liberación de reservas	21.3	-	-	-	(751,718)	-	751,718	-
Dividendos decretados	21.4	-	-	-	-	-	(3,659,386)	(3,659,386)
Otros movimientos		-	(1)	-			1	
Apropiación de reservas								
Legal		-	-	662,041	-	-	(662,041)	-
Fiscales y estatutarias	21.3	-	-	-	509,081	-	(509,081)	-
Ocasionales	21.3	-	-	-	2,541,622	-	(2,541,622)	-
Otros resultados integrales								
Utilidad no realizada en operaciones de cobertura:								
Flujo de efectivo para futuras exportaciones		-	-	-	-	(53,596)	-	(53,596)
Inversión neta en negocio en el extranjero		-	-	-	-	(971,954)	-	(971,954)
Método de participación patrimonial	12.1	-	-	-	-	2,447,797	-	2,447,797
Pérdidas actuariales		-	-	-	-	(4,290)	-	(4,290)
Saldo al 31 de diciembre de 2018		25,040,067	6,607,699	2,088,192	3,050,703	7,844,339	12,582,607	57,213,607

Las notas adjuntas son parte integral de los estados financieros separados.

(Original firmado)
Felipe Bayón Pardo
 Presidente

(Original firmado)
Javier Leonardo Cárdenas Laiton
 Contador Público
 T.P. 116770-T

(Original firmado)
Víctor Hugo Rodríguez Vargas
 Revisor Fiscal
 T.P. 57851-T

ESTADOS DE FLUJOS DE EFECTIVO SEPARADOS

(Expresados en millones de pesos colombianos)

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		Por los años terminados el 31 de diciembre	
	Nota	2019	2018
Flujos de efectivo de las actividades de operación:			
Utilidad neta del periodo		13,251,483	11,556,405
Ajustes para conciliar la utilidad neta con el efectivo provisto por las operaciones:			
Gasto por impuesto a las ganancias	10	3,098,437	5,297,399
Depreciación, agotamiento y amortización	5.1, 13, 14, 15	5,933,826	5,004,817
Utilidad por diferencia en cambio	26	(152,817)	(427,958)
Costo financiero de préstamos y financiaciones	26	1,832,765	2,140,480
Costo financiero de beneficios post-empleo y costos de abandono	26	713,312	637,809
Pozos secos	14	146,054	-
Pérdida en venta o retiro de activos no corrientes		83,289	13,246
Pérdida (recuperación) por impairment de activos de largo plazo	16	2,082,725	(644,943)
Utilidad en adquisición de participación adicional en inversiones en compañías	12	(1,048,924)	-
Pérdida por impairment de activos de corto plazo		6,768	113,525
Pérdida (utilidad) por valoración de activos financieros		30,051	(107,475)
Utilidad por método de participación patrimonial	12	(6,283,608)	(2,407,248)
Pérdida por diferencia en cambio realizada sobre coberturas de exportación	22	1,028,516	655,533
Pérdida por ineffectividad de coberturas		5,173	34,892
Impuesto de renta pagado		(2,232,226)	(3,906,581)
Cambios netos en operaciones con activos y pasivos:			
Cuentas comerciales y otras cuentas por cobrar		2,060,484	(1,726,376)
Inventarios		(363,345)	(238,398)
Cuentas comerciales y otras cuentas por pagar		1,116,997	1,311,000
Activos y pasivos por impuestos corrientes		(1,318,234)	(987,413)
Provisiones por beneficios a empleados		(244,867)	(192,688)
Provisiones y contingencias		(415,043)	22,991
Otros activos y pasivos		250,713	(115,055)
Efectivo neto provisto por las actividades de operación		19,581,529	16,033,962

Por los años terminados el 31 de diciembre			
	Nota	2019	2018
Flujos de efectivo de las actividades de inversión:			
Aportes de capital en inversiones en compañías	12	(4,123,298)	(412,454)
Inversión en propiedades, planta y equipo	13	(2,824,030)	(2,549,533)
Inversión en recursos naturales y del medio ambiente	14	(5,488,867)	(4,483,830)
Adquisiciones de intangibles		(47,883)	(68,720)
Venta de otros activos financieros		3,914,108	264,015
Intereses recibidos		300,494	281,485
Dividendos recibidos		3,812,520	3,230,414
Producto de la venta de activos		14,651	130,944
Efectivo neto usado en actividades de inversión		(4,442,305)	(3,607,679)
Flujo de efectivo en actividades de financiación:			
Pagos de capital		(913,449)	(8,905,675)
Pagos de intereses		(1,737,854)	(2,353,674)
Pagos por arrendamientos	5.1	(505,811)	-
Dividendos pagados		(12,910,611)	(3,659,373)
Efectivo neto usado en actividades de financiación		(16,067,725)	(14,918,722)
Efecto de la variación en tasas de cambio sobre efectivo y equivalentes de efectivo		146,675	394,763
Aumento neto en el efectivo y equivalentes de efectivo		(781,826)	(2,097,676)
Efectivo y equivalentes de efectivo al inicio del periodo		2,259,319	4,356,995
Efectivo y equivalentes de efectivo al final del periodo	6	1,477,493	2,259,319
Transacciones no monetarias:			
Reconocimiento de activos por derecho de uso y pasivos por arrendamiento	5.1	3,770,554	-
Valor razonable por cambio en la participación en Invercolsa	12	1,325,943	-

Las notas adjuntas son parte integral de los estados financieros separados.

(Original firmado)
Felipe Bayón Pardo
Presidente

(Original firmado)
Javier Leonardo Cárdenas Laiton
Contador Público
T.P. 116770-T

(Original firmado)
Víctor Hugo Rodríguez Vargas
Revisor Fiscal
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1. ENTIDAD REPORTANTE

Ecopetrol S.A. es una compañía de economía mixta pública por acciones, de carácter comercial constituida en 1948 en Bogotá, Colombia, casa matriz del Grupo Empresarial Ecopetrol, registrada ante Cámara de Comercio de Bogotá, dedicada a actividades comerciales o industriales relacionadas con la exploración, explotación, refinación, transporte, almacenamiento, distribución y comercialización de hidrocarburos, sus derivados y productos, directamente o por medio de sus

subordinadas (en adelante denominada en conjunto “Ecopetrol” o la “Compañía”).

El 11.51% de las acciones de Ecopetrol se cotizan públicamente en las bolsas de valores de Colombia y Nueva York. Las acciones restantes (88.49% de las acciones en circulación) le pertenecen al Ministerio de Hacienda y Crédito Público de Colombia.

El domicilio de la oficina principal de Ecopetrol S.A. es Bogotá – Colombia, Carrera 13 No. 36 - 24.

2. BASES DE PREPARACIÓN Y PRESENTACIÓN

2.1 DECLARACIÓN DE CUMPLIMIENTO Y AUTORIZACIÓN DE LOS ESTADOS FINANCIEROS

Los estados financieros separados de Ecopetrol S.A. han sido preparados de acuerdo con los principios y normas de contabilidad e información financiera, aceptados en Colombia (NCIF), reglamentadas en el Decreto 2420 de 2015, modificado por los Decretos 2496 de 2015, 2131 de 2016, 2170 de 2017 y 2483 de 2018 y 2270 de 2018. Estas normas están fundamentadas en las Normas Internacionales de Información Financiera - NIIF y sus Interpretaciones emitidas por el Consejo de Normas Internacionales de Contabilidad (IASB, por sus siglas en inglés) al segundo semestre de 2017 y otras disposiciones legales aplicables para las entidades vigiladas y/o controladas por la Contaduría General de la Nación, que pueden diferir en algunos aspectos de los establecidos por otros organismos de control del Estado.

Estos estados financieros separados fueron preparados para cumplir con las disposiciones legales colombianas a que está sujeta la

Compañía como entidad legal independiente, y no incluyen los ajustes ni eliminaciones necesarias para la presentación de la situación financiera y resultados integrales consolidados de Ecopetrol y sus subordinadas; por consiguiente, los estados financieros separados deben leerse conjuntamente con los estados financieros consolidados del Grupo Empresarial Ecopetrol.

Estos estados financieros fueron autorizados para su emisión por la Junta Directiva el 21 de febrero del 2020.

Las políticas contables descritas en la Nota 4 han sido aplicadas de manera consistente.

Este es el primer conjunto de estados financieros anuales de la Compañía en los que se ha aplicado la NIIF 16 - Arrendamientos. Los cambios relacionados con las políticas contables significativas se describen en la Nota 5.1.

2.2 BASES DE MEDICIÓN

Los estados financieros de la Compañía han sido preparados sobre la base de costo histórico, excepto por activos y pasivos financieros a valor razonable con cambios en resultados y/o cambios en otro resultado integral que se valúan a sus valores razonables al cierre de cada periodo, como se explica en las políticas contables incluidas más adelante.

Por lo general, el costo histórico se basa en el valor razonable de la contraprestación otorgada a cambio de los bienes y servicios.

El valor razonable es el precio que se recibiría al vender un activo o se pagaría al transferir un pasivo en una transacción ordenada entre participantes del mercado a la fecha de la medición. Al estimar el valor razonable, la Compañía utiliza los supuestos que los participantes del mercado utilizarían al fijar el precio del activo o pasivo en condiciones de mercado presentes, incluyendo supuestos sobre el riesgo.

2.3 MONEDA FUNCIONAL Y DE PRESENTACIÓN

Los estados financieros separados son presentados en pesos colombianos, la cual es la moneda funcional de la Compañía y se determina en función al entorno económico principal en el que opera.

Los estados financieros se presentan en pesos colombianos redondeados a la unidad de un millón (COP \$000,000) más cercana, excepto cuando se indique lo contrario.

2.4 MONEDA EXTRANJERA

Las transacciones en moneda extranjera son registradas utilizando los tipos de cambio vigentes en las fechas en que se efectúan las operaciones. Las partidas monetarias denominadas en moneda extranjera son convertidas a las tasas de cambio vigentes a la fecha de reporte. Las variaciones presentadas en la conversión son reconocidas en el resultado financiero, neto, excepto las resultantes de la conversión de préstamos y financiaciones designadas como instrumentos de cobertura de flujo de efectivo o de inversión neta de un negocio en el extranjero, las cuales se reconocen en el otro resultado integral, dentro del patrimonio.

Cuando las partidas cubiertas afectan el resultado, las diferencias en cambio acumuladas en el patrimonio se reclasifican al estado de ganancias y pérdidas como parte del resultado de la operación.

Las partidas no monetarias registradas al valor razonable que están denominadas en moneda extranjera son convertidas a las tasas de cambio vigentes a la fecha en que se determinó el valor razonable. La ganancia o pérdida que surge de la conversión de partidas no monetarias medidas a valor razonable se reconoce de la misma manera que la ganancia o pérdida por valor razonable del bien.

2.5 CLASIFICACIÓN DE ACTIVOS Y PASIVOS ENTRE CORRIENTES Y NO CORRIENTES

La Compañía presenta activos y pasivos en el estado de situación financiera separado con base en la clasificación corriente o no corriente.

Un activo o un pasivo se clasifica como corriente cuando:



Se espera que se realice o se pretenda vender o consumir en el ciclo normal de la operación



Se mantiene principalmente con el propósito de negociar



Se espera que se realice dentro de los doce meses posteriores al período de reporte



Es efectivo o equivalente a menos que se restrinja el intercambio o se use para liquidar un pasivo durante al menos doce meses después del período de reporte



En el caso de un pasivo, no existe el derecho incondicional de diferir su liquidación durante al menos doce meses después del período de reporte

Los demás activos y pasivos se clasifican como no corrientes.

Los activos y pasivos por impuestos diferidos se clasifican como activos y pasivos no corrientes.

2.6 UTILIDAD NETA POR ACCIÓN

La utilidad neta por acción se calcula como el cociente entre el resultado neto del período atribuible a los accionistas de Ecopetrol y el

promedio ponderado de acciones ordinarias en circulación durante dicho período. No existe dilución potencial de acciones.

3. ESTIMACIONES Y JUICIOS CONTABLES SIGNIFICATIVOS

La preparación de los estados financieros requiere que la Gerencia de la Compañía realice juicios, estimaciones y suposiciones para cuantificar algunos de los activos, pasivos, ingresos, gastos y compromisos reconocidos en los estados financieros y sus revelaciones. Estas estimaciones se han realizado en función de la mejor información disponible sobre

los hechos analizados, la experiencia de la gerencia y otros factores. La incertidumbre sobre los supuestos y las estimaciones podría resultar en cambios materiales futuros que afecten el valor de activos o pasivos. Los cambios en estas estimaciones son reconocidos prospectivamente en el período en el cual se revisan.

En el proceso de aplicación de las políticas contables, la Gerencia ha realizado los siguientes juicios y estimaciones, los cuales han tenido el efecto más significativo en los montos reconocidos en los estados financieros:

3.1 RESERVAS DE PETRÓLEO Y GAS NATURAL

Las reservas de petróleo y gas natural son estimados del monto de hidrocarburos que pueden ser económica y legalmente extraídos de las facilidades de producción de la Compañía.

La estimación de reservas se realiza anualmente al 31 de diciembre, de conformidad con las definiciones y reglas de la Securities and Exchange Commission (SEC), establecidas en la Regla 4-10(a) del Reglamento S-X y las directrices de divulgación contenida en la regla final SEC de Modernización de Reporte de Petróleo y Gas.

Tal como lo exige la normatividad vigente, la fecha futura estimada en la que un campo dejará de producir por razones económicas se basa en los costos actuales y en el promedio de los precios del crudo (calculado como el promedio aritmético de los precios del primer día de los últimos 12 meses). La fecha estimada en que terminará la producción afectará el monto de las reservas, a menos que los precios fueran definidos por acuerdos contractuales,

por lo tanto si los precios y los costos cambian de un año a otro, la estimación de las reservas probadas también cambia. Generalmente, las reservas probadas disminuyen en la medida en que los precios bajan y aumentan cuando los precios suben.

La estimación de reservas es un proceso complejo e involucra el uso de juicios profesionales. Estas estimaciones se preparan usando factores geológicos, técnicos y económicos, incluyendo proyecciones futuras de tasas de producción, precios del petróleo, datos de ingeniería y la duración y monto de futuras inversiones con cierto grado de incertidumbre. Estas estimaciones reflejan las condiciones regulatorias y de mercado existentes a la fecha de reporte, las cuales podrían diferir significativamente de otras condiciones a lo largo del año o en periodos futuros. Cualquier cambio en los factores regulatorios y/o de mercado y en los supuestos utilizados, puede impactar materialmente la estimación de las reservas.

IMPACTO DE LAS RESERVAS DE PETRÓLEO Y GAS NATURAL EN LA DEPRECIACIÓN Y AGOTAMIENTO

Los cambios en las estimaciones de reservas probadas afectan los importes del valor en libros de los activos de exploración y producción, de los recursos naturales y del medio ambiente, del goodwill, los pasivos por abandono y desmantelamiento y de la depreciación, agotamiento y amortización. Manteniendo las demás variables constantes, una reducción en la estimación de reservas probadas aumentaría, de forma prospectiva, el valor de los gastos por depreciación y amortización, mientras que un aumento en

las reservas resultaría en una reducción del gasto. La depreciación, agotamiento y amortización es calculada usando el método de unidades de producción.

La información sobre el valor en libros de los activos de exploración y producción y los montos registrados con cargo a resultados, incluyendo la depreciación, agotamiento y amortización, es presentada en las Notas 13 y 14.

3.2 IMPAIRMENT (RECUPERACIÓN) DEL VALOR DE LOS ACTIVOS DE LARGO PLAZO

La Gerencia utiliza su juicio profesional al evaluar la existencia de indicios de un gasto o recuperación de impairment, con base en factores internos y externos.

Cuando exista un indicador de gasto o recuperación de impairment de períodos anteriores, la Compañía estima el importe recuperable de las unidades generadoras de efectivo (UGE), el cual corresponde al mayor entre el valor razonable menos los costos de disposición y el valor en uso.

La evaluación requiere el uso de estimados y supuestos, entre los que se incluyen: (1) estimación de volúmenes y valor de mercado de las reservas de petróleo y gas natural; (2) perfiles de producción de los campos petroleros y producción futura de productos refinados y químicos; (3) inversiones, impuestos y costos futuros; (4) vida útil de los activos; (5) precios futuros, (6) tasa de descuento, la cual es revisada anualmente, y es determinada como el costo promedio ponderado del capital (WACC, por sus siglas en inglés) y (7) cambios en la regulación ambiental; entre otros factores. El importe recuperable es comparado con el valor neto en libros del activo, o de la unidad generadora de efectivo para determinar si es sujeto de reconocimiento de impairment o si debe recuperarse algún monto de periodos anteriores.

Una pérdida por impairment reconocida previamente se revierte solo si ha habido un cambio en los supuestos utilizados para

determinar el importe recuperable de los activos o UGEs desde que se reconoció la última pérdida por impairment. La reversión está limitada de modo que el valor en libros de un activo o UGE, diferente al goodwill, no exceda su importe recuperable, o el valor en libros que se hubiera determinado (neto de amortización o depreciación) si no se hubiera reconocido una pérdida en periodos anteriores.

Los precios futuros se estiman bajo las condiciones actuales del mercado. Los volúmenes de producción esperados, que comprenden reservas probadas y no probadas, se utilizan para pruebas de impairment debido a que la gerencia considera que este es el indicador más apropiado de los flujos de efectivo futuros esperados, los cuales también serían considerados por los participantes del mercado. Las estimaciones de las reservas son intrínsecamente imprecisas y sujetas a riesgo e incertidumbre. Además, las proyecciones sobre reservas no probadas se basan en información que es necesariamente menos robusta que la disponible para reservorios maduros.

Estas estimaciones y supuestos están sujetos a riesgo e incertidumbre. Por lo tanto, existe la posibilidad de que los cambios en las circunstancias afecten las proyecciones, lo que también puede afectar el monto recuperable de los activos y/o UGE, por lo tanto, también puede afectar el reconocimiento de una pérdida por impairment o la reversión de los montos registrados en periodos anteriores.

3.3 COSTOS DE EXPLORACIÓN Y EVALUACIÓN

La aplicación de la política contable de la Compañía para los costos de exploración y evaluación requiere juicio para determinar si los beneficios económicos futuros son probables, ya sea por una explotación futura o una venta, o si las actividades no han alcanzado una

etapa que permita una evaluación razonable de la existencia de reservas. Ciertos costos de exploración y evaluación se capitalizan inicialmente cuando se espera que surjan reservas comercialmente viables. Ecopetrol utiliza su juicio profesional sobre eventos y

circunstancias futuras y realiza estimaciones para evaluar anualmente la generación de beneficios económicos futuros para la extracción de recursos petroleros, así como análisis técnicos y comerciales para confirmar su intención de continuar su desarrollo.

Los cambios con respecto a la información disponible, tal como el nivel de éxito de perforación o los cambios en la economía del proyecto, los costos de producción y

los niveles de inversión, así como otros factores, pueden dar lugar a que los costos de perforación de exploración capitalizados se reconozcan en los resultados del período. Ecopetrol emplea el método de esfuerzos exitosos para el registro de las actividades de exploración y evaluación. Los gastos por pozos secos se incluyen en las actividades de operación en el estado de flujos de efectivo.

3.4 DETERMINACIÓN DE LAS UNIDADES GENERADORAS DE EFECTIVO (UGES)

La asignación de activos en UGEs requiere juicio significativo, así como también la evaluación con respecto a la integración entre los activos, la existencia de mercados activos, la exposición

similar a los riesgos de mercado, las infraestructuras compartidas y la forma en la que la gerencia monitorea las operaciones. Ver Nota 4.11 – Impairment del valor de los activos.

3.5 ABANDONO Y DESMANTELAMIENTO DE CAMPOS Y OTRAS FACILIDADES

De acuerdo con la reglamentación ambiental y de petróleos, la Compañía debe reconocer los costos por el abandono de instalaciones de extracción y transporte de petróleo, los cuales incluyen el costo de taponamiento y abandono de pozos, desmantelamiento de instalaciones y recuperación ambiental de las áreas afectadas.

Los costos de abandono y desmantelamiento son registrados cuando se tienen obligaciones ya sean legales o implícitas relacionadas con el desmantelamiento de componentes de pozos, ductos, inmuebles y equipo. Estas estimaciones son revisadas anualmente.

Los cálculos de estos montos son complejos e involucran juicios significativos por parte de la Gerencia. Los costos finales de cierre son inciertos y las estimaciones pueden variar en respuesta a muchos factores, incluidos

los cambios en los requisitos legales pertinentes, el surgimiento de nuevas técnicas de restauración o la experiencia en otros sitios de producción. El tiempo esperado, la extensión y el monto de los gastos también pueden cambiar, por ejemplo, en respuesta a cambios en las proyecciones de costos internos, cambios en las estimaciones de reservas, tasas de inflación futuras y tasas de descuento. La Compañía considera que los costos de abandono y desmantelamiento son razonables, según la experiencia y las condiciones del mercado; sin embargo, las variaciones significativas en los factores externos utilizados para el cálculo de la estimación podrían afectar significativamente los montos registrados en los estados financieros. Ver Nota 4.12 – Provisiones y pasivos contingentes (Obligación de retiro de activos).

3.6 PLANES DE PENSIÓN Y OTROS BENEFICIOS

La determinación de gastos, pasivos y ajustes relacionados con los planes de pensión y otros beneficios de retiro definidos requieren que la gerencia utilice el juicio en la aplicación de los supuestos actuariales utilizados en el cálculo actuarial. Los supuestos actuariales incluyen estimaciones de la mortalidad futura, retiros, cambios en la remuneración y la tasa de descuento para reflejar el valor del dinero en el tiempo; así como la tasa de rendimiento de los activos del plan. Debido a la complejidad de la valoración, así como a su naturaleza de largo

plazo, las obligaciones que se definan son muy sensibles a cualquier cambio en las variables que se utilizan.

Estos supuestos se revisan anualmente para propósitos de las valuaciones actuariales y pueden diferir en forma material de los resultados reales debido a cambios en las condiciones económicas y de mercado, cambios en la regulación, decisiones judiciales, tasas de retiro más altas o más bajas, o a expectativas de vida de los empleados más largas o más cortas.

3.7 LITIGIOS

La Compañía está sujeta a reclamaciones por procedimientos regulatorios y de arbitraje, liquidaciones de impuestos y otras que surgen dentro del curso ordinario de los negocios. La gerencia evalúa estas situaciones con base en su naturaleza, la probabilidad de que se materialicen y las sumas involucradas, para decidir sobre los importes reconocidos y/o revelados en los estados financieros.

Este análisis, el cual puede requerir juicios considerables, incluye revisar procesos legales instaurados en contra y reclamos aún no iniciados. Una provisión se reconoce cuando la Compañía tiene una obligación presente como resultado de un evento pasado y es probable que se genere una salida de recursos para liquidar la obligación y, asimismo, se puede hacer una estimación confiable del monto de dicha obligación.

3.8 IMPUESTOS

El cálculo de la provisión por impuesto de renta requiere la interpretación de la normativa fiscal en las jurisdicciones donde opera la Compañía. Se requieren realizar juicios significativos para la determinación de las estimaciones del impuesto a las ganancias y para evaluar la recuperabilidad de los activos por impuestos diferidos, los cuales se basan en la habilidad de generar suficientes resultados fiscales durante los periodos en los cuales tales impuestos diferidos podrían ser usados o deducidos. Los pasivos por impuestos diferidos se registran de acuerdo con las estimaciones realizadas de los activos netos que en un futuro no serán fiscalmente deducibles.

En la medida en que los flujos de efectivo futuros y la renta gravable difieran significativamente de las estimaciones, la

capacidad de la Compañía para utilizar los impuestos diferidos activos registrados, podría verse afectada.

Adicionalmente, los cambios en las normas fiscales podrían limitar la capacidad de la Compañía para obtener deducciones fiscales en ejercicios futuros, así como el reconocimiento de nuevos pasivos por impuestos producto de cuestionamientos por parte de la auditoría del organismo fiscalizador.

Las posiciones fiscales implican una evaluación cuidadosa por parte de la Gerencia, y se revisan y ajustan en respuesta a circunstancias como caducidad en la aplicación de la legislación, cierre de auditorías fiscales, revelaciones adicionales ocasionadas

por algún tema legal o alguna decisión de la Corte en un tema tributario en particular. La Compañía registra provisiones con base en la estimación de la posibilidad de una decisión negativa que pueda surgir de una auditoría

fiscal. El monto de estas provisiones depende de factores como la experiencia previa en auditorías fiscales y las interpretaciones de las normas tributarias. Los resultados reales pueden diferir de las estimaciones registradas.

3.9 CONTABILIDAD DE COBERTURAS

El proceso de identificación de las relaciones de cobertura entre las partidas cubiertas y los instrumentos de cobertura derivados y no derivados (tales como la deuda de largo plazo en moneda extranjera), y su correspondiente

efectividad, requiere juicios de la gerencia. La Compañía evalúa periódicamente la alineación entre las coberturas identificadas y su política de gestión de riesgos. Ver nota 27.

4. POLÍTICAS CONTABLES

Las políticas contables que se indican a continuación se han aplicado consistentemente para los períodos presentados.

4.1 INSTRUMENTOS FINANCIEROS

Un instrumento financiero es cualquier contrato que dé lugar a un activo financiero, a un pasivo financiero o a un instrumento de patrimonio en otra entidad.

La clasificación depende de su naturaleza y propósito por el cual el activo o pasivo financiero fue adquirido y se determina al momento del reconocimiento inicial. Todos los activos y pasivos financieros se miden inicialmente a su valor razonable.

Los costos de transacción que son directamente atribuibles a la adquisición o emisión de activos y pasivos financieros, distintos a los medidos a valor razonable con cambios en resultados, se suman o deducen

del valor razonable de los activos y pasivos financieros, en el reconocimiento inicial. Los costos de transacción directamente atribuibles a la adquisición de activos y pasivos financieros medidos a valor razonable con cambios en resultados se reconocen inmediatamente en resultados.

Los préstamos y cuentas por cobrar comerciales, otras cuentas por cobrar y activos financieros mantenidos hasta su vencimiento, se miden posteriormente al costo amortizado utilizando el método de tasa de interés efectiva.

Los instrumentos de patrimonio se miden a valor razonable.

Mediciones a valor razonable

El valor razonable es el precio que se espera recibir al vender un activo o se pagaría para transferir un pasivo en una transacción ordenada entre participantes del mercado en la fecha de valoración. La medición del valor razonable se basa en la presunción de que la transacción para vender el activo o transferir el pasivo tiene lugar en el mercado principal del activo o pasivo o en ausencia de un mercado principal en el mercado más ventajoso.

El valor razonable de un activo o un pasivo es medido utilizando los supuestos que los participantes del mercado utilizarían para fijar su precio, suponiendo que los participantes del mercado actúan en su mejor interés económico.

La medición del valor razonable de un activo no financiero tiene en cuenta la capacidad de generar beneficios económicos mediante la utilización del activo en su máximo y mejor uso o mediante la venta de este a otro participante del mercado quien utilizaría el activo en su máximo y mejor uso.

La Compañía utiliza las técnicas de valoración más apropiadas para las circunstancias y con la mejor información disponible, maximizando el uso de los datos de entrada observables y minimizando los no observables.

Todos los activos y pasivos cuyo valor razonable se mide o revela en los estados financieros se clasifican dentro de la jerarquía, con base en la entrada de nivel más bajo que es significativa para la medición del valor razonable en su conjunto, de la siguiente manera:



Nivel 1: Precios de cotización (no ajustados) de mercados activos para activos y pasivos idénticos. El valor razonable de los instrumentos negociables la Compañía se basa en entradas de nivel 1.



Nivel 2: Técnicas de valoración para las cuales se observa directa o indirectamente la entrada de nivel más bajo que es significativa para la medición del valor razonable. Las entradas del nivel 2 incluyen precios de activos similares, precios obtenidos a través de cotizaciones de corredores de bolsa, y los precios que pueden ser corroborados substancialmente con otros datos observables con los mismos términos contractuales.

Para los contratos de derivados que no dispongan de un precio de mercado cotizado, las estimaciones del valor razonable generalmente se determinan utilizando modelos y otros métodos de valoración basados técnicas de valor presente, cuyos insumos clave incluyen precios futuros, estimaciones de volatilidad, correlación de precios, riesgo de crédito de contraparte y liquidez del mercado, según corresponda.



Nivel 3: Técnicas de valoración para las cuales la entrada de nivel más bajo que es significativa para la medición del valor razonable no es observable. La Compañía no utiliza entradas a nivel 3 para sus mediciones de activos y pasivos financieros. Para el cálculo del valor recuperable de ciertos activos no financieros para propósitos de determinación del impairment, Ecopetrol puede utilizar entradas de nivel 3

Método de la tasa de interés efectiva

El método de la tasa de interés efectiva es una forma de cálculo del costo amortizado de un instrumento financiero y de registro del ingreso o gasto financiero a lo largo del período relevante. La tasa de interés efectiva es la tasa de descuento que iguala exactamente los flujos de efectivo por cobrar o por pagar estimados (incluyendo todas las comisiones, costos de transacción y otras primas o descuentos) a lo largo de la vida esperada del instrumento financiero (o, cuando sea adecuado, en un periodo más corto) con el importe neto en libros en el reconocimiento inicial.

Impairment de activos financieros

La Compañía reconoce el valor de las pérdidas crediticias esperadas durante el tiempo de vida del activo de acuerdo con el enfoque simplificado. Las pérdidas crediticias del activo se reconocen antes que un instrumento pase a estar en mora. Para determinar el riesgo crediticio se utiliza la información razonable y sustentable que se refiera al comportamiento histórico y variables que indiquen que exista riesgo en el futuro.

Al final de cada periodo sobre el que se informa la Compañía evalúa si hay

evidencia objetiva que un activo o un grupo de activos están deteriorados como resultado de uno o más eventos ocurridos desde el reconocimiento inicial para determinar si los flujos de efectivo futuros han sido afectados.

Para los activos financieros medidos al costo amortizado, el importe de la pérdida por impairment es la diferencia entre el importe en libros y el valor presente de los flujos de efectivo futuros estimados, descontados a la tasa de interés efectiva original del activo financiero.

4.1.1 EFECTIVO Y EQUIVALENTES DE EFECTIVO

El efectivo y equivalentes de efectivo comprende recursos en caja, inversiones financieras altamente líquidas, depósitos bancarios y depósitos especiales con vencimiento dentro de los noventa días desde la fecha de su adquisición y con bajo nivel de riesgo a cambios significativos en su valor.

4.1.2 ACTIVOS FINANCIEROS

La Compañía clasifica sus activos financieros en las siguientes categorías:

a) Activos financieros a valor razonable con cambios en resultados

Incluyen activos financieros mantenidos para negociar y activos financieros designados al momento del reconocimiento inicial a valor razonable con cambios en resultados. Se clasifican como mantenidos para negociar si son adquiridos con el propósito de vender o recomprar en el corto plazo. Estos activos se reconocen a su valor razonable y las ganancias o pérdidas que surgen en la re-medición son reconocidas en el resultado del periodo.

b) Activos financieros medidos al valor razonable con cambios en el otro resultado integral

Son instrumentos de patrimonio de otras Compañías no controladas y no estratégicas que no permiten ejercer ningún tipo de control o influencia significativa sobre las mismas y donde la gerencia la Compañía no tiene propósito de negociarlos en el corto plazo. Estos instrumentos se reconocen por su valor razonable y las ganancias o pérdidas no realizadas se reconocen en el otro resultado integral.

c) Activos financieros a costo amortizado

Esta categoría es la más relevante para la Compañía. Los activos financieros a costo amortizado incluyen las cuentas por cobrar comerciales, otras cuentas por cobrar, préstamos y préstamos a empleados.

Los préstamos y cuentas por cobrar son activos financieros no derivados con pagos fijos o determinables, que no cotizan en un mercado activo. Los préstamos y cuentas por cobrar, incluyen cuentas comerciales y otras cuentas por cobrar que, son medidas inicialmente a su valor razonable y posteriormente a su costo amortizado, utilizando el método de interés efectivo, menos impairment.

Los préstamos a empleados son inicialmente reconocidos al valor presente de los flujos de efectivo futuros, descontados a una tasa de mercado para un préstamo similar. Si la tasa de interés del préstamo es inferior a la tasa de interés de mercado, el valor razonable será menor que la cuantía del préstamo. Esta diferencia inicial se reconoce como beneficio a empleados.

La Compañía mide los activos financieros a costo amortizado si se cumplen las siguientes condiciones:

1. El activo es mantenido dentro de un modelo de negocio cuyo objetivo es beneficiarse de los flujos contractuales, y,
2. Los términos contractuales dan lugar a fechas específicas de pago y los flujos de efectivo corresponden únicamente a pagos del principal e intereses.

Los activos financieros a costo amortizado son posteriormente medidos usando el método de interés efectivo menos impairment. Las ganancias o pérdidas son reconocidas en el resultado cuando el activo es dado de baja, ha sido modificado o deteriorado.

Bajas de activos financieros

La Compañía da de baja un activo financiero únicamente al vencimiento de los derechos contractuales sobre los flujos de efectivo del activo o, cuando ha transferido sus derechos de recibir dichos flujos o ha asumido la obligación de pagar los flujos recibidos en su totalidad sin demora material a un tercero y: (a) ha transferido sustancialmente todos los riesgos y beneficios inherentes a la propiedad o (b) no ha transferido ni retenido

sustancialmente todos los riesgos y beneficios del activo, sino que ha transferido el control del mismo.

Cuando la Compañía no ha transferido ni retenido sustancialmente todos los riesgos y beneficios del activo o transferido el control del activo, continúa reconociendo el activo sobre la base de la participación continuada, y también reconoce el pasivo asociado.

4.1.3 PASIVOS FINANCIEROS

Los pasivos financieros corresponden a las fuentes de financiación obtenidas por la Compañía a través de créditos bancarios y emisiones de bonos, cuentas por pagar a proveedores y acreedores.

Los bonos y los créditos bancarios se reconocen inicialmente a su valor razonable, neto de los costos de transacción incurridos. Después del reconocimiento inicial, se miden posteriormente a costo amortizado, utilizando el método de tasa de interés efectiva.

La amortización se incluye como gasto financiero en el estado de ganancias y pérdidas. El gasto de amortización es calculado teniendo en cuenta todos los descuentos o primas de adquisición y honorarios o costos que forman parte integral de la tasa de interés efectiva.

Las cuentas por pagar a proveedores y acreedores son pasivos financieros a corto plazo registrados por su valor nominal, toda vez que no difieren significativamente de su valor razonable.

Bajas de pasivos financieros

Un pasivo financiero se da de baja cuando la obligación especificada en el correspondiente contrato sea pagada o vencida. Cuando un pasivo existente haya sido reemplazado por otro pasivo proveniente del mismo prestamista bajo condiciones sustancialmente diferentes,

o si las condiciones de un pasivo existente se modifican de manera sustancial, tal modificación se trata como una baja del pasivo original y el reconocimiento de un nuevo pasivo. La diferencia entre los importes respectivos, se reconoce en el estado de ganancias y pérdidas.

4.1.4 INSTRUMENTOS FINANCIEROS DERIVADOS Y OPERACIONES DE COBERTURA

Los instrumentos financieros derivados se reconocen inicialmente en el estado de situación financiera como activos o pasivos y se miden a su valor razonable en la fecha en que se registra el derivado y posteriormente se miden a valor razonable. Los cambios en el valor razonable se registran como resultados en el estado de ganancias y pérdidas, excepto la porción efectiva de las coberturas de flujos de efectivo, las cuales se reconocen en otros resultados integrales y posteriormente se reclasifican a resultados cuando el elemento cubierto afecte ganancias y pérdidas.

Las ganancias o pérdidas de los contratos derivados, que no están calificados ni

designados como coberturas, incluidos los contratos de forward para la compra y venta de commodities en negociación para la entrega o recibo físico del commodity son registrados en el resultado.

Los derivados implícitos en contratos que aún no requieren ser reconocidos a valor razonable y que no están directamente relacionados con el contrato anfitrión en términos de características económicas y riesgos se separan de su contrato principal y son reconocidos a valor razonable; las ganancias o pérdidas asociadas se reconocen en resultados.

4.1.5 OPERACIONES DE COBERTURA

Para propósitos de contabilidad de cobertura, estas operaciones son clasificadas como:



Coberturas de valor razonable, cuyo propósito es cubrir la exposición a los cambios en el valor razonable de activos o pasivos reconocidos que se atribuye a un riesgo particular.



Coberturas de una inversión neta de un negocio en el extranjero.



Coberturas de flujo de efectivo, cuyo propósito es cubrir la exposición a la fluctuación de los flujos de efectivo, que se atribuye a un riesgo particular asociado con un activo o pasivo reconocido o a una transacción prevista altamente probable.

Al inicio de la relación de cobertura, la Compañía designa y documenta formalmente la relación entre el instrumento de cobertura y el elemento cubierto, junto con sus objetivos de gestión de riesgo y su estrategia para llevar a cabo las transacciones de cobertura. Se espera que tales coberturas

sean altamente efectivas para lograr compensar los cambios en el valor razonable o en los flujos de efectivo; igualmente, se evalúan continuamente para determinar que realmente han sido altamente efectivos a lo largo de los períodos de reporte financiero, para los cuales fueron designados.

4.1.5.1 Cobertura de flujo de efectivo

La porción efectiva de las ganancias o pérdidas de los instrumentos de cobertura se reconocen en otro resultado integral, mientras que la porción inefectiva se reconoce en el resultado del periodo, en la línea del resultado financiero, neto.

Los montos previamente reconocidos en otro resultado integral se transfieren a resultados cuando la partida cubierta afecta

los resultados del ejercicio. Cuando la partida cubierta es un activo o pasivo no financiero, los importes previamente reconocidos en otro resultado integral se transfieren y se incluyen en el importe en libros inicial del costo del activo o pasivo no financiero.

Si el instrumento de cobertura expira o se vende, finaliza o se ejerce sin reemplazo o transferencia, o si se revoca su designación

como cobertura o cuando la cobertura ya no cumple con los criterios para la contabilidad de coberturas, cualquier ganancia o pérdida acumulada previamente reconocida en otro resultado integral se mantiene por separado en el patrimonio hasta que la transacción se reconozca en el estado de ganancias y pérdidas. Cuando ya no se espera que ocurra la transacción cubierta inicialmente,

cualquier monto acumulado en el patrimonio se reconoce inmediatamente en el resultado del periodo.

Ecopetrol designa préstamos a largo plazo como instrumento de cobertura para su exposición al riesgo tipo de cambio en exportaciones futuras de crudo. Ver Nota 27 para mayor información.

4.1.5.2 Cobertura de inversión neta en un negocio en el extranjero

Son contabilizadas de manera similar a las coberturas de flujo de efectivo.

Las ganancias y pérdidas del instrumento de cobertura relativa a la porción efectiva se reconocen en el otro resultado integral; mientras que los montos relativos a la porción inefectiva en el resultado del periodo. Las ganancias o pérdidas acumuladas en el patrimonio son

reclasificadas al estado de ganancias y pérdidas cuando se disponga parcial o totalmente del negocio en el extranjero.

Ecopetrol designó préstamos a largo plazo como instrumento de cobertura para su exposición al riesgo de tipo de cambio en sus inversiones en subsidiarias cuya moneda funcional es dólar. Ver Nota 27 para mayor información.

4.2 INVENTARIOS

Los inventarios se registran al más bajo entre el costo y el valor neto realizable.

Comprenden principalmente petróleo crudo, combustibles y productos petroquímicos e inventarios de bienes de consumo (repuestos y suministros).

El costo del petróleo crudo es el costo de producción, incluido el costo de transporte.

El costo requerido para poner en funcionamiento los oleoductos hace parte del costo del oleoducto relacionado.

El costo de otros inventarios se determina según el método del promedio ponderado, el cual incluye los costos de adquisición (descuentos comerciales, reembolsos y otros similares), transformación y otros costos incurridos para llevar el inventario a su

ubicación y condición actual, como los costos de transporte.

Los inventarios de consumibles (repuestos y suministros) se reconocen como inventario y luego se registran como gastos, mantenimiento o proyectos en la medida en que se consuman.

La Compañía estima el valor neto realizable de los inventarios al final de cada período. Cuando las circunstancias que previamente causaron que los inventarios estuvieran por debajo de su costo ya no existan, o cuando se presenta una clara evidencia de un aumento en el valor neto realizable debido a un cambio en las circunstancias económicas, el monto provisionado se revierte. La reversión no puede ser mayor al valor registrado originalmente, de modo que el nuevo importe en libros siempre será el menor entre el costo y el valor neto realizable revisado.

4.3 PARTES RELACIONADAS

Se consideran partes relacionadas aquellas en donde una de las partes tiene la capacidad de controlar a la otra, tiene control conjunto, o ejerce influencia significativa en la toma de decisiones financieras u operativas de la participada o es un miembro del personal clave de la gerencia (o familiar cercano del personal clave). La Compañía ha considerado como partes relacionadas las compañías

subsidiarias, asociadas, negocios conjuntos, directivos clave de la gerencia, las entidades administradoras de los recursos para pago de planes de beneficios post-empleo para empleados y algunas transacciones relevantes celebradas con entidades del Gobierno Colombiano, como son la compra de hidrocarburos y el fondo de estabilización petrolera. (Ver Nota 28 – Partes relacionadas)

4.3.1 COMPAÑÍAS SUBSIDIARIAS

Las subsidiarias son todas las compañías sobre las que Ecopetrol tiene el poder de gobernar sus políticas operativas y financieras. Generalmente estas entidades son aquellas donde Ecopetrol tiene más de la mitad de

sus acciones con derecho de voto. Estas inversiones se reconocen en el estado de situación financiera separado por el método de participación y tienen incluido el goodwill generado en el momento de su adquisición.

4.3.2 INVERSIONES EN ASOCIADAS

Una asociada es una entidad sobre la cual la Compañía ejerce influencia significativa pero no control. La influencia significativa es el poder de intervenir en las decisiones de política financiera y operativa de la participada, sin llegar a tener control o control conjunto sobre las mismas. En general, estas entidades son aquellas en las que se mantiene una participación accionaria del 20% al 50% de los derechos de voto.

Las inversiones en asociadas se contabilizan utilizando el método de la participación. Bajo este método, la inversión se reconoce inicialmente al costo, posteriormente es ajustada para reconocer la participación de la Compañía en los activos netos de la asociada. El goodwill relacionado se incluye en el importe en libros y no se evalúa su impairment de forma separada.

La participación en los resultados de las operaciones de la asociada se reconoce

en el estado de ganancias y pérdidas. Cualquier cambio en otro resultado integral se registra también en el otro resultado integral de Ecopetrol.

Después de la aplicación del método de participación, la Compañía determina si es necesario reconocer una pérdida por impairment de la inversión. En cada fecha de presentación, la Compañía determina si existe evidencia objetiva de que la inversión está deteriorada, si existe tal evidencia, se calcula el monto del impairment como la diferencia entre el importe recuperable y el valor en libros, y luego reconoce la pérdida en el estado de ganancias y pérdidas.

Cuando es necesario, se realizan ajustes a las políticas contables de las asociadas para garantizar la consistencia con las adoptadas por la Compañía. Adicionalmente, el método de participación se calcula con sus estados financieros más recientes.

4.3.3 NEGOCIOS CONJUNTOS

Un negocio conjunto es un acuerdo mediante el cual dos o más partes ejercen control conjunto y tienen derecho a los activos netos del acuerdo conjunto. El control conjunto se presenta cuando las decisiones sobre las actividades relevantes

requieren el consentimiento unánime de las partes que comparten el control. El tratamiento contable para el reconocimiento de los negocios conjuntos es el mismo que el de las inversiones en asociadas.

4.4 OPERACIONES CONJUNTAS

Una operación conjunta es un tipo de acuerdo conjunto mediante el cual las partes ejercen derechos sobre los activos y obligaciones sobre los pasivos, en relación con el acuerdo.

Los contratos de operación conjunta se celebran entre Ecopetrol y terceros para compartir el riesgo, asegurar el capital, maximizar la eficiencia operativa y optimizar la recuperación de las reservas. En estas operaciones, una parte se designa como el operador para ejecutar el presupuesto de gastos e inversiones e informar a los socios de acuerdo con sus intereses de participación. Así mismo, cada uno toma su parte de los hidrocarburos producidos (petróleo crudo o gas) de acuerdo con su participación en la producción.

Cuando Ecopetrol participa como socio no operador, registra los activos, pasivos, ingresos, costos y gastos en función del informe de los operadores. Cuando Ecopetrol es el operador directo de los contratos, registra su porcentaje de activos, pasivos, ingresos, costos y gastos, con base en la participación de cada socio en las líneas

correspondientes a activos, pasivos, gastos, costos e ingresos.

Cuando la Compañía adquiere o aumenta una participación en una operación conjunta en la cual la actividad constituye un negocio, dicha transacción se registra aplicando el método de adquisición de acuerdo a la NIIF 3 – Combinación de negocios. El costo de adquisición es la suma de la contraprestación transferida, la cual corresponde al valor razonable, en la fecha de adquisición, de los activos transferidos y los pasivos incurridos. Cualquier costo de transacción relacionado con la adquisición o aumento de participación de la operación conjunta que constituye un negocio, se reconoce en el estado de otros resultados integrales del periodo.

El exceso del valor de la contraprestación transferida y el importe pagado en la operación se reconoce como goodwill. Si resulta en un exceso el valor razonable de los activos netos adquiridos sobre el importe pagado en la operación, la diferencia se reconoce como un ingreso en el estado de ganancias y pérdidas en la fecha de reconocimiento de la operación.

4.5 ACTIVOS NO CORRIENTES MANTENIDOS PARA LA VENTA

Los activos no corrientes se clasifican como mantenidos para la venta si sus valores en libros se recuperarán principalmente a través de una transacción de venta y no mediante su uso continuado. Asimismo, se clasifican en esta categoría solo cuando la venta es

altamente probable dentro de un año desde la fecha de clasificación y el activo (o grupo de activos) está disponible para su venta inmediata en su condición actual. Estos activos se miden al menor entre su valor en libros y el valor razonable menos los costos de disposición relacionados.

4.6 PROPIEDADES, PLANTA Y EQUIPO

Reconocimiento y medición

Las propiedades, planta y equipo se presentan al costo menos la depreciación acumulada y las pérdidas acumuladas por impairment. Los componentes tangibles de los activos relacionados con recursos naturales y del medio ambiente forman parte de las propiedades, planta y equipo.

El costo inicial de un activo comprende su precio de compra o costo de construcción, incluyendo impuestos de importación e impuestos no reembolsables, cualquier costo directamente atribuible a la puesta en operación del activo, costos de beneficios a los empleados que surjan directamente de la construcción o adquisición, costos de endeudamiento incurridos que son atribuibles

a la adquisición y/o construcción de activos calificables y la estimación inicial de los costos de desmantelamiento y abandono.

Las piezas de repuesto y el equipo auxiliar se registran como inventarios, y se reconocen como gasto cuando se consumen. Las piezas de repuesto importantes y el equipo de mantenimiento permanente, que la Compañía espera usar durante más de un período, son reconocidos como propiedades, planta y equipo.

Cualquier ganancia o pérdida en el retiro de algún elemento de propiedades, planta y equipo es reconocida en los resultados del periodo respectivo.

Desembolsos posteriores

Corresponden a todos los desembolsos que se realicen sobre activos existentes con el fin de aumentar o prolongar la vida útil inicial esperada, aumentar la productividad o eficiencia productiva, permitir una reducción significativa de los costos de operación, aumentar el nivel de reservas en áreas de explotación o desarrollo o reemplazar una

parte o componente de un activo que sea considerado crítico para la operación.

Los gastos de reparación, conservación y mantenimiento de carácter ordinario se imputan a resultados del ejercicio en que se producen. No obstante, los desembolsos asociados a mantenimientos mayores son capitalizados.

Depreciación

Las propiedades, planta y equipo se deprecian siguiendo el método lineal, excepto los activos asociados a las actividades de exploración y producción, los cuales se deprecian según el método de unidades técnicas de producción. Las vidas útiles técnicas se actualizan anualmente considerando razones tales como: adiciones o mejoras (por reposición de partes o componentes críticos para la operación del activo), avances tecnológicos, obsolescencia u otros factores; el efecto de estos cambios se

reconoce a partir del periodo contable en el cual se efectúa.

La depreciación de los activos comienza cuando los mismos están en condiciones de uso.

La vida útil se define bajo los criterios de utilización prevista del activo, su desgaste físico esperado, la obsolescencia técnica o comercial y los límites legales o restricciones sobre su uso. Las vidas útiles promedio ponderado son las siguientes:

Planta y equipo	11 - 60 años
Ductos, redes y líneas	11 - 50 años
Edificaciones	11 - 50 años
Otros	6 - 40 años

Los terrenos se registran de forma independiente de los edificios o instalaciones y tienen una vida útil indefinida y por lo tanto no son objeto de depreciación.

Los métodos de depreciación y vidas útiles se revisan anualmente y se ajustan, si corresponde.

4.7 RECURSOS NATURALES Y DEL MEDIO AMBIENTE

RECONOCIMIENTO Y MEDICIÓN

Ecopetrol emplea el método de esfuerzos exitosos para el registro de las actividades de exploración y producción de petróleo crudo y gas, considerando a su vez, lo establecido en la NIIF 6 - Exploración y evaluación de recursos minerales.

Costos de exploración

Los costos de adquisición y exploración son registrados como activos de exploración y evaluación en curso hasta el momento en que se determine si la perforación de exploración resultó exitosa o no; de no ser exitosa, todos los costos incurridos son reconocidos en resultados.

Los costos de exploración relacionados con geología y geofísica, sísmica, viabilidad y otros, se reconocen como gastos cuando se incurren. Los desembolsos asociados con la perforación de pozos exploratorios y aquellos relacionados con pozos estratigráficos de naturaleza exploratoria se cargan como activos hasta que se determine si son comercialmente viables; de lo contrario, se cargan a resultados como gasto de pozos secos. Otros gastos se reconocen en resultados cuando se incurre en ellos.

Un activo de exploración y evaluación ya no se clasificará como tal cuando se demuestre la factibilidad técnica y la viabilidad comercial de extraer un recurso mineral. Los activos de exploración y evaluación se revisarán por impairment y se reconocerá cualquier pérdida antes de su reclasificación.

Todos los costos capitalizados están sujetos a revisiones técnicas y comerciales al menos una vez al año para confirmar la continuidad para desarrollar y producir dichos campos; de lo contrario, estos costos se transfieren a ganancias y pérdidas.

Los costos de exploración se presentan netos de los ingresos obtenidos de la venta de petróleo crudo durante el periodo de pruebas extensas, neto de los costos de ventas, ya que se consideran necesarios para completar el activo.

Costos de desarrollo

Los costos de desarrollo corresponden a aquellos costos incurridos para acceder a las reservas probadas de hidrocarburos y de proporcionar las instalaciones necesarias para la extracción, tratamiento, recogida y almacenamiento. Cuando un proyecto es aprobado para desarrollo, el valor acumulado de los costos de adquisición y exploración

se clasifican como recursos naturales y del medio ambiente, los costos posteriores a la etapa de exploración son capitalizados como costos de desarrollo de las propiedades que comprendan tales activos de recursos naturales. Todos los costos de desarrollo se capitalizan, incluidos los costos de perforación sin éxito de pozos de desarrollo.

Costos de producción

Son aquellos incurridos para operar y mantener los pozos productivos así como el equipo e instalaciones correspondientes. La actividad de producción incluye la extracción del crudo y del gas a la superficie, su recolección, tratamiento y procesamiento y el almacenamiento en el campo. Los costos de producción son gastos en el momento en que se incurren a menos que adicionen reservas, en tal caso son capitalizados.

Los equipos de producción y apoyo se contabilizan con base en su costo y hacen parte de las propiedades, planta y equipo sujetos a depreciación.

Los costos capitalizados también incluyen el costo de abandono y desmantelamiento, así como el valor estimado por obligaciones ambientales futuras. La estimación incluye los costos de taponamiento y abandono de pozos, desmonte de facilidades y recuperación ambiental de áreas y pozos. Los cambios resultantes de nuevas estimaciones del pasivo por abandono y desmantelamiento, son llevados al activo correspondiente.

Los costos capitalizados también incluyen el valor de los ingresos obtenidos netos de los costos por la venta de crudo de pruebas extensas, por cuanto se consideran necesarios para completar el activo.

AMORTIZACIÓN

La amortización de los elementos de recursos naturales y del medio ambiente es determinada según el método de unidades de producción por campo, utilizando como base las reservas probadas desarrolladas, excepto en casos excepcionales limitados que requieren un mayor juicio por parte de la Gerencia para determinar un mejor factor de amortización de los beneficios económicos futuros durante la vida útil del activo. Los factores de amortización se revisan anualmente, con base en el estudio de reservas y el impacto sobre cambios de dichos factores sobre el gasto

por amortización, se reconoce de manera prospectiva en los estados financieros.

Las reservas son estimadas y certificadas por consultores externos reconocidos internacionalmente y aprobadas por la Junta Directiva de la Compañía. Las reservas probadas consisten en las cantidades estimadas de petróleo crudo y gas natural demostradas con certeza razonable por los datos geológicos y de ingeniería que serán recuperables en años futuros a partir de reservas conocidas bajo condiciones económicas y de operación existentes, es decir, a los precios y costos que se aplican a la fecha de la estimación.

IMPAIRMENT

Los activos asociados a exploración, evaluación y producción están sujetos a revisión por posible impairment en su valor recuperable. Ver Notas 3.2 -

Impairment (recuperación) del valor de los activos de largo plazo y 4.11 - Impairment del valor de los activos de largo plazo.

4.8 CAPITALIZACIÓN DE COSTOS POR PRÉSTAMOS

Los costos por préstamos relacionados con la adquisición, construcción o producción de un activo calificado, el cual requiera un período de tiempo sustancial para estar listo para su uso, se capitalizan como parte del costo de ese activo cuando sea probable que los beneficios económicos futuros retornen a la Compañía

y puedan ser medidos con fiabilidad. Los demás costos por intereses se reconocen como gastos financieros. Los proyectos que han sido suspendidos, pero que la Compañía pretende continuar a futuro con su ejecución, no son considerados activos calificados para propósitos de capitalización de costos por préstamos.

4.9 ACTIVOS INTANGIBLES

Los activos intangibles con vida útil definida son registrados al costo menos la amortización acumulada y pérdidas acumuladas por impairment. Los activos intangibles son amortizados sobre una base de línea recta de acuerdo con sus vidas útiles estimadas. La vida útil estimada y el método de amortización

son revisados al final de cada período de reporte; cualquier cambio en la estimación es registrada sobre una base prospectiva.

Los desembolsos originados por las actividades de investigación se reconocen como un gasto en el período en el cual se incurren.

4.10 ARRENDAMIENTOS

La Compañía aplicó NIIF 16 – Arrendamientos a partir del 1 de enero de 2019, utilizando el enfoque retrospectivo modificado. En consecuencia, la información comparativa presentada para 2018 no se re-expresa, es decir, se presenta, como se

informó anteriormente, bajo la NIC 17 e interpretaciones relacionadas. Los detalles de los cambios en las políticas contables se revelan en la Nota 5.1. Adicionalmente, los requisitos de revelación de la NIIF 16 no han sido aplicados a la información comparativa.

4.11 IMPAIRMENT DEL VALOR DE LOS ACTIVOS DE LARGO PLAZO

Con el fin de evaluar si los activos tangibles e intangibles están deteriorados, la Compañía compara el valor en libros de los mismos con el importe recuperable por lo menos en cada fecha de cierre del período, para identificar indicios de que algún activo pudiera estar deteriorado.

Para efectuar el análisis de impairment, los activos se agrupan en unidades generadoras de efectivo (UGEs) siempre que los mismos, individualmente considerados, no generen flujos de efectivo que, en buena medida, sean independientes de los generados por otros activos o UGEs. La agrupación de los activos en diferentes UGEs, implica la realización de juicio profesional y la consideración, entre otros parámetros, de los segmentos de negocio. En este sentido, en el segmento de Exploración y Producción, una UGE corresponde a cada una de las distintas áreas contractuales comúnmente denominadas “campos”; por excepción, en aquellos casos en que los flujos de caja generados por varios campos son interdependientes entre

sí, dichos campos se agrupan en una única UGE. En el caso del segmento Refinación y Petroquímica, las UGE corresponden a cada una de las refinerías de la Compañía y para el segmento de Transporte cada línea es considerada como una UGE independiente.

El valor recuperable es el mayor entre el valor razonable menos los costos de disposición y el valor en uso. Si el importe recuperable de un activo (o de una UGE) es inferior a su valor neto contable, se reconoce una pérdida por impairment de valor en los resultados del período.

El valor razonable menos los costos de disposición es usualmente mayor que el valor en uso para el segmento de producción debido a algunas restricciones significativas en la estimación de los flujos de caja futuros, como son: a) futuras inversiones de capital que mejoren el desempeño de la UGE y que pueden resultar en un incremento esperado de los flujos netos de efectivo, b) partidas antes

de impuestos que reflejan riesgos de negocio específicos, lo que resulta en una mayor tasa de descuento.

El valor razonable menos los costos de disposición, se determina como la suma de los flujos de caja futuros descontados, ajustados al riesgo estimado. Las estimaciones de los flujos de caja futuros se realizan con proyecciones de los precios de los productos básicos, estimaciones de la oferta y la demanda y los márgenes de los productos.

El valor razonable menos los costos de disposición, descrito arriba, es comparado con múltiplos de valoración y precios de cotización de las acciones en empresas comparables a Ecopetrol, con el objetivo de determinar si es adecuado. En el caso de los activos o UGEs que participan en la evaluación y exploración de reservas, se consideran reservas probadas, probables y posibles, con un factor de riesgo asociado a las mismas.

Una vez que se ha registrado una pérdida por impairment, el gasto por amortización futura se calcula sobre la base del importe recuperable ajustado. Las pérdidas por impairment solo pueden revertirse si la recuperación está relacionada con un cambio en las estimaciones utilizadas después de que se reconoció la pérdida. Estas reversiones no deberán exceder el valor en libros de los activos netos de depreciación o amortización que se habrían determinado si el impairment nunca se hubiera registrado.

El valor en libros de los activos no corrientes clasificados como activos mantenidos para la venta, se compara con el valor razonable menos los costos de disposición. No se registra ninguna otra provisión por depreciación o amortización, si el valor razonable menos los costos de disposición es menor que el valor en libros.

4.12 PROVISIONES Y PASIVOS CONTINGENTES

Las provisiones son reconocidas cuando la Compañía tiene una obligación presente (legal o implícita) como resultado de un evento pasado y que sea probable que se requiera un desembolso futuro para pagar la obligación y su estimación pueda ser medida con fiabilidad. En los casos aplicables, se registran a su valor presente, utilizando una tasa que refleje el riesgo específico del pasivo.

Los desembolsos relacionados con la conservación del ambiente, vinculados con ingresos por operaciones actuales o futuras, son contabilizados como gastos o activos, según corresponda. Los desembolsos relacionados con operaciones del pasado, que no contribuyan a la obtención de ingresos corrientes o futuros, son registrados como gastos.

El reconocimiento de estas provisiones coincide con la identificación de una obligación relacionada con remediación ambiental y la Compañía utiliza toda la información disponible para determinar un estimado razonable de su respectivo costo.

Los pasivos contingentes no son reconocidos, pero están sujetos a revelación en las notas explicativas cuando es posible la salida de recursos; incluyendo aquellos cuyos valores no pueden estimarse.

En los casos en que se espera que la provisión se reembolse en todo o en parte, por ejemplo, en virtud de un contrato de seguros, el reembolso se reconoce como un activo separado únicamente en los casos en que tal reembolso sea prácticamente cierto. El importe reconocido para el activo no debe exceder el importe de la provisión

Si el efecto del valor temporal del dinero en el tiempo es significativo, las provisiones son descontadas utilizando una tasa actual de mercado antes de impuestos que refleje, cuando corresponda, los riesgos específicos del pasivo. Cuando se reconoce el descuento, el aumento de la provisión se reconoce como gasto financiero en el estado de ganancias y pérdidas.

OBLIGACIÓN DE RETIRO DE ACTIVOS

Los pasivos asociados al retiro de activos se reconocen cuando se tienen obligaciones ya sean legales o implícitas, relacionadas con el abandono y desmantelamiento pozos, ductos, inmuebles y equipo.

La obligación generalmente se contrae cuando los activos son instalados o cuando la superficie o el ambiente son alterados en los sitios a operar. Estos pasivos son reconocidos utilizando la técnica de flujos de caja descontados a una tasa antes de impuestos que refleja las evaluaciones actuales de mercado de un pasivo de riesgo similar y tomando en consideración el límite económico del campo o vida útil del activo respectivo. En el caso en que no se pueda determinar una estimación fiable en el periodo en que se origina la obligación, la provisión debe reconocerse

cuando se tenga suficiente información disponible para realizar la mejor estimación.

El valor en libros de la provisión es revisado y ajustado anualmente considerando cambios en las variables utilizadas para su estimación, utilizando una tasa que refleje el riesgo específico del pasivo. Cualquier cambio en el valor presente del gasto estimado se refleja como un ajuste a la provisión y su correspondiente propiedad, planta y equipo o recursos naturales y ambientales. Cuando se presenta una disminución en la obligación de retiro de activos relacionada con un activo productivo que excede el valor en libros del activo, el exceso se reconoce en el estado de ganancias y pérdidas. El costo financiero de actualización de estos pasivos es reconocido en el resultado del periodo, como gasto financiero.

4.13 IMPUESTO A LAS GANANCIAS Y OTROS IMPUESTOS

El gasto por impuesto a las ganancias está compuesto por el impuesto a la renta por pagar del periodo corriente y el efecto del impuesto diferido en cada periodo.

El impuesto a las ganancias es registrado en resultados, excepto cuando estén relacionados con partidas reconocidas en otros resultados integrales, en cuyo

caso el impuesto es registrado en el otro resultado integral. Los activos y pasivos por impuestos son presentados de manera separada en los estados de situación financiera, excepto cuando exista un derecho de compensación dentro de las jurisdicciones fiscales y la intención para cruzar tales saldos sobre una base neta.

4.13.1 IMPUESTO CORRIENTE

La Compañía determina la provisión del impuesto a las ganancias con base en el mayor valor entre la utilidad gravable y la renta presuntiva (el valor mínimo estimado de rentabilidad que la ley prevé para cuantificar y liquidar el impuesto a las ganancias). La utilidad fiscal difiere de la utilidad reportada en el estado de

ganancias y pérdidas, debido a: partidas de ingresos o gastos impositivos o deducibles en diferentes periodos fiscales, deducciones tributarias especiales, pérdidas fiscales y partidas contabilizadas que conforme a las normas tributarias aplicables en cada jurisdicción se consideren no gravables o no deducibles.

4.13.2 IMPUESTO DIFERIDO

El impuesto diferido se contabiliza de acuerdo con el método del pasivo. Los activos y pasivos por impuestos diferidos se reconocen por las consecuencias impositivas futuras atribuibles a las diferencias entre los importes en libros de los activos y pasivos existentes en los estados financieros y sus

bases impositivas respectivas. Se reconoce un pasivo por impuesto diferido para todas las diferencias temporarias impositivas. Se reconoce un activo por impuesto diferido para todas las diferencias temporarias deducibles y para todas las pérdidas fiscales a amortizar, en la medida en que exista

una expectativa razonable de que la Compañía tendrá ganancias fiscales futuras con las que pueda compensar dichas diferencias temporales.

Los impuestos diferidos sobre los activos y pasivos se calculan sobre la base de las tasas impositivas que se esperan aplicar durante los años en los que se reviertan las diferencias temporales entre los importes en libros y las bases impositivas.

El valor en libros de los activos por impuestos diferidos está sujeto a revisión al final de cada período de presentación y se disminuye en la medida en que se estima probable que no habrá suficientes ganancias fiscales futuras para realizar el activo en términos individuales para cada entidad que tributa en Colombia.

En el estado de situación financiera, los activos por impuestos diferidos se compensan con los pasivos por impuestos diferidos, dependiendo de la posición fiscal en la entidad que los genera.

Los impuestos diferidos no se reconocen cuando surgen en el reconocimiento inicial de un activo o pasivo en una transacción (excepto en una combinación de negocios) y por tanto, en el momento de la transacción, no afecta la utilidad contable o fiscal. Tampoco se reconocen sobre la posible distribución futura de utilidades acumuladas de subsidiarias o inversiones contabilizadas por el método de participación, si al momento de la distribución puede ser controlado por Ecopetrol y es probable que las ganancias acumuladas sean reinvertidas y, por lo tanto, no será distribuido a Ecopetrol.

4.13.3 OTROS IMPUESTOS

La Compañía reconoce en el resultado del periodo costos y gastos por otros impuestos diferentes al impuesto a las ganancias, tales como el impuesto a la riqueza, el cual se determina con base en el patrimonio fiscal, el impuesto de industria y comercio que grava los ingresos obtenidos en los municipios por

el desarrollo de actividades comerciales, industriales y de servicios, y el impuesto de transporte que grava los volúmenes cargados en los sistemas de transporte. Los impuestos son calculados de acuerdo con la normatividad fiscal vigente. Para mayor detalle ver Nota 10.

4.14 BENEFICIOS A EMPLEADOS

El régimen salarial y prestacional para el personal de Ecopetrol se rige por la Convención Colectiva de Trabajo (Acuerdo 01 de 1977) y, en su defecto, por el Código Sustantivo de Trabajo. Además de beneficios determinados por la legislación laboral, los empleados de Ecopetrol tienen derecho a los beneficios adicionales convenidos, los cuales dependen tanto del lugar, clase de trabajo, tiempo de servicio, como del salario básico. Se reconocen intereses al 12% anual sobre los montos acumulados por cesantías a favor de cada trabajador y se prevé el pago de indemnizaciones cuando se presenten circunstancias especiales que den lugar a la terminación del contrato, sin justa causa, y en periodos diferentes al de prueba.

Ecopetrol pertenecía al régimen especial de pensiones. Bajo este régimen las mesadas pensionales estaban a cargo de Ecopetrol y no a cargo de una Administradora de Pensiones. Sin embargo, la Ley 797 del 29 de enero

de 2003 y el acto legislativo 001 de 2005 establecieron que Ecopetrol no pertenecería más a dicho régimen sino que en adelante sus empleados estarían vinculados al Sistema General de Pensiones. En consecuencia, los empleados que se jubilaron con Ecopetrol hasta el 31 de julio de 2010 siguen recibiendo mesadas a cargo de la Compañía. De igual manera, estos empleados tienen derecho a dicho bono pensional si trabajaron con Ecopetrol antes del 29 de enero de 2003, pero cuyo contrato de trabajo terminó, sin renovación antes de esa fecha.

Todas las prestaciones sociales de empleados ingresados con anterioridad a 1990 son responsabilidad de Ecopetrol sin intervención de organismo o institución de seguridad social. El costo de los servicios de salud del empleado y de sus familiares inscritos se determina mediante la tabla de morbilidad, preparada con base en los hechos acaecidos durante el año.

Para los trabajadores que ingresaron a partir de la vigencia de la Ley 50 de 1990, la Compañía hace aportes periódicos para cesantías, pensiones y riesgos profesionales a los respectivos fondos que asumen en su totalidad estas obligaciones.

En 2008, Ecopetrol conmutó parcialmente el valor correspondiente a mesadas de su pasivo pensional, trasladando dichas obligaciones y los dineros que las soportan a patrimonios autónomos de carácter pensional (PAP's). Los fondos trasladados, al igual que sus rendimientos, no pueden cambiar su destinación ni ser reintegrados a la Compañía hasta que se hayan cumplido todas las obligaciones pensionales. La obligación conmutada cubre el pago de las mesadas y bonos pensionales; lo concerniente a salud y educación permanece dentro del pasivo laboral a cargo de Ecopetrol.

Los beneficios a empleados se dividen en cuatro grupos así:

1) Beneficios a empleados a corto plazo y beneficios post-empleo de aportaciones definidas

Los beneficios a empleados a corto plazo corresponden principalmente a aquellos cuyo pago será totalmente atendido en el término de los doce meses siguientes al cierre del periodo en el cual los empleados han prestado sus servicios. Esto incluye principalmente salarios, cesantías, vacaciones, bonos y otros beneficios.

Los beneficios post-empleo de aportaciones definidas corresponden a los pagos periódicos para cesantías, pensiones y riesgos profesionales que la Compañía realiza a los respectivos fondos privados que asumen en su totalidad estas obligaciones.

Los anteriores beneficios se reconocen como un gasto con su pasivo asociado después de deducir cualquier valor ya pagado.

2) Beneficios a empleados post-empleo por beneficios definidos

En los planes de beneficios definidos, la Compañía suministra los beneficios acordados a los empleados actuales y anteriores, y asume los riesgos actuariales y de inversión.

Los siguientes conceptos son clasificados como planes de beneficios definidos de largo plazo

y son registrados en los estados financieros, de acuerdo con los cálculos realizados anualmente por un actuario independiente:



Pensiones



Bonos pensionales



Salud



Plan educativo



Cesantías retroactivas

El pasivo reconocido en el estado de situación financiera en relación con estos planes de beneficios, corresponde al valor presente de las obligaciones por prestaciones definidas en la fecha del balance, menos el valor razonable de los activos del plan.

La obligación por prestaciones definidas es calculada anualmente por actuarios independientes utilizando el método de la unidad de crédito proyectada, el cual tiene en cuenta los años de servicio de los empleados y para pensiones, la remuneración promedio o final. Dicha obligación se descuenta al valor presente utilizando las tasas de interés de los bonos del Gobierno de alta calidad, denominados en la moneda en que se pagarán los beneficios y con una duración similar a cada plan.

Estas valuaciones actuariales involucran varios supuestos que podrían diferir de los acontecimientos que efectivamente tendrán lugar en el futuro. Estos supuestos incluyen la determinación de la tasa de descuento, los aumentos salariales futuros, los índices de mortalidad y los aumentos futuros de las pensiones. Debido a la complejidad de la valuación y los supuestos subyacentes, y a la naturaleza de largo plazo de estos planes, las obligaciones por beneficios definidos son extremadamente sensibles a los cambios en estos supuestos. Todos estos supuestos clave se revisan a cada fecha de cierre del periodo sobre el que se informa.

Al determinar la tasa de descuento apropiada, ante la ausencia de un amplio mercado de bonos de alta calidad, la Gerencia considera

las tasas de interés correspondientes a los bonos TES clase B negociables emitidos por el Gobierno Colombiano como su mejor referencia a una tasa de descuento apropiada con vencimientos extrapolados en línea con el plazo de duración esperado para cada plan de beneficios. El índice de mortalidad se basa en las tablas de mortalidad del país en particular, su última versión es la tabla RV08 publicada en la resolución 1555 de octubre de 2010. Los incrementos futuros de salarios y pensiones se vinculan con los índices de inflación futuros esperados para cada país. La Nota 19 – Provisiones por beneficios a empleados provee más detalles sobre los supuestos clave utilizados.

Los valores reconocidos en el estado de ganancias y pérdidas de los planes de beneficios definidos comprenden principalmente el costo del servicio y los intereses netos. El costo del servicio comprende principalmente el aumento en el valor presente de la obligación de los beneficios resultantes durante el período (costo del servicio corriente) y los valores resultantes de un nuevo plan de beneficios. Las modificaciones de los planes corresponden a los cambios en los beneficios y generalmente se reconocen cuando se han recibido todas las aprobaciones legales y reglamentarias y los efectos se han comunicado a los empleados involucrados. El interés neto se calcula utilizando el pasivo neto por beneficios definidos comparado con la curva de rendimiento de la tasa de descuento al inicio de cada año para cada plan. Las remediciones del pasivo neto por beneficios

definidos resultante de ganancias y pérdidas actuariales, el efecto del techo de los activos y la rentabilidad de los activos del plan, excluyendo el valor reconocido en el resultado, se reconocen en el otro resultado integral.

Cuando los activos del plan exceden la obligación bruta, el activo reconocido se limita al menor entre el superávit del plan de beneficios definidos y el techo de los activos determinado usando una tasa de descuento basada en los bonos del Gobierno Colombiano.

3) Otros beneficios a largo plazo

Los otros beneficios a largo plazo incluyen la prima por quinquenio que hace parte del cálculo actuarial de la Compañía. Este beneficio es un bono en efectivo que se acumula sobre una base anual y se paga al final de cada cinco años a los empleados. La Compañía reconoce en el estado de ganancias y pérdidas el costo del servicio, el costo financiero neto y los ajustes a la obligación del plan de beneficio definido.

4) Beneficios por terminación

Un plan de beneficio por terminación laboral es reconocido solo cuando existe un plan detallado para dicho proceso y no exista posibilidad de retirar la oferta. La Compañía reconoce un pasivo y un gasto por beneficios de terminación en la fecha más temprana entre la fecha en donde no se puede retirar la oferta de dichos beneficios o aquella en la que se reconocen los costos de reestructuración.

4.15 RECONOCIMIENTO DE INGRESOS DE ACTIVIDADES ORDINARIAS

El negocio de la Compañía se fundamenta en tres fuentes principales de ingresos de contratos con clientes: 1) venta de crudo y gas, 2) servicios de la operación y 3) venta de productos refinados, petroquímicos y biocombustibles. Estas fuentes de ingresos obedecen a modalidades de contratos tales

como suministro de productos, nominaciones y órdenes de venta. El ingreso de contratos con clientes generado es reconocido cuando el control de los bienes o servicios son transferidos al cliente en un valor que refleje la contraprestación que Ecopetrol espera recibir a cambio de tales productos o servicios.

VENTA DE CRUDO Y GAS

Los ingresos por las ventas de petróleo crudo y gas, se reconocen en el momento de la transferencia de dominio al comprador, esto generalmente ocurre cuando los productos son físicamente entregados a través de carro-tanques, ductos u otros métodos de entrega, considerando sus riesgos y beneficios, en cumplimiento con las obligaciones de desempeño que tiene la Compañía con sus clientes.

Para algunos contratos de suministro de gas con periodo de reposición, se discrimina entre las cantidades de gas consumidas y no consumidas, para reconocer el respectivo

ingreso o pasivo por las cantidades que se solicitarán a futuro. Una vez el cliente reclame este gas, se reconoce el ingreso.

Los contratos take or pay de venta de gas especifican cantidades mínimas de producto que pagará un cliente, incluso si este no los recibe o los usa. Para algunos contratos de suministro de gas con periodo de reposición, se discrimina entre las cantidades de gas consumidas y no consumidas, para reconocer el respectivo ingreso ó pasivo por las cantidades que se solicitarán a futuro. Una vez el cliente reclame este gas, se reconoce el ingreso.

SERVICIOS DE LA OPERACIÓN

Los ingresos por servicios se reconocen en la medida en que se prestan al cliente y no existan condiciones contractuales que impidan reconocer el ingreso. Ecopetrol asume un rol de principal en estas operaciones.

PRODUCTOS REFINADOS, PETROQUÍMICOS Y BIOCOMBUSTIBLES

En el caso de productos refinados, petroquímicos y biocombustibles, tales como combustóleos, asfaltos, polietilenos, G.L.P. y propanos y gasolinas entre otros, los ingresos se reconocen cuando los productos son despachados y entregados por la refinería; posteriormente, son ajustados por cambio de precios, en el caso de productos con precios regulados.

En los demás casos, Ecopetrol reconoce los ingresos en el momento en que se satisface la obligación de desempeño y nace el derecho cierto, probable y cuantificable de exigir su pago.

En cumplimiento con la normatividad local vigente, Ecopetrol comercializa gasolina regular y ACPM a precio regulado.

De conformidad con el Decreto 1068 de 2015, corresponde al Ministerio de Minas y Energía calcular y liquidar la posición neta semestral de Ecopetrol y para cada combustible a ser estabilizado por el Fondo de Estabilización

de Precios de los Combustibles (FEPC). La posición neta corresponde a la sumatoria de los diferenciales a lo largo del semestre, cuyo resultado será el monto en pesos a favor de la Compañía con cargo a los recursos del FEPC. El diferencial corresponde al producto entre el volumen reportado Ecopetrol al momento de la venta y la diferencia entre el precio de paridad y el precio de referencia, siendo el precio de paridad aquel que corresponde a los precios diarios de la gasolina motor y ACPM observados durante el mes, expresados en pesos, referenciados al mercado del golfo de los Estados Unidos de América, calculado aplicando la Resolución 18 0522 de 2010 y el precio de referencia es el Ingreso al Productor definido por el Ministerio de Minas y Energía para estos efectos. Por consiguiente, este diferencial constituye un mayor o menor valor del ingreso por ventas.

De acuerdo con los perfiles de riesgo, Ecopetrol maneja sistemas de pago anticipado para algunos de sus contratos con clientes.

COMPONENTE FINANCIERO SIGNIFICATIVO

Generalmente los pagos recibidos de clientes son en el corto plazo. Haciendo uso de la solución práctica la Compañía no ajusta el valor comprometido como contraprestación para dar cuenta de los efectos de un componente de financiación

si se espera, al comienzo del contrato, que el periodo entre el momento en que se transfiere el bien o servicio comprometido al cliente y el momento en que el cliente paga por ese bien o servicio sea de un año o menos.

CONSIDERACIONES VARIABLES

Al momento cumplir con las obligaciones establecidas en los contratos con clientes, vía la entrega del producto o la prestación del servicio, pueden existir componentes variables del precio de la transacción tales como el tipo de cambio en las exportaciones de crudo o la fluctuación de precios internacionales. En estos casos, Ecopetrol

efectúa la mejor estimación del precio de la transacción que refleje los bienes y servicios transferidos a los clientes.

En cuanto a las cláusulas de los contratos firmados con clientes, no se contemplan consideraciones variables asociadas a derechos de reembolso, rebajas o descuentos.

CONSIDERACIONES NO MONETARIAS

Ecopetrol establece dentro de sus contratos con clientes que la contraprestación será monetaria en todos sus casos, por lo cual no hay consideraciones asociadas a pagos en especie.

ANTICIPOS DE CLIENTES

Corresponden a obligaciones contractuales en las cuales la Compañía recibe recursos monetarios de clientes para efectuar posteriormente la transferencia de los bienes y servicios. Estos anticipos realizados por los clientes hacen parte de las políticas y evaluación de riesgo definidas Ecopetrol.

4.16 COSTOS Y GASTOS

Los costos y gastos se presentan de acuerdo a su naturaleza, detallando en las respectivas notas la composición del costo de ventas y los gastos asociados a las actividades de administración, operación, proyectos y otros gastos.

4.17 INGRESOS (GASTOS) FINANCIEROS

Los ingresos y gastos financieros incluyen principalmente: a) costos por intereses de préstamos y financiaciones, excepto los que son capitalizados como parte del costo del activo, b) valoración de ganancias y pérdidas de instrumentos financieros medidos a valor razonable con cambio a resultados,

c) diferencias en cambio de activos y pasivos financieros, excepto los instrumentos de deuda designados como instrumento de cobertura, d) gastos por actualización financiera de pasivos a largo plazo (costos de abandono y pasivo pensional), y e) rendimientos e intereses de activos financieros.

4.18 INFORMACIÓN POR SEGMENTO DE NEGOCIO

El Grupo Empresarial Ecopetrol presenta las correspondientes revelaciones relacionadas con sus segmentos de negocio en los estados financieros consolidados, de acuerdo a lo dispuesto en la NIIF 8 – Segmentos de operación.

5. NUEVOS ESTÁNDARES Y CAMBIOS NORMATIVOS

5.1 NUEVOS ESTÁNDARES ADOPTADOS POR LA COMPAÑÍA, EFECTIVOS A PARTIR DEL 1 DE ENERO DE 2019

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1. NIIF 16 – ARRENDAMIENTOS

A partir del 1 de enero de 2019, la Compañía aplicó por primera vez la NIIF 16 “Arrendamientos”. La naturaleza y el efecto de estos cambios se mencionan a continuación:

La NIIF 16 fue emitida en enero de 2016 y reemplaza la NIC 17 “Arrendamientos”, CINIIF 4 “Determinación de si un acuerdo contiene un contrato de arrendamiento”, SIC-15 “Arrendamientos operacionales – Incentivos” y SIC-27 “Evaluación de la parte de las transacciones que involucran de forma legal un arrendamiento”. La NIIF 16 fija los principios de reconocimiento, medición, presentación y revelación de los arrendamientos y requiere a los arrendatarios contabilizar todos sus arrendamientos bajo un modelo de registro en balance similar al registro de los arrendamientos financieros bajo NIC 17. El estándar incluye dos exenciones de reconocimiento para los arrendatarios: los arrendamientos de activos “de bajo valor” y los arrendamientos a corto plazo (término de arriendo de 12 meses o menos). Estas exenciones fueron adoptadas por Ecopetrol.

En la fecha de inicio de un arrendamiento, un arrendatario reconocerá una obligación correspondiente al total de pagos del arrendamiento y un activo que representa el derecho de usar el activo subyacente durante el término de arriendo. Se requerirá que los arrendatarios reconozcan separadamente el costo por intereses sobre la obligación y la depreciación del activo por derecho de uso.

Ecopetrol aplicó la NIIF 16 utilizando el enfoque retrospectivo modificado, sobre los contratos anteriormente identificados como arrendamientos bajo NIC 17 y CINIIF 4.

a) Efecto de la adopción

La Compañía reconoció activos por derecho de uso por \$3,773,560 al 1 de enero de 2019, cuya contrapartida fueron los pasivos por arrendamiento. No hubo ningún efecto en los resultados acumulados.

b) Resumen de las nuevas políticas contables

Al inicio de un contrato, la Compañía evalúa si un contrato es, o contiene, un arrendamiento. Esta situación se presenta si el contrato transmite el derecho de controlar el uso de un activo identificado por un período de tiempo a cambio de una contraprestación. Para llevar a cabo dicha evaluación, se utiliza la definición de arrendamiento contenido en la NIIF 16.

Arrendamiento como arrendatario

En la fecha de inicio de un arrendamiento, Ecopetrol reconoce una obligación correspondiente al total de pagos del arrendamiento y un activo que representa el derecho de usar el activo subyacente durante el término del arriendo. Se reconocen separadamente el gasto por intereses sobre la obligación y el gasto por depreciación del activo por derecho de uso.

En el reconocimiento posterior, la Compañía remide la obligación de arrendamiento ante la ocurrencia de acontecimientos como: a) cambios del término del arrendamiento, b) cambios de los pagos futuros pagos de arrendamiento que resulten de variaciones en un índice o en la tasa utilizada para determinar los pagos. El monto de la nueva medición de la obligación se reconocerá como un ajuste al activo por derecho de uso.

Arrendamiento como arrendador

Ecopetrol clasifica como financieros aquellos contratos en los cuales los términos del arrendamiento transfieren sustancialmente a los arrendatarios todos los riesgos y beneficios inherentes a la propiedad del activo. Los demás arrendamientos se clasifican como operativos.

Si el arrendamiento es clasificado como financiero, se registra una cuenta por cobrar en el estado de situación financiera, por monto igual a la inversión neta en el arrendamiento.

Para los arrendamientos clasificados como operativos se reconocen los ingresos por los pagos de forma lineal en el estado de resultados.

Activos por derecho de uso

Ecopetrol reconoce los activos por derecho de uso en la fecha de inicio del arrendamiento (es decir, la fecha en que el activo subyacente está disponible para su uso). Los activos por derecho de uso se miden al costo, menos cualquier depreciación acumulada y pérdidas por impairment, y se ajustan si existe alguna nueva medición de los pasivos por arrendamiento. Se amortizan en línea recta durante el plazo del arrendamiento y están sujetos a evaluación por impairment.

Pasivos por arrendamiento

En la fecha de inicio del arrendamiento, la Compañía reconoce los pasivos al valor presente de los pagos por arrendamiento que se realizarán durante el plazo del contrato. Los pagos variables que no dependen de un índice o una tasa se reconocen como gasto en el período en el que un evento o condición indiquen que el pago ocurrirá.

Para el cálculo del valor presente de los pagos, Ecopetrol utiliza la tasa de endeudamiento incremental en la fecha de inicio del arrendamiento. El valor en libros de los pasivos se vuelve a medir si hay un cambio en el plazo, en los pagos fijos o en la evaluación para comprar el activo subyacente.

Arrendamientos de corto plazo y arrendamientos de activos de bajo valor

Ecopetrol aplica la exención de reconocimiento a sus arrendamientos para los contratos que tienen un plazo de ejecución de 12 meses o menos a partir de la fecha de inicio y no contienen una opción de compra y los contratos en los cuales el activo subyacente se considera de bajo valor.

Contratos de asociación (JOA)

En los contratos de asociación JOA se analiza quien controla el uso del activo y de acuerdo a ello se determina el método de reconocimiento de los derechos de uso. Si quien controla el uso del activo es el operador, este deberá reconocer en sus estados financieros el 100% del derecho. Si quien controla es el JOA, se analiza si el contrato cumple con las características de un subarrendamiento, y en ese caso cada parte deberá reconocer proporcionalmente a su participación el derecho de uso. Ecopetrol reconoce al 100% los derechos de uso en los contratos de asociación (JOA) en los que participa como operador.

c) Montos reconocidos en el estado de situación financiera y en el estado de ganancias y pérdidas

A continuación, se detallan los valores en libros de los activos por derecho de uso, los pasivos por arrendamiento y los movimientos del período:

	Activos por derecho de uso					Pasivos por arrendamiento
	Oleoductos	Edificaciones	Maquinaria y equipo	Vehículos	Total	
Saldo al 31 de diciembre de 2018 (1)	-	-	-	-	-	(446,168)
Reconocimiento inicial NIIF 16 (1 de enero de 2019)	3,617,829	95,535	23,156	37,040	3,773,560	(3,773,560)
Adiciones	-	2,223	18,681	57,173	78,077	(78,077)
Bajas	(81,079)	(4)	-	-	(81,083)	83,143
Amortización del periodo	(223,693)	(24,735)	(15,258)	(25,597)	(289,283)	-
Costo financiero	-	-	-	-	-	(261,922)
Diferencia en cambio	-	-	-	-	-	(25,064)
Pagos de capital e intereses	-	-	-	-	-	505,811
Saldo neto al 31 de diciembre de 2019	3,313,057	73,019	26,579	68,616	3,481,271	(3,995,837)

(1) Corresponde al saldo de las obligaciones reconocidas como arrendamiento financiero bajo NIC 17.

2. OTRAS NORMAS

CINIIF 23 - Incertidumbre sobre los tratamientos del impuesto a las ganancias: Una entidad tiene que considerar si es probable que la autoridad pertinente acepte cada tratamiento fiscal, o grupo de tratamientos fiscales, que usó o planea usar en su declaración de impuesto a la renta. Esta interpretación es efectiva para los ejercicios que comiencen el 1 de enero de 2019 o posteriormente. La Compañía ya utilizó los lineamientos establecidos en esta norma en sus estados financieros del año gravable 2018.

Ecopetrol tiene por estrategia no tomar decisiones fiscales con posiciones agresivas o riesgosas que puedan colocar en entredicho sus declaraciones tributarias, lo anterior con el fin de minimizar el riesgo de posibles cuestionamientos por parte de la autoridad tributaria.

Sobre aquellas posiciones inciertas en las cuales se ha considerado que pueda existir una eventual controversia con la autoridad tributaria que conlleve un incremento en el impuesto sobre la renta, se ha establecido un porcentaje de éxito superior al 75%, el cual ha sido calculado con base en la normatividad y doctrina vigente.

Por lo tanto y de conformidad con la norma en mención, Ecopetrol considera que aquellas posiciones inciertas incluidas en la determinación del impuesto a las ganancias no afectarán el registro contemplado en los estados financieros separados. No obstante lo anterior, se continuará con el seguimiento permanente a la nueva normatividad y doctrina que emita la autoridad tributaria y demás entidades.



Modificaciones a la NIIF 9 - Características de pagos anticipados con compensación negativa: Estas modificaciones a la NIIF 9 permiten valorar a costo amortizado o a valor razonable contra otros resultados integrales (dependiendo del modelo de negocio para el que se mantienen) aquellos activos financieros que se pueden cancelar anticipadamente mediante el pago de un importe variable, en vez de valorarlos a valor razonable contra los resultados. Estas modificaciones aplicarán retroactivamente para los periodos que inicien el 1 de enero de 2019 o posteriormente, permitiendo su aplicación anticipada.



Modificaciones a la NIC 28 – Inversiones a largo plazo en asociadas y negocios conjuntos: aclaran que una entidad debe aplicar la NIIF 9 Instrumentos financieros a las inversiones a largo plazo en asociadas o negocios conjuntos a los que no se aplique el método de participación.

- Reconozca en los resultados como parte del costo del servicio pasado, una ganancia o una pérdida en la liquidación por cualquier reducción en un superávit, incluso si ese superávit no fuera previamente reconocido debido al impacto del límite de los activos.



Modificaciones a la NIC 19 - Modificación, reducción o liquidación de un plan: Las modificaciones requieren que una entidad:

- Utilice supuestos actualizados para determinar el costo del servicio actual y el interés neto por el resto del período después de una modificación, reducción o liquidación de un plan; y que,

Las enmiendas se aplican de forma prospectiva a las modificaciones, liquidaciones o reducciones de un plan que ocurran después del inicio del primer período de presentación de informes anuales, que comienza en o después del 1 de enero de 2019.

5.2 NUEVOS ESTÁNDARES EMITIDOS POR EL IASB QUE ENTRARÁN EN VIGENCIA EN PERIODO FUTUROS



Modificaciones a la NIIF 3 – Definición de un negocio: para ayudar a las compañías a determinar si un conjunto de actividades y activos adquiridos se consideran un negocio o no. Se aclaran los requisitos mínimos para determinar si es un negocio, se elimina la evaluación de si los participantes del mercado son capaces de reemplazar cualquier elemento faltante, se incluye una orientación para ayudar a las compañías a evaluar si un proceso adquirido es sustantivo, se restringen las definiciones de un negocio y de productos; y se introduce una prueba de concentración de valor razonable opcional. Se proporcionan nuevos ejemplos ilustrativos junto con estas modificaciones.

Estos cambios se deben aplicar a las transacciones que sean combinaciones de negocios o adquisiciones de activos, para las cuales la fecha de adquisición sea 1 de enero de 2020 o posterior. En consecuencia, las compañías no tienen que revisar transacciones ocurridas en periodos anteriores. La aplicación anticipada está permitida y debe ser revelada.



Modificaciones a la NIC 1 y NIC 8 – Definición de material: La nueva definición establece que, “La información es material si se espera que su omisión o distorsión influya en las decisiones que los usuarios principales de los estados financieros toman”. Las modificaciones aclaran que la materialidad dependerá de la naturaleza y/o la magnitud de la información. Una compañía necesitará evaluar si la información, ya sea individualmente o en combinación con otra, es material en el contexto de los estados financieros.

Las enmiendas explican que la información se oculta si se comunica de manera que tenga un efecto similar al de omitir o desinformar. La información material puede, por ejemplo, estar oculta si con respecto a un elemento material, transacción u otro evento se encuentra dispersa en los estados financieros, o se divulga en un lenguaje ambiguo o poco claro. La información material también puede ocultarse si se agregan inadecuadamente elementos, transacciones u otros eventos, o, por el contrario, si elementos similares se desagregan de manera incorrecta. Estas modificaciones son efectivas para periodos anuales que comiencen a partir del 1 de enero de 2020.



Marco conceptual para la información financiera revisado: El IASB emitió el Marco Conceptual revisado en marzo de 2018. El mismo establece un conjunto integral de conceptos para la presentación de informes financieros, el establecimiento de estándares, la orientación para los preparadores en la definición de políticas contables coherentes y la asistencia a otros para comprender e interpretar los estándares. El Marco conceptual incluye algunos conceptos nuevos, proporciona definiciones

actualizadas y criterios de reconocimiento para activos y pasivos y aclara algunos conceptos importantes.

Los cambios en el Marco conceptual pueden afectar la aplicación de las NIIF en situaciones en las que no se aplica una norma a una transacción o evento en particular. Para los preparadores que desarrollan políticas contables basadas en el Marco Conceptual, es efectivo para períodos anuales que comienzan en o después del 1 de enero de 2020.

6. EFECTIVO Y EQUIVALENTES DE EFECTIVO

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Bancos y corporaciones	1,465,274	1,087,774
Inversiones financieras de corto plazo	12,206	1,170,618
Caja	13	927
	1,477,493	2,259,319

El valor razonable del efectivo y equivalentes se aproxima a su valor registrado en libros debido a su naturaleza de corto plazo (menos de tres meses) y su alta liquidez.

Así mismo, para las inversiones financieras de corto plazo en pesos colombianos y dólares, la rentabilidad fue de 4.3% (2018 - 4.2%) y 2.5% (2018 - 2.1%), respectivamente.

La rentabilidad acumulada de los bancos y corporaciones en pesos colombianos y dólares al 31 de diciembre de 2019 fue de 4.1% (2018 - 4.2%) y 2.5% (2018 - 2.0%), respectivamente.

La siguiente tabla refleja la calidad crediticia de los emisores y contrapartes en transacciones relacionadas con el efectivo y equivalentes:

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
BRC1+	673,343	470,623
A-1	570,483	-
F1+	221,448	222,454
AAA	12,206	1,170,618
A1	-	394,697
Sin calificación disponible	13	927
	1,477,493	2,259,319

Ver política de riesgo de crédito en la Nota 27.4.

7. CUENTAS COMERCIALES Y OTRAS CUENTAS POR COBRAR, NETO

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Corriente		
Cientes		
Exterior	2,032,496	1,622,529
Nacionales	685,555	759,584
Fondo de estabilización de precios (1)	219,921	3,166,850
Partes relacionadas (Nota 28)	1,668,509	1,807,338
Servicios industriales	33,597	78,203
Cuentas por cobrar a empleados	89,338	70,321
Deudores varios	448,152	137,077
	5,177,568	7,641,902
No corriente		
Cuentas por cobrar a empleados	497,908	458,048
Partes relacionadas (Nota 28)	93,657	117,824
Deudores varios	46,066	-
	637,631	575,872

(1) Corresponde a la aplicación de la Resolución 180522 del 29 de marzo de 2010 y demás normas que la modifican y adicionan (Decreto 1880 de 2014 y Decreto 1068 de 2015), donde se establece el procedimiento para reconocer el subsidio para refinadores e importadores de la gasolina motor corriente y ACPM, y la metodología para el cálculo de la posición neta (valor generado entre el precio de paridad y el precio regulado, el

cual puede ser positivo o negativo). Durante el 2019 Ecopetrol recibió por parte del Fondo de Estabilización un valor de \$4,435,974, correspondientes a las liquidaciones de los cuatro trimestres de 2018 y primer, segundo y tercer trimestre de 2019.

El valor contable de las cuentas comerciales y otras cuentas por cobrar se aproxima a su valor razonable.

8. INVENTARIOS, NETO

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Crudo	1,767,735	1,765,513
Combustibles y petroquímicos	1,249,858	1,007,846
Materiales para producción de bienes	804,313	685,973
	3,821,906	3,459,332

El siguiente es el movimiento de la provisión de inventarios:

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Saldo inicial	32,124	49,431
Adiciones	5,540	3,679
Traslados/reclasificaciones	3,683	(20,986)
Saldo final	41,347	32,124

Los inventarios de crudo, combustibles y petroquímicos se ajustan al menor entre el costo y el valor neto de realización, producto de las fluctuaciones de los precios internacionales del crudo. El monto registrado por este concepto en 2019 ascendió a \$13,625 (2018 – \$10,291).

9. OTROS ACTIVOS FINANCIEROS

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Activos medidos a valor razonable con cambio a resultados		
Portafolio de inversiones - Moneda extranjera	2,628,089	4,167,267
Portafolio de inversiones - Moneda nacional	1,630,080	3,389,804
Inversiones en títulos en compañías del Grupo (1) (Nota 28)	967,555	1,452,206
	5,225,724	9,009,277

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Activos medidos a costo amortizado	3,367	3,577
Activos financieros derivados	4,868	-
	5,233,959	9,012,854
Corriente	2,444,824	6,610,813
No corriente	2,789,135	2,402,041
	5,233,959	9,012,854

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(1) Corresponde a recursos invertidos por Ecopetrol en títulos en dólares de Ecopetrol Capital AG.

La rentabilidad del portafolio de inversiones en pesos colombianos y dólares fue de 5.4% (2018 - 5.4%) y 3.3% (2018 - 2.1%), respectivamente.

La medición a valor razonable es reconocida contra el resultado financiero (Nota 26).

9.1 RESTRICCIONES

A 31 de diciembre de 2019 y 2018 ningún recurso del portafolio de inversiones se encontraba restringido.

9.2 VENCIMIENTOS

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
< 1 año	2,444,824	6,610,813
1 - 2 años	766,613	1,682,646
2 - 5 años	1,512,181	563,344
> 5 años	510,341	156,051
	5,233,959	9,012,854

9.3 VALOR RAZONABLE

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Nivel 1	472,547	372,501
Nivel 2 (1)	4,758,045	8,636,776
	5,230,592	9,009,277

(1) Incluye títulos del portafolio de inversiones medidos a valor razonable y activos financieros derivados.

No se presentaron transferencias entre niveles de jerarquía durante los años.

Los títulos del portafolio de Ecopetrol se valoran de manera diaria siguiendo lo estipulado por la Superintendencia Financiera de Colombia. Para lo anterior, se utiliza la información provista por entidades autorizadas para dicho fin, las cuales recogen los datos de mercados activos. Para aquellos casos en los cuales no se cuente con datos de mercado, se recurre a otros datos observables directa o indirectamente.

Para las inversiones denominadas en dólares se tiene como proveedor de información a Bloomberg y para las denominadas en

pesos a Precia, entidad autorizada por la Superintendencia Financiera de Colombia para la prestación de este servicio.

Dentro del proceso de jerarquización de las inversiones, adicional a la información utilizada para la valoración, se tienen en cuenta otros aspectos relevantes tales como la calificación del emisor, clasificación de la inversión, liquidez, mercado activo y el análisis de riesgos del emisor realizado por Ecopetrol, lo que permite llegar a la clasificación de nivel de jerarquía adecuada de las inversiones.

9.4 CALIFICACIÓN CREDITICIA

La siguiente tabla refleja la calidad crediticia de los emisores y contrapartes en transacciones relacionadas con los otros activos financieros:

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
AAA	2,676,886	2,780,408
BBB-	967,555	-
A+	712,934	121,831

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
F1+	350,325	353,175
AA-	186,325	304,409
AA+	155,012	188,965
A	145,807	70,532
A-1	13,219	-
A1	-	3,105,375
F1	-	1,452,169
BRC1+	-	611,905
BBB+	-	13,907
AA	-	6,500
Otras calificaciones	25,896	3,678
	5,233,959	9,012,854

Ver política de riesgo de crédito en la Nota 27.4.

10. IMPUESTOS

10.1 ACTIVOS Y PASIVOS POR IMPUESTOS CORRIENTES

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Activos por impuestos corrientes		
Impuesto a las ganancias (1)	-	599,086
Saldo a favor en impuestos (2)	569,755	27,310
Otros impuestos (3)	641,233	200,734
	1,210,988	827,130
Pasivos por impuestos corrientes		
Impuesto a las ganancias (4)	722,134	-

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Impuesto de industria y comercio	197,357	160,880
Impuesto nacional y sobretasa a la gasolina	108,759	112,031
Impuesto al carbono	41,530	42,694
Impuesto al valor agregado	-	87,400
Otros impuestos	128,317	114,078
	1,198,097	517,083
Pasivos por impuestos no corrientes (5)	34,247	-

(1) El saldo a favor del impuesto a las ganancias en 2018 se generó por el pago voluntario anticipado de \$3,003,000 efectuado en noviembre y diciembre de 2018, de conformidad a lo establecido en el Decreto 2146 del 22 de noviembre de 2018.

(2) Corresponde principalmente al saldo a favor por el impuesto al valor agregado del cuarto, quinto y sexto bimestre de 2019 (IVA).

(3) Incluye principalmente el descuento tributario potencial por IVA incurrido en adquisición de activos fijos reales productivos establecido en la Ley 1943 de 2018 – Reforma

tributaria y las autorretenciones por impuesto de industria y comercio.

(4) Este saldo incluye el saldo del impuesto de renta corriente luego del descuento de autorretenciones, saldos a favor y descuentos tributarios, así como la porción de corto plazo del pasivo por obras por impuestos, mecanismo de pago del impuesto de renta de los años 2017 y 2018, establecido en la Ley 1819 de 2016 – Reforma tributaria.

(5) Corresponde al valor de largo plazo del pasivo por obras por impuestos.

10.2 IMPUESTO A LAS GANANCIAS

La Corte Constitucional declaró inexecutable la Ley 1943 de 2018 (Ley de Financiamiento) y estableció que dicha decisión tendría efecto a partir del 1 de enero de 2020, y que las situaciones jurídicas consolidadas en virtud de la Ley de 1943 deben respetarse. A continuación, indicamos las disposiciones fiscales aplicables en Colombia para el año gravable 2019:

- La tarifa general del impuesto de renta aplicable para sociedades nacionales, establecimientos permanentes y entidades extranjeras será del 33%.

- La tarifa del impuesto sobre la renta para el año gravable 2018 fue del 33% y una sobretasa del 4%, la cual aplicó cuando la base del impuesto sobre la renta fue superior a \$800.
- Para los años 2018 y 2019, la tarifa aplicable para efectos de calcular el impuesto sobre la renta bajo el sistema de renta presuntiva será del 3.5% y 1.5% del patrimonio líquido del contribuyente del año inmediatamente anterior, respectivamente.

- Se ajustan los sistemas de depreciación fiscal a los contables y establece un límite al porcentaje de depreciación anual con base en la tabla establecida en la reforma tributaria Ley 1819 de 2016. Por otra parte, la amortización de las inversiones petrolíferas se hace con base en unidades técnicas de producción tal y como se hace contablemente.
- Los gastos de adquisición de derechos de exploración, geología y geofísica, perforaciones exploratorias, etc., son capitalizables hasta que se determine la factibilidad técnica y la viabilidad comercial de extraer el recurso.
- Las fluctuaciones de las partidas expresadas en moneda extranjera, sólo tendrán efectos fiscales en el momento de la enajenación o abono en el caso de los activos, o liquidación o pago parcial en el caso de los pasivos.
- Las pérdidas fiscales generadas a partir del 1° de enero de 2017 se podrán compensar con las rentas líquidas generadas en los siguientes 12 años.

Firmeza de las declaraciones del impuesto sobre la renta y CREE

Las declaraciones de impuestos de 2014, 2015, 2016, 2017 y 2018 se encuentran sujetas a aceptación y revisión por parte de las autoridades tributarias; en el evento que ello ocurra la Compañía no espera diferencias significativas que impliquen la modificación del impuesto liquidado, ni de la imposición de sanciones que conlleven el reconocimiento de contingencias en los estados financieros.

A partir del año 2017, el término general de firmeza de las declaraciones tributarias es de 3 años a partir de la fecha de su vencimiento o de la fecha de su presentación, cuando estas hayan sido presentadas de forma extemporánea. En el caso de Ecopetrol, por estar sujeto al cumplimiento de las reglas de precios de transferencia, el término de firmeza es de 6 años. La Ley 2010 de 2019 estableció que este término será de 5 años, para las declaraciones que se presenten a partir del 1 de enero de 2020.

Respecto de aquellas declaraciones en las cuales se presenten saldos a favor, el término de firmeza es de 3 años, desde la fecha de la presentación de la solicitud de devolución o compensación.

Gasto por impuesto a las ganancias

	Por los años terminados a 31 de diciembre de	
	2019	2018
Corriente	(3,877,260)	(4,516,638)
Corriente - ejercicios anteriores	(4,603)	73,417
Diferido	771,752	(800,350)
Diferido - ejercicios anteriores	11,674	(53,828)
	(3,098,437)	(5,297,399)

Conciliación del gasto por impuesto a las ganancias

La conciliación entre el gasto por impuesto a las ganancias y el impuesto determinado con base en la tarifa legal aplicable a la Compañía es la siguiente:

	Por los años terminados a 31 de diciembre de	
	2019	2018
Utilidad antes de impuestos	16,349,920	16,853,804
Tasa de renta nominal	33%	37%
Impuesto a las ganancias a tasa nominal	(5,395,474)	(6,235,907)
Ajustes para el cálculo de la tasa efectiva:		
Método de participación en compañías	2,073,590	890,674
Ingresos no gravados	362,583	71,728
Efecto por impuesto de renta y sobretasa 2018 y siguientes 3%	(26,418)	34,619
Gastos de renta años anteriores	7,071	19,588
Otros	(36,307)	7,985
Deducciones fiscales	3,562	2,153
Descuentos tributarios	89,360	-
Aplicación tarifa ganancia ocasional	(4,545)	(1,848)
Gastos no deducibles	(171,859)	(28,344)
Diferencial en tasa por reforma tributaria	-	(58,047)
Impuesto a las ganancias calculado	(3,098,437)	(5,297,399)
Corriente	(3,881,864)	(4,443,221)
Diferido	783,427	(854,178)
	(3,098,437)	(5,297,399)

La tasa efectiva de tributación al 31 de diciembre de 2019 calculada antes de impuestos y de la participación en las utilidades de compañías del Grupo, asociadas y negocios conjuntos es de 30.8%. La disminución de la tasa frente periodo anterior (36.7%) se debe principalmente a la

disminución en la tarifa del impuesto de renta al pasar del 37% en el 2018 al 33% en el 2019, la utilización del descuento tributario del 50% del ICA y los ajustes en la tasa por aplicación de la Ley de Financiamiento en el impuesto diferido, entre otros.

Impuesto sobre las ganancias diferido

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Activo por impuesto diferido	3,557,160	2,309,439
Pasivo por impuesto diferido	(141,971)	(143,947)
	3,415,189	2,165,492

El detalle de los impuestos diferidos activos y pasivos, es el siguiente:

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Impuesto diferido activo / pasivo		
Provisiones (1)	2,296,786	1,838,261
Préstamos por pagar	1,949,644	827,452
Beneficios a empleados (2)	1,875,872	1,161,860
Cuentas por pagar	712,900	364,655
Propiedades, planta y equipo (3)	380,767	547,921
Cuentas por cobrar	79,405	40,856
Inventarios	67,947	60,617
Activos intangibles	(1,980)	2,440
Inversiones e instrumentos derivados	(47,941)	(170,960)
Otros activos	(57,512)	(69,478)
Cargos diferidos	(63,941)	(67,254)
Goodwill (4)	(288,095)	(324,061)
Activos por derecho de uso	(1,034,497)	-
Recursos naturales y del medio ambiente (3)	(2,312,195)	(1,902,870)
Propiedades, planta y equipo (5)	(141,971)	(143,947)
	3,415,189	2,165,492
Activo por impuesto diferido	3,557,160	2,309,439
Pasivo por impuesto diferido	(141,971)	(143,947)
	3,415,189	2,165,492

(1) Corresponde a las provisiones contables no procedentes fiscalmente, principalmente la provisión para abandono de pozos.

(2) Cálculos actuariales por salud, pensiones de jubilación, educación, bonos pensionales y otros beneficios a empleados a largo plazo.

(3) Para propósitos fiscales, los recursos naturales y del medio ambiente y la propiedad, planta y equipo tienen una vida útil específica. Bajo NCIF (Normas de Contabilidad e Información Financiera aceptadas en Colombia), la vida útil es

determinada por un análisis técnico. Esta diferencia se traduce en una base de depreciación diferente para efectos contables y fiscales.

(4) De acuerdo con la ley tributaria en Colombia el goodwill es amortizable, mientras que bajo NCIF no, pero sí está sujeto a pruebas de impairment, diferencia que genera como resultado un impuesto diferido pasivo.

(5) Corresponde al impuesto diferido generado por los terrenos, al cual aplica la tarifa de 10% de ganancias ocasionales.

El siguiente es el detalle del impuesto diferido por los años terminados al 31 de diciembre:

Activo:

	Provisiones y Contingencias	Beneficios empleados	Préstamos y financiaciones	PPE y recursos naturales	Cuentas por pagar	Goodwill	Activos por derecho de uso	Otros	Total
A 31 de diciembre de 2017	1,705,209	1,373,560	47,057	(133,519)	161,561	(313,296)	-	15,877	2,856,449
Gasto del año	133,052	(178,160)	409,598	(1,195,603)	203,094	(10,765)	-	(219,656)	(858,440)
Otros resultados integrales	-	(33,540)	370,797	-	-	-	-	-	337,257
Otros	-	-	-	(25,827)	-	-	-	-	(25,827)
A 31 de diciembre de 2018	1,838,261	1,161,860	827,452	(1,354,949)	364,655	(324,061)	-	(203,779)	2,309,439
Gasto del año	458,525	(57,343)	1,427,277	(576,479)	348,245	35,966	(1,034,497)	179,756	781,450
Otros resultados integrales	-	771,355	(305,085)	-	-	-	-	-	466,270
A 31 de diciembre de 2019	2,296,786	1,875,872	1,949,644	(1,931,428)	712,900	(288,095)	(1,034,497)	(24,023)	3,557,159

Pasivo:

	Propiedad, planta y equipo
A 31 de diciembre de 2017	(148,209)
Gasto del periodo	4,262
Otros resultados integrales	-
Otros	-
A 31 de diciembre de 2018	(143,947)

Propiedad, planta y equipo

Gasto del periodo	1,976
Otros resultados integrales	-
Otros	-
A 31 de diciembre de 2019	(141,971)

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Los movimientos del impuesto diferido activo y pasivo a las ganancias por el periodo terminado el 31 de diciembre de 2019 y el año terminado el 31 de diciembre de 2018 son los siguientes:

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Saldo inicial	2,165,492	2,708,240
Impuesto diferido reconocido en el resultado del periodo	783,427	(854,178)
Impuesto diferido reconocido otros resultados integrales (a)	466,270	337,257
Cuentas por cobrar	-	(25,827)
Saldo final	3,415,189	2,165,492

La siguiente es la composición del impuesto a las ganancias registrado contra otros resultados integrales:

A 31 de diciembre de 2019	Base	Impuesto diferido	Total
Ganancias actuariales sobre beneficios a empleados	2,571,184	(771,355)	1,799,829
Cobertura de flujo de efectivo instrumentos derivados	(4,869)	1,558	(3,311)
Cobertura de flujo de efectivo para exportaciones de crudo	(998,083)	329,784	(668,299)
Cobertura de inversión neta en negocio en el extranjero	87,524	(26,257)	61,267
	1,655,756	(466,270)	1,189,486

A 31 de diciembre de 2018	Base	Impuesto diferido	Total
Pérdidas actuariales sobre beneficios a empleados	(29,250)	33,540	4,290
Cobertura de flujo de efectivo para exportaciones de crudo	14,069	39,527	53,596
Cobertura de inversión neta en negocio en el extranjero	1,382,278	(410,324)	971,954
	1,367,097	(337,257)	1,029,840

Impuestos diferidos pasivos no reconocidos

Al 31 de diciembre de 2019, no se reconocen pasivos por impuesto diferido sobre la diferencia entre las bases contables y fiscales asociadas a las inversiones en subsidiarias, negocios conjuntos de Ecopetrol (Base: \$1,059,943- Impuesto: \$105,994), ya que conforme fue documentado, la Compañía

no tiene en el futuro previsible intención de venta de ninguna de estas inversiones.

No hay efectos en el impuesto sobre la renta relacionados con los pagos de dividendos realizados por la Compañía a sus accionistas durante 2019 y 2018.

10.3 OTROS IMPUESTOS**IMPUESTO A LOS DIVIDENDOS**

Sobre las utilidades generadas a partir del año 2017, aplicará a las sociedades y entidades extranjeras retención en la fuente por concepto de dividendos. La tarifa de retención por dividendos es del 5% para el año 2018 y del 7.5% para el año 2019. De otra parte, el dividendo gravado con el impuesto sobre la renta, tendrá una tarifa del 35% en el año 2018 y del 33% en el año 2019. En este escenario, la retención en la fuente sobre dividendos del 5% o del 7.5% aplicará sobre el monto de la distribución gravada, una vez el mismo se

haya disminuido con el impuesto sobre la renta a la tarifa del 35% o del 33%.

Los dividendos no gravados que recibirá la Compañía, no estarán sujetos a retención en la fuente por expresa disposición de la norma que establece los dividendos que se distribuyan dentro de los grupos empresariales debidamente registrados ante la Cámara de Comercio y a entidades descentralizadas, no estarán sujetos a la retención en la fuente por este concepto.

PRECIOS DE TRANSFERENCIA

Los contribuyentes del impuesto sobre la renta que celebren operaciones con vinculados económicos o partes relacionadas del exterior y ubicadas en zonas francas o con residentes ubicados en países considerados jurisdicciones no cooperantes de baja o nula imposición, están obligados a determinar para efectos del impuesto de renta y complementarios sus ingresos ordinarios y extraordinarios, sus costos y deducciones, considerando para estas operaciones el principio de plena competencia.

Ecopetrol presentó en el año 2019 la información de precios de transferencia del año 2018 correspondiente a la declaración informativa, la documentación comprobatoria,

el reporte país por país y el archivo maestro, de acuerdo con la normatividad tributaria vigente.

Para el año gravable 2019, las transacciones efectuadas con vinculados económicos del exterior, así como las condiciones de negocio bajo las cuales se desarrollaron tales operaciones y la estructura general, no variaron significativamente respecto del año anterior. Por esta razón, es posible inferir que dichas transacciones fueron llevadas a cabo de acuerdo con el principio de plena competencia. Se estima que no se requerirán ajustes derivados del análisis de precios de transferencia del año 2019, que impliquen modificaciones en la provisión de renta del año gravable 2019.

En 2019, el Gobierno Nacional expidió la Ley 2010, con la cual se modificaron ciertos aspectos sustanciales. La tarifa general del impuesto de renta aplicable para sociedades nacionales, establecimientos permanentes y entidades extranjeras será: 2020 – 32%, 2021 – 31% y 2022 y siguientes – 30%.

De otra parte, para el año 2020, la tarifa aplicable para efectos de calcular el impuesto sobre la renta bajo el sistema de renta presuntiva será del 0.5% del patrimonio líquido del contribuyente del año inmediatamente anterior. A partir del año 2021 la tarifa aplicable será del 0%.

Se mantuvo la regla de subcapitalización contenida en el artículo 118-1 del E.T. que había sido modificado por la Ley 1943/2018. En este sentido, a partir del año 2019 la regla de subcapitalización sólo será aplicable con respecto a intereses generados en la adquisición de deudas contraídas, directa o indirectamente, con vinculados económicos nacionales o extranjeros. Así mismo, se modificó la proporción capital – deuda a 2:1 (anteriormente era 3:1) con lo cual no sólo se podrán deducir intereses generados con ocasión a deudas adquiridas con vinculados económicos cuando el monto total promedio de tales deudas no exceda a dos (2) veces el patrimonio líquido del contribuyente determinado al 31 de diciembre del año gravable inmediatamente anterior.

Impuesto a los dividendos

A partir del 1 de enero de 2020, los dividendos y participaciones pagados o abonados en cuenta provenientes de distribuciones realizadas entre compañías colombianas, estarán sometidos a una retención en la fuente a título del impuesto a los dividendos a una tarifa del 7.5%. De otra parte, si las utilidades con cargo a las cuales se distribuyen los dividendos no estuvieron sujetas a imposición al nivel de la sociedad, dichos dividendos están gravados con el impuesto sobre la renta aplicable en el período de distribución (para el año 2020 la tarifa será del 32%). En este supuesto, la retención del 7,5% aplicará sobre el valor del dividendo una vez disminuido con el impuesto sobre la renta (32% para el año 2020).

La tarifa de retención del 7.5%, se causará sólo en la primera distribución de dividendos entre compañías colombianas y podrá ser acreditada contra el impuesto a los dividendos una vez a

cargo del accionista persona natural residente o al inversionista residente en el exterior.

Debe resaltarse que la retención del 7.5% no aplica para: (i) compañías holding colombianas, incluyendo entidades descentralizadas; y (ii) entidades que hagan parte de un grupo empresarial p dentro de sociedades en situación de control debidamente registrados ante la Cámara de Comercio, de acuerdo con la normativa mercantil.

Impuesto de normalización

Se creó un impuesto a la normalización tributaria por el año 2020, como un impuesto complementario al impuesto sobre la renta y al impuesto al patrimonio, a cargo de los contribuyentes del impuesto sobre la renta que tengan activos omitidos o pasivos inexistentes. Este impuesto se liquidará y pagará en una declaración independiente que será presentada el 25 de septiembre de 2020, la cual, no permite corrección o presentación extemporánea. La tarifa del impuesto de normalización tributaria es del 15%.

Impuesto sobre las ventas

La Ley 2010/2019 estableció que el IVA pagado en la importación, formación, construcción o adquisición de activos fijos reales productivos podrá ser descontado del impuesto sobre la renta. Este IVA no podrá ser tomado simultáneamente como costo o gasto en el impuesto sobre la renta ni será descontable del impuesto sobre las ventas

En materia de Impuesto sobre las ventas, se modificó el listado de bienes y servicios excluidos de IVA consagrados en los artículos 424, 426 y 476 del Estatuto Tributario, se adicionó al artículo 437 del Estatuto Tributario, en lo referente a directrices sobre el cumplimiento de deberes formales en materia de IVA por parte de prestadores de servicios desde el exterior y se indicó que la retención de IVA podrá ser hasta del 50% del valor del impuesto, sujeto a reglamentación del Gobierno Nacional. La tarifa de IVA se mantiene en 19%. (Art. 424, Art. 426, Art. 476 Estatuto Tributario).

Procedimiento tributario

En materia de procedimiento existen modificaciones: (i) declaraciones de retención en la fuente que a pesar de ser ineficaces serán título ejecutivo, (ii) notificación electrónica de actos administrativos; y (iii) pago de glosas

en pliego de cargos para evitar intereses moratorios y utilizar los corrientes más dos puntos; (iv) eliminación de extensión de la firmeza a tres (3) años adicionales por compensación de pérdidas fiscales y (v) frente a los años que se tiene obligación de cumplir con el régimen de precios de transferencia, el término de la firmeza será de 5 años.

De igual forma, se incluyó un beneficio de auditoría para los años gravables 2020 y 2021. En virtud de este beneficio, la liquidación privada de los contribuyentes del impuesto sobre la renta y complementarios que incrementen su impuesto neto de renta en por lo menos un porcentaje mínimo del 30%, en relación con el impuesto neto de renta del año inmediatamente anterior, quedará en firme dentro de los seis (6) meses siguientes a la fecha de su presentación si no se hubiere notificado emplazamiento para corregir o requerimiento especial o emplazamiento especial o liquidación provisional y , siempre que la declaración sea presentada en forma oportuna y el pago se realice en los plazos establecidos.

Si el incremento del impuesto neto de renta es de al menos del 20%, en relación con el impuesto neto de renta del año inmediatamente anterior, la declaración quedará en firme dentro de los doce (12) meses siguientes a la presentación de la declaración si no se hubiere notificado emplazamiento para corregir o requerimiento especial o emplazamiento especial o liquidación provisional y siempre se presente la declaración de manera oportuna y el pago se realice en los plazos establecidos.

El anterior beneficio no aplica para: (i) contribuyentes que gocen de beneficio tributarios en razón a su ubicación en una zona geográfica determinada; (ii) cuando se demuestre que retenciones en la fuente declaradas son inexistentes; (iii) cuando el impuesto neto de renta sea inferior a 71 UVT (\$24). El término previsto en esta norma no se extiende para las declaraciones de retención en la fuente ni para el impuesto sobre las ventas las cuales se registrarán por las normas generales.

11. OTROS ACTIVOS

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Corriente		
Asociados en operaciones conjuntas (1)	555,038	497,339
Depósitos entregados en administración (3)	144,798	-
Gastos pagados por anticipado	136,833	88,580
Partes relacionadas (Nota 28)	180,411	124,233
Depósitos judiciales y embargos	22,105	68,819
Anticipos a contratistas, proveedores y otros	70,540	60,237
	1,109,725	839,208
No corriente		
Fondo de abandono y pensiones (2)	397,441	348,982
Diferencial de tasas en préstamos a empleados	220,998	213,645
Partes relacionadas (Nota 28)	196,310	196,310

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Depósitos entregados en administración (3)	61,866	142,376
Depósitos judiciales y embargos	36,233	39,425
Otros activos	54,433	55,455
	967,281	996,193

(1) Corresponde al neto de los anticipos y legalizaciones generados en relación con las operaciones realizadas a través de los contratos de asociación para Exploración y Producción (E&P), Evaluación Técnica (TEA), contratos y acuerdos firmados con la Agencia Nacional de Hidrocarburos (ANH) y otro tipo de contratos afines.

(2) Corresponde a la participación de Ecopetrol en fiducias constituidas para respaldar los costos de abandono de pozos

y desmantelamiento de instalaciones; así como el pago de futuras pensiones de jubilación, relacionados con algunos contratos de asociación.

(3) Incluye principalmente los recursos depositados en encargo fiduciario con destinación a obras por impuestos, mecanismo de pago del impuesto de renta de 2017 y 2018, constituido en cumplimiento con el artículo 238 de la Ley 1819 de 2016 – Reforma tributaria.

12. INVERSIONES EN COMPAÑÍAS

12.1 COMPOSICIÓN Y MOVIMIENTOS

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Subsidiarias		
Refinería de Cartagena S.A.S	18,185,277	18,005,746
CENIT transporte y logística de hidrocarburos S.A.S.	16,192,139	15,404,391
Ecopetrol Global Energy S.L.U. (1)	7,826,355	2,711,255
Hocol Petroleum Limited	3,614,184	3,239,077
Ecopetrol Capital AG	1,630,044	1,494,728
Andean Chemical Limited	1,248,167	1,371,823
Inversiones de Gases de Colombia S.A. y subsidiarias (2)	1,335,006	-
Esenttia S.A.	972,778	914,964

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Black Gold Re Limited	751,916	691,710
Ecopetrol Energía S.A.S. E.S.P.	7,332	3,380
	51,763,198	43,837,074
Menos impairment Hocol Petroleum Limited	(537,598)	(537,598)
	51,225,600	43,299,476
Asociadas		
Inversiones de Gases de Colombia S.A. y subsidiarias (2)	-	243,294
	-	243,294
Negocios conjuntos		
Equión Energía Limited (3)	1,527,502	1,392,232
Offshore International Group	709,871	727,194
Ecodiesel Colombia S.A.	46,095	41,304
	2,283,468	2,160,730
Menos impairment:		
Equión Energía Limited	(334,823)	(214,935)
Offshore International Group	(530,330)	(346,121)
	1,418,315	1,599,674
	52,643,915	45,142,444

(1) Ecopetrol Global Energy S.L.U.: En julio de 2019 Ecopetrol S.A. y Occidental Petroleum Corp. (OXY), acordaron la conformación de un Joint Venture con el fin de ejecutar un plan conjunto para el desarrollo de Yacimientos No Convencionales en la cuenca Permian en el estado de Texas (EE.UU.). OXY tendrá el 51% de participación del negocio conjunto, Ecopetrol tendrá el 49%. Para viabilizar la operación, se constituyeron dos compañías: Ecopetrol USA Inc. 100% de propiedad de Ecopetrol a través de su filial Ecopetrol Global Energy SLU y Ecopetrol Permian LLC. 100% propiedad de Ecopetrol USA Inc.

(2) Inversiones de Gases de Colombia S.A. y subsidiarias: En noviembre de 2019 Ecopetrol fue notificado sobre el fallo de la Corte

Suprema de Justicia confirmando la decisión del Tribunal Superior de Bogotá, consistente en declarar la ineficacia de la adquisición de 145 millones de acciones ordinarias de Inversiones de Gases de Colombia S.A. y subsidiarias (Invercolsa) por parte del señor Fernando Londoño Hoyos en 1997, las cuales, hasta antes del fallo, eran propiedad de la Arrendadora Financiera Internacional Bolivariana (AFIB). Esto significó que tales acciones son nuevamente de propiedad de Ecopetrol S.A. Resultado de lo anterior, la participación accionaria en Invercolsa pasó de 43,35% a 51,88%. El registro en el libro de accionistas de Invercolsa sobre esta participación fue realizado el 29 de noviembre, quedando en firme la adquisición del control en esta Compañía.

Como producto de esta transacción, Ecopetrol S.A. realizó una valoración de los activos de la inversión ahora controlada, cuyo resultado es el siguiente:

Aumento en la participación de la matriz medido a valor razonable	217,974
(+) Valor razonable de la participación inicial en la fecha de adquisición de control	1,107,969
(=) Valor razonable por cambio en la participación en Invercolsa	1,325,943
(-) Participación de la matriz en la fecha de la transacción (valor en libros)	(277,019)
Utilidad en adquisición de participación adicional (Nota 25)	1,048,924

Información más detallada sobre esta operación puede verse en la Nota 12 – Combinaciones de negocios de los Estados Financieros Consolidados al 31 de diciembre de 2019.

(3) Equión Energía Limited: El 14 de diciembre de 2007 Ecopetrol comunicó a Equión su decisión de no extender los contratos de asociación Santiago de las Atalayas, Tauramena, Recetor, Río Chitamera y Piedemonte, confirmando los vencimientos de los mismos el 1 de julio de 2010, 3 de julio de 2016, 30 de mayo de 2017, 31 de enero de 2019 y 29 de febrero de 2020, respectivamente.

Equión Energía Limited y Ecopetrol han venido trabajando en la terminación del

contrato de asociación Piedemonte, así como en la entrega y recibo de las operaciones que están cubiertas bajo el mismo contrato. Este proceso establece cinco etapas: i) análisis e inicio, ii) planeación, iii) ejecución, iv) entrega y recibo y v) cierre. Al 31 de diciembre de 2019, el proyecto se encuentra en la etapa de entrega y recibo. El siguiente paso es el de llegar a los acuerdos finales, entregar las operaciones y oficializar el acta de terminación del Contrato, la cual debe ser firmada el 29 de febrero de 2020 y donde se incluirán los acuerdos, indemnidades, cierre de temas, listado de pendientes e inventario de entrega de información.

El siguiente es el movimiento de las inversiones en compañías:

	Compañías subsidiarias	Asociadas	Negocios conjuntos	Total
Saldo al 31 de diciembre de 2018	43,299,476	243,294	1,599,674	45,142,444
Capitalizaciones (1)	4,123,298	-	-	4,123,298
Método de participación reconocido en:				
Resultado del periodo	6,052,924	108,285	122,399	6,283,608
Patrimonio	41,722	1,115	4,531	47,368
Utilidad en adquisición de participación adicional en inversiones en compañías	1,048,924	-	-	1,048,924
Dividendos decretados	(3,621,894)	(75,675)	(4,192)	(3,701,761)
Impairment	-	-	(304,097)	(304,097)
Traslados	281,150	(277,019)	-	4,131
Saldo al 31 de diciembre de 2019	51,225,600	-	1,418,315	52,643,915

(1) Principalmente a Ecopetrol Global Energy S.L.U. para la capitalización de Ecopetrol Permian LLC.

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	Compañías subsidiarias	Asociadas	Negocios conjuntos	Total
Saldo al 31 de diciembre de 2017	41,380,332	223,963	1,105,282	42,709,577
Capitalizaciones (1)	412,454	-	-	412,454
Método de participación reconocido en:				
Resultado del periodo	2,254,184	104,451	48,613	2,407,248
Patrimonio	2,320,936	1,728	125,133	2,447,797
Dividendos decretados	(3,072,110)	(86,848)	(3,520)	(3,162,478)
Recuperación de impairment	-	-	324,166	324,166
Traslados	3,680	-	-	3,680
Saldo al 31 de diciembre de 2018	43,299,476	243,294	1,599,674	45,142,444

(1) Principalmente a Andean Chemicals Ltd, Ecopetrol Global Energy S.L.U., Hocol Petroleum Ltd y Refinería de Cartagena S.A.S.

12.2 INFORMACIÓN ADICIONAL SOBRE NEGOCIOS CONJUNTOS

El detalle de activos, pasivos y resultados de las dos principales inversiones en negocios conjuntos al 31 de diciembre es el siguiente:

	2019		2018	
	Equión Energía Limited	Offshore International Group	Equión Energía Limited	Offshore International Group
Estado de situación financiera				
Activo corriente	2,530,453	284,591	2,083,614	354,959
Activo no corriente	106,050	1,481,680	506,133	1,523,549
Total Activo	2,636,503	1,766,271	2,589,747	1,878,508
Pasivo corriente	315,002	310,561	550,932	221,606
Pasivo no corriente	63,053	718,863	45,602	885,410
Total Pasivo	378,055	1,029,424	596,534	1,107,016
Total Patrimonio	2,258,448	736,847	1,993,213	771,492

	2019		2018	
	Equión Energía Limited	Offshore International Group	Equión Energía Limited	Offshore International Group
Otra información complementaria				
Efectivo y equivalente de efectivo	188,820	48,752	185,762	95,592
Pasivos financieros corrientes	-	-	3,176	95,633
Pasivos financieros no corrientes	-	-	-	137,708

	2019		2018	
	Equión Energía Limited	Offshore International Group	Equión Energía Limited	Offshore International Group
Estado de pérdidas y ganancias				
Ingresos de actividades ordinarias y otros	1,285,891	529,167	1,490,177	653,054
Costos	(671,179)	(690,484)	(755,656)	(585,192)
Gastos de administración y otros	(624)	(64,115)	29,136	(353,010)
Resultado financiero	(3,660)	(31,288)	(3,659)	(21,227)
Impuesto de renta	(348,477)	208,473	(360,675)	(16,594)
Resultado del ejercicio	261,951	(48,247)	399,323	(322,969)
Otros resultados integrales	1,140,010	-	1,136,725	-
Otra información complementaria				
Depreciación y amortización	404,482	226,654	511,615	243,601

A continuación se presenta una conciliación entre el patrimonio de las participaciones más significativas y el valor en libros de las inversiones al 31 de diciembre:

	2019		2018	
	Equión Energía Limited	Offshore International Group	Equión Energía Limited	Offshore International Group
Patrimonio de la Compañía	2,258,448	736,847	1,993,213	771,492
% Participación de Ecopetrol	51%	50%	51%	50%
Participación en patrimonio	1,151,808	368,424	1,016,539	385,746
Mayor valor de la inversión	375,694	341,447	160,758	-
Impairment	(334,823)	(530,330)	-	(4,673)
Valor en libros de la inversión	1,192,679	179,541	1,177,297	381,073

13. PROPIEDADES, PLANTA Y EQUIPO

El movimiento de propiedades, planta y equipo por los años finalizados el 31 de diciembre de 2019 y 2018 con sus correspondientes depreciaciones e impairment, ha sido el siguiente:

	Planta y equipo	Ductos, redes y líneas	Proyectos en curso (1)	Edificaciones	Terrenos	Otros	Total
Costo							
Saldo al 31 de diciembre de 2018	15,014,147	11,439,531	4,769,097	4,525,416	2,137,887	1,678,193	39,564,271
Adquisiciones/capitalizaciones	1,509,889	634,662	305,590	307,317	20,098	46,474	2,824,030
Aumento costos de abandono	75,228	-	-	-	-	-	75,228
Intereses financieros capitalizados (2)	77,627	32,630	12,831	15,800	1,033	2,389	142,310
Diferencia en cambio capitalizada	4,208	1,769	696	857	56	130	7,716
Bajas por retiro o venta	(351,592)	(49,435)	(73,762)	(15,673)	-	(38,114)	(528,576)
Reclasificaciones/traslados	18,583	13,358	-	17,725	13,332	(17,224)	45,774
Saldo al 31 de diciembre de 2019	16,348,090	12,072,515	5,014,452	4,851,442	2,172,406	1,671,848	42,130,753
Depreciación acumulada y pérdida por impairment							
Saldo al 31 de diciembre de 2018	(7,853,093)	(7,591,875)	(497,441)	(2,106,064)	(34,302)	(440,828)	(18,523,603)
Depreciación del periodo	(995,409)	(683,751)	-	(219,398)	-	(73,303)	(1,971,861)
Pérdidas por impairment	(117,509)	(53,186)	(616,663)	(48,523)	(14,634)	(6,408)	(856,923)
Bajas por retiro o venta	340,531	39,719	-	13,223	-	34,404	427,877
Reclasificaciones/traslados	(21,302)	(8,535)	-	(9,149)	-	15,835	(23,151)
Saldo al 31 de diciembre de 2019	(8,646,782)	(8,297,628)	(1,114,104)	(2,369,911)	(48,936)	(470,300)	(20,947,661)
Saldo neto al 31 de diciembre de 2018	7,161,054	3,847,656	4,271,656	2,419,352	2,103,585	1,237,365	21,040,668
Saldo neto al 31 de diciembre de 2019	7,701,308	3,774,887	3,900,348	2,481,531	2,123,470	1,201,548	21,183,092

(1) El saldo de proyectos en curso al 31 de diciembre del 2019, incluye principalmente: Modernización de la Refinería Barranca, Facilidades Castilla y Escalado de Desasfaltado del ICP.

(2) Los intereses financieros se capitalizan en función a la tasa promedio ponderada de los costos por préstamos. Ver Nota 17 – Préstamos y financiaciones.

	Planta y equipo	Ductos, redes y líneas	Proyectos en curso (1)	Edificaciones	Terrenos	Otros	Total
Costo							
Saldo al 31 de diciembre de 2017	14,179,295	10,274,223	3,942,835	4,509,450	2,122,827	1,728,201	36,756,831
Adquisiciones/capitalizaciones (reclasificaciones)	1,003,624	695,963	801,185	66,879	14,909	(33,027)	2,549,533
Aumento costos de abandono	84,581	-	-	-	-	-	84,581
Intereses financieros capitalizados (2)	48,351	34,399	14,853	14,350	6,703	5,316	123,972
Diferencia en cambio capitalizada sobre préstamos	4,107	2,922	1,262	1,219	569	451	10,530
Bajas por retiro o venta	(125,713)	(37,174)	(5,930)	(11,843)	(9,622)	(34,320)	(224,602)
Traslados (3)	(180,098)	469,198	14,892	(54,639)	2,501	11,572	263,426
Saldo al 31 de diciembre de 2018	15,014,147	11,439,531	4,769,097	4,525,416	2,137,887	1,678,193	39,564,271
Depreciación acumulada y pérdida por impairment							
Saldo al 31 de diciembre de 2017	(7,245,371)	(6,641,043)	(553,420)	(1,902,856)	(39,522)	(413,603)	(16,795,815)
Depreciación del periodo	(960,947)	(657,731)	-	(234,249)	-	(68,022)	(1,920,949)
(Pérdidas) recuperación de impairment	(2,072)	(3,614)	55,979	4,382	5,220	3,874	63,769
Bajas por retiro o venta	110,265	31,150	-	9,325	-	30,418	181,158
Traslados (3)	245,032	(320,637)	-	17,334	-	6,505	(51,766)
Saldo al 31 de diciembre de 2018	(7,853,093)	(7,591,875)	(497,441)	(2,106,064)	(34,302)	(440,828)	(18,523,603)
Saldo neto al 31 de diciembre de 2017	6,933,924	3,633,180	3,389,415	2,606,594	2,083,305	1,314,598	19,961,016
Saldo neto al 31 de diciembre de 2018	7,161,054	3,847,656	4,271,656	2,419,352	2,103,585	1,237,365	21,040,668

(1) El saldo de proyectos en curso al 31 de diciembre del 2018, incluye principalmente los trabajos ejecutados en producción por facilidades del campo Castilla, facilidades en Cupiagua, facilidades del piloto de inyección aire en campo Chichimene y recuperación secundaria de Yarigui, y en refinación por el proyecto modernización de Barrancabermeja.

(2) Los intereses financieros se capitalizan en función a la tasa promedio ponderada de los costos por préstamos. Ver Nota 17 – Préstamos y financiaciones.

(3) Corresponde principalmente a: i) reconocimiento de contratos de arrendamiento financiero, ii) traslados provenientes de recursos naturales y del medio ambiente y iii) aportes realizados a subsidiarias.

14. RECURSOS NATURALES Y DEL MEDIO AMBIENTE

El movimiento de recursos naturales y del medio ambiente por los años finalizados el 31 de diciembre de 2019 y 2018, con sus

correspondientes amortizaciones, calculados con base en unidades de producción, e impairment ha sido el siguiente:

	Inversiones petrolíferas	Costo de abandono y taponamiento	Inversiones petrolíferas en curso (1)	Total
Costo				
Saldo al 31 de diciembre de 2018	44,561,973	2,633,391	4,266,174	51,461,538
Adquisiciones/capitalizaciones	4,732,326	-	756,541	5,488,867
Aumento costos de abandono	-	1,965,309	(49,625)	1,915,684
Bajas por retiro o venta	(83,552)	(5,868)	-	(89,420)
Pozos secos (2)	-	-	(146,054)	(146,054)
Intereses financieros capitalizados (3)	94,995	-	10,834	105,829
Diferencia en cambio capitalizada	5,150	-	587	5,737
Traslados	(2,632)	2,345	(882)	(1,169)
Saldo al 31 de diciembre de 2019	49,308,260	4,595,177	4,837,575	58,741,012
Amortización acumulada y pérdida por impairment				
Saldo al 31 de diciembre de 2018	(30,541,398)	(1,536,357)	-	(32,077,755)
Amortización del periodo	(3,220,849)	(385,735)	-	(3,606,584)
Pérdidas por impairment	(921,705)	-	-	(921,705)
Bajas por retiro o venta	83,511	5,868	-	89,379
Traslados	(7,128)	(81)	-	(7,209)
Saldo al 31 de diciembre de 2019	(34,607,569)	(1,916,305)	-	(36,523,874)
Saldo neto al 31 de diciembre de 2018	14,020,575	1,097,034	4,266,174	19,383,783
Saldo neto al 31 de diciembre de 2019	14,700,691	2,678,872	4,837,575	22,217,138

(1) El saldo de inversiones petrolíferas en curso, incluye principalmente inversiones realizadas en los proyectos: Purple Angel, Rubiales y Castilla.

(2) Incluye principalmente los pozos Tibirita, Provenza 1, Cira 7000 y Ávila 1.

(3) Los intereses financieros se capitalizan en función a la tasa promedio ponderada de los costos por préstamos. Ver Nota 17 – Préstamos y financiaciones.

	Inversiones petrolíferas	Costo de abandono y taponamiento	Inversiones petrolíferas en curso (1)	Total
Costo				
Saldo al 31 de diciembre de 2017	41,940,167	1,967,392	3,006,144	46,913,703
Adquisiciones/capitalizaciones	3,128,952	-	1,354,878	4,483,830
Aumento costos de abandono	-	737,187	11,603	748,790
Bajas por retiro o venta	(79)	-	(102,551)	(102,630)
Intereses financieros capitalizados (2)	70,186	-	6,675	76,861
Diferencia en cambio capitalizada	5,961	-	567	6,528
Traslados (3)	(583,214)	(71,188)	(11,142)	(665,544)
Saldo al 31 de diciembre de 2018	44,561,973	2,633,391	4,266,174	51,461,538
Amortización acumulada y pérdida por impairment				
Saldo al 31 de diciembre de 2017	(28,428,770)	(1,404,524)	-	(29,833,294)
Amortización del periodo	(2,831,558)	(190,543)	-	(3,022,101)
Recuperación de impairment	257,008	-	-	257,008
Bajas por retiro o venta	78	-	-	78
Traslados (3)	461,844	58,710	-	520,554
Saldo al 31 de diciembre de 2018	(30,541,398)	(1,536,357)	-	(32,077,755)
Saldo neto al 31 de diciembre de 2017	13,511,397	562,868	3,006,144	17,080,409
Saldo neto al 31 de diciembre de 2018	14,020,575	1,097,034	4,266,174	19,383,783

(1) El saldo de inversiones petrolíferas en curso, incluye principalmente inversiones realizadas en los proyectos Purple Angel, Tayrona e hidrocarburos no convencionales. En los campos en desarrollo, las más representativas corresponden a Castilla, piloto Chichimene y re sanción CPO09.

(2) Los intereses financieros se capitalizan en función a la tasa promedio ponderada de los costos por préstamos. Ver Nota 17 – Préstamos y financiaciones.

(3) Corresponden principalmente a traslados a: i) propiedades, planta y equipo, y ii) aportes realizados a subsidiarias.

15. INTANGIBLES

	Licencias y software	Otros intangibles (1)	Total
Costo			
Saldo al 31 de diciembre de 2018	658,353	72,236	730,589
Adquisiciones	43,565	4,318	47,883
Bajas por retiro o venta	(94,259)	-	(94,259)
Saldo al 31 de diciembre de 2019	607,659	76,554	684,213
Amortización acumulada			
Saldo al 31 de diciembre de 2018	(427,396)	(53,431)	(480,827)
Amortización del periodo	(59,507)	(6,591)	(66,098)
Bajas por retiro o venta	94,213	-	94,213
Saldo al 31 de diciembre de 2019	(392,690)	(60,022)	(452,712)
Saldo neto al 31 de diciembre de 2019	214,969	16,532	231,501
Vida útil	< 5 años	< 7 años	

	Licencias y software	Otros intangibles (1)	Total
Costo			
Saldo al 31 de diciembre de 2017	647,915	64,547	712,462
Adquisiciones	55,237	13,483	68,720
Bajas por retiro o venta	(45,263)	(5,643)	(50,906)
Traslados	464	(151)	313
Saldo al 31 de diciembre de 2018	658,353	72,236	730,589
Amortización acumulada			
Saldo al 31 de diciembre de 2017	(415,502)	(54,790)	(470,292)
Amortización del periodo	(57,345)	(4,422)	(61,767)
Bajas por retiro o venta	45,263	5,643	50,906
Traslados	188	138	326
Saldo al 31 de diciembre de 2018	(427,396)	(53,431)	(480,827)
Saldo neto al 31 de diciembre de 2018	230,957	18,805	249,762
Vida útil	< 5 años	< 7 años	

(1) Corresponde principalmente a servidumbres.

16. IMPAIRMENT DE ACTIVOS A LARGO PLAZO

La Compañía está expuesta a determinados riesgos futuros producto de variaciones en: a) precios del petróleo, b) márgenes de refinación y de rentabilidad, c) perfiles de costos, d) inversión y mantenimiento, e) monto de las reservas recuperables, f) riesgo de mercado y país que se reflejan en la tasa de descuento y g) cambios en la regulación local e internacional, entre otros. Cualquier cambio en las anteriores variables para calcular el monto recuperable puede tener un efecto material en el reconocimiento o recuperación

de los cargos por impairment. Por ejemplo, el segmento exploración y producción es altamente sensible a las variaciones del precio de hidrocarburos, el segmento de refinación a la tasa de descuento así como a los márgenes de refinación y el segmento transporte y logística a los volúmenes transportados.

Con base en las pruebas de impairment realizadas por la Compañía se presentan las siguientes recuperaciones (gastos) de impairment de activos:

	Por los años terminados el 31 de diciembre	
	2019	2018
Campos de producción	(1,553,535)	320,777
Inversiones en compañías	(304,097)	324,166
Refinación y petroquímica	(225,093)	-
	(2,082,725)	644,943
Reconocido en:		
Propiedades, planta y equipo (Nota 13)	(856,923)	63,769
Recursos naturales y del medio ambiente (Nota 14)	(921,705)	257,008
Inversiones en compañías (Nota 12)	(304,097)	324,166
	(2,082,725)	644,943

16.1 CAMPOS DE PRODUCCIÓN

En 2019, como resultado del actual contexto económico del sector de hidrocarburos, el comportamiento de las variables de mercado, diferenciales de precio versus la referencia a Brent, información técnica y operacional disponible, se generó un gasto de impairment. Los principales campos fueron: Tibú, Casabe, Provincia y Underriver.

En 2018, como resultado de las nuevas variables de mercado, incorporación de nuevas reservas, diferenciales de precio versus la referencia a Brent, información técnica y operacional disponible, se presentó recuperación de impairment reconocido en años anteriores de los campos de producción que operan en Colombia: Casabe, Provincia, Underriver, Tisquirama y Orito; y un gasto de impairment principalmente en los campos Tibú y Dina Norte.

El siguiente es el detalle de la recuperación (gasto) por impairment de las unidades generadoras de

efectivo relacionadas con los campos de producción por los años terminados al 31 de diciembre:

	Valor neto en libros	Valor recuperable	(Gasto) Recuperación
2019			
Campos de producción			
Gasto	4,742,698	3,114,586	(1,628,112)
Recuperación	3,842,819	6,047,345	74,577
			(1,553,535)
2018			
Campos de producción			
Gasto	764,808	405,421	(359,387)
Recuperación	18,998,726	50,212,905	680,164
			320,777

- Los supuestos utilizados en el modelo para determinar los valores recuperables incluyen:
- El valor razonable menos los costos de disposición de los activos del segmento de exploración y producción fue determinado con base en flujos de efectivo después de impuestos que se derivan de los planes de negocios aprobados por la gerencia de la Compañía, los cuales son desarrollados sobre variables macroeconómicas de largo plazo y supuestos fundamentales de oferta y demanda. El nivel de jerarquía de valor razonable 3.
- Balance de reservas de crudo y gas, además de las reservas probadas incluidas en la Nota 30, las reservas probables y posibles también fueron consideradas ajustadas por diferentes factores de riesgo.
- La tasa de descuento en términos reales fue determinada como el costo promedio ponderado de capital (WACC, por sus siglas en inglés) y corresponde a un 6.31% (2018: 7.46%).
- Precio de petróleo – Brent: Las proyecciones incluyen USD\$55.61/barril para el primer año, USD\$56.50/barril promedio para el mediano plazo y USD\$71.6/barril a partir de 2030. En 2018, los supuestos realizados tomaron un precio de USD\$81.4/barril para el primer año, USD\$67.6/barril promedio para el mediano plazo y USD\$71.4/barril a partir de 2030. La proyección de precios internacionales de crudos es realizada por una agencia independiente y especializada en Oil & Gas, la cual tiene en cuenta los actuales escenarios de los acuerdos de cuotas petroleras de la OPEP (Organización de Países Exportadores de Petróleo) y el impacto de los cambios en especificaciones emitidos por el convenio Internacional para prevenir la contaminación por los buques (Marpol) a partir de 2020 sobre crudos y combustibles con alto contenido de azufre.
- La agregación de los activos, para identificar las UGEs es consistente con relación al periodo anterior.

16.2 INVERSIONES EN ASOCIADAS Y NEGOCIOS CONJUNTOS

¿Las inversiones en compañías asociadas y negocios conjuntos, son registradas a través del método de participación. Ecopetrol evalúa si existe alguna evidencia objetiva para determinar si el valor de dichas inversiones se han deteriorado en el periodo, en

especial, aquellas compañías que fueron adquiridas con Goodwill.

Como resultado, Ecopetrol reconoció el siguiente impairment en el valor de sus inversiones en compañías, de la siguiente manera:

	Por los años terminados a 31 de diciembre de	
	2019	2018
Equión Energía Limited	(119,888)	130,822
Offshore International Group	(184,209)	193,344
	(304,097)	324,166

Los supuestos empleados para determinar el valor recuperable de las compañías evaluadas son los descritos en la sección anterior, excepto por la utilización de una tasa de descuento en términos reales en 2019 para Offshore International Group de 8.50% (2018 – 8.92%).

En 2019, se registró gasto por impairment tanto para Offshore International Group y Equión Energía dadas las variables actuales del mercado, disminución en los precios internacionales, posición

conservadora frente a proyectos y aumento en costos.

En 2018, los mercados mostraron mejores condiciones con precios y diferenciales que permitieron mejores valores para el pronóstico de producción de crudo y gas. El desempeño operacional y la evolución técnica han contribuido a fortalecer los flujos de efectivo futuros que, a su vez, aportaron a la recuperación del impairment reconocido en años anteriores para Offshore International Group y Equión Energía Limited.

16.3 ACTIVOS DE REFINACIÓN

Durante 2019, se reconocieron \$225,093 por impairment, asociados a los trabajos de ingeniería y PMC para el desarrollo integral del Proyecto de Modernización de la Refinería de Barrancabermeja, lo anterior considerando el avance en los análisis técnicos de alternativas para el eventual incremento de conversión en la refinería. Una vez reactivado el proyecto, Ecopetrol evaluará nuevamente si cualquier pérdida

por impairment reconocida en años anteriores, estaría sujeta a recuperación.

Durante 2018 se evaluó el Proyecto de Modernización de la Refinería de Barrancabermeja, el cual se encuentra actualmente suspendido y no se identificaron indicios que implicaran el reconocimiento de impairment adicional.

17. PRÉSTAMOS Y FINANCIACIONES

17.1 COMPOSICIÓN DE LOS PRÉSTAMOS Y FINANCIACIONES

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	Tasa de interés efectiva 31 de diciembre		A 31 de diciembre de	A 31 de diciembre de
	2019 / 2018		2019	de 2018
Moneda nacional				
Bonos	8.7%	8.0%	1,567,598	1,568,034
Pasivos por arrendamiento (1)	6.7%	7.1%	1,158,394	239,431
			2,725,992	1,807,465
Moneda extranjera				
Bonos	5.8%	5.8%	24,188,523	23,971,940
Créditos comerciales	4.1%	4.4%	6,546,164	7,307,520
Pasivos por arrendamiento (1)	6.2%	5.3%	2,837,443	206,737
			33,572,130	31,486,197
			36,298,122	33,293,662
Corriente			3,283,987	2,587,667
No corriente			33,014,135	30,705,995
			36,298,122	33,293,662

(1) Corresponde principalmente al valor presente de los pagos a ser realizados durante el plazo de los contratos de arrendamiento operativo

de oleoductos, tanques, bienes inmuebles y vehículos, reconocidos como resultado de la implementación de la NIIF 16 – Arrendamientos, ver Nota 5.1.

17.2 VALOR RAZONABLE

El valor razonable de las obligaciones financieras es de \$40,358,442 y \$33,628,069 al 31 de diciembre de 2019 y al 31 de diciembre de 2018, respectivamente.

Para la medición a valor razonable, los bonos en moneda local fueron valorados utilizando los precios de referencia de Precia, mientras que para los bonos denominados en dólares se

tomó como fuente Bloomberg. Respecto a las demás obligaciones financieras para las que no existe un referente de mercado se utilizó una técnica de descuento a valor presente.

Las tasas de descuento incorporan el riesgo de mercado mediante algún referente (Libor, DTF) y el riesgo de crédito de la Compañía (spread).

17.3 PERFIL DE VENCIMIENTOS

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El siguiente es el perfil de vencimientos de los préstamos y financiaciones al 31 de diciembre de 2019 y 2018:

	Hasta 1 año	1 - 5 años	5-10 años	> 10 años	Total
Moneda nacional					
Bonos	571,969	403,996	358,976	232,657	1,567,598
Pasivos por arrendamiento	131,063	428,840	518,588	79,903	1,158,394
	703,032	832,836	877,564	312,560	2,725,992
Moneda extranjera					
Bonos	1,320,490	12,295,081	5,574,713	4,998,239	24,188,523
Créditos comerciales	1,129,094	4,163,624	1,253,446	-	6,546,164
Pasivos por arrendamiento	131,371	548,751	697,171	1,460,150	2,837,443
	2,580,955	17,007,456	7,525,330	6,458,389	33,572,130
Saldo al 31 de diciembre de 2019	3,283,987	17,840,292	8,402,894	6,770,949	36,298,122
	Hasta 1 año	1 - 5 años	5-10 años	> 10 años	Total
Moneda nacional					
Bonos	116,693	842,514	362,446	246,381	1,568,034
Pasivos por arrendamiento	13,426	69,553	72,636	83,816	239,431
	130,119	912,067	435,082	330,197	1,807,465
Moneda extranjera					
Bonos	1,309,396	9,042,647	8,664,732	4,955,165	23,971,940
Créditos comerciales	1,116,370	4,061,541	2,129,609	-	7,307,520
Pasivos por arrendamiento	31,782	135,481	39,474	-	206,737
	2,457,548	13,239,669	10,833,815	4,955,165	31,486,197
Saldo al 31 de diciembre de 2018	2,587,667	14,151,736	11,268,897	5,285,362	33,293,662

17.4 CLASIFICACIÓN SEGÚN TIPO DE INTERÉS

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Moneda nacional		
Tasa fija	1,158,394	239,431
Tasa variable	1,567,598	1,568,034
	2,725,992	1,807,465
Moneda extranjera		
Tasa fija	32,027,813	29,760,129
Tasa variable	1,544,317	1,726,068
	33,572,130	31,486,197
	36,298,122	33,293,662

17.5 DEUDA DESIGNADA COMO INSTRUMENTO DE COBERTURA

Al 31 de diciembre de 2019, la Compañía tiene designados USD\$7,331 millones de la deuda en moneda extranjera como instrumento de cobertura; de los cuales, USD\$6,031 millones corresponden a la

cobertura de inversiones en compañías con moneda funcional dólar y USD\$1,300 millones a la cobertura de flujo de efectivo para futuras exportaciones de crudo. Ver Nota 27 – Gestión de riesgos.

17.6 GARANTÍAS Y COVENANTS

El financiamiento obtenido por Ecopetrol en los mercados de capital no tiene garantías otorgadas ni restricciones de covenants financieros.

17.7 MOVIMIENTO DE LA DEUDA FINANCIERA NETA

El siguiente es el movimiento de la deuda financiera neta:

	Efectivo y equivalentes	Otros activos financieros	Préstamos y Financiaciones	Deuda financiera neta
Saldo al 31 de diciembre de 2017	4,356,995	8,249,691	(39,139,773)	(26,533,087)
Flujos de efectivo netos	(2,492,439)	(264,015)	11,259,349	8,502,895
Diferencia en cambio en resultados	394,763	919,703	(816,836)	497,630
Diferencia en cambio en OCI	-	-	(2,086,772)	(2,086,772)
Costo financiero reconocido en resultados	-	-	(2,140,480)	(2,140,480)
Intereses y diferencia en cambio capitalizada	-	-	(217,891)	(217,891)
Valoración reconocida en resultados	-	107,475	-	107,475
Traslados	-	-	(151,259)	(151,259)
Saldo al 31 de diciembre de 2018	2,259,319	9,012,854	(33,293,662)	(22,021,489)
Flujos de efectivo netos	(928,501)	(3,914,108)	3,157,114	(1,685,495)
Diferencia en cambio en resultados	146,675	165,264	(174,271)	137,668
Diferencia en cambio en OCI	-	-	(118,262)	(118,262)
Costo financiero reconocido en resultados	-	-	(1,832,765)	(1,832,765)
Intereses y diferencia en cambio capitalizada	-	-	(261,592)	(261,592)
Valoración reconocida en resultados	-	(30,051)	-	(30,051)
Traslados	-	-	(3,774,684)	(3,774,684)
Saldo al 31 de diciembre de 2019	1,477,493	5,233,959	(36,298,122)	(29,586,670)

18. CUENTAS COMERCIALES Y OTRAS CUENTAS POR PAGAR

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Proveedores	5,910,452	5,216,290
Partes relacionadas (Nota 28)	1,361,368	1,168,589
Anticipos asociados	891,247	841,888

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Retención en la fuente	505,902	94,744
Acuerdos en contratos de transporte (1)	71,239	210,196
Dividendos por pagar (2)	3,767	3,736
Acreedores varios	134,651	147,573
	8,878,626	7,683,016

El valor contable de las cuentas comerciales y otras cuentas por pagar es muy cercano a su valor razonable debido a su naturaleza de corto plazo.

Corresponde al valor de la deuda por acuerdos pactados en los contratos de transporte por oleoductos y poliductos, calculados en la compensación volumétrica por calidad y otros acuerdos de manejo de inventarios.

La Asamblea General de Accionistas realizada el 29 de marzo de 2019, decretó dividendos sobre la utilidad del año 2018, por valor de \$9,251,256. En abril de 2019 se pagaron el

100% de los dividendos a los accionistas minoritarios y en abril, junio y septiembre de 2019 se pagaron en tres cuotas iguales el 100% de los dividendos al accionista mayoritario.

Igualmente, la Asamblea General Extraordinaria de Accionistas, realizada el 16 de diciembre de 2019, aprobó la modificación de la destinación de la reserva ocasional autorizada en la Asamblea del 29 de marzo, con el fin de distribuir un dividendo extraordinario de \$3,659,386, pagado a los accionistas minoritarios el 23 de diciembre y al accionista mayoritario el 26 de diciembre.

19. PROVISIONES POR BENEFICIOS A EMPLEADOS

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Beneficios post-empleo		
Salud	6,908,799	5,507,784
Pensión	2,853,718	1,452,322
Educación	458,441	479,945
Bonos	352,917	331,064
Otros planes	98,729	82,576
Beneficios por terminación - Plan de retiro voluntario	124,186	137,859
	10,796,790	7,991,550

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Prestaciones sociales y salarios	514,058	465,752
Otros beneficios a largo plazo	96,678	93,199
	11,407,526	8,550,501
Corriente	1,855,549	1,760,832
No corriente	9,551,977	6,789,669
	11,407,526	8,550,501

19.1 MOVIMIENTO DE LAS OBLIGACIONES ACTUARIALES

La siguiente tabla muestra el movimiento de los pasivos y activos, netos por beneficios post-empleo y beneficios por terminación al 31 de diciembre de:

	Pensión y bonos (1)		Otros		Total	
	2019	2018	2019	2018	2019	2018
Pasivos por beneficios post-empleo						
Saldo inicial	14,131,943	14,147,464	6,212,118	6,105,432	20,344,061	20,252,896
Costo del servicio actual	-	-	76,478	77,373	76,478	77,373
Costo del servicio pasado	-	-	-	50,489	-	50,489
Costos por intereses	920,622	888,583	418,553	377,923	1,339,175	1,266,506
(Perdidas) ganancias actuariales	1,755,300	(56,655)	1,273,409	(27,651)	3,028,709	(84,306)
Beneficios pagados	(891,393)	(847,449)	(387,387)	(371,448)	(1,278,780)	(1,218,897)
Saldo final	15,916,472	14,131,943	7,593,171	6,212,118	23,509,643	20,344,061
Activos del plan						
Saldo inicial	12,348,557	12,471,163	3,954	3,245	12,352,511	12,474,408
Rendimiento de los activos	801,065	780,494	217	170	801,282	780,664
Aportes a los fondos	-	-	83,071	371,893	83,071	371,893
Beneficios pagados	(891,393)	(847,449)	(84,243)	(371,448)	(975,636)	(1,218,897)
(Perdidas) ganancias actuariales	451,609	(55,651)	16	94	451,625	(55,557)
Saldo final	12,709,838	12,348,557	3,015	3,954	12,712,853	12,352,511
Pasivo neto	3,206,634	1,783,386	7,590,156	6,208,164	10,796,790	7,991,550

(1) No existe costo por el servicio de pensiones y planes de pensiones, debido a que los beneficiarios fueron retirados al 31 de julio de 2010.

La siguiente tabla muestra el movimiento en los resultados y otros resultados integrales, por los años finalizados:

	Por los años terminados a 31 de diciembre de	
	2019	2018
Resultado del periodo		
Intereses, neto	537,893	485,842
Costo de servicio actuarial	76,478	77,373
Costo de servicio pasado	-	50,489
Remediciones	10,213	503
	624,584	614,207
Otros resultados integrales		
Pensión y bonos	(1,303,693)	1,003
Salud	(1,268,379)	(17,356)
Educación y cesantías	922	45,509
Beneficios por terminación - Plan de retiro voluntario	(34)	93
	(2,571,184)	29,249
Impuesto diferido	771,355	(33,539)
	(1,799,829)	(4,290)

19.2 ACTIVOS DEL PLAN

Los activos del plan están representados por los recursos entregados a Patrimonios Autónomos Pensionales para el pago del pasivo pensional de las obligaciones por mesadas y bonos pensionales; lo concerniente a salud y educación está a cargo de Ecopetrol. La destinación de los recursos de los patrimonios autónomos, así como sus

rendimientos, no puede cambiarse de destinación ni restituirse a la Compañía hasta tanto se cumpla con la totalidad de las obligaciones.

La siguiente es la composición de los activos del plan por tipo de inversión al 31 de diciembre de:

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Títulos emitidos por el Gobierno Nacional	4,301,961	4,307,972
Bonos deuda privada	3,122,630	2,910,071
Otros moneda local	1,899,787	2,219,634
Otros bonos públicos	1,082,815	1,014,663
Otros moneda extranjera	870,859	691,658
Renta variable	823,977	653,828
Otros	610,824	554,685
	12,712,853	12,352,511

El 26.6% (2018 - 47.4%) del saldo de los activos del plan corresponde a nivel 1 de valor razonable y el 73.4% (2018 - 52.6%) están bajo nivel de jerarquía 2.

El valor razonable de los activos del plan se calcula utilizando el precio cotizado en los mercados de activos. La Compañía obtiene estos precios por intermedio de proveedores de datos financieros confiables reconocidos en Colombia o en el extranjero dependiendo de la inversión.

Para los títulos emitidos en moneda local, el valor razonable de los activos del plan se calcula utilizando la información publicada por Precia. De acuerdo con su metodología, los precios pueden ser calculados a partir de información de mercado del día de valoración o estimados a partir de insumos históricos de acuerdo con los criterios establecidos para el cálculo de cada uno de los tipos de precios.

El precio promedio es calculado principalmente del mercado más representativo de las transacciones llevadas a través de plataformas electrónicas aprobadas y supervisadas por el regulador.

Por otro lado, el precio estimado se calcula para las inversiones que no reflejan la información suficiente para estimar un precio promedio de mercado, replicando los precios cotizados para activos similares o precios obtenidos a través de cotizaciones de corredores de bolsa. Este precio estimado también está dado por Precia como resultado de la aplicación de metodologías robustas aprobadas por el regulador financiero y ampliamente utilizado por el sector financiero en Colombia.

La siguiente tabla refleja la calidad crediticia de los emisores y contrapartes en transacciones relacionadas con los patrimonios autónomos:

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
AAA	5,138,279	4,683,190
Nación	4,448,221	4,364,188
AA+	837,009	860,905
BBB-	455,201	426,743
BBB	319,514	193,579
BAA3	219,830	310,788
SP1+	84,933	-
A-1+	78,156	-

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
BRC1+	68,313	89,211
F1+	56,728	249,361
BBB+	22,113	86,040
A3	17,267	17,075
AA-	16,067	60,382
BAA1	15,538	21,395
AA	6,679	28,367
A	11,841	62,754
Otras calificaciones	30,129	55,768
Sin calificaciones disponibles	887,035	842,765
	12,712,853	12,352,511

Ver política de riesgo de crédito en la Nota 27.4.

19.3 SUPUESTOS ACTUARIALES

Supuestos actuariales utilizados para determinar el valor presente de la obligación neta por beneficios definidos utilizados para los cálculos actuariales al 31 de diciembre:

2019	Pensión	Bonos	Salud	Educación	Otros beneficios (1)
Tasa de descuento	5.75%	5.25%	6.00%	5.50%	4.83%
Incremento salarial	N/A	N/A	N/A	N/A	5.50% / 4.70%
Inflación esperada	3.00%	3.00%	3.00%	3.00%	3.00%
Tasa de incremento de pensiones	3.00%	N/A	N/A	N/A	N/A
Tendencia del costo					
Tasa inmediata	N/A	N/A	7.00%	4.00%	N/A
Tasa largo plazo	N/A	N/A	4.00%	4.00%	N/A

2018	Pensión	Bonos	Salud	Educación	Otros beneficios (1)
Tasa de descuento	6.75%	6.50%	7.00%	6.75%	5.87%
Incremento salarial	N/A	N/A	N/A	N/A	5.10% / 4.70%
Inflación esperada	3.00%	3.00%	3.00%	3.00%	3.00%
Tasa de incremento de pensiones	3.00%	N/A	N/A	N/A	N/A
Tendencia del costo					
Tasa inmediata	N/A	N/A	7.00%	4.00%	N/A
Tasa largo plazo	N/A	N/A	4.00%	4.00%	N/A

N/A: No es aplicable para este beneficio

(1) Tasa de descuento promedio ponderada.

La tendencia del costo es el incremento proyectado para el año inicial y la tasa incluyen la inflación esperada.

La tabla de mortalidad usada para los cálculos fue la tabla de rentistas para hombres y mujeres tomando la experiencia obtenida para el periodo 2005-2008 del Instituto Colombiano de Seguridad Social.

19.4 PERFIL DE VENCIMIENTOS DE LA OBLIGACIÓN

Flujos de caja futuros para pago de las obligaciones post-empleo:

Periodo	Pensión y bonos	Otros beneficios	Total
2020	949,034	377,313	1,326,347
2021	967,734	384,233	1,351,967
2022	1,000,730	391,324	1,392,054
2023	1,000,770	401,058	1,401,828
2024	1,038,858	404,691	1,443,549
2025 y ss	5,551,125	2,081,228	7,632,353

19.5 ANÁLISIS DE SENSIBILIDAD DE PASIVOS Y ACTIVOS ACTUARIALES

El siguiente análisis de sensibilidad muestra el valor de la obligación por beneficios definidos considerando el efecto de posibles cambios

sobre las variables del modelo, manteniendo los demás supuestos constantes, al 31 de diciembre de 2019:

	Pensión	Bonos	Salud	Educación	Otros beneficios
Tasa de descuento					
-50 puntos básicos	15,765,778	1,098,700	7,464,162	478,697	231,732
+50 puntos básicos	14,032,277	1,022,732	6,418,743	440,209	220,426
Tasa de inflación					
-50 puntos básicos	14,045,125	1,021,771	N/A	N/A	125,653
+50 puntos básicos	15,744,316	1,099,381	N/A	N/A	128,775
Tasa de incremento de salarios					
-50 puntos básicos	N/A	N/A	N/A	N/A	94,266
+50 puntos básicos	N/A	N/A	N/A	N/A	103,434
Tasa tendencia del costo					
-50 puntos básicos	N/A	N/A	6,425,329	439,471	N/A
+50 puntos básicos	N/A	N/A	7,452,021	478,793	N/A

N/A: No es aplicable para este beneficio.

19.6 PLAN DE RETIRO VOLUNTARIO

En agosto de 2016, la Compañía ofreció un plan de retiro voluntario a 200 trabajadores que cumplieran con determinados requisitos. Al 31 de diciembre de 2019, 132 personas se encuentran acogidas a este plan con una obligación asociada de \$124,186 (2018 - \$137,859). Este plan incluye beneficios de renta mensual, educación y salud hasta que el empleado logre su pensión de jubilación.

La Junta Directiva de Ecopetrol aprobó en octubre de 2019 un plan de retiro voluntario de personal que incluye la desvinculación

de empleados a partir de enero de 2020 y hasta diciembre de 2023, mediante 4 modalidades: Cumplimiento del ciclo laboral (pensión), Plan de Retiro A (Renta), Plan de Retiro B (Bonificación) e Indemnización mejorada. Al 31 de diciembre de 2019, el Grupo no ha reconocido provisión relacionada con este plan, dado que se entenderá como obligación en el momento en que la Compañía ofrezca el plan y cada empleado acepte voluntariamente su retiro acogándose a alguna de las modalidades mencionadas.

19.7 PASIVO PENSIONAL LOCAL

La siguiente es la comparación entre la obligación por pasivos pensionales (pensiones y bonos) determinada bajo el marco normativo NCIF y el fiscal:

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Pasivo pensional bajo NCIF	15,916,472	14,131,943
Pasivo pensional fiscal	14,219,638	14,226,333
Diferencia	1,696,834	(94,390)

La diferencia entre el saldo del pasivo pensional bajo NICF y fiscal se genera principalmente por la tasa de descuento, la cual para efectos fiscales es establecida por ley y bajo NICF calculada según la política contable 4.14 – Beneficios a empleados.

Los supuestos utilizados en cada año fueron los siguientes:

Variable (1)	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Tasa de interés técnico	4.00%	4.00%
Tasa de descuento nominal	8.07%	9.29%
Tasa de incremento pensional	3.91%	5.09%
Tasa de inflación	3.91%	5.09%
Mortalidad	RV08	RV08

(1) Los supuestos del cálculo actuarial NCIF pueden verse en la Nota 19.3

20. PROVISIONES Y CONTINGENCIAS

	Costos de abandono	Litigios	Otros	Total
Saldo al 31 de diciembre de 2018	5,348,469	69,427	639,743	6,057,639
Costo financiero	182,605	-	-	182,605
Utilizaciones	(407,927)	(8,228)	(43,901)	(460,056)
Aumento costos abandono	1,990,912	-	-	1,990,912
Adiciones	-	9,472	34,940	44,412
Saldo al 31 de diciembre de 2019	7,114,059	70,671	630,782	7,815,512

	Costos de abandono	Litigios	Otros	Total
Corriente	520,379	9,173	141,734	671,286
No corriente	6,593,680	61,498	489,048	7,144,226
	7,114,059	70,671	630,782	7,815,512
	Costos de abandono	Litigios	Otros	Total
Saldo al 31 de diciembre de 2017	4,537,443	64,443	535,559	5,137,445
Costo financiero	155,545	-	-	155,545
Utilizaciones	(171,859)	(12,684)	(21,153)	(205,696)
Aumento costos abandono	833,371	-	-	833,371
Adiciones	86,037	17,668	125,337	229,042
Traslados	(92,068)	-	-	(92,068)
Saldo al 31 de diciembre de 2018	5,348,469	69,427	639,743	6,057,639
Corriente	516,151	69,427	158,496	744,074
No corriente	4,832,318	-	481,247	5,313,565
	5,348,469	69,427	639,743	6,057,639

20.1 COSTOS DE ABANDONO Y DESMANTELAMIENTO

El pasivo estimado por costos de abandono y desmantelamiento corresponde a la obligación futura que tiene la Compañía de restaurar las condiciones ambientales similares a las existentes antes del inicio de proyectos o actividades, de acuerdo con lo descrito en la sección 3.5. Por tratarse de obligaciones a largo plazo, este pasivo se estima proyectando los pagos futuros

esperados y descontando a valor presente con una tasa referenciada a las obligaciones financieras de la Compañía, teniendo en cuenta la temporalidad y riesgos de esta obligación. Las tasas de descuento utilizadas en la estimación de la obligación al 31 de diciembre de 2019 fueron: Producción 3.01% (2018-3.55%), Refinación 3.31% (2018-3.74%) y Transporte 3.30% (2018-3.57%).

20.2 LITIGIOS

El siguiente cuadro detalla los principales litigios reconocidos en el estado de situación financiera separado al 31 de diciembre, cuyas expectativas de pérdidas son de alta probabilidad y podrían implicar una salida de recursos:

	A 31 de diciembre de	A 31 de diciembre de
Pretensiones	2019	2018
Perjuicios a terceros en razón a servidumbre de hidrocarburos en inmueble cercano a la Refinería de Cartagena.	11,019	11,019
Demanda por parte del consorcio Sincco por perjuicios en las condiciones contractuales para el proyecto de la modernización del llenadero de productos del centro industrial de Barrancabermeja.	5,347	5,347
Perjuicios a terceros en razón a derrame de crudo propiedad de Ecopetrol, en accidente de tránsito cercano a la vereda Raizal en Cundinamarca.	3,500	3,500
Daños materiales causados por explotación minera y de hidrocarburos en bien inmueble ubicado en el municipio de Bosconia, Cesar, sobre el cual pasa el poliducto Pozos Colorados.	3,000	3,000

20.3 CONTINGENCIAS AMBIENTALES Y OTROS

Corresponde principalmente a contingencias por incidentes ambientales y obligaciones de compensación ambiental e inversión forzosa del 1% por el uso, aprovechamiento o afectación de los recursos naturales impuestas por las autoridades ambientales nacionales, regionales y locales. La inversión forzosa del 1% se genera por el uso del agua tomada directamente de fuentes naturales de acuerdo con lo establecido en la Ley 99 de 1993, artículo 43, el Decreto 1900 de 2006, los Decretos 2099 de 2017 y 075 y 1120 de 2018 y artículo 321 de la Ley 1955 de 2019 con relación a los proyectos que Ecopetrol desarrolla en las regiones.

El Gobierno Nacional a través del Ministerio de Ambiente y Desarrollo Sostenible, expidió en diciembre de 2016 y en enero de 2017 los Decretos 2099 y 075, mediante los cuales modifica el Decreto Único Reglamentario del sector ambiente y desarrollo sostenible, Decreto 1076 de 2015, en lo relacionado con la

inversión forzosa por la utilización del agua tomada directamente de fuentes naturales.

En 2017, los principales cambios que establecieron estos decretos se dieron con relación a las áreas de implementación, líneas de inversión y la base de liquidación de las obligaciones. Igualmente, se definió el 30 de junio de 2017 como fecha máxima para modificar los Planes de Inversión que se encuentran en ejecución. El 30 de junio de 2017, Ecopetrol radicó ante la Autoridad Nacional de Licencias Ambientales (ANLA) ciertos planes de inversión del 1% para acogerse a los nuevos decretos, con relación a las líneas de inversión, manteniendo la base de liquidación del Decreto 1900.

Al 31 de diciembre de 2018 la provisión para inversión forzosa del 1% por el uso del agua se estimó con base en los parámetros establecidos en el Decreto 1076 de 2015.

Al 31 de diciembre de 2019 la Compañía culminó la re-certificación de la base de liquidación y el acogimiento al porcentaje de actualización de los valores de

inversión del 1%, en cumplimiento del artículo 321 de la Ley 1955 de 2019 generando una menor provisión de esta obligación.

20.4 CONTINGENCIAS

OLEODUCTO BICENTENARIO DE COLOMBIA S.A.S.

Durante julio de 2018, los remitentes que no hacen parte del Grupo Ecopetrol (Frontera Energy Colombia Corp., Vetra Exploración y Producción Colombia S.A.S. y Canacol Energy Colombia S.A.S.) (en adelante, los "Remitentes"), enviaron comunicaciones a Oleoducto Bicentenario de Colombia S.A.S (en adelante Bicentenario) donde manifestaron pretender dar por terminados de forma anticipada sus respectivos Contratos de Transporte Ship or Pay celebrados en 2012 (los "Contratos de Transporte").

Conforme a lo anterior, esos Remitentes han dejado de cumplir sus obligaciones bajo dichos Contratos de Transporte. Bicentenario rechazó los términos de las comunicaciones señalando que no hay lugar a una terminación anticipada y ha reiterado a los Remitentes que los Contratos de Transporte se encuentran vigentes y que sus obligaciones deben ser oportunamente cumplidas.

Bajo el convencimiento de que los Contratos de Transporte continúan vigentes y que los Remitentes antes mencionados continuaron y continúan incumpliendo sus obligaciones bajo los mismos, Bicentenario constituyó en mora a los Remitentes por el no pago de las cuentas de cobro por concepto del servicio

de transporte y ejecutó las cartas de crédito stand by previstas como garantías en los Contratos de Transporte.

Agotadas las etapas de arreglo directo con cada Remitente, Bicentenario retiró las demandas inicialmente presentadas y presentó demandas arbitrales en contra de cada uno de ellos, así: (i) el 12 de noviembre de 2019, Bicentenario demandó a Frontera Energy Colombia Corp. al amparo del pacto arbitral contenido en el Contrato de Transporte; (ii) el 10 de diciembre de 2019, Bicentenario demandó a Vetra Exploración y Producción Colombia S.A.S. al amparo del pacto arbitral contenido en el Contrato de Transporte; y (iii) el 26 de diciembre de 2019, Bicentenario demandó a Canacol Energy Colombia S.A.S. al amparo del pacto arbitral contenido en el Contrato de Transporte.

Los tres procesos arbitrales se encuentran en curso.

En paralelo a lo anterior, Bicentenario continuará ejerciendo sus derechos en los términos de los Contratos de Transporte y sus acuerdos relacionados, para garantizar su cumplimiento y reclamar cualquier compensación, indemnización o restitución derivada de la alegada terminación anticipada de dichos contratos, junto con otros incumplimientos.

CENIT TRANSPORTE Y LOGÍSTICA DE HIDROCARBUROS S.A.S.

Contratos de transporte Ship or Pay:

Dentro de las cláusulas pactadas en los contratos celebrados con el Grupo Frontera Energy respecto del Oleoducto Caño Limón Coveñas, y en particular la cláusula 13.3 establece que, en caso de suspensión del servicio por causas no imputables a ninguna de las partes, por un período mayor de 180 días calendario continuos, cualquiera de las partes podrá terminar el contrato anticipadamente.

En virtud de lo anterior, el 12 de julio de 2018 CENIT recibió comunicación del Grupo Frontera Energy, en la cual se manifestó la decisión de éste de ejercer la facultad prevista en la cláusula 13.3. de cada uno de los contratos de transporte celebrados respecto del Oleoducto Caño Limón - Coveñas, con el propósito de darlos por terminados anticipadamente. Con relación a lo anterior,

REFINERÍA DE CARTAGENA S.A.

CENIT emitió la comunicación CEN-PRE-3451-2018-E de fecha 17 de Julio 2018 en la que se manifiesta que no se ha configurado el supuesto de hecho previsto en la cláusula 13.3 de los contratos en mención, para que el Grupo Frontera Energy tenga la potestad contractual de decidir su terminación anticipada.

En la misma comunicación CENIT manifestó la intención de continuar facturando y cobrando los servicios de transporte establecidos en los contratos mencionados, considerando que los mismos siguen vigentes por lo que Frontera debe cumplir con las obligaciones asumidas en cada uno de ellos.

El 8 de marzo de 2016, Reficar presentó una solicitud de arbitraje ante la Cámara de Comercio Internacional en contra de las sociedades Chicago Bridge & Iron Company N.V., CB&I (UK) Limited y CBI Colombiana S.A. (colectivamente, "CB&I"), relacionada con los incumplimientos de los contratos de ingeniería, procura y construcción celebrados por Reficar y CB&I para la ampliación y modernización de la Refinería de Cartagena, ubicada en Cartagena, Colombia. En su solicitud de Arbitraje, Reficar reclama no menos de USD \$2 mil millones a CB&I.

El 25 de mayo de 2016, CB&I presentó su respuesta a la Solicitud de Arbitraje y la versión preliminar de su contrademanda contra Reficar, la cual ascienda a un valor aproximado de USD \$213 millones. El 27 junio de 2016, Reficar contestó la contrademanda de CB&I, oponiéndose a todas las pretensiones de CB&I.

El 28 de abril de 2017, Reficar presentó su demanda no detallada y, en la misma fecha, CB&I presentó su contrademanda no detallada, reclamando una suma de aproximadamente USD \$116 millones y \$387,558 millones, incluyendo USD \$70 millones de una carta de crédito de cumplimiento. Posteriormente, el 16 de marzo de 2018, CB&I presentó su contrademanda detallada, actualizando el valor reclamado a las sumas de USD \$129 millones y \$432,303 millones, incluyendo intereses. En esta misma fecha, Reficar presentó su demanda detallada, en la cual reclama, entre otras pretensiones,

En el año 2019 CENIT evaluó el reconocimiento de ingresos de acuerdo con los criterios contenidos en la IFRS 15, determinando que no es posible reconocer contablemente los ingresos asociados a este contrato por \$163,852, sin perjuicio de lo anterior, subsisten los derechos y obligaciones contractuales y por ende la controversia con el Grupo Frontera Energy.

Al 31 de diciembre de 2019 los valores adeudados por el Grupo Frontera Energy en relación con el caso descrito anteriormente ascienden a \$334,582.

la suma aproximada de USD \$139 millones por concepto de facturas pagadas provisionalmente en el marco de los acuerdos MOA y PIP y el Contrato EPC.

El 28 de junio de 2019, Chicago Bridge and Iron Company (CB&I) presentó respuesta a la defensa no detallada de Reficar por la demanda de reconvenición, actualizando el valor de su reclamación aproximadamente USD \$137 millones y \$503,241 millones, incluyendo intereses. Asimismo, CB&I presentó su defensa detallada a la demanda de Reficar.

Reficar presentó defensa detallada a la contrademanda de CB&I y su respuesta al memorial de defensa no detallado de CB&I, actualizando su reclamación por concepto de facturas pagadas provisionalmente en el marco de los acuerdos MOA y PIP y el Contrato EPC a aproximadamente US\$ 137 millones.

El Tribunal Arbitral está en proceso de definir la fecha en que iniciarán las audiencias en 2020 y, luego de la audiencia, el Tribunal analizará los argumentos de las partes para definir la fecha en la que emitirá el Laudo Arbitral. Hasta el momento en que se profiera el Laudo, el resultado del arbitraje es incierto.

En posible relación con esta materia, a 31 de diciembre de 2019 existe un saldo de USD \$122 millones aproximadamente, en facturas pagadas por Reficar a CB&I, bajo los Acuerdos PIP y MOA del contrato EPC, cuyos soportes suministrados hasta la fecha

por CB&I no cuentan con la aceptación de AMEC Foster Wheeler – PCIB.

En enero de 2020, McDermott International Inc., matriz de CB&I se declaró en quiebra y anunció que iniciará una reorganización a instancias del Capítulo 11 de la legislación

de Estados Unidos. Ante esta situación, Refinería de Cartagena ha adelantado acciones para proteger sus intereses y cuenta con un grupo de expertos con quienes continuará evaluando otras medidas que pueda adoptar ante esta nueva circunstancia.

20.5 INVESTIGACIONES DE ENTES DE CONTROL

(1) FISCALIA GENERAL DE LA NACIÓN (FGN):

A la fecha se adelantan 3 procesos penales derivados de los hechos relacionados con el proyecto de ampliación y modernización de la refinería de Cartagena.

Proceso 1 - No. 110016000101201600023 - MOA - PIP y EPC

Este proceso se adelanta en contra de algunos antiguos miembros de Junta Directiva de Reficar, antiguos trabajadores de Reficar, trabajadores de Chicago Bridge and Iron Company (CB&I) y el Revisor Fiscal de Reficar entre los años 2013 y 2015; por los delitos de interés indebido en la celebración de contratos, peculado por apropiación en favor de terceros, enriquecimiento ilícito de particulares en favor de terceros y falsedad ideológica en documento público.

El 31 de mayo de 2018, se dio inicio a la respectiva Audiencia de Formulación de Acusación, que continuó el 29 de noviembre de 2018, momento para el cual la FGN adicionó el escrito de acusación y se le solicitaron aclaraciones al mismo, para lo cual se suspendió la diligencia.

El 28 de enero de 2019 se reanudó la audiencia, la FGN realizó las aclaraciones que consideró pertinentes, los acusados interpusieron nulidad del proceso que fue negada por la juez de conocimiento y, el 1 de febrero de 2019, interpusieron recurso de apelación contra esta decisión, recurso que fue concedido en efecto suspensivo ante el Tribunal Superior de Bogotá. El día 7 de junio de 2019, la Sala Penal del Tribunal Superior de Bogotá decidió negar la solicitud de declaratoria de nulidad presentada en la audiencia de acusación.

El 22 de agosto de 2019 finalizó la audiencia de acusación y se reconoció oficialmente como víctimas a Reficar y Ecopetrol S.A.

El 25 de noviembre de 2019 se instaló la audiencia preparatoria de juicio y se agendó la continuación de la misma para los días 27 al 30 de abril del 2020.

Proceso 2 - No. 110016000101201800132 Línea de Negocio

Los días 22 y 23 de octubre de 2018 ante el Juzgado 24 Penal Municipal con Función de Garantías se llevó a cabo la Audiencia de Imputación por delitos de administración desleal agravada en concurso heterogéneo con obtención de documento público falso contra ex miembros de Junta Directiva de Reficar y un funcionario de Reficar. “Reficar actúa en ambas investigaciones en calidad de víctima”.

El 23, 25 y 31 de octubre de 2018 se llevó a cabo la Audiencia de Medidas de Aseguramiento en la cual la FGN solicitó para algunos de los imputados: (i) Prohibición de salir del país, (ii) Presentaciones periódicas ante autoridad, y (iii) Obligación de guardar buena conducta. Sin embargo, el juez se abstuvo de decretar la medida de aseguramiento por considerar que no hay suficientes elementos de juicio que soporten la necesidad de las medidas solicitadas. Contra la decisión del juez 24, la FGN interpuso recurso de apelación que fue resuelto el 20 de febrero de 2019 por el Juez 50 Penal del Circuito, confirmando la decisión de primera instancia y negando las mencionadas medidas.

(2) CONTRALORÍA GENERAL DE LA REPÚBLICA (CGR)

El 19 de junio de 2019, se presentó escrito de acusación por parte del Fiscal 110 Especializado. El 5 de agosto de 2019, se llevó a cabo la audiencia de acusación ante el Juzgado 34 Penal del Circuito de Conocimiento.

El 18 de noviembre de 2019 se instaló la audiencia preparatoria de juicio, la cual fue suspendida y programada del 2 al 6 de marzo de 2020.

Proceso 3 – No. 110016000101201800134 – Celebración Contrato PMC - Foster Wheeler
El 12 de junio de 2019 se llevó a cabo audiencia de imputación ante el Juzgado 21

Penal de Control de Garantías, en contra de dos ex presidentes de Reficar por el delito de celebración de contrato sin requisitos legales, por haber celebrado el Contrato PMC con el Joint Venture conformado por Foster Wheeler USA Corporation y Process Consultants Inc. de manera directa y no mediante un proceso de selección con pluralidad de oferentes.

El 6 de septiembre de 2019 la FGN presentó el escrito de acusación, el 27 de enero de 2020 se llevó a cabo la audiencia de acusación y se programó la audiencia preparatorio del juicio para el 11 y 24 de marzo de 2020.

Auditoría Financiera para la vigencia 2018

La CGR, el 20 de mayo de 2019, radicó en Reficar el Informe Final de Auditoría Financiera para la vigencia 2018. Reficar le solicitó al Contralor General de la República en ejercicio de la facultad que le fue conferida en el numeral 12 del artículo 51 del Decreto Ley 267 de 2000 revisar el mencionado informe y relacionó las motivaciones de la inconformidad; sin embargo, la solicitud no fue acogida.

Auditoría Financiera para la vigencia 2017

El 2 de octubre de 2018, Reficar presentó ante el Consejo de Estado, demanda contencioso-administrativa, en ejercicio del medio de control de nulidad y restablecimiento del derecho en contra del Informe Final de Auditoría Financiera para la vigencia 2017. El 29 de agosto de 2019 el Juez rechazó la demanda por considerar que el informe final de Auditoría es un acto de trámite.

Al respecto, Reficar mediante apoderado judicial presentó recurso de súplica, el cual fue resuelto el 5 de diciembre de 2019 por la Sección Primera, Sala de los Contencioso

Administrativa del Consejo de Estado, confirmando el auto que rechazó la demanda.

Proceso de Responsabilidad Fiscal

Mediante Auto No. 773 del 5 de junio de 2018, la CGR dictó auto de archivo e imputación de responsabilidad fiscal dentro del proceso No. PRF-2017-00309_UCC-PRF-005-2017 e imputó responsabilidad a:

Nueve (9) anteriores miembros de la Junta Directiva de Reficar.

Cinco (5) antiguos trabajadores de Reficar (iii) un (1) actual trabajador de Ecopetrol.

Cinco (5) Compañías Contratistas que hicieron parte del proyecto de expansión y modernización de la refinería de Cartagena.

Cinco (5) Compañías aseguradoras, en calidad de tercero civilmente responsable.

Actualmente la CGR se encuentra practicando las pruebas solicitadas por los sujetos imputados, dentro de los descargos presentados por ellos.

(3) PROCURADURÍA GENERAL DE LA NACIÓN

Se tiene conocimiento de nueve (9) actuaciones disciplinarias adelantadas Procuraduría General de la Nación, cuatro (4) de ellas relacionadas con el Proyecto.

De estas nueve (9) actuaciones, ocho (8) se encuentran en etapas de carácter reservado y una (1) cuenta con información pública.

La investigación cuya información es pública, se adelanta en contra de antiguos funcionarios y miembros de Junta Directiva de Reficar y actualmente se surte la práctica de pruebas de descargos.

La Compañía está cooperando con todos los entes de control y ha dado respuesta de todos

los requerimientos de información que han presentado a la fecha.

Dado lo anterior, el Grupo no está en condiciones de pronosticar el resultado de estas investigaciones; como tampoco le es posible evaluar la probabilidad de alguna consecuencia que pueda impactar los estados financieros, tales como provisiones adicionales, multas o desconocimientos de

deducciones fiscales que afecten los montos de impuestos diferidos activos, máxime que estas consecuencias no son propias de este tipo de procesos.

A la fecha de este reporte, los estados financieros continúan revelando de manera adecuada la situación financiera y operacional del Grupo en todos los aspectos materiales y sus controles internos se mantienen vigentes.

20.6 DETALLE DE LOS PASIVOS CONTINGENTES

El siguiente es un resumen de los pasivos contingentes no reconocidos en el estado de situación financiera separado, cuya valoración cualitativa está definida como eventual:

Tipo de proceso	2019		2018	
	Cantidad de procesos	Pretensiones	Cantidad de procesos	Pretensiones
Acción constitucional	14	1,092,228	13	1,075,965
Administrativo ordinario	160	780,150	149	701,080
Laboral ordinario	593	49,055	652	76,744
Civil ordinario	52	16,269	54	15,875
Arbitramento	-	-	1	10,608
Laboral especial	13	720	14	1,056
Penal	1	595	1	-
Administrativo ejecutivo	1	28	2	40
Tutela	112	10	105	-
Civil ejecutivo	1	-	2	1,281
	947	1,939,055	993	1,882,649

20.7 DETALLE DE LOS ACTIVOS CONTINGENTES

A continuación se presenta un resumen de los activos contingentes, cuya entrada de beneficios económicos a la Compañía es probable, pero no prácticamente cierta:

Tipo de proceso	2019		2018	
	Cantidad de procesos	Pretensiones	Cantidad de procesos	Pretensiones
Administrativo ordinario	35	373,555	47	229,935
Civil ordinario	75	86,363	40	12,101
Arbitramento	1	67,232	1	261,754
Penal	156	60,177	189	58,481
Civil ejecutivo	61	4,912	65	3,569
Administrativo ejecutivo	11	4,028	15	4,286
Laboral ordinario	50	3,295	51	6,086
Laboral especial	57	307	59	320
Tutela	4	-	6	-
	450	599,869	473	576,532

21. PATRIMONIO

21.1 CAPITAL SUSCRITO Y PAGADO

El capital autorizado de Ecopetrol es \$36,540,000 dividido en 60,000,000,000 de acciones nominativas ordinarias, de las cuales se han suscrito 41,116,694,690 acciones representadas en un 11.51% (4,731,906, 273 acciones) en personas naturales y jurídicas no estatales y 88.49% (36,384,788, 417 acciones)

en accionistas correspondientes a entidades estatales. El valor de las acciones en reserva asciende a \$11,499,933 conformada por 18,883,305,310 acciones. Al 31 de diciembre de 2019 y 2018, el capital suscrito y pagado ascendía a \$25,040,067. No existe dilución potencial de acciones.

21.2 PRIMA EN EMISIÓN DE ACCIONES

Al 31 de diciembre de 2019, el saldo de la prima en emisión de acciones es \$6,607,699 y está compuesto por: (i) exceso con respecto a su valor nominal originado en la venta de acciones en el momento de efectuarse la capitalización en el año 2007 por \$4,457,997, (ii) al exceso con respecto a su valor nominal originado en la venta de acciones adjudicadas en la segunda

ronda, efectuada en septiembre de 2011 por \$2,118,468, (iii) \$31,377, al valor generado en el proceso de colocación de acciones en el mercado secundario, originado por la ejecución de garantías a los deudores morosos, de conformidad con lo establecido en el Artículo 397 del Código de Comercio y (iv) prima en colocación de acciones por cobrar \$(143).

21.3 RESERVAS PATRIMONIALES

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Reserva legal	3,243,832	2,088,192
Reservas fiscales y obligatorias	509,082	509,081
Reservas ocasionales	31,744	2,541,622
	3,784,658	5,138,895

El movimiento de las reservas patrimoniales es el siguiente:

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Saldo inicial	5,138,895	2,177,869
Liberación de reservas	(3,050,703)	(751,718)
Apropiación de reservas	5,355,852	3,712,744
Dividendos decretados	(3,659,386)	-
Saldo final	3,784,658	5,138,895

21.4 GANANCIAS ACUMULADAS Y PAGO DE DIVIDENDOS

La Compañía distribuye dividendos con base en sus estados financieros anuales separados, preparados bajo las Normas Internacionales de Información Financiera aceptadas en Colombia (NCIF).

La Asamblea General Ordinaria de Accionistas, realizada el día 29 de marzo de 2019, aprobó el proyecto de distribución de utilidades sobre el

ejercicio 2018 y definió distribuir dividendos por valor de \$9,251,256 (2018 - \$3,659,386). Igualmente, la Asamblea Extraordinaria, realizada el 16 de diciembre de 2019, aprobó la modificación de la destinación de la reserva ocasional autorizada el 29 de marzo de 2019, con el fin de distribuir un dividendo extraordinario de \$3,659,386. El 100% de los dividendos fueron pagados durante el año.

21.5 OTROS RESULTADOS INTEGRALES

La siguiente es la composición de los otros resultados integrales, netos de impuesto de renta diferido:

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Método de participación en compañías (1)	10,721,865	10,674,497
Cobertura de inversión neta en negocio en el extranjero	(1,130,583)	(1,069,316)
Coberturas flujo de efectivo para futuras exportaciones	(535,162)	(1,203,461)
Coberturas flujo de efectivo con instrumentos derivados	3,311	-
Ganancias y pérdidas derivadas del plan de beneficio definido	(2,357,210)	(557,381)
	6,702,221	7,844,339

(1) La Compañía reconoce como método de participación en compañías el efecto resultante del ajuste por conversión de sus inversiones en subsidiarias, asociadas y negocios conjuntos cuya moneda funcional sea diferente al peso colombiano, así como las variaciones en los conceptos del otro resultado

integral de dichas compañías. El efecto acumulado por ajuste por conversión (diferencia en cambio en conversiones), será transferido al resultado del periodo como una ganancia o pérdida en el momento de la liquidación o venta de dichas inversiones.

21.6 UTILIDAD BÁSICA POR ACCIÓN

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Utilidad neta atribuible a los accionistas	13,251,483	11,556,405
Promedio ponderado de acciones en circulación	41,116,694,690	41,116,694,690
Ganancia neta por acción (pesos)	322.3	281.1

22. INGRESOS DE ACTIVIDADES ORDINARIAS

	Por los años terminados a 31 de diciembre de	
	2019	2018
Ventas nacionales		
Destilados medios	10,850,263	9,479,790
Gasolinas	7,702,842	6,606,147
Gas natural	2,038,733	1,738,749
Servicios	584,302	566,202
Asfaltos	544,200	335,426
Crudos	366,160	524,502
G.L.P. y propano	305,741	494,362
Aromáticos	228,552	282,545
Polietileno	139,966	201,002
Otros ingresos ventas de gas (1)	102,845	156,031
Combustóleo	97,907	509,482
Otros productos y servicios	247,426	196,146
	23,208,937	21,090,384
Reconocimiento diferencial precios (2)	1,489,046	3,169,196
	24,697,983	24,259,580
Ventas zona franca		
Crudos	8,592,634	7,814,082
Servicios	374,870	345,254
Gas natural	308,707	316,712
Propileno	84,100	130,891
Otros	7,493	10,815
	9,367,804	8,617,754
Ventas al exterior		
Crudos	27,770,902	25,855,983
Combustóleo	1,802,010	1,946,943
Coberturas de flujo de efectivo para futuras exportaciones (Nota 27.1.2)	(1,028,516)	(655,533)
Otros productos y servicios	5,666	1,045
	28,550,062	27,148,438
	62,615,849	60,025,772

(1) Corresponde al ingreso facturado sobre la participación en las utilidades de las ventas de gas, en el marco del acuerdo suscrito entre Ecopetrol y Chevron en 2004, para la extensión del contrato de asociación para la explotación de gas en la Guajira.

(2) Corresponde a la aplicación de la Resolución 180522 del 29 de marzo de 2010 y

demás normas que la modifican y adicionan (Decreto 1880 de 2014 y Decreto 1068 de 2015), donde se establece el procedimiento para reconocer el subsidio para refinadores e importadores de la gasolina motor corriente y ACPM, y la metodología para el cálculo de la posición neta (valor generado entre el precio de paridad y el precio regulado, el cual puede ser positivo o negativo).

23. COSTO DE VENTAS

	Por los años terminados a 31 de diciembre de	
	2019	2018
Costos variables		
Productos importados (1)	9,989,733	7,675,698
Servicios de transporte de hidrocarburos	6,045,219	4,933,523
Compras de crudo asociación y concesión	5,679,326	4,240,273
Compras de hidrocarburos - ANH (2)	5,437,177	5,667,567
Depreciaciones, amortizaciones y agotamientos	4,807,368	4,310,008
Compras de otros productos y gas	2,385,135	3,542,916
Regalías de gas en dinero	746,516	418,416
Energía eléctrica	503,683	396,184
Materiales de proceso	454,569	449,675
Servicios contratados asociación	267,773	260,207
Inventario inicial menos final y otras asignaciones (3)	(644,047)	(276,423)
	35,672,452	31,618,044
Costos fijos		
Servicios de transporte de hidrocarburos	3,661,942	3,347,070
Costos laborales	2,104,034	1,922,184
Servicios contratados	1,451,122	1,654,662
Mantenimiento	1,413,226	1,313,872
Servicios contratados en asociación	976,906	926,193
Depreciaciones y amortizaciones	954,527	669,005
Impuestos y contribuciones	473,956	271,117
Materiales y suministros de operación	391,110	370,837
Costos generales	119,137	189,968
	11,545,960	10,664,908
	47,218,412	42,282,952

(1) Los productos importados corresponden principalmente a ACPM, diluyente para facilitar el transporte de crudo pesado y gasolina.

(2) Corresponde principalmente a las compras de crudo de regalías que realiza Ecopetrol a la Agencia Nacional de

Hidrocarburos (ANH), derivadas de la producción nacional.

(3) Corresponde a: i) capitalización a los inventarios, producto del proceso de costeo, ii) medición al valor neto de realización (VNR) y iii) los préstamos de inventarios por transporte.

24. GASTOS DE ADMINISTRACIÓN, OPERACIÓN Y PROYECTOS

	Por los años terminados a 31 de diciembre de	
	2019	2018
Gastos de administración		
Gastos generales	763,578	544,818
Gastos laborales	418,276	363,231
Depreciaciones y amortizaciones	171,931	25,804
Impuestos	8,405	7,275
	1,362,190	941,128
Gastos de operación y proyectos		
Gastos laborales	375,373	295,533
Impuestos	361,979	300,585
Gastos de exploración	290,244	228,692
Servicio logístico de transporte	241,620	214,679
Comisiones, honorarios, fletes y servicios	118,884	113,273
Cuota de fiscalización	74,166	80,060
Diversos	(124,506)	(86,970)
	1,337,760	1,145,852

25. OTROS INGRESOS (GASTOS) OPERACIONALES, NETO

	Por los años terminados a 31 de diciembre de	
	2019	2018
Pérdida en venta de activos	(111,799)	(86,984)
Gasto provisiones por litigios	(45,013)	(104,828)
Gasto por impairment de activos corrientes	(6,768)	(103,234)
Utilidad en adquisición de participación adicional en inversiones en compañías (Nota 12)	1,048,924	-
Otros ingresos, netos	192,172	146,829
	1,077,516	(148,217)

26. RESULTADO FINANCIERO

	Por los años terminados a 31 de diciembre de	
	2019	2018
Ingresos financieros		
Valoración e ingresos de activos financieros	2,042,609	822,782
Rendimientos e intereses	300,494	281,485
Dividendos (1)	117,238	-
Otros ingresos	8,531	1,827
	2,468,872	1,106,094
Gastos financieros		
Costo financiero de préstamos y financiaciones (2)	(1,832,765)	(2,140,480)
Costo financiero de otros pasivos (3)	(713,312)	(637,809)
Valoración y gastos de activos financieros	(1,678,924)	(424,204)
Otros gastos	(12,052)	(2,677)
Inefectividad de coberturas	(10,602)	(34,892)
	(4,247,655)	(3,240,062)
Utilidad por diferencia en cambio, neta	152,817	427,958
	(1,625,966)	(1,706,010)

(1) En el año 2007, Arrendadora Financiera Internacional Bolivariana (AFIB) y Ecopetrol S.A. suscribieron un acuerdo, mediante el cual se constituyó un encargo fiduciario, en el que se depositaron los dividendos correspondientes al 8.53% de la participación en disputa respecto a las acciones de Invercolsa adquiridas en su momento por Fernando Londoño. En 2019, como resultado del fallo de la Corte Suprema de Justicia, Ecopetrol recibió el monto de los dividendos que se

encontraban en la fiducia. Ver Nota 12 – Inversiones en compañías.

(2) Al 31 de diciembre se capitalizaron intereses en recursos naturales y propiedad, planta y equipo por \$248,139 (2018 \$200,833).

(3) Incluye el gasto financiero por la actualización del pasivo por costos de abandono, y el interés neto de los beneficios post-empleo y otros beneficios a empleados a largo plazo.

27. GESTIÓN DE RIESGOS

27.1 RIESGO DE TIPO DE CAMBIO

Ecopetrol S.A. opera principalmente en Colombia y realiza ventas en el mercado local e internacional, por tal razón, está expuesta al riesgo de tipo de cambio, el cual surge de diversas exposiciones en moneda extranjera debido a transacciones comerciales y a saldos de activos y pasivos en moneda extranjera. El impacto de las fluctuaciones en las tasas de cambio, especialmente la tasa de cambio peso/dólar de los Estados Unidos, ha sido material.

La tasa de cambio del dólar estadounidense frente al peso colombiano ha fluctuado durante los últimos años. Al 31 de diciembre de 2019, el peso colombiano se depreció 0.8% al pasar de

una tasa de cierre al 31 de diciembre de 2018 de \$3,249.75 a \$3,277.14 pesos por dólar.

Cuando el peso colombiano se revalúa contra el dólar estadounidense, los ingresos por exportaciones bajan al convertirse a pesos; así mismo, los bienes importados, servicios petroleros e intereses sobre la deuda externa denominada en dólares se tornan menos costosos. Por el contrario, cuando el peso se deprecia, los ingresos por exportaciones, al ser convertidos a pesos, aumentan, y las importaciones y servicio de la deuda externa se vuelven más costosos.

Los valores en libros de los activos y pasivos financieros denominados en moneda extranjera se presentan en la siguiente tabla:

(Millones de USD)	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Efectivo y equivalentes de efectivo	203	482
Cuentas comerciales y otras cuentas por cobrar	1,102	857
Otros activos financieros	1,097	1,729
Otros activos	140	123
Total activos	2,542	3,191

(Millones de USD)	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Préstamos y financiaciones	(10,244)	(9,689)
Cuentas comerciales y otras cuentas por pagar	(1,193)	(883)
Otros pasivos	(161)	(33)
Total pasivos	(11,598)	(10,605)
Posición pasiva neta	(9,056)	(7,414)

Del total de la posición neta, US\$7,331 millones corresponden a instrumentos de cobertura cuyas variaciones cambiarias se reconocen en el otro resultado integral dentro del patrimonio, y US\$1,725 millones corresponden a pasivos netos en moneda extranjera cuya valoración impacta el resultado del periodo.

La estrategia de gestión de riesgos de la Compañía implica el uso de instrumentos financieros no derivados relacionados con coberturas de flujo de efectivo para futuras exportaciones para reducir al mínimo la exposición de divisas al riesgo de tipo de cambio.

27.1.1 ANÁLISIS DE SENSIBILIDAD PARA RIESGO DE TIPO DE CAMBIO

El siguiente es el efecto que tendría una variación del 1% y 5% en tipo de cambio de pesos colombianos frente al dólar de los

Estados Unidos, relacionado con la exposición de activos y pasivos financieros en moneda extranjera a 31 de diciembre de 2019:

Escenario/ Variación TRM	Efecto en resultados antes de impuestos (+/-)	Efecto en otros resultados integrales (+/-)
1%	(56,531)	240,247
5%	(282,653)	1,201,236

27.1.2 COBERTURA DE FLUJO DE EFECTIVO PARA FUTURAS EXPORTACIONES

Ecopetrol opera principalmente en Colombia y realiza ventas en el mercado local e internacional. Por tal razón, la Compañía está expuesta al riesgo de tipo de cambio, el cual surge de diversas exposiciones en moneda extranjera debido a transacciones comerciales y a saldos de activos y pasivos en moneda extranjera. El impacto de las fluctuaciones en las tasas de cambio, especialmente la tasa de cambio peso/dólar de los Estados Unidos, ha sido material en años previos. Para mitigar el riesgo, la estrategia de gestión de riesgos de la Compañía implica el uso de instrumentos financieros no derivados relacionados con coberturas de flujo de efectivo para futuras exportaciones e inversión neta de negocios en el extranjero para reducir al mínimo la exposición al riesgo de tipo de cambio.

Con el objetivo de expresar en los estados financieros el efecto de la cobertura

natural existente entre exportaciones y endeudamiento, entendiendo que el riesgo por tasa de cambio se materializa cuando se realizan las exportaciones, el 30 de septiembre de 2015, la Junta Directiva designó la suma de US\$5,440 millones de la deuda de Ecopetrol como instrumento de cobertura de sus ingresos futuros por exportación de crudo, para el periodo 2015 - 2023, de acuerdo con NIIF 9 – Instrumentos financieros.

De acuerdo con la Resolución 509 de 2015 de la Contaduría General de la Nación, esta política contable de reconocimiento de coberturas fue adoptada por Ecopetrol a partir del 1 de enero del 2015.

A continuación se presenta el movimiento de este instrumento de cobertura no derivado:

(Millones de USD)	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Saldo inicial	1,300	3,332
Reasignación de instrumentos de cobertura	5,551	3,366
Realización de las exportaciones	(5,551)	(3,366)
Amortización del principal (1)	-	(2,032)
Saldo final	1,300	1,300

(1) El 27 de diciembre de 2018, Ecopetrol pagó anticipadamente la totalidad del bono internacional a 10 años emitido en 2009, cuyo valor nominal era de USD\$1,500 millones.

El siguiente es el movimiento en el otro resultado integral:

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Saldo inicial	1,203,461	1,149,865
Diferencia en cambio	35,607	704,872
Realización de exportaciones (Nota 22)	(1,028,516)	(655,533)
Inefectividad	(5,173)	(35,270)
Impuesto de renta diferido	329,784	39,527
Saldo final	535,163	1,203,461

La reclasificación esperada de la diferencia en cambio acumulada en el estado de otros resultados integrales al Estado de Ganancias y Pérdidas es la siguiente:

Año	Antes de impuestos	Impuestos	Después de impuestos
2020	247,818	(79,302)	168,516
2021	190,373	(59,016)	131,357
2022	190,373	(57,112)	133,261
2023	145,754	(43,725)	102,029
	774,318	(239,155)	535,163

27.1.3 COBERTURA DE INVERSIÓN NETA EN NEGOCIO EN EL EXTRANJERO

La Junta Directiva aprobó la aplicación de contabilidad de coberturas de inversión neta a partir del 8 de junio de 2016. La medida busca disminuir la volatilidad del resultado no operacional por efecto de la diferencia en cambio. La cobertura de inversión neta se aplicará a una porción de las inversiones que la Compañía tiene en moneda extranjera, en este caso a las inversiones en filiales con moneda funcional dólar y tiene como instrumento de cobertura una porción de la deuda denominada en dólares.

Ecopetrol designó como partida cubierta las inversiones netas en Oleoducto Central

S.A. (Ocensa), Ecopetrol América LLC., Hocol Petroleum Ltd. (HPL) y Refinería de Cartagena S.A.S. y como instrumento de cobertura una porción de su deuda denominada en dólares americanos, en un monto total equivalente a USD \$5,200 millones.

Al 30 de noviembre de 2019, se realizó la ampliación de esta cobertura por USD \$930 millones designando la inversión neta en Ecopetrol Permian LLC. El saldo del instrumento de cobertura al 31 de diciembre de 2019 es USD \$831.

El siguiente es el movimiento en el otro resultado integral:

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Saldo inicial	1,069,316	97,362
Diferencia en cambio	87,524	1,381,900
Inefectividad de cobertura	-	378
Impuesto de renta diferido	(26,257)	(410,324)
Saldo final	1,130,583	1,069,316

27.2 RIESGO DE PRECIO DE COMMODITIES

El negocio de la Compañía depende sustancialmente de los precios internacionales del crudo y de los productos refinados. Los precios de estos productos son volátiles y por tanto, cambios drásticos podrían afectar adversamente las perspectivas de negocios y resultados de las operaciones. Una alta proporción de los ingresos provienen de las ventas de crudo, gas natural y productos refinados que están indexados a precios internacionales de referencia como el Brent, entre otros. En consecuencia, las fluctuaciones de precio en tales referencias tienen un efecto directo en la situación financiera y en los resultados de la Compañía.

Las fluctuaciones en los precios de crudo, gas natural y productos refinados se presentan como resultado de una variedad de factores fundamentales, como: la competencia dentro de la industria de hidrocarburos, cambios en el balance oferta/demanda, , , cambios regulatorios, factores geopolíticos, desarrollo de nuevas tecnologías, cambios en el costo de capital, cambios en las expectativas de las condiciones económicas, transacciones en instrumentos financieros derivados relacionados con el petróleo y gas y disponibilidad de combustibles alternos.

Ecopetrol cuenta con una guía aprobada por la Junta Directiva que le permite utilizar instrumentos financieros derivados para cubrirse ante los cambios en los índices de referencia de crudo y productos refinados, asociados a las transacciones físicas. La Compañía tiene implementados procesos apropiados para el manejo del riesgo que incluyen el monitoreo constante del mercado físico y financiero para identificar riesgos y posteriormente diseñar y ejecutar estrategias de cobertura.

Ecopetrol no utiliza regularmente instrumentos derivados para cubrir exposiciones a riesgo de precios de ventas o compras. El impacto de la liquidación de las coberturas de precios realizadas

durante el año 2019 protegió el resultado de estrategias particulares de comercialización ante la materialización de movimientos adversos en el precio. En 2019 se ejecutaron diferentes coberturas enfocadas en la mitigación del riesgo de precio que es consecuencia de exposiciones a índices de precios diferentes al benchmark de la estrategia de comercialización y a períodos de determinación del precio que difieren entre la compra de barriles físicos y su respectiva venta.

Al 31 de diciembre de 2019, las coberturas de precios liquidadas durante el año registraron una utilidad de COP\$1,602, asimismo se mantiene una posición abierta a favor de Ecopetrol por COP\$4,868.

27.3 RIESGO DE TASA DE INTERÉS

El riesgo de tasa de interés se ocasiona debido a que existen instrumentos indexados a tasas flotantes tanto en el portafolio de inversiones, como en algunas deudas financieras (LIBOR, DTF e IPC). Por lo tanto, la volatilidad en las tasas de interés puede afectar el costo amortizado, el valor razonable y los flujos de efectivo relacionados con el portafolio de inversiones, la deuda y los patrimonios autónomos pensionales.

Ecopetrol establece controles para la exposición de tasa de interés, implementando controles límites en la duración del portafolio de inversiones, el Valor en Riesgo – VAR y tracking error.

Los patrimonios autónomos vinculados a los pasivos pensionales de la Compañía están expuestos a cambios en las tasas de interés, debido a que incluyen instrumentos

de tasa fija y tasa variable. La regulación colombiana establece lineamientos sobre patrimonios autónomos destinados a la garantía y pago de pensiones (Decretos 941 de 2002 y 1861 de 2012), donde se indica que el régimen aplicable será el mismo establecido para el Fondo Moderado de los Fondos de Pensiones Obligatorias.

Al 31 de diciembre de 2019 el 8.6% (2018 9.9%) del endeudamiento tiene tasa flotante. Con lo cual, si la tasa de interés de mercado sube, los gastos de financiación aumentarán, lo que genera un efecto adverso en los resultados de las operaciones.

La siguiente tabla detalla el impacto en resultados y en el otro resultado integral, para los 12 meses siguientes, ante una variación en las tasas de interés de 100 puntos básicos:

	Efecto en resultados (+/-)		Efecto en ORI (+/-)
	Activos financieros	Pasivos financieros	Patrimonios autónomos
+100 puntos básicos	(86,267)	32,276	(590,991)
-100 puntos básicos	86,267	(32,345)	629,633

La sensibilización ante variación de las tasas de descuento de los pasivos por pensiones se muestra en la Nota 19 - Provisiones por beneficios a empleados.

27.4 RIESGO DE CRÉDITO

El riesgo de crédito es el riesgo de que la Compañía pueda sufrir pérdidas financieras como consecuencia del incumplimiento en los pagos por parte de: i) clientes en la venta de crudo, gas, productos o servicios; ii) instituciones financieras en las que se mantienen inversiones; o iii) contrapartes con las que se tienen contratados instrumentos financieros.

Riesgo de crédito para clientes

En el proceso de venta de crudos, gas, refinados y productos petroquímicos y prestación de servicios de transporte, la Compañía puede estar expuesta al riesgo de crédito en el evento que los clientes incumplan sus compromisos de pago. La gestión de este riesgo ha demandado el diseño de mecanismos y procedimientos que han permitido minimizar su probabilidad de materialización, salvaguardando así el flujo de efectivo de la empresa.

La Compañía realiza un análisis continuo de la fortaleza financiera de las contrapartes, el cual implica su clasificación de acuerdo

con su nivel de riesgo y respaldos financieros ante una posible cesación de pagos. Asimismo, se realiza un monitoreo constante de las condiciones del mercado nacional e internacional para establecer alertas tempranas de cambios importantes que puedan impactar las obligaciones de pago oportuno de los clientes con la Compañía.

Para la cartera que es considerada deteriorada, se realiza un análisis individual que permite analizar la situación de cada cliente y así definir las provisiones que haya a lugar. La Compañía lleva a cabo las acciones administrativas y legales necesarias para recuperar las cuentas por cobrar vencidas, así como el reconocimiento de intereses de clientes que no cumplan con las políticas de pago.

Ecopetrol no mantiene concentraciones significativas de riesgo de crédito. El siguiente es el análisis de antigüedad de la cartera por clientes en mora pero no considerada deteriorada al 31 de diciembre:

	A 31 de diciembre de	A 31 de diciembre de
	2019	2018
Vencidos con menos de tres meses	4,327	2,409
Total	4,327	2,409

Calidad crediticia de recursos en instituciones financieras

Siguiendo el Decreto 1525 de 2008, que provee las normas generales sobre inversiones para entidades públicas, Ecopetrol estableció las directrices para la gerencia del portafolio de inversión. Estas directrices determinan que las inversiones de portafolio en dólares de Ecopetrol están limitadas a inversiones del excedente de efectivo en títulos de renta fija emitidos por entidades con calificación

A o superior a largo plazo y A1 / P1 / F1 o superior en el corto plazo (escala internacional) por Standard & Poor's Ratings Services, Moody's Investors Service o Fitch Ratings.

Adicionalmente, Ecopetrol también puede invertir en valores emitidos o garantizados por el gobierno de los Estados Unidos o el gobierno colombiano, sin tener en cuenta las calificaciones asignadas a dichos valores. Ecopetrol debe invertir su exceso de efectivo

en títulos de renta fija de emisores calificados AAA a largo plazo, y F1 + / BRC1 + en el corto plazo (escala local) por Fitch Ratings Colombia, BRC o Standard & Poor's. Además, la Compañía también podrá invertir en valores emitidos o garantizados por el gobierno nacional sin restricciones de calificación.

Para diversificar el riesgo en la cartera de pesos, Ecopetrol no invierte más del 10% del exceso de efectivo en un determinado

emisor. En el caso de portafolio en dólares, no se invierte más del 5% del exceso de efectivo en un emisor específico a corto plazo (hasta 1 año), o 1% a largo plazo.

La calidad crediticia de los emisores y contrapartes en transacciones relacionadas con instrumentos financieros puede verse en: Nota 6 – Efectivo y equivalentes, Nota 9 – Otros activos financieros y Nota 19.2 – Activos del plan.

27.5 RIESGO DE LIQUIDEZ

La habilidad para acceder a los mercados de crédito y de capitales para obtener financiación bajo términos favorables para el plan de inversiones de la Compañía, puede verse limitada debido a las condiciones de estos mercados. Una nueva crisis financiera podría empeorar la percepción de riesgo en los mercados emergentes.

Por otro lado, la ocurrencia de situaciones que afecten el entorno político y regional de Colombia, podrían dificultar el acceso a los mercados de capitales. Estas condiciones, junto con potenciales pérdidas significativas en el sector de servicios financieros y cambios en las valoraciones del riesgo crediticio, pueden dificultar la obtención de financiación. Como resultado, la Compañía se puede ver forzada a revisar la oportunidad y alcance de las inversiones según sea necesario, o acceder a los mercados financieros bajo términos

menos favorables, afectando por lo tanto, negativamente los resultados y la situación financiera.

El riesgo de liquidez se gestiona de acuerdo con las políticas destinadas para garantizar que hayan fondos netos suficientes para cumplir con los compromisos financieros de la Compañía dentro de su cronograma de vencimientos, sin costos adicionales. El principal método para la medición y seguimiento de la liquidez es la previsión de flujo de efectivo.

El siguiente es un resumen de la madurez de los préstamos y financiaciones al 31 de diciembre de 2019; los montos presentados en la tabla son los flujos de efectivo contractuales sin descontar; los pagos previstos en moneda extranjera fueron re expresados tomando como tasa de cambio \$3,277.14 pesos por dólar:

	Hasta 1 año	1-5 años	5-10 años	> 10 años	Total
Préstamos (Pago de principal e intereses)	3,129,531	16,256,892	14,598,648	19,336,457	53,321,528
Cuentas comerciales y otras cuentas por pagar	8,878,626	-	-	-	8,878,626
	12,008,157	16,256,892	14,598,648	19,336,457	62,200,154

27.6 GESTIÓN DEL CAPITAL

El principal objetivo de la Gestión del Capital de Ecopetrol es asegurar una estructura financiera que optimice el costo de capital de la Compañía, que maximice el rendimiento a sus accionistas y permita el acceso a los

mercados financieros a un costo competitivo para cubrir sus necesidades de financiación.

El siguiente es el índice de endeudamiento sobre los periodos informados:

	A 31 de diciembre de 2019	A 31 de diciembre de 2018
Préstamos y financiaciones (Nota 17)	36,298,122	33,293,662
Efectivo y equivalentes de efectivo (Nota 6)	(1,477,493)	(2,259,319)
Otros activos financieros (Nota 9)	(5,233,959)	(9,012,854)
Deuda financiera neta	29,586,670	22,021,489
Patrimonio (Nota 21)	56,412,330	57,213,607
Apalancamiento (1)	34.40%	27.79%

(1) Deuda financiera neta / (Deuda financiera neta + Patrimonio)

28. PARTES RELACIONADAS

28.1 COMPAÑÍAS SUBSIDIARIAS, ASOCIADAS Y NEGOCIOS CONJUNTOS

Los saldos con compañías subsidiarias, asociadas y negocios conjuntos al 31 de diciembre de 2019 y 31 de diciembre de 2018 son los siguientes:

	Cuentas por cobrar	Cuentas por cobrar - Préstamos	Otros activos financieros	Otros activos	Cuentas por pagar	Otros pasivos
Subsidiarias						
Refinería de Cartagena S.A.S.	1,482,845	-	-	-	179,054	26,713
Cenit Transporte y Logística de Hidrocarburos S.A.S	84,683	-	-	15,893	259,460	11,139
Oleoducto de los Llanos Orientales S.A.	24,707	-	-	-	107,244	-
Oleoducto Central S.A.	17,124	-	-	9,294	404,561	3,923
Inversiones de Gases de Colombia S.A. y subsidiarias y subsidiarias	12,485	-	-	-	1,006	-
Esenttia Masterbatch Ltda	8,061	-	-	-	-	-
Oleoducto Bicentenario de Colombia S.A.S.	3,180	-	-	248,822	17,203	-
Oleoducto de Colombia S.A.	2,798	-	-	42,508	40,927	32,309
Esenttia S.A.	2,695	-	-	-	-	-
Hocol S.A.	1,908	-	-	5,136	76,560	43
Ecopetrol Energía S.A.S. E.S.P.	199	-	-	-	80,728	-
Ecopetrol Costa Afuera	303	-	-	-	-	-
Black Gold Limited	96	-	-	-	-	-
Hocol Petroleum Limited	134	-	-	-	-	-
Andean Chemicals Limited	136	-	-	-	-	-
Ecopetrol Capital AG	324	-	967,555	-	-	-
Ecopetrol America LLC	338	-	-	-	7,048	-
Bioenergy S.A.	356	-	-	-	-	48
Ecopetrol del Perú	11	-	-	-	-	-
Negocios conjuntos						
Equión Energía Limited	24,010	-	-	55,068	153,462	794
Ecodiesel Colombia S.A.	2,116	-	-	-	29,447	1
Offshore International Group Inc (1)	-	93,657	-	-	-	-
Asociadas						
Serviport S.A.	-	-	-	-	4,668	-
Saldo al 31 de diciembre de 2019	1,668,509	93,657	967,555	376,721	1,361,368	74,970
Corriente	1,668,509	-	967,555	180,411	1,361,368	74,970
No corriente	-	93,657	-	196,310	-	-
	1,668,509	93,657	967,555	376,721	1,361,368	74,970
	(Nota7)	(Nota7)	(Nota9)	(Nota11)	(Nota18)	

	Cuentas por cobrar	Cuentas por cobrar - Préstamos	Otros activos financieros	Otros activos	Cuentas por pagar	Otros pasivos
Subsidiarias						
Refinería de Cartagena S.A.S.	1,557,179	-	-	-	71,399	566
Cenit Transporte y Logística de Hidrocarburos S.A.S.	194,123	-	-	20,203	271,802	-
Esenttia S.A.	10,907	-	-	-	-	-
Esenttia Masterbatch Ltda	5,501	-	-	-	-	-
Oleoducto Central S.A.	5,356	-	-	7,191	446,518	-
Oleoducto Bicentenario de Colombia S.A.S.	3,268	-	-	245,101	83,173	-
Oleoducto de los Llanos Orientales S.A.	2,734	-	-	-	87,916	-
Oleoducto de Colombia S.A.	2,482	-	-	28,281	49,198	-
Hocol S.A.	1,027	-	-	2,045	35,762	4,187
Ecopetrol Oleo & Gas do Brasil Ltda	752	-	-	-	-	-
Ecopetrol Capital AG	473	-	1,452,206	-	-	-
Black Gold Limited	356	-	-	-	-	-
Bioenergy S.A	343	-	-	-	-	-
Ecopetrol América LLC	296	-	-	-	6,627	-
Andean Chemicals Limited	84	-	-	-	-	-
Ecopetrol Costa Afuera	73	-	-	-	52	-
Hocol Petroleum Limited	34	-	-	-	-	-
Ecopetrol Global Energy S.L.U.	8	-	-	-	-	-
Ecopetrol Germany GMBH	6	-	-	-	-	-
Negocios conjuntos						
Equión Energía Limited	21,814	-	-	17,722	86,803	67
Ecodiesel Colombia S.A.	522	-	-	-	23,857	1
Offshore International Group Inc. (1)	-	117,824	-	-	-	-
Asociadas						
Serviport S.A.	-	-	-	-	5,482	-
Saldo al 31 de diciembre de 2018	1,807,338	117,824	1,452,206	320,543	1,168,589	4,821
Corriente	1,807,338	-	1,452,206	124,233	1,168,589	4,821
No corriente	-	117,824	-	196,310	-	-
	1,807,338	117,824	1,452,206	320,543	1,168,589	4,821
	(Nota 7)	(Nota 7)	(Nota 9)	(Nota 11)	(Nota 18)	

Cuentas por cobrar – Préstamos:

(1) Savia Perú S.A. (filial de Offshore International Group Inc): Préstamo otorgado por Ecopetrol S.A. por USD\$57 millones en el año 2016, con una tasa de interés del 4.99% E.A. pagaderos semestralmente a partir del 2017 y vencimiento en el 2021. El saldo en valor nominal de este crédito al 31 de diciembre de 2019 es de USD\$28 millones (2018 - USD\$35). El 11 de diciembre de 2019, se otorgó a Savia una enmienda al crédito por parte de Ecopetrol S.A. y Korea National Oil Corporation ("KNOC") relacionados con los pagos del principal a vencerse el 16 de diciembre de 2019 por USD\$7 millones, 15 de junio de 2020 por USD\$7 millones y 15 de diciembre de 2020 por USD\$7 millones, para

que el deudor cancele dicho monto en la fecha de vencimiento del préstamo, es decir, el 19 de febrero de 2021, momento en el cual se realizará el pago final por USD\$28 millones.

Los importes pendientes no están garantizados y se liquidarán en efectivo. No se ha reconocido ningún gasto en el periodo actual ni en periodos anteriores con respecto a incobrables o cuentas de dudoso cobro relacionados con los importes adeudados por partes relacionadas.

Las principales transacciones con partes relacionadas por los periodos finalizados el 31 de diciembre se detallan como sigue:

	2019		2018	
	Ingresos	Costos y gastos	Ingresos	Costos y gastos
Subsidiarias				
Refinería de Cartagena S.A.S.	9,299,448	1,921,344	8,469,775	3,025,999
Ecopetrol Capital AG	1,099,164	1,040,144	100,859	42,718
Cenit Transporte y Logística de Hidrocarburos S.A.S.	417,183	3,108,557	488,834	2,717,819
Esenttia Masterbatch Ltda	84,106	-	131,032	-
Esenttia S.A.	25,975	-	43,168	-
Oleoducto Central S.A.	23,360	3,936,684	25,598	3,115,872
Inversiones de Gases de Colombia S.A. - Invercolsa S.A. y subsidiarias	12,967	518	-	-
Oleoducto de Colombia S.A.	11,176	371,564	13,171	325,212
Hocol S.A.	8,600	452,355	3,811	458,675
Oleoducto Bicentenario de Colombia S.A.S.	7,633	875,761	8,507	817,864
Oleoducto de los Llanos Orientales S.A.	6,488	843,019	6,900	761,290
Ecopetrol Costa Afuera	2,813	-	3,775	-
Ecopetrol America LLC	1,479	22,424	896	47,995
Bioenergy S.A.	1,544	-	793	-
Black Gold Limited	1,312	-	1,153	-
Ecopetrol Energía S.A.S. E.S.P.	822	378,829	-	-
Ecopetrol Oleo & Gas do Brasil Ltda	397	-	1,146	-
Andean Chemicals Limited	257	-	250	-
Hocol Petroleum Limited	116	-	781	-

	2019		2018	
	Ingresos	Costos y gastos	Ingresos	Costos y gastos
Ecopetrol Germany GMBH	5	-	22	-
Ecopetrol Global Energy S.L.U.	-	-	20	-
Ecopetrol del Perú S.A.	10	-	-	-
Ecopetrol Permian LLC	4,586	-		
Negocios conjuntos				
Equión Energía Limited	50,866	568,696	47,164	846,030
Ecodiesel Colombia S.A.	8,614	280,649	6,860	267,498
Offshore International Group Inc	3,245	-	2,386	-
	11,072,166	13,800,544	9,356,901	12,426,972

28.2 DIRECTIVOS CLAVE DE LA GERENCIA

De acuerdo con la aprobación impartida por la Asamblea General de Accionistas del año 2012, los honorarios de los directores por asistencia a las reuniones de la Junta Directiva y/o del Comité aumentaron de cuatro a seis salarios mínimos mensuales legales vigentes, valor que asciende aproximadamente de \$4,969,000 pesos para 2019, a \$4,687,000 pesos para 2018 y \$4,426,000 pesos para 2017. Los miembros de la Junta Directiva no tienen ninguna clase de remuneración variable. El monto cancelado en el año 2019 por concepto de honorarios a miembros de Junta Directiva ascendió a \$1,847 (2018 - \$2,152).

La compensación total pagada a los miembros del Comité Directivo activos al 31 de diciembre del 2019 ascendió a \$22,631 (2018 - \$21,580). Los directores no son elegibles para recibir los beneficios de pensión y jubilación. El importe total reservado al 31 de diciembre de 2019 para proporcionar los beneficios de pensión y jubilación a nuestros funcionarios ejecutivos elegibles ascendió a \$18,740 (2018 - \$5,491).

Al 31 de diciembre de 2019, los siguientes Directivos Clave de la gerencia poseían menos del 1% de las acciones en circulación de Ecopetrol S.A así:

Personal clave de la gerencia	% acciones
Felipe Bayón	<1% acciones en circulación
Jaime Caballero	<1% acciones en circulación
Orlando Díaz	<1% acciones en circulación
Jorge Calvache	<1% acciones en circulación
Maria Consuelo Barrera	<1% acciones en circulación
Rafael Espinosa Rozo	<1% acciones en circulación

28.3 PLANES DE BENEFICIOS POST-EMPLEO

La administración y el manejo de los recursos para el pago de la obligación pensional de Ecopetrol están a cargo de los patrimonios autónomos pensionales (PAP's), los cuales sirven como garantía y fuente de pago. En el año 2008, Ecopetrol S.A. recibió la autorización para conmutar parcialmente el valor correspondiente a mesadas, bonos y cuotas partes, trasladando dichas obligaciones y los dineros que las soportan a patrimonios autónomos de carácter pensional, de acuerdo a lo estipulado en el Decreto 1833 de 2016.

Desde noviembre de 2016, las entidades que administran los recursos son: Fiduciaria Bancolombia, Fiduciaria de Occidente y Consorcio Ecopetrol PACC (conformado por Fiduciaria La Previsora, Fiduciaria Bancoldex, Fiduagraria y Fiduciaria Central). Estas fiduciarias gestionarán los recursos pensionales por un periodo de cinco años (2016-2021) y como contraprestación reciben una remuneración con componentes fijos y variables, éstos últimos se liquidan sobre los rendimientos brutos de los portafolios y con cargo a los recursos administrados.

28.4 ENTIDADES RELACIONADAS DEL GOBIERNO

El Gobierno Colombiano posee el control de Ecopetrol con una participación del 88.49 %. Las transacciones más significativas con entidades gubernamentales se detallan a continuación:

a) Compra de hidrocarburos a la Agencia Nacional de Hidrocarburos - ANH

Por la naturaleza del negocio, la Compañía tiene una relación directa con ANH, entidad adscrita al Ministerio de Minas y Energía, cuyo objetivo es administrar integralmente las reservas y recursos de hidrocarburos de propiedad de la Nación.

Ecopetrol compra el crudo que la ANH recibe de todos los productores de Colombia a los precios fijados de acuerdo a una fórmula establecida en conjunto, que refleja los precios de venta de exportación (crudos y productos), ajuste a la calidad de la gravedad API, contenido de azufre, tarifas de transporte de la cabeza del pozo a los puertos de Coveñas y Turnaco, el costo del proceso de refinado y una cuota de comercialización. Este contrato fue prorrogado hasta el 30 de abril de 2020.

Hasta diciembre de 2013, la Compañía comercializó, en nombre de la ANH, el gas natural recibido por ésta en especie de los productores. Desde enero de 2014, la ANH recibe las regalías de producción de gas natural en efectivo.

El valor de compra de hidrocarburos a la ANH se detalla en la Nota 23 - Costo de ventas.

Adicionalmente, Ecopetrol al igual que las demás compañías petroleras, participa en rondas para asignación de bloques exploratorios en territorio colombiano, sin que ello implique un tratamiento especial para Ecopetrol por ser una entidad cuyo accionista mayoritario es el Ministerio de Hacienda y Crédito Público.

b) Diferencial de precios

Los precios de venta del refinador o importador de la gasolina regular y ACPM son regulados por el Gobierno Nacional de manera que varíen máximo un 3% mensual. De esta forma el Gobierno brinda estabilidad al consumidor final. Este precio denominado Ingreso al Productor -IP- no necesariamente refleja el costo de oportunidad de los combustibles siendo necesario reconocerle al refinador/importador esta diferencia. En este sentido, el Gobierno Nacional a través del Fondo de Estabilización de Precios de los Combustibles le reconoce al refinador/importador las diferencias en el caso en que el costo de oportunidad sea mayor al IP, o le cobra al refinador/importar la diferencia cuando el IP es mayor al costo de oportunidad. Este esquema asegura que la Compañía siempre reciba el costo de

oportunidad de estos combustibles que vende en el país al Distribuidor Mayorista. El valor de este diferencial se encuentra detallado en la Nota 22 – Ingresos de actividades ordinarias.

c) Dirección de Impuestos y Aduanas Nacionales

Ecopetrol como cualquier otra compañía en Colombia, tiene obligaciones de tipo tributario que debe cumplir ante esta entidad, no se tiene ninguna otra

clase de vínculo ni relación de carácter comercial con la misma.

d) Contraloría General de la República

Ecopetrol al igual que las demás entidades estatales en Colombia, tiene la obligación de atender los requerimientos de esta entidad de control y realizar el pago anualmente de la cuota de sostenimiento a dicha entidad. No existe ninguna otra clase de vínculo ni relación de carácter comercial con la misma.

29. OPERACIONES CONJUNTAS

La Compañía realiza parte de sus operaciones a través de los contratos de exploración y producción, evaluación técnica, contratos y acuerdos firmados con la Agencia Nacional de

Hidrocarburos, así como a través de contratos de asociación y otro tipo de contratos. Las principales operaciones conjuntas al cierre de 2019 son:

29.1 CONTRATOS EN LOS CUALES ECOPETROL NO ES EL OPERADOR

Socios	Contrato	Tipo	% Participación	Zona geográfica de operación
Occidental de Colombia LLC Occidental Andina LLC	Chipirón	Producción	30-41%	Colombia
	Cosecha		30%	
	Cravo Norte		55%	
	Rondón		50%	
Chevron Petroleum Company	Guajira	Producción	57%	Colombia
Mansarovar Energy Colombia Ltd	Nare	Producción	50%	Colombia
Meta Petroleum Corp	Quifa	Producción	40%	Colombia
Equión Energía Limited	Piedemonte	Producción	55%	Colombia
Perenco Colombia Limited	Casanare	Producción	74.40%	Colombia
	Corocora		83.91%	
	Estero		95.98%	
	Garcero		91.22%	
	Orocúe		86.47%	
ONGC Videsh Limited Sucursal Colombia	Ronda Caribe RC-10	Exploración	50%	Offshore Caribe Norte

Socios	Contrato	Tipo	% Participación	Zona geográfica de operación
Petrobras, Repsol & Statoil	Tayrona	Exploración	30%	Offshore Caribe Norte
Repsol & Statoil	TEA GUA OFF-1	Exploración	50%	Offshore Caribe Norte
	Fuerte Norte		50%	
Anadarko	Fuerte Sur Purple Angel Col-5 y URA-4	Exploración	50%	Offshore Caribe Norte

29.2 CONTRATOS EN LOS CUALES ECOPETROL ES OPERADOR

Socios	Contrato	Tipo	% Participación	Zona geográfica de operación
ExxonMobil Exploration Colombia	VMM29 CR2 C62	Exploración	50%	Colombia
Talisman Colombia Oil	CP09	Exploración	55%	Colombia
ONGC Videsh Limited Sucursal Colombia	RC9	Exploración	50%	Colombia
CPVEN E&P Corp Sucursal Colombia	VMM32	Exploración	51%	Colombia
Shell Exploration and Production	CR4	Exploración	50%	Colombia
Hocol S.A.	AMA4	Exploración	50%	Colombia
SK Innovation Co Ltd.	San Jacinto	Exploración	70%	Colombia
Repsol Exploración Colombia S.A.	Catleya	Exploración	50%	Colombia
Emerald Energy PLC Suc. Colombia	Cardon	Exploración	50%	Colombia
Parex Resources Colombia Ltd.	ORC401 CRC-2004-01	Exploración	50%	Colombia
Gas Ltd.	CP09 - Akacias	Producción	55%	Colombia
Occidental Andina LLC	La Cira Infantas	Producción	58%	Colombia
	Teca		76%	Colombia
Ramshorn International Limited	Guariques I	Producción	50%	Colombia
Equión Energía Limited	Cusiana	Producción	98%	Colombia
	Planta de gas			

29.3 OPERACIONES RELEVANTES DURANTE EL PERIODO

Durante el 2019 y 2018, se presentaron los siguientes hechos relevantes en los contratos de operaciones conjuntas:

a) Alianza estratégica con Occidental Petroleum Corp.

En julio de 2019 Ecopetrol S.A. y Occidental Petroleum Corp. (OXY), acordaron la conformación de un Joint Operation con el fin de ejecutar un plan conjunto para el desarrollo de Yacimientos No Convencionales en la cuenca Permian en el estado de Texas (EE.UU.).

OXY tiene el 51% de participación de la operación conjunta, Ecopetrol el 49% y se vinculó con un pago inicial del 50% al cierre de la transacción en noviembre 13 de 2019, y el 50% restante con una inversión diferida en el tiempo en actividades contempladas en el plan de desarrollo. El pago total de Ecopetrol equivaldrá a USD\$1.500 millones.

Para viabilizar la operación, se constituyeron dos compañías: Ecopetrol USA Inc. y Ecopetrol Permian LLC.

b) Adquisición 30% descubrimiento Sul de Gato do Mato

El 21 de octubre de 2019 Ecopetrol S.A. anunció que a través de su subsidiaria Ecopetrol Óleo e Gás do Brasil Ltda suscribió un acuerdo con Shell Brasil Petróleo Ltda para adquirir el 30% de los intereses, derechos y obligaciones en dos áreas que corresponden al Contrato de Concesión BM-S-54 y al Contrato de Producción Compartida Sul de Gato do Mato, ubicados costa afuera en la cuenca Santos de Brasil, dentro del denominado Presal, en el descubrimiento de hidrocarburos denominado "Gato do Mato" por USD\$105 millones. La compañía Shell reducirá su participación del 80% al 50% con este acuerdo y seguirá como operador, mientras la francesa Total conservará el restante 20%.

El acuerdo suscrito por Ecopetrol Óleo e Gás do Brasil Ltda. y Shell Brasil Petróleo Ltda.

está sujeto a las respectivas aprobaciones de cesión a favor de Ecopetrol por parte del Ministerio de Minas y Energía de Brasil y de la Agencia Nacional de Petróleo, Gas Natural y Biocombustibles de Brasil.

c) Acuerdo por la adquisición del 10% en Bloque Saturno

En diciembre de 2018, el Grupo celebró un acuerdo con Shell y Chevron, por una participación del 10% en el bloque Saturno, ubicado en la región central de la cuenca Santos; el cual fue asignado a Shell y Chevron el 28 de septiembre de 2018 en la Quinta Ronda del Pre-Sal realizada por la Agencia Nacional de Petróleo, Gas Natural y Biocombustibles de Brasil (ANP).

El Ministerio de Minas y Energía de Brasil autorizó el 17 de julio de 2019 la cesión del 10% del bloque Saturno por USD\$85 millones, ubicado en la cuenca de Santos, a Ecopetrol Óleo e Gás do Brasil, porcentaje del cual eran titulares, por partes iguales, las compañías Shell Brasil Petróleo Ltda y Chevron Brasil Óleo e Gas Ltda. En la nueva composición, Ecopetrol queda con el 10% de los intereses del bloque, mientras que Shell (operador) y Chevron conservan cada uno un 45% del total.

d) Participación en la Asociación Guajira

El 22 de noviembre Hocol firmó un acuerdo con Chevron Petroleum Company para adquirir su participación en los campos de Chuchupa y Ballena en el departamento de la Guajira. Estos campos son operados por Chevron a través del Contrato de Asociación Guajira (57% Ecopetrol y 43% Chevron). Hocol adquirirá la participación de Chevron (43%), y tomará la posición de operador.

Esta transacción es sujeta a la aprobación por parte de la Superintendencia de Industria y Comercio (SIC) y no tiene impacto sobre las cifras contables con corte a 31 de diciembre de 2019.

30. RESERVAS DE PETRÓLEO Y GAS (NO AUDITADAS)

Ecopetrol se acoge a los estándares internacionales para la estimación, categorización y reporte de reservas, enmarcados en las definiciones de la Securities and Exchange Commission (SEC). El balance oficial de reservas fue presentado al Comité de Reservas de Ecopetrol en enero del 2020 y al Comité de Auditoría de Junta Directiva y a Junta Directiva en febrero del 2020 para su respectiva aprobación.

Las reservas fueron certificadas en un 99.99% por 3 compañías especializadas: DeGolyer and MacNaughton, Ryder Scott Company

y Gaffney and Cline. De acuerdo con dichas certificaciones, el reporte de reservas se ajusta al contenido y los lineamientos establecidos en la Regla 4-10 de la regulación S-X de la Securities and Exchange Commission (SEC) de los Estados Unidos de América.

La siguiente información corresponde a las reservas probadas netas de propiedad de Ecopetrol en 2019 y 2018 (No incluye compañías filiales), la cual corresponde a los balances oficiales de reservas preparados por la Compañía:

	2019			2018		
	Petróleo (Mbls)	Gas (Gpc)	Total (Mbe)	Petróleo (Mbls)	Gas (Gpc)	Total (Mbe)
Reservas probadas:						
Saldo inicial	1,125	2,850	1,625	1,032	3,148	1,584
Revisión de estimaciones (1)	61	27	65	107	(46)	98
Recobro mejorado	93	3	94	128	4	129
Compras	-	-	-	2	-	2
Extensiones y descubrimientos	64	1	64	46	1	47
Ventas	-	-	-	(13)	(16)	(16)
Producción	(179)	(246)	(222)	(177)	(241)	(219)
Saldo final	1,164	2,635	1,626	1,125	2,850	1,625
Reservas probadas desarrolladas						
Saldo inicial	830	2,747	1,312	776	3,060	1,313
Saldo final	844	2,532	1,289	831	2,746	1,312
Reservas probadas no desarrolladas						
Saldo inicial	295	104	313	256	88	271
Saldo final	320	103	338	294	104	313

(1) Representan los cambios o variaciones en estimados de reservas probadas previos, resultado de nueva información (excepto por incremento de área probada), normalmente obtenida de perforación de desarrollo e historia de producción o resultado de cambios en factores económicos.

31. EVENTOS SUBSECUENTES

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El 31 de enero de 2020 la Asamblea General de Accionistas de Bioenergy S.A.S. y el 27 de enero de 2020 el accionista único de Bioenergy Zona Franca SAS, aprobaron que estas compañías presentaran solicitud de reorganización bajo la ley 1116. Dicho proceso pretende a través de un acuerdo, preservar las empresas viables y normalizar sus relaciones comerciales y crediticias, mediante su reorganización operacional, administrativa, de activos o pasivos.

Esta decisión se da como consecuencia de las pérdidas contables acumuladas de las compañías, el aumento del nivel de endeudamiento frente a la estructura de capital inicialmente prevista, y el hecho que la planta industrial no lograra trabajar a su máxima capacidad debido a que los cultivos propios y de terceros no han alcanzado la productividad requerida.



El 7 de febrero de 2020, Ecopetrol informó que en conjunto con Shell, a través de su subsidiaria Shell EP Offshore Ventures Limited ("Shell"), suscribieron un acuerdo mediante el cual Shell adquirirá el 50% de

participación en los bloques Fuerte Sur, Purple Angel y COL-5, localizados en aguas profundas del Caribe colombiano, donde se realizó el descubrimiento de una nueva provincia gasífera con los pozos Kronos (2015), Purple Angel y Gorgon (2017).

Tras el acuerdo comercial, Shell asumirá la operación de los bloques y se realizará la perforación de un pozo delimitador en el área a finales del 2021 y la realización de la primera prueba de producción, una vez se surtan las respectivas aprobaciones de las autoridades.



El 21 de febrero de 2020, el Ministerio de Hacienda y Crédito Público, autorizó a Ecopetrol S.A. para la gestión de la emisión y colocación de bonos en el mercado internacional de capitales hasta por la suma de dos mil millones de dólares (US\$ 2.000 millones). Esta autorización, junto con las demás fuentes disponibles con las que cuenta la Compañía, permite a Ecopetrol seguir fortaleciendo su posición de liquidez ante fluctuaciones inesperadas de los precios del crudo, financiar potenciales oportunidades de crecimiento, optimizar el portafolio de deuda actual y/o reducir el riesgo de refinanciación.

ANEXO 1 – INFORMACIÓN SOBRE INVERSIONES EN COMPAÑÍAS

Compañía	Moneda funcional	Porcentaje participación Ecopetrol	Actividad	País/ Domicilio	Área geográfica de operaciones	Patrimonio neto	Ganancia (pérdida) del ejercicio	Total activos	Total pasivos
Subsidiarias									
Refinería de Cartagena S.A.S	Dólar	100%	Refinación de hidrocarburos, comercialización y distribución de productos	Colombia	Colombia	18,931,295	55,834	28,352,931	9,421,636
Cenit transporte y logística de hidrocarburos S.A.S.	Peso Colombiano	100%	Almacenamiento y transporte por ductos de hidrocarburos	Colombia	Colombia	15,592,090	4,295,599	17,772,680	2,180,590
Ecopetrol Global Energy S.L.U	Dólar	100%	Vehículo de inversión	España	España	7,889,271	1,256,639	7,892,018	2,747
Hocol Petroleum Limited	Dólar	100%	Vehículo de inversión	Bermuda	Bermuda	3,125,806	348,159	3,125,959	153
Esenttia S.A.	Dólar	100%	Producción y comercialización de resina de polipropileno	Colombia	Colombia	1,734,930	192,107	2,100,014	365,084
Ecopetrol Capital AG	Dólar	100%	Captación de excedentes y financiamiento para compañías del Grupo Empresarial Ecopetrol	Suiza	Suiza	1,630,044	124,098	6,885,838	5,255,794
Andean Chemicals Ltd.	Dólar	100%	Vehículo de inversión	Bermuda	Bermuda	1,210,810	(192,958)	1,211,707	897
Inversiones de gases de Colombia S.A. y subsidiarias	Peso Colombiano	52%	Holding con inversiones en compañías de transporte y distribución de gas natural y GLP en Colombia	Colombia	Colombia	817,849	18,198	1,361,333	543,484
Black Gold Re Ltd.	Dólar	100%	Reaseguradora para compañías del Grupo Empresarial Ecopetrol	Bermuda	Bermuda	751,916	54,547	888,577	136,661
Ecopetrol Energía S.A.S E.S.P.	Peso Colombiano	100%	Servicio público de suministro de energía	Colombia	Colombia	7,405	3,990	106,773	99,368

ANEXO 1 – INFORMACIÓN SOBRE INVERSIONES EN COMPAÑÍAS (2/2)

Compañía	Moneda funcional	Porcentaje participación Ecopetrol	Actividad	País/ Domicilio	Área geográfica de operaciones	Patrimonio neto	Ganancia (pérdida) del ejercicio	Total activos	Total pasivos
Negocios conjuntos									
Equión Energía Limited	Dólar	51%	Exploración, explotación y producción de hidrocarburos	Reino Unido	Colombia	2,258,448	261,951	2,636,503	378,055
Offshore International Group Inc	Dólar	50%	Exploración, explotación y producción de hidrocarburos	Estados Unidos	Perú	736,847	(48,247)	1,766,271	1,029,424
Ecodiesel Colombia S.A.	Peso Colombiano	50%	Producción, comercialización y distribución de biocombustibles y oleoquímicos	Colombia	Colombia	92,191	17,964	147,087	54,896

ANEXO 2 - CONDICIONES DE LOS PRÉSTAMOS MÁS SIGNIFICATIVOS (VALORES NOMINALES)

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Clase de crédito	Fecha inicio	Fecha vencimiento	Moneda	Valor desembolsado	Saldo pendiente 31-dic-2019	Saldo pendiente 31-dic-2018	Tipo de interés	Amortización principal	Pago de intereses
Bonos moneda nacional	dic-10	dic-20	COP	479,900	479,900	479,900	Flotante	Bullet	Semestral
	dic-10	dic-40		284,300	284,300	284,300			
	ago-13	ago-23		168,600	168,600	168,600			
	ago-13	ago-28		347,500	347,500	347,500			
	ago-13	ago-43		262,950	262,950	262,950			
				1,543,250	1,543,250	1,543,250			
Bonos moneda extranjera	sep-13	sep-23	USD	1,300	1,300	1,300	Fijo	Bullet	Semestral
	sep-13	sep-43		850	850	850			
	may-14	may-45		2,000	2,000	2,000			
	sep-14	ene-25		1,200	1,200	1,200			
	jun-15	jun-26		1,500	1,500	1,500			
	jun-16	sep-23		500	500	500			
				7,350	7,350	7,350			
Créditos comerciales internacionales - Refinería de Cartagena	dic-17	dic-27	USD	2,001	1,530	1,742	Fijo	Semestral	Semestral
	dic-17	dic-27		76	58	66	Flotante		
	dic-17	dic-27		73	56	63	Fijo		
	dic-17	dic-27		159	121	138	Flotante		
	dic-17	dic-25		359	288	321	Flotante		
				2,668	2,053	2,330			

ESTADOS FINANCIEROS **CONSOLIDADOS**

CERTIFICACIÓN DEL REPRESENTANTE LEGAL Y CONTADOR DE LA COMPAÑÍA

• • •

A los señores Accionistas de Ecopetrol S.A.:

21 de febrero de 2020

Los suscritos Representante legal y Contador de la Compañía certificamos que los estados financieros consolidados de la Compañía al 31 de diciembre de 2019 por el periodo de doce meses terminado en esa fecha, han sido fielmente tomados de los libros y que antes de ser puestos a su disposición y de terceros, hemos verificado las siguientes afirmaciones contenidas en ellos:

1. Todos los activos y pasivos, incluidos en los estados financieros consolidados de la Compañía al 31 de diciembre de 2019, existen y todas las transacciones incluidas en dichos estados se han realizado durante el año terminado en esa fecha.
2. Todos los hechos económicos realizados por la Compañía, durante los años

terminados al 31 de diciembre de 2019 se han reconocido en los estados financieros consolidados.

3. Los activos representan probables derechos económicos futuros y los pasivos representan probables obligaciones actuales y futuras, obtenidos o a cargo de la Compañía al 31 de diciembre de 2019.
4. Todos los elementos han sido reconocidos por sus valores apropiados, de acuerdo con las normas de contabilidad y de información financiera aceptadas en Colombia.
5. Todos los hechos económicos que afectan la Compañía han sido correctamente clasificados, descritos y revelados en los estados financieros consolidados.

(Original firmado)

Felipe Bayón Pardo

Presidente – Representante legal

(Original firmado)

Javier Leonardo Cárdenas Laiton

Contador Público

T.P. 116770-T

Informe del Revisor Fiscal

A la Asamblea de Accionistas de:
Ecopetrol S.A.

Opinión

He auditado los estados financieros consolidados adjuntos de Ecopetrol S.A., que comprenden el estado de situación financiera consolidado al 31 de diciembre de 2019 y los correspondientes estados consolidados de resultados, de resultados integrales, de cambios en el patrimonio y de flujos de efectivo por el año terminado en esa fecha, y el resumen de las políticas contables significativas y otras notas explicativas.

En mi opinión, los estados financieros consolidados adjuntos, presentan razonablemente, en todos sus aspectos de importancia, la situación financiera consolidada de la Compañía al 31 de diciembre de 2019, los resultados consolidados de sus operaciones y los flujos de efectivo consolidados por el año terminado en esa fecha, de conformidad con las Normas de Contabilidad y de Información Financiera aceptadas en Colombia (NCIF) adoptadas por la Contaduría General de la Nación.

Bases de la Opinión

He llevado a cabo mi auditoría de acuerdo con Normas Internacionales de Auditoría aceptadas en Colombia. Mis responsabilidades en cumplimiento de dichas normas se describen en la sección *Responsabilidades del Auditor en la Auditoría de los Estados Financieros* de este informe. Soy independiente de la Compañía, de acuerdo con el Manual del Código de Ética para profesionales de la contabilidad, junto con los requisitos éticos relevantes para mi auditoría de estados financieros en Colombia, y he cumplido con las demás responsabilidades éticas aplicables. Considero que la evidencia de auditoría obtenida es suficiente y apropiada para fundamentar mi opinión.

Asuntos Clave de Auditoría

Los asuntos clave de auditoría son aquellos asuntos que, según mi juicio profesional, fueron de mayor importancia en mi auditoría de los estados financieros consolidados adjuntos. Estos asuntos se abordaron en el contexto de mi auditoría de los estados financieros consolidados tomados en su conjunto, y al momento de fundamentar la opinión correspondiente, pero no para proporcionar una opinión separada sobre estos asuntos. Con base en lo anterior, a continuación, detallo la manera en la que cada asunto clave fue abordado durante mi auditoría.

He cumplido con las responsabilidades descritas en la sección *Responsabilidades del Auditor en la Auditoría de los Estados Financieros Consolidados* de mi informe, incluso en relación con estos asuntos. En consecuencia, mi auditoría incluyó la realización de los procedimientos diseñados para responder a los riesgos de incorrección material evaluados en los estados financieros consolidados. Los resultados de mis procedimientos de auditoría, incluidos los procedimientos realizados para abordar los asuntos que se mencionan a continuación, constituyen la base de mi opinión de auditoría sobre los estados financieros consolidados adjuntos.

Determinación de la Depreciación, Agotamiento y Amortización y el Deterioro de Activos de Larga Vida

Descripción del Asunto Clave de Auditoría

Como se describe en la nota 3.1 y 3.2 de los estados financieros consolidados, el cálculo del método de unidades de producción que se utiliza en la determinación de la depreciación, agotamiento y amortización (DD&A) de propiedades, planta y equipo relacionados con la exploración y producción, los recursos naturales y ambientales, así como en la determinación de los flujos de efectivo futuros que se utilizan en los análisis de deterioro de activos de larga vida, utilizan anualmente la estimación relacionada con las reservas de petróleo y gas.

La estimación de las reservas de petróleo y gas utilizadas para calcular el DD&A y realizar el análisis de deterioro de los activos de larga vida es un proceso complejo y requiere juicio profesional. La gerencia utiliza ingenieros independientes externos (en adelante "especialistas") al estimar las reservas como factores geológicos, técnicos y económicos. Las estimaciones de las reservas de petróleo y gas dependen de una serie de factores variables y suposiciones clave, incluidas las cantidades de petróleo y gas que se espera recuperar, el momento de la recuperación, la producción, los costos operativos, de capital y el precio de venta, entre otros.

La determinación del DD&A de la Compañía y el cálculo del deterioro de los activos de larga vida es especialmente complejo debido a la naturaleza inherente de ingeniería técnica del proceso de estimación, el cual requiere el uso de especialistas y la evaluación de la Administración en la determinación de los supuestos descritos anteriormente utilizados por los especialistas en la estimación de las reservas de petróleo y gas.

Respuesta de Auditoría

Obtuvimos un entendimiento del proceso, evaluamos el diseño y probamos la efectividad operativa de los controles sobre el proceso de la Compañía para calcular el DD&A y realizar el análisis de deterioro de los activos de larga vida, incluidos los controles de la Administración sobre la integridad y la precisión de los datos financieros proporcionados a los especialistas para la estimación de reservas de petróleo y gas.

Nuestros procedimientos de auditoría incluyeron, entre otros, evaluar las calificaciones profesionales y la objetividad de las personas responsables de supervisar la preparación de las estimaciones de reserva por parte de los especialistas. Evaluamos la calificación y competencia de los especialistas contratados por la Compañía para desarrollar estas estimaciones. Adicionalmente evaluamos la integridad y precisión de los datos financieros y los supuestos descritos anteriormente utilizados por los especialistas en la estimación de las reservas de petróleo y gas con el fin de obtener documentación y evaluar evidencia corroborativa. Para las reservas no desarrolladas probadas, evaluamos el plan de desarrollo de la administración para cumplir con la regla de la SEC de que las ubicaciones no perforadas están programadas para ser perforadas dentro de los cinco años, a menos que circunstancias específicas justifiquen un tiempo más largo, evaluando la consistencia de las proyecciones de desarrollo con el plan de perforación de la Compañía y disponibilidad de capital en relación con el plan de perforación. También probamos la precisión matemática de los cálculos de DD&A y evaluamos la consistencia entre la estimación de las reservas de petróleo y gas preparada por los especialistas con las proyecciones de flujo de efectivo utilizadas en los análisis de deterioro de activos de larga vida.

Estimación de la Recuperación de Activos de Larga Vida en la Refinería de Cartagena

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Descripción del Asunto Clave de Auditoría

Como se describe en las notas 4.12 y 17 de los estados financieros consolidados, la Administración evalúa anualmente en cada presentación de estados financieros, si existe un indicador de deterioro sobre los activos de larga duración. Si existe algún indicador, o cuando se requiere una prueba de deterioro anual para un activo, la gerencia estima el monto recuperable del activo. El monto recuperable de un activo es el mayor entre el valor razonable de un activo o las unidades generadoras de efectivo (UGE) menos los costos de disposición y su valor en uso. Cuando el valor en libros de un activo o UGE excede su monto recuperable, el activo se considera deteriorado y se reduce su monto recuperable. Una pérdida previamente reconocida se revierte solo si ha tenido un cambio en los supuestos utilizados para determinar el monto recuperable del activo o de la UGE desde que se reconoció la última pérdida por deterioro. En 2019, la Compañía reconoció un recupero en la Refinería de Cartagena de COP \$ 911,597.

La estimación de la Administración relacionada con la determinación del monto recuperable de los activos o de la UGE fue compleja y requirió la participación de especialistas debido a la naturaleza significativa de los supuestos utilizados en el modelo para estimar el monto recuperable del activo.

La estimación para determinar el monto recuperable es sensible a supuestos significativos, tales cambios en el costo promedio ponderado de capital, el precio de venta de productos refinados, los márgenes de refinación y el nivel de gastos operativos, que se ven afectados por las expectativas sobre el mercado futuro o condiciones económicas.

Respuesta de Auditoría

Obtuvimos un entendimiento, evaluamos el diseño y probamos la efectividad operativa de los controles sobre los procesos de la Compañía para determinar la cantidad recuperable de las UGE y la revisión de la Administración de los supuestos significativos descritos anteriormente.

Nuestros procedimientos de auditoría incluyeron, entre otros, evaluar metodologías y probar los supuestos significativos descritos anteriormente, así como otra información relevante utilizada por la Compañía al comparar los supuestos significativos utilizados por la administración con las tendencias actuales de la industria y el mercado. Adicionalmente, realizamos un análisis de sensibilidad para evaluar el cambio en la cantidad recuperable que resultaría de los cambios en los supuestos subyacentes; evaluamos la precisión de las proyecciones de la Compañía comparándolas con los resultados operativos reales y recalculamos la estimación de la gerencia. También involucramos a nuestros especialistas en valoración para la revisión de la tasa de descuento WACC y la construcción de los flujos de efectivo que fue utilizado en la estimación por parte la Gerencia.

Responsabilidades de la Administración y de los Responsables del Gobierno de la Entidad en Relación con los Estados Financieros Consolidados

La Administración es responsable por la preparación y correcta presentación de los estados financieros consolidados de acuerdo con las Normas de Contabilidad y de Información Financiera aceptadas en Colombia (NCIF) adoptadas por la Contaduría General de la Nación; de diseñar, implementar y mantener el control interno relevante para la preparación y correcta presentación de los estados financieros consolidados libres de errores materiales, bien sea por fraude o error; de seleccionar y de aplicar las políticas contables apropiadas; y, de establecer estimaciones contables razonables en las circunstancias.

Al preparar los estados financieros consolidados, la Administración es responsable de evaluar la capacidad de la Compañía para continuar como negocio en marcha, revelando, según corresponda, los asuntos relacionados con este y utilizando la base contable de negocio en marcha, a menos que la Administración tenga la intención de liquidar la Compañía o cesar sus operaciones, o no tenga otra alternativa realista diferente a hacerlo.

Los responsables del gobierno de la entidad son responsables de la supervisión del proceso de información financiera de la Compañía.

Responsabilidades del Auditor en la Auditoría de los Estados Financieros Consolidados

Mi objetivo es obtener una seguridad razonable sobre si los estados financieros consolidados tomados en su conjunto están libres de errores materiales, ya sea por fraude o error, y emitir un informe que incluya mi opinión. La seguridad razonable es un alto nivel de aseguramiento, pero no garantiza que una auditoría realizada de acuerdo con las Normas Internacionales de Auditoría aceptadas en Colombia siempre detectará una incorrección material cuando exista. Las incorrecciones pueden surgir debido a fraude o error y se consideran materiales si, individualmente o acumuladas, podría esperarse que influyan razonablemente en las decisiones económicas que los usuarios tomen con base en los estados financieros consolidados.

Como parte de una auditoría de acuerdo con las Normas Internacionales de Auditoría aceptadas en Colombia, debo ejercer mi juicio profesional y mantener mi escepticismo profesional a lo largo de la auditoría, además de:

- Identificar y evaluar los riesgos de incorrección material en los estados financieros consolidados, ya sea por fraude o error, diseñar y ejecutar procedimientos de auditoría que respondan a esos riesgos, y obtener evidencia de auditoría que sea suficiente y apropiada para fundamentar mi opinión. El riesgo de no detectar una incorrección material debido a fraude es mayor que la resultante de un error, ya que el fraude puede implicar colusión, falsificación, omisiones intencionales, declaraciones falsas o sobrepaso del sistema de control interno.
- Obtener un entendimiento del control interno relevante para la auditoría, para diseñar procedimientos de auditoría que sean apropiados en las circunstancias.
- Evaluar las políticas contables utilizadas, la razonabilidad de las estimaciones contables y las respectivas revelaciones realizadas por la Administración.

- Concluir sobre si es adecuado que la Administración utilice la base contable de negocio en marcha y, con base en la evidencia de auditoría obtenida, si existe una incertidumbre material relacionada con eventos o condiciones que puedan generar dudas significativas sobre la capacidad de la Compañía para continuar como negocio en marcha. Si concluyo que existe una incertidumbre importante, debo llamar la atención en el informe del auditor sobre las revelaciones relacionadas, incluidas en los estados financieros consolidados o, si dichas revelaciones son inadecuadas, modificar mi opinión. Las conclusiones del auditor se basan en la evidencia de auditoría obtenida hasta la fecha de mi informe, sin embargo, eventos o condiciones posteriores pueden hacer que una entidad no pueda continuar como negocio en marcha.
- Evaluar la presentación general, la estructura, el contenido de los estados financieros consolidados, incluyendo las revelaciones, y si los estados financieros consolidados representan las transacciones y eventos subyacentes de manera que se logre una presentación razonable.

Comuniqué a los responsables del gobierno de la entidad, entre otros asuntos, el alcance planeado y el momento de realización de la auditoría, los hallazgos significativos de la misma, así como cualquier deficiencia significativa del control interno identificada en el transcurso de la auditoría.

Otros Asuntos

Los estados financieros consolidados bajo normas de contabilidad y de información financiera aceptadas en Colombia (NCIF) adoptadas por la Contaduría General de la Nación de Ecopetrol S.A. al 31 de diciembre de 2018, que hacen parte de la información comparativa de los estados financieros consolidados adjuntos, fueron auditados por mí, de acuerdo con normas internacionales de auditoría aceptadas en Colombia, sobre los cuales expresé mi opinión sin salvedades el 25 de febrero de 2019.

(Original firmado)

Víctor Hugo Rodríguez Vargas

Revisor Fiscal y socio a cargo

Tarjeta Profesional 57851 -T

Designado por Ernst & Young Audit S.A.S. TR-530

Bogotá, Colombia
21 de febrero de 2020

ESTADOS DE SITUACIÓN FINANCIERA CONSOLIDADOS

(Cifras expresadas en millones de pesos colombianos, excepto la utilidad básica por acción que está expresada en pesos)

580

	Nota	A 31 de diciembre 2019	A 31 de diciembre 2018
Activos			
Activos corrientes			
Efectivo y equivalentes de efectivo	6	7,075,758	6,311,744
Cuentas comerciales y otras cuentas por cobrar, neto	7	5,700,334	8,194,243
Inventarios, neto	8	5,658,099	5,100,407
Otros activos financieros	9	1,624,018	5,321,098
Activos por impuestos corrientes	10	1,518,807	1,031,307
Otros activos	11	1,778,978	1,020,428
		23,355,994	26,979,227
Activos mantenidos para la venta		8,467	51,385
Total activos corrientes		23,364,461	27,030,612
Activos no corrientes			
Cuentas comerciales y otras cuentas por cobrar, neto	7	786,796	755,574
Otros activos financieros	9	3,355,274	2,826,717
Inversiones en asociadas y negocios conjuntos	13	3,245,072	1,844,336
Propiedades, planta y equipo	14	64,199,970	62,770,279
Recursos naturales y del medio ambiente	15	29,072,798	23,075,450
Activos por derecho de uso	5.1	456,225	-
Intangibles	16	483,098	410,747
Activos por impuestos diferidos	10	8,622,398	5,746,730
Goodwill	18	919,445	919,445
Otros activos	11	942,481	860,730
Total activos no corrientes		112,083,557	99,210,008
Total activos		135,448,018	126,240,620
Pasivos			
Pasivos corrientes			
Préstamos y financiaciones	19	5,012,173	4,019,927
Cuentas comerciales y otras cuentas por pagar	20	10,689,246	8,945,790
Provisiones por beneficios a empleados	21	1,929,087	1,816,882

Pasivos por impuestos corrientes	10	2,570,779	1,751,300
Provisiones y contingencias	22	789,297	814,409
Instrumentos financieros derivados		1,347	82,554
Otros pasivos		750,370	393,760
Total pasivos corrientes		21,742,299	17,824,622
Pasivos no corrientes			
Préstamos y financiaciones	19	33,226,966	34,042,718
Cuentas comerciales y otras cuentas por pagar	20	24,445	30,522
Provisiones por beneficios a empleados	21	9,551,977	6,789,669
Pasivos por impuestos diferidos	10	774,059	738,407
Pasivos por impuestos no corrientes	10	70,543	-
Provisiones y contingencias	22	9,128,991	6,939,603
Otros pasivos		584,616	570,641
Total pasivos no corrientes		53,361,597	49,111,560
Total pasivos		75,103,896	66,936,182
Patrimonio			
Capital suscrito y pagado	23.1	25,040,067	25,040,067
Prima en emisión de acciones	23.2	6,607,699	6,607,699
Reservas	23.3	3,784,658	5,138,895
Otros resultados integrales		6,464,144	7,782,086
Resultados acumulados		14,515,762	12,644,860
Patrimonio atribuible a los accionistas de la Compañía		56,412,330	57,213,607
Interés no controlante		3,931,792	2,090,831
Total patrimonio		60,344,122	59,304,438
Total pasivos y patrimonio		135,448,018	126,240,620

Véanse las notas que acompañan a los estados financieros consolidados.

(Original firmado)
Felipe Bayón Pardo
 Presidente

(Original firmado)
Javier Cardenas Laiton
 Contador Público
 T.P. 116770-T

(Original firmado)
Víctor Hugo Rodríguez Vargas
 Revisor Fiscal
 T.P. 57851-T

ESTADOS DE GANANCIAS Y PÉRDIDAS CONSOLIDADOS

(Cifras expresadas en millones de pesos colombianos, excepto la utilidad básica por acción que está expresada en pesos)

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Por los años terminados a 31 de diciembre de

	Nota	2019	2018	2017
Ingresos por ventas	24	70,846,769	67,819,935	55,210,224
Costos de ventas	25	(44,957,508)	(41,169,527)	(36,893,474)
Utilidad bruta		25,889,261	26,650,408	18,316,750
Gastos de administración	26	(2,151,599)	(1,653,858)	(1,764,524)
Gastos de operación y proyectos	26	(2,631,754)	(2,903,132)	(2,926,065)
(Gasto) recuperación impairment de activos de largo plazo	17	(1,747,572)	(346,604)	1,373,031
Otros ingresos (gastos) operacionales, neto	27	1,056,796	(35,455)	505,403
Resultado de la operación		20,415,132	21,711,359	15,504,595
Resultado financiero, neto	28			
Ingresos financieros		1,623,336	1,129,563	1,159,356
Gastos financieros		(3,334,469)	(3,511,814)	(3,665,390)
(Pérdida) utilidad por diferencia en cambio		40,639	372,223	5,514
		(1,670,494)	(2,010,028)	(2,500,520)
Participación en los resultados de compañías	13	354,274	154,520	32,791
Utilidad antes de impuesto a las ganancias		19,098,912	19,855,851	13,036,866
Gasto por impuesto a las ganancias	10	(4,596,413)	(7,322,019)	(5,634,944)
Utilidad neta del periodo		14,502,499	12,533,832	7,401,922
Utilidad atribuible:				
A los accionistas		13,251,483	11,556,405	6,620,412
Participación no controladora		1,251,016	977,427	781,510
		14,502,499	12,533,832	7,401,922
Utilidad básica por acción (pesos)		322.3	281.1	161.0

Véanse las notas que acompañan a los estados financieros consolidados.

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Presidente

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ESTADOS DE OTROS RESULTADOS INTEGRALES CONSOLIDADOS

(Cifras expresadas en millones de pesos colombianos)

	Por los años terminados a 31 de diciembre de		
	2019	2018	2017
Utilidad neta del periodo	14,502,499	12,533,832	7,401,922
Otros resultados integrales:			
Elementos que pueden ser reclasificados posteriormente a ganancias o pérdidas (neto de impuestos):			
(Pérdidas) utilidades no realizadas en operaciones de coberturas:			
Flujo de efectivo para futuras exportaciones	668,299	(53,596)	291,756
Inversión neta en negocio en el extranjero	(61,267)	(971,954)	57,997
Flujo de efectivo con instrumentos derivados	46,451	(52,174)	35,769
Utilidad instrumentos de patrimonio medidos a valor razonable:			
(Pérdidas) ganancias no realizadas	-	-	(7,828)
Diferencia en cambio en conversión	(179,382)	2,571,290	(259,877)
	474,101	1,493,566	117,817
Elementos que no pueden ser reclasificados posteriormente a ganancias o pérdidas (neto de impuestos):			
Pérdidas actuariales	(1,799,829)	(4,290)	(1,548,043)
Otras pérdidas	1,897	-	(11,817)
	(1,797,932)	(4,290)	(1,559,860)
Otros resultados integrales	(1,323,831)	1,489,276	(1,442,043)
Total resultado integral	13,178,668	14,023,108	5,959,879
Resultado integral atribuible a:			
A los accionistas	11,932,117	12,974,362	5,170,461
Participación no controladora	1,246,551	1,048,746	789,418
	13,178,668	14,023,108	5,959,879

Véanse las notas que acompañan a los estados financieros consolidados.

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Presidente

(Original firmado)
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ESTADOS DE CAMBIOS EN EL PATRIMONIO CONSOLIDADOS

(Cifras expresadas en millones de pesos colombianos)

	Nota	Capital suscrito y pagado	Prima en emisión de acciones	Reservas	Otros resultados integrales	Adopción por primera vez	Utilidades (pérdidas) acumuladas	Patrimonio atribuible a los accionistas de la controlante	Participación no controladora	Total Patrimonio
Saldo al 31 de diciembre de 2018		25,040,067	6,607,699	5,138,895	7,782,086	1,095,003	11,549,857	57,213,607	2,090,831	59,304,438
Utilidad neta del periodo		-	-	-	-	-	13,251,483	13,251,483	1,251,016	14,502,499
Liberación de reservas		-	-	(3,050,703)	-	-	3,050,703	-	-	-
Dividendos decretados	23.4	-	-	(3,659,386)	-	-	(9,251,256)	(12,910,642)	(1,010,206)	(13,920,848)
Combinación de negocios	12	-	-	-	-	176,608	-	176,608	1,606,390	1,782,998
Cambio en participación en controladas y otros movimientos		-	-	-	-	-	(784)	(784)	(350)	(1,134)
Apropiación de reservas	23.3	-	-	-	-	-	-	-	-	-
Legal		-	-	1,155,640	-	-	(1,155,640)	-	-	-
Fiscales y estatutarias		-	-	509,082	-	-	(509,082)	-	-	-
Ocasionales		-	-	3,691,130	-	-	(3,691,130)	-	-	-
Otros resultados integrales		-	-	-	-	-	-	-	-	-
Ganancias en instrumentos de cobertura:		-	-	-	641,683	-	-	641,683	11,800	653,483
Diferencia en cambio en conversión		-	-	-	(161,693)	-	-	(161,693)	(17,689)	(179,382)
Pérdidas actuariales		-	-	-	(1,799,829)	-	-	(1,799,829)	-	(1,799,829)
Otros movimientos		-	-	-	1,897	-	-	1,897	-	1,897
Saldo al 31 de diciembre de 2019		25,040,067	6,607,699	3,784,658	6,464,144	1,271,611	13,244,151	56,412,330	3,931,792	60,344,122

	Nota	Capital suscrito y pagado	Prima en emisión de acciones	Reservas	Otros resultados integrales	Adopción por primera vez	Utilidades (pérdidas) acumuladas	Patrimonio atribuible a los accionistas de la controlante	Participación no controladora	Total Patrimonio
Saldo al 31 de diciembre de 2017		25,040,067	6,607,700	2,177,869	6,364,129	1,095,003	6,613,863	47,898,631	1,882,674	49,781,305
Utilidad neta del periodo		-	-	-	-	-	11,556,405	11,556,405	977,427	12,533,832
Liberación de reservas		-	-	(751,718)	-	-	751,718	-	-	-
Dividendos decretados	23.4	-	-	-	-	-	(3,659,386)	(3,659,386)	(840,626)	(4,500,012)
Otros movimientos		-	(1)	-	-	-	1	-	37	37
Apropiación de reservas		-	-	3,712,744	-	-	(3,712,744)	-	-	-
Otros resultados integrales		-	-		1,417,957	-	-	1,417,957	71,319	1,489,276
Saldo al 31 de diciembre de 2018		25,040,067	6,607,699	5,138,895	7,782,086	1,095,003	11,549,857	57,213,607	2,090,831	59,304,438
Saldo al 31 de diciembre de 2016		25,040,067	6,607,699	1,558,844	7,813,012	1,095,003	1,559,229	43,673,854	1,645,864	45,319,718
Utilidad neta del periodo		-	-	-	-	-	6,620,412	6,620,412	781,510	7,401,922
Liberación de reservas		-	-	619,025	-	-	(619,025)	-	-	-
Dividendos decretados		-	-	-	-	-	(945,684)	(945,684)	(551,494)	(1,497,178)
Otros resultados		-	1	-	2	-	(1,069)	(1,066)	(48)	(1,114)
Otros resultados integrales		-	-	-	(1,448,885)	-	-	(1,448,885)	6,842	(1,442,043)
Saldo al 31 de diciembre de 2017		25,040,067	6,607,700	2,177,869	6,364,129	1,095,003	6,613,863	47,898,631	1,882,674	49,781,305

Véanse las notas que acompañan a los estados financieros consolidados.

(Original firmado)
Felipe Bayón Pardo
 Presidente

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ESTADO DE FLUJOS DE EFECTIVO CONSOLIDADO

(Cifras expresadas en millones de pesos colombianos)

		Por los años terminados a 31 de diciembre de		
	Nota	2019	2018	2017
Flujos de efectivo de las actividades de operación:				
Utilidad neta del periodo		14,502,499	12,533,832	7,401,922
Ajustes para conciliar la utilidad neta con el efectivo provisto por las operaciones:				
Gasto por impuesto a las ganancias	10	4,596,413	7,322,019	5,634,944
Depreciación, agotamiento y amortización	5.1, 14, 15, 16	8,567,931	7,689,998	8,266,495
Utilidad por diferencia en cambio	28	(40,639)	(372,223)	(5,514)
Costo financiero de préstamos y financiaciones	28	1,894,490	2,399,414	2,385,994
Costo financiero de otros pasivos	28	757,509	668,782	753,047
Baja de activos exploratorios y pozos secos	15	340,271	898,924	898,264
Pérdida (utilidad) en venta o retiro de activos no corrientes		121,121	(504)	26,686
Utilidad (pérdida) en adquisición de participaciones	27	(1,048,924)	12,065	(451,095)
Pérdida por impairment de activos de corto plazo	27	90,441	136,044	30,600
Pérdida (recuperación) por impairment de activos de largo plazo	17	1,747,572	346,604	(1,373,031)
Pérdida (utilidad) por valoración de activos financieros		18,551	(92,906)	(104,706)
Utilidad por método de participación patrimonial		(354,274)	(154,520)	(32,791)
Utilidad en venta de activos mantenidos para la venta		(2,846)	(358)	(166,389)
Utilidad realizada en venta de instrumentos de patrimonio medidos a valor razonable		-	-	(13,236)
Pérdida por ineffectividad en coberturas		5,173	34,892	13,707
Pérdida por diferencia en cambio realizada sobre coberturas de exportaciones	24	1,028,516	655,533	583,232
Impuesto de renta pagado		(5,295,703)	(6,650,116)	(4,217,303)
Cambios netos en operación con activos y pasivos:				
Cuentas comerciales y otras cuentas por cobrar		2,381,905	(1,946,745)	(2,189,473)
Inventarios		(597,552)	(448,135)	(323,626)
Cuentas comerciales y otras cuentas por pagar		1,389,064	1,355,175	21,417
Activos y pasivos por impuestos corrientes		(1,409,334)	(1,413,915)	(493,533)
Provisiones corrientes por beneficios a empleados		(234,629)	(181,060)	(227,384)
Provisiones y contingencias		(253,043)	(181,761)	104,135
Otros activos y pasivos		(492,745)	(218,543)	451,264
Efectivo neto provisto por las actividades de operación		27,711,767	22,392,496	16,973,626

		Por los años terminados a 31 de diciembre de		
	Nota	2019	2018	2017
Flujos de efectivo de las actividades de inversión:				
Inversión en propiedades, planta y equipo	14	(4,012,659)	(3,302,929)	(2,363,283)
Inversión en recursos naturales y del medio ambiente	15	(9,798,193)	(5,051,828)	(3,426,405)
Adquisición de participaciones en operaciones conjuntas		-	-	(141,950)
Adquisiciones de intangibles	16	(168,289)	(105,669)	(175,868)
Venta (compra) de otros activos financieros		3,117,549	(843,611)	564,754
Intereses recibidos		481,674	383,624	405,562
Dividendos recibidos		189,169	108,991	270,136
Producto de la venta de activos mantenidos para la venta		-	-	159,041
Producto de la venta de instrumentos de patrimonio medidos a valor razonable		-	-	56,930
Producto de la venta de activos		154,780	169,317	267,324
Efectivo neto usado en actividades de inversión		(10,035,969)	(8,642,105)	(4,383,759)
Flujo de efectivo en actividades de financiación:				
Adquisición de préstamos y financiaciones		359,876	517,747	444,827
Pagos de capital		(1,596,630)	(9,270,262)	(9,007,340)
Pagos de intereses		(1,766,223)	(2,610,562)	(2,696,979)
Pagos por arrendamientos	5.1	(300,326)	-	-
Dividendos pagados		(13,867,029)	(4,427,701)	(1,504,647)
Efectivo neto usado en actividades de financiación		(17,170,332)	(15,790,778)	(12,764,139)
Efecto de la variación en tasas de cambio sobre efectivo y equivalentes de efectivo		258,548	406,246	(290,310)
Aumento (disminución) neta en el efectivo y equivalentes de efectivo		764,014	(1,634,141)	(464,582)
Efectivo y equivalentes de efectivo al inicio del periodo		6,311,744	7,945,885	8,410,467
Efectivo y equivalentes de efectivo al final del periodo	6	7,075,758	6,311,744	7,945,885
Transacciones no monetarias				
Reconocimiento de activos por derecho de uso y pasivos por arrendamiento	5.1	685,128	-	-
Valor razonable por cambio en la participación de Invercolsa	12	2,932,110	-	-

Véanse las notas que acompañan a los estados financieros consolidados.

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Presidente

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1. ENTIDAD REPORTANTE

Ecopetrol S.A. es una Compañía de economía mixta, con naturaleza comercial, constituida en 1948 en Bogotá, Colombia, casa matriz del Grupo Empresarial Ecopetrol. Su objeto social es desarrollar actividades comerciales o industriales relacionadas con la exploración, explotación, refinación, transporte, almacenamiento, distribución y comercialización de hidrocarburos, sus derivados y productos, directamente o por medio de sus subordinadas (en adelante denominada en

conjunto “Ecopetrol”, la “Compañía” o “Grupo Empresarial Ecopetrol”).

El 11.51% de las acciones de Ecopetrol se cotizan públicamente en las bolsas de valores de Colombia y Nueva York. Las acciones restantes (88.49% de las acciones en circulación) le pertenecen al Ministerio de Hacienda y Crédito Público de Colombia.

El domicilio de la oficina principal de Ecopetrol S.A. es Bogotá, Colombia, Carrera 13 No. 36 - 24.

2. BASES DE PREPARACIÓN Y PRESENTACIÓN

2.1 DECLARACIÓN DE CUMPLIMIENTO Y AUTORIZACIÓN DE LOS ESTADOS FINANCIEROS CONSOLIDADOS

Estos estados financieros consolidados de Ecopetrol y sus subsidiarias al 31 de diciembre de 2019 y 2018 y por los años finalizados al 31 de diciembre de 2019, 2018 y 2017, han sido preparados de acuerdo con los principios y normas de contabilidad e información financiera aceptados en Colombia (NCIF), reglamentadas en el Decreto 2420 de 2015, modificado por los Decretos 2496 de 2015, 2131 de 2016, 2170 de 2017 y 2483 de 2018. Estas normas están fundamentadas en las Normas Internacionales de Información Financiera - NIIF y sus Interpretaciones emitidas por el Consejo de Normas

Internacionales de Contabilidad (IASB, por sus siglas en inglés) y otras disposiciones legales aplicables para las entidades vigiladas y/o controladas por la Contaduría General de la Nación, que pueden diferir en algunos aspectos de los establecidos por otros organismos de control del Estado.

Las políticas contables descritas en la Nota 4 han sido aplicadas de manera consistente.

Estos estados financieros consolidados fueron autorizados para su emisión por la Junta Directiva el 21 de febrero del 2019.

2.2 BASES DE CONSOLIDACIÓN

Los estados financieros consolidados fueron preparados consolidando todas las Compañías descritas en el Anexo 1, en las

cuales Ecopetrol ejerce control directa o indirectamente. El control se logra cuando el Grupo:



Tiene poder sobre la sociedad (derechos existentes que le dan la facultad de dirigir las actividades relevantes).

participada son o no suficientes para darle el poder, incluyendo:



Está expuesta a, o tiene derechos sobre, rendimientos variables provenientes de su relación con la sociedad.

a) El porcentaje de derechos de voto de la Compañía relativo al tamaño y dispersión de los porcentajes de otros poseedores de voto;



Tiene la habilidad de usar su poder para afectar sus rendimientos operativos. Esto ocurre cuando la Compañía tiene menos de una mayoría de derechos de voto de una participada, y aún tiene poder sobre la participada para darle la habilidad práctica de dirigir las actividades relevantes de la sociedad de manera unilateral. El Grupo considera todos los hechos y circunstancias relevantes al evaluar si los derechos de voto de una

b) Derechos de voto potenciales mantenidos por la Compañía, otros accionistas u otras partes.

c) Derechos derivados de los acuerdos contractuales.

d) Cualquier hecho o circunstancia adicional que indique que la Compañía tiene, o no tiene, la habilidad actual para dirigir las actividades relevantes, al momento que necesite que las decisiones sean tomadas, incluyendo patrones de voto en asambleas de accionistas previas.

Las subsidiarias se consolidan desde la fecha en que se obtiene el control hasta la fecha en que cesa el mismo.

Todos los activos y pasivos intercompañía, el patrimonio, los ingresos, los gastos y los flujos de efectivo relacionados con transacciones entre Compañías del Grupo fueron eliminados en la consolidación. Las utilidades y pérdidas no realizadas también son eliminadas. El interés no controlante representa la porción de utilidad, de otro resultado integral y de los activos netos en subsidiarias que no son atribuibles a los accionistas de Ecopetrol.

Las siguientes subsidiarias fueron incorporadas:

2019

Todas las combinaciones de negocios se reconocen mediante el método de la adquisición.

a) En noviembre de 2019 se realizó la inscripción en el libro de registro de acciones de Invercolsa a Ecopetrol por el 8.53%, quedando con una participación del 51.88% y obteniendo el control de la misma después del fallo proferido por la Corte Suprema de Justicia confirmando la decisión de declarar la ineficacia de la adquisición de acciones a Ecopetrol S.A. del señor Fernando Londoño. El aumento en la participación no requirió el pago de ninguna contraprestación.

Las subsidiarias incorporadas por esta operación en el consolidado son las siguientes:

- ◆ Inversiones de Gases de Colombia S.A., cuyo objeto social principal consiste en tener inversiones en compañías que tengan relación con actividades del sector energético; la exploración, explotación, refinación, transformación, transporte, distribución y venta de hidrocarburos y sus derivados en el territorio nacional y promover la fundación de nuevas compañías y tener acciones o cuotas de interés social en ellas.
- ◆ Alcanos de Colombia S.A. E.S.P., cuyo objeto social principal consiste en prestación del servicio público domiciliario de gas combustible en Neiva y todo el territorio nacional; la construcción y operación de gasoductos, redes de distribución, estaciones de regulación, medición y compresión y cualquier obra necesaria para el manejo y comercialización de servicios públicos.
- ◆ Metrogas de Colombia S.A. E.S.P., cuyo objeto social principal consiste en prestación del servicio público de comercialización y distribución de gas combustible; la exploración, almacenamiento, utilización, transporte, refinación, compra, venta y distribución de hidrocarburos y derivados en todas sus formas y representaciones.
- ◆ Gases del Oriente S.A. E.S.P., cuyo objeto social principal consiste en la prestación del servicio público domiciliario de distribución de gas combustible y el desarrollo de todas las actividades complementarias a la prestación de dicho servicio.
- ◆ Promotora de Gases del Sur S.A. E.S.P., cuyo objeto social principal consiste en promover la vinculación de capital nacional o extranjero, público o privado, para lograr el proyecto de masificación del gas en el departamento del Huila, a través de un gasoducto desde el municipio de Neiva hasta el municipio de Hobo.
- ◆ Gases del Oriente S.A. E.S.P., cuyo objeto social principal consiste en el diseño y construcción de plantas de producción y tratamiento de hidrocarburos, tales como gasoductos, oleoductos y demás, así como la inversión en proyectos relacionados con los mismos.

◆ Combustibles Líquidos de Colombia S.A. E.S.P., cuyo objeto social principal consiste en la comercialización mayorista de gas combustible, la prestación del servicio público domiciliario de distribución de GLP y el desarrollo de las actividades complementarias a la prestación de dicho servicio, al igual que almacenamiento, transporte, envase, distribución y venta de GLP.

- a) En julio de 2019 se constituyeron dos compañías con el objeto de viabilizar la operación celebrada entre Ecopetrol S.A. y Occidental Petroleum Corp. (OXY), donde se acordó la conformación de un Joint Operation para ejecutar un plan conjunto de desarrollo de Yacimientos No Convencionales en la cuenca Permian en el estado de Texas (EE.UU.).

Las dos compañías constituidas fueron las siguientes:

Ecopetrol USA Inc., que tiene por objeto social participar en cualquier acto o actividad legal para el cual las corporaciones pueden ser organizadas bajo la Ley General de Sociedades de Delaware.

Ecopetrol Permian LLC., que tiene por objeto social tramitar cualquiera o todos los negocios legales para los cuales se pueden organizar compañías de responsabilidad limitada de conformidad con la Ley de Sociedades de Responsabilidad Limitada de Delaware.

- b) Se constituyeron también dos sociedades en México para prestación de servicios administrativos y tecnológicos de Ecopetrol México, las dos sociedades creadas fueron: Topili Servicios administrativos S. de R.L. de C.V. y Kalixpan Servicios Técnicos S. de R.L. de C.V.

2018

◆ Ecopetrol Energía S.A.S. E.S.P., cuyo objeto social es la comercialización de energía eléctrica para el Grupo Empresarial en los términos de las Leyes 142 y 143 de 1994. Ecopetrol tiene una participación directa del 99% en el capital accionario de la nueva filial, e indirecta del 1% restante a través de Andean Chemicals Ltd.

2.3 BASES DE MEDICIÓN

Los estados financieros consolidados han sido preparados sobre la base de costo histórico, excepto por los activos y pasivos financieros que son medidos a valor razonable con cambios en resultados y/o cambios en otro resultado integral al cierre de cada periodo, como se explica en las políticas contables incluidas más adelante.

Por lo general, el costo histórico se basa en el valor razonable de la contraprestación otorgada a cambio de los bienes y servicios.

El valor razonable es el precio que se recibiría al vender un activo o se pagaría al transferir un pasivo en una transacción ordenada entre participantes del mercado a la fecha de la medición. Al estimar el valor razonable, el Grupo utiliza los supuestos que los participantes del mercado utilizarían al fijar el precio del activo o pasivo en condiciones de mercado presentes, incluyendo supuestos sobre el riesgo.

2.4 MONEDA FUNCIONAL Y DE PRESENTACIÓN

Los estados financieros consolidados se presentan en pesos colombianos, la cual es la moneda funcional de Ecopetrol. La moneda funcional de cada una de las Compañías del Grupo es determinada en función al entorno económico principal en el que estas operan.

Los estados de ganancias o pérdidas y de flujos de efectivo de las subsidiarias con monedas funcionales diferentes de la moneda funcional de Ecopetrol son convertidos a los tipos de cambio en las fechas de la transacción o a la tasa promedio mensual. Los activos y pasivos se convierten a la tasa de cierre y

otras partidas patrimoniales se convierten a los tipos de cambio en el momento de la transacción. Todas las diferencias de cambio resultantes se reconocen en el otro resultado integral. Al vender la totalidad o parte de la participación en una subsidiaria, la parte acumulada por ajuste por conversión relacionada con la Compañía, es reconocida en el estado de pérdidas y ganancias consolidado.

Los estados financieros se presentan en pesos colombianos redondeados a la unidad de un millón (COP \$000,000) más cercana, excepto cuando se indique lo contrario.

2.5 MONEDA EXTRANJERA

Las transacciones en moneda extranjera son inicialmente reconocidas por el Grupo en la respectiva moneda funcional al tipo de cambio vigente de la fecha en que se realiza la transacción. Al final de cada período, las partidas monetarias denominadas en moneda extranjera son convertidas a las tasas de cambio vigentes en la fecha de cierre y las variaciones presentadas en la conversión son reconocidas en el resultado financiero, neto, excepto las resultantes de la conversión de préstamos y financiaciones designados como instrumentos de cobertura de flujo de efectivo o de inversión neta de un negocio en el extranjero, las cuales se reconocen en el otro resultado integral, dentro del patrimonio.

Cuando las partidas cubiertas afectan el resultado, las diferencias en cambio acumuladas en el patrimonio se reclasifican al estado de ganancias y pérdidas consolidado como parte del resultado de la operación.

Las partidas no monetarias registradas al valor razonable que están denominadas en moneda extranjera son convertidas a las tasas de cambio vigentes a la fecha en que se determinó el valor razonable. La ganancia o pérdida que surge de la conversión de partidas no monetarias medidas a valor razonable se reconoce de la misma manera que de la ganancia o pérdida por valor razonable del bien.

2.6 CLASIFICACIÓN DE ACTIVOS Y PASIVOS ENTRE CORRIENTES Y NO CORRIENTES

El Grupo presenta activos y pasivos en el estado consolidado de situación financiera con base en la clasificación corriente o no corriente.

Un activo o un pasivo se clasifica como corriente cuando:

- ◆ Se espera que se realice o se pretenda vender o consumir en el ciclo normal de la operación.
- ◆ Se mantiene principalmente con el propósito de negociar.
- ◆ Se espera que se realice dentro de los doce meses posteriores al período de reporte.

◆ Es efectivo o equivalente a menos que se restrinja el intercambio o se use para liquidar un pasivo durante al menos doce meses después del período de reporte.

◆ En el caso de un pasivo no existe el derecho incondicional de diferir su liquidación durante al menos doce meses después del período de reporte.

Los demás activos y pasivos se clasifican como no corrientes.

Los activos y pasivos por impuestos diferidos se clasifican como activos y pasivos no corrientes.

2.7 UTILIDAD NETA POR ACCIÓN

La utilidad neta por acción se calcula como el cociente entre el resultado neto del periodo atribuible a los accionistas de Ecopetrol S.A. y

el promedio ponderado de acciones ordinarias en circulación durante dicho período. No existe dilución potencial de acciones.

3. ESTIMACIONES Y JUICIOS CONTABLES SIGNIFICATIVOS

La preparación de los estados financieros consolidados requiere que la Gerencia de la Compañía realice juicios, estimaciones y suposiciones para cuantificar algunos de los activos, pasivos, ingresos, gastos y compromisos reconocidos en los estados financieros consolidados y sus revelaciones. Estas estimaciones se han realizado en función de la mejor información disponible sobre los hechos analizados, la experiencia de la gerencia y otros factores en la fecha de preparación de los estados financieros. La incertidumbre sobre los supuestos

y las estimaciones podría resultar en cambios materiales futuros que afecten el valor de activos o pasivos. Los cambios en estas estimaciones son reconocidos prospectivamente en el periodo en el cual se revisan.

En el proceso de aplicación de las políticas contables del Grupo, la Gerencia ha realizado los siguientes juicios y estimaciones, los cuales han tenido el efecto más significativo en los montos reconocidos en los estados financieros consolidados:

3.1 RESERVAS DE PETRÓLEO Y GAS NATURAL

Las reservas de petróleo y gas natural son estimados del monto de hidrocarburos que pueden ser económica y legalmente extraídos de las propiedades de crudo y gas del Grupo.

La estimación de reservas se realiza anualmente al 31 de diciembre, de conformidad con las definiciones de la Securities and Exchange Commission (SEC), las normas establecidas en la Regla 4-10(a) del Reglamento S-X y las directrices de divulgación contenida en la regla final SEC de Modernización de Reporte de Petróleo y Gas.

Tal como lo exige la normatividad vigente, la fecha futura estimada en la que un campo dejará de producir por razones económicas, se basa en los costos actuales y en el promedio de los precios del crudo (calculado como el promedio aritmético de los precios del primer día de los últimos 12 meses). La fecha estimada en que terminará la producción afectará el monto de las reservas, a menos que los precios fueran definidos por acuerdos contractuales; por lo tanto, si los precios y los costos cambian de un año a otro, la estimación de las reservas probadas también cambia. Generalmente, las reservas probadas disminuyen en la medida en que los precios bajan y aumentan cuando los precios suben.

La estimación de reservas es un proceso inherentemente complejo e involucra el uso de juicios profesionales. Estas estimaciones se preparan usando factores geológicos, técnicos y económicos, incluyendo proyecciones futuras de tasas de producción, precios del

petróleo, datos de ingeniería y la duración y monto de futuras inversiones con cierto grado de incertidumbre. Estas estimaciones reflejan las condiciones regulatorias y de mercado existentes a la fecha de reporte, las cuales podrían diferir significativamente de otras condiciones a lo largo del año o en periodos futuros. Cualquier cambio en los factores regulatorias y/o de mercado y en los supuestos utilizados, puede impactar materialmente la estimación de las reservas.

Impacto de las reservas de petróleo y gas natural en la depreciación y agotamiento

Los cambios en las estimaciones de reservas probadas pueden afectar los importes del valor en libros de los activos de exploración y producción, de los recursos naturales y del medio ambiente, del goodwill, los pasivos por abandono y desmantelamiento y de la depreciación, agotamiento y amortización. Mantenidas las demás variables constantes, una disminución en la estimación de reservas probadas aumentaría, de forma prospectiva, el valor de los gastos por depreciación y amortización, mientras que un aumento en las reservas resultaría en una reducción del gasto. La depreciación, agotamiento y amortización, es calculada usando el método de unidades de producción.

La información sobre el valor en libros de los activos de exploración y producción y los montos registrados con cargo a resultados, incluyendo la depreciación y amortización, es presentada en las Notas 14 y 15.

3.2 IMPAIRMENT (RECUPERACIÓN) DEL VALOR DE LOS ACTIVOS NO CORRIENTES

La Gerencia del Grupo utiliza su juicio profesional al evaluar la existencia de indicios de gasto (recuperación) de impairment con base en factores internos y externos.

Cuando exista un indicador de gasto o recuperación de impairment de periodos anteriores, el Grupo estima el importe recuperable de las unidades generadoras de

efectivo (UGE), el cual corresponde al mayor entre el valor razonable menos los costos de disposición y el valor en uso.

La evaluación requiere el uso de estimados y supuestos, entre los que se incluyen:

(1) estimación de volúmenes y valor de mercado de las reservas de petróleo y gas natural; (2) perfiles de producción de los campos petroleros y producción futura de productos refinados y químicos; (3) inversiones, impuestos y costos futuros; (4) vida útil de los activos; (5) precios futuros, (6) tasa de descuento, la cual es revisada anualmente, y es determinada como el costo promedio ponderado del capital (WACC, por sus siglas en inglés) y (7) cambios en la regulación ambiental. El importe recuperable es comparado con el valor neto en libros del activo, o de la unidad generadora de efectivo (UGE) para determinar si es sujeto de reconocimiento de impairment o si debe recuperarse algún monto de periodos anteriores.

Una pérdida por impairment reconocida previamente se revierte solo si ha habido un cambio en los supuestos utilizados para determinar el importe recuperable de los activos o UGEs desde que se reconoció la última pérdida por impairment. La reversión está limitada de modo que el valor en libros de un activo o UGE, diferente al goodwill,

no exceda su importe recuperable, o el valor en libros que se hubiera determinado (neto de amortización o depreciación) si no se hubiera reconocido una pérdida en periodos anteriores.

Los precios futuros se estiman bajo las condiciones actuales del mercado. Los volúmenes de producción esperados, que comprenden reservas probadas y no probadas, se utilizan para pruebas de impairment debido a que la Gerencia considera que este es el indicador más apropiado de los flujos de efectivo futuros esperados, los cuales también serían considerados por los participantes del mercado. Las estimaciones de las reservas son intrínsecamente imprecisas y sujetas a riesgo e incertidumbre. Además, las proyecciones sobre reservas no probadas se basan en información que es necesariamente menos robusta que la disponible para reservorios maduros.

Estas estimaciones y supuestos están sujetos a riesgo e incertidumbre. Por tanto, existe la posibilidad que cambios en las circunstancias afecten estas proyecciones, que también puede afectar el monto recuperable de los activos y/o UGEs, así como también puede afectar el reconocimiento de una pérdida por impairment o la reversión de los montos registrados en periodos anteriores.

3.3 COSTOS DE EXPLORACIÓN Y EVALUACIÓN

La aplicación de la política contable del Grupo para los costos de exploración y evaluación requiere juicio al determinar si los beneficios económicos futuros son probables, ya sea por una futura explotación o una venta, o si las actividades no han alcanzado una etapa que permita una evaluación razonable de la existencia de reservas. Ciertos costos de exploración y evaluación se capitalizan inicialmente cuando se espera que surjan reservas comercialmente viables. El Grupo utiliza su juicio profesional sobre eventos y circunstancias futuras y hace estimaciones para evaluar anualmente la generación de beneficios económicos futuros para la extracción de recursos petroleros,

así como análisis técnicos y comerciales para confirmar su intención de continuar su desarrollo. Los cambios con respecto a la información disponible, como el nivel de éxito de perforación o los cambios en la economía del proyecto, los costos de producción y los niveles de inversión, así como otros factores, pueden resultar a que los costos de perforación de exploración capitalizados, se reconozcan en el resultado del periodo. El Grupo emplea el método de esfuerzos exitosos para el registro de las actividades de exploración y evaluación. Los gastos por pozos secos se incluyen en las actividades de operación en el estado consolidado de flujos de efectivo.

3.4 DETERMINACIÓN DE LAS UNIDADES GENERADORAS DE EFECTIVO (UGES)

La asignación de activos en UGEs requiere juicio significativo, así como también las interpretaciones con respecto a la integración entre los activos, la existencia de mercados activos, la exposición similar a los

riesgos de mercado, las infraestructuras compartidas y la forma en la que la Gerencia monitorea las operaciones. Ver nota 4.12 – Impairment del valor de los activos.

3.5 ABANDONO Y DESMANTELAMIENTO DE CAMPOS Y OTRAS FACILIDADES

De acuerdo con la reglamentación ambiental y de petróleos, el Grupo debe asumir los costos por el abandono de instalaciones de extracción y transporte de petróleo, los cuales incluyen el costo de taponamiento y abandono de pozos, desmantelamiento de instalaciones y recuperación ambiental de las áreas afectadas.

Los costos de abandono y desmantelamiento son registrados en el mismo momento que se registra la instalación de los activos y son revisados anualmente.

Los cálculos de estos montos son complejos e involucran juicios significativos por parte de la Gerencia. Los costos finales de desmantelamiento son inciertos y las estimaciones pueden variar en respuesta a muchos factores, incluidos los cambios en los

requisitos legales pertinentes, el surgimiento de nuevas técnicas de restauración o la experiencia en otros sitios de producción. El tiempo esperado, la extensión y el monto del gasto también pueden cambiar, por ejemplo, en respuesta a cambios en las proyecciones de costos internos, cambios en las estimaciones de reservas, tasas de inflación futuras y tasas de descuento. El Grupo considera que los costos de abandono y desmantelamiento son razonables, según la experiencia y las condiciones del mercado, sin embargo, las variaciones significativas en los factores externos utilizados para el cálculo de la estimación podrían impactar significativamente los montos registrados en los estados financieros consolidados. Ver Nota 4.13 – Provisiones y pasivos contingentes (Obligación de retiro de activos).

3.6 PLANES DE PENSIÓN Y OTROS BENEFICIOS

La determinación de gastos, pasivos y ajustes relacionados con los planes de pensión y otros beneficios de retiro definidos requieren que la Gerencia utilice el juicio en la aplicación de los supuestos actuariales utilizados en el cálculo actuarial. Los supuestos actuariales incluyen estimaciones de la mortalidad futura, retiros, cambios en la remuneración y la tasa de descuento para reflejar el valor del dinero en el tiempo; así como la tasa de rendimiento de los activos del plan. Debido a la complejidad de la valoración, así como a su naturaleza de

largo plazo, las obligaciones que se definan son muy sensibles a cualquier cambio en las variables que se utilizan.

Estos supuestos se revisan anualmente para propósitos de las valuaciones actuariales y pueden diferir materialmente de los resultados reales debido a cambios en las condiciones económicas y de mercado, cambios en la regulación, decisiones judiciales, tasas de retiro más altas o más bajas, o expectativas de vida de los empleados más largas o más cortas.

3.7 IMPAIRMENT DE GOODWILL

El Grupo realiza en diciembre de cada año la prueba anual de impairment del goodwill para evaluar si el valor en libros es recuperable. El goodwill es asignado a cada una de las Unidades Generadoras de Efectivo (o grupos de unidades generadoras de efectivo).

La determinación del importe recuperable se describe en la Nota 4.10 y su cálculo requiere supuestos y estimaciones. El Grupo considera que los supuestos y estimados utilizados son razonables, pueden ser respaldados en las condiciones actuales de

mercado y están alineados al perfil de riesgo de los activos relacionados. Sin embargo, al utilizar diferentes supuestos y estimados, se obtendrían resultados diferentes. Los modelos de valoración usados para determinar el valor razonable son sensibles a cambios en los supuestos subyacentes. Por ejemplo, los precios y volúmenes de ventas y los precios que serán pagados por la compra de materias primas son supuestos que pueden variar en el futuro. Los cambios adversos en cualquiera de estos supuestos podrían llevar a reconocer un impairment del goodwill.

3.8 LITIGIOS

El Grupo está sujeto a reclamaciones por procedimientos regulatorios y de arbitraje, liquidaciones de impuestos y otras que surgen dentro del curso ordinario de los negocios. La Gerencia evalúa estas situaciones con base en su naturaleza, la probabilidad de que se estos materialicen y los montos involucrados, para decidir sobre los importes reconocidos y/o revelados en estados financieros consolidados.

Este análisis, el cual puede requerir juicios considerables, incluye revisar procesos legales instaurados en contra y reclamos aún no iniciados. Una provisión se reconoce cuando el Grupo tiene una obligación presente como resultado de un evento pasado, es probable que se genere una salida de recursos para liquidar la obligación y se puede hacer una estimación confiable del monto de dicha obligación.

3.9 IMPUESTOS

El cálculo de la provisión por impuesto de renta requiere la interpretación de la normativa fiscal en las jurisdicciones donde opera el Grupo Empresarial Ecopetrol. Se requieren realizar juicios significativos para la determinación de las estimaciones del impuesto a las ganancias y para evaluar la recuperabilidad de los activos por impuestos diferidos, los cuales se basan en estimaciones de resultados fiscales futuros y en la capacidad para generación de resultados suficientes durante los periodos en los que sean deducibles dichos impuestos diferidos. Los pasivos por impuestos diferidos se registran de acuerdo con las estimaciones realizadas de los activos netos que en un futuro no serán fiscalmente deducibles.

En la medida en que los flujos de efectivo futuros y la renta gravable difieran significativamente de las estimaciones, la capacidad del Grupo para utilizar los impuestos diferidos activos netos registrados a la fecha de presentación, podría verse afectada.

Adicionalmente, los cambios en las normas fiscales podrían limitar la capacidad del Grupo para obtener deducciones fiscales en ejercicios futuros, así como el reconocimiento de nuevos pasivos por impuestos producto de cuestionamientos por parte de la auditoría del organismo fiscalizador.

Las posiciones fiscales que se adopten suponen la evaluación cuidadosa por parte de la Gerencia, y se revisan y ajustan en respuesta a circunstancias como caducidad en la aplicación de la legislación, cierre de auditorías fiscales, revelaciones adicionales ocasionadas por algún tema legal o alguna decisión de la Corte en un tema tributario en particular. El Grupo registra provisiones con base en la

estimación de la posibilidad de una decisión negativa que pueda surgir de una auditoría fiscal. El monto de estas provisiones depende de factores como la experiencia previa en auditorías fiscales y las interpretaciones de las normas tributarias por las entidades contribuyentes y de la autoridad tributaria. Los resultados reales pueden diferir de las estimaciones registradas.

3.10 CONTABILIDAD DE COBERTURAS

El proceso de identificación de las relaciones de cobertura entre las partidas cubiertas y los instrumentos de cobertura derivados y no derivados (tal como la deuda a largo plazo en moneda

extranjera), y su correspondiente efectividad, requiere juicios de la Gerencia. El Grupo evalúa periódicamente la alineación entre las coberturas identificadas y su política de gestión de riesgos.

4. POLÍTICAS CONTABLES

Las políticas contables que se indican a continuación se han aplicado consistentemente para todos los períodos presentados.

4.1 INSTRUMENTOS FINANCIEROS

Un instrumento financiero es cualquier contrato que dé lugar a un activo financiero, a un pasivo financiero o un instrumento de patrimonio en otra entidad.

La clasificación depende de su naturaleza y propósito por el cual el activo o pasivo financiero fue adquirido y se determina al momento del reconocimiento inicial. Todos los activos y pasivos financieros se miden inicialmente a su valor razonable.

Los costos de transacción que son directamente atribuibles a la adquisición o emisión de activos y pasivos financieros distintos a los medidos a valor razonable

con cambios en resultados, se suman o deducen del valor razonable de los activos y pasivos financieros, en el reconocimiento inicial. Los costos de transacción directamente atribuibles a la adquisición de activos y pasivos financieros medidos a valor razonable con cambios en resultados se reconocen inmediatamente en resultados.

Los préstamos y cuentas por cobrar comerciales, otras cuentas por cobrar y activos financieros mantenidos hasta su vencimiento, se miden posteriormente al costo amortizado utilizando el método de tasa de interés efectiva.

Los instrumentos de patrimonio se miden a valor razonable.

Mediciones a valor razonable

El valor razonable es el precio que se recibiría al vender un activo o se pagaría para transferir un pasivo en una transacción ordenada entre participantes del mercado en la fecha de valoración. La medición del valor razonable se basa en la presunción de que la transacción para vender el activo o transferir el pasivo tiene lugar en el mercado principal del activo o pasivo o en ausencia de un mercado principal en el mercado más ventajoso.

El valor razonable de un activo o un pasivo es medido utilizando los supuestos que los participantes del mercado utilizarían para fijar su precio, suponiendo que los participantes del mercado actúan en su mejor interés económico.

La medición del valor razonable de un activo no financiero tiene en cuenta la capacidad de generar beneficios económicos mediante la utilización del activo en su máximo y mejor uso o mediante la venta de éste a otro participante del mercado quien utilizaría el activo en su máximo y mejor uso.

El Grupo utiliza las técnicas de valoración más apropiadas para las circunstancias y con la mejor información disponible, maximizando el uso de los datos de entrada observables y minimizando los no observables.

Todos los activos y pasivos cuyo valor razonable se mide o revela en los estados financieros consolidados se clasifican dentro de la jerarquía, con base en la entrada de nivel más bajo que es significativa para la medición del valor razonable en su conjunto, de la siguiente manera:

- ◆ **Nivel 1:** Precios de cotización (no ajustados) de mercados activos para activos y pasivos idénticos. El valor razonable de los instrumentos negociables del Grupo se basa en entradas de nivel 1.
- ◆ **Nivel 2:** Técnicas de valoración para las cuales se observa directa o indirectamente la entrada de nivel más bajo que es significativa para la medición del valor razonable. Las entradas del nivel 2 incluyen precios de activos similares,

precios obtenidos a través de cotizaciones de corredores de bolsa, y los precios que pueden ser corroborados substancialmente con otros datos observables con los mismos términos contractuales.

Para los contratos de derivados que no se dispongan de un precio de mercado cotizado, las estimaciones del valor razonable generalmente se determinan utilizando modelos y otros métodos de valoración basados técnicas de valor presente, cuyos insumos clave incluyen precios futuros, estimaciones de volatilidad, correlación de precios, riesgo de crédito de contraparte y liquidez del mercado, según corresponda.

- ◆ **Nivel 3:** Técnicas de valoración para las cuales la entrada de nivel más bajo que es significativa para la medición del valor razonable no es observable. El Grupo no utiliza entradas a nivel 3 para sus mediciones de activos y pasivos financieros. Para el cálculo del valor recuperable de ciertos activos no financieros para propósitos de determinación del impairment, el Grupo puede utilizar entradas de nivel 3.

Método de la tasa de interés efectiva

El método de la tasa de interés efectiva es una forma de cálculo del costo amortizado de un instrumento financiero y de registro del ingreso o gasto financiero a lo largo del período relevante. La tasa de interés efectiva es la tasa de descuento que iguala exactamente los flujos de efectivo por cobrar o por pagar estimados (incluyendo todas las comisiones, costos de transacción y otras primas o descuentos) a lo largo de la vida esperada del instrumento financiero (o, cuando sea adecuado, en un período más corto) con el importe neto en libros en el reconocimiento inicial.

Impairment de activos financieros

El Grupo reconoce el valor de las pérdidas crediticias esperadas durante el tiempo de vida del activo de acuerdo con el enfoque simplificado. Las pérdidas crediticias del activo se reconocen antes que un instrumento pase a estar en mora. Para determinar el riesgo crediticio se utiliza la información razonable y sustentable que se refiera al comportamiento histórico y variables que indiquen que exista riesgo en el futuro.

Al final de cada periodo sobre el que se informa el Grupo evalúa si hay evidencia objetiva que un activo o un grupo de activos están deteriorados como resultado de uno o más eventos ocurridos desde el reconocimiento inicial, para determinar si los flujos de efectivo futuros han sido afectados.

Para los activos financieros medidos al costo amortizado, el importe de la pérdida por impairment es la diferencia entre el importe en libros y el valor presente de los flujos de efectivo futuros estimados, descontados a la tasa de interés efectiva original del activo financiero.

4.1.1 EFECTIVO Y EQUIVALENTES DE EFECTIVO

El efectivo y equivalentes de efectivo comprende recursos en caja, inversiones financieras altamente líquidas, depósitos bancarios y depósitos especiales con vencimiento dentro de los noventa días desde la fecha de su adquisición y con bajo nivel de riesgo a cambios significativos en su valor.

4.1.2 ACTIVOS FINANCIEROS

El Grupo clasifica sus activos financieros en las siguientes categorías:

a) Activos financieros a valor razonable con cambios en resultados

Incluyen activos financieros mantenidos para negociar y activos financieros designados al momento del reconocimiento inicial a valor razonable con cambios en resultados. Se clasifican como mantenidos para negociar si son adquiridos con el propósito de vender o recomprar en el corto plazo. Estos activos se reconocen a su valor razonable y las ganancias o pérdidas que surgen en la re-medición son reconocidas en el resultado del periodo.

b) Activos financieros medidos al valor razonable con cambios en el otro resultado integral

Son instrumentos de patrimonio de otras Compañías no controladas y no estratégicas que no permiten ejercer ningún tipo de control o influencia significativa sobre las mismas y donde la gerencia del Grupo no tiene propósito de negociarlos en el corto plazo. Estos instrumentos se reconocen por su valor razonable y las ganancias o pérdidas se reconocen en el otro resultado integral.

c) Activos financieros a costo amortizado

El Grupo mide los activos financieros a costo amortizado si se cumplen las siguientes condiciones:

1. El activo es mantenido dentro de un modelo de negocio cuyo objetivo es beneficiarse de los flujos contractuales, y,

2. Los términos contractuales dan lugar a fechas específicas de pago y los flujos de efectivo corresponden únicamente a pagos del principal e intereses.

Los activos financieros a costo amortizado son posteriormente medidos usando el método de interés efectivo menos impairment. Las ganancias o pérdidas son reconocidas en el resultado cuando el activo es dado de baja, ha sido modificado o deteriorado.

Esta categoría es la más relevante para el Grupo. Los activos financieros a costo amortizado incluyen las cuentas por cobrar comerciales, otras cuentas por cobrar, préstamos y préstamos a empleados.

Los préstamos y cuentas por cobrar son activos financieros no derivados con pagos fijos o determinables, que no cotizan en un mercado activo. Los préstamos y cuentas por cobrar, incluyen cuentas comerciales y otras cuentas por cobrar.

Los préstamos a empleados son inicialmente reconocidos al valor presente de los flujos de efectivo futuros, descontados a una tasa de mercado para un préstamo similar. Si la tasa de interés del préstamo es inferior a la tasa de interés de mercado, el valor razonable será menor que la cuantía del préstamo.

Bajas de activos financieros

El Grupo da de baja un activo financiero únicamente al vencimiento de los derechos contractuales sobre los flujos de efectivo del activo o, cuando ha transferido sus derechos de recibir dichos flujos o ha asumido la obligación de pagar los flujos recibidos en su

totalidad sin demora material a un tercero y (a) ha transferido sustancialmente todos los riesgos y beneficios inherentes a la propiedad o (b) no ha transferido ni retenido sustancialmente todos los riesgos y beneficios del activo, sino que ha transferido el control del mismo.

Cuando el Grupo no ha transferido ni retenido sustancialmente todos los riesgos y beneficios del activo o transferido el control del activo, continúa reconociendo el activo sobre la base de la participación continuada, y también reconoce el pasivo asociado.

4.1.3 PASIVOS FINANCIEROS

Los pasivos financieros corresponden a las fuentes de financiación obtenidas por el Grupo a través de créditos bancarios y emisiones de bonos, cuentas por pagar a proveedores y acreedores.

Los bonos y los créditos bancarios se reconocen inicialmente a su valor razonable, neto de los costos de transacción incurridos. Después del reconocimiento inicial, se miden posteriormente a costo amortizado, utilizando el método de tasa de interés efectiva. La amortización se incluye como gasto financiero en el estado consolidado de pérdidas y ganancias.

Bajas de pasivos financieros

Un pasivo financiero se da de baja cuando la obligación especificada en EL correspondiente contrato sea pagada o vencida. Cuando un pasivo existente haya sido reemplazado por otro pasivo proveniente del mismo prestamista bajo condiciones sustancialmente diferentes, o si las condiciones de un pasivo existente se modifican de manera sustancial, tal modificación se trata como una baja del pasivo original y el reconocimiento de un nuevo pasivo. La diferencia entre los importes respectivos, se reconoce en el estado consolidado de ganancias y pérdidas.

4.1.4 INSTRUMENTOS FINANCIEROS DERIVADOS Y OPERACIONES DE COBERTURA

Los instrumentos financieros derivados se reconocen inicialmente en el estado consolidado de situación financiera como activos o pasivos por su valor razonable. Los cambios en el valor razonable se registran como resultados en el estado consolidado de ganancias y pérdidas, excepto si son designados dentro de una cobertura de flujo de efectivo, las cuales se reconocen en otros resultados integrales y posteriormente se

reclasifican a resultados cuando el elemento cubierto afecte ganancias y pérdidas.

Las ganancias o pérdidas de los contratos derivados, que no están calificados ni designados como coberturas, incluidos los contratos de forward para la compra y venta de commodities en negociación para la entrega o recibo físico del commodity son registrados en el resultado.

4.1.5 OPERACIONES DE COBERTURA

Para propósitos de contabilidad de cobertura, estas operaciones son clasificadas como:

◆ Coberturas de valor razonable, cuando se tiene como propósito cubrir la exposición a cambios en el valor razonable del activo o pasivo reconocido o compromiso en firme no reconocido, o parte identificada en dicho activo, pasivo o compromiso firme.

◆ Coberturas de flujo de efectivo, cuyo propósito es cubrir la exposición a la fluctuación de los flujos de efectivo que se atribuye a un riesgo particular asociado con un activo o pasivo reconocido o a una transacción prevista altamente probable.

◆ Coberturas de una inversión neta de un negocio en el extranjero.

4.1.5.1 COBERTURA DE FLUJO DE EFECTIVO

Al inicio de la relación de cobertura, El Grupo designa y documenta formalmente la relación entre el instrumento de cobertura y el elemento cubierto, junto con sus objetivos de gestión de riesgo y su estrategia para llevar a cabo las transacciones de cobertura. Se espera que tales coberturas

sean altamente efectivas para lograr compensar los cambios en el valor razonable o en los flujos de efectivo; igualmente, se evalúan continuamente para determinar que realmente han sido altamente efectivos a lo largo de los períodos de reporte financiero, para los cuales fueron designados.

La porción efectiva de las ganancias o pérdidas de los instrumentos de cobertura se reconocen en otro resultado integral, mientras que la porción inefectiva se reconoce en el resultado del periodo, en la línea del resultado financiero, neto.

Los montos previamente reconocidos en otro resultado integral se transfieren a resultados cuando la partida cubierta afecta los resultados del ejercicio. Cuando la partida cubierta es un activo o pasivo no financiero, los importes previamente reconocidos en otro resultado integral se transfieren y se incluyen en el importe en libros inicial del costo del activo o pasivo no financiero.

Si el instrumento de cobertura expira o se vende, finaliza o se ejerce sin reemplazo o

transferencia, o si se revoca su designación como cobertura o cuando la cobertura ya no cumple con los criterios para la contabilidad de coberturas, cualquier ganancia o pérdida acumulada previamente reconocida en otro resultado integral consolidado se mantiene por separado en el patrimonio hasta que la transacción se reconozca en el estado de ganancias y pérdidas consolidado. Cuando ya no se espera que ocurra la transacción cubierta inicialmente, cualquier monto acumulada en el patrimonio se reconoce inmediatamente en el resultado del periodo.

Ecopetrol designa préstamos a largo plazo como instrumento de cobertura para su exposición al riesgo tipo de cambio en exportaciones futuras de crudo. Ver Nota 29 para mayor información.

4.1.5.2 COBERTURA DE INVERSIÓN NETA EN UN NEGOCIO EN EL EXTRANJERO

Son contabilizadas de manera similar a las coberturas de flujo de efectivo.

Las ganancias o pérdidas del instrumento de cobertura relativa a la porción efectiva se reconocen en el otro resultado integral; mientras que los montos relativos a la porción inefectiva se reconoce en el resultado del periodo. Las ganancias y pérdidas acumuladas en el patrimonio son reclasificadas al estado

consolidado de ganancias y pérdidas cuando se disponga parcial o totalmente del negocio en el extranjero.

Ecopetrol designó préstamos a largo plazo como instrumento de cobertura para su exposición al riesgo de tipo de cambio en sus inversiones en subsidiarias cuya moneda funcional es dólar. Ver Nota 29 para mayor información.

4.2 INVENTARIOS

Los inventarios se registran al más bajo entre el costo y el valor neto realizable.

Comprenden principalmente petróleo crudo, combustibles y productos petroquímicos e inventarios de bienes de consumo (repuestos y suministros).

El costo del petróleo crudo es el costo de producción, incluido el costo de transporte.

El costo requerido para poner en funcionamiento los oleoductos hace parte del costo del oleoducto relacionado.

El costo de otros inventarios se determina según el método del promedio ponderado, el cual incluye los costos de adquisición (descuentos comerciales, reembolsos y otros similares), transformación y otros costos incurridos para llevar el inventario a su ubicación y condición actual, como los costos de transporte.

Los inventarios de consumibles (repuestos y suministros) se reconocen como inventario y luego se registran como gastos, mantenimiento o proyectos en la medida en que se consuman.

El Grupo estima el valor neto realizable de los inventarios al final de cada período. Cuando las circunstancias que previamente causaron que los inventarios estuvieran por debajo de su costo ya no existan, o cuando se presenta una clara evidencia de un aumento en el valor neto realizable debido a un cambio en las circunstancias económicas, el monto provisionado se revierte. La reversión no puede ser mayor al valor registrado originalmente, de modo que el nuevo importe en libros siempre será el menor entre el costo y el valor neto realizable revisado.

4.3 PARTES RELACIONADAS

Se consideran partes relacionadas aquellas en donde una de las partes tiene la capacidad de controlar a la otra, tiene control conjunto, o ejerce influencia significativa en la toma de decisiones financieras u operativas de la participada o es un miembro del personal clave de la gerencia (o familiar cercano del personal clave). El Grupo ha considerado como partes relacionadas las Compañías asociadas,

negocios conjuntos, directivos clave de la gerencia, las entidades administradoras de los recursos para pago de planes de beneficios post-empleo para empleados y algunas transacciones relevantes celebradas con entidades del Gobierno Colombiano, como son la compra de hidrocarburos y el fondo de estabilización petrolera. (Ver Nota 30 – Partes Relacionadas).

4.3.1 INVERSIONES EN ASOCIADAS

Una asociada es una entidad sobre la cual el Grupo ejerce influencia significativa pero no control. La influencia significativa es el poder de intervenir en las decisiones de política financiera y operativa de la participada, sin llegar a tener control o control conjunto sobre las mismas. En general, estas entidades son aquellas en las que se mantiene una participación accionaria del 20% al 50% de los derechos de voto. (Ver Anexo 1 – Compañías subsidiarias consolidadas, asociadas y negocios conjuntos)

Las inversiones en asociadas se contabilizan utilizando el método de la participación. Bajo este método, la inversión se reconoce inicialmente al costo, posteriormente es ajustada para reconocer la participación del Grupo en los activos netos de la asociada. El goodwill relacionado se incluye en el importe en libros y no se evalúa su impairment de forma separada.

La participación en los resultados de las operaciones de la asociada se reconoce en el

estado consolidado de ganancias y pérdidas. Cualquier cambio en otro resultado integral se registra también en el otro resultado integral del Grupo.

Después de la aplicación del método de participación, el Grupo determina si es necesario reconocer una pérdida por impairment de la inversión, en cada fecha de presentación, el Grupo determina si existe evidencia objetiva de que la inversión está deteriorada, si existe tal evidencia, se calcula el monto del impairment como la diferencia entre el importe recuperable y el valor en libros, y luego reconoce la pérdida en el estado consolidado de ganancias y pérdidas.

Cuando es necesario, se realiza homologación a las políticas contables de las asociadas para garantizar la consistencia con las adoptadas por el Grupo. Adicionalmente, el método de participación se calcula con sus estados financieros más recientes.

4.3.2 NEGOCIOS CONJUNTOS

Un negocio conjunto es un acuerdo mediante el cual dos o más partes ejercen control conjunto y tienen derecho a los activos netos del acuerdo conjunto. El control conjunto se presenta cuando las decisiones sobre las actividades

relevantes requieren el consentimiento unánime de las partes que comparten el control. El tratamiento contable para el reconocimiento de los negocios conjuntos es el mismo que el de las inversiones en asociadas.

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4.4 OPERACIONES CONJUNTAS

Una operación conjunta es un tipo de acuerdo conjunto mediante el cual las partes ejercen derechos sobre los activos y obligaciones sobre los pasivos, en relación con el acuerdo.

Los contratos de operación conjunta se celebran entre el Grupo y terceros para compartir el riesgo, asegurar el capital, maximizar la eficiencia operativa y optimizar la recuperación de las reservas. En estas operaciones, una parte se designa como el operador para ejecutar el presupuesto de gastos e inversiones e informar a los socios de acuerdo con sus intereses de participación. Así mismo, cada uno toma su parte de los hidrocarburos producidos (petróleo crudo o gas) de acuerdo con su participación en la producción.

Cuando el Grupo participa como socio no operador, registra los activos, pasivos, ingresos, costos y gastos en función del informe de los operadores. Cuando el Grupo es el operador directo de los contratos, registra su porcentaje de activos, pasivos, ingresos, costos y gastos,

con base en la participación de cada socio en las líneas correspondientes a activos, pasivos, gastos, costos e ingresos.

Cuando el Grupo adquiere o aumenta una participación en una operación conjunta en la cual la actividad constituye un negocio, dicha transacción se registra aplicando el método de adquisición de acuerdo a la NIIF 3 – Combinación de negocios. El costo de adquisición es la suma de la contraprestación transferida, la cual corresponde al valor razonable, en la fecha de adquisición, de los activos transferidos y los pasivos incurridos.

El exceso del valor de la contraprestación transferida y el importe pagado en la operación se reconoce como goodwill. Si resulta en un exceso el valor razonable de los activos netos adquiridos sobre el importe pagado en la operación, la diferencia se reconoce como un ingreso en el estado de ganancias y pérdidas consolidado en la fecha de reconocimiento de la operación.

4.5 ACTIVOS NO CORRIENTES MANTENIDOS PARA LA VENTA

Los activos no corrientes se clasifican como mantenidos para la venta si sus valores en libros se recuperarán principalmente a través de una transacción de venta y no mediante su uso continuado. Así mismo, se clasifican en esta categoría solo cuando la venta es altamente probable dentro de

un año desde la fecha de clasificación y el activo (o grupo de activos) y está disponible para su venta inmediata en su condición actual. Estos activos se miden al menor entre su valor en libros y el valor razonable menos los costos de disposición relacionados.

4.6 PROPIEDADES, PLANTA Y EQUIPO

Reconocimiento y medición

Las propiedades, planta y equipo se presentan al costo menos la depreciación acumulada y las pérdidas acumuladas por impairment. Los componentes tangibles de los activos relacionados con recursos naturales y del medio ambiente forman parte de las propiedades, planta y equipo.

El costo inicial de un activo comprende su precio de compra o costo de construcción, incluyendo impuestos de importación e impuestos no reembolsables, cualquier costo directamente atribuible a la puesta en operación del activo, costos de beneficios a los empleados que surjan directamente de la construcción o adquisición, costos de endeudamiento incurridos que son atribuibles a la adquisición y/o construcción de activos calificables y la estimación inicial de los costos de desmantelamiento y abandono.

Las piezas de repuesto y el equipo auxiliar se registran como inventarios, y se reconocen como gasto en la medida que se consumen. Las piezas de repuesto importantes y el equipo de mantenimiento permanente, que el Grupo espera usar durante más de un período, son reconocidos como propiedades, planta y equipo.

Cualquier ganancia o pérdida en el retiro de algún elemento de propiedades, planta y equipo es reconocida en los resultados del período respectivo.

Desembolsos posteriores

Corresponden a todos los desembolsos que se realicen sobre activos existentes con el fin de aumentar o prolongar la vida útil inicial esperada, aumentar la productividad o eficiencia productiva, permitir una reducción significativa de los costos de operación, aumentar el nivel de reservas en áreas de explotación o desarrollo o reemplazar una parte o componente de un activo que sea considerado crítico para la operación.

Los gastos de reparación, conservación y mantenimiento de carácter ordinario

se imputan a resultados del ejercicio en que se producen. No obstante, los desembolsos asociados a mantenimientos mayores son capitalizados.

Depreciación

Las propiedades, planta y equipo se deprecian siguiendo el método lineal, excepto los activos asociados a las actividades de Exploración y Producción, los cuales se deprecian usando el método de unidades técnicas de producción. Las vidas útiles técnicas se actualizan anualmente considerando razones tales como: adiciones o mejoras (por reposición de partes o componentes críticos para la operación del activo), avances tecnológicos, obsolescencia u otros factores; el efecto de estos cambios se reconoce a partir del período contable en el cual se efectúa. La depreciación de los activos comienza cuando los mismos están en condiciones de uso.

La vida útil se define bajo los criterios de utilización prevista del activo, su desgaste físico esperado, la obsolescencia técnica o comercial y los límites legales o restricciones sobre su uso.

Las vidas útiles estimadas oscilan entre los siguientes rangos:

Planta y equipo	11 - 60 años
Ductos, redes y líneas	11 - 50 años
Edificaciones	11 - 50 años
Otros	6 - 40 años

Los terrenos se registran de forma independiente de los edificios o instalaciones y tienen una vida útil indefinida y por lo tanto no son objeto de depreciación.

Los métodos de depreciación y vidas útiles se revisan anualmente y se ajustan, si corresponde.

Impairment

Los activos asociados a exploración, evaluación y producción están sujetos a revisión por posible impairment en su valor recuperable. Ver notas 3.2 –

Impairment (recuperación de impairment) del valor de los activos de largo plazo y 4.12 - Impairment del valor de los activos de largo plazo.

4.7 RECURSOS NATURALES Y DEL MEDIO AMBIENTE

Reconocimiento y medición

El Grupo emplea el método de esfuerzos exitosos para el registro de las actividades de exploración y producción de petróleo crudo y gas, considerando a su vez, lo establecido en la NIIF 6 - Exploración y evaluación de recursos minerales.

Costos de exploración

Los costos de adquisición y exploración son registrados como activos de exploración y evaluación en curso hasta el momento en que se determine si la perforación de exploración resultó exitosa o no; de no ser exitosa, todos los costos incurridos son reconocidos en el estado de ganancias y pérdidas consolidado.

Los costos de exploración incurridos con el objetivo de identificar áreas con perspectivas de contener reservas de petróleo crudo o gas incluyendo geología y geofísica, sísmica, viabilidad y otros, se reconocen como gastos cuando se incurren. Los desembolsos asociados con la perforación de pozos exploratorios y aquellos relacionados con pozos estratigráficos de naturaleza exploratoria son registrados como activos hasta que se determine si son comercialmente viables; de lo contrario, se registran en resultados como gasto de pozos secos. Otros gastos se reconocen en resultados cuando se incurre en ellos.

Un activo de exploración y evaluación ya no se clasificará como tal cuando se demuestre la factibilidad técnica y la viabilidad comercial de extraer un recurso mineral. Los activos de exploración y evaluación se revisarán por impairment y se reconocerá cualquier pérdida por impairment antes de su reclasificación.

Todos los costos capitalizados están sujetos a revisiones técnicas y comerciales al menos una vez al año para confirmar la continuidad para desarrollar y producir

dichos campos; de lo contrario, estos costos se transfieren al resultado.

Los costos de exploración se presentan netos de los ingresos obtenidos de la venta de petróleo crudo durante el periodo de pruebas extensas, neto de los costos de ventas, ya que se consideran necesarios para completar el activo.

Costos de desarrollo

Los costos de desarrollo corresponden a aquellos costos incurridos para acceder a las reservas probadas de hidrocarburos y de proporcionar las instalaciones necesarias para la extracción, tratamiento, recogida y almacenamiento. Cuando un proyecto es aprobado para desarrollo, el valor acumulado de los costos de adquisición y exploración se clasifican como recursos naturales y del medio ambiente, los costos posteriores a la etapa de exploración son capitalizados como costos de desarrollo de las propiedades que comprendan tales activos de recursos naturales. Todos los costos de desarrollo se capitalizan, incluidos los costos de perforación sin éxito de pozos de desarrollo.

Costos de producción

Son aquellos incurridos para operar y mantener los pozos productivos, así como el equipo e instalaciones correspondientes. La actividad de producción incluye la extracción del crudo y del gas a la superficie, su recolección, tratamiento y procesamiento y el almacenamiento en el campo. Los costos de producción son gastos en el momento en que se incurren a menos que adicionen reservas de petróleo crudo y gas, en tal caso son capitalizados.

Los equipos de producción y apoyo se contabilizan con base en su costo y hacen parte de las propiedades, planta y equipo sujetos a depreciación.

Los costos capitalizados también incluyen el costo de desmantelamiento, retiro y restauración, así como el valor estimado por obligaciones ambientales futuras. La estimación incluye los costos de taponamiento y abandono de pozos, desmonte de facilidades y recuperación ambiental de áreas y pozos. Los cambios resultantes de nuevas estimaciones del pasivo por abandono y restauración ambiental, se capitalizan en el activo correspondiente.

Los costos capitalizados también incluyen el valor de los ingresos obtenidos netos de los costos por la venta de crudo de pruebas extensas, por cuanto se consideran necesarios para completar el activo.

Amortización

La amortización de los elementos de recursos naturales y del medio ambiente es determinada según el método de unidades técnicas de producción por campo, utilizando como base las reservas probadas desarrolladas, salvo algunos casos excepcionales que demandan un mayor juicio de valor por parte de la Gerencia para determinar un mejor factor de amortización de los beneficios económicos

futuros a lo largo de la vida útil del activo. Los factores de amortización se revisan anualmente, con base en el estudio de reservas y el impacto sobre cambios de dichos factores sobre el gasto por amortización, se reconoce de manera prospectiva en los estados financieros consolidados.

Las reservas son auditadas por consultores externos reconocidos internacionalmente y aprobadas por la Junta Directiva. Las reservas probadas consisten en las cantidades estimadas de petróleo crudo y gas natural demostradas con certeza razonable por los datos geológicos y de ingeniería que serán recuperables en años futuros a partir de reservas conocidas bajo condiciones económicas y de operación existentes, es decir, a los precios y costos que se aplican a la fecha de la estimación.

Impairment

Los activos asociados a exploración, evaluación y producción están sujetos a revisión por posible impairment en su valor recuperable. Ver notas 3.2 - Impairment (recuperación de impairment) del valor de los activos de largo plazo y 4.12 - Impairment del valor de los activos de largo plazo.

4.8 CAPITALIZACIÓN DE COSTOS POR PRÉSTAMOS

Los costos por préstamos relacionados con la adquisición, construcción o producción de un activo calificado, el cual requiera un período de tiempo sustancial para estar listo para su uso, se capitalizan como parte del costo de ese activo cuando sea probable que los beneficios económicos futuros retornen al Grupo y puedan ser medidos

con fiabilidad. Los demás costos por intereses se reconocen como gastos financieros en el período en que se incurren. Los proyectos que han sido suspendidos, pero que el Grupo tiene la intención de continuar a futuro con su ejecución, no son considerados como activos calificados para el propósito de capitalizar los costos por préstamos.

4.9 ACTIVOS INTANGIBLES

Los activos intangibles con vida útil definida, adquiridos separadamente, son inicialmente registrados al costo menos la amortización acumulada y pérdidas acumuladas por impairment. La amortización es reconocida bajo el método

de línea recta, de acuerdo con sus vidas útiles estimadas. La vida útil estimada y el método de amortización son revisados al final de cada período de reporte; cualquier cambio en la estimación es registrada sobre una base prospectiva.

Los desembolsos originados por las actividades de investigación se reconocen como un gasto en el período en el cual se incurren.

4.10 GOODWILL

El goodwill se mide inicialmente al costo (que corresponde al exceso entre la contraprestación transferida y el monto reconocido por intereses no controlantes y cualquier interés anterior mantenido sobre los activos netos identificables de los activos

adquiridos y los pasivos asumidos). Después del reconocimiento inicial, el goodwill se mide al costo menos cualquier pérdida por impairment acumulada. El crédito mercantil no se amortiza, pero se revisa anualmente su impairment.

4.11 ARRENDAMIENTOS

El Grupo aplicó NIIF 16 – Arrendamientos a partir del 1 de enero de 2019, utilizando el enfoque retrospectivo modificado, bajo el cual el efecto acumulativo de la aplicación inicial se reconoce en las ganancias acumuladas. En consecuencia, la información comparativa presentada para 2018 no se

re-expresa, es decir, se presenta, como se informó anteriormente, bajo la NIC 17 e interpretaciones relacionadas. Los detalles de los cambios en las políticas contables se revelan en la Nota 5.1. Adicionalmente, los requisitos de revelación de la NIIF 16 no han sido aplicados a la información comparativa.

4.12 IMPAIRMENT DEL VALOR DE LOS ACTIVOS DE LARGO PLAZO

Con el fin de evaluar si los activos tangibles e intangibles están deteriorados, el Grupo compara el valor en libros de los mismos con el importe recuperable por lo menos en cada fecha de cierre del período, para identificar indicios de que algún activo pudiera estar deteriorado.

Para efectuar el análisis de impairment, los activos se agrupan en unidades generadoras de efectivo (UGEs) siempre que los mismos, individualmente considerados, no generen flujos de efectivo que, en buena medida, sean independientes de los generados por otros activos o UGEs. La agrupación de los activos en diferentes UGEs, implica la realización de juicio profesional y la consideración, entre otros parámetros, de los segmentos de negocio. En este sentido, en el segmento

de Exploración y Producción, una UGE corresponde a cada una de las distintas áreas contractuales comúnmente denominadas “campos”; por excepción, en aquellos casos en que los flujos de caja generados por varios campos son interdependientes entre sí, dichos campos se agrupan en una única UGE. En el caso del segmento Refinación y Petroquímica, las UGE corresponden a cada una de las refinerías del Grupo y para el segmento de Transporte cada línea es considerada como una UGE independiente.

El valor recuperable es el mayor entre el valor razonable menos los costos de disposición y el valor en uso. Si el importe recuperable de un activo (o de una UGE) es inferior a su valor neto contable, se reconoce una pérdida por impairment de valor en los resultados consolidados del período.

El valor razonable menos los costos de disposición es usualmente mayor que el valor en uso para el segmento de producción debido a algunas restricciones significativas en la estimación de los flujos de caja futuros, como son: a) futuras inversiones de capital que mejoren el desempeño de la UGE y que pueden resultar en un incremento esperado de los flujos netos de efectivo, b) partidas antes de impuestos que reflejan riesgos de negocio específicos, lo que resulta en una mayor tasa de descuento.

El valor razonable menos los costos de disposición, se determina como la suma de los flujos de caja futuros descontados, ajustados al riesgo estimado. Las estimaciones de los flujos de caja futuros se realizan con proyecciones de los precios de los productos básicos, estimaciones de la oferta y la demanda y los márgenes de los productos.

El valor razonable menos los costos de disposición, descrito arriba, es comparado con múltiplos de valoración y precios de cotización de las acciones en empresas comparables al Grupo, con el objetivo de determinar si es

razonable. En el caso de los activos o UGEs que participan en la evaluación y exploración de reservas, se consideran reservas probadas, probables y posibles, con un factor de riesgo asociado a las mismas.

Una vez que se ha registrado una pérdida por impairment, el gasto por amortización futura se calcula sobre la base del importe recuperable ajustado. Las pérdidas por impairment solo pueden revertirse si la recuperación está relacionada con un cambio en las estimaciones utilizadas después de que se reconoció la pérdida. Estas reversiones no deberán exceder el valor en libros de los activos netos de depreciación o amortización que se habrían determinado si el impairment nunca se hubiera registrado.

El valor en libros de los activos no corrientes reclasificados como activos mantenidos para la venta, se compara con el valor razonable menos los costos de disposición. No se registra ninguna otra provisión por depreciación o amortización si el valor razonable menos los costos de disposición es menor que el valor en libros.

4.13 PROVISIONES Y PASIVOS CONTINGENTES

Las provisiones son reconocidas cuando el Grupo tiene una obligación presente (legal o implícita) como resultado de un evento pasado y que sea probable que se requiera un desembolso futuro para pagar la obligación y su estimación pueda ser medida con fiabilidad. En los casos aplicables, se registran a su valor presente, utilizando una tasa que refleje el riesgo específico del pasivo.

Si el efecto del valor temporal del dinero en el tiempo es significativo, las provisiones son descontadas utilizando una tasa actual de mercado antes de impuestos que refleje, cuando corresponda, los riesgos específicos del pasivo. Cuando se reconoce el descuento, el aumento de la provisión se reconoce como gasto financiero en el estado de ganancias y pérdidas consolidado.

Los desembolsos relacionados con la conservación del ambiente, vinculados con ingresos por operaciones actuales

o futuras, son contabilizados como gastos o activos, según corresponda. Los desembolsos relacionados con operaciones del pasado, que no contribuyan a la obtención de ingresos corrientes o futuros, son registrados como gastos.

El reconocimiento de estas provisiones coincide con la identificación de una obligación relacionada con remediación ambiental y el Grupo utiliza toda la información disponible para determinar un estimado razonable de su respectivo costo.

Los pasivos contingentes no son reconocidos, pero están sujetos a revelación en las notas explicativas cuando es posible la salida de recursos; incluyendo aquellos cuyos valores no pueden estimarse.

En los casos en que se espera que la provisión se reembolse en todo o en parte, por ejemplo, en virtud de un contrato de seguros, el

reembolso se reconoce como un activo separado únicamente en los casos en que tal reembolso sea prácticamente cierto. El importe reconocido para el activo no debe exceder el importe de la provisión.

Obligación de retiro de activos

Los pasivos asociados al retiro de activos se reconocen cuando se tienen obligaciones ya sean legales o implícitas, relacionadas con el abandono y desmantelamiento pozos, ductos, inmuebles y equipo.

La obligación generalmente se contrae cuando los activos son instalados o cuando la superficie o el ambiente son alterados en los sitios a operar. Estos pasivos son reconocidos utilizando la técnica de flujos de caja descontados a una tasa antes de impuestos que refleja las evaluaciones actuales de mercado de un pasivo de riesgo similar y tomando en consideración el límite económico del campo o vida útil del activo respectivo. En el caso en que no se pueda

determinar una estimación fiable en el periodo en que se origina la obligación, la provisión debe reconocerse cuando se tenga suficiente información disponible para realizar la mejor estimación.

El valor en libros de la provisión es revisado y ajustado anualmente considerando cambios en las variables utilizadas para su estimación, utilizando una tasa que refleje el riesgo específico del pasivo. Cualquier cambio en el valor presente del gasto estimado se refleja como un ajuste a la provisión y su correspondiente propiedad, planta y equipo o recursos naturales y ambientales. Cuando se presenta una disminución en la obligación de retiro de activos relacionada con un activo productivo que excede el valor en libros del activo, el exceso se reconoce en el estado de ganancias y pérdidas consolidado. El costo financiero de actualización de estos pasivos es reconocido en el resultado del periodo, como gasto financiero.

4.14 IMPUESTO A LAS GANANCIAS Y OTROS IMPUESTOS

El gasto por impuesto a las ganancias está compuesto por el impuesto a la renta por pagar del periodo corriente y el efecto del impuesto diferido en cada periodo.

El impuesto a las ganancias es registrado en resultados, excepto cuando estén relacionados con partidas reconocidas en otros resultados integrales, en cuyo caso el impuesto es registrado en el otro resultado integral. Los activos y pasivos por impuestos

son presentados de manera separada en los estados de situación financiera consolidados, excepto cuando exista un derecho de compensación dentro de las jurisdicciones fiscales y la intención para cruzar tales saldos sobre una base neta.

Para las entidades que tributan en Colombia, los impuestos son pagados de acuerdo al resultado individual de cada Compañía y no bajo una base consolidada.

4.14.1 IMPUESTO CORRIENTE

El Grupo determina la provisión del impuesto a las ganancias con base en el mayor valor entre la utilidad gravable y la renta presuntiva (el valor mínimo estimado de rentabilidad que la ley prevé para cuantificar y liquidar el impuesto a las ganancias). La utilidad fiscal difiere de la utilidad reportada en el estado consolidado de ganancias y

pérdidas, debido a: partidas de ingresos o gastos impositivos o deducibles en diferentes periodos fiscales, deducciones tributarias especiales, pérdidas fiscales y partidas contabilizadas que conforme a las normas tributarias aplicables en cada jurisdicción se consideren no gravables o no deducibles.

4.14.2 IMPUESTOS DIFERIDOS

El impuesto diferido se contabiliza de acuerdo con el método del pasivo. Los activos y pasivos por impuestos diferidos se reconocen por las consecuencias impositivas futuras atribuibles a las diferencias entre los importes en libros de los activos y pasivos existentes en los estados financieros consolidados y sus bases impositivas respectivas. Se reconoce un pasivo por impuesto diferido para todas las diferencias temporarias imponibles. Se reconoce un activo por impuesto diferido para todas las diferencias temporarias deducibles y para todas las pérdidas fiscales a amortizar, en la medida en que exista una expectativa razonable de que el Grupo tendrá ganancias fiscales futuras con las que pueda compensar dichas diferencias temporales.

Los impuestos diferidos sobre los activos y pasivos se calculan sobre la base de las tasas impositivas que se esperan aplicar durante los años en los que se reviertan las diferencias temporales entre los importes en libros y las bases impositivas.

El valor en libros de los activos por impuestos diferidos está sujeto a revisión al

final de cada período de presentación y se disminuye en la medida en que se estima probable que no habrá suficientes ganancias fiscales futuras para realizar el activo en términos individuales para cada entidad que tributa en Colombia.

En el estado de situación financiera consolidado, los activos por impuestos diferidos se compensan con los pasivos por impuestos diferidos, dependiendo de la posición fiscal en la entidad que los genera.

Los impuestos diferidos no se reconocen cuando surgen en el reconocimiento inicial de un activo o pasivo en una transacción (excepto en una combinación de negocios) y por tanto, en el momento de la transacción, no afecta la utilidad contable o fiscal. Tampoco se reconocen sobre la posible distribución futura de utilidades acumuladas de subsidiarias o inversiones contabilizadas por el método de participación, si al momento de la distribución puede ser controlado por Ecopetrol y es probable que las ganancias acumuladas sean reinvertidas y, por lo tanto, no será distribuido a Ecopetrol.

4.14.3 OTROS IMPUESTOS

El Grupo reconoce en el resultado del período costos y gastos por otros impuestos diferentes al impuesto a las ganancias, tales como el impuesto a la riqueza, el cual se determina con base en el patrimonio fiscal, el impuesto de industria y comercio que grava los ingresos obtenidos en los municipios

por el desarrollo de actividades comerciales, industriales y de servicios, y el impuesto de transporte que grava los volúmenes cargados en los sistemas de transporte. Los impuestos son calculados de acuerdo con la normatividad fiscal vigente. Para mayor detalle ver Nota 10.

4.15 BENEFICIOS A EMPLEADOS

El régimen salarial y prestacional para el personal de Ecopetrol se rige por la Convención Colectiva de Trabajo (Acuerdo 01 de 1977) y, en su defecto, por el Código Sustantivo de Trabajo. Además de beneficios determinados por la legislación laboral, los empleados de Ecopetrol tienen derecho a los beneficios adicionales convenidos, los cuales

dependen tanto del lugar, clase de trabajo, tiempo de servicio, como del salario básico. Se reconocen intereses al 12% anual sobre los montos acumulados por cesantías a favor de cada trabajador y se prevé el pago de indemnizaciones cuando se presenten circunstancias especiales que den lugar a la terminación del contrato, sin justa causa, y en períodos diferentes al de prueba.

Ecopetrol pertenecía al régimen especial de pensiones. Bajo este régimen las mesadas pensionales estaban a cargo de Ecopetrol, no a cargo de una Administradora de Pensiones. Sin embargo, la Ley 797 del 29 de enero de 2003 y el acto legislativo 001 de 2005 establecieron que Ecopetrol no pertenecería más a dicho régimen sino que en adelante sus empleados estarían vinculados al Sistema General de Pensiones. En consecuencia, los empleados que se jubilaron con Ecopetrol hasta el 31 de julio de 2010 siguen recibiendo mesadas a cargo de la Compañía. De igual manera, estos empleados tienen derecho a dicho bono pensional si trabajaron con Ecopetrol antes del 29 de enero de 2003, pero cuyo contrato de trabajo terminó, sin renovación antes de esa fecha.

Todas las prestaciones sociales de empleados ingresados con anterioridad a 1990 son responsabilidad de Ecopetrol sin intervención de organismo o institución de seguridad social. El costo de los servicios de salud del empleado y de sus familiares inscritos se determina mediante la tabla de morbilidad, preparada con base en los hechos acaecidos durante el año.

Para los trabajadores que ingresaron a partir de la vigencia de la Ley 50 de 1990, la Compañía hace aportes periódicos para cesantías, pensiones y riesgos profesionales a los respectivos fondos que asumen en su totalidad estas obligaciones.

En 2008, Ecopetrol conmutó parcialmente el valor correspondiente a mesadas de su pasivo pensional, trasladando dichas obligaciones y los dineros que las soportan a patrimonios autónomos de carácter pensional (PAP's). Los fondos trasladados, al igual que sus rendimientos, no pueden cambiar su destinación ni ser reintegrados a la Compañía hasta que se hayan cumplido todas las obligaciones pensionales. La obligación conmutada cubre el pago de las mesadas y bonos pensionales; lo concerniente a salud y educación permanece dentro del pasivo laboral a cargo de Ecopetrol.

Los beneficios a empleados se dividen en cuatro grupos así:

- a) Beneficios a empleados a corto plazo y beneficios post-empleo de aportaciones definidas

Los beneficios a empleados a corto plazo corresponden principalmente a aquellos cuyo pago será totalmente atendido en el término de los doce meses siguientes al cierre del periodo en el cual los empleados han prestado sus servicios. Estos incluyen principalmente salarios, cesantías, vacaciones, bonos y otros beneficios.

Los beneficios post-empleo de aportaciones definidas corresponden a los pagos periódicos para cesantías, pensiones y riesgos profesionales que la Compañía realiza a los respectivos fondos privados que asumen en su totalidad estas obligaciones.

Los anteriores beneficios se reconocen como un gasto con su pasivo asociado después de deducir cualquier valor ya pagado.

- b) Beneficios a empleados post-empleo por beneficios definidos

En los planes de beneficios definidos, el Grupo suministra los beneficios acordados a los empleados actuales y anteriores, y asume los riesgos actuariales y de inversión.

Los siguientes conceptos son clasificados como planes de beneficios definidos de largo plazo y son registrados en los estados financieros consolidados, de acuerdo con los cálculos realizados anualmente por un actuario independiente:



Pensiones



Bonos pensionales



Salud



Plan educativo



Cesantías retroactivas

El pasivo reconocido en el estado de situación financiera consolidado en relación con estos planes de beneficios, corresponde al valor presente de las obligaciones por prestaciones definidas en la fecha del balance, menos el valor razonable de los activos del plan.

La obligación por prestaciones definidas es calculada anualmente por actuarios independientes utilizando el método de la unidad de crédito proyectado, el cual tiene en cuenta los años de servicio de los empleados y para pensiones, la remuneración promedio o final. Dicha obligación se descuenta al valor presente utilizando los tipos de interés de bonos del Gobierno de alta calidad, denominados en la moneda en que se pagarán los beneficios y con una duración similar a cada plan.

Estas valuaciones actuariales involucran varios supuestos que podrían diferir de los acontecimientos que efectivamente tendrán lugar en el futuro. Estos supuestos incluyen la determinación de la tasa de descuento, los aumentos salariales futuros, los índices de mortalidad y los aumentos futuros de las pensiones. Debido a la complejidad de la valuación y los supuestos subyacentes, y a la naturaleza de largo plazo de estos planes, las obligaciones por beneficios definidos son extremadamente sensibles a los cambios en estos supuestos. Todos estos supuestos clave se revisan a cada fecha de cierre del período sobre el que se informa.

Al determinar la tasa de descuento apropiada, ante la ausencia de un amplio mercado de bonos de alta calidad, la Gerencia considera las tasas de interés correspondientes a los bonos TES clase B negociables emitidos por el Gobierno Colombiano como su mejor referencia a una tasa de descuento apropiada con vencimientos extrapolados en línea con el plazo de duración esperado para cada plan de beneficios. El índice de mortalidad se basa en las tablas de mortalidad del país en particular, de las cuales su última versión es la tabla RV08 publicada en la resolución 1555 de octubre de 2010. Los incrementos futuros de salarios y pensiones se vinculan con los índices de inflación futuros esperados para cada país. La Nota 21 – Provisiones por beneficios a empleados provee más detalles sobre los supuestos clave utilizados.

Los valores reconocidos en el estado de ganancias y pérdidas consolidado de los

planes de beneficios definidos comprenden principalmente el costo del servicio y los intereses netos. El costo del servicio comprende principalmente el aumento en el valor presente de la obligación de los beneficios resultantes durante el período (costo del servicio corriente) y los valores resultantes un nuevo plan de beneficios. Las modificaciones del plan corresponden a los cambios en los beneficios y generalmente se reconocen cuando se han recibido todas las aprobaciones legales y reglamentarias y los efectos se han comunicado a los empleados involucrados. El interés neto se calcula utilizando el pasivo neto por beneficios definidos comparado con la curva de rendimiento de la tasa de descuento al inicio de cada año para cada plan. Las remediciones del pasivo neto por beneficios definidos resultante de ganancias y pérdidas actuariales, el efecto del techo de los activos y la rentabilidad de los activos del plan, excluyendo el valor reconocido en el resultado, se reconocen en el otro resultado integral.

Cuando los activos del plan exceden la obligación bruta, el activo reconocido se limita al menor entre el superávit del plan de beneficios definidos y el techo de los activos determinado usando una tasa de descuento basada en bonos del Gobierno Colombiano.

(a) Otros beneficios a largo plazo

Los otros beneficios a largo plazo incluyen la prima por quinquenio que hace parte del cálculo actuarial de la Compañía. Este beneficio es un bono en efectivo que se acumula sobre una base anual y se paga al final de cada cinco años a los empleados. El Grupo reconoce en el estado de ganancias y pérdidas consolidado el costo del servicio, el costo financiero neto y los ajustes a la obligación del plan de beneficio definido.

(b) Beneficios por terminación

Un plan de beneficio por terminación laboral es reconocido sólo cuando existe un plan detallado para dicho proceso y no exista posibilidad de retirar la oferta. El Grupo reconoce un pasivo y un gasto por beneficios de terminación en la fecha más temprana entre la fecha en donde no se puede retirar la oferta de dichos beneficios o aquella en la que se reconocen los costos de restructuración.

4.16 RECONOCIMIENTO DE INGRESOS PROCEDENTES DE CONTRATOS CON CLIENTES

El negocio del Grupo Empresarial Ecopetrol se fundamenta en tres fuentes principales de ingresos de contratos con clientes: 1) venta de crudo y gas, 2) servicios asociados al transporte de hidrocarburos y 3) venta de productos refinados, petroquímicos y biocombustibles. Estas fuentes de ingresos obedecen a modalidades de contratos tales como suministro de productos, nominaciones y órdenes de venta. El ingreso de contratos con clientes generado es reconocido cuando el control de los bienes o servicios son transferidos al cliente en un valor que refleje la contraprestación que el Grupo espera recibir a cambio de tales productos o servicios.

Venta de crudo y gas

Los ingresos por las ventas de petróleo crudo y gas, se reconocen en el momento de la transferencia de dominio al comprador, esto generalmente ocurre cuando los productos son físicamente entregados a través de carro-tanques, ductos u otros métodos de entrega considerando sus riegos y beneficios cumpliendo así con las obligaciones de desempeño que tiene el Grupo con sus clientes.

Para algunos contratos de suministro de gas con periodo de reposición, se discrimina entre las cantidades de gas consumidas y no consumidas, para reconocer el respectivo ingreso o pasivo por las cantidades que se solicitarán a futuro. Una vez el cliente reclame este gas, se reconoce el ingreso.

Servicios asociados al Transporte de Hidrocarburos

Los ingresos por servicios de transporte se reconocen en la medida en que se presta el servicio al cliente y no existan condiciones contractuales que impidan reconocer el ingreso. Las compañías del Grupo asumen un rol de principal en la prestación de estos servicios.

Los contratos Ship/Take or Pay de venta de productos, almacenamiento y transporte especifican cantidades mínimas de producto o servicio que pagará un cliente, incluso si este no los recibe o los usa (cantidades deficientes).

Si el Grupo espera que el cliente recupere todas las cantidades deficientes a las que tiene derecho contractualmente, cualquier cargo recibido relacionado con las deficiencias temporales que se compensarán en un período futuro, se diferirá y se reconocerá ese monto como ingreso cuando ocurra cualquiera de las siguientes situaciones:

- a) El cliente ejerce el derecho ó
- b) La posibilidad de que el cliente ejerza el derecho a los volúmenes o servicios de deficiencia es remota.

Productos Refinados y Biocombustibles

En el caso de productos refinados, petroquímicos y biocombustibles, tales como combustóleos, asfaltos, polietilenos, G.L.P. y propanos y gasolinas entre otros, los ingresos se reconocen cuando los productos son despachados y entregados por la refinería; posteriormente, son ajustados por cambio de precios, en el caso de productos con precios regulados.

En los demás casos, el Grupo reconoce los ingresos en el momento en que se satisface la obligación de desempeño y nace el derecho cierto, probable y cuantificable de exigir su pago.

En cumplimiento con la normatividad local vigente, Ecopetrol comercializa gasolina regular y ACPM a precio regulado.

De conformidad con el Decreto 1068 de 2015, corresponde al Ministerio de Minas y Energía calcular y liquidar la posición neta semestral de Ecopetrol y para cada combustible a ser estabilizado por el Fondo de Estabilización de Precios de los Combustibles (FEPC). La posición neta corresponde a la sumatoria de los diferenciales a lo largo del semestre, cuyo resultado será el monto en pesos a favor de la Compañía con cargo a los recursos del FEPC. El diferencial corresponde al producto entre el volumen reportado por la Compañía al momento de la venta y la diferencia entre el precio de paridad y el precio de referencia, siendo el precio de paridad aquel que

corresponde a los precios diarios de la gasolina motor y ACPM observados durante el mes, expresados en pesos, referenciados al mercado del golfo de los Estados Unidos de América, calculado aplicando la Resolución 18 0522 de 2010 y el precio de referencia es el Ingreso al Productor definido por el Ministerio de Minas y Energía para estos efectos. Por consiguiente, este diferencial constituye un mayor o menor valor del ingreso por ventas para Ecopetrol.

De acuerdo con los perfiles de riesgo, el Grupo Empresarial maneja sistemas de pago anticipado para algunos de sus contratos con clientes.

Componente financiero significativo

Generalmente los pagos recibidos de clientes son en el corto plazo. Haciendo uso de la solución práctica el Grupo no ajusta el valor comprometido como contraprestación para dar cuenta de los efectos de un componente de financiación si se espera, al comienzo del contrato, que el periodo entre el momento en que se transfiere el bien o servicio comprometido al cliente y el momento en que el cliente paga por ese bien o servicio sea de un año o menos.

Consideraciones variables

Al momento cumplir con las obligaciones establecidas en los contratos con clientes,

vía la entrega del producto o la prestación del servicio, pueden existir componentes variables del precio de la transacción tales como el tipo de cambio en las exportaciones de crudo o la fluctuación de precios internacionales. En estos casos, el Grupo efectúa la mejor estimación del precio de la transacción que refleje los bienes y servicios transferidos a los clientes.

En cuanto a las cláusulas de los contratos firmados con clientes, no se contemplan consideraciones variables asociadas a derechos de reembolso, rebajas o descuentos.

Consideraciones no monetarias

El Grupo Empresarial establece dentro de sus contratos con clientes que la contraprestación será monetaria en todos sus casos, por lo cual no hay consideraciones asociadas a pagos en especie.

Anticipos de clientes

Corresponden a obligaciones contractuales en las cuales el Grupo recibe recursos monetarios de clientes para efectuar posteriormente la transferencia de los bienes y servicios. Estos anticipos realizados por los clientes hacen parte de las políticas y evaluación de riesgo definidas por el Grupo Empresarial.

4.17 COSTOS Y GASTOS

Los costos y gastos se presentan de acuerdo a su naturaleza, detallando en las respectivas notas la composición del costo de ventas y los gastos asociados a las actividades de administración, operación, proyectos y otros gastos.

4.18 INGRESOS (GASTOS) FINANCIEROS

Los ingresos y gastos financieros incluyen principalmente: a) costos por intereses de préstamos y financiaciones, excepto los que son capitalizados como parte del costo del activo, b) valoración de ganancias y pérdidas de instrumentos financieros medidos a valor razonable con cambio a resultados, c) diferencias en cambio de activos y pasivos

financieros, excepto los instrumentos de deuda designados como instrumento de cobertura, d) gastos por actualización financiera de pasivos a largo plazo (costos de abandono y pasivo pensional), e) los dividendos derivados de los instrumentos de patrimonio medidos a valor razonable con cambio en el otro resultado integral.

4.19 INFORMACIÓN POR SEGMENTO DE NEGOCIO

El Grupo presenta las correspondientes revelaciones relacionadas con sus segmentos de negocio en sus estados financieros consolidados de acuerdo con el párrafo 4 de la NIIF 8 – Segmentos de operación.

La operación del Grupo se realiza a través de tres segmentos de negocio: 1) Exploración y producción, 2) Transporte y logística y 3) Refinación, petroquímica y biocombustibles.

Esta segmentación se basa en la gestión de objetivos y plan estratégico de la Compañía teniendo en cuenta que estos negocios: (a) se dedican a actividades comerciales diferenciales, de las que se generan los ingresos y se incurren los costos y gastos; (b) los resultados de operación son revisados regularmente por el Gobierno del Grupo que toma las decisiones de operación para asignar recursos a los segmentos y evaluar su desempeño; y (c) se dispone de información financiera diferenciada. Las transferencias internas representan las ventas a los segmentos entre Compañías y se registran y se presentan a precios de mercado.

- a) **Exploración y producción:** Este segmento incluye las actividades relacionadas con la exploración y producción de petróleo crudo y gas. Los ingresos se derivan de la

venta a precios de mercado de petróleo crudo y gas natural a otros segmentos y a terceros (distribuidores locales y extranjeros). Los costos incluyen los costos incurridos en la producción. Los gastos incluyen todos los costos de exploración que no se capitalizan.

- b) **Transporte y logística:** Este segmento incluye los ingresos y costos asociados con la operación de transporte y distribución de hidrocarburos, derivados y productos.
- c) **Refinación, petroquímica y biocombustibles:** Este segmento incluye las actividades realizadas en las refinerías de Barrancabermeja y Cartagena, donde los crudos que llegan de los campos de producción son refinados o procesados. Los ingresos provienen de la venta de productos a otros segmentos y a clientes nacionales y del exterior e incluyen productos refinados y petroquímicos a precios de mercado y en algunos combustibles a precio regulado. Este segmento también incluye ventas de servicios industriales a clientes.

Ver información de segmentos en la Nota 32.

5. NUEVOS ESTÁNDARES Y CAMBIOS NORMATIVOS

5.1 NUEVOS ESTÁNDARES ADOPTADOS POR EL GRUPO, EFECTIVOS A PARTIR DEL 1 DE ENERO DE 2019

NIIF 16 – ARRENDAMIENTOS

A partir del 1 de enero de 2019, el Grupo adoptó por primera vez la NIIF 16 “Arrendamientos”, la naturaleza y efectos de estos cambios se menciona a continuación:

La NIIF 16 fue emitida en enero de 2016 y reemplaza la NIC 17 “Arrendamientos”, CINIIF 4 “Determinación de si un acuerdo contiene un contrato de arrendamiento”,

SIC-15 "Arrendamientos operacionales – Incentivos" y SIC-27 "Evaluación de la parte de las transacciones que involucran de forma legal un arrendamiento". La NIIF 16 fija los principios de reconocimiento, medición, presentación y revelación de los arrendamientos y requiere a los arrendatarios contabilizar todos sus arrendamientos bajo un modelo de registro en balance similar al registro de los arrendamientos financieros bajo NIC 17. El estándar incluye dos exenciones de reconocimiento para los arrendatarios - los arrendamientos de activos "de bajo valor" y los arrendamientos a corto plazo (término de arriendo de 12 meses o menos). En la fecha de inicio de un arrendamiento, un arrendatario reconocerá una obligación correspondiente al total de pagos del arrendamiento y un activo que representa el derecho de usar el activo subyacente durante el término de arriendo. Se requerirá que los arrendatarios reconozcan separadamente el costo de interés sobre la obligación y el costo de depreciación al activo por derecho de uso.

El Grupo aplicó la NIIF 16 utilizando el enfoque retrospectivo modificado, sobre los contratos anteriormente identificados como arrendamientos bajo NIC 17 y CINIIF 4.

a) Efecto de la adopción

El Grupo reconoció activos por derecho de uso y subarrendamientos por \$490,245 al 1 de enero de 2019, cuya contrapartida fueron los pasivos por arrendamiento. No hubo ningún efecto en los resultados acumulados.

b) Resumen de las nuevas políticas contables

Definición de un arrendamiento

Anteriormente, el Grupo determinaba al inicio del contrato si un acuerdo era o contenía un arrendamiento según la CINIIF 4 - "Determinación de si un acuerdo es o contiene un arrendamiento", ahora evalúa si un contrato es, o contiene, un arrendamiento si transmite el derecho de controlar el uso de un activo identificado por un período de tiempo a cambio de una contraprestación. Para evaluar si un contrato transmite el derecho de controlar el uso de un activo identificado, se utiliza la definición de arrendamiento contenido en la NIIF 16.

Arrendamiento como arrendatario:

En la fecha de inicio de un arrendamiento, el Grupo reconoce una obligación correspondiente al total de pagos del arrendamiento y un activo que representa el derecho de usar el activo subyacente durante el término de arriendo. Se reconocen separadamente el costo de interés sobre la obligación y el costo de depreciación al activo por derecho de uso.

En el reconocimiento posterior el Grupo remide la obligación de arrendamiento ante la ocurrencia de acontecimientos como: a) cambios del término del arrendamiento, b) cambios de los futuros pagos de arriendo que son resultado de un cambio de un índice o la tasa usada para determinar los pagos. El monto de la nueva medición de la obligación de arriendo se reconocerá como un ajuste al activo por derecho de uso.

El Grupo en la fecha de aplicación inicial (1 de enero de 2019) optó por utilizar las exenciones de arrendamientos para los contratos en los cuales el periodo de ejecución es menor a 12 meses, activos subyacente es considerado de bajo valor, tasa incremental de endeudamiento en la fecha de aplicación inicial y medición del activo por el mismo valor del pasivo.

Arrendamiento como arrendador:

El Grupo clasifica como financieros cuando los términos del arrendamiento transfieren sustancialmente a los arrendatarios todos los riesgos y beneficios inherentes a la propiedad del activo. Los demás arrendamientos se clasifican como operativos.

Si el arrendamiento es clasificado como financiero el Grupo registra una cuenta por cobrar en el estado de situación financiera, por importe igual a la inversión neta en el arrendamiento.

En los arrendamientos clasificados como operativos se reconocen en el estado de resultados integral los ingresos por los pagos de forma lineal.

Activos por derecho de uso

El Grupo reconoce los activos de derecho de uso en la fecha de inicio del arrendamiento (es decir, la fecha en que el activo subyacente está disponible para su uso). Los activos por derecho de uso se miden al costo, menos

cualquier depreciación acumulada y pérdidas por impairment, y se ajustan si existe alguna nueva medición de los pasivos por arrendamiento. Los activos reconocidos por derecho de uso se amortizan en línea recta durante el plazo del arrendamiento. Los activos por derecho de uso están sujetos a evaluación por impairment.

Pasivos por arrendamiento

En la fecha de inicio del arrendamiento, el Grupo reconoce los pasivos por arrendamiento medidos al valor presente de los pagos por arrendamiento que se realizarán durante el plazo del contrato. Los pagos variables que no dependan de un índice o una tasa se reconocen como gasto en el período en el que un evento o condición indiquen que el pago ocurrirá.

Para el cálculo del valor presente de los pagos por arrendamiento, el Grupo utiliza la tasa de endeudamiento incremental en la fecha de inicio del arrendamiento. El valor en libros de los pasivos por arrendamiento se vuelve a medir si hay un cambio en el plazo del arrendamiento, en los pagos fijos o en la evaluación para comprar el activo subyacente.

Arrendamientos de corto plazo y arrendamientos de activos de bajo valor

El Grupo aplica la exención de reconocimiento a sus arrendamientos para los contratos que

tienen un plazo de ejecución de 12 meses o menos a partir de la fecha de inicio y no contienen una opción de compra y los contratos en los cuales el activo subyacente se considera de bajo valor.

Contratos de asociación (JOA)

En los contratos de asociación JOA se analiza quien controla el uso del activo y de acuerdo a ello se determina el método de reconocimiento de los derechos de uso. Si quien controla el uso del activo es el operador, este deberá reconocer en sus estados financieros el 100% del derecho. Si quien controla es el JOA, se analiza si el contrato cumple con las características de un subarrendamiento, y en ese caso cada parte deberá reconocer proporcionalmente a su participación el derecho de uso. Ecopetrol reconoce al 100% los derechos de uso en los contratos de asociación (JOA) en los que participa como operador.

c) Montos reconocidos en el estado de situación financiera y en el estado de ganancias y pérdidas

A continuación, se detallan los valores en libros de los activos por derecho de uso, los pasivos por arrendamiento y los movimientos del período:

	Activos por derecho de uso				Subarrendamientos	Pasivos por arrendamiento
	Terrenos y edificaciones	Maquinaria y Equipo	Vehículos	Activos por derecho de uso		
Saldo al 31 de diciembre de 2018	-	-	-	-	-	797,889
Implementación IFRS 16 1 enero	236,519	78,412	145,704	460,635	29,610	490,245
Adiciones (2)	26,252	123,341	74,900	224,493	-	224,493
Amortización del periodo	(44,254)	(50,944)	(80,156)	(175,354)	-	-
Deterioro	-	(53,488)	-	(53,488)	-	-
Bajas	(4)	(57)	-	(61)	-	(50)
Costo financiero	-	-	-	-	3,302	76,139
Pagos de capital e intereses	-	-	-	-	(3,476)	(300,326)
Diferencia en cambio	-	-	-	-	-	2,564
Saldo al 31 de diciembre de 2019	218,513	97,264	140,448	456,225	29,436	1,290,954

(1) Corresponde al saldo reconocido por el Grupo como arrendamiento financiero bajo NIC 17.

El análisis de impairment realizado por el Grupo incluyó los activos por derecho de uso.

6. EFECTIVO Y EQUIVALENTES DE EFECTIVO

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	A 31 de diciembre de	
	2019	2018
Bancos y corporaciones	5,813,306	4,511,078
Inversiones financieras	1,262,105	1,799,597
Caja	347	1,069
	7,075,758	6,311,744

Se incluyen recursos restringidos al 31 de diciembre de 2019 por \$85,286 (2018 por \$92,331), principalmente destinados para el pago exclusivo de capital e intereses de préstamos incurridos por Oleoducto Bicentenario de Colombia S.A.S. y Oleoducto de los Llanos Orientales S.A. El uso de las inversiones financieras a corto plazo depende de los requerimientos de liquidez del Grupo.

El valor razonable del efectivo y equivalentes se aproxima a su valor registrado en libros

debido a su naturaleza de corto plazo y su alta liquidez.

La tasa de rendimiento efectiva del efectivo y equivalentes al 31 de diciembre de 2019 fue del 3,2% (2018 – 3%).

La siguiente tabla refleja la calidad crediticia de los emisores y contrapartes en transacciones relacionadas con el efectivo y equivalentes:

	A 31 de diciembre de	
Calificación	2019	2018
AAA	3,851,656	3,092,236
A-1	1,244,462	512,757
BRC1+	673,342	470,623
BBB	569,514	1,305,037
F1+	244,547	222,454
AA	229,473	107,520
A	167,404	-
A-2	89,996	147,186
BB	43	-
Baa2	10	-

Calificación	A 31 de diciembre de	
	2019	2018
A+	-	-
A1	-	394,696
F1	-	48,566
Sin calificación disponible	5,311	10,669
	7,075,758	6,311,744

Ver política de riesgo de crédito en la Nota 29.7.

7. CUENTAS COMERCIALES Y OTRAS CUENTAS POR COBRAR, NETO

	A 31 de diciembre de	
	2019	2018
Corriente		
Cientes		
Exterior	2,759,993	2,404,531
Nacionales	2,015,517	1,512,821
Fondo de estabilización de precios (1)	256,303	3,828,691
Servicios industriales	47,691	154,152
Partes relacionadas (Nota 30)	27,449	23,480
Cuentas por cobrar a empleados	95,693	78,459
Deudores varios	497,688	192,109
	5,700,334	8,194,243
No corriente		
Cuentas por cobrar a empleados	508,588	470,609
Cientes Nacionales	52,819	-
Partes relacionadas (Nota 30)	93,657	117,824
Deudores varios	131,732	167,141
	786,796	755,574

(1) Corresponde a la aplicación del Resolución 180522 del 29 de marzo de 2010 y demás normas que la modifican y adicionan (Decreto 1880 de 2014 y Decreto 1068 de 2015), donde se establece el procedimiento para reconocer el subsidio para refinadores e importadores de la gasolina motor corriente y ACPM, y la metodología para el cálculo de la posición

neta (valor generado entre el precio de paridad y el precio regulado, el cual puede ser positivo o negativo). El Grupo recibió durante el 2019 \$5,359,869 por parte del Fondo de Estabilización así: Ecopetrol \$4,435,974 y Reficar \$923,895 correspondientes a las liquidaciones de 2018 y primeros tres trimestres de 2019.

El valor contable de las cuentas comerciales y otras cuentas por cobrar se aproxima a su valor razonable.

El movimiento de la provisión por deterioro de las cuentas comerciales y otras cuentas por cobrar por deudas de difícil cobro es como sigue:

	A 31 de diciembre de		
	2019	2018	2017
Saldo inicial	268,654	170,016	144,329
Adiciones (recuperaciones) de provisiones	14,158	107,725	35,229
Castigo de Cartera y utilizaciones	(21)	(9,087)	(9,542)
Saldo final	282,791	268,654	170,016

8. INVENTARIOS, NETO

	A 31 de diciembre de	
	2019	2018
Crudo	1,965,022	1,958,572
Combustibles y petroquímicos	1,876,247	1,524,548
Materiales para producción de bienes	1,816,830	1,617,287
	5,658,099	5,100,407

El movimiento de la provisión de inventarios es como sigue:

	A 31 de diciembre de		
	2019	2018	2017
Saldo inicial	86,938	194,507	265,435
Adiciones (recuperaciones)	44,191	(115,778)	9,134
Ajuste por conversión	(371)	9,717	(4,266)
Utilizaciones, traslados y reclasificaciones	768	(1,508)	(75,796)
Saldo final	131,526	86,938	194,507

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Los inventarios de crudo, combustibles y petroquímicos se ajustan al menor entre el costo y el valor neto de realización, producto de las fluctuaciones de los

precios internacionales del crudo. El monto registrado por este concepto en 2019 ascendió a \$9,759 (2018 - \$30,252).

9. OTROS ACTIVOS FINANCIEROS

	A 31 de diciembre de	
	2019	2018
Activos medidos a valor razonable con cambio a resultados		
Portafolio de inversiones - Moneda nacional	1,630,149	3,389,869
Portafolio de inversiones - Moneda extranjera	3,340,908	4,754,369
	4,971,057	8,144,238
Activos medidos a costo amortizado	3,367	3,577
Instrumentos de cobertura	4,868	-
	4,979,292	8,147,815
Corriente	1,624,018	5,321,098
No corriente	3,355,274	2,826,717
	4,979,292	8,147,815

La rentabilidad del portafolio de inversiones en pesos colombianos y dólares fue de aproximadamente 5,4% y aproximadamente 3,6%, respectivamente. (2018: 5.4% y 2.1%).

La medición a valor razonable es reconocida contra el resultado financiero (Nota 28).

9.1 RESTRICCIONES

Al 31 de diciembre de 2019 y 2018 ningún recurso del portafolio de inversiones se encontraba restringido.

9.2 VENCIMIENTOS

	A 31 de diciembre de	
	2019	2018
< 1 año	1,624,018	5,321,098
1 - 2 años	983,571	1,847,241
2 - 5 años	1,791,549	823,425
> 5 años	580,154	156,051
	4,979,292	8,147,815

9.3 VALOR RAZONABLE

La siguiente es la clasificación de los otros activos financieros registrados a valor razonable, correspondiente al portafolio de inversiones:

	A 31 de diciembre de	
	2019	2018
Nivel 1	472,547	372,636
Nivel 2	4,503,378	7,771,602
	4,975,925	8,144,238

No se presentaron transferencias entre niveles de jerarquía durante los años 2019 y 2018.

Los títulos del portafolio del Grupo se valoran de manera diaria siguiendo lo estipulado por la Superintendencia Financiera de Colombia. Para lo anterior, se utiliza la información provista por entidades autorizadas para dicho fin, las cuales recogen los datos de mercados activos. Para aquellos casos en los cuales no se cuenta con datos de mercado, se recurre a otros datos observables directa o indirectamente.

Para las inversiones denominadas en dólares se tiene como proveedor de información a Bloomberg y para las denominadas en pesos a Precia, entidad autorizada por la Superintendencia Financiera de Colombia para la prestación de este servicio.

Dentro del proceso de valoración de las inversiones, adicional a la información

utilizada para la valoración, se tienen en cuenta otros aspectos relevantes tales como la calificación del emisor, clasificación de la inversión y el análisis

de riesgos del emisor realizado por el Grupo, lo que permite llegar a la clasificación de nivel de jerarquía adecuada de las inversiones.

9.4 CALIFICACIÓN CREDITICIA

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La siguiente tabla refleja la calidad crediticia de los emisores y contrapartes en transacciones relacionadas con los otros activos financieros medidos a valor razonable con cambios en resultados:

Calificación	Al 31 de diciembre de	
	2019	2018
AAA	2,707,019	3,105,894
A+	712,934	161,160
AA	477,423	15,430
F1+	350,325	353,175
AA-	186,325	455,584
AA+	155,012	193,747
A	186,222	80,334
BBB	159,968	-
A1	18,168	3,148,043
BRC1+	-	611,905
BBB+	-	18,731
Otras calificaciones	25,896	235
	4,979,292	8,144,238

Ver política de riesgo de crédito en la Nota 29.7.

10. IMPUESTOS

10.1 ACTIVOS Y PASIVOS POR IMPUESTOS CORRIENTES

	A 31 de diciembre de	
	2019	2018
Activos por impuestos corrientes		
Anticipos y otros impuestos (1)	714,197	211,558
Impuesto a las ganancias (2)	190,605	765,399
Saldo a favor en impuestos (3)	614,005	54,350
	1,518,807	1,031,307
Pasivos por impuestos corrientes		
Impuesto a las ganancias (2)	1,967,353	1,065,688
Impuesto de industria y comercio	195,776	174,207
Impuesto nacional y sobretasa a la gasolina	145,569	141,408
Impuesto al carbono	54,586	48,520
Impuesto al valor agregado	33,098	168,185
Otros impuestos (4)	174,397	153,292
	2,570,779	1,751,300
Pasivos por impuestos no corrientes		
Impuesto a las ganancias - obras por impuestos (5)	70,543	-

(1) Incluye el descuento tributario potencial por IVA incurrido en adquisición de activos fijos reales productivos, de conformidad a lo establecido en el artículo 83 de la Ley 1943 de 2018 – Ley de Financiamiento; y anticipos de impuesto territoriales

(2) Corresponde principalmente a la provisión para el impuesto de renta del año 2019 neto de autorretenciones, saldos a favor, descuentos y anticipos liquidados en la declaración del año inmediatamente anterior.

(3) Contiene principalmente el valor de saldo a favor por IVA, entre otros.

(4) Incluye principalmente regalías, impuesto de transporte entre otros.

(5) Mecanismo de obras por impuestos reglamentado por el artículo 238 de la Ley 1819 de 2016 – Reforma tributaria, que lo estableció como forma de pago del impuesto de renta de los años 2017 y 2018. En cumplimiento al mencionado artículo, en mayo de 2018 y 2019, las Compañías del Grupo reconocieron un activo y un pasivo por el valor de los proyectos adjudicados para cada vigencia fiscal.

10.2 IMPUESTO A LAS GANANCIAS

La Corte Constitucional declaró inexecutable la Ley 1943 de 2018 (Ley de Financiamiento) y estableció que dicha decisión tendría efecto a partir del 1 de enero de 2020 y que las situaciones jurídicas consolidadas en virtud de ésta ley deben respetarse. A continuación, indicamos las disposiciones fiscales aplicables en Colombia para el año gravable 2019:

- La tarifa general del impuesto sobre la renta aplicable para sociedades nacionales, establecimientos permanentes y entidades extranjeras será del 33%.
- La tarifa del impuesto sobre la renta para el año gravable 2018 fue del 33% y una sobretasa del 4%, la cual aplicó cuando la base del impuesto sobre la renta fue superior a \$800.
- Las compañías ubicadas en zona franca tributan a una tarifa del 20%. Si la compañía ubicada en zona franca posee un Contrato de Estabilidad Jurídica (en adelante, CEJ), la tarifa del impuesto sobre la renta continuará siendo del 15% durante la vigencia de dicho contrato. Este es el caso de Refinería de Cartagena S.A.S. ("Reficar"), Bioenergy Zona Franca S.A.S. ("Bioenergy Zona Franca") y Esenttia Masterbatch Ltda. ("Esenttia MB").
- Para los años 2018 y 2019, la tarifa aplicable para efectos de calcular el impuesto sobre la renta bajo el sistema de renta presuntiva será del 3.5% y 1.5% del patrimonio líquido del contribuyente del año inmediatamente anterior, respectivamente.
- Para el año gravable 2019, el Grupo tiene empresas que liquidan sobre renta líquida a la tarifa del 33%, compañías en zona franca, que tributan a la tarifa del 15% (poseen CEJ) y del 20% y otras con rentas del exterior con tarifas de otros países.
- Se ajustan los sistemas de depreciación fiscal a los contables y establece un límite al porcentaje de depreciación anual con base en la tabla establecida

en la reforma tributaria. Por otra parte, La amortización de las inversiones petrolíferas se hará con base en unidades técnicas de producción tal y como se hace contablemente.

- Los gastos de adquisición de derechos de exploración, geología y geofísica, perforaciones exploratorias, entre otros, serán capitalizables para efectos fiscales hasta que se establezca la factibilidad técnica y la viabilidad comercial de extraer el recurso.
- Las pérdidas fiscales generadas a partir del 1 de enero de 2017 se podrán compensar con las rentas líquidas generadas en los siguientes 12 años.
- De conformidad con el artículo 290 de la Ley 1819 de 2016, los excesos de renta presuntiva sobre renta líquida generados antes de 2017 en el impuesto sobre la renta y el CREE que no hayan sido compensados, están sujetos para su compensación a la aplicación de una fórmula contenida en dicho artículo y sujetas al término establecido en el artículo 189 del Estatuto Tributario.

En 2019, el Gobierno Nacional expidió la Ley 2010, con la cual se modificaron ciertos aspectos sustanciales. (Ver mayor detalle en nota 10.2.4. Reforma tributaria)

Firmeza de las declaraciones del impuesto sobre la renta

A partir del año 2017, el término general de firmeza de las declaraciones tributarias es de 3 años a partir de la fecha de su vencimiento o a partir de la fecha de su presentación, cuando estas hayan sido presentadas de forma extemporánea. Para las Compañías del Grupo que están sujetas al cumplimiento de la normatividad de precios de transferencia, el término de su firmeza es de 6 años.

Respecto de aquellas declaraciones en las cuales se presenten saldos a favor, el término de firmeza es de 3 años, desde la fecha de la presentación de la solicitud de devolución o compensación.

Las declaraciones tributarias en las que se compensen pérdidas fiscales quedarán en firme a los 6 años contados a partir de la fecha de su presentación. Aquellas declaraciones en las que se liquiden pérdidas fiscales, el término de firmeza es de 12 años y si las pérdidas se compensan en los últimos 2 años, de los 12 permitidos, su término de firmeza se

extenderá hasta 3 años más, desde el año de su compensación.

Las declaraciones de impuestos que presenten pérdidas fiscales pueden ser revisadas por las autoridades de impuestos dentro de los seis (6) años siguientes a la fecha de presentación y/o corrección.

Gasto por impuesto a las ganancias

	Al 31 de diciembre de		
	2019	2018	2017
Corriente	7,117,040	7,539,093	5,108,548
Diferido	(2,487,108)	(153,330)	307,449
Ejercicios anteriores	(33,519)	(63,744)	218,947
Gasto por impuesto a las ganancias	4,596,413	7,322,019	5,634,944

Conciliación del gasto por impuesto a las ganancias

La conciliación entre el gasto por impuesto a las ganancias y el impuesto determinado con base en la tarifa legal aplicable al Grupo en Colombia es la siguiente:

	Al 31 de diciembre de		
	2019	2018	2017
(Pérdida) utilidad antes de impuestos	19,098,912	19,855,851	13,036,866
Tasa de renta nominal	33%	37%	40%
Impuesto de renta a tasa nominal	6,302,641	7,346,665	5,214,747
Ajustes para el cálculo de la tasa efectiva:			
Gastos no deducibles	293,685	62,036	201,776
Ajuste por diferencial de tasa	73,248	410,397	103,350
Ajuste por diferencial de bases gravables, efecto de renta presuntiva y pérdidas fiscales	59,359	7,676	104,082
Impairment de activos fijos	57,646	(128,461)	(189,658)
Ajustes por conversión y diferencia en cambio	26,789	93,503	(4,642)
Impuesto a la riqueza	-	-	85,872

	Al 31 de diciembre de		
	2019	2018	2017
Efecto pozo Leon American LLC	-	281,912	-
Efecto por reforma tributaria	-	(619,143)	-
Efecto por impuesto de renta y sobretasa	(859)	7,907	(99,493)
Efecto aumento participación Invercolsa	(2,943)	-	-
Dividendos no gravados	(17,408)	(2,613)	(9,531)
Gasto de renta de años anteriores y multas	(31,655)	(63,744)	247,672
Descuentos Tributarios y Tax Credit	(110,857)	-	-
Ingresos no gravados y gravados	(503,082)	(74,116)	(19,231)
Impuesto diferido Ecopetrol USA (1)	(1,550,152)	-	-
Impuesto de renta calculado	4,596,412	7,322,019	5,634,944
Corriente	7,127,493	7,416,038	5,076,692
Diferido	(2,531,080)	(94,019)	558,252
	4,596,413	7,322,019	5,634,944

(1) En el año 2019 para el desarrollo del negocio de hidrocarburos no convencionales se crearon en Estados Unidos dos compañías, Ecopetrol USA Inc. y Ecopetrol Permian. La normatividad fiscal en Estados Unidos sobre reorganizaciones empresariales (Norma IRC Section 368(a)(1)(F)) permite compensar con las declaraciones futuras del impuesto a las ganancias las pérdidas fiscales originadas en años anteriores. A diciembre de 2018, Ecopetrol América generó pérdidas fiscales por USD\$2,067 millones y en 2019 se estima incrementar las mismas en USD\$107. Dado que Ecopetrol USA Inc. será la sociedad que consolide los resultados de Ecopetrol

America LLC y Ecopetrol Permian LLC, está será responsable de los impuestos en Estados Unidos consolidando los resultados de las dos compañías existentes en Estados Unidos. IAS 12 establece que cuando la Compañía cuenta con evidencia contundente que le permitirá compensar las pérdidas fiscales generadas en años anteriores, es dable la constitución de un impuesto diferido activo. Las proyecciones a partir de 2020 en Estados Unidos con la entrada en operación de Ecopetrol Permian, permiten inferir que se generarán las utilidades fiscales requeridas para recuperar las pérdidas de años anteriores, por lo tanto es viable el reconocimiento del impuesto diferido activo.

Información de los años 2018 y 2017 fueron objeto de reclasificación para efectos de comparabilidad con 2019.

La tasa efectiva de tributación al 31 de diciembre de 2019 es 24,1% (2018 – 36.9%). La disminución frente al año anterior se debe principalmente a: a) Efecto de la causación de impuesto diferido en Ecopetrol USA y Permian b) la disminución de 4 puntos básicos de la tarifa

nominal de tributación (de 37% en el año 2018 al 33% en el año 2019), la utilización del descuento tributario del 50% del ICA, c) la valorización del aumento en la participación de Ecopetrol en Invercolsa, y aplicación de la Ley de Financiamiento en el impuesto diferido, entre otros.

Impuesto sobre las ganancias diferido

	Al 31 de diciembre de	
	2019	2018
Activo por impuesto diferido	8,622,398	5,746,730
Pasivo por impuesto diferido	(774,059)	(738,407)
	7,848,339	5,008,323

El detalle de los impuestos diferidos activos y pasivos, es el siguiente:

	A 31 de diciembre de	
	2019	2018
Impuesto diferido activo y pasivo		
Pérdidas fiscales renta (1)	2,849,089	1,002,062
Pasivos estimados (2)	2,405,499	1,958,775
Beneficios a empleados (3)	1,875,872	1,161,860
Obligaciones financieras y préstamos por pagar	920,634	854,695
Cuentas por pagar	711,503	365,646
Cuentas por cobrar	83,965	35,843
Inventarios	80,523	69,039
Préstamos por cobrar	55,445	43,748
Otros pasivos	48,923	37,329
Activos intangibles	498	4,950
Otros activos	(493)	(72,540)
Activos por derecho de uso	(33,401)	-
Inversiones e instrumentos derivados	(46,276)	(170,960)
Cargos diferidos	(63,941)	(67,254)
Crédito mercantil (4)	(288,095)	(324,061)
Propiedades, planta y equipo (5)	(751,406)	109,191
Total	7,848,339	5,008,323

(1) En el 2019 se está reconociendo impuesto diferido principalmente en las empresas: Ecopetrol Usa Inc por \$1,497,375, Refinería de Cartagena por \$1,052,848, Bioenergy por

\$64,343 y excesos de renta presuntiva de Refinería de Cartagena y Bioenergy por \$228.569 y \$5.361 respectivamente.

(2) Corresponde a las provisiones contables no procedentes fiscalmente, principalmente la provisión para abandono de pozos.

(3) Cálculos actuariales por salud, pensiones de jubilación, educación, bonos pensionales y otros beneficios a empleados a largo plazo.

(4) De acuerdo con la ley tributaria en Colombia el Goodwill es amortizable, mientras que bajo NCIF no son amortizados pero si están sujetos a pruebas de impairment, diferencia que genera como resultado un impuesto diferido pasivo.

(5) Para propósitos fiscales los recursos naturales y del medio ambiente y la propiedad planta y equipo tienen una vida útil y una metodología de cálculo de depreciación y amortización diferentes a las que se determinan bajo normas contables internacionales, dentro de éste rubro se incluye el monto de impuesto por ganancias ocasionales del 10% a los terrenos, la principal variación corresponde a la disminución de la tarifa del impuesto sobre la renta del 33% al 30%.

Detalle del impuesto diferido por los años terminados al 31 de diciembre de:

Movimiento del impuesto diferido activo	Propiedades, planta y equipo	Pasivos estimados	Beneficios a empleados	Pérdidas fiscales	Cuentas por pagar
A 31 de diciembre de 2017	743,598	1,842,051	1,373,560	611,766	167,870
Reconocido en:					
Resultado del periodo	(634,407)	116,724	(178,160)	390,296	197,776
Otro resultado integral	-	-	(33,540)	-	-
A 31 de diciembre de 2018	109,191	1,958,775	1,161,860	1,002,062	365,646
Reconocido en:					
Resultado del periodo	(860,597)	446,724	(57,343)	1,847,027	345,857
Otro resultado integral	-	-	771,355	-	-
A 31 de diciembre de 2019	(751,406)	2,405,499	1,875,872	2,849,089	711,503

Movimiento del impuesto diferido pasivo	Cuentas por cobrar	Obligaciones financieras	Crédito mercantil	Activos por derecho de uso	Otros	Total
A 31 de diciembre de 2017	95,091	37,636	(313,296)	-	(24,756)	4,533,520
Reconocido en:						
Resultado del periodo	(15,500)	817,059	(10,765)	-	(589,004)	94,019
Otro resultado integral	-	-	-	-	414,324	380,784
A 31 de diciembre de 2018	79,591	854,695	(324,061)	-	(199,436)	5,008,323
Reconocido en:						
Resultado del periodo	59,819	65,939	35,966	(33,401)	681,089	2,531,080
Otro resultado integral	-	-	-	-	(364,414)	406,941
Aumento participación Invercolsa	-	-	-	-	(98,005)	(98,005)
A 31 de diciembre de 2019	139,410	920,634	(288,095)	(33,401)	19,234	7,848,339

El Grupo compensa los activos y pasivos por impuestos únicamente si tiene un derecho legalmente exigible de compensar los activos y pasivos por impuestos corrientes; y en el caso de los activos y pasivos por impuesto diferido, en la medida que además correspondan a impuestos a las ganancias requeridos por la misma jurisdicción fiscal y por la misma autoridad fiscal.

Impuesto Diferido Activo Reconocido

El impuesto diferido activo reconocido en estados financieros consolidados asciende a la suma de \$8,622,398 principalmente compuesto por los conceptos indicados en “Detalle de los impuestos diferidos activos y pasivos”.

El impuesto diferido activo por las pérdidas fiscales y excesos de renta presuntiva ascienden a \$2,849,089 principalmente compuesto por:

Pérdidas fiscales sin fecha de expiración correspondientes a Refinería de Cartagena, Bioenergy y Ecopetrol USA (USD\$270 millones) por valor de \$6,385,989 que generan un impuesto diferido de \$1,052,848, \$64,343 y \$182,977, respectivamente. Pérdidas fiscales cuya fecha de expiración es de 20 años a partir del año en que se generaron correspondientes a Ecopetrol USA (USD\$1,904 millones) por valor de \$6,144,400 que origina un impuesto diferido de \$1,290,324.

Adicionalmente se tiene una base de excesos de renta presuntiva por \$1,332,854 que generan un impuesto diferido de \$228,569 en Refinería de Cartagena y \$5,361 en Bioenergy y un ARO de Ecopetrol USA por \$22,590, entre otros.

Para lo anterior, el Grupo evaluó la forma en cómo podrá realizar el impuesto diferido activo y para ello se soporta en sus proyecciones financieras que permiten predecir que generarán renta líquida suficiente para compensar el impuesto diferido activo reconocido y en la eliminación de la determinación del impuesto sobre la renta por el sistema de renta presuntiva para las sociedades nacionales.

Frente al gasto corriente por impuesto sobre la renta, Refinería de Cartagena, Bioenergy, Ecopetrol Costa Afuera (“ECAS”), Ecopetrol Usa, Permian y Andean Chemicals Ltd (“Andean”) compañías que hacen parte del Grupo presentan pérdidas fiscales por

compensar originadas entre los años 2009 y 2018 por valor neto de \$12,402,061 a diciembre de 2019 y \$4,292,418 a diciembre de 2018.

De acuerdo con las normas fiscales vigentes en Colombia, las pérdidas fiscales originadas a partir del año gravable 2007 podrán ser compensadas, reajustadas fiscalmente, en cualquier tiempo, con las rentas líquidas ordinarias sin perjuicio de la renta presuntiva del ejercicio. Las pérdidas de las sociedades no serán trasladables a los socios. Sin embargo, de conformidad con el artículo 290 de la Ley 1819 de 2016, las pérdidas fiscales acumuladas hasta el 31 de diciembre de 2016 que no hayan sido compensadas están sujetas para su compensación a la aplicación de una fórmula contenida en dicho artículo. Con relación a las pérdidas fiscales originadas en Ecopetrol USA, aquellas que fueron generadas entre los años 2008 a 2017, la Compañía cuenta con un término de 20 años para realizar la respectiva compensación. Aquellas pérdidas generadas a partir del 1° de enero de 2018, no tienen fecha de vencimiento y se limitan al 80% de los ingresos imponible.

El impacto de las pérdidas fiscales de las sociedades ECAS, Bioenergy y Bioenergy Zona Franca frente al impuesto diferido es objeto de mención en la presente nota en el capítulo denominado “Impuesto a las Ganancias Diferido”.

Impuesto Diferido Activo No Reconocido

El activo por impuesto diferido relacionado con las pérdidas fiscales generadas por las sociedades Bioenergy, ECAS y Andean por \$105,592, y los excesos de renta presuntiva de Bioenergy, ECAS, Hocol Petroleum Company (“HPL”), Andean por \$74,481 no se reconocen, por cuanto la Dirección ha evaluado y llegado a la conclusión de que bajo una posición conservadora no es probable que el activo por impuesto diferido relacionado con estas pérdidas fiscales y excesos de rentas presuntiva sea recuperable en el corto plazo.

Si el Grupo hubiera podido reconocer el activo por impuesto diferido no reconocido, la ganancia por el ejercicio finalizado a 31 de diciembre de 2019 se habría incrementado en \$180,073.

El movimiento del impuesto diferido activo y pasivo a las ganancias por los años terminados al 31 de diciembre es el siguiente:

	A 31 de diciembre de	
	2019	2018
Saldo inicial	5,008,323	4,533,520
Impuesto diferido reconocido en el resultado del periodo	2,531,080	94,019
Efecto por aumento participación Invercolsa	(98,005)	-
Impuesto diferido reconocido otros resultados integrales (a)	406,941	380,784
Saldo final	7,848,339	5,008,323

(a) La siguiente es la composición del impuesto a las ganancias registrado contra otros resultados integrales:

A 31 de diciembre de 2019	Base	Impuesto diferido	Total
Ganancias actuariales sobre beneficios a empleados	(2,571,184)	771,355	(1,799,829)
Cobertura de flujo de efectivo para exportaciones de crudo	998,083	(329,784)	668,299
Cobertura de inversión neta en negocio en el extranjero	(87,524)	26,257	(61,267)
Instrumentos financieros derivados	69,220	(22,769)	46,451
Ajustes por conversión	-	(38,118)	(38,118)
	(1,591,405)	406,941	(1,184,464)
A 31 de diciembre de 2018	Base	Impuesto diferido	Total
Ganancias actuariales sobre beneficios a empleados	(29,250)	33,540	4,290
Cobertura de inversión neta en negocio en el extranjero, de flujo de efectivo para exportaciones de crudo y flujos de efectivo con instrumentos derivados	1,475,144	(397,420)	1,077,724
Ajustes por conversión	-	(16,904)	(16,904)
	1,445,894	(380,784)	1,065,110

Impuesto Diferido (Activo)

Pasivos No Reconocidos

Al 31 de diciembre de 2019, no se reconocen activos por impuesto diferido sobre la diferencia entre las bases contables y fiscales asociadas a las inversiones en subsidiarias,

negocios conjuntos de Ecopetrol (Base: \$1.059.943- Impuesto: \$105.994), ya que conforme fue documentado, el Grupo no tiene en el futuro previsible intención de venta de ninguna de estas inversiones.

Provisiones, Pasivos Contingentes del Impuesto a las Ganancias

Las declaraciones de impuesto de renta y complementarios de los años gravables 2011, 2012, 2014, 2015, 2016, 2017 y 2018 y CREE de los años gravables 2014, 2015, y 2016 de Compañías del Grupo se encuentran sujetas a aceptación y revisión por parte de las autoridades tributarias. La administración de las compañías del Grupo considera que las sumas contabilizadas como pasivo por impuestos por pagar son suficientes y se encuentran soportadas en la normatividad, doctrina y jurisprudencia vigente para atender cualquier reclamación que se pudiera establecer con respecto a tales años. La Compañía tiene por estrategia no tomar decisiones fiscales con posiciones agresivas o riesgosas que puedan colocar en entredicho sus declaraciones tributarias.

Posiciones Fiscales Inciertas CINIIF 23

Las Compañías del Grupo Ecopetrol tienen por estrategia no tomar decisiones fiscales con posiciones agresivas o

riesgosas que puedan colocar en entredicho sus declaraciones tributarias, lo anterior con el fin de minimizar el riesgo de posibles cuestionamientos por parte de la autoridad tributaria.

Sobre aquellas posiciones inciertas en las cuales se ha considerado que pueda existir una eventual controversia con la autoridad tributaria que conlleve un incremento en el impuesto sobre la renta, se ha establecido un porcentaje de éxito superior al 75%, el cual ha sido calculado con base en la normatividad y doctrina vigente.

Por lo tanto y de conformidad con la norma en mención, el Grupo Ecopetrol considera que aquellas posiciones inciertas incluidas en la determinación del impuesto a las ganancias no afectarán el registro contemplado en los estados financieros separados. No obstante lo anterior, se continuará con el seguimiento permanente a la nueva normatividad y doctrina que emita la autoridad tributaria y demás entidades.

10.2.1 IMPUESTO A LOS DIVIDENDOS

Sobre las utilidades generadas a partir del año 2017, aplicará a las sociedades y entidades extranjeras retención en la fuente por concepto de dividendos. La tarifa de retención por dividendos es del 5% para el año 2018 y del 7.5% para el año 2019. De otra parte, el dividendo gravado con el impuesto sobre la renta tendrá una tarifa del 35% en el año 2018 y del 33% en el año 2019. En este escenario, la retención en la fuente sobre dividendos del 5% o del 7.5% aplicará sobre el monto de la distribución gravada, una vez el mismo se

haya disminuido con el impuesto sobre la renta a la tarifa del 35% o del 33%.

Los dividendos no gravados que recibirá la Compañía no estarán sujetos a retención en la fuente por expresa disposición de la norma que establece los dividendos que se distribuyan dentro de los grupos empresariales debidamente registrados ante la Cámara de Comercio y a entidades descentralizadas, no estarán sujetos a la retención en la fuente por este concepto.

10.2.2 PRECIOS DE TRANSFERENCIA

Los contribuyentes del impuesto sobre la renta que celebren operaciones con vinculados económicos o partes relacionadas del exterior y ubicadas en zonas francas o con residentes ubicados en países considerados paraísos fiscales, están obligados a determinar para efectos del impuesto de renta y complementarios sus ingresos ordinarios y extraordinarios, sus costos y deducciones, considerando para estas operaciones el principio de plena competencia.

Ecopetrol presentó en el año 2019 la información de precios de transferencia

del año 2018 correspondiente a la declaración informativa, la documentación comprobatoria, el reporte país por país y el archivo maestro, de acuerdo con la normatividad tributaria vigente.

Para el año gravable 2019, las transacciones efectuadas con vinculados económicos del exterior, así como las condiciones de negocio bajo las cuales se desarrollaron tales operaciones y la estructura general, no variaron significativamente respecto del año anterior. Por esta razón, es posible inferir que dichas transacciones fueron llevadas

a cabo de acuerdo con el principio de plena competencia. Se estima que no se requerirán ajustes derivados del análisis de precios de

transferencia del año 2019, que impliquen modificaciones en la provisión de renta del año gravable 2019.

10.2.3 IMPUESTO SOBRE LAS VENTAS (IVA)

La Ley 1943/2018 estableció que el IVA pagado en la importación, formación, construcción o adquisición de activos fijos reales productivos podrá ser descontado del impuesto sobre

la renta. Este IVA no podrá ser tomado simultáneamente como costo o gasto en el impuesto sobre la renta ni será descontable del impuesto sobre las ventas.

10.2.4 REFORMA TRIBUTARIA

La tarifa general del impuesto de renta aplicable para sociedades nacionales, establecimientos permanentes y entidades extranjeras será: 2020 – 32%, 2021 – 31% y 2022 y siguientes – 30%.

De otra parte, para el año 2020, la tarifa aplicable para efectos de calcular el impuesto sobre la renta bajo el sistema de renta presuntiva será del 0.5% del patrimonio líquido del contribuyente del año inmediatamente anterior. A partir del año 2021 la tarifa aplicable será del 0%.

Se mantuvo la regla de subcapitalización contenida en el artículo 118-1 del E.T. que había sido modificado por la Ley 1943/2018. En este sentido, a partir del año 2019 la regla de subcapitalización sólo será aplicable con respecto a intereses generados en la adquisición de deudas contraídas, directa o indirectamente, con vinculados económicos nacionales o extranjeros. Así mismo, se modificó la proporción capital – deuda a 2:1 (anteriormente era 3:1) con lo cual no sólo se podrán deducir intereses generados con ocasión a deudas adquiridas con vinculados económicos cuando el monto total promedio de tales deudas no exceda a dos (2) veces el patrimonio líquido del contribuyente determinado al 31 de diciembre del año gravable inmediatamente anterior.

Impuesto a los dividendos

A partir del 1 de enero de 2020, los dividendos y participaciones pagados o abonados en cuenta provenientes de distribuciones realizadas entre compañías colombianas, estarán sometidos a una retención en la fuente a título del impuesto a los dividendos a una tarifa del 7.5%. De otra parte, si las utilidades con cargo a las cuales se distribuyen los dividendos no estuvieron sujetas a imposición al nivel de la sociedad, dichos dividendos están gravados con el impuesto

sobre la renta aplicable en el período de distribución (para el año 2020 la tarifa será del 32%). En este supuesto, la retención del 7,5% aplicará sobre el valor del dividendo una vez disminuido con el impuesto sobre la renta (32% para el año 2020).

La tarifa de retención del 7.5%, se causará sólo en la primera distribución de dividendos entre compañías colombianas y podrá ser acreditada contra el impuesto a los dividendos una vez a cargo del accionista persona natural residente o al inversionista residente en el exterior.

Debe resaltarse que la retención del 7.5% no aplica para: (i) compañías holding colombianas, incluyendo entidades descentralizadas; y (ii) entidades que hagan parte de un grupo empresarial p dentro de sociedades en situación de control debidamente registrados ante la Cámara de Comercio, de acuerdo con la normativa mercantil.

Impuesto de normalización

Se creó un impuesto a la normalización tributaria por el año 2020, como un impuesto complementario al impuesto sobre la renta y al impuesto al patrimonio, a cargo de los contribuyentes del impuesto sobre la renta que tengan activos omitidos o pasivos inexistentes. Este impuesto se liquidará y pagará en una declaración independiente que será presentada el 25 de septiembre de 2020, la cual, no permite corrección o presentación extemporánea. La tarifa del impuesto de normalización tributaria es del 15%.

Impuesto sobre las ventas

La Ley 2010/2019 estableció que el IVA pagado en la importación, formación, construcción o adquisición de activos fijos reales productivos podrá ser descontado del impuesto sobre la renta. Este IVA no podrá ser tomado simultáneamente como costo o gasto en el

impuesto sobre la renta ni será descontable del impuesto sobre las ventas

En materia de Impuesto sobre las ventas, se modificó el listado de bienes y servicios excluidos de IVA consagrados en los artículos 424, 426 y 476 del Estatuto Tributario, se adicionó al artículo 437 del Estatuto Tributario, en lo referente a directrices sobre el cumplimiento de deberes formales en materia de IVA por parte de prestadores de servicios desde el exterior y se indicó que la retención de IVA podrá ser hasta del 50% del valor del impuesto, sujeto a reglamentación del Gobierno Nacional. La tarifa de IVA se mantiene en 19%. (Art. 424, Art. 426, Art. 476 Estatuto Tributario).

Procedimiento tributario

En materia de procedimiento existen modificaciones: (i) declaraciones de retención en la fuente que a pesar de ser ineficaces serán título ejecutivo, (ii) notificación electrónica de actos administrativos; y (iii) pago de glosas en pliego de cargos para evitar intereses moratorios y utilizar los corrientes más dos puntos; (iv) eliminación de extensión de la firmeza a tres (3) años adicionales por compensación de pérdidas fiscales y frete a los años que se tiene obligación de cumplir con el régimen de precios de transferencia se reduce a cinco (5) años.

De igual forma, se incluyó un beneficio de auditoría para los años gravables 2020 y 2021. En virtud de este beneficio, la liquidación privada de los contribuyentes del impuesto sobre la renta y complementarios

que incrementen su impuesto neto de renta en por lo menos un porcentaje mínimo del 30%, en relación con el impuesto neto de renta del año inmediatamente anterior, quedará en firme dentro de los seis (6) meses siguientes a la fecha de su presentación si no se hubiere notificado emplazamiento para corregir o requerimiento especial o emplazamiento especial o liquidación provisional y, siempre que la declaración sea presentada en forma oportuna y el pago se realice en los plazos establecidos.

Si el incremento del impuesto neto de renta es de al menos del 20%, en relación con el impuesto neto de renta del año inmediatamente anterior, la declaración quedará en firme dentro de los doce (12) meses siguientes a la presentación de la declaración si no se hubiere notificado emplazamiento para corregir o requerimiento especial o emplazamiento especial o liquidación provisional y siempre se presente la declaración de manera oportuna y el pago se realice en los plazos establecidos.

El anterior beneficio no aplica para: (i) contribuyentes que gocen de beneficio tributarios en razón a su ubicación en una zona geográfica determinada; (ii) cuando se demuestre que retenciones en la fuente declaradas son inexistentes; (iii) cuando el impuesto neto de renta sea inferior a 71 UVT (\$24). El término previsto en esta norma no se extiende para las declaraciones de retención en la fuente ni para el impuesto sobre las ventas las cuales se registrarán por las normas generales.

11. OTROS ACTIVOS

	A 31 de diciembre de	
	2019	2018
Corriente		
Asociados en operaciones conjuntas (1)	921,983	519,460
Anticipos a contratistas y proveedores	360,781	191,168
Gastos pagados por anticipado	272,007	221,767

	A 31 de diciembre de	
	2019	2018
Depósitos entregados en administración (2)	144,798	-
Partes relacionadas (Nota 30)	57,016	19,214
Otros activos	22,393	68,819
	1,778,978	1,020,428
No corriente		
Fondo de abandono y pensiones (3)	445,457	392,084
Beneficios a empleados	220,998	213,645
Depósitos entregados en administración (2)	171,008	147,471
Anticipos, avances y depósitos	56,027	61,556
Depósitos judiciales y embargos	40,317	43,137
Otros activos	8,674	2,837
	942,481	860,730

(1) Corresponde al importe neto de los anticipos y legalizaciones generados con relación a las operaciones realizadas con socios a través de los contratos de exploración y producción, contratos de evaluaciones técnicas y acuerdos con la Agencia Nacional de Hidrocarburos (ANH), así como contratos de asociación y otros tipos de contratos afines.

(2) Incluye principalmente los recursos invertidos en encargo fiduciario con destinación a obras por impuestos,

mecanismo de pago del impuesto de renta de 2017 y 2018, constituido en cumplimiento con el artículo 238 de la Ley 1819 de 2016 – Reforma tributaria.

(3) Corresponde a la participación del Grupo en fiducias constituidas para respaldar costos de abandono de pozos y desmantelamiento de instalaciones, así como el pago de futuras pensiones de jubilación en algunos contratos de asociación.

12. COMBINACIONES DE NEGOCIOS

El 29 de noviembre de 2019 fue registrada en el libro de accionistas la nueva composición accionaria de Invercolsa S.A. (Ver Nota 2.2 Bases de consolidación), donde Ecopetrol S.A. pasó a tener una participación total de 51,88%, el 8,35% adicional a su participación anterior.

A partir de esa fecha esta última pasó a tener el control de Invercolsa S.A., lo que se configura como una combinación de

negocios realizada por etapas, es decir que Invercolsa S.A. pasó de ser una inversión en asociadas contabilizada por el método de la participación a ser consolidada con todas sus subsidiarias y asociadas en el Grupo Ecopetrol.

Esta adquisición de control no requirió el pago de ninguna contraprestación y fue registrada mediante el método de la adquisición realizando la valoración de los activos netos adquiridos.

A continuación se resume el efecto de los cambios en la participación del Grupo en Invercolsa S.A. al 31 de diciembre de 2019:

(en millones de pesos)	2019
Aumento en la participación de la matriz medido a valor razonable	217,974
(+) Valor razonable de la participación inicial en la fecha de adquisición de control	1,107,969
(=) Valor razonable por cambio en la participación en Invercolsa	1,325,943
(-) Participación de la matriz en la fecha de la transacción (valor en libros)	(277,019)
Utilidad en adquisición de participación adicional (Nota 27)	1,048,924

El efecto del aumento en la participación de la matriz se registró en resultados dado que es una adquisición de control sin contraprestación.

Los ingresos y utilidades incluidos en el resultado integral del Grupo por el mes en el que se consolidaron las Compañías fueron de \$72,712 y \$18,198 respectivamente. Si la adquisición hubiera ocurrido el 1 de enero de 2019, la administración estima que los ingresos

y las utilidades consolidadas atribuibles a los accionistas se habrían incrementado en \$459,286 y \$134,464, respectivamente.

Activos identificables adquiridos y pasivos asumidos

La tabla a continuación resume los importes reconocidos para los activos adquiridos y los pasivos asumidos a la fecha de adquisición.

Efectivo y equivalentes de efectivo		20,530
Cuentas por cobrar Corto Plazo		195,225
Inventarios		19,576
Activos impuestos corrientes		10,704
Otros activos corto plazo		2,810
Inversiones en asociadas y negocios conjuntos (1)	13	1,824,552
Cuentas comerciales y otras cuentas por cobrar		52,820
Propiedad Planta y Equipo	14	1,338,947
Activos impuestos diferidos		9,623
Otros activos		807
Préstamo corto plazo		(137,683)
Cuentas comerciales y otras cuentas por pagar		(58,423)
Provisiones corrientes por beneficios a empleados		(7,003)

Pasivos por impuestos corrientes	(23,597)
Provisiones y contingencias	(8,576)
Otros pasivos	(13,650)
Préstamo largo plazo	(186,923)
Pasivos por impuestos diferidos	(107,629)
Total activos netos (2)	2,932,110

(1) El detalle de las inversiones a valores razonables en la fecha de adquisición de las asociadas es el siguiente:

Gases del Caribe S.A. E.S.P.	1,527,911
Gas Natural del Oriente S.A. E.S.P.	166,685
Gases de la Guajira S.A. E.S.P.	68,608
Extracol S.A.	28,501
E2 Energía Eficiente S.A. E.S.P.	32,847
Total	1,824,552

(2) Estos activos netos corresponden al 100% de Grupo Invercolsa, el valor razonable de la participación no controladora en la fecha de adquisición fue de \$1,606,390.

Los valores razonables de propiedad, planta y equipo, intangibles e impuesto diferido han sido determinados

provisionalmente los cuales pueden tener ajuste de acuerdo a lo indicado en la NIIF 3 Combinaciones de negocios,

El valor razonable en la fecha de adquisición de las compañías controladas y no controladas con participación de Invercolsa se determinó usando la metodología de flujos de caja descontados.

13. INVERSIONES EN ASOCIADAS Y NEGOCIOS CONJUNTOS

El detalle sobre las participaciones, actividad económica, domicilio, área de operaciones e información financiera de las inversiones en negocios conjuntos y asociadas se encuentra en el Anexo 1.

13.1 COMPOSICIÓN Y MOVIMIENTOS

	A 31 de diciembre de	
	2019	2018
Negocios conjuntos		
Equión Energía Limited (1)	1,527,502	1,392,232
Offshore International Group	709,871	727,194
Ecodiesel Colombia S.A.	46,095	41,304
	2,283,468	2,160,730
Menos impairment:		
Equión Energía Limited	(334,823)	(214,935)
Offshore International Group	(530,330)	(346,121)
	1,418,315	1,599,674
Asociadas		
Invercolsa S.A. (2)	-	243,294
Serviport S.A.	11,070	11,212
Sociedad Portuaria Olefinas	2,204	1,368
Gases del Caribe S.A. E.S.P. (2)	1,527,911	-
Gas Natural del Oriente S.A. E.S.P. (2)	166,685	-
Gases de la Guajira S.A. E.S.P. (2)	68,608	-
Extracol S.A. (2)	28,501	-
E2 Energía Eficiente S.A. E.S.P. (2)	32,848	-
	1,837,827	255,874
Menos impairment: Serviport S.A.	(11,070)	(11,212)
	1,826,757	244,662
	3,245,072	1,844,336

(1) Equión Energía Limited: El 14 de diciembre de 2007 Ecopetrol comunicó a Equión su decisión de no extender los contratos de asociación Santiago de las Atalayas, Tauramena, Recetor, Río Chitamina y Piedemonte, confirmando los vencimientos de los mismos el 1 de julio de 2010, 3 de julio de 2016, 30 de mayo de 2017, 31 de enero de 2019 y 29 de febrero de 2020, respectivamente.

(2) Invercolsa S.A. pasó a ser una subsidiaria a partir del 29 de noviembre de 2019 (Ver nota 12), así las inversiones directas de Invercolsa en S.A. en Gases del Caribe S.A. E.S.P., Gas Natural del Oriente S.A. E.S.P., Gases de la Guajira S.A. E.S.P., Extracol S.A., E2 Energía Eficiente S.A. E.S.P., pasaron a ser inversiones directas del Grupo a partir de la consolidación.

Equión Energía Limited y Ecopetrol han venido trabajando en la terminación del contrato de asociación Piedemonte, así como la entrega y recibo de las operaciones que están cubiertas bajo el mismo contrato. Este proceso establece cinco etapas: i) análisis e inicio, ii) planeación, iii) ejecución, iv) entrega y recibo y v) cierre. Al 31 de diciembre de 2019, el proyecto se encuentra en la etapa de entrega y recibo. El siguiente paso es

llegar a los acuerdos finales, entregar las operaciones y oficializar el acta de terminación del Contrato, la cual debe ser firmada el 29 de febrero de 2020 y donde se incluirán los acuerdos, indemnidades, cierre de temas, listado de pendientes e inventario de entrega de información.

Movimiento de las inversiones en Asociadas y Negocios conjuntos:

Por el año finalizado al 31 de diciembre de 2019:

	Asociadas	Negocios conjuntos	Total
Saldo al 31 de diciembre de 2018	244,662	1,599,674	1,844,336
Método de participación reconocido:			
Resultado del periodo	109,538	244,736	354,274
Patrimonio	(174,991)	4,531	(170,460)
Dividendos decretados	(75,674)	(4,192)	(79,866)
Recuperación (impairment)	142	(304,097)	(303,955)
Otros movimientos	1,723,080	(122,337)	1,600,743
Saldo al 31 de diciembre de 2019	1,826,757	1,418,315	3,245,072

Por el año finalizado al 31 de diciembre de 2018:

	Asociadas	Negocios conjuntos	Total
Saldo al 31 de diciembre de 2017	225,178	1,105,282	1,330,460
Método de participación reconocido:			
Resultado del periodo	105,908	48,593	154,501
Patrimonio	1,732	125,134	126,866
Dividendos decretados	(86,848)	(3,501)	(90,349)
(Impairment) recuperación	(1,308)	324,166	322,858
Saldo al 31 de diciembre de 2018	244,662	1,599,674	1,844,336

13.2 INFORMACIÓN ADICIONAL SOBRE COMPAÑÍAS ASOCIADAS Y NEGOCIOS CONJUNTOS

Detalle de activos, pasivos y resultados de las dos principales inversiones en negocios conjuntos al 31 de diciembre:

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	2019		2018	
	Equión Energía Limited	Offshore International Group	Equión Energía Limited	Offshore International Group
Estado de situación financiera				
Activo corriente	2,530,453	284,591	2,083,614	354,959
Activo no corriente	106,050	1,481,680	506,133	1,523,549
Total Activo	2,636,503	1,766,271	2,589,747	1,878,508
Pasivo corriente	315,002	310,561	550,932	221,606
Pasivo no corriente	63,053	718,863	45,602	885,410
Total Pasivo	378,055	1,029,424	596,534	1,107,016
Total Patrimonio	2,258,448	736,847	1,993,213	771,492
Otra información complementaria				
Efectivo y equivalente de efectivo	188,820	48,752	185,762	95,592
Pasivos financieros corrientes	-	-	3,176	95,633
Pasivos financieros no corrientes	-	-	-	137,708

	2019		2018	
	Equión Energía Limited	Offshore International Group	Equión Energía Limited	Offshore International Group
Estado de pérdidas y ganancias				
Ingresos de actividades ordinarias y otros	1,285,891	529,167	1,490,177	653,054
Costos	(671,179)	(690,484)	(755,656)	(585,192)
Gastos de administración y otros	(624)	(64,115)	29,136	(353,010)
Resultado financiero	(3,660)	(31,288)	(3,659)	(21,227)
Impuesto de renta	(348,477)	208,473	(360,675)	(16,594)
Resultado del ejercicio	261,951	(48,247)	399,323	(322,969)

	2019		2018	
	Equión Energía Limited	Offshore International Group	Equión Energía Limited	Offshore International Group
Otros resultados integrales	1,140,010	-	1,136,725	-
Otra información complementaria				
Depreciación y amortización	404,482	226,654	511,615	243,601

Conciliación entre el patrimonio de las participaciones más significativas y el valor en libros de las inversiones al 31 de diciembre:

	2019		2018	
	Equión Energía Limited	Offshore International Group	Equión Energía Limited	Offshore International Group
Patrimonio de la Compañía	2,258,448	736,847	1,993,213	771,492
% Participación de Ecopetrol	51%	50%	51%	50%
Participación en patrimonio	1,151,808	368,424	1,016,539	385,746
Mayor valor de la inversión	375,694	341,447	160,758	-
Impairment	(334,823)	(530,330)	-	(4,673)
Valor en libros de la inversión	1,192,679	179,541	1,177,297	381,073

14. PROPIEDADES, PLANTA Y EQUIPO

	Planta y equipo	Ductos, redes y líneas	Construcciones en curso	Edificaciones	Terrenos	Otros	Total
Costo							
Saldo al 31 de diciembre de 2018	46,429,815	34,349,283	4,594,998	7,852,278	3,984,576	2,845,802	100,056,752
Adquisiciones/ capitalizaciones	804,570	765,994	2,097,378	243,039	20,098	81,580	4,012,659
Aumento por combinación de negocios (Nota 12)	123,436	1,118,178	44,876	9,062	22,924	20,471	1,338,947
Aumento costos de abandono	148,764	102,402	-	1,248	-	4,337	256,751

	Planta y equipo	Ductos, redes y líneas	Construcciones en curso	Edificaciones	Terrenos	Otros	Total
Intereses financieros capitalizados (2)	77,627	32,630	12,831	15,800	1,033	2,389	142,310
Diferencia en cambio capitalizada	4,208	1,769	696	857	56	130	7,716
Bajas por retiro o venta	(500,876)	(165,936)	(78,399)	(24,050)	(354)	(71,309)	(840,924)
Ajuste por conversión	244,666	84,357	2,691	10,757	12,869	6,369	361,709
Traslados	618,707	81,970	(445,122)	48,954	13,336	(229,537)	88,308
Saldo al 31 de diciembre de 2019	47,950,917	36,370,647	6,229,949	8,157,945	4,054,538	2,660,232	105,424,228
Depreciación acumulada y pérdidas por impairment							
Saldo al 31 de diciembre de 2018	(17,940,862)	(14,777,790)	(497,441)	(3,122,523)	(34,302)	(913,555)	(37,286,473)
Depreciación del periodo	(1,986,264)	(1,634,783)	-	(326,512)	-	(122,153)	(4,069,712)
Pérdidas por impairment (Nota 17)	519,835	(113,860)	(626,878)	(87,338)	(35,533)	(82,837)	(426,611)
Bajas por retiro o venta	481,384	116,769	-	17,807	-	91,541	707,501
Ajuste por conversión	(103,365)	(36,341)	-	(3,656)	-	(3,323)	(146,685)
Traslados	53,036	(189,105)	9,953	65,968	(10,847)	68,717	(2,278)
Saldo al 31 de diciembre de 2019	(18,976,236)	(16,635,110)	(1,114,366)	(3,456,254)	(80,682)	(961,610)	(41,224,258)
Saldo neto al 31 de diciembre de 2018	28,488,953	19,571,493	4,097,557	4,729,755	3,950,274	1,932,247	62,770,279
Saldo neto al 31 de diciembre de 2019	28,974,681	19,735,537	5,115,583	4,701,691	3,973,856	1,698,622	64,199,970

(1) El saldo de proyectos en curso al 31 de diciembre del 2019, incluye principalmente: Modernización de la Refinerías Barranca y Cartagena, Facilidades Castilla y Escalado de Desasfaltado del ICP.

(2) Los intereses financieros se capitalizan en función a la tasa promedio ponderada de los costos por préstamos. Ver Nota 19 – Préstamos y financiaciones.

Garantías:

Los predios de Bioenergy S.A.S. la Esperanza 1 y 2 fueron dados en garantía para obtener financiación para el proyecto (Ver Nota 19.5 – Garantías y covenants)

De acuerdo con el contrato de Leasing de Bioenergy Zona Franca S.A. con Bancolombia para la construcción de la planta industrial, se estableció que la garantía es la misma planta.

	Planta y equipo	Ductos, redes y líneas	Construcciones en curso (1)	Edificaciones	Terrenos	Otros	Total
Costo							
Saldo al 31 de diciembre de 2017	42,561,894	32,000,049	3,792,059	7,618,586	3,839,355	2,806,696	92,618,639
Adquisiciones/capitalizaciones	1,151,966	944,797	1,038,371	147,005	14,909	5,881	3,302,929
Aumento costos de abandono	85,580	209,028	-	-	-	-	294,608
Intereses financieros capitalizados (2)	48,351	34,399	14,853	14,350	6,703	5,316	123,972
Diferencia en cambio capitalizada	4,107	2,922	1,262	1,219	569	451	10,530
Bajas por retiro o venta	(135,468)	(112,171)	(14,723)	(11,997)	(9,763)	(56,734)	(340,856)
Ajuste por conversión	2,324,744	849,868	32,585	100,091	124,903	55,983	3,488,174
Traslados (3)	388,641	420,391	(269,409)	(16,976)	7,900	28,209	558,756
Saldo al 31 de diciembre de 2018	46,429,815	34,349,283	4,594,998	7,852,278	3,984,576	2,845,802	100,056,752
Depreciación acumulada y pérdidas por impairment							
Saldo al 31 de diciembre de 2017	(14,750,270)	(12,461,626)	(553,420)	(2,668,562)	(39,522)	(785,420)	(31,258,820)
Depreciación del periodo	(1,993,497)	(1,465,429)	-	(347,510)	-	(123,792)	(3,930,228)
Recuperación (pérdidas) por impairment	(752,534)	(311,080)	55,979	(64,279)	5,220	(16,591)	(1,083,285)
Bajas por retiro o venta	116,225	84,217	2,243	8,996	-	40,957	252,638
Ajuste por conversión	(677,901)	(313,311)	-	(27,782)	-	(23,804)	(1,042,798)
Traslados	117,115	(310,561)	(2,243)	(23,386)	-	(4,905)	(223,980)
Saldo al 31 de diciembre de 2018	(17,940,862)	(14,777,790)	(497,441)	(3,122,523)	(34,302)	(913,555)	(37,286,473)
Saldo neto al 31 de diciembre de 2017	27,811,624	19,538,423	3,238,639	4,950,024	3,799,833	2,021,276	61,359,819
Saldo neto al 31 de diciembre de 2018	28,488,953	19,571,493	4,097,557	4,729,755	3,950,274	1,932,247	62,770,279

(1) El saldo de proyectos en curso al 31 de diciembre de 2018, incluye principalmente los trabajos ejecutados en producción por facilidades del campo Castilla, facilidades en Cupiagua, facilidades del piloto de inyección aire en campo Chichimene y recuperación secundaria de Yarigui, y en refinación por el proyecto modernización de Barrancabermeja.

(2) Los intereses financieros se capitalizan en función a la tasa promedio ponderado de los costos por préstamos. Ver Nota 19 – Préstamos y financiaciones.

(3) Corresponde principalmente a traslados por: i) reconocimiento de contratos de arrendamiento financiero, ii) traslados provenientes de recursos naturales y del medio ambiente.

15. RECURSOS NATURALES Y DEL MEDIO AMBIENTE

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	Inversiones petrolíferas	Costo de abandono y taponamiento	Inversiones petrolíferas en curso	Total
Costo				
Saldo al 31 de diciembre de 2018	53,936,041	2,919,146	4,806,000	61,661,187
Adquisiciones/capitalizaciones (1)	5,144,295	166,431	4,487,467	9,798,193
Aumento costos de abandono	5,703	1,965,309	(38,835)	1,932,177
Bajas por retiro o venta	(84,052)	(9,253)	(142,127)	(235,432)
Baja en activos exploratorios y pozos secos (2)	17,548	-	(357,819)	(340,271)
Intereses financieros capitalizados (3)	94,995	-	10,834	105,829
Diferencia en cambio capitalizada	5,150	-	587	5,737
Ajuste por conversión	68,793	(3,004)	(112,917)	(47,128)
Traslados	634,093	(1,745)	(290,471)	341,877
Saldo al 31 de diciembre de 2019	59,822,566	5,036,884	8,362,719	73,222,169
Amortización acumulada y pérdidas por impairment				
Saldo al 31 de diciembre de 2018	(36,806,667)	(1,779,070)	-	(38,585,737)
Amortización del periodo	(3,836,479)	(383,360)	-	(4,219,839)
Pérdidas por impairment (Nota 17)	(1,017,061)	-	-	(1,017,061)
Bajas por retiro o venta	83,667	8,511	-	92,178
Ajuste por conversión	(61,862)	(2,256)	-	(64,118)
Traslados	(354,695)	(99)	-	(354,794)
Saldo al 31 de diciembre de 2019	(41,993,097)	(2,156,274)	-	(44,149,371)
Saldo neto al 31 de diciembre de 2018	17,129,374	1,140,076	4,806,000	23,075,450
Saldo neto al 31 de diciembre de 2019	17,829,469	2,880,610	8,362,719	29,072,798

(1) Las principales capitalizaciones corresponden al desarrollo de activos en la cuenca de Permian.

(2) Incluye pozos secos: 1) Ecopetrol: Tibirita, Provenza 1, La Cira 7000 y Ávila 1 2)

Ecopetrol America LLC: Warrior y Molerusa

3) Hocol: Mamey West y Venganza Oeste.

(3) Los intereses financieros se capitalizan en función a la tasa promedio ponderado de los costos por préstamos. Ver Nota 19 – Préstamos y financiaciones.

	Inversiones petrolíferas	Costo de abandono y taponamiento	Inversiones petrolíferas en curso (1)	Total
Costo				
Saldo al 31 de diciembre de 2017	50,183,858	2,215,263	4,508,808	56,907,929
Adquisiciones/capitalizaciones	3,579,982	(27,839)	1,499,685	5,051,828
Ajuste al valor razonable de participaciones en operaciones conjuntas (2)	(12,065)	-	-	(12,065)
Aumento costos de abandono	-	733,609	34,063	767,672
Bajas por retiro o venta	(79)	(2,080)	(87,953)	(90,112)
Pozos secos (3)	(1,563)	-	(897,361)	(898,924)
Intereses financieros capitalizados (4)	70,186	-	6,675	76,861
Diferencia en cambio capitalizada	5,961	-	567	6,528
Ajuste por conversión	773,678	24,574	75,203	873,455
Traslados	(663,917)	(24,381)	(333,687)	(1,021,985)
Saldo al 31 de diciembre de 2018	53,936,041	2,919,146	4,806,000	61,661,187
Amortización acumulada y pérdidas por impairment				
Saldo al 31 de diciembre de 2017	(34,014,963)	(1,584,701)	-	(35,599,664)
Amortización del periodo	(3,471,803)	(196,286)	-	(3,668,089)
Recuperación (pérdidas) por impairment (Nota 18)	414,208	(106)	-	414,102
Bajas por retiro o venta	79	-	-	79
Ajuste por conversión	(563,229)	(19,080)	-	(582,309)
Traslados	829,041	21,103	-	850,144
Saldo al 31 de diciembre de 2018	(36,806,667)	(1,779,070)	-	(38,585,737)
Saldo neto al 31 de diciembre de 2017	16,168,895	630,562	4,508,808	21,308,265
Saldo neto al 31 de diciembre de 2018	17,129,374	1,140,076	4,806,000	23,075,450

(1) El saldo de inversiones petrolíferas en curso, incluye principalmente inversiones realizadas en los proyectos Purple Angel, Tayrona e hidrocarburos no convencionales. En los campos en desarrollo, las más representativas corresponden a Castilla, piloto Chichimene y re sanción CPO09.

(2) Ajuste en el valor de adquisición de la participación de MCX Exploration USA LLC (ver nota 31.3)

(3) Incluye pozos secos: 1) Ecopetrol America LLC: León 2) Hocol: Payero, Bonifacio y Ocelote.

(4) Los intereses financieros se capitalizan en función a la tasa promedio ponderado de los costos por préstamos. Ver Nota 19 – Préstamos y financiaciones.

16. INTANGIBLES

	Licencias y software	Otros intangibles (1)	Total
Costo			
Saldo al 31 de diciembre de 2018	1,015,720	197,283	1,213,003
Adquisiciones	48,064	120,225	168,289
Bajas por retiro o venta	(114,187)	(1,041)	(115,228)
Ajuste por conversión	3,477	(3,960)	(483)
Traslados	41,525	(27,261)	14,264
Saldo al 31 de diciembre de 2019	994,599	285,246	1,279,845
Amortización acumulada			
Saldo al 31 de diciembre de 2018	(712,329)	(89,927)	(802,256)
Amortización del periodo	(88,044)	(14,982)	(103,026)
Pérdidas (recuperaciones) por deterioro	53	2	55
Bajas por retiro o venta	114,143	1,041	115,184
Ajuste por conversión	(2,333)	(33)	(2,366)
Traslados	(3,707)	(631)	(4,338)
Saldo al 31 de diciembre de 2019	(692,217)	(104,530)	(796,747)
Saldo neto al 31 de diciembre de 2018	303,391	107,356	410,747
Saldo neto al 31 de diciembre de 2019	302,382	180,716	483,098
Vida útil	< 5 años	< 7 años	

	Licencias y software	Otros intangibles (1)	Total
Costo			
Saldo al 31 de diciembre de 2017	960,556	168,552	1,129,108
Adquisiciones	69,442	36,227	105,669
Bajas por retiro o venta	(46,007)	(5,643)	(51,650)
Ajuste por conversión	25,339	2,955	28,294
Traslados	6,390	(4,808)	1,582
Saldo al 31 de diciembre de 2018	1,015,720	197,283	1,213,003

	Licencias y software	Otros intangibles (1)	Total
Amortización acumulada			
Saldo al 31 de diciembre de 2017	(665,415)	(83,467)	(748,882)
Amortización del periodo	(75,818)	(15,863)	(91,681)
Bajas por retiro o venta	46,004	5,546	51,550
Ajuste por conversión	(20,501)	(184)	(20,685)
Traslados	3,401	4,041	7,442
Saldo al 31 de diciembre de 2018	(712,329)	(89,927)	(802,256)
Saldo neto al 31 de diciembre de 2017	295,141	85,085	380,226
Saldo neto al 31 de diciembre de 2018	303,391	107,356	410,747
Vida útil	< 5 años	< 7 años	

(1) Corresponde principalmente a servidumbres.

17. IMPAIRMENT DE ACTIVOS DE LARGO PLAZO

De acuerdo a lo mencionado en la Nota 4.12, cada año el Grupo evalúa si existen indicios de impairment de sus activos de largo plazo y unidades generadoras de efectivo (UGEs) o si se requiere la reversión de un gasto por impairment registrado en periodos anteriores.

El impairment de los activos de largo plazo incluye propiedades planta y equipo y recursos naturales, inversiones en compañías, Goodwill y otros activos no corrientes. El Grupo está expuesto a determinados riesgos futuros producto de variaciones en: i) precios del petróleo, ii) márgenes de refinación y de rentabilidad, iii) perfiles de costos, iv) inversión y mantenimiento, v) monto de las reservas recuperables, vi) riesgo de mercado y país que se reflejan en la tasa de descuento y vii) cambios en la regulación local e internacional, entre otros.

Cualquier cambio en las anteriores variables para calcular el monto recuperable de un activo no corriente puede tener un efecto material en el reconocimiento de pérdidas o recuperación de los cargos por impairment. En los segmentos de negocio del Grupo, las variables altamente sensibles pueden incluir, entre otras: i) en exploración y producción, las variaciones en el precio de los hidrocarburos, ii) en refinación, los cambios en los precios del petróleo crudo y productos, la tasa de descuento, los márgenes de refinación, cambios en la regulación ambiental, la estructura de costos y el nivel de inversiones en activos, y iii) en transporte y logística, los volúmenes transportados y los cambios en tarifas y en regulación.

Con base en las pruebas realizadas por el grupo, se presentan las siguientes recuperaciones (gastos) por impairment de activos de largo plazo:

	Al 31 de diciembre de		
(Gasto) recuperación de impairment por segmento	2019	2018	2017
Exploración y producción	(1,967,179)	807,289	245,611
Refinación y petroquímica	452,163	(984,042)	1,067,965
Transporte y logística	(232,556)	(169,851)	59,455
	(1,747,572)	(346,604)	1,373,031
Reconocido en:			
Propiedades, planta y equipo (Nota 14)	(426,611)	(1,083,285)	977,919
Recursos naturales y del medio ambiente (Nota 15)	(1,017,061)	414,102	376,934
Inversiones en asociadas y negocios conjuntos (Nota 13)	(303,955)	322,858	46,834
Otros activos no corrientes	55	(279)	(28,656)
	(1,747,572)	(346,604)	1,373,031

17.1 EXPLORACIÓN Y PRODUCCIÓN

(Gasto) recuperación por tipo de activos de exploración y producción para los años terminados en 2019, 2018 y 2017

	Al 31 de diciembre de		
	2019	2018	2017
Campos de producción	(1,663,082)	483,122	188,873
Inversiones en asociadas y negocios conjuntos	(304,097)	324,166	56,738
Otros activos no corrientes	-	1	-
	(1,967,179)	807,289	245,611

Campos de producción

En 2019, como resultado del actual contexto económico del sector de hidrocarburos, el comportamiento de las variables de mercado, diferenciales de precio vs la referencia a Brent, información técnica y operacional disponible, se generó gasto de impairment en los campos petroleros que operan en Colombia principalmente: Tibú, Casabe, Provincia,

Underriver, La Hocha y Andalucía y en el campo en el exterior K2.

En 2018, como resultado de las nuevas variables de mercado, incorporación de nuevas reservas, diferenciales de precio vs la referencia a Brent, información técnica y operacional disponible, se presentó recuperación de impairment reconocido

en años anteriores de los campos petroleros que operan en Colombia: Casabe, Provincia, Underriver, Tisquirama y Orito; y en los campos operados en el exterior: Gunflint y K2; y un gasto por impairment principalmente en los campos Tibú y Dina Norte.

En 2017, producto de las nuevas variables de mercado, incorporación de nuevas reservas, diferenciales de precio vs la referencia a Brent, información técnica y operacional disponible, se presentó recuperación de impairment

reconocido en años anteriores de los campos petroleros que operan en Colombia CPO09, Casabe y Oripaya; y en los campos operados en el exterior: Gunflint, Dalmatian y K2; y un gasto de impairment en los campos Tibú, Underriver, Provincia y Orito, principalmente.

El siguiente es el detalle del (gasto) recuperación por impairment de las unidades generadoras de efectivo relacionadas con los campos de producción petroleros por los años terminados al 31 de diciembre:

2019

Unidades generadoras de efectivo	Valor neto en libros	Valor recuperable	Recuperación (Gasto)
Campos de producción - Colombia			
Recuperación	3,842,819	6,047,345	74,577
Gasto	4,992,462	3,322,284	(1,673,258)
Campos de producción - Exterior			
Recuperación	200,910	539,785	4,391
Gasto	-	-	(68,792)
			(1,663,082)

2018

Unidades generadoras de efectivo	Valor neto en libros	Valor recuperable	Recuperación (Gasto)
Campos de producción - Colombia			
Recuperación	19,156,326	50,462,080	688,984
Gasto	764,808	405,421	(359,387)
Campos de producción - Exterior			
Recuperación	1,810,618	2,719,086	157,709
Gasto	184,375	180,191	(4,184)
			483,122

2017

Unidades generadoras de efectivo	Valor neto en libros	Valor recuperable	Recuperación (Gasto)
Campos petroleros en Colombia			
Gasto por impairment	2,172,747	1,588,207	(584,540)
Recuperación por impairment	13,229,212	23,906,828	298,210
Campos operados en el exterior			
Recuperación por impairment	748,510	1,324,010	475,203
			188,873

La agregación de los activos, para identificar las UGEs es consistente con relación al periodo anterior.

Los supuestos utilizados en el modelo para determinar los valores recuperables incluyen:

- El valor razonable menos los costos de disposición de los activos del segmento de exploración y producción fue determinado con base en flujos de efectivo después de impuestos que se derivan de los planes de negocios aprobados por la gerencia de la Compañía, los cuales son desarrollados sobre variables macroeconómicas de largo plazo y supuestos fundamentales de oferta y demanda. La jerarquía de valor razonable es nivel 3.
- Balance de reservas de crudo y gas, además de las reservas probadas incluidas en la Nota 33, las reservas probables y posibles también fueron consideradas ajustadas por diferentes factores de riesgo.
- La tasa de descuento en términos reales fue determinada como el costo promedio ponderado de capital (WACC, por sus siglas en inglés) y corresponde a un 6.31% (2018: 7.46%).
- Precio de petróleo - Brent: Las proyecciones incluyen USD\$55.61/barril para el primer año, USD\$54.91/barril para el mediano plazo y USD\$70.1/barril para el largo plazo. En 2018, los supuestos realizados tomaron un precio de USD\$81.4/barril para el primer año, USD\$67.6/barril promedio para el mediano plazo y USD\$71.4/barril a partir de 2030. La proyección de precios internacionales de crudos es realizada por una agencia independiente y especializada en Oil & Gas, la cual tiene en cuenta los actuales escenarios de los acuerdos de cuotas petroleras de la OPEC (Organización de Países Exportadores de Petróleo) y el impacto de los cambios en especificaciones emitidos por el convenio Internacional para prevenir la contaminación por los buques (Marpol) a partir de 2020 sobre crudos y combustibles con alto contenido de azufre.

Inversiones en asociadas y negocios conjuntos

Las inversiones en compañías asociadas y negocios conjuntos, son registradas a través del método de participación. Ecopetrol evalúa si existe alguna evidencia objetiva para determinar si el valor de dichas inversiones se ha deteriorado en el periodo, en especial,

aquellas compañías que fueron adquiridas con Goodwill.

Como resultado, Ecopetrol reconoció un (gasto) recuperación por impairment en el valor de sus inversiones en compañías al 31 de diciembre, de la siguiente manera:

	Al 31 de diciembre de		
	2019	2018	2017
Equión Energía Limited	(119,888)	130,822	19,149
Offshore International Group	(184,209)	193,344	37,589
	(304,097)	324,166	56,738

Los supuestos empleados para determinar el valor recuperable de las compañías evaluadas son los descritos en la sección anterior, excepto por la utilización de una tasa de descuento en términos reales en 2019 para Offshore International Group de 8.50% (2018 – 8.92%).

En 2019, se registró gasto por impairment tanto para Offshore International Group y Equión Energía dadas las variables actuales del mercado, disminución en los precios internacionales, posición conservadora frente a proyectos y aumento en costos.

En 2018, los mercados mostraron mejores condiciones con precios y diferenciales

que permitieron mejores valores para el pronóstico de producción de crudo y gas. El desempeño operacional y la evolución técnica han contribuido a fortalecer los flujos de efectivo futuros que, a su vez, aportaron a la recuperación del impairment reconocido en años anteriores para Offshore International Group y Equión Energy.

En 2017, debido a nuevas variables de mercado, nuevas reservas, diferenciales de precios frente a los indicadores de referencia y la información técnica y operativa disponible, hubo una recuperación de impairment reconocido en años anteriores para Offshore International Group y Equión Energy.

17.2 REFINACIÓN, PETROQUÍMICA Y BIOCOMBUSTIBLES

	Al 31 de diciembre de		
	2019	2018	2017
Refinería de Cartagena	911,597	(770,581)	1,434,298
Bioenergy	(234,340)	(213,461)	(92,346)
Refinería de Barrancabermeja (proyectos)	(225,094)	-	(273,987)
	452,163	(984,042)	1,067,965

El siguiente es el detalle de la recuperación (gasto) por impairment de las unidades generadoras de efectivo del segmento de refinación, petroquímica y biocombustibles:

2019

Unidades generadoras de efectivo	Valor neto en libros	Valor recuperable	Recuperación (Gasto)
Refinería de Cartagena	22,292,788	23,204,385	911,597
Bioenergy	575,331	340,991	(234,340)
Refinería de Barrancabermeja (proyectos)	901,517	676,423	(225,094)
			452,163

2018

Unidades generadoras de efectivo	Valor neto en libros	Valor recuperable	Gasto
Refinería de Cartagena	23,411,058	22,640,761	(770,297)
Refinería de Cartagena - Otros activos	-	-	(284)
Bioenergy	774,343	560,882	(213,461)
			(984,042)

2017

Unidades generadoras de efectivo	Valor neto en libros	Valor recuperable	Recuperación (Gasto)
Refinería de Cartagena	20,578,412	22,012,710	1,434,298
Refinería de Barrancabermeja (proyectos)	1,172,773	898,786	(273,987)
Bioenergy	757,741	665,395	(92,346)
			1,067,965

La agregación de los activos, para identificar las UGEs es consistente con relación al periodo anterior.

Refinería de Cartagena

El valor recuperable de la Refinería de Cartagena S.A. (Reficar) se calculó a partir del valor razonable menos costos de disposición, el cual es superior a su valor de uso. El valor razonable menos los costos de disposición, fue determinado con base en flujos de efectivo después de impuestos que se derivan de los

planes de negocios aprobados por la Gerencia del Grupo, los cuales son desarrollados sobre precios de mercado provistos por un tercero, el cual considera variables macroeconómicas de largo plazo y supuestos fundamentales de oferta y demanda de crudos y productos refinados. La jerarquía de valor razonable es de nivel 3.

Los supuestos utilizados para determinar el valor recuperable incluyeron: i) un margen bruto de refinación determinado con base en el precio del crudo y las perspectivas de precios de los productos proporcionados por un experto externo; ii) una tasa de descuento real de 6.23% (2018 – 6.48%) determinada bajo metodología WACC; iii) condiciones y beneficios actuales, o similares, como usuario industrial de bienes y servicios de zona franca y durante la vigencia de la licencia; iv) nivel de costos y gastos de operación a largo plazo en línea con los estándares internacionales de refinerías de similar configuración y capacidad de conversión, v) volúmenes de cargas de crudo y producción de combustibles, y vi) nivel de inversión continua.

Es relevante mencionar que el negocio de refinación es altamente sensible a la volatilidad de los márgenes y a las variables macroeconómicas implícitas en la determinación de la tasa de descuento, por tanto, cualquier cambio en estos supuestos genera variaciones importantes en el monto de impairment o recuperación calculado.

La recuperación de impairment para 2019, está relacionada principalmente con los cambios macroeconómicos fundamentales que disminuyeron la tasa de descuento utilizada para la valoración de los activos de Reficar, asociados principalmente a la disminución del riesgo y al costo de deuda para la empresa. En conjunto, la gestión operacional y los resultados del 2019 permitieron soportar mejoras operacionales incluidas en la proyección que compensan en alguna medida las afectaciones relacionadas con el impacto que tendrá la regulación MARPOL sobre la proyección de los márgenes de refinados y diferenciales de crudo. Los resultados del 2019 estuvieron demarcados por un mayor conocimiento de las capacidades de la refinería y una eficiente gestión operacional.

El impairment registrado para 2018 está explicado por un marcado ajuste en la expectativas del mercado en relación con el impacto que tendría la implementación de la regulación MARPOL sobre la proyección de márgenes de los productos refinados y el diferencial de crudos livianos y pesados que sirven como materia prima; y cambios macroeconómicos fundamentales que aumentaron la tasa de descuento utilizada

para la valoración de los activos de Reficar, asociados principalmente al aumento en la tasa libre de riesgo y mayores primas de riesgo de mercado. Por otro lado, la gestión operacional y los resultados del año permitieron soportar mejoras operacionales incluidas en la proyección que compensan en alguna medida las afectaciones por las variables macroeconómicas.

En 2017, se presentó una recuperación de impairment registrado en periodos anteriores como resultado de: a) una mayor certidumbre en los márgenes de refinación producto de la ratificación de la implementación de Convenio Internacional para prevenir la contaminación por los buques (Marpol) a partir de 2020; b) una tasa de descuento más baja; y c) optimizaciones operativas y financieras identificadas como parte de la estabilización de la refinería.

Bioenergy

El valor recuperable de Bioenergy se calculó con base en el valor razonable menos los costos de disposición, el cual es mayor al valor en uso y corresponde a los flujos de caja futuros descontados después de impuesto a las ganancias. La jerarquía de valor razonable es de nivel 3.

Los supuestos utilizados en el modelo para determinar el valor recuperable incluyeron a) proyección de los precios etanol con base en proyecciones de especialistas del Grupo y b) una tasa de descuento de 6.03% en términos reales (2018 – 6.97%), determinada bajo metodología WACC.

En 2019, se registra un gasto de impairment por \$234,340, este valor se generó principalmente por cambios en las variables operativas, cambios en la proyección de los flujos operacionales y necesidad de mayores recursos, principalmente por los resultados de la renovación de cañas de mayor edad. En 2018 y 2017, se presenta una pérdida por impairment originada principalmente por la actualización de las fechas de entrada del proyecto, el proceso de estabilización de la planta industrial y la actualización de variables operativas.

Refinería de Barrancabermeja

Durante 2019, se reconocieron \$225,094 por impairment, asociados a los trabajos de ingeniería y PMC para el desarrollo integral

del Proyecto de Modernización de la Refinería de Barrancabermeja, lo anterior considerando el avance en los análisis técnicos de alternativas para el eventual incremento de conversión en la refinería. Una vez reactivado el proyecto, Ecopetrol evaluará nuevamente si cualquier pérdida por impairment reconocida en años anteriores, estaría sujeta a recuperación.

Durante 2018, se evaluó el Proyecto de Modernización de la Refinería de Barrancabermeja, el cual se encontraba a la fecha suspendido y no se observaron indicios que implicaran el reconocimiento de impairment adicional.

Durante 2017, la Refinería de Barrancabermeja reconoció \$273,987 por concepto de impairment, relacionados principalmente con los saldos de la vía Yuma, gestión y cargos financieros capitalizados como parte del proyecto de Modernización de la Refinería, el cual se encuentra actualmente suspendido. Dicha suspensión obedeció a criterios de disciplina de capital definidos para asegurar el crecimiento y la sostenibilidad financiera del Grupo en el contexto adverso que atravesó el sector de hidrocarburos en años anteriores. Este proyecto se encuentra en evaluación dentro del plan estratégico de la Compañía; una vez reactivado el proyecto, cualquier pérdida por impairment reconocida en años anteriores, puede ser sujeta de recuperación.

17.3 TRANSPORTE Y LOGÍSTICA

El valor recuperable de estos activos fue determinado con base en su valor razonable menos costos de disposición, el cual corresponde a los flujos de caja descontados basados en las curvas de producción de hidrocarburos y curvas de transporte de refinados. La jerarquía de valor razonable es de nivel 3.

Los supuestos utilizados en el modelo para determinar el valor recuperable incluyeron: i) las tarifas reguladas por el Ministerio de Minas y Energía y Comisión de Regulación de Energía y Gas – CREG, ii) tasa de descuento real empleada en la valoración fue de 4.88% (2018 – 5.60%) y iii) proyección volumétrica basada en el cierre de volúmenes transportados en 2019 y el balance volumétrico a largo plazo desde el año 2020.

En 2019, se registró un gasto por impairment por \$232,556, relacionado principalmente con la Unidad Generadora de Efectivo (UGE) del Sur por \$106,983, compuesta por el Puerto Tumaco y el Oleoducto TransAndino (OTA), lo cual conlleva a un impairment del 100% del valor en libros y (UGE) Norte por \$125,140; lo anterior incluye los activos por arrendamientos reconocidos como derecho de uso por las dos UGE mencionadas

anteriormente. Este valor se generó principalmente por una disminución en los volúmenes para determinar la proyección de ingresos y la disminución para capturar eficiencias en costos.

En 2018, el principal impairment registrado fue por \$167,917, correspondiente a los sistemas de la Unidad Generadora de Efectivo (UGE) del Sur, compuesta por el Puerto Tumaco y el Oleoducto TransAndino (OTA) y sus oleoductos aferentes el Oleoducto Mansoyá – Orito (OMO), San Miguel – Orito (OSO), y Churuyaco- Orito (OCHO). Este valor se generó principalmente por una disminución en la proyección del volumen a transportar de los sistemas del sur, y un incremento en la necesidad de inversiones de continuidad para disminuir el riesgo operativo de los sistemas de transporte.

En 2017, se presentó una recuperación de impairment para el segmento de transporte y logística por \$59,455 principalmente en el Oleoducto del Sur, que está conformado entre otros, por el Oleoducto Transandino. La recuperación presentada en el año en mención se generó principalmente por un aumento en los flujos del Puerto de Tumaco incluidos en dicha UGE.

18. GOODWILL

	A 31 de diciembre de	
	2019	2018
Oleoducto Central S.A.	683,496	683,496
Hocol Petroleum Ltd	537,598	537,598
Andean Chemical Limited	127,812	127,812
Esenttia S.A.	108,137	108,137
	1,457,043	1,457,043
Menos Impairment Hocol Petroleum Ltd	(537,598)	(537,598)
Total	919,445	919,445

Al 31 de diciembre de 2019, el Grupo evaluó el valor en libros del goodwill generado en la adquisición de compañías controladas. El importe recuperable fue determinado con base en el valor razonable menos costos de disposición usando el valor presente de los flujos de caja futuros para cada una de las compañías adquiridas con crédito mercantil. La fuente de información

consideró las proyecciones financieras de cada Compañía derivados de los planes de negocios aprobados por la Gerencia, los cuales son desarrollados sobre factores macroeconómicos de largo plazo como la curvas de precios y márgenes y supuestos fundamentales de oferta y demanda. Como resultado del análisis, el Grupo no identificó la necesidad de reconocer impairment sobre el goodwill.

19. PRÉSTAMOS Y FINANCIACIONES

En el Anexo 2 se detallan las principales condiciones de los préstamos más significativos del Grupo Empresarial.

19.1 COMPOSICIÓN DE LOS PRÉSTAMOS Y FINANCIACIONES

Salos de los préstamos y financiaciones, que son registrados a su costo amortizado:

	Tasa de interés*		A 31 de diciembre de	
	2019	2018	2019	2018
Moneda nacional				
Bonos	8.7%	8.0%	1,567,598	1,568,034
Créditos sindicados	8.0%	7.9%	1,115,874	1,439,590
Pasivos por arrendamiento (1)	7.2%		1,039,303	591,153
Créditos comerciales y otros	8.3%	7.6%	737,032	449,998
			4,459,807	4,048,775
Moneda extranjera				
Bonos	5.9%	5.7%	25,832,740	25,599,996
Créditos comerciales	7.1%	4.4%	6,586,538	7,352,002
Préstamos partes relacionadas (Nota 30)			1,108,403	855,135
Pasivos por arrendamiento (1)	6.2%		251,651	206,737
			33,779,332	34,013,870
			38,239,139	38,062,645
Corriente			5,012,173	4,019,927
No corriente			33,226,966	34,042,718
			38,239,139	38,062,645

*Tasa de interés efectiva promedio ponderado al cierre de cada periodo

(1) Corresponde principalmente al valor presente de los pagos a ser realizados durante el plazo de los contratos de arrendamiento operativo de oleoductos,

tanques, bienes inmuebles y vehículos, reconocidos como resultado de la implementación de la NIIF 16 Arrendamientos. Ver Nota 5.1.

19.2 PERFIL DE VENCIMIENTOS

Los siguientes son los vencimientos de los préstamos al 31 de diciembre de 2019:

	Hasta 1 año	1 - 5 años	5-10 años	> 10 años	Total
Moneda nacional					
Bonos	571,969	403,996	358,976	232,657	1,567,598
Créditos sindicados	361,545	754,329	-	-	1,115,874
Pasivos por arrendamiento	179,448	559,337	235,791	64,727	1,039,303

	Hasta 1 año	1 - 5 años	5-10 años	> 10 años	Total
Otros	218,375	343,049	121,679	53,929	737,032
	1,331,337	2,060,711	716,446	351,313	4,459,807
Moneda extranjera					
Bonos	1,386,032	13,873,755	5,574,713	4,998,240	25,832,740
Créditos comerciales	1,129,117	4,163,624	1,253,446	40,351	6,586,538
Pasivos por arrendamiento	57,284	175,962	18,405	-	251,651
Préstamos partes relacionadas	1,108,403	-	-	-	1,108,403
Saldo al 31 de diciembre de 2019	3,680,836	18,213,341	6,846,564	5,038,591	33,779,332
	5,012,173	20,274,052	7,563,010	5,389,904	38,239,139

Los siguientes son los vencimientos de los préstamos al 31 de diciembre de 2018:

	Hasta 1 año (1)	1 - 5 años	5-10 años	> 10 años	Total
Moneda nacional					
Bonos	116,693	842,514	362,446	246,381	1,568,034
Créditos sindicados	406,582	1,033,008	-	-	1,439,590
Otros	120,069	491,781	270,920	158,381	1,041,151
	643,344	2,367,303	633,366	404,762	4,048,775
Moneda extranjera					
Bonos	1,374,390	10,605,708	8,664,732	4,955,166	25,599,996
Créditos Refinería de Cartagena	1,116,370	4,061,541	2,174,091	-	7,352,002
Otros	885,823	136,574	39,475	-	1,061,872
	3,376,583	14,803,823	10,878,298	4,955,166	34,013,870
	4,019,927	17,171,126	11,511,664	5,359,928	38,062,645

(1) Incluye créditos de corto plazo y porción corriente de la deuda de largo plazo, según aplique.

19.3 CLASIFICACIÓN SEGÚN TIPO DE INTERÉS

	Al 31 de diciembre de	
	2019	2018
Moneda nacional		
Tasa fija	598,802	252,224
Tasa variable	3,861,005	3,796,551
	4,459,807	4,048,775
Moneda extranjera		
Tasa fija	31,087,439	31,432,667
Tasa variable	2,691,893	2,581,203
	33,779,332	34,013,870
Total préstamos y financiaciones	38,239,139	38,062,645

Los intereses de los bonos en moneda nacional están indexados al IPC (Índice de Precios al Consumidor) y los créditos bancarios y leasing a tasa variable en pesos colombianos están indexados a la DTF (Depósitos a Término Fijo) e IBR

(Indicador Bancario de Referencia), más un diferencial. Los intereses de los préstamos en moneda extranjera se calculan con base en la tasa LIBOR más un diferencial y los intereses de los otros tipos de deuda son a tasa fija.

19.4 DEUDA EN MONEDA EXTRANJERA DESIGNADA COMO INSTRUMENTO DE COBERTURA

Al 31 de diciembre de 2019, Ecopetrol S.A. tiene designados USD\$7,331 millones de la deuda en moneda extranjera como instrumento de cobertura; de los cuales, USD\$6,031 millones corresponden a la

cobertura de inversiones en compañías con moneda funcional dólar y USD\$1,300 millones a la cobertura de flujo de efectivo para futuras exportaciones de crudo. Ver Nota 29 – Gestión de riesgos.

19.5 GARANTÍAS Y COVENANTS

El financiamiento obtenido por el Grupo en los mercados de capital no tiene garantías otorgadas ni restricciones de convenants financieros.

Existen ciertas garantías y restricciones en los siguientes créditos comerciales nacionales adquiridos por las subsidiarias de Ecopetrol, las cuales se han cumplido al 31 de diciembre del 2019 y 2018 así:

- El crédito adquirido por Oleoducto de los Llanos Orientales S.A. se encuentra garantizado con los derechos económicos de los contratos de transporte ship or pay firmados con Frontera Energy Colombia Corp. (antes Meta Petroleum Corp.) y contiene algunas restricciones en cuanto a aportes de capital y disposición de activos.
- El crédito sindicado adquirido por Oleoducto Bicentenario de Colombia S.A.S. establece como requisito que esta subsidiaria mantenga una relación establecida de apalancamiento y solvencia y flujo de caja/servicio a la deuda.
- El crédito adquirido por Bioenergy con Bancolombia se encuentra garantizado con predios denominados La Esperanza 1 y 2 por \$6,343.

19.6 ENMIENDA CRÉDITOS

A 31 de diciembre se concedieron las siguientes enmiendas de créditos a compañías del Grupo:

- Bancolombia concedió prórroga para los contratos de Leasing 120158 y 148090 de Bioenergy Zona Franca S.A.S. hasta el mes de junio de 2020 considerando la necesidad de gestionar la liquidez de corto plazo de la compañía.

19.7 VALOR RAZONABLE

El valor razonable de las obligaciones financieras es de \$43,261,792 y \$38,305,674 al 31 de diciembre de 2019 y 2018, respectivamente.

Para la medición a valor razonable, los bonos en moneda local fueron valorados utilizando los precios de referencia de Precia, mientras que para los bonos

denominados en dólares se tomó como fuente Bloomberg. Respecto a las demás obligaciones financieras para las que no existe un referente de mercado se utilizó una técnica de descuento a valor presente. Las tasas de descuento incorporan el riesgo de mercado mediante algún referente (Libor, DTF) y el riesgo de crédito de la Compañía (*spread*).

19.8 MOVIMIENTO DE LA DEUDA FINANCIERA NETA

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	Efectivo y equivalentes	Otros activos financieros	Préstamos y financiaciones	Deuda financiera neta
Saldo al 31 de diciembre de 2017	7,945,885	6,533,725	(43,547,835)	(29,068,225)
Flujo de efectivo, neto	(2,040,386)	843,612	11,363,077	10,166,303
Diferencia en cambio				
Registrada en el resultado del periodo	406,245	920,609	(816,840)	510,014
Registrada en el otro resultado integral	-	-	(2,165,569)	(2,165,569)
Costo financiero registrado a proyectos	-	-	(217,891)	(217,891)
(Costo) ingreso financiero reconocido en resultados	-	92,906	(2,399,414)	(2,306,508)
Ajuste por conversión	-	(245,958)	(203,446)	(449,404)
Otros movimientos que no generan flujo de efectivo	-	2,921	(74,727)	(71,806)
Saldo al 31 de diciembre de 2018	6,311,744	8,147,815	(38,062,645)	(23,603,086)
Flujo de efectivo, neto	505,466	(3,117,549)	3,303,303	691,220
Diferencia en cambio				
Registrada en el resultado del periodo	258,548	182,396	(151,518)	289,426
Registrada en el otro resultado integral	-	-	(53,911)	(53,911)
Intereses y diferencia en cambio capitalizada	-	-	(261,592)	(261,592)
Costo financiero reconocido en resultados	-	(18,551)	(1,894,490)	(1,913,041)
Ajuste por conversión	-	(204,441)	(14,627)	(219,068)
Otros movimientos que no generan flujo de efectivo	-	(10,378)	(1,103,659)	(1,114,037)
Saldo al 31 de diciembre de 2019	7,075,758	4,979,292	(38,239,139)	(26,184,089)

20. CUENTAS COMERCIALES Y OTRAS CUENTAS POR PAGAR

	A 31 de diciembre de	
	2019	2018
Corriente		
Proveedores	8,115,015	6,878,510
Anticipos asociados	925,761	874,010
Retención en la fuente	673,204	246,867
Dividendos por pagar	157,181	84,657

	A 31 de diciembre de	
	2019	2018
Partes relacionadas (Nota 30)	187,616	116,418
Seguros y reaseguros	136,041	211,883
Acuerdos en contratos de transporte (1)	71,239	210,196
Depósitos recibidos de terceros	39,901	36,655
Acreedores varios	383,288	286,594
	10,689,246	8,945,790
No corriente		
Acreedores varios	24,445	30,522
	24,445	30,522

(1) Corresponde al valor de la deuda por acuerdos pactados en los contratos de transporte por oleoductos y poliductos,

calculados en la compensación volumétrica por calidad y otros acuerdos de manejo de inventarios.

El valor contable de las cuentas comerciales y otras cuentas por pagar es muy cercano a su valor razonable debido a su naturaleza mayoritaria de corto plazo.

21. PROVISIONES POR BENEFICIOS A EMPLEADOS

	A 31 de diciembre de	
	2019	2018
Beneficios post-empleo		
Salud	6,908,799	5,507,784
Pensión	2,853,718	1,452,322
Educación	458,441	479,945
Bonos	352,917	331,064
Otros planes	98,729	82,576
Beneficios por terminación - Plan de retiro voluntario	124,186	137,859
	10,796,790	7,991,550
Prestaciones sociales y salarios	587,596	521,802
Otros beneficios a largo plazo	96,678	93,199

	A 31 de diciembre de	
	2019	2018
	11,481,064	8,606,551
Corriente	1,929,087	1,816,882
No corriente	9,551,977	6,789,669
	11,481,064	8,606,551

21.1 MOVIMIENTO DE LAS OBLIGACIONES ACTUARIALES

La siguiente tabla muestra el movimiento de los pasivos y activos, netos por beneficios post-empleo y beneficios por terminación al 31 de diciembre:

	Pensión y bonos (1)		Otros		Total	
	2019	2018	2019	2018	2019	2018
Pasivos por beneficios post-empleo						
Saldo inicial	14,131,943	14,147,464	6,212,118	6,105,432	20,344,061	20,252,896
Costo del servicio actual	-	-	76,478	77,373	76,478	77,373
Costo del servicio pasado	-	-	-	50,489	-	50,489
Costos por intereses	920,622	888,583	418,553	377,923	1,339,175	1,266,506
(Perdidas) ganancias actuariales	1,755,300	(56,655)	1,273,409	(27,651)	3,028,709	(84,306)
Beneficios pagados	(891,393)	(847,449)	(387,387)	(371,448)	(1,278,780)	(1,218,897)
Saldo final	15,916,472	14,131,943	7,593,171	6,212,118	23,509,643	20,344,061
Activos del plan						
Saldo inicial	12,348,557	12,471,163	3,954	3,245	12,352,511	12,474,408
Rendimiento de los activos	801,065	780,494	217	170	801,282	780,664
Aportes a los fondos	-	-	83,071	371,893	83,071	371,893
Beneficios pagados	(891,393)	(847,449)	(84,243)	(371,448)	(975,636)	(1,218,897)
(Perdidas) ganancias actuariales	451,609	(55,651)	16	94	451,625	(55,557)
Saldo final	12,709,838	12,348,557	3,015	3,954	12,712,853	12,352,511
Pasivo neto	3,206,634	1,783,386	7,590,156	6,208,164	10,796,790	7,991,550

(1) No existe costo por el servicio de pensiones y planes de pensiones, debido a que los beneficiarios fueron retirados al 31 de julio de 2010.

La siguiente tabla muestra el movimiento en los resultados y otros resultados integrales, por los años finalizados al 31 de diciembre:

	Al 31 de diciembre de	
	2019	2018
Resultado del periodo		
Intereses, neto	537,893	485,842
Costo de servicio actuarial	76,478	77,373
Costo de servicio pasado	-	50,489
Redenciones	10,213	503
	624,584	614,207
Otros resultados integrales		
Pensión y bonos	(1,303,693)	1,003
Salud	(1,268,379)	(17,356)
Beneficios plan de retiro voluntario	922	45,509
Pensión y bonos	(34)	93
	(2,571,184)	29,249
Impuesto diferido	771,355	(33,539)
	(1,799,829)	(4,290)

21.2 ACTIVOS DEL PLAN

Los activos del plan están representados por los recursos entregados a Patrimonios Autónomos Pensionales para el pago del pasivo pensional de las obligaciones por mesadas y bonos pensionales; lo concerniente a salud y educación está a cargo de Ecopetrol. La destinación de los recursos de los patrimonios

autónomos, así como sus rendimientos, no puede cambiarse de destinación ni restituirse a la Compañía hasta tanto se cumpla con la totalidad de las obligaciones.

La siguiente es la composición de los activos del plan por tipo de inversión al 31 de diciembre:

	2019	2018
Títulos emitidos por el Gobierno Nacional	4,301,961	4,307,972
Bonos deuda privada	3,122,630	2,910,071
Otros moneda local	1,899,787	2,219,634
Otros bonos públicos	1,082,815	1,014,663

	2019	2018
Otros moneda extranjera	870,859	691,658
Renta variable	823,977	653,828
Otros	610,824	554,685
	12,712,853	12,352,511

El 26.6% del saldo de los activos del plan corresponde a nivel 1 de valor razonable y el 73.4 % están bajo nivel de jerarquía 2.

El valor razonable de los activos del plan se calcula utilizando el precio cotizado en los mercados de activos. La Compañía obtiene estos precios por intermedio de proveedores de datos financieros confiables reconocidos en Colombia o en el extranjero dependiendo de la inversión.

Para los títulos emitidos en moneda local, el valor razonable de los activos del plan se calcula utilizando la información publicada por Precia. De acuerdo con su metodología, los precios pueden ser calculados a partir de información de mercado del día de valoración o estimados a partir de insumos históricos de acuerdo con los criterios establecidos para el cálculo de cada uno de los tipos de precios.

El precio promedio es calculado principalmente del mercado más representativo de las transacciones llevadas a través de plataformas electrónicas aprobadas y supervisadas por el regulador.

Por otro lado, el precio estimado se calcula para las inversiones que no reflejan la información suficiente para estimar un precio promedio de mercado, replicando los precios cotizados para activos similares o precios obtenidos a través de cotizaciones de corredores de bolsa. Este precio estimado también está dado por Precia como resultado de la aplicación de metodologías robustas aprobadas por el regulador financiero y ampliamente utilizado por el sector financiero en Colombia.

La siguiente tabla refleja la calidad crediticia de los emisores y contrapartes en transacciones relacionadas con los patrimonios autónomos:

	A 31 de diciembre de	
	2019	2018
AAA	5,138,279	4,683,190
Nación	4,448,221	4,364,188
AA+	837,009	860,905
BBB-	455,201	426,743
BBB	319,514	193,579
BAA3	219,830	310,788
SP1+	84,933	-
A-1+	78,156	-
BRC1+	68,313	89,211
F1+	56,728	249,361
BBB+	22,113	86,040
A3	17,267	17,075

AA-	16,067	60,382
BAA1	15,538	21,395
AA	6,679	28,367
A	11,841	62,754
Otras calificaciones	30,129	55,768
Sin calificaciones disponibles	887,035	842,765
	12,712,853	12,352,511

Ver política de riesgo de crédito en la Nota 27.4.

21.3 SUPUESTOS ACTUARIALES

Supuestos actuariales utilizados para determinar el valor presente de la obligación neta por beneficios definidos utilizados para los cálculos actuariales al 31 de diciembre:

2019	Pensión	Bonos	Salud	Educación	Otros beneficios (1)
Tasa de descuento	5.75%	5.25%	6.00%	5.50%	4.83%
Incremento salarial	N/A	N/A	N/A	N/A	5.50% / 4.70%
Inflación esperada	3.00%	3.00%	3.00%	3.00%	3.00%
Tasa de incremento de pensiones	3.00%	N/A	N/A	N/A	N/A
Tendencia del costo					
Tasa inmediata	N/A	N/A	7.00%	4.00%	N/A
Tasa largo plazo	N/A	N/A	4.00%	4.00%	N/A
2018	Pensión	Bonos	Salud	Educación	Otros beneficios (1)
Tasa de descuento	6.75%	6.50%	7.00%	6.75%	5.87%
Incremento salarial	N/A	N/A	N/A	N/A	5.10% / 4.70%
Inflación esperada	3.00%	3.00%	3.00%	3.00%	3.00%
Tasa de incremento de pensiones	3.00%	N/A	N/A	N/A	N/A
Tendencia del costo					
Tasa inmediata	N/A	N/A	7.00%	4.00%	N/A
Tasa largo plazo	N/A	N/A	4.00%	4.00%	N/A

N/A: No es aplicable para este beneficio

(1) Tasa de descuento promedio ponderada

La tendencia del costo es el incremento proyectado para el año inicial y la tasa incluye la inflación esperada.

La tabla de mortalidad usada para los cálculos fue la tabla de rentistas para hombres y mujeres tomando la experiencia obtenida para el periodo 2005-2008 del Instituto Colombiano de Seguridad Social.

21.4 PERFIL DE VENCIMIENTOS DE LA OBLIGACIÓN

Flujos de caja futuros para pago de las obligaciones post-empleo:

Periodo	Pensión y bonos	Otros beneficios	Total
2020	949,034	377,313	1,326,347
2021	967,734	384,233	1,351,967
2022	1,000,730	391,324	1,392,054
2023	1,000,770	401,058	1,401,828
2024	1,038,858	404,691	1,443,549
2025 y ss	5,551,125	2,081,228	7,632,353

21.5 ANÁLISIS DE SENSIBILIDAD DE PASIVOS Y ACTIVOS ACTUARIALES

El siguiente análisis de sensibilidad muestra el valor de la obligación por beneficios definidos, considerando el efecto de posibles cambios

sobre las variables del modelo, manteniendo los demás supuestos constantes, al 31 de diciembre de 2019:

	Pensión	Bonos	Salud	Educación	Otros beneficios
Tasa de descuento					
-50 puntos básicos	15,765,778	1,098,700	7,464,162	478,697	231,732
+50 puntos básicos	14,032,277	1,022,732	6,418,743	440,209	220,426
Tasa de inflación					
-50 puntos básicos	14,045,125	1,021,771	N/A	N/A	125,653
+50 puntos básicos	15,744,316	1,099,381	N/A	N/A	128,775

	Pensión	Bonos	Salud	Educación	Otros beneficios
Tasa de incremento de salarios					
-50 puntos básicos	N/A	N/A	N/A	N/A	94,266
+50 puntos básicos	N/A	N/A	N/A	N/A	103,434
Tasa tendencia del costo					
-50 puntos básicos	N/A	N/A	6,425,329	439,471	N/A
+50 puntos básicos	N/A	N/A	7,452,021	478,793	N/A

N/A: No es aplicable para este beneficio.

21.6 PLAN DE RETIRO VOLUNTARIO

La Junta Directiva de Ecopetrol aprobó en octubre de 2019 un plan de retiro voluntario de personal que incluye la desvinculación de empleados a partir de enero de 2020 y hasta diciembre de 2023, mediante 4 modalidades: Cumplimiento del ciclo laboral (pensión), Plan de Retiro A (Renta), Plan de Retiro B (Bonificación) e Indemnización mejorada. Al 31 de diciembre de 2019, el Grupo no ha reconocido provisión relacionada con este plan, dado que se entenderá como obligación en el momento en que la Compañía ofrezca el plan y cada empleado acepte

voluntariamente su retiro acogiéndose a alguna de las modalidades mencionadas.

En agosto de 2016, la Compañía ofreció un plan de retiro voluntario a 200 trabajadores que cumplieran con determinados requisitos. Al 31 de diciembre de 2019, 132 personas se encuentran acogidas a este plan con una obligación asociada de \$124,186 (2018 - \$137,859). Este plan incluye beneficios de renta mensual, educación y salud hasta que el empleado logre su pensión de jubilación.

21.7 PASIVO PENSIONAL FISCAL

La siguiente es la comparación entre la obligación por pasivos pensionales (pensiones y bonos) determinada bajo el marco normativo NCIF y el fiscal:

	Al 31 de diciembre de	
	2019	2018
Pasivo pensional bajo NCIF	15,916,472	14,131,943
Pasivo pensional fiscal	14,219,638	14,226,333
Diferencia	1,696,834	(94,390)

La diferencia entre el saldo del pasivo pensional bajo NICF y fiscal se genera principalmente por la tasa de descuento, la

cual para efectos fiscales es establecida por ley y bajo NCIF calculada según la política contable 4.15 – Beneficios a empleados.

Los supuestos utilizados en cada año fueron los siguientes:

Variable (1)	Al 31 de diciembre de	
	2019	2018
Tasa de interés técnico	4.00%	4.00%
Tasa de descuento nominal	8.07%	9.29%
Tasa de incremento pensional	3.91%	5.09%
Tasa de inflación	3.91%	5.09%
Mortalidad	RV08	RV08

(1) Los supuestos del cálculo actuarial NCIF pueden verse en la Nota 21.3.

22. PROVISIONES Y CONTINGENCIAS

	Costos de abandono y desmantelamiento	Litigios	Contingencias ambientales y otros	Total
Saldo al 31 de diciembre de 2018	6,719,275	127,945	906,792	7,754,012
Aumento costos de abandono	2,188,928	-	-	2,188,928
Adiciones	112,486	58,913	90,854	262,253
Utilizaciones	(410,191)	(45,342)	(59,755)	(515,288)
Costo financiero	226,803	-	3	226,806
Ajuste por conversión	(5,240)	79	1,211	(3,950)
Traslados	3,359	(4,166)	6,334	5,527
Saldo al 31 de diciembre de 2019	8,835,420	137,429	945,439	9,918,288
Corriente	589,411	28,662	171,224	789,297
No corriente	8,246,009	108,767	774,215	9,128,991
	8,835,420	137,429	945,439	9,918,288

	Costos de abandono y desmantelamiento	Litigios	Contingencias ambientales y otros	Total
Saldo al 31 de diciembre de 2017	5,527,324	182,966	827,159	6,537,449
Aumento costos de abandono	1,062,280	-	-	1,062,280
Adiciones (recuperaciones)	71,015	61,851	174,780	307,646
Utilizaciones	(182,130)	(114,647)	(100,215)	(396,992)
Costo financiero	186,518	-	-	186,518
Ajuste por conversión	54,610	(2,368)	10,983	63,225
Traslados	(342)	143	(5,915)	(6,114)
Saldo al 31 de diciembre de 2018	6,719,275	127,945	906,792	7,754,012
Corriente	549,678	88,623	176,108	814,409
No corriente	6,169,597	39,322	730,684	6,939,603
	6,719,275	127,945	906,792	7,754,012

22.1 COSTOS DE ABANDONO Y DESMANTELAMIENTO

El pasivo estimado por costos de abandono corresponde a las obligaciones futuras que tiene el Grupo de restaurar las condiciones ambientales de manera similar a las existentes antes del inicio de proyectos o actividades, de acuerdo a lo descrito en la política 3.5 – *Abandono y desmantelamiento de campos y otras facilidades*. Por tratarse de obligaciones a largo plazo, este pasivo se estima proyectando

los pagos futuros esperados y descontando a valor presente con una tasa referenciada a las obligaciones financieras del Grupo, teniendo en cuenta la temporalidad y riesgos de esta obligación. Las tasas de descuento utilizadas en la estimación de la obligación al 31 de diciembre de 2019 fueron: Producción 3.01% (2018 – 3.54%), Refinación 3.94% (2018 – 3.84%) y Transporte 2.61% (2018 – 3.69%).

22.2 LITIGIOS

El siguiente cuadro detalla los principales litigios reconocidos en el estado de situación financiera consolidado al 31 de diciembre,

cuyas expectativas de pérdidas son de alta probabilidad y podrían implicar una salida de recursos:

Pretensiones	2019	2018
Provisión en ejecución de contratos	93,992	93,992
Controversia por incumplimiento de contrato con las firmas Consulting Group e Industrial Consulting SAS, con la Refinería de Cartagena y se realizó el pago en el año 2019	-	15,541

22.3 CONTINGENCIAS AMBIENTALES Y OTROS

Corresponde principalmente a contingencias por incidentes ambientales y obligaciones de compensación ambiental e inversión forzosa del 1% por el uso, aprovechamiento o afectación de los recursos naturales impuestas por las autoridades ambientales nacionales, regionales y locales. La inversión forzosa del 1% se genera por el uso del agua tomada directamente de fuentes naturales de acuerdo con lo establecido en la Ley 99 de 1993, artículo 43, el Decreto 1900 de 2006, los Decretos 2099 de 2017 y 075 y 1120 de 2018 y artículo 321 de la Ley 1955 de 2019 con relación a los proyectos que el Grupo desarrolla en las regiones.

El Gobierno Nacional a través del Ministerio de Ambiente y Desarrollo Sostenible, expidió en diciembre de 2016 y en enero de 2017 los Decretos 2099 y 075, mediante los cuales modifica el Decreto Único Reglamentario del sector ambiente y desarrollo sostenible, Decreto 1076 de 2015, en lo relacionado con la inversión forzosa por la utilización del agua tomada directamente de fuentes naturales.

En 2017, los principales cambios que establecieron estos decretos se dieron con relación a las áreas de implementación, líneas de inversión y la base de liquidación de las obligaciones. Igualmente, se definió el 30 de junio de 2017 como fecha máxima para modificar los Planes de Inversión que se encuentran en ejecución. El 30 de junio de 2017, Ecopetrol radicó ante la Autoridad Nacional de Licencias Ambientales (ANLA) ciertos planes de inversión del 1% para acogerse a los nuevos decretos, con relación a las líneas de inversión, manteniendo la base de liquidación del Decreto 1900.

Al 31 de diciembre de 2018 la provisión para inversión forzosa del 1% por el uso del agua se estimó con base en los parámetros establecidos en el Decreto 1076 de 2015.

Al 31 de diciembre de 2019 el Grupo culminó la re-certificación de la base de liquidación y el acogimiento al porcentaje de actualización de los valores de inversión del 1%, en cumplimiento del artículo 321 de la Ley 1955 de 2019 generando una menor provisión de esta obligación.

22.4 CONTINGENCIAS

Oleoducto Bicentenario de Colombia S.A.S.

Durante julio de 2018, los remitentes que no hacen parte del Grupo Ecopetrol (Frontera Energy Colombia Corp., Vetra Exploración y Producción Colombia S.A.S. y Canacol Energy Colombia S.A.S.) (en adelante, los "Remitentes"), enviaron comunicaciones a Oleoducto Bicentenario de Colombia S.A.S (en adelante Bicentenario) donde manifestaron pretender dar por terminados de forma

anticipada sus respectivos Contratos de Transporte Ship or Pay celebrados en 2012 (los "Contratos de Transporte").

Conforme a lo anterior, esos Remitentes han dejado de cumplir sus obligaciones bajo dichos Contratos de Transporte. Bicentenario rechazó los términos de las comunicaciones señalando que no hay lugar a una terminación anticipada y ha reiterado a los Remitentes que los

Contratos de Transporte se encuentran vigentes y que sus obligaciones deben ser oportunamente cumplidas.

Bajo el convencimiento de que los Contratos de Transporte continúan vigentes y que los Remitentes antes mencionados continuaron y continúan incumpliendo sus obligaciones bajo los mismos, Bicentenario constituyó en mora a los Remitentes por el no pago de las cuentas de cobro por concepto del servicio de transporte y ejecutó las cartas de crédito stand by previstas como garantías en los Contratos de Transporte.

Agotadas las etapas de arreglo directo con cada Remitente, Bicentenario retiró las demandas inicialmente presentadas y presentó demandas arbitrales en contra de cada uno de ellos, así: (i) el 12 de noviembre de 2019, Bicentenario demandó a Frontera Energy Colombia Corp. al amparo del pacto arbitral contenido en el Contrato de Transporte; (ii) el 10 de diciembre de 2019, Bicentenario demandó a Vetra Exploración y Producción Colombia S.A.S. al amparo del pacto arbitral contenido en el Contrato de Transporte; y (iii) el 26 de diciembre de 2019, Bicentenario demandó a Canacol Energy Colombia S.A.S. al amparo del pacto arbitral contenido en el Contrato de Transporte.

Los tres procesos arbitrales se encuentran en curso.

En paralelo a lo anterior, Bicentenario continuará ejerciendo sus derechos en los términos de los Contratos de Transporte y sus acuerdos relacionados, para garantizar su cumplimiento y reclamar cualquier compensación, indemnización o restitución derivada de la alegada terminación anticipada de dichos contratos, junto con otros incumplimientos.

Cenit Transporte y Logística de Hidrocarburos S.A.S.

Contratos de transporte Ship or Pay:

Dentro de las cláusulas pactadas en los

contratos celebrados con el Grupo Frontera Energy respecto del Oleoducto Caño Limón Coveñas, y en particular la cláusula 13.3 establece que, en caso de suspensión del servicio por causas no imputables a ninguna de las partes, por un período mayor de 180 días calendario continuos, cualquiera de las partes podrá terminar el contrato anticipadamente.

En virtud de lo anterior, el 12 de julio de 2018 CENIT recibió comunicación del Grupo Frontera Energy, en la cual se manifestó la decisión de éste de ejercer la facultad prevista en la cláusula 13.3. de cada uno de los contratos de transporte celebrados respecto del Oleoducto Caño Limón - Coveñas, con el propósito de darlos por terminados anticipadamente. Con relación a lo anterior, CENIT emitió la comunicación CEN-PRE-3451-2018-E de fecha 17 de Julio 2018 en la que se manifiesta que no se ha configurado el supuesto de hecho previsto en la cláusula 13.3 de los contratos en mención, para que el Grupo Frontera Energy tenga la potestad contractual de decidir su terminación anticipada.

En la misma comunicación CENIT manifestó la intención de continuar facturando y cobrando los servicios de transporte establecidos en los contratos mencionados, considerando que los mismos siguen vigentes por lo que Frontera debe cumplir con las obligaciones asumidas en cada uno de ellos.

En el año 2019 CENIT evaluó el reconocimiento de ingresos de acuerdo con los criterios contenidos en la IFRS 15, determinando que no es posible reconocer contablemente los ingresos asociados a este contrato por \$163,852, sin perjuicio de lo anterior, subsisten los derechos y obligaciones contractuales y por ende la controversia con el Grupo Frontera Energy.

Al 31 de diciembre de 2019 los valores adeudados por el Grupo Frontera Energy en relación con el caso descrito anteriormente ascienden a \$334,582.

22.5 DETALLE DE LOS PASIVOS CONTINGENTES

El siguiente es un resumen de los pasivos contingentes no reconocidos en el estado de situación financiera separado, cuya valoración cualitativa está definida como eventual:

Tipo de proceso	2019		2018	
	Cantidad de procesos	Pretensiones	Cantidad de procesos	Pretensiones
Acción constitucional	14	1,092,228	13	1,075,965
Administrativo ordinario	160	780,150	149	701,080
Laboral ordinario	593	49,055	652	76,744
Civil ordinario	52	16,269	54	15,875
Arbitramento	-	-	1	10,608
Laboral especial	13	720	14	1,056
Penal	1	595	1	-
Administrativo ejecutivo	1	28	2	40
Tutela	112	10	105	-
Civil ejecutivo	1	-	2	1,281
	947	1,939,055	993	1,882,649

22.6 DETALLE DE ACTIVOS CONTINGENTES

A continuación se presenta un resumen de los activos contingentes, cuya entrada de beneficios económicos a la Compañía es probable, pero no prácticamente cierta:

Tipo de proceso	2019		2018	
	Cantidad de procesos	Pretensiones	Cantidad de procesos	Pretensiones
Administrativo ordinario	35	373,555	47	229,935
Civil ordinario	75	86,363	40	12,101
Arbitramento	1	67,232	1	261,754

Tipo de proceso	2019		2018	
	Cantidad de procesos	Pretensiones	Cantidad de procesos	Pretensiones
Penal	156	60,177	189	58,481
Civil ejecutivo	61	4,912	65	3,569
Administrativo ejecutivo	11	4,028	15	4,286
Laboral ordinario	50	3,295	51	6,086
Laboral especial	57	307	59	320
Tutela	4	-	6	-
	450	599,869	473	576,532

Refinería de Cartagena S.A.

El 8 de marzo de 2016, Reficar presentó una solicitud de arbitraje ante la Cámara de Comercio Internacional en contra de las sociedades Chicago Bridge & Iron Company N.V., CB&I (UK) Limited y CBI Colombiana S.A. (colectivamente, "CB&I"), relacionada con los incumplimientos de los contratos de ingeniería, procura y construcción celebrados por Reficar y CB&I para la ampliación y modernización de la Refinería de Cartagena, ubicada en Cartagena, Colombia. En su solicitud de Arbitraje, Reficar reclama no menos de USD \$2 mil millones a CB&I.

El 25 de mayo de 2016, CB&I presentó su respuesta a la Solicitud de Arbitraje y la versión preliminar de su contrademanda contra Reficar, la cual ascienda a un valor aproximado de USD \$213 millones. El 27 junio de 2016, Reficar contestó la contrademanda de CB&I, oponiéndose a todas las pretensiones de CB&I.

El 28 de abril de 2017, Reficar presentó su demanda no detallada y, en la misma fecha, CB&I presentó su contrademanda no detallada, reclamando una suma de aproximadamente USD \$116 millones y \$387,558 millones, incluyendo USD \$ 70 millones de una carta de crédito de cumplimiento. Posteriormente, el 16 de marzo de 2018, CB&I presentó su contrademanda detallada, actualizando el valor reclamado a las sumas de USD \$129 millones y \$432,303 millones, incluyendo intereses. En esta misma fecha, Reficar presentó su demanda detallada, en la cual reclama, entre otras pretensiones, la suma aproximada de USD \$ 139 millones por concepto de facturas pagadas

provisionalmente en el marco de los acuerdos MOA y PIP y el Contrato EPC.

El 28 de junio de 2019, Chicago Bridge and Iron Company (CB&I) presentó respuesta a la defensa no detallada de Reficar por la demanda de reconvencción, actualizando el valor de su reclamación aproximadamente USD \$137 millones y \$503,241 millones, incluyendo intereses. Asimismo, CB&I presentó su defensa detallada a la demanda de Reficar.

Reficar presentó defensa detallada a la contrademanda de CB&I y su respuesta al memorial de defensa no detallado de CB&I, actualizando su reclamación por concepto de facturas pagadas provisionalmente en el marco de los acuerdos MOA y PIP y el Contrato EPC a aproximadamente USD\$ 137 millones.

El Tribunal Arbitral está en proceso de definir la fecha en que iniciarán las audiencias en 2020 y, luego de la audiencia, el Tribunal analizará los argumentos de las partes para definir la fecha en la que emitirá el Laudo Arbitral. Hasta el momento en que se profiera el Laudo, el resultado del arbitraje es incierto.

En posible relación con esta materia, a 31 de diciembre de 2019 existe un saldo de USD \$122 millones aproximadamente, en facturas pagadas por Reficar a CB&I, bajo los Acuerdos PIP y MOA del contrato EPC, cuyos soportes suministrados hasta la fecha por CB&I no cuentan con la aceptación de AMEC Foster Wheeler - PCIB.

En enero de 2020, McDermott International Inc., matriz de CB&I se declaró en quiebra y anunció que iniciará una reorganización a instancias del Capítulo 11 de la legislación de Estados Unidos. Ante esta situación, Refinería

de Cartagena ha adelantado acciones para proteger sus intereses y cuenta con un grupo de expertos con quienes continuará evaluando otras medidas que pueda adoptar ante esta nueva circunstancia.

22.7 INVESTIGACIONES DE ENTES DE CONTROL

Refinería de Cartagena S.A.S.

FISCALIA GENERAL DE LA NACIÓN (FGN):

A la fecha se adelantan 3 procesos penales derivados de los hechos relacionados con el proyecto de ampliación y modernización de la refinería de Cartagena.

Proceso 1 – No. 110016000101201600023 - MOA - PIP y EPC

Este proceso se adelanta en contra de algunos antiguos miembros de Junta Directiva de Reficar, antiguos trabajadores de Reficar, trabajadores de Chicago Bridge and Iron Company (CB&I) y el Revisor Fiscal de Reficar entre los años 2013 y 2015; por los delitos de interés indebido en la celebración de contratos, peculado por apropiación en favor de terceros, enriquecimiento ilícito de particulares en favor de terceros y falsedad ideológica en documento público.

El 31 de mayo de 2018, se dio inicio a la respectiva Audiencia de Formulación de Acusación, que continuó el 29 de noviembre de 2018, momento para el cual la FGN adicionó el escrito de acusación y se le solicitaron aclaraciones al mismo, para lo cual se suspendió la diligencia.

El 28 de enero de 2019 se reanudó la audiencia, la FGN realizó las aclaraciones que consideró pertinentes, los acusados interpusieron nulidad del proceso que fue negada por la juez de conocimiento y, el 1 de febrero de 2019, interpusieron recurso de apelación contra esta decisión, recurso que fue concedido en efecto suspensivo ante el Tribunal Superior de Bogotá. El día 7 de junio de 2019, la Sala Penal del Tribunal Superior de Bogotá decidió negar la solicitud de declaratoria de nulidad presentada en la audiencia de acusación.

El 22 de agosto de 2019 finalizó la audiencia de acusación y se reconoció oficialmente como víctimas a Reficar y Ecopetrol S.A.

El 25 de noviembre de 2019 se instaló la audiencia preparatoria de juicio y se agendó la continuación de la misma para los días 27 al 30 de abril del 2020.

Proceso 2 - No. 110016000101201800132

Línea de Negocio

Los días 22 y 23 de octubre de 2018 ante el Juzgado 24 Penal Municipal con Función de Garantías se llevó a cabo la Audiencia de Imputación por delitos de administración desleal agravada en concurso heterogéneo con obtención de documento público falso contra ex miembros de Junta Directiva de Reficar y un funcionario de Reficar. “Reficar actúa en ambas investigaciones en calidad de víctima”.

El 23, 25 y 31 de octubre de 2018 se llevó a cabo la Audiencia de Medidas de Aseguramiento en la cual la FGN solicitó para algunos de los imputados: (i) Prohibición de salir del país, (ii) Presentaciones periódicas ante autoridad, y (iii) Obligación de guardar buena conducta. Sin embargo, el juez se abstuvo de decretar la medida de aseguramiento por considerar que no hay suficientes elementos de juicio que soporten la necesidad de las medidas solicitadas. Contra la decisión del juez 24, la FGN interpuso recurso de apelación que fue resuelto el 20 de febrero de 2019 por el Juez 50 Penal del Circuito, confirmando la decisión de primera instancia y negando las mencionadas medidas.

El 19 de junio de 2019, se presentó escrito de acusación por parte del Fiscal 110 Especializado. El 5 de agosto de 2019, se llevó a cabo la audiencia de acusación ante el Juzgado 34 Penal del Circuito de Conocimiento.

El 18 de noviembre de 2019 se instaló la audiencia preparatoria de juicio, la cual fue suspendida y programada del 2 al 6 de marzo de 2020.

Proceso 3 – No. 110016000101201800134 – Celebración Contrato PMC - Foster Wheeler

El 12 de junio de 2019 se llevó a cabo audiencia de imputación ante el Juzgado 21 Penal de Control de Garantías, en contra de dos ex presidentes de Reficar por el delito de celebración de contrato sin requisitos legales, por haber celebrado el Contrato PMC con el Joint Venture conformado por Foster Wheeler USA Corporation y Process Consultants Inc. de manera directa y no mediante un proceso de selección con pluralidad de oferentes.

El 6 de septiembre de 2019 la FGN presentó el escrito de acusación, el 27 de enero de 2020 se llevó a cabo la audiencia de acusación y se programó la audiencia preparatorio del juicio para el 11 y 24 de marzo de 2020.

CONTRALORÍA GENERAL DE LA REPÚBLICA (CGR)

Auditoría Financiera para la vigencia 2018

La CGR, el 20 de mayo de 2019, radicó en Reficar el Informe Final de Auditoría Financiera para la vigencia 2018. Reficar le solicitó al Contralor General de la República en ejercicio de la facultad que le fue conferida en el numeral 12 del artículo 51 del Decreto Ley 267 de 2000 revisar el mencionado informe y relacionó las motivaciones de la inconformidad; sin embargo, la solicitud no fue acogida.

Auditoría Financiera para la vigencia 2017

El 2 de octubre de 2018, Reficar presentó ante el Consejo de Estado, demanda contencioso-administrativa, en ejercicio del medio de control de nulidad y restablecimiento del derecho en contra del Informe Final de Auditoría Financiera para la vigencia 2017. El 29 de agosto de 2019 el Juez rechazó la demanda por considerar que el informe final de Auditoría es un acto de trámite.

Al respecto, Reficar mediante apoderado judicial presentó recurso de súplica, el cual fue resuelto el 5 de diciembre de 2019 por la Sección Primera, Sala de los Contencioso Administrativa del Consejo de Estado, confirmando el auto que rechazó la demanda.

Proceso de Responsabilidad Fiscal

Mediante Auto No. 773 del 5 de junio de 2018, la CGR dictó auto de archivo e imputación de responsabilidad fiscal dentro del proceso No. PRF-2017-00309_UCC-PRF-005-2017 e imputó responsabilidad a:

Nueve (9) anteriores miembros de la Junta Directiva de Reficar,

Cinco (5) antiguos trabajadores de Reficar (iii) un (1) actual trabajador de Ecopetrol,

Cinco (5) Compañías Contratistas que hicieron parte del proyecto de expansión y modernización de la refinería de Cartagena y,

Cinco (5) Compañías aseguradoras, en calidad de tercero civilmente responsable.

Actualmente la CGR se encuentra practicando las pruebas solicitadas por los sujetos imputados, dentro de los descargos presentados por ellos.

PROCURADURÍA GENERAL DE LA NACIÓN

Se tiene conocimiento de nueve (9) actuaciones disciplinarias adelantadas Procuraduría General de la Nación, cuatro (4) de ellas relacionadas con el Proyecto.

De estas nueve (9) actuaciones, ocho (8) se encuentran en etapas de carácter reservado y una (1) cuenta con información pública.

La investigación cuya información es pública, se adelanta en contra de antiguos funcionarios y miembros de Junta Directiva de Reficar y actualmente se surte la práctica de pruebas de descargos.

La Compañía está cooperando con todos los entes de control y ha dado respuesta de todos los requerimientos de información que han presentado a la fecha.

Dado lo anterior, el Grupo no está en condiciones de pronosticar el resultado de estas investigaciones; como tampoco le es posible evaluar la probabilidad de alguna consecuencia que pueda impactar los estados financieros, tales como provisiones adicionales, multas o desconocimientos de deducciones fiscales que afecten los montos de impuestos diferidos activos, máxime que estas consecuencias no son propias de este tipo de procesos.

A la fecha de este reporte, los estados financieros continúan revelando de manera adecuada la situación financiera y operacional del Grupo en todos los aspectos materiales y sus controles internos se mantienen vigentes.

23. PATRIMONIO

23.1 CAPITAL SUSCRITO Y PAGADO

El capital autorizado de Ecopetrol es \$36,540,000 dividido en 60,000,000,000 de acciones nominativas ordinarias, de las cuales se han suscrito 41,116,694,690 acciones representadas en un 11.51% (4,731,906,273 acciones) en personas naturales y jurídicas no estatales y 88.49% (36,384,788,417 acciones)

en accionistas correspondientes a entidades estatales. El valor de las acciones en reserva asciende a \$11,499,933 conformada por 18,883,305,310 acciones. Al 31 de diciembre de 2019 y 2018, el capital suscrito y pagado ascendía a \$25,040,067. No existe dilución potencial de acciones.

23.2 PRIMA EN COLOCACIÓN DE ACCIONES

Corresponde, principalmente, a: (i) exceso con respecto a su valor nominal originado en la venta de acciones en el momento de efectuarse la capitalización en el 2007 por \$4,457,997, (ii) exceso con respecto a su valor nominal originado en la venta de acciones adjudicadas en la segunda ronda, efectuada en septiembre de 2011 por \$2,118,468. (iii)

\$31,377, al valor generado en el proceso de colocación de acciones en el mercado secundario, originado por la ejecución de garantías a los deudores morosos, de conformidad con lo establecido en el Artículo 397 del Código de Comercio, y (iv) prima en colocación de acciones por cobrar \$(143).

23.3 RESERVAS PATRIMONIALES

La siguiente es la composición de las reservas al 31 de diciembre de 2019 y 2018:

	A 31 de diciembre de	
	2019	2018
Reserva legal	3,243,832	2,088,192
Reservas fiscales y obligatorias	509,082	509,081
Reservas ocasionales	31,744	2,541,622
Total	3,784,658	5,138,895

El movimiento de las reservas patrimoniales es el siguiente:

	A 31 de diciembre de	
	2019	2018
Saldo inicial	5,138,895	2,177,869
Liberación de reservas	(3,050,703)	(751,718)
Apropiación de reservas	5,355,852	3,712,744
Dividendos decretados	(3,659,386)	-
Saldo final	3,784,658	5,138,895

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23.4 UTILIDADES ACUMULADAS Y DIVIDENDOS

El Grupo distribuye dividendos con base en los estados financieros anuales separados de Ecopetrol S.A., preparados bajo las Normas Internacionales de Información Financiera aceptadas en Colombia (NCIF).

La Asamblea General Ordinaria de Accionistas, realizada el día 29 de marzo de 2019, aprobó el proyecto de distribución de utilidades sobre el ejercicio 2018 y definió

distribuir dividendos por \$9,251,256 (2018 - \$3,659,386). Igualmente, la Asamblea Extraordinaria realizada el 16 de diciembre de 2019, aprobó la modificación de la destinación de la reserva ocasional autorizada el 29 de marzo de 2019 con el fin de distribuir un dividendo extraordinario de \$3,659,386. El 100% de los dividendos fueron pagados durante el año.

23.5 OTROS RESULTADOS INTEGRALES ATRIBUIBLES A LOS ACCIONISTAS DE ECOPETROL S.A.

La siguiente es la composición de los otros resultados integrales atribuibles a los accionistas de la controlante, netos de impuesto de renta diferido:

	A 31 de diciembre de	
	2019	2018
Diferencia en cambio en conversiones	10,481,512	10,643,205
Coberturas flujo de efectivo para futuras exportaciones	(535,163)	(1,203,460)
Cobertura de inversión neta en negocio en el extranjero	(1,130,583)	(1,069,316)

	A 31 de diciembre de	
	2019	2018
Ganancias y pérdidas derivadas del plan de beneficio definido	(2,357,210)	(557,381)
Coberturas flujo de efectivo instrumentos derivados	3,689	(30,962)
Otros	1,899	-
	6,464,144	7,782,086

23.6 UTILIDAD BÁSICA POR ACCIÓN

	A 31 de diciembre de		
	2019	2018	2017
Utilidad (pérdida) neta atribuible a los accionistas	13,251,483	11,556,405	6,620,412
Promedio ponderado de acciones en circulación	41,116,694,690	41,116,694,690	41,116,694,690
Ganancia (pérdida) neta básica y diluida por acción (pesos)	322.3	281.1	161.0

24. INGRESOS DE ACTIVIDADES ORDINARIAS

	Por los años terminados a 31 de diciembre de		
	2019	2018	2017
Ventas nacionales			
Destilados medios	13,541,756	11,586,192	9,590,326
Gasolinas y turbocombustibles	9,373,030	7,952,852	6,990,187
Servicios	4,138,455	3,531,404	3,589,553
Gas natural	2,305,543	1,885,846	1,815,754
Plástico y caucho	760,301	822,367	833,982
Asfaltos	544,200	335,426	275,803
G.L.P. y propano	372,916	574,639	509,619
Crudos	356,857	550,479	909,871
Aromáticos	228,552	282,545	217,418

	Por los años terminados a 31 de diciembre de		
	2019	2018	2017
Polietileno	190,133	268,200	167,348
Combustóleo	97,907	509,482	354,058
Otros ingresos contratos gas (1)	102,845	156,031	188,195
Otros productos	507,336	731,604	564,025
	32,519,831	29,187,067	26,006,139
Reconocimiento diferencial precios (2)	1,785,277	3,835,533	2,229,953
	34,305,108	33,022,600	28,236,092
Ventas al exterior			
Crudos	28,523,596	26,898,737	21,479,063
Diesel	4,391,798	3,050,839	1,213,740
Combustóleo	1,870,929	2,053,594	1,982,408
Plástico y caucho	1,200,668	1,268,582	1,169,101
Gasolinas y turbocombustibles	1,085,392	1,782,194	1,223,994
Gas natural	27,255	27,899	32,303
G.L.P. y propano	13,591	20,212	15,631
Amortización cobertura para futuras exportaciones (Nota 29.3)	(1,028,516)	(655,533)	(583,232)
Otros productos	456,948	350,811	441,124
	36,541,661	34,797,335	26,974,132
	70,846,769	67,819,935	55,210,224

(1) Corresponde al ingreso facturado sobre la participación en las utilidades de las ventas de gas, en el marco del acuerdo suscrito entre Ecopetrol y Chevron en 2004, para la extensión del contrato de asociación para la explotación de gas en la Guajira.

(2) Corresponde a la aplicación del Resolución 180522 del 29 de marzo de 2010 y demás

normas que la modifican y adicionan (Decreto 1880 de 2014 y Decreto 1068 de 2015), donde se establece el procedimiento para reconocer el subsidio para refinadores e importadores de la gasolina motor corriente y ACPM, y la metodología para el cálculo de la posición neta (valor generado entre el precio de paridad y el precio regulado, el cual puede ser positivo o negativo).

Ventas por zona geográfica

	2019	%	2018	%	2017	%
Colombia	34,305,108	48.4%	33,022,600	48.7%	28,236,092	51.1%
Estados Unidos	17,094,786	24.1%	14,765,674	21.8%	12,532,932	22.7%
Asia	13,235,475	18.7%	12,271,225	18.1%	6,136,796	11.1%
Centro América y el Caribe	3,436,823	4.9%	4,449,033	6.6%	6,070,565	11.0%
Sur América y otros	1,494,116	2.1%	2,184,101	3.2%	1,203,222	2.2%
Europa	1,280,461	1.8%	1,127,302	1.7%	1,030,617	1.9%
Total	70,846,769	100%	67,819,935	100%	55,210,224	100%

Concentración de clientes

Durante el 2019, Organización Terpel S.A. representó el 16% de total de las ventas del periodo (2018 – 14.0% y 2017 – 14.3%); ningún otro cliente tiene más del 10% del total de ventas. No existe riesgo de que se

afecte la situación financiera del Grupo por una potencial pérdida del cliente. La relación comercial con este cliente es la venta de productos refinados y el servicio de transporte.

25. COSTO DE VENTAS

	Por los años terminados a 31 de diciembre de		
	2019	2018	2017
Costos variables			
Productos importados (1)	12,639,710	11,809,529	11,637,419
Depreciaciones, amortizaciones y agotamientos	5,508,454	5,049,666	5,750,334
Compras de crudo asociación y concesión	5,466,496	3,820,746	2,240,704
Compras de hidrocarburos-ANH(2)	5,437,177	5,667,567	4,338,576
Materiales de proceso	1,016,617	968,884	889,122
Energía eléctrica	829,543	662,297	561,424
Servicios de transporte de hidrocarburos	821,654	696,964	665,714
Regalías de gas en dinero	788,924	441,207	449,959
Compras de otros productos y gas	584,507	632,509	488,056
Servicios contratados asociación	267,778	260,207	195,689
Inventario inicial menos final y otras asignaciones (3)	(676,269)	(186,087)	(663,915)
	32,684,591	29,823,489	26,553,082

	Por los años terminados a 31 de diciembre de		
	2019	2018	2017
Costos fijos			
Depreciaciones y amortizaciones	2,781,446	2,555,176	2,366,849
Mantenimiento	2,497,002	2,260,984	2,038,970
Costos laborales	2,316,567	2,105,803	1,815,213
Servicios contratados	1,841,009	1,796,354	1,414,056
Servicios contratados asociación	1,211,510	1,040,221	1,008,336
Materiales y suministros de operación	574,678	565,601	468,205
Impuestos y contribuciones	516,933	393,690	343,505
Servicios de transporte de hidrocarburos	268,572	261,237	333,671
Costos generales	265,200	366,972	551,587
	12,272,917	11,346,038	10,340,392
	44,957,508	41,169,527	36,893,474

(1) Los productos importados corresponden principalmente a ACPM y diluyente para facilitar el transporte de crudo pesado.

(2) Corresponde a las compras de crudo de regalías que realiza Ecopetrol a la Agencia Nacional de Hidrocarburos (ANH), derivadas de la producción nacional.

(3) Corresponde principalmente a: i) capitalización de costos a los inventarios, producto del proceso de costeo, ii) medición al valor Neto de Realización (VNR) y iii) los préstamos de inventarios por transporte.

26. GASTOS DE ADMINISTRACIÓN, OPERACIÓN Y PROYECTOS

	Por los años terminados a 31 de diciembre de		
	2019	2018	2017
Gastos de administración			
Gastos generales	1,140,975	911,645	723,341
Gastos laborales	759,324	662,258	624,424
Depreciaciones y amortizaciones	202,547	40,838	53,796
Impuestos (1)	48,753	39,117	362,963
	2,151,599	1,653,858	1,764,524

	Por los años terminados a 31 de diciembre de		
	2019	2018	2017
Gastos de operación y proyectos			
Gastos de exploración	763,452	1,387,379	1,341,940
Comisiones, honorarios, fletes y servicios	558,370	466,862	471,657
Impuestos	483,330	433,506	324,223
Gastos laborales	402,531	316,386	310,947
Cuota de fiscalización	94,785	98,794	63,470
Depreciaciones y amortizaciones	75,484	44,318	95,516
Mantenimientos	56,333	50,846	122,273
Diversos	197,469	105,041	196,039
	2,631,754	2,903,132	2,926,065

(1) Incluye principalmente el reconocimiento del impuesto a la riqueza. Ver nota 10 – Impuestos.

27. OTROS (GASTOS) INGRESOS OPERACIONALES, NETOS

	Por los años terminados a 31 de diciembre de		
	2019	2018	2017
(Gasto) por provisiones	(98,020)	(68,398)	(72,408)
(Gasto) por impairment de activos de corto plazo	(90,441)	(105,692)	(68,800)
(Pérdida) utilidad en adquisición de participaciones (1)	1,048,924	(12,065)	451,095
(Pérdida) utilidad en venta de activos	(148,021)	(93,601)	40,227
Gasto disponibilidad gasoductos contratos BOMT's (2)	-	-	(72,318)
Otros ingresos	344,354	244,301	227,607
	1,056,796	(35,455)	505,403

(1) Corresponde a la utilidad por la combinación de negocios realizada de Invercolsa S.A. (ver Nota 12)

(2) Corresponde a los servicios facturados con relación al contrato BOMT's para la construcción, operación, mantenimiento y transferencia de gasoductos con Transgas, este contrato finalizó en agosto de 2017.

28. RESULTADO FINANCIERO

	Por los años terminados a 31 de diciembre de		
	2019	2018	2017
Ingresos financieros			
Resultados provenientes de activos financieros	975,245	745,571	739,148
Rendimientos e intereses	481,674	383,624	405,562
Utilidad en valoración de derivados	-	368	13,236
Dividendos (1)	117,260	-	-
Otros ingresos financieros	49,157	-	1,410
	1,623,336	1,129,563	1,159,356
Gastos financieros			
Intereses (2)	(1,894,490)	(2,399,414)	(2,385,994)
Costo financiero de otros pasivos (3)	(757,509)	(668,782)	(753,047)
Resultados provenientes de activos financieros	(638,767)	(381,445)	(481,308)
Otros gastos financieros	(43,703)	(62,173)	(45,041)
	(3,334,469)	(3,511,814)	(3,665,390)
Ganancia por diferencia en cambio, neta	40,639	372,223	5,514
	(1,670,494)	(2,010,028)	(2,500,520)

(1) En el año 2007, Arrendadora Financiera Internacional Bolivariana (AFIB) y Ecopetrol S.A. suscribieron un acuerdo, mediante el cual se constituyó un encargo fiduciario, en el que se depositaron los dividendos correspondientes al 8.53% de la participación en disputa respecto a las acciones de Invercolsa adquiridas en su momento por Fernando Londoño. En 2019, como resultado del fallo de la Corte Suprema de Justicia, Ecopetrol recibió el monto de los dividendos

que se encontraban en la fiducia. Ver Nota 12 – Combinaciones de negocios.

(2) Al 31 de diciembre se capitalizaron intereses en recursos naturales y propiedad, planta y equipo por \$248,139 (2018 - \$200,833 y 2017 - \$191,651).

(3) Incluye el gasto financiero de la obligación de abandono de activos y los pasivos por beneficios post-empleo.

29. GESTIÓN DE RIESGOS

29.1 RIESGO DE TIPO DE CAMBIO

El Grupo opera principalmente en Colombia y realiza ventas en el mercado local e internacional, por tal razón, está expuesto al riesgo de tipo de cambio. El impacto de las fluctuaciones en las tasas de cambio, especialmente la tasa de cambio peso/dólar de los Estados Unidos, ha sido material.

El peso colombiano se apreció 0.8%, al pasar de una tasa de cierre al 31 de

diciembre de 2018 de \$3,249.75 a \$3,277.14 pesos por dólar al 31 de diciembre de 2019.

Cuando el peso colombiano se aprecia, los ingresos por exportaciones, al ser convertidos a pesos disminuyen y las importaciones y servicio de la deuda externa se tornan menos costosos.

El saldo de los activos y pasivos financieros denominados en moneda extranjera se presenta en la siguiente tabla:

(Millones de USD)	A 31 de diciembre de	
	2019	2018
Efectivo y equivalentes de efectivo	114	514
Otros activos financieros	1,468	2,138
Cuentas comerciales por cobrar y por pagar, neto	81	(202)
Préstamos y financiaciones	(9,429)	(9,689)
Otros activos y pasivos, neto	64	63
Posición pasiva neta	(7,702)	(7,176)

Del total de la posición neta, USD\$(7,769) millones corresponden a pasivos netos de compañías con moneda funcional peso colombiano, de los cuales USD\$(7,331) corresponden a préstamos utilizados como instrumentos de cobertura cuya valoración es reconocida en otros resultados integrales, la valoración por diferencia en cambio de los

restantes activos netos por USD\$(438) millones afectan el estado de ganancias y pérdidas. Así mismo USD\$67 millones de la posición neta corresponden a activos y pasivos monetarios de compañías del Grupo con moneda funcional diferente del peso colombiano, cuya valoración es reconocida en el estado de ganancias y pérdidas.

29.2 ANÁLISIS DE SENSIBILIDAD PARA RIESGO DE TIPO DE CAMBIO

El siguiente es el efecto que tendría una variación del 1% y 5% en tipo de cambio de pesos colombianos frente al dólar de los

Estados Unidos, relacionado con la exposición de activos y pasivos financieros en moneda extranjera al 31 de diciembre de 2019:

Escenario/ Variación en la TRM	Efecto en resultados antes de impuestos (+/-)	Efecto en otros resultados integrales (+/-)
1%	(12,158)	(240,247)
5%	(60,791)	(1,201,236)

29.3 COBERTURA CONTABLE DE FLUJO DE EFECTIVO PARA FUTURAS EXPORTACIONES

Con el objetivo de expresar en los estados financieros el efecto de la cobertura existente entre exportaciones y endeudamiento, entendiendo que el riesgo por tasa de cambio se materializa cuando se realizan las exportaciones, el 30 de septiembre de 2015, la Junta Directiva designó la suma de USD\$5,440 millones de la deuda de Ecopetrol como instrumento de cobertura de sus ingresos futuros por exportación de crudo, para el

periodo 2015 – 2023, de acuerdo con NIIF 9 – Instrumentos financieros.

De acuerdo con la Resolución 509 de 2015 de la Contaduría General de la Nación, esta política contable de reconocimiento de coberturas fue adoptada por Ecopetrol a partir del 1 de enero del 2015.

A continuación, se presenta el movimiento de este instrumento de cobertura no derivado:

(Millones de USD)	A 31 de diciembre de	
	2019	2018
Saldo inicial	1,300	3,332
Reasignación de instrumentos de cobertura	5,551	3,366
Realización de las exportaciones	(5,551)	(3,366)
Amortización del principal (1)	-	(2,032)
Saldo final	1,300	1,300

(1) El 27 de diciembre de 2018, Ecopetrol S.A. pagó anticipadamente la totalidad del bono internacional a 10 años emitido en 2009, cuyo valor nominal era de USD\$1,500 millones.

El siguiente es el movimiento en el otro resultado integral durante cada año:

	A 31 de diciembre de	
	2019	2018
Saldo inicial	1,203,460	1,149,865
Diferencia en cambio	35,608	704,871
Realización de exportaciones (Nota 24)	(1,028,516)	(655,533)
Inefectividad	(5,173)	(35,270)
Impuesto de renta diferido	329,784	39,527
Saldo final	535,163	1,203,460

La reclasificación esperada de la diferencia en cambio acumulada en el otro resultado integral al estado de ganancias o pérdidas tomando un tipo de cambio de \$3,277,14, es la siguiente:

Año	Antes de impuestos	Impuestos	Después de impuestos
2020	247,818	(79,302)	168,516
2021	190,373	(59,016)	131,357
2022	190,373	(57,112)	133,261
2023	145,754	(43,725)	102,029
	774,318	(239,155)	535,163

29.4 COBERTURA DE INVERSIÓN NETA EN NEGOCIO EN EL EXTRANJERO

La Junta Directiva aprobó la aplicación de contabilidad de coberturas de inversión neta a partir del 8 de junio de 2016. La medida busca disminuir la volatilidad del resultado no operacional por efecto de la diferencia en cambio. La cobertura de inversión neta se aplicará a una porción de las inversiones que Ecopetrol S.A. tiene en moneda extranjera, en este caso a las inversiones en filiales con moneda funcional dólar y tiene como

instrumento de cobertura una porción de la deuda denominada en dólares.

Ecopetrol designó como partida cubierta las inversiones netas en Ocesa, Ecopetrol América Inc., Hocol Petroleum Ltd. (HPL) y Reficar y como instrumento de cobertura una porción de su deuda denominada en dólares estadounidenses, en un monto total equivalente a USD \$5,200 millones.

Al 30 de noviembre de 2019, se realizó la ampliación de esta cobertura por USD \$930 millones designando la inversión

neta en Ecopetrol Permian LLC. El saldo del instrumento de cobertura al 31 de diciembre de 2019 es USD \$831 millones.

El siguiente es el movimiento en el otro resultado integral:

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	A 31 de diciembre de	
	2019	2018
Saldo inicial	1,069,316	97,362
Diferencia en cambio	87,524	1,381,900
Inefectividad de cobertura	-	378
Impuesto de renta diferido	(26,257)	(410,324)
Saldo final	1,130,583	1,069,316

29.5 RIESGO DE PRECIO DE COMODITIES

El negocio del Grupo depende sustancialmente de los precios internacionales del crudo y de los productos refinados. Los precios de estos productos son volátiles y por tanto, cambios drásticos podrían afectar adversamente las perspectivas de negocios y resultados de las operaciones. Una alta proporción de los ingresos provienen de las ventas de crudo, gas natural y productos refinados que están indexados a precios internacionales de referencia tales como el Brent. En consecuencia, las fluctuaciones en esos índices tienen un efecto directo en la situación financiera y en los resultados del Grupo.

Las fluctuaciones en los precios de crudo, gas natural y productos refinados se presentan como resultado de una variedad de factores fundamentales, internos y externos tales como: la competencia dentro de la industria de hidrocarburos, cambios en los precios internacionales de crudo, gas natural y productos refinados, cambios en el balance oferta/demanda, cambios regulatorios, factores geopolíticos, desarrollo de nuevas tecnologías, cambios en el costo de capital, condiciones económicas adversas, transacciones en instrumentos financieros

derivados relacionados con el petróleo y gas y disponibilidad de combustibles alternos.

Ecopetrol cuenta con una guía aprobada por la Junta Directiva que le permite utilizar instrumentos financieros derivados en el mercado organizado *over the counter* (OTC) para cubrirse ante los cambios de los precios del crudo y productos refinados, asociados a las transacciones físicas. Ecopetrol tiene implementados procesos apropiados para el manejo del riesgo que incluyen el monitoreo constante del mercado físico y financiero para identificar riesgos y posteriormente elaborar y ejecutar estrategias de cobertura.

Ecopetrol no utiliza regularmente instrumentos derivados para cubrir exposiciones a riesgo de precios de ventas o compras. El impacto de la liquidación de las coberturas de precios realizadas durante el año 2019 no ha sido material y se ejecutaron como instrumentos de cobertura para mitigar el riesgo a índices de precios diferentes al benchmark de la estrategia de comercio internacional en exportaciones de crudo e importaciones de productos.

Durante el año 2019 se liquidaron coberturas de precios con una utilidad de COP\$1,602 y al 31 de diciembre

de 2019 se mantiene una posición abierta a favor del Grupo por COP\$4,868.

29.6 COBERTURAS CON DERIVADOS PARA CUBRIR RIESGO CAMBIARIO

El Grupo realiza operaciones de cobertura forwards con la modalidad Non-Delivery cuyo propósito es mitigar la volatilidad de la tasa de cambio en el flujo de caja requerido para las operaciones de Ocesa, cuya moneda funcional es dólar americano.

Los instrumentos de cobertura Forward utilizados permiten fijar el precio de venta de dólares americanos, buscando contrarrestar el efecto de devaluación o revaluación en el momento en que Ocesa monetiza los recursos necesarios para cubrir sus obligaciones mensuales o puntuales de costo y gastos operacionales y pagos de impuestos, los cuales son pagaderos en pesos colombianos.

Al 31 de diciembre de 2019, se tienen contratos forwards con posición neta corta por USD\$378 millones (2018 – USD\$332 millones) con vencimientos entre enero y diciembre de 2020.

La variación y/o compensación de las operaciones de cobertura realizadas para el pago de impuestos se registran en el estado de resultado integral afectando inicialmente el gasto de renta y su variación posterior en el rubro de diferencia en cambio; la variación de las operaciones de cobertura de costos y gastos se registran en el otro resultado integral siempre y cuando sean efectivas; una vez sea liquidada el resultado de la compensación se registra como menor y/o mayor valor del monto del gasto cubierto.

El impacto en el estado de resultados a diciembre 2019 por la liquidación (realizadas) de estas coberturas ascendió a COP\$60,740 de pérdida (2018 – COP\$80,636 de utilidad) y el monto reconocido en el otro resultado integral fue de COP\$43,141 de utilidad (2018 – COP\$52,174 de pérdida).

29.7 RIESGO DE CRÉDITO

El riesgo de crédito es el riesgo de que el Grupo pueda sufrir pérdidas financieras como consecuencia del incumplimiento: a) en el pago por parte de sus clientes en la venta de crudo, gas, productos o

servicios; b) por parte de las instituciones financieras en las que se mantienen inversiones, o c) de las contrapartes con las que se tienen contratados instrumentos financieros.

29.8 RIESGO DE CRÉDITO PARA CLIENTES

En el proceso de venta de crudos, gas, refinados y productos petroquímicos y servicios de transporte, el Grupo puede estar expuesto al riesgo de crédito en el evento que los clientes incumplan sus compromisos de

pago. La Gerencia de este riesgo ha demandado el diseño de mecanismos y procedimientos que han permitido minimizar su probabilidad de materialización, salvaguardando así el flujo de efectivo del Grupo Empresarial.

El Grupo realiza un análisis continuo de la fortaleza financiera de las contrapartes, el cual implica su clasificación de acuerdo con su nivel de riesgo y respaldos financieros ante una posible cesación de pagos. Asimismo, se realiza un monitoreo constante de las condiciones del mercado nacional e internacional para establecer alertas tempranas de cambios importantes que puedan impactar las obligaciones de pago oportunos de los clientes.

Para la cartera que es considerada deteriorada, se realiza un análisis individual que permite

analizar la situación de cada cliente y así definir las provisiones que haya a lugar. El Grupo lleva a cabo las acciones administrativas y legales necesarias para recuperar las cuentas por cobrar vencidas, así como el reconocimiento de intereses de clientes que no cumplan con las políticas de pago.

El siguiente es el análisis de antigüedad de la cartera por clientes en mora pero no considerada deteriorada al 31 de diciembre de:

	2019	2018
Vencidos con menos de tres meses	243,893	336,993
Vencidos entre 3 y 6 meses	136,700	487,074
Vencidos con más de 6 meses	267,525	93,656
Total	648,118	917,723

29.9 RIESGO DE CRÉDITO PARA RECURSOS DEPOSITADOS EN INSTITUCIONES FINANCIERAS

Siguiendo el Decreto 1525 de 2008, que provee las normas generales sobre inversiones para entidades públicas, Ecopetrol estableció las directrices para la gerencia del portafolio de inversión. Estas directrices determinan que las inversiones de portafolio en dólares de Ecopetrol están limitadas a inversiones del excedente de efectivo en títulos de renta fija emitidos por entidades con calificación A o superior a largo plazo y A1 / P1 / F1 o superior en el corto plazo (escala internacional) por Standard & Poor's Ratings Services, Moody's Investors Service o Fitch Ratings.

Adicionalmente, Ecopetrol también puede invertir en valores emitidos o garantizados por el gobierno de los Estados Unidos o el gobierno colombiano, sin tener en cuenta las calificaciones asignadas a dichos valores. Ecopetrol debe invertir su exceso de efectivo en títulos de renta fija de emisores calificados AAA a largo plazo, y F1 + / BRC1 + en el

corto plazo (escala local) por Fitch Ratings Colombia, BRC o Standard & Poor's. Además, la Compañía también podrá invertir en valores emitidos o garantizados por el gobierno nacional sin restricciones de calificación.

Para diversificar el riesgo en la cartera de pesos, Ecopetrol no invierte más del 10% del exceso de efectivo en un determinado emisor. En el caso de portafolio en dólares, no se invierte más del 5% del exceso de efectivo en un emisor específico a corto plazo (hasta 1 año), o 1% a largo plazo.

La calificación crediticia de los emisores y contrapartes en transacciones que involucran instrumentos financieros se encuentra revelada en las notas 6 – Efectivo y equivalentes de efectivo, Nota 9 – Otros activos financieros y Nota 22 – Provisiones por beneficios a empleados.

29.10 RIESGO DE TASA DE INTERÉS

El riesgo de tasa de interés se ocasiona debido a que existen instrumentos indexados a tasas flotantes tanto en el portafolio de inversiones, como en algunas deudas financieras (LIBOR, DTF e IPC). Por lo tanto, la volatilidad en las tasas de interés puede afectar el costo amortizado, el valor razonable y los flujos de efectivo relacionados con las inversiones, la deuda y los patrimonios autónomos pensionales.

Al 31 de diciembre de 2019 el 17% (2018: 17%) del endeudamiento tiene tasa flotante. Con lo cual, si la tasa de interés de mercado sube, los gastos de financiación aumentarán, lo que podría tener un efecto adverso en los resultados de las operaciones.

El Grupo establece controles para la exposición de tasa de interés, implementando

controles límites en la duración del portafolio, el Valor en Riesgo – VAR y *tracking error*.

Los patrimonios autónomos vinculados a los pasivos pensionales del Grupo están expuestos a cambios en las tasas de interés, debido a que incluyen instrumentos de tasa fija y tasa variable. La regulación colombiana establece lineamientos sobre patrimonios autónomos destinados a la garantía y pago de pensiones (Decretos 941 de 2002 y 1861 de 2012), donde se indica que el régimen aplicable será el mismo establecido para el Fondo Moderado de los Fondos de Pensiones Obligatorias.

La siguiente tabla detalla el impacto en resultados y en el otro resultado integral, para los 12 meses siguientes, ante una variación en las tasas de interés de 100 puntos básicos:

	Efecto en resultados (+/-)		Efecto en ORI (+/-)
	Activos financieros	Pasivos financieros	Patrimonios autónomos
+100 puntos básicos	(16,320)	32,276	(590,991)
-100 puntos básicos	16,278	(32,345)	629,633

La sensibilización ante variación de las tasas de descuento de los pasivos por pensiones se muestra en la Nota 22 - Provisiones por beneficios a empleados.

29.11 RIESGO DE LIQUIDEZ

La habilidad para acceder a los mercados de crédito y de capitales para obtener financiación bajo términos favorables para el plan de inversiones del Grupo Empresarial, puede verse limitada debido a impairment de las condiciones de estos mercados. Una nueva crisis financiera podría empeorar la percepción de riesgo en los mercados emergentes.

De otro lado, la ocurrencia de situaciones que puedan afectar el entorno político y regional de Colombia, podrían dificultar a las subsidiarias, el acceso a los mercados de capitales. Estas condiciones, junto con potenciales pérdidas significativas en el sector de servicios financieros y cambios en las valoraciones del riesgo crediticio, pueden dificultar la obtención de financiación en

términos favorables. Como resultado, el Grupo se puede ver forzado a revisar la oportunidad y alcance de las inversiones según sea necesario, o acceder a los mercados financieros bajo términos menos favorables, afectando por lo tanto, negativamente los resultados de operaciones y la situación financiera.

El riesgo de liquidez se gestiona de acuerdo con las políticas destinadas a garantizar que haya fondos netos suficientes para cumplir con los compromisos financieros del Grupo

dentro de su cronograma de vencimientos, sin costos adicionales. El principal método para la medición y seguimiento de la liquidez es la previsión de flujo de efectivo.

El siguiente es un resumen de la madurez de los pasivos financieros al 31 de diciembre de 2019, los montos presentados en la tabla son los flujos de efectivo contractuales sin descontar, los pagos previstos en moneda extranjera fueron re expresados tomando como tasa de cambio \$3,277.14 pesos/dólar:

	Hasta 1 año	1-5 años	5-10 años	> 10 años	Total
Préstamos (Pago de principal e intereses)	3,680,187	19,206,790	15,022,371	19,480,277	57,389,625
Cuentas comerciales y otras cuentas por pagar	10,689,246	26,621	-	-	10,715,867
Total	14,369,433	19,233,411	15,022,371	19,480,277	68,105,492

29.12 GESTIÓN DEL CAPITAL

El principal objetivo de la gestión del capital del Grupo Empresarial es asegurar una estructura financiera que optimice el costo de capital, maximice el rendimiento a sus accionistas y permita el acceso a los mercados

financieros a un costo competitivo para cubrir sus necesidades de financiación.

El siguiente es el índice de endeudamiento sobre los periodos informados:

	Al 31 de diciembre de	
	2019	2018
Préstamos y financiaciones (Nota 19)	38,239,139	38,062,645
Efectivo y equivalentes de efectivo (Nota 6)	(7,075,758)	(6,311,744)
Otros activos financieros (Nota 9)	(4,979,292)	(8,147,815)
Deuda financiera neta	26,184,089	23,603,086
Patrimonio	60,344,122	59,304,438
Apalancamiento (1)	30.26%	28.47%

(1) Deuda financiera neta / (Deuda financiera neta + Patrimonio)

El movimiento de la deuda financiera neta se detalla en la Nota 19.8.

30. PARTES RELACIONADAS

Los saldos con Compañías asociadas y negocios conjuntos al 31 de diciembre de 2019 y 2018 son los siguientes:

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	Cuentas por cobrar	Cuentas por cobrar - Préstamos	Otros activos	Cuentas por pagar	Préstamos	Otros pasivos
Negocios conjuntos						
Equión Energía Limited (2)	25,333	-	57,016	153,501	1,108,403	794
Ecodiesel Colombia S.A.	2,116	-	-	29,447	-	1
Offshore International Group Inc (1)	-	93,657	-	-	-	-
Asociadas						
Serviport S.A.	-	-	-	4,668	-	-
Saldo al 31 de diciembre de 2019	27,449	93,657	57,016	187,616	1,108,403	795
Corriente	27,449	-	57,016	187,616	1,108,403	795
No corriente	-	93,657	-	-	-	-
	27,449	93,657	57,016	187,616	1,108,403	795
	(Nota 7)	(Nota 7)	(Nota 11)	(Nota 20)	(Nota 19)	
	Cuentas por cobrar	Cuentas por cobrar - Préstamos	Otros activos	Cuentas por pagar	Préstamos	Otros pasivos
Negocios conjuntos						
Equión Energía Limited	22,958	-	19,214	87,079	855,135	67
Ecodiesel Colombia S.A.	522	-	-	23,857	-	1
Offshore International Group Inc (1)	-	117,824	-	-	-	-
Asociadas						
Serviport S.A.	-	-	-	5,482	-	-
Saldo al 31 de diciembre de 2018	23,480	117,824	19,214	116,418	855,135	68
Corriente	23,480	-	19,214	116,418	855,135	68
No corriente	-	117,824	-	-	-	-
	23,480	117,824	19,214	116,418	855,135	68
	(Nota 7)	(Nota 7)	(Nota 11)	(Nota 20)	(Nota 19)	

(1) Savia Perú S.A. (filial de Offshore International Group Inc): Préstamo otorgado por Ecopetrol S.A. por USD\$57 millones en el año 2016, con una tasa de interés del 4.99% E.A. pagaderos semestralmente a partir del 2017 y vencimiento en el 2021. El saldo en valor nominal de este crédito al 31 de diciembre de 2019 es de USD\$28 millones (2018 - USD\$35 millones). El 11 de diciembre de 2019, se otorgó a Savia una enmienda al crédito por parte de Ecopetrol S.A. y Korea National Oil Corporation ("KNOC") relacionados con los pagos del principal a vencerse el 16 de diciembre de 2019 por USD\$7 millones, 15 de junio de 2020 por USD\$7 millones y 15 de diciembre de 2020 por

USD\$7 millones, para que el deudor cancele dicho monto en la fecha de vencimiento del préstamo, es decir, el 19 de febrero de 2021, momento en el cual se realizará el pago final por USD\$28 millones.

(2) La tasa de interés del préstamo con Capital AG es de 2,37%.

Los importes pendientes no están garantizados y se liquidarán en efectivo. No se ha reconocido ningún gasto en el periodo actual ni en periodos anteriores con respecto a incobrables o cuentas de dudoso cobro relacionados con los importes adeudados por partes relacionadas.

Las principales transacciones con partes relacionadas por años finalizados el 31 de diciembre de 2019, 2018 y 2017 se detallan como sigue:

	2019		2018		2017	
	Ventas y servicios	Compras de productos y otros	Ventas y servicios	Compras de productos y otros	Ventas y servicios	Compras de productos y otros
Negocios conjuntos						
Equión Energía Limited	317,382	569,105	67,002	846,284	425,881	598,636
Ecodiesel Colombia S.A.	8,614	280,649	6,860	267,498	6,583	259,269
Offshore International Group Inc	3,245	-	2,386	-	15,188	-
	329,241	849,754	76,248	1,113,782	447,652	857,905

Los dividendos recibidos de estas Compañías están relacionados en la nota 13 – Inversiones en asociadas y negocios conjuntos.

30.1 DIRECTIVOS CLAVE DE LA GERENCIA

De acuerdo con la aprobación impartida por la Asamblea General de Accionistas del año 2012, los honorarios de los directores por asistencia a las reuniones de la Junta Directiva

y/o del Comité aumentaron de cuatro a seis salarios mínimos mensuales legales vigentes, valor que asciende aproximadamente de \$4,969,000 pesos para 2019, a \$4,687,000 pesos

para 2018 y \$4,426,000 pesos para 2017. Para las sesiones no presenciales, se fijan en el 50% de la cuota de las reuniones presenciales. Los miembros de la Junta Directiva no tienen ninguna clase de remuneración variable. El monto cancelado en el año 2019 por concepto de honorarios a miembros de Junta Directiva ascendió a \$1,847 (2018 - \$2,152).

La compensación total pagada a los miembros del Comité Directivo activos al 31 de diciembre del 2019 ascendió a \$24,674 (2018

- \$21,580). Los directores no son elegibles para recibir los beneficios de pensión y jubilación. El importe total reservado al 31 de diciembre de 2019 para proporcionar los beneficios de pensión y jubilación a nuestros funcionarios ejecutivos elegibles ascendió a \$18,740 (2018 - \$5,491).

Al 31 de diciembre de 2019, los siguientes Directivos Clave de la gerencia poseían menos del 1% de las acciones en circulación de Ecopetrol S.A así:

Personal clave de la gerencia	% Acciones
Felipe Bayón	<1% acciones en circulación
Jaime Caballero	<1% acciones en circulación
Orlando Díaz	<1% acciones en circulación
Jorge Calvache	<1% acciones en circulación
Maria Consuelo Barrera	<1% acciones en circulación
Rafael Espinosa Roza	<1% acciones en circulación

30.2 PLANES DE BENEFICIOS POST-EMPLEO

La administración y el manejo de los recursos para el pago de la obligación pensional de Ecopetrol están a cargo de los patrimonios autónomos pensionales (PAP's), los cuales sirven como garantía y fuente de pago. En el año 2008, Ecopetrol S.A. recibió la autorización para conmutar parcialmente el valor correspondiente a mesadas, bonos y cuotas partes, trasladando dichas obligaciones y los dineros que las soportan a patrimonios autónomos de carácter pensional, de acuerdo a lo estipulado en el Decreto 1833 de 2016.

Desde noviembre de 2016, las entidades que administran los recursos son: Fiduciaria Bancolombia, Fiduciaria de Occidente y Consorcio Ecopetrol PACC (conformado por Fiduciaria La Previsora, Fiduciaria Bancoldex, Fiduagraria y Fiduciaria Central). Estas fiduciarias gestionarán los recursos pensionales por un periodo de cinco años (2016-2021) y como contraprestación reciben una remuneración con componentes fijos y variables, éstos últimos se liquidan sobre los rendimientos brutos de los portafolios y con cargo a los recursos administrados.

30.3 ENTIDADES RELACIONADAS DEL GOBIERNO

El Gobierno Colombiano posee el control de Ecopetrol con una participación del 88.49%. Las transacciones más significativas con entidades gubernamentales se detallan a continuación:

a) Compra de hidrocarburos a la Agencia Nacional de Hidrocarburos - ANH

Por la naturaleza del negocio, la Compañía tiene una relación directa con ANH, entidad adscrita al Ministerio de Minas y Energía, cuyo objetivo es administrar integralmente las reservas y recursos de hidrocarburos de propiedad de la Nación.

Ecopetrol compra el crudo que la ANH recibe de todos los productores de Colombia a los precios fijados de acuerdo a una fórmula establecida en conjunto, que refleja los precios de venta de exportación (crudos y productos), ajuste a la calidad de la gravedad API, contenido de azufre, tarifas de transporte de la cabeza del pozo a los puertos de Coveñas y Tumaco, el costo del proceso de refinado y una cuota de comercialización. Este contrato fue prorrogado hasta el 30 de abril de 2020.

Hasta diciembre de 2013, la Compañía comercializó, en nombre de la ANH, el gas natural recibido por ésta en especie de los productores. Desde enero de 2014, la ANH recibe las regalías de producción de gas natural en efectivo.

El valor de compra de hidrocarburos a la ANH se detalla en la Nota 25 - Costo de ventas.

Adicionalmente, Ecopetrol al igual que las demás compañías petroleras, participa en rondas para asignación de bloques exploratorios en territorio colombiano, sin que ello implique un tratamiento especial para Ecopetrol por ser una entidad cuyo accionista mayoritario es el Ministerio de Hacienda y Crédito Público.

b) Diferencial de precios

Los precios de venta del refinador o importador de la gasolina regular y ACPM son regulados por el Gobierno Nacional de manera que varíen máximo un 3% mensual. De esta forma el Gobierno brinda estabilidad al consumidor final. Este precio denominado Ingreso al Productor -IP- no necesariamente refleja el costo de oportunidad de los combustibles siendo necesario reconocerle al refinador/importador esta diferencia. En este sentido, el Gobierno Nacional a través del Fondo de Estabilización de Precios de los Combustibles le reconoce al refinador/importador las diferencias en el caso en que el costo de oportunidad sea mayor al IP, o le cobra al refinador/importar la diferencia cuando el IP es mayor al costo de oportunidad. Este esquema asegura que la Compañía siempre reciba el costo de oportunidad de estos combustibles que vende en el país al Distribuidor Mayorista. El valor de este diferencial se encuentra detallado en la Nota 24 - Ingresos de actividades ordinarias.

c) Dirección de Impuestos y Aduanas Nacionales

Ecopetrol como cualquier otra compañía en Colombia, tiene obligaciones de tipo tributario que debe cumplir ante esta entidad, no se tiene ninguna otra clase de vínculo ni relación de carácter comercial con la misma.

d) Contraloría General de la República

Ecopetrol al igual que las demás entidades estatales en Colombia, tiene la obligación de atender los requerimientos de esta entidad de control y realizar el pago anualmente de la cuota de sostenimiento a dicha entidad. No existe ninguna otra clase de vínculo ni relación de carácter comercial con la misma.

31. OPERACIONES CONJUNTAS

El Grupo realiza parte de sus operaciones a través de los contratos de Exploración y Producción, Evaluación Técnica, contratos y acuerdos firmados con la Agencia Nacional de

Hidrocarburos, así como a través de contratos de asociación y otro tipo de contratos. Las principales operaciones conjuntas en 2019 son las siguientes:

31.1 CONTRATOS EN LOS CUALES EL GRUPO EMPRESARIAL NO ES EL OPERADOR

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Socios	Contrato	Tipo	% Participación	Zona geográfica de operación
Occidental Andina LLC	Chipirón	Producción	30-41%	Colombia
	Cosecha		30%	
	Cravo Norte		55%	
	Rondón		50%	
Chevron Petroleum Company	Guajira	Producción	57%	Colombia
Mansarovar Energy Colombia Ltd	Nare	Producción	50%	Colombia
Meta Petroleum Corp	Quifa	Producción	40%	Colombia
Equión Energía Limited	Piedemonte	Producción	55%	Colombia
Perenco Colombia Limited	Casanare	Producción	74.40%	Colombia
	Corocora		83.91%	
	Estero		95.98%	
	Garcero		91.22%	
	Orocúe		86.47%	
Petrobras, Repsol & Statoil	Tayrona	Exploración	30%	Offshore Caribe Norte
Shell	Deep Rydberg/Aleatico	Exploración	29%	Golfo de México
Noble Energy	Gunflint	Producción	32%	Golfo de México
Murphy Oil	Dalmatian	Producción	30%	Golfo de México
Anadarko	K2	Producción	21%	Golfo de México
Shell – Parmar	Palmer	Exploración	30%	Golfo de México
OXY (Anadarko)	Warrior	Exploración	30%	Golfo de México
HESS	ESOXX	Exploración	21%	Golfo de México
PEMEX Exploracion Y Produccion	Bloque 8	Exploración	50%	Golfo de México
PETRONAS PC Carigali Mexico Operations, S.A. de C.V.	Bloque 6	Exploración	50%	Golfo de México
Occidental Petroleum Company	Rodeo Midland Basin	Producción	49%	Texas U.S. - Midland Basin
Equión Energía Limited	Niscota	Producción	20%	Colombia
CNOOC – British Petroleum	Pau Brasil	Exploración	20%	Brasil
Shell / Chevron	Saturno	Exploración	10%	Brasil
Chevron	CE-M-715_R11	Exploración	50%	Brasil
Lewis	SSJN1	Exploración	50%	Colombia

Socios	Contrato	Tipo	% Participación	Zona geográfica de operación
Interoil Colombia	Mana	Producción	30%	Colombia
Interoil Colombia	Ambrosia	Producción	30%	Colombia
Interoil Colombia	Rio Opia	Producción	30%	Colombia
Canacol	Rancho Hermonso Mirador	Producción	100%	Colombia
Canacol	Rancho Hermoso Otras formaciones	Producción	70%	Colombia
Vetra	La Punta Santo Domingo	Producción	45%	Colombia
Geopark	Llanos 86	Exploración	50%	Colombia
Geopark	Llanos 87	Exploración	50%	Colombia
Geopark	Llanos 104	Exploración	50%	Colombia

31.2 CONTRATOS EN LOS CUALES ECOPETROL ES EL OPERADOR

Socios	Contrato	Tipo	% Participación	Zona geográfica de operación
ExxonMobil Exploration Colombia	VMM29	Exploración	50%	Colombia
	CR2			
	C62			
Talisman Colombia Oil	CP09	Exploración	55%	Colombia
ONGC Videsh Limited Sucursal Colombia	RC9	Exploración	50%	Colombia
CPVEN E&P Corp Sucursal Colombia	VMM32	Exploración	51%	Colombia
Shell Exploration and Production	CR4	Exploración	50%	Colombia
SK Innovation Co Ltd.	San Jacinto	Exploración	70%	Colombia
Repsol Exploración Colombia S.A.	Catleya	Exploración	50%	Colombia
Emerald Energy PLC Suc. Colombia	Cardon	Exploración	50%	Colombia
Parex Resources Colombia Ltd.	ORC401 CRC-2004-01	Exploración	50%	Colombia
Gas Ltd.	CP09 - Akacias	Producción	55%	Colombia
Occidental Andina LLC	La Cira Infantas	Producción	58%	Colombia
	Teca		76%	Colombia
Ramshorn International Limited	Guariques I	Producción	50%	Colombia
Equión Energía Limited	Cusiana Planta de Gas	Producción	98%	Colombia

Socios	Contrato	Tipo	% Participación	Zona geográfica de operación
Perenco Oil And Gas Cepsa Colombia	San Jacinto Rio Paez	Producción	68%	Colombia
Total Colombie Talisman Oil & Gas	Mundo Nuevo	Exploración	15%	Colombia
ONGC Videsh Limited	Contrato Bloque RC-9- Ronda Caribe No. 37-2007	Exploración	50%	Golfo de Mexico

31.3 OPERACIONES RELEVANTES DURANTE EL PERIODO

Durante el 2019 y 2018, se presentaron los siguientes hechos relevantes en los contratos de operaciones conjuntas:

a) Alianza estratégica con Occidental Petroleum Corp.

En julio de 2019 Ecopetrol S.A. y Occidental Petroleum Corp. (OXY), acordaron la conformación de un Joint Operation con el fin de ejecutar un plan conjunto para el desarrollo de Yacimientos No Convencionales en la cuenca Permian en el estado de Texas (EE.UU.).

OXY tiene el 51% de participación de la operación conjunta, Ecopetrol el 49% y se vinculó con un pago inicial del 50% al cierre de la transacción en noviembre 13 de 2019, y el 50% restante con una inversión diferida en el tiempo en actividades contempladas en el plan de desarrollo. El pago total de Ecopetrol equivaldrá a USD\$1.500 millones.

Para viabilizar la operación, se constituyeron dos compañías: Ecopetrol USA Inc. y Ecopetrol Permian LLC.

b) Adquisición 30% descubrimiento Sul de Gato do Mato

El 21 de octubre de 2019 Ecopetrol S.A. anunció que a través de su subsidiaria Ecopetrol Óleo e Gás do Brasil Ltda. suscribió un acuerdo con Shell Brasil Petróleo Ltda para adquirir el 30% de los intereses, derechos y obligaciones en dos áreas que corresponden al Contrato de Concesión BM-S-54 y al Contrato de Producción Compartida Sul de Gato do Mato, ubicados costa afuera en la cuenca Santos de Brasil, dentro del denominado

Presal, en el descubrimiento de hidrocarburos denominado “Gato do Mato” por USD\$105 millones. La compañía Shell reducirá su participación del 80% al 50% con este acuerdo y seguirá como operador, mientras la francesa Total conservará el restante 20%.

El acuerdo suscrito por Ecopetrol Óleo e Gás do Brasil Ltda. y Shell Brasil Petróleo Ltda. está sujeto a las respectivas aprobaciones de cesión a favor de Ecopetrol por parte del Ministerio de Minas y Energía de Brasil y de la Agencia Nacional de Petróleo, Gas Natural y Biocombustibles de Brasil.

c) Acuerdo por la adquisición del 10% en Bloque Saturno

En diciembre de 2018, el Grupo celebró un acuerdo con Shell y Chevron, por una participación del 10% en el bloque Saturno, ubicado en la región central de la cuenca Santos; el cual fue asignado a Shell y Chevron el 28 de septiembre de 2018 en la Quinta Ronda del Pre-Sal realizada por la Agencia Nacional de Petróleo, Gas Natural y Biocombustibles de Brasil (ANP).

El Ministerio de Minas y Energía de Brasil autorizó el 17 de julio de 2019 la cesión del 10% del bloque Saturno por USD\$85 millones, ubicado en la cuenca de Santos, a Ecopetrol Óleo e Gás do Brasil, porcentaje del cual eran titulares, por partes iguales, las compañías Shell Brasil Petróleo Ltda y Chevron Brasil Óleo e Gas Ltda. En la nueva composición, Ecopetrol queda con el 10% de los intereses del bloque, mientras que Shell (operador) y Chevron conservan cada uno un 45% del total.

d) Participación en la Asociación Guajira

El 22 de noviembre Hocol firmó un acuerdo con Chevron Petroleum Company para adquirir su participación en los campos de Chuchupa y Ballena en el departamento de la Guajira. Estos campos son operados por Chevron a través del Contrato de Asociación Guajira (57% Ecopetrol y 43% Chevron). Hocol

adquirirá la participación de Chevron (43%), y tomará la posición de operador.

Esta transacción es sujeta a la aprobación por parte de la Superintendencia de Industria y Comercio (SIC) y no tiene impacto sobre las cifras contables con corte a 31 de diciembre de 2019.

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32. INFORMACIÓN POR SEGMENTOS

La descripción de los segmentos de negocio puede verse en la nota 4.19 - Información por segmentos de negocio.

32.1 ESTADOS DE GANANCIAS O PÉRDIDAS POR SEGMENTOS

La siguiente información por segmentos es reportada con base en la información utilizada por la Junta Directiva, cómo máximo órgano para la toma de decisiones estratégicas y operativas de los segmentos de negocio. El desempeño de los segmentos se basa principalmente en análisis de ingresos, costos, gastos y resultado del periodo generados por cada segmento, los cuales son monitoreados de manera periódica.

La información revelada en cada segmento se presenta neta de las de transacciones realizadas entre las empresas del Grupo Ecopetrol.

A continuación se presentan los estados consolidados de ganancias o pérdidas por los años terminados el 31 de diciembre de 2019, 2018 y 2017:

Al 31 de diciembre de 2019					
	Exploración y Producción	Refinación y Petroquímica	Transporte y Logística	Eliminaciones	Total
Ventas terceros	30,617,016	36,391,329	3,785,129	53,295	70,846,769
Ventas inter segmentos	21,409,232	2,379,476	9,285,601	(33,074,309)	-
Ingresos por ventas	52,026,248	38,770,805	13,070,730	(33,021,014)	70,846,769
Costos de ventas	(36,359,013)	(37,856,219)	(3,738,194)	32,995,918	(44,957,508)
Utilidad bruta	15,667,235	914,586	9,332,536	(25,096)	25,889,261
Gastos de administración	(1,284,560)	(496,155)	(372,942)	2,058	(2,151,599)
Gastos de operación y proyectos	(1,475,710)	(743,378)	(434,904)	22,238	(2,631,754)
(Gasto) recuperación impairment de activos a largo plazo	(1,967,179)	452,163	(232,556)	-	(1,747,572)

Al 31 de diciembre de 2019					
	Exploración y Producción	Refinación y Petroquímica	Transporte y Logística	Eliminaciones	Total
Otros ingresos (gastos) operacionales, neto	49,673	1,014,988	74,607	(82,472)	1,056,796
Resultado de la operación	10,989,459	1,142,204	8,366,741	(83,272)	20,415,132
Resultado financiero, neto					
Ingresos financieros	1,440,440	229,297	273,613	(320,014)	1,623,336
Gastos financieros	(2,311,133)	(996,790)	(306,878)	280,332	(3,334,469)
Ganancia (pérdida) por diferencia en cambio, neto	287,285	(179,936)	(66,710)	-	40,639
	(583,408)	(947,429)	(99,975)	(39,682)	(1,670,494)
Participación en las utilidades de compañías	214,771	17,091	75	122,337	354,274
Resultado antes de impuesto a las ganancias	10,620,822	211,866	8,266,841	(617)	19,098,912
Impuesto a las ganancias	(1,753,370)	(96,902)	(2,746,141)	-	(4,596,413)
Utilidad neta del periodo	8,867,452	114,964	5,520,700	(617)	14,502,499
(Pérdida) utilidad atribuible a:					
A los accionistas	8,929,900	104,310	4,217,890	(617)	13,251,483
Participación no controladora	(62,448)	10,654	1,302,810	-	1,251,016
	8,867,452	114,964	5,520,700	(617)	14,502,499
Al 31 de diciembre de 2018					
	Exploración y Producción	Refinación y Petroquímica	Transporte y Logística	Eliminaciones	Total
Ventas terceros	29,328,963	34,947,948	3,543,024	-	67,819,935
Ventas inter segmentos	20,259,864	2,063,425	7,811,143	(30,134,432)	-
Ingresos por ventas	49,588,827	37,011,373	11,354,167	(30,134,432)	67,819,935
Costos de ventas	(32,224,332)	(35,658,753)	(3,402,087)	30,115,645	(41,169,527)
Utilidad bruta	17,364,495	1,352,620	7,952,080	(18,787)	26,650,408

Al 31 de diciembre de 2018					
	Exploración y Producción	Refinación y Petroquímica	Transporte y Logística	Eliminaciones	Total
Gastos de administración	(889,293)	(443,880)	(320,498)	(187)	(1,653,858)
Gastos de operación y proyectos	(1,993,054)	(668,177)	(263,104)	21,203	(2,903,132)
Impairment de activos a largo plazo	807,970	(984,704)	(169,870)	-	(346,604)
Otros (gastos) ingresos operacionales, neto	(137,836)	(13,652)	118,905	(2,872)	(35,455)
Resultado de la operación	15,152,282	(757,793)	7,317,513	(643)	21,711,359
Resultado financiero, neto					
Ingresos financieros	1,099,893	147,689	110,898	(228,917)	1,129,563
Gastos financieros	(2,037,966)	(1,295,528)	(407,589)	229,269	(3,511,814)
Ganancia (pérdida) por diferencia en cambio, neto	868,479	(517,410)	21,154		372,223
	(69,594)	(1,665,249)	(275,537)	352	(2,010,028)
Participación en las utilidades de compañías	123,949	27,730	2,841	-	154,520
Resultado antes de impuesto a las ganancias	15,206,637	(2,395,312)	7,044,817	(291)	19,855,851
Impuesto a las ganancias	(5,829,335)	1,076,923	(2,569,607)	-	(7,322,019)
Utilidad neta del periodo	9,377,302	(1,318,389)	4,475,210	(291)	12,533,832
Utilidad (pérdida) atribuible a:					
A los accionistas	9,439,750	(1,316,376)	3,433,322	(291)	11,556,405
Participación no controladora	(62,448)	(2,013)	1,041,888		977,427
	9,377,302	(1,318,389)	4,475,210	(291)	12,533,832
Información complementaria					
Depreciación, agotamiento y amortización	3,976,132	952,886	849,441	-	5,778,459
Deterioro de activos no corrientes	(72,303)	(76,988)	(93)	-	(149,384)

Al 31 de diciembre de 2017					
	Exploración y Producción	Refinación y Petroquímica	Transporte y Logística	Eliminaciones	Total
Ventas terceros	24,260,316	27,343,359	3,606,549	-	55,210,224
Ventas inter segmentos	11,490,614	1,300,657	6,991,515	(19,782,786)	-
Ingresos por ventas	35,750,930	28,644,016	10,598,064	(19,782,786)	55,210,224
Costos de ventas	(26,295,232)	(26,855,395)	(3,271,836)	19,528,989	(36,893,474)
Utilidad bruta	9,455,698	1,788,621	7,326,228	(253,797)	18,316,750
Gastos de administración	(781,386)	(516,501)	(466,669)	32	(1,764,524)
Gastos de operación y proyectos	(2,070,916)	(965,457)	(142,847)	253,155	(2,926,065)
Impairment de activos a largo plazo	245,611	1,067,965	59,455	-	1,373,031
Otros ingresos (gastos) operacionales, neto	545,218	(11,694)	(28,121)	-	505,403
Resultado de la operación	7,394,225	1,362,934	6,748,046	(610)	15,504,595
Resultado financiero, neto					
Ingresos financieros	1,058,912	161,647	105,903	(173,702)	1,152,760
Gastos financieros	(2,289,883)	(1,108,516)	(433,908)	173,513	(3,658,794)
Ganancia (pérdida) por diferencia en cambio, neto	(101,030)	163,992	(57,448)	-	5,514
	(1,332,001)	(782,877)	(385,453)	(189)	(2,500,520)
Participación en las utilidades de compañías	60,039	15,245	(42,493)	-	32,791
Resultado antes de impuesto a las ganancias	6,122,263	595,302	6,320,100	(799)	13,036,866
Impuesto a las ganancias	(2,717,128)	(356,563)	(2,561,253)	-	(5,634,944)
Utilidad neta del periodo	3,405,135	238,739	3,758,847	(799)	7,401,922
(Pérdida) utilidad atribuible a:					
A los accionistas	3,405,135	240,920	2,975,156	(799)	6,620,412
Participación no controladora	-	(2,181)	783,691	-	781,510
	3,405,135	238,739	3,758,847	(799)	7,401,922
Información complementaria					
Depreciación, agotamiento y amortización	5,966,442	1,188,871	1,111,182	-	8,266,495

32.2 VENTAS POR PRODUCTO

Las ventas por producto de cada segmento se detallan a continuación para los años terminados al 31 de diciembre de 2019, 2018 y 2017:

	Al 31 de diciembre de 2019				
	Exploración y Producción	Refinación y Petroquímica	Transporte y Logística	Eliminaciones	Total
Ventas nacionales					
Destilados medios	-	13,573,007	-	(31,251)	13,541,756
Gasolinas y turbocombustibles	-	11,269,797	-	(1,896,767)	9,373,030
Servicios	196,527	284,219	13,070,676	(9,412,967)	4,138,455
Gas natural	2,909,770	49,420	-	(653,647)	2,305,543
Plástico y caucho	-	760,301	-	-	760,301
Crudos	21,085,955	-	-	(20,729,098)	356,857
G.L.P. y propano	179,541	193,375	-	-	372,916
Combustóleo	1,464	96,443	-	-	97,907
Asfaltos	24,690	519,510	-	-	544,200
Aromáticos	-	228,552	-	-	228,552
Polietileno	-	190,133	-	-	190,133
Otros ingresos contratos gas	102,845	-	-	-	102,845
Otros productos	25,215	779,405	-	(297,284)	507,336
	24,526,007	27,944,162	13,070,676	(33,021,014)	32,519,831
Reconocimiento diferencial precios	-	1,785,277	-	-	1,785,277
	24,526,007	29,729,439	13,070,676	(33,021,014)	34,305,108
Ventas al exterior					
Crudos	28,461,601	61,995	-	-	28,523,596
Diésel	-	4,391,798	-	-	4,391,798
Combustóleo	-	1,870,929	-	-	1,870,929
Gasolinas y turbocombustibles	-	1,085,392	-	-	1,085,392
Plástico y caucho	-	1,200,668	-	-	1,200,668
Gas natural	27,255	-	-	-	27,255

Al 31 de diciembre de 2019					
	Exploración y Producción	Refinación y Petroquímica	Transporte y Logística	Eliminaciones	Total
G.L.P. y propano	13,591	-	-	-	13,591
Amortización cobertura para futuras exportaciones (Nota 25.1.2)	(1,028,516)	-	-	-	(1,028,516)
Otros productos	26,310	430,584	54	-	456,948
	27,500,241	9,041,366	54	-	36,541,661
	52,026,248	38,770,805	13,070,730	(33,021,014)	70,846,769

Al 31 de diciembre de 2018					
	Exploración y Producción	Refinación y Petroquímica	Transporte y Logística	Eliminaciones	Total
Ventas nacionales					
Destilados medios	725	11,585,467	-	-	11,586,192
Gasolinas y turbocombustibles	-	9,662,200	-	(1,709,348)	7,952,852
Servicios	140,801	226,933	11,354,071	(7,950,991)	3,770,814
Gas natural	2,535,658	-	-	(649,812)	1,885,846
Plástico y caucho	-	822,367	-	-	822,367
Crudos	20,142,527	-	-	(19,592,048)	550,479
G.L.P. y propano	245,875	329,569	-	(805)	574,639
Combustóleo	20,391	489,091	-	-	509,482
Asfaltos	26,406	309,020	-	-	335,426
Aromáticos	-	282,545	-	-	282,545
Polietileno	-	268,200	-	-	268,200
Otros ingresos contratos gas	156,031	-	-	-	156,031
Otros productos	11,484	712,138	-	(231,428)	492,194
	23,279,898	24,687,530	11,354,071	(30,134,432)	29,187,067
Reconocimiento diferencial precios	-	3,835,533	-	-	3,835,533
	23,279,898	28,523,063	11,354,071	(30,134,432)	33,022,600

Al 31 de diciembre de 2018					
	Exploración y Producción	Refinación y Petroquímica	Transporte y Logística	Eliminaciones	Total
Ventas al exterior					
Crudos	26,898,737	-	-	-	26,898,737
Diésel	-	3,050,839	-	-	3,050,839
Combustóleo	-	2,053,594	-	-	2,053,594
Gasolinas y turbocombustibles	-	1,782,194	-	-	1,782,194
Plástico y caucho	-	1,268,582	-	-	1,268,582
Gas natural	27,899	-	-	-	27,899
G.L.P. y propano	20,212	-	-	-	20,212
Amortización cobertura para futuras exportaciones (Nota 25.1.2)	(655,533)	-	-	-	(655,533)
Otros productos	17,614	333,101	96	-	350,811
	26,308,929	8,488,310	96	-	34,797,335
	49,588,827	37,011,373	11,354,167	(30,134,432)	67,819,935

Al 31 de diciembre de 2017					
	Exploración y Producción	Refinación y Petroquímica	Transporte y Logística	Eliminaciones	Total
Ventas nacionales					
Destilados medios	1,334	9,588,992	-	-	9,590,326
Gasolinas y turbocombustibles	-	8,052,289	-	(1,062,102)	6,990,187
Servicios	181,384	221,910	10,597,698	(7,127,640)	3,873,352
Gas natural	2,540,233	4	-	(724,483)	1,815,754
Plástico y caucho	-	833,982	-	-	833,982
Crudos	11,668,529	-	-	(10,758,658)	909,871
G.L.P. y propano	199,796	309,823	-	-	509,619
Asfaltos	34,834	240,969	-	-	275,803
Otros productos	214,059	1,103,089	-	(109,903)	1,207,245
	14,840,169	20,351,058	10,597,698	(19,782,786)	26,006,139
Reconocimiento diferencial precios (2)	-	2,229,953	-	-	2,229,953
	14,840,169	22,581,011	10,597,698	(19,782,786)	28,236,092

Al 31 de diciembre de 2017

	Exploración y Producción	Refinación y Petroquímica	Transporte y Logística	Eliminaciones	Total
Ventas al exterior					
Crudos	21,426,665	52,398	-	-	21,479,063
Diésel	-	1,213,740	-	-	1,213,740
Combustóleo	-	1,982,408	-	-	1,982,408
Gasolinas y turbocombustibles	-	1,223,994	-	-	1,223,994
Plástico y caucho	-	1,169,101	-	-	1,169,101
Gas natural	32,303	-	-	-	32,303
G.L.P. y propano	15,631	-	-	-	15,631
Amortización cobertura para futuras exportaciones (Nota 25.1.2)	(583,232)	-	-	-	(583,232)
Otros productos	19,393	421,364	367	-	441,124
	20,910,760	6,063,005	367	-	26,974,132
	35,750,929	28,644,016	10,598,065	(19,782,786)	55,210,224

32.3 INVERSIÓN POR SEGMENTOS

Los siguientes son los montos de las inversiones realizadas por cada segmento por los años finalizados al 31 de diciembre de 2019, 2018 y 2017:

2019	Exploración y Producción	Refinación y Petroquímica	Transporte	Total
Propiedad, Planta y Equipo	2,151,194	497,512	1,363,953	4,012,659
Recursos naturales	9,798,193	-	-	9,798,193
Intangibles	25,775	20,569	121,945	168,289
	11,975,162	518,081	1,485,898	13,979,141

2018	Exploración y Producción	Refinación y Petroquímica	Transporte	Total
Propiedad, Planta y Equipo	2,080,874	692,977	529,078	3,302,929
Recursos naturales	5,051,828	-	-	5,051,828
Intangibles	56,755	20,203	28,711	105,669
	7,189,457	713,180	557,789	8,460,426

2017	Exploración y Producción	Refinación y Petroquímica	Transporte	Total
Propiedad, Planta y Equipo	927,282	606,749	829,252	2,363,283
Recursos naturales	3,568,355	-	-	3,568,355
Intangibles	154,155	4,941	16,772	175,868
	4,649,792	611,690	846,024	6,107,506

33. RESERVAS DE PETRÓLEO Y GAS

El Grupo empresarial se acoge a los estándares internacionales para la estimación, categorización y reporte de reservas, enmarcados en las definiciones de la U.S. Securities and Exchange Commission (SEC). La Gerencia Corporativa de Reservas de Ecopetrol S.A. presenta en conjunto con la Gerencia de Upstream y la Vicepresidencia de Desarrollo, el balance de reservas a la Junta Directiva para aprobación de divulgación de cifras

Las reservas fueron estimadas en un 99.99% por 5 Compañías especializadas: DeGolyer and

MacNaughton, Ryder Scott Company, Gaffney Cline & Associates, Sproule International Limited y Netherland, Sewell & Associates, Inc. De acuerdo con dichas certificaciones, el reporte de reservas se ajusta al contenido y los lineamientos establecidos en la Regla 4-10 de la regulación S-X de la SEC de los Estados Unidos de América.

La siguiente información corresponde a las reservas probadas netas de propiedad del grupo empresarial al 31 de diciembre de 2019 y 2018, la cual corresponde a los balances oficiales de reservas preparados por el Grupo:

	2019*			2018		
	Petróleo (Mbls)	Gas (Gpc)	Total (Mbe)	Petróleo (Mbls)	Gas (Gpc)	Total (Mbe)
Reservas probadas:						
Saldo inicial	1,201	3,001	1,727	1,088	3,254	1,659
Revisión de estimaciones (1)	74	52	84	121	(4)	121
Recobro mejorado	94	3	94	128	4	129
Compras	142	126	164	-	-	-
Extensiones y descubrimientos	66	2	67	54	18	57
Ventas	-	-	-	-	-	-
Producción	(193)	(278)	(242)	(191)	(270)	(239)
Saldo final	1,384	2,906	1,894	1,200	3,002	1,727
Reservas probadas desarrolladas:						
Saldo inicial	883	2,882	1,389	818	3,158	1,372
Saldo final	898	2,662	1,365	883	2,882	1,389
Reservas probadas no desarrolladas:						
Saldo inicial	317	119	338	270	96	287
Saldo final	486	244	529	317	119	338

* Ninguna cifra fue redondeada para efectos de presentación

(1) Representan los cambios en estimados de reservas probadas previos, hacia arriba o

hacia abajo, resultado de nueva información (excepto por incremento de área probada), normalmente obtenida de perforación de desarrollo e historia de producción o resultado de cambios en factores económicos.

34. EVENTOS SUBSECUENTES

- El 31 de enero de 2020 la Asamblea General de Accionistas de Bioenergy SAS y el 27 de enero de 2020 el accionista único de Bioenergy Zona Franca SAS, aprobaron que estas compañías presentaran solicitud de reorganización bajo la ley 1116. Dicho proceso pretende a través de un acuerdo, preservar las empresas viables y normalizar sus relaciones comerciales y crediticias, mediante su reorganización operacional, administrativa, de activos o pasivos.
- Esta decisión se da como consecuencia de las pérdidas contables acumuladas de las compañías, el aumento del nivel de endeudamiento frente a la estructura de capital inicialmente prevista, y el hecho que la planta industrial no lograra trabajar a su máxima capacidad debido a que los cultivos propios y de terceros no han alcanzado la productividad de caña requerida.
- El 7 de febrero de 2020, Ecopetrol informó que en conjunto con Shell, a través de su subsidiaria Shell EP Offshore Ventures Limited ("Shell"), suscribieron un acuerdo mediante el cual Shell adquirirá el 50% de participación en los bloques Fuerte Sur, Purple Angel y COL-5, localizados en aguas profundas del Caribe colombiano, donde se realizó el descubrimiento de una nueva provincia gasífera con los pozos Kronos (2015), Purple Angel y Gorgon (2017).
- Tras el acuerdo comercial, Shell asumirá la operación de los bloques y se realizará la perforación de un pozo delimitador en el área a finales del 2021 y la realización de la primera prueba de producción, una vez se surtan las respectivas aprobaciones de las autoridades.
- El 21 de febrero de 2020, el Ministerio de Hacienda y Crédito Público, autorizó a Ecopetrol S.A. para la gestión de la emisión y colocación de bonos en el mercado internacional de capitales hasta por la suma de dos mil millones de dólares (USD\$ 2.000 millones). Esta autorización, junto con las demás fuentes disponibles con las que cuenta la Compañía, permite a Ecopetrol seguir fortaleciendo su posición de liquidez ante fluctuaciones inesperadas de los precios del crudo, financiar potenciales oportunidades de crecimiento, optimizar el portafolio de deuda actual y/o reducir el riesgo de refinanciación.

ANEXO 1. COMPAÑÍAS SUBSIDIARIAS CONSOLIDADAS, ASOCIADAS Y NEGOCIOS CONJUNTOS

Compañías subsidiarias consolidadas (1/2)

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Compañía	Moneda funcional	Porcentaje participación Ecopetrol	Actividad	País/ Domicilio	Área geográfica de operaciones	Patrimonio neto	Ganancia (pérdida) del ejercicio	Total activos	Total pasivos
Subsidiarias									
Refinería de Cartagena S.A.S.	Dólar	100%	Refinación de hidrocarburos, comercialización y distribución de productos	Colombia	Colombia	18,931,295	55,834	28,352,931	9,421,636
Cenit transporte y logística de hidrocarburos S.A.S.	Peso Colombiano	100%	Almacenamiento y transporte por ductos de hidrocarburos	Colombia	Colombia	15,592,090	4,295,599	17,772,680	2,180,590
Ecopetrol Global Energy S.L.U.	Dólar	100%	Vehículo de inversión	España	España	7,889,271	1,256,639	7,892,018	2,747
Oleoducto Central S. A. - Ocesa	Dólar	72.65%	Transporte por ductos de petróleo crudo	Colombia	Colombia	4,135,328	2,660,961	7,172,245	3,036,917
Hocol Petroleum Limited.	Dólar	100%	Vehículo de inversión	Bermuda	Bermuda	3,125,806	348,159	3,125,959	153
Ecopetrol América LLC.	Dólar	100%	Exploración y explotación de hidrocarburos	Estados Unidos	Estados Unidos	2,529,782	(64,032)	3,067,856	538,074
Hocol S.A.	Dólar	100%	Exploración, explotación y producción de hidrocarburos	Islas Caimán	Colombia	2,117,792	335,581	3,411,456	1,293,664
Esenttia S.A.	Dólar	100%	Producción y comercialización de resina de polipropileno	Colombia	Colombia	1,734,930	192,107	2,100,014	365,084
Ecopetrol Capital AG	Dólar	100%	Captación de excedentes y financiamiento para compañías del Grupo Empresarial Ecopetrol	Suiza	Suiza	1,630,044	124,098	6,885,838	5,255,794
Oleoducto Bicentenario de Colombia S.A.S.	Peso Colombiano	55.97%	Actividad transporte por ductos de petróleo crudo	Colombia	Colombia	1,569,418	575,910	3,792,998	2,223,580
Andean Chemicals Ltd.	Dólar	100%	Vehículo de inversión	Bermuda	Bermuda	1,210,810	(192,958)	1,211,707	897
Oleoducto de los Llanos Orientales S. A. - ODL	Peso Colombiano	65%	Transporte por ductos de petróleo crudo	Panamá	Colombia	1,079,130	485,516	1,654,772	575,642
Inversiones de Gases de Colombia S.A. Invercolsa S.A. (1)	Peso Colombiano	51.88%	Holding con inversiones en compañías de transporte y distribución de gas natural y GLP en Colombia	Colombia	Colombia	817,849	18,198	1,361,333	543,484
Black Gold Re Ltd.	Dólar	100%	Reaseguradora para compañías del Grupo Empresarial Ecopetrol	Bermuda	Bermuda	751,916	54,547	888,577	136,661

Compañía	Moneda funcional	Porcentaje participación Ecopetrol	Actividad	País/ Domicilio	Área geográfica de operaciones	Patrimonio neto	Ganancia (pérdida) del ejercicio	Total activos	Total pasivos
Oleoducto de Colombia S. A. – ODC	Peso Colombiano	73%	Transporte por ductos de petróleo crudo	Colombia	Colombia	422,898	329,775	663,666	240,768
Compañías subsidiarias consolidadas (2/2)									
Compañía	Moneda funcional	Porcentaje participación Ecopetrol	Actividad	País/ Domicilio	Área geográfica de operaciones	Patrimonio neto	Ganancia (pérdida) del ejercicio	Total activos	Total pasivos
Bioenergy S. A. S.	Peso Colombiano	99.61%	Producción de biocombustibles	Colombia	Colombia	46,756	(270,376)	219,686	172,930
Ecopetrol USA Inc.	Dólar	100%	Exploración y explotación de hidrocarburos	Estados Unidos	Estados Unidos	7,070,295	1,483,597	7,070,295	-
Ecopetrol Permian LLC.	Dólar	100%	Exploración y explotación de hidrocarburos	Estados Unidos	Estados Unidos	3,043,138	(4,768)	3,044,851	1,713
Ecopetrol Oleo é Gas do Brasil Ltda.	Real	100%	Exploración y explotación de hidrocarburos	Brasil	Brasil	728,744	(140,819)	757,348	28,604
Esenttia Masterbatch Ltda.	Peso Colombiano	100%	Fabricación compuestos de polipropileno y masterbatches	Colombia	Colombia	263,152	113,587	347,308	84,156
Bioenergy Zona Franca S. A. S.	Peso Colombiano	99.61%	Producción de biocombustibles	Colombia	Colombia	(89,565)	(236,088)	358,751	448,316
Ecopetrol del Perú S. A.	Dólar	100%	Exploración y explotación de hidrocarburos	Perú	Perú	50,311	(2,025)	52,351	2,040
ECP Hidrocarburos de México S.A. de C.V.	Dólar	100%	Exploración en offshore	México	México	38,144	(73,303)	70,854	32,710
Ecopetrol Costa Afuera S.A.S.	Peso Colombiano	100%	Exploración en offshore	Colombia	Colombia	12,208	(3,760)	32,130	19,922
Ecopetrol Energía S.A.S E.S.P.	Peso Colombiano	100%	Servicio público de suministro de energía	Colombia	Colombia	7,405	3,990	106,773	99,368
Esenttia Resinas del Perú SAC	Dólar	100%	Comercialización resinas de polipropileno y masterbatches	Perú	Perú	4,830	101	28,831	24,001
Ecopetrol Germany Gmbh (2)	Dólar	100%	Exploración y explotación de hidrocarburos	Alemania	Angola	2,283	(12)	2,283	-
Topili Servicios Administrativos S de RL De CV.	Peso Mexicano	100%	Servicios especializados en el ámbito gerencial y dirección	México	México	46	(4)	49	3
Kalixpan Servicios Técnicos S de RL De CV.	Peso Mexicano	100%	Servicios especializados en la industria del petróleo e hidrocarburos	México	México	(3)	(3)	1	4

(1) Corresponde a EEFF consolidados, la utilidad es de un mes de operación (diciembre), los activos y pasivos se presentan acumulados

(2) Compañías en proceso de liquidación.

Compañías asociadas y negocios conjuntos

Compañía	Moneda funcional	Porcentaje participación Ecopetrol	Actividad	País/ Domicilio	Área geográfica de operaciones	Patrimonio neto	Ganancia (pérdida) del ejercicio	Total activos	Total pasivos
Asociadas									
Serviport S.A. (3)	Peso Colombiano	49%	Servicios para el apoyo de cargue y descargue de naves petroleras, suministro de equipos para el mismo propósito, inspecciones técnicas y mediciones de carga	Colombia	Colombia	22,593	1,164	59,044	36,451
Sociedad Portuaria Olefinas y Derivados S.A. (4)	Peso Colombiano	50%	Construcción, uso, mantenimiento, adecuación y administración de instalaciones portuarias, puertos, muelles privados o de servicio al público en general	Colombia	Colombia	3,816	646	6,753	2,937
Negocios conjuntos									
Equión Energía Limited	Dólar	51%	Exploración, explotación y producción de hidrocarburos	Reino Unido	Colombia	2,258,448	261,951	2,636,503	378,055
Offshore International Group Inc.	Dólar	50%	Exploración, explotación y producción de hidrocarburos	Estados Unidos	Perú	736,847	(48,247)	1,766,271	1,029,424
Ecodiesel Colombia S.A. (4)	Peso Colombiano	50%	Producción, comercialización y distribución de biocombustibles y oleoquímicos	Colombia	Colombia	92,191	17,964	147,087	54,896

(3) Información disponible al 30 de septiembre de 2019, la inversión de se encuentra totalmente deteriorada.

(4) Información disponible al 30 de noviembre de 2019.

ANEXO 2 - CONDICIONES DE LOS PRÉSTAMOS MÁS SIGNIFICATIVOS (VALORES NOMINALES)

Clase de crédito	Compañía	Fecha inicio	Fecha vencimiento	Moneda	Valor desembolsado	Saldo pendiente 31-dic-2019	Saldo pendiente 31-dic-2018	Tipo de interés	Amortización del principal	Pago de interés
Bonos Moneda Nacional	Ecopetrol S.A.	dic-10	dic-20	COP	479,900	479,900	479,900	Flotante	Bullet	Semestral
		dic-10	dic-40		284,300	284,300	284,300			
		ago-13	ago-23		168,600	168,600	168,600			
		ago-13	ago-28		347,500	347,500	347,500			
		ago-13	ago-43		262,950	262,950	262,950			
Crédito sindicado moneda nacional	Oleoducto Bicentenario	jul-12	jul-24	COP	2,100,000	1,021,890	1,191,150	Flotante	Trimestral	Trimestral
	ODL Finance S.A.	ago-13	ago-20	COP	800,000	312,608	224,000	Flotante	Trimestral	Trimestral
Crédito comercial	Bioenergy	abr-11	dic-31	COP	505,723	530,733	444,157	Flotante	Mensual	Mensual
Bonos moneda extranjera	Ecopetrol S.A.	sep-13	sep-23	USD	1,300	1,300	1,300	Fijo	Bullet	Semestral
		sep-13	sep-43		850	850	850			
		may-14	may-45		2,000	2,000	2,000			
		sep-14	may-25		1,200	1,200	1,200			
		jun-15	jun-26		1,500	1,500	1,500			
		jun-16	sep-23		500	500	500			
	Oleoducto Central S.A.	may-14	may-21	USD	500	506	500	Fijo	Bullet	Semestral
Créditos comerciales internacionales - Refinería de Cartagena	Ecopetrol S.A.	dic-17	dic-27	USD	2,001	1,530	1,742	Fijo	Semestral	Semestral
		dic-17	dic-27		76	58	66	Flotante		
		dic-17	dic-27		73	56	63	Fijo		
		dic-17	dic-27		159	121	138	Flotante		
		dic-17	dic-25		359	288	321	Flotante		