Ecopetrol S.A.

2025 CDP Corporate Questionnaire 2025

Word version

Important: this export excludes unanswered questions
This document is an export of your organization's CDP questionnaire response. It contains all data points for questions that are answered or in progress. There may be questions or data points that you have been requested to provide, which are missing from this document because they are currently unanswered. Please note that it is your responsibility to verify that your questionnaire response is complete prior to submission. CDP will not be liable for any failure to do so.
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12/16/2025, 12:54 pm

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C1. Introduction

(1.1) In which language are you submitting your response?

Select from:

☑ English

(1.2) Select the currency used for all financial information disclosed throughout your response.

Select from:

☑ COP

(1.3) Provide an overview and introduction to your organization.

(1.3.2) Organization type

Select from:

☑ Publicly traded organization

(1.3.3) Description of organization

Ecopetrol is a Colombian mixed economy company, leading a diversified energy group in Latin America. It has public and private participation, of a commercial nature where the Republic of Colombia is the major shareholder, with an 88.49% interest in the company and affiliated to the Ministry of Mines and Energy (MME). Ecopetrol's shares are listed on the Colombian Stock Exchange (BVC) and its ADRs (American Depositary Receipts) are listed on the New York Stock Exchange (NYSE). Ecopetrol's corporate purpose is undertaking, in Colombia or abroad, (i) industrial and commercial activities related to the exploration, exploitation, refining, transportation, storage, distribution, and trading of hydrocarbons and their derivatives and products; (ii) research, development, and trading of conventional and alternative sources of energy; (iii) production, mixing, storage, transport, and trading of oxygenated components and biofuels, (iv) port operations, and the execution of any related, complementary, activities for achieving the corporate purpose. Ecopetrol currently leads an energy corporate group, managing three lines of business: - Hydrocarbons: It includes the segments and operations in the different links of the hydrocarbon chain, as follows: upstream (exploration and exploitation), midstream (transport and logistics), downstream (refining and petrochemicals), refining products, and trading of crude oil, petrochemical and industrial products. Its objective is to maximize the value of the businesses described above, focusing on environmental and socially responsible operations which are efficient and competitive, and leading a road on decarbonized operations. - Transition energies: It involves the development of transition energies portfolio which includes LPG, biogas, energy management, hydrogen, renewable energy, carbon capture, storage and use, and geothermal businesses, among others. Its objective is to conceptualize and build a comprehensive energy solutions portfolio for the diversification and decarbonization of the Ecopetrol Group's operations, leveraging on cross-cutting synergies with

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other line of business. - Transmission and toll roads: It includes the electricity transmission, road infrastructure, and telecommunications businesses. Its objective is to enhance its performance and capture synergies with other business lines, maximizing the business value by having implemented operating models and regulated returns. Ecopetrol's Colombian operation includes two refineries, one in Barrancabermeja and one in Cartagena, four ports for the export and import of fuels and crude oil in Coveñas, Cartagena and Santa Marta, on the Caribbean Sea, and in Tumaco on the Pacific Ocean. The company also owns most of the country's pipelines and polyducts that connect production systems with large consumption centers and maritime terminals. The most relevant affiliated companies in Colombia are Refinería de Cartagena S.A.S., Cenit Transporte y Logística de Hidrocarburos S.A.S. (Cenit), Oleoducto Central S.A. (Ocensa) and Interconexión Eléctrica S.A. E.S.P (ISA). Ecopetrol's 2040 Corporate Strategy, "Energy that transforms" has four pillars: 1. Growing with the energy transition – This pillar sets the stage for growth and value generation in Ecopetrol Group in alignment with the new demands of the energy transition and of the environment. The two (2) purposes of this pillar are to maximize reserves and the production value while diversifying the Group's portfolio in energy and low emission businesses, aligning itself with the Company's climate efforts. 2. Generating value with TESG (technology, environment, social, and governance) - This pillar responds to socio-environmental challenges and the need to achieve sustainable operations while recognizing and working hand in hand with stakeholders. Climate Change, water and biodiversity as well as 11 other elements, have been identified as materials issues in the Company's materiality exercise, and these are key components of this pillar. 3. Competitive returns – This pillar ensures the growth and value generation of Ecopetrol Group, even in low price environments, by focusing on the hydrocarbons' core and sustainable businesses. 4. Cutting-edge knowledge – This pillar includes all efforts to attract, develop, and retain talent, as well as developing a comprehensive science, technology, and innovation (CTI) strategy. In a cross-cutting way, it also adapts the organization of Ecopetrol Group by implementing digitization processes and adopting agility and innovation. The Company's efforts to minimize the potential impact of the decarbonization of its operations on its workforce are included in this pillar. Note: The scope of this report includes all facilities operated by Ecopetrol S.A. (E&P assets in Colombia and the Cartagena and Barrancabermeja Refineries).
[Fixed row]

(1.4) State the end date of the year for which you are reporting data. For emissions data, indicate whether you will be providing emissions data for past reporting years.

(1.4.1) End date of reporting year

12/31/2024

(1.4.2) Alignment of this reporting period with your financial reporting period

Select from:
☑ Yes

(1.4.3) Indicate if you are providing emissions data for past reporting years

Select from:
☑ Yes

(1.4.4) Number of past reporting years you will be providing Scope 1 emissions data for

Select from:

☑ 3 years

(1.4.5) Number of past reporting years you will be providing Scope 2 emissions data for

Select from:

☑ 3 years

(1.4.6) Number of past reporting years you will be providing Scope 3 emissions data for

Select from:

☑ 3 years

[Fixed row]

(1.4.1) What is your organization's annual revenue for the reporting period?

133330428055800

(1.5) Provide details on your reporting boundary.

(1.5.1) Is your reporting boundary for your CDP disclosure the same as that used in your financial statements?

Select from:

☑ No

(1.5.2) How does your reporting boundary differ to that used in your financial statement?

Currently, Ecopetrol reports environmental performance data (climate, water, and waste) from facilities operated by Ecopetrol, which includes Cartagena Refinery, one of its subsidiaries (which means that the consolidation approach is operational control). Financial statements are presented for Ecopetrol Business Group (GEE, for its Spanish acronym), which includes Ecopetrol SA, its subsidiaries, affiliates, joint ventures, and associates. In total, GEE includes approximately 100 companies. The GEE engages in commercial or industrial activities related to the exploration, exploitation, refining, transportation, storage, distribution and marketing of hydrocarbons, their derivatives and products, as well as electric power transmission services, design, development, construction, operation and maintenance of road and energy infrastructure projects and the provision of information technology and telecommunications services. Since 2021, aligned with target setting, GEE

emissions have been estimated, consolidating the emissions of Ecopetrol SA, Cartagena Refinery, several midstream companies (Cenit, ODL, Ocensa, and ODC), and other companies, including Hocol, Esenttia, Ecodiesel, and ISA. With this exercise, it has been identified that around 85% of Ecopetrol Business Group GHG emissions correspond to the emissions of Ecopetrol SA and Cartagena Refinery. Currently, GEE is in the process of implementing the International Financial Reporting Standards (IFRS) S1 (Sustainability disclosure) and IFRS S2 (Climate-related disclosure) for investors. In this process, the GEE has established that the consolidation approach will be updated to align with financial control, thereby integrating sustainability data with financial statements. It is expected that the first financial control report will be disclosed in 4Q 2025 with 2024 data.
[Fixed row]

(1.6) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

ISIN code - bond

(1.6.1) Does your organization use this unique identifier?

Select from:
☑ Yes

(1.6.2) Provide your unique identifier

US279158AV11

ISIN code - equity

(1.6.1) Does your organization use this unique identifier?

Select from:
☑ Yes

(1.6.2) Provide your unique identifier

COC04PA00016

CUSIP number

(1.6.1) Does your organization use this unique identifier?

Select from:

☑ Yes

(1.6.2) Provide your unique identifier

279158AV1

Ticker symbol

(1.6.1) Does your organization use this unique identifier?

Select from:

☑ Yes

(1.6.2) Provide your unique identifier

NYSE:EC

SEDOL code

(1.6.1) Does your organization use this unique identifier?

Select from:

☑ Yes

(1.6.2) Provide your unique identifier

B2473N4 CO

LEI number

(1.6.1) Does your organization use this unique identifier?

Select from:

☑ No

D-U-N-S number

(1.6.1) Does your organization use this unique identifier?

Select from:

☑ No

Other unique identifier

(1.6.1) Does your organization use this unique identifier?

Select from:

☑ Yes

(1.6.2) Provide your unique identifier

NIT. No. 8999990681
[Add row]

(1.7) Select the countries/areas in which you operate.

Select all that apply

☑ Colombia

(1.19) In which part of the oil and gas value chain does your organization operate?

Oil and gas value chain

☑ Chemicals

☑ Downstream

☑ Upstream

Other divisions

☑ Biofuels

(1.24) Has your organization mapped its value chain?

(1.24.1) Value chain mapped

Select from:

☑ Yes, we have mapped or are currently in the process of mapping our value chain

(1.24.2) Value chain stages covered in mapping

Select all that apply

☑ Upstream value chain

☑ Downstream value chain

(1.24.3) Highest supplier tier mapped

Select from:

☑ Tier 1 suppliers

(1.24.4) Highest supplier tier known but not mapped

Select from:

☑ Tier 2 suppliers

(1.24.7) Description of mapping process and coverage

The supplier screening process evaluates two major variables: 1) Performance assessment contemplates the comprehensive management of sustainability in the execution of contracts; it has 5 ESG evaluation criteria, for Environment (HSE aspect), Social (Labor and Commercial Aspect, and Milieu Management) and Governance (Operational Efficiency, and Contract Terms). According to the comprehensive performance assessment result, the supplier is classified into one of three levels (Exceptional, Satisfactory, or Low performance); 2) Strategic potential measures the potential impact of value generation that the supplier can represent to Ecopetrol; it analyses two indicators: a) Business relevance: includes supplier participation in contracted categories that allows to identify substitutability degree, growth potential according to supplier's financial capabilities, market context, spend analysis, Ecopetrol weight in suppliers income, and impact and risk level of

contracted good or service, b) Social, based on local impact indicator to identify the suppliers that leverage social development in territories through local employment or local goods and services contracting. The screening process result is complemented with the Management Concept of the Supply Chain and Business leaders to validate the data according to the Company's current and future strategies, and the analysis of sensitive issues such as ethical alarms. In addition, Ecopetrol developed a specific Environmental Supplier Screening which identifies strategic suppliers that leverage the goals of decarbonization, materials and waste, water management and natural capital (biodiversity) to prioritize the efforts that must be made in each of the defined environmental postulates. The variables for classification are A) Decarbonization, according to the amount of tCO2e generated in the contract with Ecopetrol, B) Materials and waste, based on the spend of goods or services where waste is generated or that leverage circularity and waste treatment strategies, C) Water neutrality, corresponding to spend of goods or services where there is intensive use of materials that affect Ecopetrol's water footprint, or a waste treatment is carried out, and D) Natural capital -Biodiversity- consisting on spend of goods or services that have an impact on the Net-Zero Deforestation strategy, due to the use of wood.
[Fixed row]

(1.24.1) Have you mapped where in your direct operations or elsewhere in your value chain plastics are produced, commercialized, used, and/or disposed of?

(1.24.1.1) Plastics mapping

Select from:

☑ Yes, we have mapped or are currently in the process of mapping plastics in our value chain

(1.24.1.2) Value chain stages covered in mapping

Select all that apply

☑ Upstream value chain

☑ Downstream value chain

☑ End-of-life management

(1.24.1.4) End-of-life management pathways mapped

Select all that apply

☑ Preparation for reuse

☑ Recycling

[Fixed row]

C2. Identification, assessment, and management of dependencies, impacts, risks, and opportunities

(2.1) How does your organization define short-, medium-, and long-term time horizons in relation to the identification, assessment, and management of your environmental dependencies, impacts, risks, and opportunities?

Short-term

(2.1.1) From (years)

1

(2.1.3) To (years)

5

(2.1.4) How this time horizon is linked to strategic and/or financial planning

The short-term horizon is used to review dependencies, impacts, risks, and opportunities in line with the climate change roadmap. This horizon considers the following aspects: i) establish and achieve annual GHG emission reduction targets in line with the Decarbonization Plan, Water Neutrality and Biodiversity; ii) identify short-term risks and establish mitigation actions, controls and Key Risk Indicators (KRIs); and (iii) identify and implement cost-effective opportunities to contribute to GHG emission reduction targets.

Medium-term

(2.1.1) From (years)

6

(2.1.3) To (years)

12

(2.1.4) How this time horizon is linked to strategic and/or financial planning

The medium-term horizon is used to identify emerging risks that will affect the company in the next 5 years or more and review the portfolio of diversification opportunities.

Long-term

(2.1.1) From (years)

13

(2.1.2) Is your long-term time horizon open ended?

Select from:
☑ Yes

(2.1.4) How this time horizon is linked to strategic and/or financial planning

The long-term horizon is used to analyze market trends, policy and regulatory changes, and emerging technological developments that may affect the company's climate ambition and long-term business strategy.
[Fixed row]

(2.2) Does your organization have a process for identifying, assessing, and managing environmental dependencies and/or impacts?

	Process in place	Dependencies and/or impacts evaluated in this process
	Select from: ☑ Yes	*Select from:* ☑ Both dependencies and impacts

[Fixed row]

(2.2.1) Does your organization have a process for identifying, assessing, and managing environmental risks and/or opportunities?

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	Process in place	Risks and/or opportunities evaluated in this process	Is this process informed by the dependencies and/or impacts process?
	Select from: ☑ Yes	*Select from:* ☑ Both risks and opportunities	*Select from:* ☑ Yes

[Fixed row]

(2.2.2) Provide details of your organization's process for identifying, assessing, and managing environmental dependencies, impacts, risks, and/or opportunities.

Row 1

(2.2.2.1) Environmental issue

Select all that apply

☑ Climate change

(2.2.2.2) Indicate which of dependencies, impacts, risks, and opportunities are covered by the process for this environmental issue

Select all that apply

☑ Risks

☑ Opportunities

(2.2.2.3) Value chain stages covered

Select all that apply

☑ Direct operations

(2.2.2.4) Coverage

Select from:

☑ Full

(2.2.2.7) Type of assessment

Select from:

☑ Qualitative and quantitative

(2.2.2.8) Frequency of assessment

Select from:

☑ Annually

(2.2.2.9) Time horizons covered

Select all that apply

☑ Short-term

☑ Medium-term

☑ Long-term

(2.2.2.10) Integration of risk management process

Select from:

☑ Integrated into multi-disciplinary organization-wide risk management process

(2.2.2.11) Location-specificity used

Select all that apply

☑ National

(2.2.2.12) Tools and methods used

Commercially/publicly available tools

☑ TNFD – Taskforce on Nature-related Financial Disclosures

☑ Other commercially/publicly available tools, please specify :TCFD - Taskforce on Climate-related Financial Disclosures

Enterprise Risk Management

☑ COSO Enterprise Risk Management Framework

☑ Enterprise Risk Management

☑ Internal company methods

☑ ISO 31000 Risk Management Standard

International methodologies and standards

☑ IPCC Climate Change Projections

Databases

☑ Nation-specific databases, tools, or standards

Other

☑ Desk-based research

☑ Internal company methods

☑ Materiality assessment

☑ Scenario analysis

(2.2.2.13) Risk types and criteria considered

Acute physical

☑ Drought

☑ Flood (coastal, fluvial, pluvial, ground water)

☑ Heavy precipitation (rain, hail, snow/ice)

☑ Wildfires

☑ Other acute physical risk, please specify :Wind

Chronic physical

☑ Heat stress

☑ Increased severity of extreme weather events

☑ Temperature variability

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Policy

☑ Carbon pricing mechanisms

☑ Changes to international law and bilateral agreements

☑ Changes to national legislation

☑ Increased difficulty in obtaining operations permits

☑ Other policy, please specify :Offsetting limitations

Market

☑ Availability and/or increased cost of raw materials

☑ Changing customer behavior

☑ Uncertainty in the market signals

Reputation

☑ Increased partner and stakeholder concern and partner and stakeholder negative feedback

☑ Negative press coverage related to support of projects or activities with negative impacts on the environment (e.g. GHG emissions, deforestation & conversion, water stress)

☑ Stigmatization of sector

Technology

☑ Unsuccessful investment in new technologies

Liability

☑ Exposure to litigation

☑ Non-compliance with regulations

(2.2.2.14) Partners and stakeholders considered

Select all that apply

☑ Customers

☑ Investors

☑ Regulators

☑ Suppliers

(2.2.2.15) Has this process changed since the previous reporting year?

Select from:

☑ No

(2.2.2.16) Further details of process

Ecopetrol has the Integrated Risk Management System (IRS) to manage uncertainty and avoid, reduce, or mitigate risks, maximize opportunities, develop strategies, and make decisions. The reference framework that contains the provisions for integrating risk management into the company's activities and functions, and is based on the ISO 31000 standard. This system is supervised by the Board of Directors through its Audit and Risk Committee. The risk management cycle contains five stages: Planning: Definition of the scope of the activities and analyses of internal and external context. Identify: Risk identification based on the opinion of the people involved and the analysis of the information. Evaluate: Analysis of causes and consequences. Treat: Selection and implementation of measures for addressing risk. Communication and consultation, monitoring and review and, record and report: Exchange of information, continuous monitoring, and periodic review of risk exposure. The risk appetite refers to how much risk the company is willing to assume for achieving its objectives, and guides risk-based decision making. Tolerance to risk indicates acceptable results or variations in relation to the achievement of objectives. Additionally, there are strategic, financial and operational risk parameters that complement the company risk appetite. Ecopetrol applies the Risk Assessment Matrix (RAM) that contains descriptive scales of probability of occurrence and impacts on dimensions such as people, environment, economic resources, reputation, and customers. According to the combination of probability and impact, the risk levels are Very High, High, Medium, Low and Very Low. Risk assessment considers the magnitude of the consequences and their probability of occurrence, obtaining basic information to prioritize risks and make decisions regarding treatment. This risk assessment includes the calculation of the level of inherent and residual risk, according to the probability and impact scales, and the tolerance and acceptance levels defined in RAM. Within the IRS framework, depending on the level at which risks are managed, they are classified as strategic, tactical, or operational considering specific regulations and adopted standards. Ecopetrol has a business risk related to environmental issues named "Inadequate response to challenges associated with climate change, water and biodiversity", which manage the company's exposure to negative impacts due to low capacity to provide timely, efficient and effective response to commitments, obligations and expectations related to climate change, water and biodiversity. In addition, Ecopetrol analyzed physical risks for 95 locations of the main assets in Colombia, using 3 IPCC climate scenarios: SSP1/RCP2.6, SSP2/RCP4.5, and SSP5/RCP8.5 and risks related to drought, thermal stress, precipitation, coastal and river flooding, forest fires and wind. As for transition risks, in 2024, the company presented energy transition scenarios under a qualitative approach. These scenarios aim to be a solid and unified reference framework that allows the Ecopetrol Group to anticipate and understand the energy transition challenges and opportunities, through the presentation and comparison of three scenarios: Climate Alignment (1.7° - 1.8°C), Energy Balance (1.9° - 2.3°C) and Climate Divergence (2.5° - 2.8°C). Ecopetrol uses this analysis as one of the criteria in the process of reviewing and updating its corporate strategy

Row 2

(2.2.2.1) Environmental issue

Select all that apply

☑ Water

(2.2.2.2) Indicate which of dependencies, impacts, risks, and opportunities are covered by the process for this environmental issue

Select all that apply

☑ Dependencies

☑ Impacts

☑ Risks

☑ Opportunities

(2.2.2.3) Value chain stages covered

Select all that apply

☑ Direct operations

☑ Upstream value chain

(2.2.2.4) Coverage

Select from:

☑ Full

(2.2.2.5) Supplier tiers covered

Select all that apply

☑ Tier 1 suppliers

(2.2.2.7) Type of assessment

Select from:

☑ Qualitative and quantitative

(2.2.2.8) Frequency of assessment

Select from:

☑ Annually

(2.2.2.9) Time horizons covered

Select all that apply

☑ Short-term

☑ Medium-term

☑ Long-term

(2.2.2.10) Integration of risk management process

Select from:

☑ Integrated into multi-disciplinary organization-wide risk management process

(2.2.2.11) Location-specificity used

Select all that apply

☑ Site-specific

(2.2.2.12) Tools and methods used

Commercially/publicly available tools

☑ WRI Aqueduct

☑ WWF Water Risk Filter

Enterprise Risk Management

☑ COSO Enterprise Risk Management Framework

☑ Enterprise Risk Management

☑ ISO 31000 Risk Management Standard

International methodologies and standards

☑ Environmental Impact Assessment

☑ IPCC Climate Change Projections

☑ ISO 14046 Environmental Management – Water Footprint

Databases

☑ Nation-specific databases, tools, or standards

☑ Regional government databases

(2.2.2.13) Risk types and criteria considered

Acute physical

☑ Drought

Chronic physical

☑ Water stress

☑ Change in land-use

☑ Groundwater depletion

☑ Declining water quality

☑ Water quality at a basin/catchment level

☑ Changing precipitation patterns and types (rain, hail, snow/ice)

☑ Precipitation or hydrological variability

☑ Increased severity of extreme weather events

☑ Water availability at a basin/catchment level

☑ Seasonal supply variability/interannual variability

☑ Changing temperature (air, freshwater, marine water)

Policy

☑ Regulation of discharge quality/volumes

Market

☑ Inadequate access to water, sanitation, and hygiene services (WASH)

Reputation

☑ Stakeholder conflicts concerning water resources at a basin/catchment level

(2.2.2.14) Partners and stakeholders considered

Select all that apply

☑ NGOs

☑ Regulators

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☑ Customers
☑ Employees
☑ Investors
☑ Suppliers
☑ Local communities
☑ Indigenous peoples
☑ Water utilities at a local level
☑ Other water users at the basin/catchment level

(2.2.2.15) Has this process changed since the previous reporting year?

Select from:
☑ No

(2.2.2.16) Further details of process

Ecopetrol has an Integrated Risk Management System to manage uncertainty and avoid, reduce, or mitigate risks, maximize opportunities, develop strategies, and make decisions. The reference framework contains the provisions for integrating risk management into the company's activities and functions is based on the ISO 31000 standard. This system is supervised by the Board of Directors through its Audit and Risk Committee. The risk management cycle contains five stages: Planning, identifying, evaluating, treating, and communication. Ecopetrol applies the Risk Assessment Matrix (RAM) that contains descriptive scales of probability of occurrence and impacts on dimensions such as people, environment, economic resources, reputation, and customers. According to the combination of probability and impact, the risk levels are Very High, High, Medium, Low and Very Low. Risk assessment considers the magnitude of the consequences and their probability of occurrence, obtaining basic information to prioritize risks and making decisions regarding treatment. This risk assessment includes the calculation of the level of inherent and residual risk, according to the probability and impact scales, and the tolerance and acceptance levels defined in the RAM. Within the framework of the IRS, depending on the level at which risks are managed, they are classified as strategic, tactical, and operational considering specific regulations and standards adopted. Ecopetrol has a business risk related to environmental issues named "Inadequate response to challenges associated with climate change, water and biodiversity", which manage the exposure of the company to negative impacts due to low capacity to provide timely, efficient and effective response to commitments, obligations and expectations related to climate change, water and biodiversity. Specific to water, Ecopetrol's methodology for identifying water-related risks is based on the WRI Aqueduct and WWF Water risk filter methodologies, which identify physical (quantity and quality), regulatory, and reputational potential risks, considering a set of numerical indicators that capture a wide range of variables for describing territories' external conditions. However, data used in commercially/publicly available tools have a global scale, which leads to the loss of the required level of detail to carry out risk analysis at the local level. To overcome such limitations, Ecopetrol uses hydrological data from the POMCAs (regional basin management plans) or the National Water Studies (ENA), developed by the IDEAM (National Institute of Hydrology, Meteorology, and Environmental Studies), as well as data from regional authorities and environmental impact assessments from its operations. In addition, some supplementary indicators are proposed or modified to the standard methodology as they are of key importance. They include reputational risk management, water-related complaints, and claims analysis. We also conducted a research related to surface water availability changes in the short, medium, and long term (2025- 2050) within our area of influence, considering different climate change scenarios (e.g., GISS-E2-R, MPI-ESM-MR, MRI-CGCM3, and the 3rd national communication on climate change), (ii) changes in land use (iii), hydro energy expansion, and (iv) population growth.
[Add row]

(2.2.7) Are the interconnections between environmental dependencies, impacts, risks and/or opportunities assessed?

(2.2.7.1) Interconnections between environmental dependencies, impacts, risks and/or opportunities assessed

Select from:

☑ Yes

(2.2.7.2) Description of how interconnections are assessed

Ecopetrol is advancing in the preparation of its first report aligned with the TNFD framework, applying the LEAP approach (Locate, Evaluate, Assess, Prepare). The report, based on 2024 data, will be published in 2025 in line with its early adopter commitment. A consulting process is currently underway to define guidelines for adopting the TNFD framework and support the preparation of the initial report. So far, the company has identified and qualitatively assessed nature-related dependencies and impacts in 10 production assets and the Cartagena and Barrancabermeja refineries. Ecopetrol is also updating Corporate Risk 1—related to climate change, water, and biodiversity—to enhance the understanding of associated operational risks. Every environmental licensing process at Ecopetrol begins with an Environmental Impact Study (EIS), which identifies direct, indirect, synergistic, and cumulative impacts, with and without the project. Methodologies used align with project characteristics, and each impact is thoroughly evaluated and justified. The EIS includes environmental management programs that detail actions to prevent, mitigate, correct, or compensate for these impacts. Sustainability reporting includes GRI 304 (Biodiversity), covering: operation sites in or near protected areas or areas of high biodiversity value, significant biodiversity impacts, protected/restored habitats, and endangered species (IUCN Categories I–IV). The company also reports under the DJS standards, publicly disclosing risks, dependencies, and impacts. In 2024, Ecopetrol conducted a pilot in partnership with GRI to implement the new Biodiversity Standard (GRI 101). Findings were presented at COP 16 on Biodiversity in Colombia, with full publication expected in 2025. Oil & Gas operations in Colombia require environmental zoning, where the mitigation hierarchy is applied—avoid, minimize, restore, offset—to address residual biodiversity impacts and achieve no net loss or net gain, in compliance with national regulations. The "National Strategy for Environmental Compensation of the Biotic Component" outlines that the only way to compensate for negatively impacted ecosystems is through sequential measures aimed at avoiding, minimizing, or correcting impacts, promoting the sustainable use of natural resources. Ecopetrol's environmental strategy includes a biodiversity and ecosystem services pillar aimed at reducing and mitigating potential ecosystem and community impacts. The company commits to both mandatory and voluntary conservation and ecological restoration goals. During COP 16, Ecopetrol showcased its experience with the LEAP approach, achievements in biodiversity conservation and restoration, and the integration of climate, water, and biodiversity actions. It participated in over 30 events and, together with the Colombian business association ANDI, contributed to the Biodiversity + Business roadmap as input to the National Biodiversity Strategy and Action Plan (NBSAP).
[Fixed row]

(2.3) Have you identified priority locations across your value chain?

(2.3.1) Identification of priority locations

Select from:

☑ Yes, we have identified priority locations

(2.3.2) Value chain stages where priority locations have been identified

Select all that apply

☑ Direct operations

☑ Upstream value chain

(2.3.3) Types of priority locations identified

Locations with substantive dependencies, impacts, risks, and/or opportunities

☑ Locations with substantive dependencies, impacts, risks, and/or opportunities relating to water

(2.3.4) Description of process to identify priority locations

Priority locations with substantive dependencies, impacts, risks, and/or opportunities relating to water are an outcome of Ecopetrol examination of probable water-related events that could take place on its operations including its impact on the business. As part of the risk assessment, the water inherent risk level is estimated considering two scenarios: 1) Effluents: Temporary restrictions for discharging treated wastewater to surface waterbodies; a decrease in the runoff would led to a flow reduction of wastewater-receiving water bodies to levels below their environmental flow. If this happens, Ecopetrol must suspend surface discharges and shut down some oil wells. This situation would represent a temporary decrease in oil production from these fields; and 2) required water to operate: Freshwater unavailability for both industrial uses and enhanced oil recovery especially in water-stressed areas. Both scenarios are intensified by climate variability (e.g. El Niño Southern Oscillation) and effects of climate change.

(2.3.5) Will you be disclosing a list/spatial map of priority locations?

Select from:

☑ No, we have a list/geospatial map of priority locations, but we will not be disclosing it

[Fixed row]

(2.4) How does your organization define substantive effects on your organization?

Risks

(2.4.1) Type of definition

Select all that apply

☑ Qualitative

☑ Quantitative

(2.4.2) Indicator used to define substantive effect

Select from:

☑ Revenue

(2.4.3) Change to indicator

Select from:

☑ Absolute decrease

(2.4.5) Absolute increase/ decrease figure

44090000000

(2.4.6) Metrics considered in definition

Select all that apply

☑ Frequency of effect occurring

☑ Likelihood of effect occurring

(2.4.7) Application of definition

Ecopetrol's Integrated Risk Management System (based on the international technical standard ISO 31000) establishes a set of principles, frame of reference, and process that allow the organization to manage the effects of uncertainty on meeting objectives, maximize opportunities, and assist in establishing strategies and making informed decisions. Our risk management approach is based on four main stages: planning, identifying, evaluating, and managing risks. To properly prioritize mitigation, treatment, and monitoring efforts of risk management at the process level, a standardized methodology was established to assess inherent and residual risk levels. The risk level (Very High, High, Medium, Low, or None) is obtained from the combination of the impacts and the probability of occurrence of those consequences. According to the level of risk, action plans for management and mitigation are defined. Ecopetrol applies the Risk Assessment Matrix that contains descriptive scales of probability of occurrence and impacts on dimensions such as people, environment, economic resources, reputation, and customers. According to the combination of probability and impact, the risk levels are Very High, High, Medium, Low and Very Low. The Matrix establishes: No tolerance zone in which risk must be managed; Tolerance zone with controls in which risk is managed through mitigation measures, and Acceptance zone in which risk is assumed by the company. Risk assessment considers the magnitude of the consequences and their probability of occurrence, obtaining basic information to prioritize risks and make decisions regarding treatment. This risk assessment includes the calculation of the level of inherent and residual risk, according to the probability and impact scales, and the tolerance and acceptance levels defined in the Risk Assessment Matrix. In this sense, the methodology for assessing corporate risks establishes what

a "substantive financial or strategic impact" is for our company. For this report the substantive financial or strategic impact, the economic affectation is higher than US$ 10 million. (Exchange rate: 4.409,15)

Opportunities

(2.4.1) Type of definition

Select all that apply

☑ Qualitative

☑ Quantitative

(2.4.2) Indicator used to define substantive effect

Select from:

☑ Revenue

(2.4.3) Change to indicator

Select from:

☑ Absolute increase

(2.4.5) Absolute increase/ decrease figure

44090000000

(2.4.6) Metrics considered in definition

Select all that apply

☑ Likelihood of effect occurring

(2.4.7) Application of definition

Opportunities are considered as substantial when the impact on economic resources are higher than US$ 10 million (the same rational of risks impacts).
[Add row]

(2.5) Does your organization identify and classify potential water pollutants associated with its activities that could have a detrimental impact on water ecosystems or human health?

(2.5.1) Identification and classification of potential water pollutants

Select from:

☑ Yes, we identify and classify our potential water pollutants

(2.5.2) How potential water pollutants are identified and classified

Water pollutants are identified through direct measurements of several wastewater quality parameters, carried out internally or by an accredited third-party laboratory following standards issued by national authorities (i.e. IDEAM and ICONTEC) or international organizations (i.e. standard methods, EPA, ASTM.). In terms of frequency, daily measurements are normally carried out as part of internal operational control, while regulatory measurements could be taken on a monthly or quarterly basis, which is defined by the environmental authority. The environmental regulation defines pollutants of interest in wastewater to be monitored by the oil and gas industry and sets maximum allowable concentrations according to the activity (I.e., upstream, downstream, and midstream) and the type of receptor matrix (I.e., surface, seawater, public sewage, or soil). Parameters include pH, COD, BOD, and TSS; hydrocarbon-related parameters such as oil and greases, TPH, PAH, BTEX, AOX, and phenols; inorganics such as phosphorous, nitrogen, chlorides, sulfates; and metals such as As, Cd, Cr, Fe, Hg, Pb, and others. Furthermore, Ecopetrol identifies and classifies potential water pollutants using the water footprint assessment, based on the ISO 14046 standard, which includes impact indicators on water degradation as human, freshwater, and seawater toxicity. Each pollutant has a different impact indicator which also allows us to prioritize it according to its hazardous level.
[Fixed row]

(2.5.1) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your activities.

Row 1

(2.5.1.1) Water pollutant category

Select from:

☑ Oil

(2.5.1.2) Description of water pollutant and potential impacts

Oil-related pollutants are relevant considering the nature of our hydrocarbon line business (E&P and Refining) where oil and water are in contact on petroleum reservoirs. Despite oil's low solubility in water, some hydrocarbon compounds could be naturally found in produced water. The oil and gas industry is required by national regulation to monitor and control various pollutants, some of which are included in EPA's Priority Pollutant list, as they have the potential to affect hydrobiological communities and limit water use downstream. They include: TPH levels (total petroleum hydrocarbons), as well as PAH levels (polyaromatic hydrocarbons, such as naphthalene, anthracene, benzo (a) pyrene, etc.), phenols (such as phenol, chlorophenols, nitrophenols, etc.), BTEX (benzene, toluene, ethylbenzene, and xylene), and AOX (adsorbable organic halides, such as chloroform) in wastewater discharges to surface water and seawater, which do not exceed regulatory limits. The WHO has classified benzene, benzo (a) pyrene, and pentachlorophenol as carcinogenic to humans; however, these substances have not been found in Ecopetrol's wastewater discharges to surface water.

(2.5.1.3) Value chain stage

Select all that apply

☑ Direct operations

(2.5.1.4) Actions and procedures to minimize adverse impacts

Select all that apply

☑ Beyond compliance with regulatory requirements

☑ Water recycling

☑ Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements

(2.5.1.5) Please explain

Prior treatment is undertaken to remove or control the concentration of interest pollutants and to assure compliance with the quality standards required by environmental laws and regulations. Furthermore, in the last 5 years, Ecopetrol has implemented clean technology conversion plans for wastewater management that besides ensuring compliance with the standards normativity, also allowed to eliminate surface discharge in 11 assets since 2018 (+8 million m3/year). Currently, these effluents are being mainly recycled for secondary oil recovery, also allowing to reduce the freshwater withdrawal requirements. Ecopetrol has also improved the quality of its remaining surface discharges beyond regulatory standards: for instance, in 2024 the average TPH concentration in surface discharges was 2.2 mg/L against the 10 mg/L regulatory limit. As part of the water neutrality roadmap, Ecopetrol expects to continue gradually reducing surface freshwater discharges aiming to reach zero industrial discharges to freshwater in 2045. The success of the measures to minimize adverse impacts is monitored by: •Discharge quality regulation compliance; •Monitoring of waterbodies' quality downstream after the mixing zone, assuring that water quality complies with the standards for its destination to different uses; in addition, no evidence of acute toxicity on wastewater and water bodies has been found in our effluents; •Compliance with the internal and regulatory TPH limit target.

[Add row]

C3. Disclosure of risks and opportunities

(3.1) Have you identified any environmental risks which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future?

Climate change

(3.1.1) Environmental risks identified

Select from:

☑ Yes, only within our direct operations

(3.1.2) Primary reason why your organization does not consider itself to have environmental risks in your direct operations and/or upstream/downstream value chain

Select from:

☑ Environmental risks exist, but none with the potential to have a substantive effect on our organization

(3.1.3) Please explain

Contracts with major water use are related to activities of well drilling, workover, general oil services, and operation and maintenance of production facilities. Water required for these activities is provided by Ecopetrol so that their water-related risks are included in Ecopetrol's direct operation analysis. Also, it is important to mention that risk related to freshwater availability for drilling operations (in terms of both water use and discharges) has decreased due to the implementation of reverse osmosis and demineralization treatments for domestic and industrial wastewater, allowing the recycling of at least 90% of the treated water in activities such as drilling fluid preparation, equipment washing, pump cooling, and other industrial uses. About 80-90% of Ecopetrol's indirect consumption water footprint is related to the electrical energy supply. Although it has been found that seasonal variability and climate phenomenon like "El Niño Southern Oscillation" could potentially impact the energy supply due to the low level of the rivers that feed the hydroelectric generation system, which could increase electricity costs and shortages of electricity supply, it is not expected that this situation may significantly affect Ecopetrol's operational continuity in the coming years.

Water

(3.1.1) Environmental risks identified

Select from:

☑ Yes, only within our direct operations

(3.1.2) Primary reason why your organization does not consider itself to have environmental risks in your direct operations and/or upstream/downstream value chain

Select from:

☑ Environmental risks exist, but none with the potential to have a substantive effect on our organization

(3.1.3) Please explain

Contracts with major water use are related to activities of well drilling, workover, general oil services, and operation and maintenance of production facilities. Water required for these activities is provided by Ecopetrol so that their water-related risks are included in Ecopetrol's direct operation analysis. Also, it is important to mention that risk related to freshwater availability for drilling operations (in terms of both water use and discharges) has decreased due to the implementation of reverse osmosis and demineralization treatments for domestic and industrial wastewater, allowing the recycling of at least 90% of the treated water in activities such as drilling fluid preparation, equipment washing, pump cooling, and other industrial uses. About 80-90% of Ecopetrol's indirect consumption water footprint is related to the electrical energy supply. Although it has been found that seasonal variability and climate phenomenon like "El Niño Southern Oscillation" could potentially impact the energy supply due to the low level of the rivers that feed the hydroelectric generation system, which could increase electricity costs and shortages of electricity supply, it is not expected that this situation may significantly affect Ecopetrol's operational continuity in the coming years.

Plastics

(3.1.1) Environmental risks identified

Select from:

☑ No

(3.1.2) Primary reason why your organization does not consider itself to have environmental risks in your direct operations and/or upstream/downstream value chain

Select from:

☑ Evaluation in progress

(3.1.3) Please explain

Reputational impacts are related to the impact on the company's image, which could directly affect the distribution chain to meet the country's demand, losing Ecopetrol's relevant position in the petrochemical sector as the main supplier of raw materials for the plastics market.
[Fixed row]

(3.1.1) Provide details of the environmental risks identified which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future.

Climate change

(3.1.1.1) Risk identifier

Select from:
☑ Risk1

(3.1.1.3) Risk types and primary environmental risk driver

Chronic physical
☑ Seasonal supply variability

(3.1.1.4) Value chain stage where the risk occurs

Select from:
☑ Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply
☑ Colombia

(3.1.1.9) Organization-specific description of risk

According to the water risk assessment, the Department of Meta (where Ecopetrol's produced water discharges to surface water are the largest in volume) experiences a runoff reduction annually from December to March, which could potentially reduce water availability regionally. There is an approximate reduction of

70% of the runoff during these months, compared to the annual average value. This scenario could also be intensified by climate variability events (e.g., El Niño Southern Oscillation) and climate change. A decrease in the runoff may lead to a flow reduction in wastewater-receiving water bodies to levels below their ecological-environmental flow. If this was the case, Ecopetrol would suspend surface discharges which lead to production deferral in some oil wells in Castilla and Suria oil fields. *Internal calculation using data from the National Water Study 2022 published by IDEAM (Institute of Hydrology, Meteorology, and Environmental Studies).*

(3.1.1.11) Primary financial effect of the risk

Select from:

☑ Decreased revenues due to reduced production capacity

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☑ Medium-term

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

☑ Likely

(3.1.1.14) Magnitude

Select from:

☑ Medium

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Medium-term: the effect in financial terms would impact cash flow, due to a reduction in revenues caused by an impact on production (deferred barrels) or an increase in production costs to meet delivery commitments to customers.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☑ Yes

(3.1.1.21) Anticipated financial effect figure in the medium-term – minimum (currency)

1478000000000

(3.1.1.22) Anticipated financial effect figure in the medium-term – maximum (currency)

1522000000000

(3.1.1.25) Explanation of financial effect figure

The inherent financial impact was estimated considering the potential cumulative revenue loss in the medium term (2031 – 2040) due to the deferred production by seasonal variability, considering the forecasted flows in receivers' waterbodies (using the climate projections described by the Global Concentration model MRI-CGC-M3 under the RCP 8.5 W/m2), and the current environmental flow (e-flows) established by the environmental regulators for the Guayuriba river (17.5 m3/s). The potential financial impact figure for the 10-year period was estimated between USD 363 – 373 million (COP 1.63 – 1.67 billion) considering an oil price of 71.14 and 73.23 USD/Bbl (20F oil price for the short and medium term), an exchange rate of 4,074 COP/USD (20F exchange rate), and the economic limit of each asset. According to Ecopetrol's Risk Assessment Matrix (RAM Matrix), the magnitude of the potential impact for this risk is medium, given that the average yearly potential economic impact is between 10 and 50 million USD. *1 COP billion 1,000 thousand million*

(3.1.1.26) Primary response to risk

Infrastructure, technology and spending

☑ Adopt water efficiency, water reuse, recycling and conservation practices

(3.1.1.27) Cost of response to risk

819000000000

(3.1.1.28) Explanation of cost calculation

The cost of response is an estimate of the capital expenditures (CAPEX) associated with the projects that seek to reduce Castilla's dependency on the surface discharge by increasing the produced water reinjection for secondary recovery in the midterm. For conversion to COP, we used an exchange rate of 4,074 COP/USD (20F exchange rate).

(3.1.1.29) Description of response

Specific water management programs have been established to identify and implement efficient solution alternatives for produced water management, from a value perspective. These programs are based on the following action lines: (1) Increasing the water reinjection for secondary oil recovery; (2) Water reuse and quality enrichment, which seeks to identify alternatives and potential customers (receivers) close to the existing water discharge infrastructure, for agricultural and forestry irrigation systems. (3) Technology, which seeks to identify alternatives to minimize produced water brought to the surface. (4) Water treatment and technologies to improve produced water quality (even below 1 ppm of oil and grease), to reduce pollutant loads discharged to receiving water bodies; and (5) basin protection and restoration. The Colombian Petroleum and Energies of the Transition Institute (ICPET for its acronym in Spanish) is Ecopetrol's innovation and technology center where research on water-related issues is conducted. ICPET's efforts include a technology–enabled water management program that encompasses the conservation, recycling, reuse, and valorization of produced water streams, as a measure to face rising water-related risk. Further details will be presented in the section on water-related opportunities since these strategies seek both to reduce the risk associated with the potential impact on current production and to enable the production of contingent resources (increase production).

Water

(3.1.1.1) Risk identifier

Select from:

☑ Risk2

(3.1.1.3) Risk types and primary environmental risk driver

Chronic physical

☑ Seasonal supply variability

(3.1.1.4) Value chain stage where the risk occurs

Select from:

☑ Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

☑ Colombia

(3.1.1.7) River basin where the risk occurs

ECP-INFORMACION PUBLICA

Select all that apply

☑ Orinoco

(3.1.1.9) Organization-specific description of risk

According to our water risk assessment, the Department of Meta (where Ecopetrol's produced water discharges to surface water are the largest in volume) experiences a runoff reduction annually from December to March, which could potentially reduce water availability regionally. There is an approximate reduction of 70% of the runoff during these months, compared to the annual average value. This scenario could also be intensified by climate variability events (e.g., El Niño Southern Oscillation) and climate change. A decrease in the runoff may lead to a flow reduction in wastewater-receiving water bodies to levels below their ecological-environmental flow. If this was the case, Ecopetrol would suspend surface discharges which lead to production deferral in some oil wells in the Castilla oil field.*
**Internal calculation using data from the National Water Study 2022 published by IDEAM (Institute of Hydrology, Meteorology, and Environmental Studies).*

(3.1.1.11) Primary financial effect of the risk

Select from:

☑ Decreased revenues due to reduced production capacity

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☑ Medium-term

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

☑ Likely

(3.1.1.14) Magnitude

Select from:

☑ Medium

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Medium-term: the effect on financial terms would impact cash flow, due to a reduction in revenues due to the impact on production (deferred barrels) or an increase in production costs to meet delivery commitments to customers.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☑ Yes

(3.1.1.21) Anticipated financial effect figure in the medium-term – minimum (currency)

1478000000000

(3.1.1.22) Anticipated financial effect figure in the medium-term – maximum (currency)

1522000000000

(3.1.1.25) Explanation of financial effect figure

The inherent financial impact was estimated considering the potential cumulative revenue loss in the medium term (2031 – 2040) due to the deferred production by seasonal variability, considering the forecasted flows in receivers' waterbodies (using the climate projections described by the Global Concentration model MRI-CGC-M3 under the RCP 8.5 W/m2), and the current environmental flow (e-flows) established by the environmental regulators for the Guayuriba river (17.5 m3/s). The potential financial impact figure for the 10-year period was estimated between USD 363 – 373 million (COP 1.63 – 1.67 billion) considering an oil price of 71.14 and 73.23 USD/Bbl (20F oil price for the short and medium term), an exchange rate of 4,074 COP/USD (20F exchange rate), and the economic limit of each asset. According to Ecopetrol's Risk Assessment Matrix (RAM Matrix), the magnitude of the potential impact for this risk is medium, given that the average yearly potential economic impact is between 10 and 50 million USD. *1 COP billion 1,000 thousand million*

(3.1.1.26) Primary response to risk

Infrastructure, technology and spending

☑ Adopt water efficiency, water reuse, recycling and conservation practices

(3.1.1.27) Cost of response to risk

819000000000

(3.1.1.28) Explanation of cost calculation

The cost of response is an estimate of the capital expenditures (CAPEX) associated with the projects that seek to reduce Castilla's dependency on the surface discharge by increasing the produced water reinjection for secondary recovery in the midterm. For conversion to COP, we used an exchange rate of 4,074 COP/USD (20F exchange rate).

(3.1.1.29) Description of response

Specific water management programs have been established to identify and implement efficient solution alternatives for produced water management, from a value perspective. These programs are based on the following action lines: (1) Increasing the water reinjection for secondary oil recovery; (2) Water reuse and quality enrichment, which seeks to identify alternatives and potential customers (receivers) close to the existing water discharge infrastructure, for agricultural and forestry irrigation systems. (3) Technology, which seeks to identify alternatives to minimize produced water brought to the surface. (4) Water treatment and technologies to improve produced water quality (even below 1 ppm of oil and grease), to reduce pollutant loads discharged to receiving water bodies; and (5) basin protection and restoration. The Colombian Petroleum and Energies of the Transition Institute (ICPET for its acronym in Spanish) is Ecopetrol's innovation and technology center where research on water-related issues is conducted. ICPET's efforts include a technology–enabled water management program that encompasses the conservation, recycling, reuse, and valorization of produced water streams, as a measure to face rising water-related risk. Further details will be presented in the section on water-related opportunities since these strategies seek both to reduce the risk associated with the potential impact on current production and to enable the production of contingent resources (increase production).

Climate change

(3.1.1.1) Risk identifier

Select from:

☑ Risk3

(3.1.1.3) Risk types and primary environmental risk driver

Policy

☑ Changes to national legislation

(3.1.1.4) Value chain stage where the risk occurs

Select from:

☑ Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

☑ Colombia

(3.1.1.9) Organization-specific description of risk

Ecopetrol recognises that one of the regulatory risks to which it is exposed is the restriction on the use of offsets to achieve the 2030 emission reduction target, which considers a 30% cap through Natural Climate Solutions. The restriction may come from sector-specific guidelines (SBTi), other applicable guidelines or local regulations. If carbon offsets are not allowed to address 30% of Ecopetrol's 2030 emission reduction targets, then other abatement technologies will be required, which will increase costs. Ecopetrol manages this transition risk by continually assessing legislative changes both domestically and internationally for the use of offsets, monitoring the evolution of abatement technologies and associated cost curves to allocate capital effectively, and periodically reviewing Ecopetrol's abatement cost curve to prioritise initiatives. Regarding local regulations, Ecopetrol will face restrictions due to the implementation of the National Program of Tradable GHG Emissions Quotas (PNCTE, for its Spanish acronym), similar to an Emissions Trading System, which would assign emission rights. This program is in the design and development phase of the regulatory framework and its enactment is expected in 2025 with full enforceability by 2030.

(3.1.1.11) Primary financial effect of the risk

Select from:

☑ Increased cost of capital

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☑ Medium-term

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

☑ More likely than not

(3.1.1.14) Magnitude

Select from:

☑ High

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

In the medium term: the effect in financial terms would have an impact on the increase in CAPEX needed to enable the entry of new projects and initiatives that reduce emissions that cannot be abated through offsetting

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☑ Yes

(3.1.1.21) Anticipated financial effect figure in the medium-term – minimum (currency)

807403548000

(3.1.1.22) Anticipated financial effect figure in the medium-term – maximum (currency)

1306166596000

(3.1.1.25) Explanation of financial effect figure

The inherent financial effect is defined based on the scenario of limitation in the use of compensation for regulatory requirements or other requirements applicable to the industry. Ecopetrol in the definition of its decarbonization goals established the offsetting option with a maximum limit of 30%, if any regulatory requirement or the obligation to apply limits derived from an emissions trading system materializes, this option would be reduced to 10% or less, which implies accelerating the implementation of new initiatives or low-emission technologies and consequently increasing the capital-allocation to these options. To determine the impact figure, the price of the International Energy Agency's NZE scenario for 2030 of US140 was used, taking as a reference maximum emissions offset scenario of 2.12 MtCO2e and a minimum scenario of 1.31 MtCO2e. The difference between the scenarios corresponds to the additional emissions to be abated through operational options, on which capital expenditures is required for their implementation.(Exchange Rate: 4.409,15)

(3.1.1.26) Primary response to risk

Infrastructure, technology and spending

☑ Increase environment-related capital expenditure

(3.1.1.27) Cost of response to risk

721190556220

(3.1.1.28) Explanation of cost calculation

In order to prioritize emission reduction initiatives and capital allocation, the marginal abatement cost curve (MACC) is used, which represents the volume of CO2 abated by the different technological levers (MtonCO2e) defined by the company and the cost in dollars per reduced ton of CO2e of each of them. The calculation of the response cost was estimated from the difference between the International Energy Agency's cost per ton of CO2 of US140 in 2030 in an NZE scenario and the average abatement cost of the company's portfolio of initiatives (leakage and venting, fugitive, energy efficiency, renewable energies, hydrogen and carbon capture, use and storage-CCUS), corresponding to US77. (Exchange Rate: 4.409,15)

(3.1.1.29) Description of response

Ecopetrol carries out a periodic analysis of compliance with the established goals, with the purpose of: (i) updating the emissions of the 2019 base year, with respect to which the progress associated with the fulfillment of the decarbonization goals is measured, (ii) estimating emission projections for different analysis scenarios, in order to determine the gap for compliance with the goals, (iii)) identify the portfolio of opportunities for emission reductions and the associated costs, in order to prioritize investments in decarbonization, and (iv) advance in the research and development of decarbonization initiatives in: • Energy efficiency • Advanced biofuels • CCUS • Natural climate solutions, through the decarbonization cluster of the Colombian Petroleum Institute (now Colombian Institute of Petroleum and Transition Energies).
[Add row]

(3.1.2) Provide the amount and proportion of your financial metrics from the reporting year that are vulnerable to the substantive effects of environmental risks.

Climate change

(3.1.2.1) Financial metric

Select from:
☑ CAPEX

(3.1.2.2) Amount of financial metric vulnerable to transition risks for this environmental issue (unit currency as selected in 1.2)

217694432666

(3.1.2.3) % of total financial metric vulnerable to transition risks for this environmental issue

Select from:

☑ 11-20%

(3.1.2.4) Amount of financial metric vulnerable to physical risks for this environmental issue (unit currency as selected in 1.2)

0

(3.1.2.5) % of total financial metric vulnerable to physical risks for this environmental issue

Select from:

☑ Less than 1%

(3.1.2.6) Amount of CAPEX in the reporting year deployed towards risks related to this environmental issue

1516306685000

(3.1.2.7) Explanation of financial figures

The 14% is obtained by considering the annual CAPEX required to meet the decarbonization goal by 2030 and the CAPEX in decarbonization invested during the reporting year. (TRM: 4,409.15)

Water

(3.1.2.1) Financial metric

Select from:

☑ Revenue

(3.1.2.2) Amount of financial metric vulnerable to transition risks for this environmental issue (unit currency as selected in 1.2)

0

(3.1.2.3) % of total financial metric vulnerable to transition risks for this environmental issue

Select from:

☑ Less than 1%

(3.1.2.4) Amount of financial metric vulnerable to physical risks for this environmental issue (unit currency as selected in 1.2)

152150000000

(3.1.2.5) % of total financial metric vulnerable to physical risks for this environmental issue

Select from:

☑ Less than 1%

(3.1.2.7) Explanation of financial figures

•Amount of financial metric vulnerable to transition risks: None; the analysis was carried out considering only the inherent physical risk; •Amount of financial metric vulnerable to physical risks: The % of total financial metric vulnerable to water-related physical risks was estimated at COP 152,150 million (USD 37.3 million) considering the average potential revenue loss in one year due to the deferred production explained before for the mid-term (total estimated impact for the mid-term USD 373 million divided by 10 years). This figure is approximately 0.1%. of Ecopetrol Group's total revenues in 2024.
[Add row]

(3.2) Within each river basin, how many facilities are exposed to substantive effects of water-related risks, and what percentage of your total number of facilities does this represent?

Row 1

(3.2.1) Country/Area & River basin

Colombia

☑ Orinoco

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

☑ Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

☑ 1-25%

(3.2.9) % organization's global oil and gas production volume that could be affected by these facilities

Select from:

☑ Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

☑ Less than 1%

(3.2.11) Please explain

According to the water-related risk assessment, Ecopetrol has identified that 1 asset could be exposed to possible water risks due to seasonal variability with the potential to have a substantive financial impact in operations as described before. This asset (Castilla) is in Orinoco's river basin and some of its oil production depends on the surface water discharges, which could be affected by the receiver bodies' low levels in the dry season. The projections anticipate potential affectations for low levels in the Guayuriba river during 1 or 2 months in 7 of the 10 years of the mid-term period; considering this scenario are calculated the potential affectation in terms of % oil production and % of global revenue.
[Add row]

(3.3) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

	Water-related regulatory violations	Comment
	Select from: ☑ No	*Ecopetrol was not subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations*

[Fixed row]

(3.5) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Select from:

☑ Yes

(3.5.1) Select the carbon pricing regulation(s) which impact your operations.

Select all that apply

☑ Colombia carbon tax

(3.5.3) Complete the following table for each of the tax systems you are regulated by.

Colombia carbon tax

(3.5.3.1) Period start date

01/01/2024

(3.5.3.2) Period end date

12/31/2024

(3.5.3.3) % of total Scope 1 emissions covered by tax

15

(3.5.3.4) Total cost of tax paid

18920398273

(3.5.3.5) Comment

The carbon tax is an economic instrument created to encourage compliance with GHG mitigation goals at the national level and consists of paying a fee related to the carbon content of fuels. The taxed fuels are: Gasoline, Kerosene, Jet Fuel, ACPM and Fuel Oil. Natural gas is also taxed, but only for use in the petrochemical and hydrocarbon refining industry; Liquefied petroleum gas (LPG) is only taxed for industrial use. As of January 2023, coal is also taxed. The tax considers its non-causality through neutralization with carbon credits derived from eligible projects following the national regulations established for this purpose. As of January 2023, this non-causality mechanism is limited to 50% of the carbon tax. In 2024, Ecopetrol and the Cartagena Refinery agreed to this mechanism through the purchase of carbon credits from projects available on the Colombian carbon market. Total emissions taxed and neutralized were 1.775.698 tCO2, approximately 15% of Scope 1 emissions
[Fixed row]

(3.5.4) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

Ecopetrol's climate change strategy incorporates a line of action focused on managing regulatory risks, actively participating in different discussion scenarios or public consultations, to anticipate changes and possible implications for the company. In addition, within the framework of the business risk map, there is the "Regulatory Management Risk", which includes emerging regulatory issues associated with climate change and is analyzed from the perspective of business impact. Regarding current regulations, since 2017 Colombia has applied a consumption tax on all fossil fuels, including all petroleum derivatives and all types of fossil gas (only for refining) that are used for energy purposes. In 2024, the tax was priced at approximately US 5.85 per ton of CO2e emitted. The tax considers its non-causality through neutralization with carbon credits derived from eligible projects following the national regulations established for this purpose. Regarding the emerging regulation, the climate change law (National Law of Colombia 1931 of 2018), defined the provisions for the creation and establishment of a National Cap and Trade System (PNCTE), which is expected to come into force in 2025. For the above, the company has a Decarbonization Plan, which implies a permanent update of the GHG emissions inventory, a portfolio of emission reduction projects, and an offsetting portfolio in Natural Climate Solutions. This plan is part of the carbon neutrality roadmap for 2050 and medium-term goals, which will allow rapid adaptation to the PNCTE, provided by the national government.

(3.6) Have you identified any environmental opportunities which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future?

	Environmental opportunities identified
Climate change	*Select from:* ☑ Yes, we have identified opportunities, and some/all are being realized
Water	*Select from:* ☑ Yes, we have identified opportunities, and some/all are being realized

[Fixed row]

(3.6.1) Provide details of the environmental opportunities identified which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future.

Climate change

(3.6.1.1) Opportunity identifier

Select from:

☑ Opp1

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Resource efficiency

☑ Use of new technologies

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☑ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☑ Colombia

(3.6.1.8) Organization specific description

Hydrogen is an important opportunity, with an average annual investment around 500,000,000,000 COP between 2024 and 2040. The Ecopetrol Group is executing a dynamic plan for green and blue hydrogen production, an energy source that will provide between 9% to 11% of its long-term GHG emissions reduction targets for scopes 1,2. For its execution, the Company has outlined a path with three-time horizons: The first (2022-2030), focuses on intensifying hydrogen within its own operations, through industrial-scale projects and starting applications in sustainable mobility with cars and buses. The second (2030-2040), seeks to capture and attain significant results in the decarbonization of operations, diversifying with hydrogen business into maritime and aviation mobility, and realizing new business opportunities in the European and Asian markets. The third horizon, from the 2040 onwards, Ecopetrol is focused on promoting widespread adoption of hydrogen and expanding the portfolio.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☑ Increased revenues resulting from increased demand for products and services

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☑ Long-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☑ Very likely (90–100%)

(3.6.1.12) Magnitude

Select from:

☑ Medium-high

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Two impacts on the financial situation are analyzed regarding the hydrogen opportunity. An EBITDA contribution is expected from 2030 to 2040, representing 1% of Ecopetrol Group's total EBITDA. Additionally, a CAPEX impact is anticipated from 2026 to 2040, with a share of 2% to the total CAPEX.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☑ Yes

(3.6.1.21) Anticipated financial effect figure in the long-term - minimum (currency)

1000000000000

(3.6.1.22) Anticipated financial effect figure in the long-term – maximum (currency)

1700000000000

(3.6.1.23) Explanation of financial effect figures

The financial impact is an estimated annual 2040 EBITDA range considering: Ecopetrol's energy transition scenarios, hydrogen demand growth (road transport, maritime, aviation, industrial and gas blending) and market share behavior as expected. For this figures, green hydrogen is produced with additional energy matrix purchase when needed.

(3.6.1.24) Cost to realize opportunity

9000000000000

(3.6.1.25) Explanation of cost calculation

The cost to realize the opportunity is calculated considering Ecopetrol's energy transition scenarios base case and the accumulated capital allocation in H2 opportunities from 2022 to 2040.

(3.6.1.26) Strategy to realize opportunity

Hydrogen represents the potential of replacing the H2 on our refineries and the development of the market for others in industrial and mobility applications. It depends on the evolutions of the competitiveness and feasibility of the technology along the value chain and the applications. As a starting point for this hydrogen business, Ecopetrol has started a pilot for replacing grey to green hydrogen. The pilot consists of electrolysers installed at Cartagena refinery which is currently supplying a percentage of hydrogen used to improve fuel quality.

Water

(3.6.1.1) Opportunity identifier

Select from:

☑ Opp6

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Resource efficiency

☑ Improved field recovery factor

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☑ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☑ Colombia

(3.6.1.6) River basin where the opportunity occurs

Select all that apply

☑ Orinoco

(3.6.1.8) Organization specific description

This initiative demonstrates how Ecopetrol contributes to physical risk mitigation, nature-positive water management, and efficient allocation of industrial water resources in areas with seasonal variability. The initiative protects water resources by using alternative sources for agroforestry activities, while optimizing the use of produced water and reducing the pressure in the basin. For over 15 years, Ecopetrol studied the feasibility and impact of using treated produced water from the Castilla field for irrigation of agroforestry systems in the Sustainable Agriculture Area (ASA) in Acacías, in partnership with Agrosavia (formerly Corpoica). Scientific assessments concluded that the reuse of produced water poses no adverse effects and enhances plant growth and soil condition. Based on these validated outcomes, Ecopetrol has progressively scaled up the ASA project since 2019 as a complementary destination for produced water from Castilla. In 2024, the initiative reached an average reuse of 70 kBWPD, contributing to operational continuity and water circularity. This opportunity reinforces three strategic pillars: (1) providing an alternative and sustainable destination for produced water that enables crude oil production continuity; (2) reducing energy consumption compared to traditional reinjection methods; and (3) advancing the company's water neutrality goal in the hydrographic sub-zone through increased compensation mechanisms and nature-based integration

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☑ Increased revenues resulting from increased production capacity

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☑ Short-term

☑ Medium-term

☑ The opportunity has already had a substantive effect on our organization in the reporting year

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☑ Virtually certain (99–100%)

(3.6.1.12) Magnitude

Select from:

☑ Medium-high

(3.6.1.13) Effect of the opportunity on the financial position, financial performance and cash flows of the organization in the reporting period

The initiative enables sustainable management of produced water associated with crude oil extraction, providing an operational alternative that ensures production continuity. By redirecting treated produced water for agroforestry use instead of injection, the initiative not only addresses environmental goals but also secures a technically feasible and economically efficient water management route. Moreover, this solution significantly reduces energy consumption when compared to injection methods. It has been technically validated that delivering water to the surface for reuse consumes approximately one-sixth of the energy required for subsurface injections. This translates into lower operational emissions and aligns with the company's broader decarbonization strategy.

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

The ASA expansion between 75KBWPD to 100KBWPD from 2027 will enable to guarantee additional oil barrels (678.071 per year) and reduce energy consumption by 0.5 kwh/bbl vs. water injection with annual savings of approximately 14 MUSD. It is important to note that the incremental oil production leveraged through this initiative depends on reservoir response and the natural depletion behavior of the field. Accordingly, projections are aligned with the current development plans for the asset, which are reviewed and updated every two years to reflect changes in subsurface performance, operational conditions, and technological advancements.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☑ Yes

(3.6.1.16) Financial effect figure in the reporting year (currency)

139000000000

(3.6.1.17) Anticipated financial effect figure in the short-term - minimum (currency)

630000000000

(3.6.1.18) Anticipated financial effect figure in the short-term – maximum (currency)

630000000000

(3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

2083000000000

(3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

2083000000000

(3.6.1.23) Explanation of financial effect figures

For the reporting year, the financial effects were calculated based on the crude oil production enabled by produced water reuse through the ASA initiative during 2024 as well as the energy efficiency gains resulting from alternative water management strategies. Although the volume of produced water delivered to ASA increased, the number of barrels of oil enabled was lower compared to the previous year due to the natural increase in water production associated with reservoir depletion. This behavior is expected in mature fields, where the water cut rises over time, reducing the efficiency of water reuse in terms of incremental hydrocarbon recovery. In the medium term (2027–2035), Ecopetrol expects to expand produced water reuse capacity by an additional 48,000 BWPD, which will further increase crude oil production enabled by the initiative. This scale-up will also generate energy savings, as water reuse requires approximately six times less energy than conventional water reinjection. The financial estimates are grounded in the following operational and economic assumptions updated: 1,000 barrels of reused water enables 16 barrels of oil; energy cost: COP 272 per kWh (related to average autogenerate energy 2024); exchange rate: COP 4,071per USD; Brent crude reference price: USD 79.7 per barrel and for Projection 2025+ COP 4,100 per USD. The data updates were made based on field-validated results; however, as technology continues to evolve and new advancements are incorporated, the numbers will be progressively refined and updated to reflect the latest current performance projection

(3.6.1.24) Cost to realize opportunity

1900000000

(3.6.1.25) Explanation of cost calculation

In 2024, approximately 78% of the annual expenditure was allocated to operation and maintenance activities within the ASA system, while the remaining 22% corresponded to specialized technical support required to ensure optimal system performance. The projected costs associated with the ASA expansion are expected to be consistent with current operation and maintenance levels, and encompass infrastructure adjustments, including pipeline modifications and water distribution system.

(3.6.1.26) Strategy to realize opportunity

The initiative reflects a holistic strategy that combines engineering, environmental management, and sustainability innovation. The ASA expansion project is supported by interdisciplinary collaboration across various areas of the company. The strategy focuses not only on improving the design of existing water pipelines to reduce pressure losses and prevent precipitate formation, but also on identifying innovative ways to expand and optimize the reuse of produced water. The increase in capacity for disposal enables more oil producing wells to be turned on.

Climate change

(3.6.1.1) Opportunity identifier

Select from:

☑ Opp2

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Energy source

☑ Use of carbon capture and storage

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☑ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☑ Colombia

(3.6.1.8) Organization specific description

The energy transition is opening opportunities in businesses related to the decarbonization. Considering that the demand of solutions and services will increase in the next decades, the group has identified and prioritized opportunities as part of the diversification where it can build a profitable segment given its competences, the geographic position of its operations and markets and the characteristics of its assets. One of these opportunities is carbon capture, use, and storage (CCUS)

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☑ Increased revenues resulting from increased demand for products and services

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☑ Long-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☑ More likely than not (50–100%)

(3.6.1.12) Magnitude

Select from:

☑ Medium-high

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Two impacts on the financial situation are analyzed regarding the CCUS opportunity. An EBITDA contribution is expected from 2033 to 2040, representing 2.6% of Ecopetrol Group's total EBITDA. Additionally, a CAPEX impact is anticipated from 2030 to 2040, with a contribution of 6% to the total CAPEX.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☑ Yes

(3.6.1.21) Anticipated financial effect figure in the long-term - minimum (currency)

5000000000000

(3.6.1.22) Anticipated financial effect figure in the long-term – maximum (currency)

6000000000000

(3.6.1.23) Explanation of financial effect figures

The financial figures are an initial estimation of the annual 2040 EBITDA generated by CCUS. The figures assume a decrease in cost and technological improvements for CCUS, the use of CO2 forEnhanced Oil Recovery (EOR) and industrial use, and the development of regulation regarding carbon taxes and pricing.

(3.6.1.24) Cost to realize opportunity

26471835000000

(3.6.1.25) Explanation of cost calculation

The cost to realize the opportunity is calculated as the average of Ecopetrol's energy transition scenarios, considering the accumulated CAPEX from 2022 to 2040. Additionally, the impact of this opportunity was calculated, considering the associated EBITDA for 2040, which is the year with the highest return in this projection.

(3.6.1.26) Strategy to realize opportunity

CCUS represents the potential business around providing CCUS solutions to different clusters of companies and industries in Colombia. Ecopetrol Group has been conducting studies regarding CCUS and has identified potential clusters in Colombia which can use CCUS for EOR and carbon capture in Barrancabermeja refinery. Between 2030 and 2040, the Ecopetrol Group plans to invest an average of USD 2.5 COP Billion annually in the development of CCUS technology.

Climate change

(3.6.1.1) Opportunity identifier

Select from:

☑ Opp3

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Products and services

☑ Ability to diversify business activities

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☑ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☑ Colombia

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(3.6.1.8) Organization specific description

The energy transition is opening up opportunities in businesses related to the decarbonization. Considering that the demand of solutions and services will increase in the next decades, the group has identified and prioritized opportunities as part of the diversification where it can build a profitable segment given its competences, the geographic position of its operations and markets and the characteristics of its assets. One of these three opportunities is Natural Climate Solutions (NCS)

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☑ Increased revenues resulting from increased demand for products and services

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☑ Long-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☑ More likely than not (50–100%)

(3.6.1.12) Magnitude

Select from:

☑ Medium-high

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Two impacts on the financial situation are analyzed regarding the NCS opportunity. An EBITDA contribution is expected from 2033 to 2040, representing 0.7% of Ecopetrol Group's total EBITDA. Additionally, a CAPEX impact is anticipated from 2030 to 2040, with a contribution of 0.6% to the total CAPEX.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☑ Yes

(3.6.1.21) Anticipated financial effect figure in the long-term - minimum (currency)

1000000000000

(3.6.1.22) Anticipated financial effect figure in the long-term – maximum (currency)

1100000000000

(3.6.1.23) Explanation of financial effect figures

The financial figures are an initial estimation of the annual 2040 EBITDA generated by NCS. The figures consider the incorporation of regulations related to carbon taxes and pricing, the roles that Ecopetrol can undertake, and the accounting rules in the voluntary carbon market.

(3.6.1.24) Cost to realize opportunity

2850000000000

(3.6.1.25) Explanation of cost calculation

The cost to realize the opportunity is calculated as the average of Ecopetrol's energy transition scenarios, considering the accumulated CAPEX from 2022 to 2040.

(3.6.1.26) Strategy to realize opportunity

Ecopetrol's 2040 strategy proposes NCS as one of the low-emission businesses that leverage portfolio diversification and decarbonisation goals. Regarding the opportunity for diversification, by 2040 it is expected to have a supply of carbon credits to meet domestic demand and sell to the market.

Climate change

(3.6.1.1) Opportunity identifier

Select from:

☑ Opp4

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Markets

☑ Expansion into new markets

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☑ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☑ Colombia

(3.6.1.8) Organization specific description

Ecopetrol is an integrated energy group that participates in the whole hydrocarbon chain (exploration, production, transportation, refining and marketing) and in linear infrastructure, both in energy transmission and road concessions. In this last line, in 2021, the Ecopetrol Group acquired 51.4% of ISA, a company that operates in the electric power, roads and telecommunications, and ICT sectors, with a footprint across six (6) South American countries and Central America. ISA has a strategic role as a catalyst for that goal. It is expected that ISA will account between 22% and 26% of the Group's long -term EBITDA.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☑ Increased revenues through access to new and emerging markets

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☑ Short-term

☑ Medium-term

☑ Long-term

☑ The opportunity has already had a substantive effect on our organization in the reporting year

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☑ Virtually certain (99–100%)

(3.6.1.12) Magnitude

Select from:

☑ Medium-high

(3.6.1.13) Effect of the opportunity on the financial position, financial performance and cash flows of the organization in the reporting period

During 2024, Electric Power Transmission and Toll Roads Concessions Segment represented 20% of the group's investment in CAPEX, with a generated EBITDA of approximately $9.8 trillion Colombian pesos, representing 18% of the total EBITDA of Ecopetrol Business Group.

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Two impacts on the financial situation have been analyzed regarding ISA opportunity. An EBITDA contribution is expected from 2022 to 2040, representing 22.3% of Ecopetrol Group's total EBITDA. Additionally, a CAPEX impact is anticipated from 2022 to 2040, with a share of 15.4% to the total CAPEX.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☑ Yes

(3.6.1.16) Financial effect figure in the reporting year (currency)

9833000000000

(3.6.1.17) Anticipated financial effect figure in the short-term - minimum (currency)

9000000000000

(3.6.1.18) Anticipated financial effect figure in the short-term – maximum (currency)

10000000000000

(3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

12000000000000

(3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

13000000000000

(3.6.1.21) Anticipated financial effect figure in the long-term - minimum (currency)

15000000000000

(3.6.1.22) Anticipated financial effect figure in the long-term – maximum (currency)

16000000000000

(3.6.1.23) Explanation of financial effect figures

The financial impact given is an estimated annual 2040 EBITDA range considering: Ecopetrols energy transition scenarios, intern electricity needs, associated with decarbonization and efficiency initiatives and market share behavior as expected. For this figures, utilization of remaining capacity is the driver for achieving the strategic aspiration by 2040

(3.6.1.24) Cost to realize opportunity

68000000000000

(3.6.1.25) Explanation of cost calculation

The cost to realize the opportunity is calculated as the accumulated CAPEX between 2022 and 2040, taking into account Ecopetrol's energy transition scenarios, the projected growth in internal electricity demand, and the expected market share behavior.

(3.6.1.26) Strategy to realize opportunity

ISA enables Ecopetrol group to achieve its long-term objective of consolidating as a diversified energy company, while also ensuring long-term growth with the energy transition and allows Ecopetrol Group to incorporate a more resilient business line within its portfolio.

Climate change

(3.6.1.1) Opportunity identifier

Select from:

☑ Opp5

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Markets

☑ Increased availability of products with reduced environmental impact [other than certified products]

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☑ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☑ Colombia

(3.6.1.8) Organization specific description

The IEA has highlighted the role of natural gas as a bridge fuel to enable energy transition, considering that it can replace more polluting fuels thus, improving air quality, limiting GHG emissions, provide a reliable backup energy source and a diversification alternative. As part of the energy transition, the company has included within its long-term strategy "2040: Energy That Transforms", opportunities to make its core business more resilient by taking advantage of the perspectives of gas as transition fuel, the need of logistic and transport for other type of fuels and energetics and the growing demand for petrochemicals products.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☑ Increased revenues resulting from increased demand for products and services

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☑ Short-term

☑ Medium-term

☑ Long-term

☑ The opportunity has already had a substantive effect on our organization in the reporting year

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☑ Virtually certain (99–100%)

(3.6.1.12) Magnitude

Select from:

☑ Medium-high

(3.6.1.13) Effect of the opportunity on the financial position, financial performance and cash flows of the organization in the reporting period

During 2024, the Ecopetrol Group Gas and LPG production reached 170 thousand barrels equivalent per day, representing 23% of the group's production mix, 67% of the country Market Share, with a generated EBITDA of approximately $2.9 trillion colombian pesos

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Two impacts on the financial situation are analyzed regarding the gas opportunity. An EBITDA contribution is expected from 2022 to 2040, representing 12.5% of Ecopetrol Group's total EBITDA. Additionally, a CAPEX impact is anticipated from 2022 to 2040, with a contribution of 8.3% to the total CAPEX.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☑ Yes

(3.6.1.16) Financial effect figure in the reporting year (currency)

2900000000000

(3.6.1.17) Anticipated financial effect figure in the short-term - minimum (currency)

5000000000000

(3.6.1.18) Anticipated financial effect figure in the short-term – maximum (currency)

5500000000000

(3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

6500000000000

(3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

7500000000000

(3.6.1.21) Anticipated financial effect figure in the long-term - minimum (currency)

7500000000000

(3.6.1.22) Anticipated financial effect figure in the long-term – maximum (currency)

7700000000000

(3.6.1.23) Explanation of financial effect figures

The financial impact given is an estimated annual 2040 EBITDA range considering: Ecopetrols energy transition scenarios, participation of gas in the upstream production, and the midstream business. The petrochemical business potential is to be defined.

(3.6.1.24) Cost to realize opportunity

35000000000000

(3.6.1.25) Explanation of cost calculation

The cost to realize the opportunity makes reference to the gas development strategy that incorporates an accumulated CAPEX from 2023 to 2040. Regarding the downstream segment diversification, an analysis was conducted, and it was determined that the cost to realize this opportunity could represent around 5.500.000.000.000 and this initiative is going under further analysis within the decision-making process.

(3.6.1.26) Strategy to realize opportunity

In the 2040 strategy and according to the recent discoveries in the Colombian Caribbean offshore, the Company has given gas a key strategic role and plan for the next 20 years that includes the next main actions: i) secure the monetization of the current gas portfolio, ii) develop additional demand in Colombia, iii) expand the groups participation in the gas value chain in Colombia and in the region, according to regulations and where market opportunities are attractive. Also, in the midstream sector, the Company is currently exploring this as an opportunity, included in the strategy for the segment with an estimated business cases that is constantly being analyzed and updated. For petrochemicals, as part of the strategy for the segment, during 2022 a diversification analysis was conducted, and the company plans to develop its petrochemical business in the next two decades and maintain the resilience of its Downstream business.

Water

(3.6.1.1) Opportunity identifier

Select from:

☑ Opp9

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Products and services

☑ Development of new products or services through R&D and innovation

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☑ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☑ Colombia

(3.6.1.6) River basin where the opportunity occurs

Select all that apply

☑ Orinoco

(3.6.1.8) Organization specific description

Quality assurance and enrichment of treated wastewater for agro-industrial reuse, as an alternative to water management that also enable increased crude production. The opportunity involves the use of two proprietary technologies. Polishing Beads, a novel material, have been successfully evaluated in the final stages of treatment plants, ensuring the removal of total petroleum hydrocarbons (TPH) to concentrations below 1 mg/L, in compliance with current regulations for agro-industrial and agroforestry reuse. This same material is now being evaluated as a substitute for conventional media used in earlier stages of oil and grease removal. In addition, nano-fertilizers have been incorporated to enrich treated wastewater for reuse in irrigation (ASA Project) and energy forestry (wood-fuel plantations), promoting a circular economy within oil and gas operations in the Orinoquía and Eastern Plains regions of Colombia, while reducing environmental impacts associated with in-situ fertilization. The initiative is expected to be implemented in Rubiales in the medium term. It aims to secure 240,000 BWPD (barrels of water per day) for industrial irrigation, contributing to the stabilization of clean crude production for the Acacías station.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☑ Increased revenues resulting from increased production capacity

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☑ Long-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☑ Likely (66–100%)

(3.6.1.12) Magnitude

Select from:

☑ Medium-high

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

The Polishing Beads are currently being evaluated at industrial scale (40,000 bbl/day). They have demonstrated improved performance compared to commercial materials, with savings in chemical and energy consumption, while ensuring water quality and maximizing the overall potential of the water treatment station

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☑ Yes

(3.6.1.21) Anticipated financial effect figure in the long-term - minimum (currency)

0

(3.6.1.22) Anticipated financial effect figure in the long-term – maximum (currency)

151700000000

(3.6.1.23) Explanation of financial effect figures

The financial effect is based on a scale-up case for 1,000,000 bbl/day in the Castilla field, taking into account the increased production capacity and operational cost savings.

(3.6.1.24) Cost to realize opportunity

16400000000

(3.6.1.25) Explanation of cost calculation

The capital cost includes the equipment adjustments for the novel material poliching beads.

(3.6.1.26) Strategy to realize opportunity

Based on the results of the industrial pilot test (40,000 bbl/day), a full-scale deployment is planned for the Castilla Field.

Water

(3.6.1.1) Opportunity identifier

Select from:

☑ Opp10

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Resilience

☑ Increased resilience to impacts of climate change

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☑ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☑ Colombia

(3.6.1.6) River basin where the opportunity occurs

Select all that apply

☑ Magdalena

(3.6.1.8) Organization specific description

Ecopetrol has identified the use of deep -brackish- aquifers as a strategic alternative to secure water supply for Enhanced Oil Recovery (EOR) operations, particularly in water-stressed regions and during dry seasons. This approach enables the company to meet operational water demand without increasing pressure on surface or shallow freshwater sources, which are critical for domestic and agricultural use. The initiative addresses two key strategic goals: (1) enabling incremental crude

production by ensuring water availability for EOR, thus reinforcing Ecopetrol's competitiveness in mature fields; and (2) advancing the company's ambition to achieve water neutrality under its TESG-driven Value Generation framework, by reducing freshwater abstraction in deficit basins. The initiative involves phased implementation, including hydrogeological studies, aquifer characterization, pilot testing, and scaling up extraction from formations that meet the required physical and chemical thresholds. This solution strengthens the company's climate resilience strategy by preserving freshwater resources for future generations, leveraging regional geological and subsurface knowledge while enabling sustainable growth through responsible use of alternative water sources evaluated to avoid competition with community supplies or public services.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☑ Other, please specify :Ensures the supply of water for the operation, preferably not competing with the community's water.

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☑ Medium-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☑ Likely (66–100%)

(3.6.1.12) Magnitude

Select from:

☑ High

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

The financial value of this opportunity lies in ensuring long-term water security for EOR operations, particularly in the Middle Magdalena Valley basin, where water availability is essential for sustaining production levels in secondary and tertiary recovery processes. As freshwater access becomes increasingly restricted due to regulatory and climatic pressures, the inability to secure alternative sources could result in production disruptions with significant financial consequences. By developing deep brackish aquifers as a reliable and sustainable water source, Ecopetrol mitigates the risk of operational downtime and protects asset value in drought-prone regions. Preliminary assessments estimate potential avoided losses of approximately USD 65 million over the 2027–2037 period, associated with maintaining production continuity in alignment with community and environmental expectations.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☑ Yes

(3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

82000000000

(3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

266500000000

(3.6.1.23) Explanation of financial effect figures

The financial impact was estimated based on the assumption that developing non-competitive brackish aquifer sources would alleviate potential freshwater restrictions and ensure continuity of production in mature fields using EOR technologies. This estimate incorporates the economic value of incremental production and reserve mobilization enabled by water availability in the Midlle Magdalena Medio Valley basin. The financial model covers a 10-year horizon (2027–2037), assuming the operation of 44 water intake wells across Casabe, Yariguí–Cantagallo, and La Cira–Infanta fields. Key variables considered include Brent crude price projections, quality adjustments, lifting costs, transportation, capital expenditures (covering studies, engineering, drilling, and infrastructure), and operating expenditures (including maintenance and water logistics). Additional financial benefits include potential savings from reduced reliance on freshwater permits, positive TESG outcomes by avoiding competition with ecosystems, and reduced environmental liability risk. The business case was updated using an average exchange rate of COP 4100/USD and aligned with reserve projections for the covered assets. The initiative reinforces Ecopetrol's financial resilience by monetizing water security and operational continuity.

(3.6.1.24) Cost to realize opportunity

16400000000

(3.6.1.25) Explanation of cost calculation

The estimated costs reflect the associated expenditures span the period from 2021 to 2025 and include technical studies, field activities, and modeling required to ensure regulatory compliance, operational viability, and environmental safeguards. The scope of investment includes: (1) hydrochemical analysis of aquifer water samples; (2) isotopic profiling to determine recharge sources and water residence times;(3) construction of a detailed geological and hydrostratigraphic model for the region;(4) well interventions for sampling and performance testing (including pumping tests); (5) development of a calibrated numerical model to simulate aquifer dynamics and extraction scenarios; and (6)the continuity of studies of a hydrological model for the Middle Magdalena Valley basin aquifer system, support the sustainable extraction of brackish water for EOR operations.

(3.6.1.26) Strategy to realize opportunity

The initiative is being implemented as part of a research project submitted to the Colombian Ministry of Science, Technology and Innovation, aiming to advance the scientific understanding of groundwater potential in the region and support the sustainable use of non-conventional water sources. The strategy focuses on generating robust technical evidence to characterize deep -brackish- aquifers, enabling informed decision-making by regulatory authorities for future water governance and permitting processes. Ecopetrol prioritized the basin with the highest operational water demand to assess how freshwater withdrawals can be replaced by brackish sources, ensuring both environmental integrity and production continuity. This forward-looking strategy integrates regulatory engagement, scientific collaboration, and operational planning to align with national water security goals and circular economy principles.

Water

(3.6.1.1) Opportunity identifier

Select from:

☑ Opp11

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Resource efficiency

☑ Use of new technologies

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☑ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☑ Colombia

(3.6.1.6) River basin where the opportunity occurs

Select all that apply

☑ Magdalena

☑ Orinoco

(3.6.1.8) Organization specific description

This initiative aims to enhance the treatment of produced water to meet quality standards required for injections in Enhanced Oil Recovery (EOR) operations, ensuring system integrity, reducing operational costs, and sustaining long-term production. By improving water quality, the technology extends the service life of injection wells, mitigates scaling and plugging, and preserves injection efficiency—critical for maintaining reservoir pressure and oil recovery. The initiative supports Ecopetrol's strategy of achieving competitive returns through cost-effective and reliable water management. Throughout 2024, the study was further advanced, enabling the implementation of several pilot projects of Tukano polishing technology in the Orinoquia Regional Vicepresidence (VRO). The pilots delivered excellent results, contributing significantly to operational performance by improving produced water quality and enhancing the sustainability of secondary recovery processes, particularly those involving water injection.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☑ Reduced direct costs

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☑ Medium-term

☑ The opportunity has already had a substantive effect on our organization in the reporting year

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☑ Likely (66–100%)

(3.6.1.12) Magnitude

Select from:

☑ Medium

(3.6.1.13) Effect of the opportunity on the financial position, financial performance and cash flows of the organization in the reporting period

The financial benefits of this opportunity are driven by the support in 1) production continuity: increased revenue from incremental oil production resulting from the implementation of Tukano technology, which enhances the quality of injection water at the injection wellhead and 2) margin optimization: improved produced water quality, which enhances injection performance and reduces well maintenance interventions (workovers). By preserving the operational efficiency of injection systems, the initiative helps avoid unplanned shutdowns, extends well life, and enables consistent reservoir pressure, resulting in sustained or increased oil production. These improvements translate into lower operating expenditure and improved cash flows, as reduced scaling and well integrity issues minimize the frequency and cost of remedial operations. The economic assumptions are consistent with certified values, including an exchange rate (TRM) of COP 4,100 per USD. It is important to highlight that the expected benefits are fundamentally driven by increased oil production derived from reservoir performance improvements, rather than by external market factors.

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

The anticipated financial benefits of this initiative are based on scaling up the technology to an industrial prototype with a projected treatment capacity between 15,000 and 20,000 BWPD. This expansion would significantly increase the volume of high-quality water available for reinjection, enabling greater oil recovery efficiency and operational continuity in mature fields. The projected benefits include incremental oil production, reduced workover frequency, and lower costs associated with water treatment and well maintenance. These effects are expected to positively impact Ecopetrol's financial performance and cash flow over the medium-to-long term. Actual volumes and associated financial gains may vary depending on the pace of technological deployment and field integration.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☑ Yes

(3.6.1.16) Financial effect figure in the reporting year (currency)

23500000000

(3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

140000000000

(3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

153600000000

(3.6.1.23) Explanation of financial effect figures

In 2024, the financial impact of this opportunity was validated through pilot tests that demonstrated measurable improvements in water quality for injection. These results translated into an estimated benefit of USD 5.55 million from enhanced production efficiency (based on improved wellhead pressure performance), and approximately USD 0.18 million in OPEX savings due to reduced frequency of workover operations in injection wells. In the short term, the initiative will continue to be developed and expanded. For the medium term (2027–2037), projected benefits are expected to grow proportionally as the technology is scaled across additional assets. These projections are preliminary and subject to change as technology matures, and additional operational data is collected. Nonetheless, they reflect a clear opportunity to enhance oil recovery while lowering operational costs and optimizing water use efficiency across key production assets.

(3.6.1.24) Cost to realize opportunity

5340000000

(3.6.1.25) Explanation of cost calculation

The costs associated with this initiative are part of Ecopetrol's broader investment in its water technology suite—a portfolio of advanced technologies and studies aimed at improving water management efficiency and sustainability across operations. For the 2024–2025 period (actualized from 2023), the total projected budget amounts 1.15 MUSD and the cost of capex 0.16 MUSD (COP 5.2 billion), covering technologies such as advanced fluid separation and ultrafiltration (Tukano), treated wastewater enrichment, and selective polishing for water demineralization, the total cost of this initiative was equally distributed ensuring balanced financial responsibility and commitment to the technological development.

(3.6.1.26) Strategy to realize opportunity

The strategy is modular and adaptive, allowing phased deployment aligned with production needs and performance validation, while advancing the company's goals in water efficiency, asset longevity, and TESG integration. The scaling strategy for this opportunity involves the deployment of more than 20 filtration units in the Castilla, CPO9, and Chichimene fields, with each unit designed to treat between 15,000 and 20,000 BWPD—representing a substantial increase over the current installed capacity of 10,000 BWPD. In parallel, the selective polishing (demineralization) technology is planned to be expanded to a capacity of 100,000 BWPD in the Castilla field, further improving the quality of injected water and operational reliability. The implementation will initially focus on assets located in the central and eastern Andean regions, leveraging infrastructure readiness and strategic production relevance.

Water

(3.6.1.1) Opportunity identifier

Select from:

☑ Opp12

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Resilience

☑ Increased resilience to impacts of climate change

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☑ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☑ Colombia

(3.6.1.6) River basin where the opportunity occurs

Select all that apply

☑ Orinoco

(3.6.1.8) Organization specific description

This initiative aims to enhance the reuse potential of treated wastewater by incorporating nano-fertilizers and beneficial microorganisms, enabling its application in agroforestry systems such as the ASA project and in wood-fuel plantations. The approach supports circular economy principles by integrating oil and gas operations with sustainable agricultural practices in the Orinoquía and Eastern Plains regions of Colombia, while reducing the environmental footprint of conventional fertilization methods. As part of the treatment enhancement strategy, the initiative also includes the use of advanced polishing beads—innovative materials designed to remove total petroleum hydrocarbons (TPH) to concentrations below 1 mg/L, in compliance with national environmental regulations for water reuse in agro-industrial and agroforestry applications. Initial pilot tests have been conducted in the Castilla field, and the technology is planned to be expanded to additional sites in the Central Region. Medium-term deployment is expected in the Rubiales field. The goal is to make 240,000 BWPD of treated water available for industrial-scale irrigation, helping to stabilize crude production at the Acacías station while delivering environmental and operational co-benefits.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☑ Reduced direct costs

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☑ Medium-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☑ Likely (66–100%)

(3.6.1.12) Magnitude

Select from:

☑ High

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

The projected financial impact of this opportunity is based on an agricultural business case involving the irrigation of up to 10,909 hectares using enriched treated wastewater. The initiative is designed to ensure water availability and management flexibility in the event of stricter discharge regulations or river flow restrictions, while simultaneously boosting agricultural productivity. The evaluation covers a time horizon from 2027 to 2037 and includes direct benefits such as increased crop yields, enhanced reuse of produced water, and improved oil recovery due to higher water treatment quality. In the initial phase, the water source is expected to be supplied from the Castilla field. Additionally, the deployment of polishing bead technology—an advanced material for final-stage water treatments supports the transition to cleaner energy systems by enabling reliable water reuse for industrial-scale irrigation. This integrated solution contributes to reducing water stress in critical basins while creating cross-sector value aligned with Ecopetrol's TESG and water neutrality strategies.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☑ Yes

(3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

210000000000

(3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

210000000000

(3.6.1.23) Explanation of financial effect figures

The financial impact of this initiative is based on the strategic use of produced water for reuse, particularly in scenarios where river discharge limits become more restrictive. By reducing dependence on surface discharge and enabling internal reuse, the initiative safeguards water availability for both oil production and agroindustrial applications. Projected benefits include incremental oil production made feasible through enhanced recovery techniques supported by improved water treatment, as well as increased efficiency in agricultural operations through the supply of irrigation-quality water. These benefits are derived from modeled assumptions regarding future flow rates, treatment capacity, and reuse volumes. It is important to note that all financial figures are preliminary and may evolve as the technology matures and deployment expands. However, the opportunity presents a strong business case under growing water stress conditions, while aligning with circular economic principles and Ecopetrol's broader sustainability objectives.

(3.6.1.24) Cost to realize opportunity

5340000000

(3.6.1.25) Explanation of cost calculation

The costs associated with this initiative are consolidated under Ecopetrol's broader water technology suite—an investment portfolio encompassing studies and technological solutions for integrated water management. For the 2024–2025 period (actualized from 2023), the total projected budget amounts 1.15 MUSD and the cost of capex 0.16 MUSD (COP 5.2 billion), covering technologies such as advanced fluid separation and ultrafiltration (Tukano), treated wastewater enrichment, and selective polishing for water demineralization, the total cost of this initiative ensuring balanced financial responsibility and commitment to the technological development.These technologies aim to increase water circularity, operational efficiency, and sustainability performance. This consolidated budget approach facilitates synergies among related technologies while supporting scalable implementation across operational areas.

(3.6.1.26) Strategy to realize opportunity

The strategy to realize this opportunity includes the deployment of an enrichment unit with nano-fertilizers in the Castilla field, enabling the productive reuse of treated produced water for industrial-scale irrigation. This implementation marks the transition from pilot testing to full-scale application, strengthening the integration between water management and agroindustrial development. The materialization of the project will demonstrate the operational feasibility of using enriched wastewater to support circular economy models and sustainable land use, while reducing dependence on freshwater and synthetic fertilizers. This step will also serve as a reference case for future replication across other strategic fields.

Water

(3.6.1.1) Opportunity identifier

Select from:

☑ Opp13

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Resource efficiency

☑ Use of new technologies

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☑ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☑ Colombia

(3.6.1.6) River basin where the opportunity occurs

Select all that apply

☑ Magdalena

☑ Orinoco

(3.6.1.8) Organization specific description

NanoRPM, EcoRPM, and NanoWW represent innovative polymer-based technologies developed to control excessive water production at the source by altering the mobility ratio between oil and water and capturing the aqueous phase near the wellbore. These solutions are specifically designed for high water-cut conditions (70%–95%) and high fluid flow rates (exceeding 3,000 barrels per day), where conventional methods offer limited effectiveness. NanoRPM is composed of polymers with a carbon-based backbone and superabsorbent hydrolyzable functional groups, while ECRPM involves the synthesis of customized copolymers and terpolymers

for enhanced conformance control. These formulations enable targeted water shutoff and improved sweep efficiency without compromising oil mobility. From 2024 through 2032, Ecopetrol aims to expand the application of these technologies across eligible wells, depending on technical and operational feasibility. As implementation progresses, future benefits will be projected based on field-specific opportunities to optimize production, reduce water handling costs, and extend well lifecycle performance,

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☑ Reduced indirect (operating) costs

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☑ Medium-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☑ Very likely (90–100%)

(3.6.1.12) Magnitude

Select from:

☑ Medium-low

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

The anticipated medium- and long-term benefits of this opportunity are associated with incremental revenues driven by increased hydrocarbon production resulting from the effective control of water inflows in high water-cut wells. Financial projections are based on the EBITDA margin, considering only relevant variable costs directly linked to the deployment and operation of the NanoRPM, ECRPM, and NanoWW technologies. Capital expenditures and unrelated overheads are excluded from the calculation to focus solely on operational performance.This approach highlights the cost-efficiency of the initiative and its potential to improve net cash flows, enhance resource recovery, and contribute to strategic objectives in production optimization and water management of Ecopetrol.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☑ Yes

(3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

276750000000

(3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

276750000000

(3.6.1.23) Explanation of financial effect figures

The estimated monetary benefits of this initiative are primarily linked to incremental oil production resulting from the reduction in basic sediment and water (BSW) where the technology is deployed. The benefit calculation aggregates the production uplift from treated wells and newly developed candidates over the year, monetized using Brent crude prices and adjusted for the specific cost of the applied technology per barrel. The financial effect is based on certified benefits 2024 and the projection for 2025 models, the implementation of NanoRPM, ECRPM, and NanoWW technologies in 30 production wells. Net present value (NPV) projections incorporate multiple benefit streams, including: Cost savings from reduced water treatment and disposal requirements, Incremental oil volumes enabled by improved mobility control, Lower energy consumption per unit produced, Reduced atmospheric emissions due to lower water handling loads, Increased availability and efficiency of surface facilities to handle higher oil throughput, These projections are based on current deployment plans and performance data, and will be refined as additional field results are incorporated. These projections are based on current deployment plans and validated performance data and will be refined as additional field results are incorporated. The economic assumptions are consistent with certified values, including an exchange rate (TRM) of COP 4,100 per USD. It is important to highlight that the expected benefits are fundamentally driven by increased oil production derived from reservoir performance improvements, rather than by external market factors

(3.6.1.24) Cost to realize opportunity

0

(3.6.1.25) Explanation of cost calculation

There are no additional costs.

(3.6.1.26) Strategy to realize opportunity

The expansion will be carried out on an opportunity basis through well intervention depending on the needs of the fields.

Water

(3.6.1.1) Opportunity identifier

Select from:

☑ Opp14

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Resource efficiency

☑ Improved field recovery factor

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☑ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☑ Colombia

(3.6.1.6) River basin where the opportunity occurs

Select all that apply

☑ Orinoco

(3.6.1.8) Organization specific description

The selective polishing or water demineralization initiative is designed to remove critical ions commonly found in produced waters such as sodium (Na), chloride (Cl), fluoride (F), calcium (Ca), and magnesium (Mg)—to enable its use in enhanced oil recovery (EOR) operations and agro-industrial reuse applications. This technology supports Ecopetrol's strategy of maximizing water circularity while improving injection compatibility and minimizing formation damage in mature reservoirs. In parallel, the removal of specific ions aligns with regulatory and agronomic requirements for the safe reuse of water in irrigation and industrial processes. Current development

efforts focus on identifying optimal filter media for targeted ion removal and advancing the design of a pilot plant to validate technical feasibility and operational performance under field conditions.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☑ Reduced direct costs

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☑ Medium-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☑ Likely (66–100%)

(3.6.1.12) Magnitude

Select from:

☑ High

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

This technology is expected to unlock incremental production by enabling enhanced oil recovery (EOR) projects that rely on the use of treated produced water. By improving water quality through selective ion removal, the initiative facilitates the injection of compatible water into reservoirs, helping sustain pressure and increase hydrocarbon recovery rates. The anticipated financial benefits are based on projected oil production uplift enabled by this water management innovation. However, these projections remain subject to refinement as the technology evolves, field results are validated, and deployment is scaled.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☑ Yes

(3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

283761000000

(3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

333500000000

(3.6.1.23) Explanation of financial effect figures

The financial benefits associated with this technology are tied to its potential to enable enhanced recovery (EOR) projects by improving the quality of produced water for reinjection and reuse. By selectively removing critical ions such as sodium and chlorides, the technology allows for safer and more effective water reuse in both oilfield operations and agricultural applications. Projections are based on key assumptions regarding treatment flow rates and the associated operational gains. Specifically, for the Suria field, the initiative targets the treatment of up to 88 KBWPD with chloride removal to meet water quality requirements. In the Rubiales field, the removal of sodium is expected for volumes reaching 300 KBWPD

(3.6.1.24) Cost to realize opportunity

5340000000

(3.6.1.25) Explanation of cost calculation

The costs associated with this initiative are consolidated within Ecopetrol's broader investment framework for its water technology suite—a portfolio of integrated studies and technologies aimed at improving water management efficiency, circularity, and operational resilience. For the 2024–2025 period (actualized from 2023), the total projected budget amounts 1.15 MUSD and the cost of capex 0.16 MUSD (COP 5.2 billion), covering technologies such as advanced fluid separation and ultrafiltration (Tukano), treated wastewater enrichment, and selective polishing for water demineralization, the total cost of this initiative was equally distributed ensuring balanced financial responsibility and commitment to the technological development.. The resources for 2025 are currently pending under the company's formal investment plan for that year.. The centralized budgeting approach enables coordinated implementation and maximizes the synergies among complementary technologies across various operational fronts.

(3.6.1.26) Strategy to realize opportunity

The implementation strategy for this initiative follows a phased and adaptive approach: (1)scaling the synthesis and production of tailored filtration materials designed for selective ion removal; (2)conducting pilot field tests in assets with high concentrations of critical minerals in produced water to validate operational feasibility and treatment efficiency; (3) designing and customizing scalable treatment solutions for each field based on the specific composition of production water and the intended reuse pathway, particularly for agroindustrial and irrigation applications; and (4) this stepwise strategy allows Ecopetrol to align water quality solutions with site-specific operational and environmental conditions while supporting water circularity and reducing freshwater dependency across its assets.

Water

(3.6.1.1) Opportunity identifier

Select from:

☑ Opp15

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Resource efficiency

☑ Reduced water usage and consumption

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☑ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☑ Colombia

(3.6.1.6) River basin where the opportunity occurs

Select all that apply

☑ Magdalena

☑ Orinoco

(3.6.1.8) Organization specific description

The Water Management Suite is a commercial initiative from the Vice Presidency of Science, Technology and Innovation of Ecopetrol and it is based on the consolidation of a product/service consisting of the technologies developed by the ICPET (Research and Development Center of Ecopetrol) to meet the needs in this matter for different industries.

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(3.6.1.9) Primary financial effect of the opportunity

Select from:

☑ Reduced direct costs

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☑ Long-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☑ More likely than not (50–100%)

(3.6.1.12) Magnitude

Select from:

☑ High

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

The Water Management Suite is a commercial initiative from the Vice Presidency of Science, Technology and Innovation of Ecopetrol and it's based on the consolidation of a product/service based on the technologies developed by the ICPET (Research and Development Center of Ecopetrol) to meet the needs in this matter for different industries.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☑ Yes

(3.6.1.21) Anticipated financial effect figure in the long-term - minimum (currency)

844231000000

(3.6.1.22) Anticipated financial effect figure in the long-term – maximum (currency)

1063826557022

(3.6.1.23) Explanation of financial effect figures

The projected financial benefits reflect the value Ecopetrol could capture through the full-scale implementation of its water management technologies, based on multiple commercialization scenarios. In contrast to previous estimates, the current outlook emphasizes financial discipline and efficiency, aligning technological deployment with strategic investment priorities.

(3.6.1.24) Cost to realize opportunity

305764000000

(3.6.1.25) Explanation of cost calculation

The activities that this resource had as its scope were: 1). TPH polishing test was carried out at the Acacias station, which was executed with successful results,. 2). The Dows Unit test in Castilla. 3). Water enrichment test with nanofertilizers at the laboratory scale carried out successfully with an agreement made with Cenipalma and Agrosavia. 4). Test of Tukano technology, in Chichimene with successful results.

(3.6.1.26) Strategy to realize opportunity

The strategy follows a phased approach aimed at advancing multiple water-related technologies to Technology Readiness Level 9 (TRL 9), thereby demonstrating their full operational efficiency within Ecopetrol (Scope 1). Upon validation, the strategy includes a go-to-market phase targeting other oil and gas companies (Scope 2), contributing to technology transfer and potential revenue streams.In the initial phase, four technologies currently at TRL 6 are prioritized for full-scale deployment within Ecopetrol: SOWS (Separation of Oil and Water at Source), THP and MCAI-Tukano Polishing Units (advanced water polishing technologies for reuse in agroforestry), and Nano-Technologies (NanoRPM and ECORPM) designed to control water production at the reservoir level. These solutions collectively address key challenges in water management, including enhancing produced water quality for in-situ injection at well clusters, enabling water reuse for crop irrigation and operational processes (drilling/completions), and reducing water cuts by modifying fluid mobility near the wellbore. The initiative is a key enabler of Ecopetrol's TESG strategy, fostering operational efficiency, environmental stewardship, and long-term value creation. The projected financial benefits reflect the value Ecopetrol could capture through the full-scale implementation of these technologies, based on multiple commercialization scenarios. In contrast to previous estimates, the current outlook emphasizes financial discipline and efficiency, aligning technological deployment with strategic investment priorities—thus moderating the scale of anticipated benefits in the short term.

Water

(3.6.1.1) Opportunity identifier

Select from:

☑ Opp16

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Resilience

☑ Increased resilience to impacts of climate change

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☑ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☑ Colombia

(3.6.1.6) River basin where the opportunity occurs

Select all that apply

☑ Magdalena

(3.6.1.8) Organization specific description

In 2024 Econova (corporate Vice-presidency of Science, Technology and Innovation), Universidad Santo Tomas Bucaramanga sectional and Natura Foundation, work together in the project The Living Lab for Wetland Conservation in San Silvestre in Barrancabermeja represents a transformative environmental opportunity aimed at restoring and preserving wetland ecosystems through a socio-environmental approach. The initiative contributes to climate mitigation, water neutrality, biodiversity enhancement, and sustainable livelihoods by leveraging community-led governance and nature-based solutions (NbS). It aligns with Ecopetrol's TESG strategy and supports key strategic roadmaps such as climate change, biodiversity, sustainable territories, and innovation.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☑ Reduced direct costs

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☑ Long-term

☑ The opportunity has already had a substantive effect on our organization in the reporting year

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☑ Very likely (90–100%)

(3.6.1.12) Magnitude

Select from:

☑ Medium

(3.6.1.13) Effect of the opportunity on the financial position, financial performance and cash flows of the organization in the reporting period

Financial benefits are associated with improved ecosystem services, and new business opportunities linked to green enterprises and carbon capture potential. Additional cost savings are anticipated from enhanced natural infrastructure, community-led monitoring systems, and positive regulatory alignment.

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

The opportunity is currently in the structuring phase and is expected to be implemented in 2025. It is designed to generate positive long-term effects on Ecopetrol's financial performance through ecosystem restoration and enhanced water governance in the San Silvestre wetland complex. The anticipated financial impacts between 2027 and 2037 include avoided costs associated with environmental degradation, potential penalties, and water-related operational risks. Additional benefits may derive from the development of green businesses, nature-based solutions, and ecosystem service monetization, including carbon capture and biodiversity offsets. Although no direct revenue is projected at this stage, preliminary assessments suggest the initiative could contribute to improved financial resilience by reducing exposure to water stress, enhancing social license to operate, and improving ecosystem service availability that supports long-term operations in the region. The financial impact will be regularly reassessed as implementation progresses, and as performance indicators—such as ecosystem recovery, community engagement, and cost avoidance—are validated.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☑ No

(3.6.1.24) Cost to realize opportunity

1901400000

(3.6.1.25) Explanation of cost calculation

The total cost of the initiative amounts to COP $2,372,399,500 (approximately USD 600,000), as part of a formal cooperation agreement between Ecopetrol, Universidad Santo Tomás – Bucaramanga, and Fundación Natura. This cost includes both cash contributions from Ecopetrol (COP $1,901,399,500) and in-kind contributions from Fundación Natura (COP $471,000,000), distributed over a 20-month period (18 months of execution and 2 months for closure). The costs cover: (i) integrated ecosystem and water monitoring systems, (ii) scientific research on carbon, water and biodiversity baselines, (iii) participatory governance models, (iv) community engagement activities, and (v) design and testing of nature-based business prototypes. These elements are aligned with Ecopetrol's TESG strategy and are expected to contribute to long-term environmental, reputational, and operational benefits.

(3.6.1.26) Strategy to realize opportunity

Ecopetrol implements an interdisciplinary and participatory governance model, supporting innovation through baseline assessments, community training, green business incubation, and scientific dissemination. The initiative includes the development of carbon, water, and biodiversity baselines, and prototypes of green business models focused on NbS and ecosystem service valorization. The long-term strategy includes community ownership and institutional partnerships for scaling.

Water

(3.6.1.1) Opportunity identifier

Select from:

☑ Opp7

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Products and services

☑ Development of new products or services through R&D and innovation

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☑ Direct operations

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☑ Colombia

(3.6.1.6) River basin where the opportunity occurs

Select all that apply

☑ Orinoco

(3.6.1.8) Organization specific description

Quality assurance, energy and cost savings by avoiding water transportation, and the enablement of diverse water management strategies are made possible through new produced water technologies. The water suite comprises various technologies developed by Ecopetrol, impacting the entire water treatment train, including polishing stages. DOWS and SOWS technologies—Downhole and Surface Oil-Water Separation, respectively—focus on the in-situ treatment of produced water for reinjection, eliminating the need to transport it to central treatment facilities. Polishing Beads and MKAI Tukano are technologies that incorporate novel materials and advanced filtration strategies to reduce total petroleum hydrocarbons (TPH) to concentrations below 1 mg/L in central treatment stations, and to achieve low levels of suspended solids (with a maximum particle size of 2 microns) at the wellhead for injection. Finally, Selective Polishing involves evaluating optimal technologies and developing new materials to remove minerals, salinity, and specific or recalcitrant contaminants, enabling the application, recirculation, and reuse of treated produced water. These technologies are currently being implemented and studied in various operational areas in the Orinoquía Region and are expected to be scaled up and deployed in Acacías, Castilla, Rubiales, Apiay, and Suria stations and fields.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

☑ Increased revenues resulting from increased production capacity

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☑ Long-term

☑ The opportunity has already had a substantive effect on our organization in the reporting year

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☑ Likely (66–100%)

(3.6.1.12) Magnitude

Select from:

☑ Medium-high

(3.6.1.13) Effect of the opportunity on the financial position, financial performance and cash flows of the organization in the reporting period

Increased revenues resulting from enabling an alternative to water management in way to increase crude production through the quality assurance. In addition, the water Suite reduces use of chemicals, cost and energy in comparison to other technologies.

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

The Water Suite technologies are currently being evaluated at different scales. They have demonstrated improved performance compared to commercial materials, with savings in chemical, cost, and energy consumption, while ensuring water quality, maximizing the overall potential of the water treatment stations or making in-situ treatments possible. For example, MKAI Tukano has helped avoid well obstructions and increase production.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☑ Yes

(3.6.1.16) Financial effect figure in the reporting year (currency)

23505300000

(3.6.1.21) Anticipated financial effect figure in the long-term - minimum (currency)

0

(3.6.1.22) Anticipated financial effect figure in the long-term – maximum (currency)

574000000000

(3.6.1.23) Explanation of financial effect figures

The financial effect is based on a scaling-up of the technologies for a total of 3,000,000 bbl/day in the Apiay, Castilla, Suria, Rubiales, Chichimene and CPO 9 fields and stations, taking into account the increased production capacity and operational cost savings.

(3.6.1.24) Cost to realize opportunity

275700000000

(3.6.1.25) Explanation of cost calculation

The capital cost includes the equipment adjustments and/or new equipment for the novel technologies.

(3.6.1.26) Strategy to realize opportunity

Based on the results of the pilot test a full-scale deployment is planned for the Apiay, Castilla, Suria, Rubiales, Chichimene and CPO 9 fields and stations.
[Add row]

(3.6.2) Provide the amount and proportion of your financial metrics in the reporting year that are aligned with the substantive effects of environmental opportunities.

Climate change

(3.6.2.1) Financial metric

Select from:

☑ CAPEX

(3.6.2.2) Amount of financial metric aligned with opportunities for this environmental issue (unit currency as selected in 1.2)

0

(3.6.2.3) % of total financial metric aligned with opportunities for this environmental issue

Select from:

☑ 1-10%

(3.6.2.4) Explanation of financial figures

Currently, Ecopetrol has an assessment of the financial impact of opportunities related to climate change and energy transition. However, the exercise of analysing the proportion of investment in climate change opportunities with respect to the total made has not been evaluated. It is expected that in the next two years progress will be made in identifying the participation of environmental issues within the defined financial variables.

Water

(3.6.2.1) Financial metric

Select from:

☑ Other, please specify :Not assessed

(3.6.2.2) Amount of financial metric aligned with opportunities for this environmental issue (unit currency as selected in 1.2)

0

(3.6.2.3) % of total financial metric aligned with opportunities for this environmental issue

Select from:

☑ Less than 1%

(3.6.2.4) Explanation of financial figures

Not assessed
[Add row]

C4. Governance

(4.1) Does your organization have a board of directors or an equivalent governing body?

(4.1.1) Board of directors or equivalent governing body

Select from:

☑ Yes

(4.1.2) Frequency with which the board or equivalent meets

Select from:

☑ More frequently than quarterly

(4.1.3) Types of directors your board or equivalent is comprised of

Select all that apply

☑ Non-executive directors or equivalent

☑ Independent non-executive directors or equivalent

(4.1.4) Board diversity and inclusion policy

Select from:

☑ Yes, and it is publicly available

(4.1.5) Briefly describe what the policy covers

The Diversity and Inclusion Policy for the composition of the Board of Directors of Ecopetrol (BoD) and the Boards of Ecopetrol Group's companies is a corporate governance guideline through which the BoD recognizes the value of diversity and inclusion framed within the three components of Ecopetrol's Diversity and Inclusion Program, namely: 1) talent, 2) corporate responsibility, and 3) corporate management. It is essential to ensure that the composition of the BoD provides an adequate balance of diversity within its members in terms of: training, experience, and suitability; and gender and non-binary gender identity; origin and geographical; origin; race or ethnicity; age; beliefs; disability; amongst others, to foster a sound decision-making process.
[Fixed row]

(4.1.1) Is there board-level oversight of environmental issues within your organization?

	Board-level oversight of this environmental issue
Climate change	*Select from:* ☑ Yes
Water	*Select from:* ☑ Yes
Biodiversity	*Select from:* ☑ Yes

[Fixed row]

(4.1.2) Identify the positions (do not include any names) of the individuals or committees on the board with accountability for environmental issues and provide details of the board's oversight of environmental issues.

Climate change

(4.1.2.1) Positions of individuals or committees with accountability for this environmental issue

Select all that apply

☑ Board-level committee

(4.1.2.2) Positions' accountability for this environmental issue is outlined in policies applicable to the board

Select from:

☑ Yes

(4.1.2.3) Policies which outline the positions' accountability for this environmental issue

Select all that apply

☑ Other policy applicable to the board, please specify :Internal Regulations of The Ecopetrol S.A. Board of Directors HSE Committee (now Territorial Transformation and HSE Committe)

(4.1.2.4) Frequency with which this environmental issue is a scheduled agenda item

Select from:

☑ Scheduled agenda item in some board meetings – at least annually

(4.1.2.5) Governance mechanisms into which this environmental issue is integrated

Select all that apply

☑ Reviewing and guiding annual budgets
☑ Overseeing and guiding scenario analysis
☑ Overseeing the setting of corporate targets
☑ Monitoring progress towards corporate targets
☑ Approving corporate policies and/or commitments
☑ Monitoring the implementation of a climate transition plan
☑ Overseeing and guiding the development of a business strategy
☑ Overseeing and guiding acquisitions, mergers, and divestitures
☑ Monitoring supplier compliance with organizational requirements
☑ Monitoring compliance with corporate policies and/or commitments
☑ Overseeing and guiding the development of a climate transition plan
☑ Reviewing and guiding the assessment process for dependencies, impacts, risks, and opportunities
☑ Reviewing and guiding innovation/R&D priorities
☑ Approving and/or overseeing employee incentives
☑ Overseeing and guiding major capital expenditures
☑ Monitoring the implementation of the business strategy
☑ Overseeing reporting, audit, and verification processes

(4.1.2.7) Please explain

The Board is responsible for approving the Ecopetrol Group's (GE) strategy and investment plan. In 2024, the Board followed up on the 2040 Strategy, which responds comprehensively to the current environmental, social and governance challenges. The 2040 Strategy includes 4 pillars, 2 of which are related to energy transition and sustainability. The sustainability pillar "Generating value through TESG" aims to generate net-zero emissions of CO2 equivalent by 2050 in scopes 1 and 2, and the "Growing with the energy transition" pillar includes goals to further diversification into energy and low-emission businesses. Ecopetrol has developed a

plan to accelerate and prioritize decarbonization, energy efficiency and energy transition. In 2024 the Board approved the 2025 general organic Investment Plan (IP) for the Ecopetrol Group. In 2025, the GE will invest around COP 2,3 trillion to sustainability projects and activities, mainly in climate change, sustainable territory, innovation, science and technology, biodiversity affairs and ecosystem services. Of this amount, 29% is aimed at climate change, 18% is aimed at sustainable territories; 12% is aimed at innovation, science, and technology; 12% is aimed at biodiversity and ecosystem services; and the remaining 29% is aimed at other material issues. The 2025 IP enhances reduction of about 300,000 tons of CO2 equivalent emissions by 2025. Around 24% of IP 2025 is allocated to projects in the Energy Transition and Power Transmission and Roads businesses, as well as to other corporate investments. The Board also reviewed the results of corporate targets and performance objectives for the GE's 2023 Balanced Scorecard (TBG) and updated the goals for 2024 of the 2024-2026 TBG. The TBG is used to set and monitor performance in relation to the Company's targets and it has an impact on employees' annual variable remuneration and includes goals related to energy transition and sustainability. The Boards structure includes Committees that support its decision-making process including climate change and water. Through its HSE Committee (now Territorial Transformation and HSE Committee), it monitored the performance of targets related to water neutrality, greenhouse effect gases and reduction of methane emissions, and through its Risk and Audit Committee it reviewed the Business Risk Map which includes as a risk "Inadequate response to challenges associated with climate change, water and biodiversity".

Water

(4.1.2.1) Positions of individuals or committees with accountability for this environmental issue

Select all that apply

☑ Board-level committee

(4.1.2.2) Positions' accountability for this environmental issue is outlined in policies applicable to the board

Select from:

☑ Yes

(4.1.2.3) Policies which outline the positions' accountability for this environmental issue

Select all that apply

☑ Other policy applicable to the board, please specify :Internal Regulations of HSE Committee (now Territorial Transformation and HSE Committe) of the Board of Directors of Ecopetrol S.A.

(4.1.2.4) Frequency with which this environmental issue is a scheduled agenda item

Select from:

☑ Scheduled agenda item in some board meetings – at least annually

(4.1.2.5) Governance mechanisms into which this environmental issue is integrated

Select all that apply

- ☑ Overseeing and guiding scenario analysis
- ☑ Overseeing the setting of corporate targets
- ☑ Monitoring progress towards corporate targets
- ☑ Approving corporate policies and/or commitments
- ☑ Reviewing and guiding innovation/R&D priorities
- ☑ Monitoring compliance with corporate policies and/or commitments
- ☑ Reviewing and guiding the assessment process for dependencies, impacts, risks, and opportunities
- ☑ Overseeing and guiding major capital expenditures
- ☑ Monitoring the implementation of the business strategy
- ☑ Overseeing reporting, audit, and verification processes
- ☑ Overseeing and guiding the development of a business strategy
- ☑ Overseeing and guiding acquisitions, mergers, and divestitures

(4.1.2.7) Please explain

The Board is responsible for approving the Ecopetrol Group's (GE) strategy and investment plan. In 2024, the Board followed up on the 2040 Strategy, which responds comprehensively to the current environmental, social and governance challenges. The 2040 Strategy includes 4 pillars, 2 of which are related to energy transition and sustainability. The sustainability pillar "Generating value through TESG" aims to generate net-zero emissions of CO2 equivalent by 2050 in scopes 1 and 2, and the "Growing with the energy transition" pillar includes goals to further diversification into energy and low-emission businesses. Ecopetrol has developed a plan to accelerate and prioritize decarbonization, energy efficiency and energy transition. In 2024 the Board approved the 2025 general organic Investment Plan (IP) for the Ecopetrol Group. In 2025, the GE will invest around COP 2,3 trillion to sustainability projects and activities, mainly in climate change, sustainable territory, innovation, science and technology, biodiversity affairs and ecosystem services. Of this amount, 29% is aimed at climate change, 18% is aimed at sustainable territories; 12% is aimed at innovation, science, and technology; 12% is aimed at biodiversity and ecosystem services; and the remaining 29% is aimed at other material issues. The 2025 IP enhances reduction of about 300,000 tons of CO2 equivalent emissions by 2025. Around 24% of IP 2025 is allocated to projects in the Energy Transition and Power Transmission and Roads businesses, as well as to other corporate investments. The Board also reviewed the results of corporate targets and performance objectives for the GE's 2023 Balanced Scorecard (TBG) and updated the goals for 2024 of the 2024-2026 TBG. The TBG is used to set and monitor performance in relation to the Company's targets and it has an impact on employees' annual variable remuneration and includes goals related to energy transition and sustainability. The Boards structure includes Committees that support its decision-making process including climate change and water. Through its HSE Committee (now Territorial Transformation and HSE Committee), it monitored the performance of targets related to water neutrality, greenhouse effect gases and reduction of methane emissions, and through its Risk and Audit Committee it reviewed the Business Risk Map which includes as a risk "Inadequate response to challenges associated with climate change, water and biodiversity".

Biodiversity

(4.1.2.1) Positions of individuals or committees with accountability for this environmental issue

Select all that apply

☑ Board-level committee

(4.1.2.2) Positions' accountability for this environmental issue is outlined in policies applicable to the board

Select from:

☑ Yes

(4.1.2.3) Policies which outline the positions' accountability for this environmental issue

Select all that apply

☑ Other policy applicable to the board, please specify :Internal Regulations of HSE Committee (now Territorial Transformation and HSE Committe) of the Board of Directors of Ecopetrol S.A.

(4.1.2.4) Frequency with which this environmental issue is a scheduled agenda item

Select from:

☑ Scheduled agenda item in some board meetings – at least annually

(4.1.2.5) Governance mechanisms into which this environmental issue is integrated

Select all that apply

☑ Overseeing and guiding scenario analysis

☑ Overseeing the setting of corporate targets

☑ Monitoring progress towards corporate targets

☑ Approving corporate policies and/or commitments

☑ Reviewing and guiding innovation/R&D priorities

☑ Monitoring compliance with corporate policies and/or commitments

☑ Reviewing and guiding the assessment process for dependencies, impacts, risks, and opportunities

☑ Overseeing and guiding major capital expenditures

☑ Monitoring the implementation of the business strategy

☑ Overseeing reporting, audit, and verification processes

☑ Overseeing and guiding the development of a business strategy

☑ Overseeing and guiding acquisitions, mergers, and divestitures

(4.1.2.7) Please explain

The Board is responsible for approving the Ecopetrol Group's (GE) strategy and investment plan. In 2024, the Board followed up on the 2040 Strategy, which responds comprehensively to the current environmental, social and governance challenges. The 2040 Strategy includes 4 pillars, 2 of which are related to energy transition and sustainability. The sustainability pillar "Generating value through TESG" aims to generate net-zero emissions of CO2 equivalent by 2050 in scopes 1

and 2, and the "Growing with the energy transition" pillar includes goals to further diversification into energy and low-emission businesses. Ecopetrol has developed a plan to accelerate and prioritize decarbonization, energy efficiency and energy transition. In 2024 the Board approved the 2025 general organic Investment Plan (IP) for the Ecopetrol Group. In 2025, the GE will invest around COP 2,3 trillion to sustainability projects and activities, mainly in climate change, sustainable territory, innovation, science and technology, biodiversity affairs and ecosystem services. Of this amount, 29% is aimed at climate change, 18% is aimed at sustainable territories; 12% is aimed at innovation, science, and technology; 12% is aimed at biodiversity and ecosystem services; and the remaining 29% is aimed at other material issues. The 2025 IP enhances reduction of about 300,000 tons of CO2 equivalent emissions by 2025. Around 24% of IP 2025 is allocated to projects in the Energy Transition and Power Transmission and Roads businesses, as well as to other corporate investments. The Board also reviewed the results of corporate targets and performance objectives for the GE's 2023 Balanced Scorecard (TBG) and updated the goals for 2024 of the 2024-2026 TBG. The TBG is used to set and monitor performance in relation to the Company's targets and it has an impact on employees' annual variable remuneration and includes goals related to energy transition and sustainability. The Boards structure includes Committees that support its decision-making process including climate change and water. Through its HSE Committee (now Territorial Transformation and HSE Committee), it monitored the performance of targets related to water neutrality, greenhouse effect gases and reduction of methane emissions, and through its Risk and Audit Committee it reviewed the Business Risk Map which includes as a risk "Inadequate response to challenges associated with climate change, water and biodiversity".
[Fixed row]

(4.2) Does your organization's board have competency on environmental issues?

Climate change

(4.2.1) Board-level competency on this environmental issue

Select from:

☑ Yes

(4.2.2) Mechanisms to maintain an environmentally competent board

Select all that apply

☑ Integrating knowledge of environmental issues into board nominating process

☑ Regular training for directors on environmental issues, industry best practice, and standards (e.g., TCFD, SBTi)

☑ Having at least one board member with expertise on this environmental issue

(4.2.3) Environmental expertise of the board member

Other

☑ Other, please specify :The BoD defines its Competencies and Experience Matrix to determine the knowledge, training and expertise required from its members. One of the complementary requirements is HSE. Currently, 7 members of the BoD have experience in climate change.

Water

(4.2.1) Board-level competency on this environmental issue

Select from:

☑ Yes

(4.2.2) Mechanisms to maintain an environmentally competent board

Select all that apply

☑ Integrating knowledge of environmental issues into board nominating process

☑ Regular training for directors on environmental issues, industry best practice, and standards (e.g., TCFD, SBTi)

☑ Having at least one board member with expertise on this environmental issue

(4.2.3) Environmental expertise of the board member

Other

☑ Other, please specify :The BoD defines its Competencies and Experience Matrix to determine the knowledge, training and expertise required from its members. One of the complementary requirements is HSE. Currently, 6 members of the BoD have experience in water.

[Fixed row]

(4.3) Is there management-level responsibility for environmental issues within your organization?

	Management-level responsibility for this environmental issue
Climate change	*Select from:* ☑ Yes
Water	*Select from:* ☑ Yes
Biodiversity	*Select from:* ☑ Yes

[Fixed row]

(4.3.1) Provide the highest senior management-level positions or committees with responsibility for environmental issues (do not include the names of individuals).

Climate change

(4.3.1.1) Position of individual or committee with responsibility

Committee

☑ Other committee, please specify :1. Strategic Committee 2. Hydrocarbon Business Line Committee 3. Energy Transition Business Line Committee 4. Transmission and Roads Business Line Committee

(4.3.1.2) Environmental responsibilities of this position

Dependencies, impacts, risks and opportunities

☑ Managing environmental dependencies, impacts, risks, and opportunities

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Engagement

☑ Managing public policy engagement related to environmental issues

Policies, commitments, and targets

☑ Monitoring compliance with corporate environmental policies and/or commitments

☑ Measuring progress towards environmental corporate targets

☑ Setting corporate environmental policies and/or commitments

☑ Setting corporate environmental targets

Strategy and financial planning

☑ Developing a business strategy which considers environmental issues

☑ Developing a climate transition plan

☑ Implementing the business strategy related to environmental issues

☑ Managing environmental reporting, audit, and verification processes

☑ Managing major capital and/or operational expenditures relating to environmental issues

(4.3.1.4) Reporting line

Select from:

☑ Reports to the Chief Executive Officer (CEO)

(4.3.1.5) Frequency of reporting to the board on environmental issues

Select from:

☑ More frequently than quarterly

(4.3.1.6) Please explain

At Ecopetrol, the Strategic Committee is the highest-level forum led by the company's President, serving as the space where the comprehensive strategy of the Ecopetrol Group is articulated. This committee has both decision-making and oversight functions. Its value lies in aligning strategic pillars—such as energy transition, sustainability, and environmental management—with long-term corporate decision-making. Within this forum, key topics are reviewed and approved, including decarbonization targets, investments in clean technologies, and cross-cutting environmental policies for the Group. Meanwhile, the business line committees—Hydrocarbon, Energy Transition, and Transmission and Roads—fulfill a monitoring and strategic alignment role within their respective operational domains. These

committees track progress on environmental objectives specific to each line of business, facilitate the exchange of best practices, and ensure consistency between operations and the corporate environmental strategy. Although they do not have decision-making authority, their role is essential to the effective implementation of the environmental strategy in day-to-day operations.

Water

(4.3.1.1) Position of individual or committee with responsibility

Committee

☑ Other committee, please specify :1. Strategic Committee 2. Hydrocarbon Business Line Committee 3. Energy Transition Business Line Committee 4. Transmission and Roads Business Line Committee

(4.3.1.2) Environmental responsibilities of this position

Dependencies, impacts, risks and opportunities

☑ Assessing environmental dependencies, impacts, risks, and opportunities

☑ Managing environmental dependencies, impacts, risks, and opportunities

Policies, commitments, and targets

☑ Monitoring compliance with corporate environmental policies and/or commitments

☑ Measuring progress towards environmental corporate targets

☑ Setting corporate environmental targets

Strategy and financial planning

☑ Managing annual budgets related to environmental issues

☑ Managing environmental reporting, audit, and verification processes

(4.3.1.4) Reporting line

Select from:

☑ Reports to the Chief Executive Officer (CEO)

(4.3.1.5) Frequency of reporting to the board on environmental issues

Select from:

☑ More frequently than quarterly

(4.3.1.6) Please explain

At Ecopetrol, the Strategic Committee is the highest-level forum led by the company's President, serving as the space where the comprehensive strategy of the Ecopetrol Group is articulated. This committee has both decision-making and oversight functions. Its value lies in aligning strategic pillars—such as energy transition, sustainability, and environmental management—with long-term corporate decision-making. Within this forum, key topics are reviewed and approved, including decarbonization targets, investments in clean technologies, and cross-cutting environmental policies for the Group. Meanwhile, the business line committees—Hydrocarbon, Energy Transition, and Transmission and Roads—fulfill a monitoring and strategic alignment role within their respective operational domains. These committees track progress on environmental objectives specific to each line of business, facilitate the exchange of best practices, and ensure consistency between operations and the corporate environmental strategy. Although they do not have decision-making authority, their role is essential to the effective implementation of the environmental strategy in day-to-day operations.

Biodiversity

(4.3.1.1) Position of individual or committee with responsibility

Committee

☑ Other committee, please specify :1. Strategic Committee 2. Hydrocarbon Business Line Committee 3. Energy Transition Business Line Committee 4. Transmission and Roads Business Line Committee

(4.3.1.2) Environmental responsibilities of this position

Dependencies, impacts, risks and opportunities

☑ Assessing environmental dependencies, impacts, risks, and opportunities

☑ Managing environmental dependencies, impacts, risks, and opportunities

Engagement

☑ Managing engagement in landscapes and/or jurisdictions

Policies, commitments, and targets

☑ Monitoring compliance with corporate environmental policies and/or commitments

☑ Measuring progress towards environmental corporate targets

☑ Setting corporate environmental policies and/or commitments

☑ Setting corporate environmental targets

Strategy and financial planning

☑ Developing a business strategy which considers environmental issues

☑ Implementing the business strategy related to environmental issues

☑ Managing annual budgets related to environmental issues

☑ Managing environmental reporting, audit, and verification processes

☑ Managing major capital and/or operational expenditures relating to environmental issues

(4.3.1.4) Reporting line

Select from:

☑ Reports to the Chief Executive Officer (CEO)

(4.3.1.5) Frequency of reporting to the board on environmental issues

Select from:

☑ More frequently than quarterly

(4.3.1.6) Please explain

At Ecopetrol, the Strategic Committee is the highest-level forum led by the company's President, serving as the space where the comprehensive strategy of the Ecopetrol Group is articulated. This committee has both decision-making and oversight functions. Its value lies in aligning strategic pillars—such as energy transition, sustainability, and environmental management—with long-term corporate decision-making. Within this forum, key topics are reviewed and approved, including decarbonization targets, investments in clean technologies, and cross-cutting environmental policies for the Group. Meanwhile, the business line committees—Hydrocarbon, Energy Transition, and Transmission and Roads—fulfill a monitoring and strategic alignment role within their respective operational domains. These committees track progress on environmental objectives specific to each line of business, facilitate the exchange of best practices, and ensure consistency between operations and the corporate environmental strategy. Although they do not have decision-making authority, their role is essential to the effective implementation of the environmental strategy in day-to-day operations.
[Add row]

(4.5) Do you provide monetary incentives for the management of environmental issues, including the attainment of targets?

Climate change

(4.5.1) Provision of monetary incentives related to this environmental issue

Select from:

☑ Yes

(4.5.2) % of total C-suite and board-level monetary incentives linked to the management of this environmental issue

22

(4.5.3) Please explain

Total compensation at Ecopetrol includes fixed pay, short- and long-term variable compensation, and benefits. Short-term incentives are tied to the Balanced Scorecard, aligned with the 2040 Strategy. In 2024, climate-related metrics represented a 20% weight, including: GHG Emissions Reduction (5%), Energy Efficiency (5%), Renewable Energy (5%), and the Sustainability Value Contribution (5%), which captures the return on sustainability efforts across climate change, water, sustainable territories, and innovation. Individual performance agreements for Vice Presidents and equivalent roles may include climate KPIs depending on their responsibilities. 100% of C-suite roles have climate-linked incentives. Long-Term Incentive Plans (2022–2024, 2023–2025, 2024–2026) include decarbonization and low-emission business diversification goals, with an average weight of 23% for climate-related objectives.

Water

(4.5.1) Provision of monetary incentives related to this environmental issue

Select from:

☑ Yes

(4.5.2) % of total C-suite and board-level monetary incentives linked to the management of this environmental issue

5

(4.5.3) Please explain

Total compensation at Ecopetrol includes fixed pay, short- and long-term variable compensation, and benefits. Short-term incentives are tied to the Balanced Scorecard, aligned with the 2040 Strategy. In 2024, water-related aspects were included within the compound KPI "Sustainability Value Contribution" (5%), which measures the return on sustainability efforts across climate change, water, sustainable territories, and science, technology, and innovation. Individual performance agreements for Vice Presidents and equivalent roles may include water-related KPIs depending on their responsibilities. 100% of C-suite and board-level roles have monetary incentives linked to the management of this environmental issue.
[Fixed row]

(4.5.1) Provide further details on the monetary incentives provided for the management of environmental issues (do not include the names of individuals).

Climate change

(4.5.1.1) Position entitled to monetary incentive

Board or executive level

☑ Chief Executive Officer (CEO)

(4.5.1.2) Incentives

Select all that apply

☑ Bonus - % of salary

(4.5.1.3) Performance metrics

Targets

☑ Reduction in absolute emissions in line with net-zero target

Emission reduction

☑ Reduction in absolute emissions

Resource use and efficiency

☑ Energy efficiency improvement

(4.5.1.4) Incentive plan the incentives are linked to

Select from:

☑ Both Short-Term and Long-Term Incentive Plan, or equivalent

(4.5.1.5) Further details of incentives

Short-Term Incentives (STI) apply to all employees and are based on company performance and individual contributions, measured through the Balanced Scorecard. In 2024, climate-related KPIs represented 15% of the scorecard, including GHG emissions reduction, energy efficiency, and renewable energy. Water-related efforts were included in the 5% Sustainability Value Contribution KPI. Long-Term Incentives (LTI) apply to executives and high-performing professionals. The 2022–2024 plan includes a 20% weight for GHG reduction; the 2023–2025 plan includes 10% for GHG reduction and 20% for new energies; and the 2024–2026 plan includes 20% for energy cost reduction. These incentives align with Ecopetrol's 2030 and 2050 environmental goals.

(4.5.1.6) How the position's incentives contribute to the achievement of your environmental commitments and/or climate transition plan

In 2024, Ecopetrol's incentive structure directly supported the company's climate transition plan. Short-term incentives included climate-related KPIs in the Balanced Scorecard, such as GHG emissions reduction, energy efficiency, and renewable energy, each with a 5% weight. Additionally, the Sustainability Value Contribution KPI (5%) captured the return on actions related to climate change, among other sustainability areas. Long-Term Incentive Plans reinforced this alignment, with up to 30% of executive incentives tied to decarbonization and new energy initiatives. These mechanisms ensure accountability and drive progress toward Ecopetrol's 2030 target of reducing Scope 1 and 2 emissions by 25%, and its 2050 net-zero ambition.

Water

(4.5.1.1) Position entitled to monetary incentive

Board or executive level

☑ Chief Executive Officer (CEO)

(4.5.1.2) Incentives

Select all that apply

☑ Bonus - % of salary

(4.5.1.3) Performance metrics

Targets

☑ Achievement of environmental targets

Resource use and efficiency

☑ Reduction of water withdrawals – direct operations

☑ Improvements in water efficiency – direct operations

(4.5.1.4) Incentive plan the incentives are linked to

Select from:

☑ Short-Term Incentive Plan, or equivalent, only (e.g. contractual annual bonus)

(4.5.1.5) Further details of incentives

Short-Term Incentives (STI) apply to all employees and are based on company performance and individual contributions, measured through the Balanced Scorecard. In 2024, water-related efforts were included in the 5% Sustainability Value Contribution KPI.

(4.5.1.6) How the position's incentives contribute to the achievement of your environmental commitments and/or climate transition plan

Having goals associated with life care and environmental care and associating them with incentives increases employees' commitment and motivation to contribute and ensure that the actions undertaken promote care and conservation. In line with the above, our financial plan includes challenges associated with environmental protection, such as: - Advancing the decarbonization of our operations, renewable energy supply, and growth of the electricity grid. - Generating value with SosTECnibilidad® (Climate Change, Integrated Water Management, Sustainable Territories, and Use of Alternative Energy and Sources).
[Add row]

(4.6) Does your organization have an environmental policy that addresses environmental issues?

	Does your organization have any environmental policies?
	Select from: ☑ Yes

[Fixed row]

(4.6.1) Provide details of your environmental policies.

Row 1

(4.6.1.1) Environmental issues covered

Select all that apply

☑ Climate change

☑ Water

☑ Biodiversity

(4.6.1.2) Level of coverage

Select from:

☑ Organization-wide

(4.6.1.3) Value chain stages covered

Select all that apply

☑ Direct operations

(4.6.1.4) Explain the coverage

Ecopetrol's Environmental Strategy aligns with its mission and vision for environmental protection, integrating the TESG and Corporate Responsibility strategies within the energy transition framework. Developed under the Leadership and Planning stage of the HSE Management System and following ISO 14001 guidelines, it emphasizes legal compliance, systematic management of environmental risks and impacts, and continuous improvement through the mitigation hierarchy. The strategy seeks to generate long-term environmental value in operational areas and support corporate environmental goals tied to the energy transition. It is applicable to all projects and activities and is integrated with the Risk Management System to promote prevention and mitigation of impacts on nature. The strategic pillars guiding environmental management include: Environmental Planning and Compliance, Climate Action, Water Neutrality, Biodiversity and Ecosystem Services, Circular Economy, Air Quality, Waste Management and Prevention and remediation.

(4.6.1.5) Environmental policy content

Environmental commitments

☑ Commitment to a circular economy strategy

☑ Commitment to comply with regulations and mandatory standards

☑ Commitment to take environmental action beyond regulatory compliance

☑ Commitment to implementation of nature-based solutions that support landscape restoration and long-term protection of natural ecosystems

☑ Commitment to stakeholder engagement and capacity building on environmental issues

Climate-specific commitments

☑ Commitment to net-zero emissions

☑ Commitment to zero flaring

☑ Other climate-related commitment, please specify :Oil and gas decarbonization charter; •Oil and gas methane partnership; •Aiming for zero methane emissions

Water-specific commitments

☑ Commitment to reduce water consumption volumes

☑ Commitment to reduce water withdrawal volumes

☑ Commitment to control/reduce/eliminate water pollution

☑ Commitment to safely managed WASH in local communities

☑ Commitment to the conservation of freshwater ecosystems

☑ Commitment to water stewardship and/or collective action

Social commitments

☑ Adoption of the UN International Labour Organization principles

☑ Commitment to promote gender equality and women's empowerment

☑ Commitment to respect and protect the customary rights to land, resources, and territory of Indigenous Peoples and Local Communities

☑ Commitment to respect internationally recognized human rights

☑ Other social commitment, please specify :Prior consultation to local communities

Additional references/Descriptions

☑ Recognition of environmental linkages and trade-offs

☑ Description of environmental requirements for procurement

☑ Description of impacts on natural resources and ecosystems

☑ Description of renewable electricity procurement practices

☑ Reference to timebound environmental milestones and targets

☑ Description of dependencies on natural resources and ecosystems

☑ Description of grievance/whistleblower mechanism to monitor non-compliance with the environmental policy and raise/address/escalate any other greenwashing concerns

☑ Other additional reference/description, please specify :Alignment with TNFD

(4.6.1.6) Indicate whether your environmental policy is in line with global environmental treaties or policy goals

Select all that apply

☑ Yes, in line with the Paris Agreement

☑ Yes, in line with the Kunming-Montreal Global Biodiversity Framework

☑ Yes, in line with Sustainable Development Goal 6 on Clean Water and Sanitation

☑ Yes, in line with another global environmental treaty or policy goal, please specify :Colombia's Nationally Determined Contribution (NDC)

(4.6.1.7) Public availability

Select from:

☑ Publicly available

(4.6.1.8) Attach the policy

HSE-N-005_Environmental_Strategy.pdf
[Add row]

(4.10) Are you a signatory or member of any environmental collaborative frameworks or initiatives?

(4.10.1) Are you a signatory or member of any environmental collaborative frameworks or initiatives?

Select from:

☑ Yes

(4.10.2) Collaborative framework or initiative

Select all that apply

☑ Business 4 Nature

☑ CEO Water Mandate

☑ UN Global Compact

☑ Climate Action 100+

☑ Transition Pathway Initiative

☑ Water Action Hub (by CEO Water Mandate)

☑ Task Force on Nature-related Financial Disclosures (TNFD)

☑ Task Force on Climate-related Financial Disclosures (TCFD)

☑ Other, please specify **:Other, please specify: CCAC; OGMP;OGDC;ZRF; Aiming for zero methane emissions**

(4.10.3) Describe your organization's role within each framework or initiative

Ecopetrol has joined to the Climate and Clean Air Coalition (CCAC) since 2018, an initiative created by the United Nations with the support of the Environmental Defense Fund (EDF) and the European Commission, to assist companies in reducing methane emissions. In 2020, they launch the Oil and Gas Methane Partnership (OGMP 2.0) initiative. •Oil and Gas Methane Partnership - OGMP 2.0: In November 2020, Ecopetrol joined the Oil and Gas Methane Partnership initiative, led by the United Nations Environmental Program - UNEP, which seeks to improve the measurement and reporting of methane emissions. In 2024, Ecopetrol received the Gold Standard recognition from the United Nations Environmental Program - UNEP, for its quality and level of detail in the reporting of methane emissions. •Zero Routing Flaring by 2030: Ecopetrol joined in January 2020 to the "Zero Routine Flaring by 2030" initiative led by the World Bank, which brings together governments, oil companies and institutions that recognize that routine gas flaring is unsustainable from an economic and environmental point of view, whereby the different organizations agree to cooperate to eliminate routine gas flaring in production activities by 2030. •Aiming for Zero Methane Emissions Initiative: In November 2023, Ecopetrol joined the "Aiming for Zero Methane Emissions by 2030" initiative of OGCI (Oil and Gas Climate Initiative), which seeks to treat methane emissions with the same seriousness with which industrial and process safety is treated. Ecopetrol commits to work towards reducing methane emissions as close to zero as possible by 2030, to transparently report its emissions and reduction progress, to adopt better technologies to detect, measure and monitor methane emissions, and to support the development and implementation of regulation in the countries where it operates and encourage its partners to do the same. •Oil and Gas Decarbonization Accelerator - OGDA: During the last Conference of the Parties to the Climate Change Convention (COP28), Ecopetrol joined the global sectoral agreement to accelerate the decarbonization of oil and gas - OGDC, ratifying its commitment to address climate change. •The OGDC is a sectoral document on the impact that companies have on the decarbonization of the economy and establishes how to commit to clear goals and lines of action that keep the increase in the earth's average temperature below 2°C and seek to limit it to 1.5°C. It thus becomes the reference framework for unifying industry commitments to decarbonization and motivates more oil and gas companies to join these efforts. •CEO WATER MANDATE: Since 2014, Ecopetrol has been publicly committed to sustainable water management

through its adherence to the CEO Water Mandate initiative, promoted by the United Nations Global Compact. Currently, the water security initiatives promoted by Ecopetrol are part of the global platform for collaboration and knowledge exchange for water sustainability and climate resilience -Water Action Hub. •Regarding Climate Action 100+, and World Benchmarking Alliance, Ecopetrol's role is to participate in the analysis, and review the assessment. •Regarding GRI, Ecopetrol's role is to report information according to the standard metrics. Also, the 2024 Integrated Management Report followed the guidelines of following reporting frameworks: Stakeholder Capitalism Metrics (SCM) by the World Economic Forum (WEF); United Nations Sustainable Development Goals (SDGs); Sustainability Accounting Standards Board (SASB) –(Exploration and Production);Task Force on Climate-Related Financial Disclosures (TCFD); Corporate Sustainability Reporting Directive (CSRD); Dow Jones Sustainability Index by S&P Global (DJSI); International Sustainability Standards Board (ISSB). •Additionally, it adheres to the requirements of the Superintendence of Companies and Circulars 031 and 012 of 2022 from the Financial Superintendency of Colombia. It also complies with External Circular 100-000010 dated November 21, 2023, from the Superintendence of Companies of Colombia, which introduces Chapter XV.
[Fixed row]

(4.11) In the reporting year, did your organization engage in activities that could directly or indirectly influence policy, law, or regulation that may (positively or negatively) impact the environment?

(4.11.1) External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the environment

Select all that apply

☑ Yes, we engaged directly with policy makers

☑ Yes, we engaged indirectly through, and/or provided financial or in-kind support to a trade association or other intermediary organization or individual whose activities could influence policy, law, or regulation

(4.11.2) Indicate whether your organization has a public commitment or position statement to conduct your engagement activities in line with global environmental treaties or policy goals

Select from:

☑ Yes, we have a public commitment or position statement in line with global environmental treaties or policy goals

(4.11.3) Global environmental treaties or policy goals in line with public commitment or position statement

Select all that apply

☑ Paris Agreement

(4.11.4) Attach commitment or position statement

Ecopetrol+SA+PIGCCe+version+1+EN.pdf

(4.11.5) Indicate whether your organization is registered on a transparency register

Select from:

☑ Yes

(4.11.6) Types of transparency register your organization is registered on

Select all that apply

☑ Mandatory government register

☑ Voluntary government register

☑ Non-government register

(4.11.7) Disclose the transparency registers on which your organization is registered & the relevant ID numbers for your organization

- Unidad de Información Financiera (UIAF) - Securities Exchange Commission (SEC) – 20F - Procuraduría General de la Nación (PGN) – Attorney General - Contraloría General de la República (CGR) – Comptroller General - ISO reviews - Dow Jones Sustainability Index (DJSI) - Morgan Stanley Capital International (MSCI) - Sustainalytics - Integrity and Compliance Program of the Transparency Secretariat of the Presidency of the Republic

(4.11.8) Describe the process your organization has in place to ensure that your external engagement activities are consistent with your environmental commitments and/or transition plan

In line with its commitment to mitigate climate change, advance with the energy transition, and its TESG agenda, Ecopetrol announced its net zero emissions goal for scopes 1 & 2 by 2050. Under this goal, the Company ratifies its commitment to the Sustainable Development Goals and the Paris Climate Agreement's purpose of curtailing global warming. This objective has the intermediate goal of reducing 25% of scope 1 and 2 emissions by 2030, compared to a 2019 baseline. Furthermore, Ecopetrol seeks to reduce 50% of its total emissions by 2050 (scopes 1, 2 & 3), contributing to the Colombian government's commitment to reduce 51% of GHG emissions by 2030. Under this goal, the energy sector target is to reduce 11,2 million tons, and Ecopetrol will contribute with more than half of this reduction. The Climate Change Management (formerly known as Sustainability and Decarbonization Area) of the Territorial Transformation and HSE Corporate Vice Presidency (formerly known as HSE Vicepresidency) is responsible for the Company's climate change strategy and for revising the scope and implications of national Law and regulations. The actions that are taken in each case are decided in tandem with the Legal Vice-presidency. Furthermore, the strategic risk "Changes in regulatory framework affecting business lines" includes a Key Risk Indicator (KRI) that seeks to monitor and analyze national, regional, and local legislative projects that affect HSE, climate, and water issues. This is another mechanism to assure that climate-related policy actions taken are aligned with the Company's overall strategy. [Fixed row]

(4.11.1) On what policies, laws, or regulations that may (positively or negatively) impact the environment has your organization been engaging directly with policy makers in the reporting year?

Row 1

(4.11.1.1) Specify the policy, law, or regulation on which your organization is engaging with policy makers

National Program of Tradable GHG Emissions Quotas (PNCTE, for its Spanish acronym), similar to an Emissions Trading System

(4.11.1.2) Environmental issues the policy, law, or regulation relates to

Select all that apply

☑ Climate change

(4.11.1.3) Focus area of policy, law, or regulation that may impact the environment

Financial mechanisms (e.g., taxes, subsidies, etc.)

☑ Emissions trading schemes

(4.11.1.4) Geographic coverage of policy, law, or regulation

Select from:

☑ National

(4.11.1.5) Country/area/region the policy, law, or regulation applies to

Select all that apply

☑ Colombia

(4.11.1.6) Your organization's position on the policy, law, or regulation

Select from:

☑ Support with minor exceptions

(4.11.1.7) Details of any exceptions and your organization's proposed alternative approach to the policy, law, or regulation

Ecopetrol submitted the following comments regarding the PNCTE to the government: - To gain an understanding of, and/or reinforce, the technical and macroeconomic studies on which the PNCTE was structured. - To develop a pilot phase to adjust the programme's operability, regulate pending aspects, and align the regulated agents' commitments with the budgetary and operational cycles. Recognise previous efforts that contribute to the objectives defined in the Nationally Determined Contributions (NDCs). - Greater participation in the allocation of quotas for carbon credits from SNC-AFOLU projects during the implementation phases of the PNCTE, to allow for lower-cost compliance options.

(4.11.1.8) Type of direct engagement with policy makers on this policy, law, or regulation

Select all that apply

☑ Responding to consultations

(4.11.1.9) Funding figure your organization provided to policy makers in the reporting year relevant to this policy, law, or regulation (currency)

0

(4.11.1.10) Explain the relevance of this policy, law, or regulation to the achievement of your environmental commitments and/or transition plan, how this has informed your engagement, and how you measure the success of your engagement

The PNCTE is an economic instrument established to implement Colombia's Nationally Determined Contribution (NDC). This Emissions Trading System defines a set of regulated agents, the emissions threshold, the amount of tradable quotas or emission rights, and the conditions for auctioning these quotas. Inclusion in the program would impact the company financially and in the development of the decarbonization plan. It is expected to be fully implemented by 2030.

(4.11.1.11) Indicate if you have evaluated whether your organization's engagement on this policy, law, or regulation is aligned with global environmental treaties or policy goals

Select from:

☑ Yes, we have evaluated, and it is aligned

(4.11.1.12) Global environmental treaties or policy goals aligned with your organization's engagement on this policy, law or regulation

Select all that apply

☑ Paris Agreement

Row 2

(4.11.1.1) Specify the policy, law, or regulation on which your organization is engaging with policy makers

Colombian Nationally Determined Contribution (NDC) update

(4.11.1.2) Environmental issues the policy, law, or regulation relates to

Select all that apply

☑ Climate change

(4.11.1.3) Focus area of policy, law, or regulation that may impact the environment

Environmental impacts and pressures

☑ Emissions – CO2

☑ Emissions – methane

☑ Emissions – other GHGs

(4.11.1.4) Geographic coverage of policy, law, or regulation

Select from:

☑ National

(4.11.1.5) Country/area/region the policy, law, or regulation applies to

Select all that apply

☑ Colombia

(4.11.1.6) Your organization's position on the policy, law, or regulation

Select from:

ECP-INFORMACION PUBLICA

☑ Neutral

(4.11.1.8) Type of direct engagement with policy makers on this policy, law, or regulation

Select all that apply

☑ Participation in working groups organized by policy makers

(4.11.1.9) Funding figure your organization provided to policy makers in the reporting year relevant to this policy, law, or regulation (currency)

0

(4.11.1.10) Explain the relevance of this policy, law, or regulation to the achievement of your environmental commitments and/or transition plan, how this has informed your engagement, and how you measure the success of your engagement

In 2024, Ecopetrol contributed to the NDC 3.0 update process. To comply with the NDC, the government has developed sector-specific plans targeting the main identified emission sources, which companies must implement. Currently, Ecopetrol is evaluating the measures linked to the NDC to determine if it is possible to increase ambition. The government has held sessions to socialize the initiative and present tools for registration and monitoring, but more clarity is expected on the process for reviewing company contributions in relation to sectoral plans and the PNCTE.

(4.11.1.11) Indicate if you have evaluated whether your organization's engagement on this policy, law, or regulation is aligned with global environmental treaties or policy goals

Select from:

☑ Yes, we have evaluated, and it is aligned

(4.11.1.12) Global environmental treaties or policy goals aligned with your organization's engagement on this policy, law or regulation

Select all that apply

☑ Paris Agreement

[Add row]

(4.11.2) Provide details of your indirect engagement on policy, law, or regulation that may (positively or negatively) impact the environment through trade associations or other intermediary organizations or individuals in the reporting year.

Row 1

(4.11.2.1) Type of indirect engagement

Select from:

☑ Indirect engagement via a trade association

(4.11.2.4) Trade association

South America

☑ Other trade association in South America, please specify :Colombian Association of Carbon Market Actors (ASOCARBONO, for its Spanish acronym)

(4.11.2.5) Environmental issues relevant to the policies, laws, or regulations on which the organization or individual has taken a position

Select all that apply

☑ Climate change

(4.11.2.6) Indicate whether your organization's position is consistent with the organization or individual you engage with

Select from:

☑ Inconsistent

(4.11.2.7) Indicate whether your organization attempted to influence the organization or individual's position in the reporting year

Select from:

☑ Yes, we attempted to influence them but they did not change their position

(4.11.2.8) Describe how your organization's position is consistent with or differs from the organization or individual's position, and any actions taken to influence their position

Asocarbono's mission is to consolidate and strengthen the Colombian carbon market, which is a key contributor to the achievement of the Sustainable Development Goals and Colombia's Nationally Determined Contribution, through the following lines of action: i) Consolidation and strengthening of the carbon market, ii) Advocacy in public policy and the carbon regulatory framework, iii) Training of its associates, and iv) Generation of updated information on the behavior of the Colombian carbon market. The Association gathers the positions of its member organizations and drafts a discussion document that is shared with policy makers. Through 2024 and due to the different governance risks being materialized in the country, Ecopetrol took the decision of not to align with Asocarbono's position about the not necessity of doing a prior consultation for REDD projects nor the validation of a legal authority of the need. Ecopetrol as pioneer, followed by Verra, took distance of this position and in fact, includes this requirement as criteria to evaluate all its REDD projects offers to offset its emissions.

(4.11.2.9) Funding figure your organization provided to this organization or individual in the reporting year (currency)

14450000

(4.11.2.10) Describe the aim of this funding and how it could influence policy, law or regulation that may impact the environment

The aim of this funding is not directly intented to influence policy, law or regulation; it is intended to enable capacities and participate in discussion spaces that contribute to the understanding or strengthening of the issues involved in laws, policies or regulations, such as the carbon market, and Environmental and social safeguards.

(4.11.2.11) Indicate if you have evaluated whether your organization's engagement is aligned with global environmental treaties or policy goals

Select from:

☑ Yes, we have evaluated, and it is aligned

(4.11.2.12) Global environmental treaties or policy goals aligned with your organization's engagement on policy, law or regulation

Select all that apply

☑ Paris Agreement

☑ Another global environmental treaty or policy goal, please specify :Carbon Market regulation

Row 2

(4.11.2.1) Type of indirect engagement

Select from:

☑ Indirect engagement via a trade association

(4.11.2.4) Trade association

Global

☑ Other global trade association, please specify :IPIECA, the global oil and gas association for advancing environmental and social performance across the energy transition

(4.11.2.5) Environmental issues relevant to the policies, laws, or regulations on which the organization or individual has taken a position

Select all that apply

☑ Climate change

☑ Water

(4.11.2.6) Indicate whether your organization's position is consistent with the organization or individual you engage with

Select from:

☑ Consistent

(4.11.2.7) Indicate whether your organization attempted to influence the organization or individual's position in the reporting year

Select from:

☑ No, we did not attempt to influence their position

(4.11.2.8) Describe how your organization's position is consistent with or differs from the organization or individual's position, and any actions taken to influence their position

Ipieca is the global oil and gas association dedicated to promoting environmental and social performance in the energy transition. It brings together members and stakeholders to lead the integration of sustainability by promoting climate action, environmental responsibility and social performance in all oil, gas and renewable energy activities. Ipieca has a collaborative approach, engaging experts from within and outside the industry to find answers to global environmental and social

challenges. Ecopetrol is part of various working groups in which documents or technical notes are developed, which are subject to review and consultation for different interest groups, including policy makers. Ecopetrol participates in working groups on climate change, GHG emissions (Scope 3), low-emission pathways, carbon offsetting, adaptation and resilience, and methane emissions, Biodiversity and Ecosystem Services, the Global Biodiversity Framework, Water, and Circularity.

(4.11.2.9) Funding figure your organization provided to this organization or individual in the reporting year (currency)

267033582

(4.11.2.10) Describe the aim of this funding and how it could influence policy, law or regulation that may impact the environment

The aim of this funding is not directly intended to influence policy, law or regulation; it is intended to enable capacities and participate in discussion spaces, in the following IPIECA's work groups. Regarding Ipieca Adaptation and Resilience Task Force, we participated in a series of workshops associated with Voluntary and regulatory Adaptation disclosure requirements and developing good practices, and Approaches to estimating financial impacts of climate change. Regarding the Offsets Task Force, to convene the industry to build consensus and understanding of the importance, challenges, and opportunities of carbon offsets as part of a broader carbon mitigation strategy. As an outcome, at the end of this work, member companies will be better placed to benefit from these opportunities, manage the associated risks and be better able to apply good practice. In summary, the task force will: i) Discuss offset activities in their broader definition, ii) Explore regulated/compliance and voluntary standards and markets, iii) Monitor and build understanding of changes to role of offsets in regulated schemes, iv) Explore regulatory and reputational risks, v) Share experiences among members, vi) Engage with relevant stakeholders and vii) Act as a resource and support to the Ipiecas Environment and Reporting Groups; ii) Biodiversity and Ecosystem Services (BES) Task Force and co-chaired the Global Biodiversity Force (GBF) Task Force at IPIECA, to discuss prevailing trends, prioritize topics, and share experiences related to biodiversity management in the oil, gas, and alternative energy sectors. In 2023, Ecopetrol presented its biodiversity monitoring efforts in Colombia, in collaboration with the National Biodiversity Institute, during a peer-to-peer workshop. The company also co-led the compilation of contributions from IPIECA member companies to the Global Biodiversity Framework; iii) Adaptation and Resilience Task Force (TF), seeks to explore the oil and gas industry's exposure to climate risks and the tools to incorporate them into an overall risk management framework. Broadening participation to include expertise from other Ipieca groups will better enable companies to plan and build long-term resiliency into their business adaptation plans. Additionally, Ecopetrol collaborated with IPIECA in developing the document titled "Embedding Circularity into the Lifecycle of Assets."

(4.11.2.11) Indicate if you have evaluated whether your organization's engagement is aligned with global environmental treaties or policy goals

Select from:

☑ Yes, we have evaluated, and it is aligned

(4.11.2.12) Global environmental treaties or policy goals aligned with your organization's engagement on policy, law or regulation

Select all that apply

☑ Paris Agreement

☑ Kunming-Montreal Global Biodiversity Framework

[Add row]

(4.12) Have you published information about your organization's response to environmental issues for this reporting year in places other than your CDP response?

Select from:

☑ Yes

(4.12.1) Provide details on the information published about your organization's response to environmental issues for this reporting year in places other than your CDP response. Please attach the publication.

Row 1

(4.12.1.1) Publication

Select from:

☑ In mainstream reports, in line with environmental disclosure standards or frameworks

(4.12.1.2) Standard or framework the report is in line with

Select all that apply

☑ GRI

☑ TCFD

☑ TNFD

(4.12.1.3) Environmental issues covered in publication

Select all that apply

☑ Climate change

☑ Water

☑ Biodiversity

(4.12.1.4) Status of the publication

Select from:

☑ Complete

(4.12.1.5) Content elements

Select all that apply

☑ Strategy

☑ Governance

☑ Emission targets

☑ Emissions figures

☑ Risks & Opportunities

☑ Value chain engagement

☑ Dependencies & Impacts

☑ Biodiversity indicators

☑ Public policy engagement

☑ Water accounting figures

(4.12.1.6) Page/section reference

2024 Integrated Management Report: Generate value through TESG (pages 100 - 269) and Appendices (pages 287-358)

(4.12.1.7) Attach the relevant publication

2024_TESG Report - Integrated Management Report.pdf

(4.12.1.8) Comment

Available online: https://files.ecopetrol.com.co/web/esp/aga2025/IIG-Ecopetrol-2024_30042025.pdf

Row 2

(4.12.1.1) Publication

Select from:

☑ In other regulatory filings

(4.12.1.3) Environmental issues covered in publication

Select all that apply

☑ Climate change

☑ Water

☑ Biodiversity

(4.12.1.4) Status of the publication

Select from:

☑ Complete

(4.12.1.5) Content elements

Select all that apply

☑ Content of environmental policies

☑ Risks & Opportunities

☑ Strategy

(4.12.1.6) Page/section reference

2024 20F: Strategy (pages 3-8), Risks (pages 155-156, 159, 164, 167, 168, 174-177, 182-184), Environmental issues (pages 90-95).

(4.12.1.7) Attach the relevant publication

2024_20F Report_link.pdf

(4.12.1.8) Comment

Available online: https://www.sec.gov/ix?doc=/Archives/edgar/data/0001444406/000141057825000839/ec-20241231x20f.htm

Row 3

(4.12.1.1) Publication

Select from:

☑ Other, please specify :Oil and Gas Methane Partnership 2.0 annual report

(4.12.1.3) Environmental issues covered in publication

Select all that apply

☑ Climate change

(4.12.1.4) Status of the publication

Select from:

☑ Underway - previous year attached

(4.12.1.5) Content elements

Select all that apply

☑ Emissions figures

☑ Emission targets

(4.12.1.6) Page/section reference

IMEO - International Methane Emissions Observatory.

(4.12.1.7) Attach the relevant publication

IMEO_Methane report OGMP2.0.pptx

(4.12.1.8) Comment

Available online: https://methanedata.unep.org/map?mars=&company=0ac74677-ab4c-4dc6-af6e-3151ccf6d002&country=&cc=&sat=&limit=1000&pub=&m=company#mcoord=1.34/0/0
[Add row]

C5. Business strategy

(5.1) Does your organization use scenario analysis to identify environmental outcomes?

Climate change

(5.1.1) Use of scenario analysis

Select from:

☑ Yes

(5.1.2) Frequency of analysis

Select from:

☑ Annually

Water

(5.1.1) Use of scenario analysis

Select from:

☑ Yes

(5.1.2) Frequency of analysis

Select from:

☑ Annually

[Fixed row]

(5.1.1) Provide details of the scenarios used in your organization's scenario analysis.

Climate change

(5.1.1.1) Scenario used

Physical climate scenarios

☑ Customized publicly available climate physical scenario, please specify :Climate Alignment

(5.1.1.3) Approach to scenario

Select from:

☑ Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

☑ Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

☑ Policy

☑ Market

☑ Technology

(5.1.1.6) Temperature alignment of scenario

Select from:

☑ 1.6ºC - 1.9ºC

(5.1.1.7) Reference year

2024

(5.1.1.8) Timeframes covered

Select all that apply

☑ 2025

☑ 2030

☑ 2040

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

☑ Changes in ecosystem services provision

☑ Speed of change (to state of nature and/or ecosystem services)

☑ Climate change (one of five drivers of nature change)

Finance and insurance

☑ Cost of capital

☑ Sensitivity of capital (to nature impacts and dependencies)

☑ Other finance and insurance driving forces, please specify :Levelized Cost of Electricity (LCOE)

Stakeholder and customer demands

☑ Consumer sentiment

☑ Consumer attention to impact

☑ Impact of nature footprint on reputation

☑ Sensitivity to inequity of nature impacts

Regulators, legal and policy regimes

☑ Global regulation

☑ Political impact of science (from galvanizing to paralyzing)

☑ Level of action (from local to global)

☑ Global targets

Relevant technology and science

☑ Granularity of available data (from aggregated to local)

Direct interaction with climate

☑ Perception of efficacy of climate regime

Macro and microeconomy

☑ Globalizing markets

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

The first climate alignment scenario envisions a revolutionary transformation to a sustainable, low-carbon economy. This transformation must be supported by strong government actions that generate changes in both energy markets and emissions. In terms of assumptions, this scenario considers mainly three aspects. First, strong international cooperation is required, with coordinated governments to address security issues and achieve the climate goals set. In addition, the economic outlook is marked by geopolitical tensions in the energy market, which may cause economic disruptions in the short term. However, these conditions will eventually pave the way for private investment, with an average growth of 2.5%. Finally, a strong environmental policy is expected, with several G20 countries moving towards meeting climate targets.

(5.1.1.11) Rationale for choice of scenario

Ecopetrol has adopted 3 consolidated energy transition scenarios to guide its strategic planning: Climate Alignment, Energy Balance (reference scenario), and Climate Divergence. The Climate Alignment scenario is based on an accelerated transformation toward low-emission energy solutions. It assumes strong alignment among governments and institutions around climate action, consistent with the goal of limiting global warming to 1.5°C.. Ecopetrol considers it pertinent to analyse three possible scenarios. Although the first scenario does not represent the Group's baseline vision, its inclusion allows for a comparison of different perspectives on the global energy transition. The Ecopetrol Group's reference vision for the energy future is reflected in the second scenario, which aims to achieve an energy balance. While this is not the primary scenario, the Ecopetrol Group acknowledges the importance of considering a vision in which the world moves toward greater adoption of low-emission energy sources. This path would involve increased investment in such sources, potentially accelerating the fulfilment of environmental commitments. However, despite the efforts made by various countries, not all are able to meet climate goals due to the insufficiency of current measures.

Water

(5.1.1.1) Scenario used

Water scenarios

☑ Bespoke water scenario

(5.1.1.3) Approach to scenario

Select from:

☑ Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

☑ Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

☑ Reputation

☑ Technology

☑ Liability

(5.1.1.7) Reference year

2019

(5.1.1.8) Timeframes covered

Select all that apply

☑ 2025

☑ 2030

☑ 2040

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

☑ Changes to the state of nature

☑ Speed of change (to state of nature and/or ecosystem services)

☑ Climate change (one of five drivers of nature change)

Finance and insurance

☑ Cost of capital

☑ Sensitivity of capital (to nature impacts and dependencies)

Stakeholder and customer demands

☑ Consumer attention to impact

☑ Impact of nature footprint on reputation

☑ Impact of nature service delivery on consumer

Regulators, legal and policy regimes

☑ Global regulation

☑ Level of action (from local to global)

☑ Global targets

Relevant technology and science

☑ Granularity of available data (from aggregated to local)

Direct interaction with climate

☑ Perception of efficacy of climate regime

Macro and microeconomy

☑ Globalizing markets

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

Ecopetrol's long-term strategy, "2040: Energy that Transforms," incorporates scenario analysis related to water as a core component of its long-term business objectives. In 2020, Ecopetrol reviewed its structure for managing ESG (Environmental, Social, and Governance) matters, considering emerging international trends. As a result, the company developed its new TESG (Technology, Environment, Social, and Governance) Strategy, which is integrated into the 2040 business strategy. The foundation of this strategy was a comprehensive materiality analysis of key issues. The water-related issues considered in the TESG materiality assessment included: 1) Effluents: temporary restrictions on the discharge of treated wastewater into surface water bodies, caused by reduced precipitation leading to lower water

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flow and, consequently, reduced assimilative capacity. This is identified as a long-term challenge. In terms of water neutrality, our commitment remains to achieve water neutrality by 2045. To this end, by 2045, we aim to reduce freshwater intake by 66% and achieve zero industrial discharges to freshwater bodies.

(5.1.1.11) Rationale for choice of scenario

The most relevant parameters considered were GDP and population growth. The assumptions used where: i) Reference scenario: Includes technological expectations (proved and the ones with the highest development investment), demand (observable and foreseeable trends), and regulatory patterns (existent and those necessary to stimulate technological adoption) ii) Accelerated transition scenario: highest energy efficiency and penetration of renewable energy due to tighter regulation in terms of emissions and cost reduction in parallel with greener consumption patterns and new technological developments. iii) Decelerated sensitivity: considers a slower transition due to economic issues which translates into reprioritization of policies and regulations towards more economy-driven measures vs emissions. iv) 2°C sensitivity: considers radical changes in consumption, regulation, and technology to achieve decarbonization and global warming goal of 2°C. In general, the different scenarios evaluated, which considered changes in rainfall and temperature dynamics associated with climate change, as well as changes in water demand patterns, project an increase in physical risk due to surface water availability, especially in the first season of less rainfall (December - April) that could temporarily restrict (or increase restrictions).This is relevant for our business strategy because it allows us to improve our resilience to climate change impacts

Climate change

(5.1.1.1) Scenario used

Climate transition scenarios

☑ Customized publicly available climate transition scenario, please specify :The Energy Balance Scenario

(5.1.1.3) Approach to scenario

Select from:

☑ Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

☑ Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

☑ Policy
☑ Market
☑ Technology

(5.1.1.6) Temperature alignment of scenario

Select from:
☑ 2.0ºC - 2.4ºC

(5.1.1.7) Reference year

2024

(5.1.1.8) Timeframes covered

Select all that apply
☑ 2025
☑ 2030
☑ 2040

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts
☑ Changes in ecosystem services provision
☑ Speed of change (to state of nature and/or ecosystem services)
☑ Climate change (one of five drivers of nature change)

Finance and insurance
☑ Cost of capital
☑ Sensitivity of capital (to nature impacts and dependencies)
☑ Other finance and insurance driving forces, please specify :Levelized Cost of Electricity (LCOE) and Levelized Cost of Hydrogen (LCOH)

Stakeholder and customer demands

☑ Consumer sentiment

☑ Consumer attention to impact

☑ Impact of nature footprint on reputation

☑ Sensitivity to inequity of nature impacts

Regulators, legal and policy regimes

☑ Global regulation

☑ Political impact of science (from galvanizing to paralyzing)

☑ Level of action (from local to global)

☑ Global targets

Relevant technology and science

☑ Granularity of available data (from aggregated to local)

Direct interaction with climate

☑ Perception of efficacy of climate regime

Macro and microeconomy

☑ Globalizing markets

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

The Ecopetrol Group considers the energy balance scenario as the basis for the energy future. A slow reaction to the different crises and a moderate government policy are expected. Regarding the assumptions of the energy balance scenario, three aspects are considered. First, there is mixed international cooperation with uncertainty regarding energy security and acceleration of the transition. However, greater alignment between business and government interests is expected. Second, on the economic outlook, markets are moderately adjusting after the mid-2020s shocks and geopolitical conflicts. An eventual return to pre-pandemic growth is expected, with growth averaging 2.4%. Finally, climate policy is expected with several countries joining climate agreements. However, not all G20 countries manage to achieve the proposed targets.

(5.1.1.11) Rationale for choice of scenario

Ecopetrol has adopted 3 consolidated energy transition scenarios to guide its strategic planning: Climate Alignment, Energy Balance (reference scenario), and Climate Divergence. The Energy Balance scenario serves as Ecopetrol's reference pathway for the energy transition. It envisions a progressive and pragmatic shift

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toward a more sustainable energy system, where energy security, affordability, and environmental responsibility are pursued in parallel. This scenario assumes a moderate pace of transformation, driven by incremental policy developments, steady technological advancements, and evolving consumer behavior. Aligned with its strategic vision for 2040, the Ecopetrol Group has selected the Energy Balance scenario as its reference pathway for navigating the energy transition. This scenario is considered the most probable and realistic, as it reflects a future in which the global energy landscape evolves through a gradual yet decisive shift toward low-emission energy sources, while maintaining a role for conventional energy within a diversified energy matrix. The Energy Balance scenario supports a transition that enhances the sustainability and resilience of energy supply systems. It enables progress toward global climate goals by integrating cleaner energy sources—such as renewables and natural gas—without compromising energy security or economic stability. In this context, Ecopetrol reaffirms its commitment to diversifying its energy portfolio. The incorporation of low-emission alternatives not only contributes to climate change mitigation but also reduces dependence on traditional fossil fuels. Ultimately, this scenario offers a balanced and comprehensive framework that harmonizes economic growth with environmental sustainability, positioning the company to thrive in a dynamic and evolving energy future.

Climate change

(5.1.1.1) Scenario used

Climate transition scenarios

☑ Customized publicly available climate transition scenario, please specify :The Climate Divergence scenario

(5.1.1.3) Approach to scenario

Select from:

☑ Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

☑ Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

☑ Policy

☑ Market

☑ Technology

(5.1.1.6) Temperature alignment of scenario

Select from:

☑ 2.5ºC - 2.9ºC

(5.1.1.7) Reference year

2024

(5.1.1.8) Timeframes covered

Select all that apply

☑ 2025

☑ 2030

☑ 2040

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

☑ Changes in ecosystem services provision

☑ Speed of change (to state of nature and/or ecosystem services)

☑ Climate change (one of five drivers of nature change)

Finance and insurance

☑ Cost of capital

☑ Sensitivity of capital (to nature impacts and dependencies)

☑ Other finance and insurance driving forces, please specify :Levelized Cost of Electricity (LCOE)

Stakeholder and customer demands

☑ Consumer sentiment

☑ Consumer attention to impact

☑ Impact of nature footprint on reputation

☑ Sensitivity to inequity of nature impacts

Regulators, legal and policy regimes

☑ Global regulation

☑ Political impact of science (from galvanizing to paralyzing)

☑ Level of action (from local to global)

☑ Global targets

Relevant technology and science

☑ Granularity of available data (from aggregated to local)

Direct interaction with climate

☑ Perception of efficacy of climate regime

Macro and microeconomy

☑ Globalizing markets

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

In the climate divergence scenario, the world is seen as stagnant, with unstable markets and a combination of isolationist tendencies and political problems. This affects governments, generates uncertainty in the markets and slows down the energy transition. Regarding the assumptions of the energy balance scenario, three aspects are considered. First, there is weak international cooperation, where international relations suffer from internal political divisions, which generates distrust and isolation. Second, the economic outlook is fragile due to conflicts in Europe and the Middle East. Despite this, political uncertainty persists and weakens both governments and market growth, which remains at an average of 2.1%. Finally, climate policy is expected to be weak to moderate, as several countries have abandoned their climate targets and environmental agreements.

(5.1.1.11) Rationale for choice of scenario

Ecopetrol has adopted 3 consolidated energy transition scenarios to guide its strategic planning: Climate Alignment, Energy Balance (reference scenario), and Climate Divergence Climate Divergence describes a future where global decarbonization efforts are fragmented and uneven. Despite some progress in policy, regulation, and market shifts, national interests diverge, and global public action remains insufficient. Over the next decade, energy security becomes the dominant priority, slowing coordinated climate action and leading to limited progress on emissions reduction. Ecopetrol considers it relevant to explore three possible scenarios to better understand the range of global energy transition pathways. While the Group's base vision is represented in scenario two—which aims to strike a balance between energy development and environmental responsibility—the inclusion of scenario three serves a distinct analytical purpose. Scenario three does not reflect Ecopetrol's central outlook; however, it provides valuable insight into a potential future in which decarbonization progresses more slowly and the adoption of low-emission energy sources remains limited. This scenario emphasizes a strong focus on energy security, even at the expense of widening the environmental gap. By

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examining this alternative, Ecopetrol can better assess the risks and implications of a less ambitious global transition, thereby strengthening its strategic planning and resilience.

Climate change

(5.1.1.1) Scenario used

Physical climate scenarios

☑ RCP 8.5

(5.1.1.2) Scenario used SSPs used in conjunction with scenario

Select from:

☑ SSP5

(5.1.1.3) Approach to scenario

Select from:

☑ Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

☑ Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

☑ Acute physical

☑ Chronic physical

(5.1.1.6) Temperature alignment of scenario

Select from:

☑ 4.0ºC and above

(5.1.1.7) Reference year

2022

(5.1.1.8) Timeframes covered

Select all that apply

☑ 2030

☑ 2040

☑ 2050

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

☑ Changes in ecosystem services provision

☑ Climate change (one of five drivers of nature change)

Direct interaction with climate

☑ On asset values, on the corporate

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

Physical risks have been evaluated in 95 strategic locations of our assets in Colombia, to identify and implement adaptation measures in the comprehensive management of water, ecosystems and biodiversity, infrastructure and to increase the capacity and resilience to extreme weather events. The analysis has considered seven physical risks related to chronic hazards (drought and heat stress) and acute hazards (precipitation, coastal flooding, river flooding, wildfire, and wind speed) under three climate scenarios presented by the Intergovernmental Panel on Climate Change ("IPCC"): (i) SSP 1- RCP 2.6, (ii) SSP 2- RCP 4.5, and (iii) SSP 5- RCP 8.5. The analysis included regional climate models that use dynamic downscaling to provide, for a specific region, higher-resolution information about the atmosphere and land surface through the use of a finer grid (on the order of 10-25 km) than their global counterparts.

(5.1.1.11) Rationale for choice of scenario

Ecopetrol chose to use the Business-As-Usual scenario considering that it presents the most extreme results, which allows for a conservative view of possible climate risks. The analysis used the following datasets to perform calculations: i) CMIP6 (Coupled Model Intercomparison Project) simulations estimate future climate change under different scenarios; ii) ERA5 generated by the European Center for Medium-Range Weather Forecasts (ECMWF), providing a best-inclass historical reconstruction across a wide range of climate variables; ii) CORDEX regional climate model simulations; iv) Flooding, geospatial and observational data: Weather station observational data, Coastal and riverine inundation data, Global hydrography, topographical data and digital elevation maps, High-resolution regional and local observational data, Observational geophysical data tracking coastline changes, and mean and extreme sea-level data. This analysis allows the identification of the assets with the greatest exposure to develop a more detailed analysis considering local climate dynamics, to establish investment plans in adaptation to climate change. Further details can be seen in Ecopetrol's website: https://www.ecopetrol.com.co/wps/portal/Home/tesg/environmental/climate-action/climate-change-adaptation

Climate change

(5.1.1.1) Scenario used

Physical climate scenarios

☑ RCP 4.5

(5.1.1.2) Scenario used SSPs used in conjunction with scenario

Select from:

☑ SSP2

(5.1.1.3) Approach to scenario

Select from:

☑ Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

☑ Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

☑ Acute physical

☑ Chronic physical

(5.1.1.6) Temperature alignment of scenario

Select from:

☑ 2.5ºC - 2.9ºC

(5.1.1.7) Reference year

2022

(5.1.1.8) Timeframes covered

Select all that apply

☑ 2030

☑ 2040

☑ 2050

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

☑ Changes in ecosystem services provision

☑ Climate change (one of five drivers of nature change)

Direct interaction with climate

☑ On asset values, on the corporate

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

Physical risks have been evaluated in 95 strategic locations of our assets in Colombia, to identify and implement adaptation measures in the comprehensive management of water, ecosystems and biodiversity, infrastructure and to increase the capacity and resilience to extreme weather events. The analysis has considered seven physical risks related to chronic hazards (drought and heat stress) and acute hazards (precipitation, coastal flooding, river flooding, wildfire, and wind speed) under three climate scenarios presented by the Intergovernmental Panel on Climate Change ("IPCC"): (i) SSP 1- RCP 2.6, (ii) SSP 2- RCP 4.5, and (iii)

SSP 5- RCP 8.5. The analysis included regional climate models that use dynamic downscaling to provide, for a specific region, higher-resolution information about the atmosphere and land surface through the use of a finer grid (on the order of 10-25 km) than their global counterparts.

(5.1.1.11) Rationale for choice of scenario

Ecopetrol considered the RCP2.6 (SSP1) scenario, but the most representative one for the corporate analysis is the business-as-usual scenario (RCP 8.5).

Climate change

(5.1.1.1) Scenario used

Physical climate scenarios

☑ RCP 2.6

(5.1.1.2) Scenario used SSPs used in conjunction with scenario

Select from:

☑ SSP1

(5.1.1.3) Approach to scenario

Select from:

☑ Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

☑ Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

☑ Acute physical

☑ Chronic physical

(5.1.1.6) Temperature alignment of scenario

Select from:

☑ 1.5°C or lower

(5.1.1.7) Reference year

2022

(5.1.1.8) Timeframes covered

Select all that apply

☑ 2030

☑ 2040

☑ 2050

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

☑ Changes in ecosystem services provision

☑ Climate change (one of five drivers of nature change)

Direct interaction with climate

☑ On asset values, on the corporate

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

Physical risks have been evaluated in 95 strategic locations of our assets in Colombia, to identify and implement adaptation measures in the comprehensive management of water, ecosystems and biodiversity, infrastructure and to increase the capacity and resilience to extreme weather events. The analysis has considered seven physical risks related to chronic hazards (drought and heat stress) and acute hazards (precipitation, coastal flooding, river flooding, wildfire, and wind speed) under three climate scenarios presented by the Intergovernmental Panel on Climate Change ("IPCC"): (i) SSP 1- RCP 2.6, (ii) SSP 2- RCP 4.5, and (iii) SSP 5- RCP 8.5. The analysis included regional climate models that use dynamic downscaling to provide, for a specific region, higher-resolution information about the atmosphere and land surface through the use of a finer grid (on the order of 10-25 km) than their global counterparts.

(5.1.1.11) Rationale for choice of scenario

Ecopetrol considered the RCP2.6 (SSP1) scenario, but the most representative one for the corporate analysis is the business-as-usual scenario (RCP 8.5).
[Add row]

(5.1.2) Provide details of the outcomes of your organization's scenario analysis.

Climate change

(5.1.2.1) Business processes influenced by your analysis of the reported scenarios

Select all that apply

☑ Risk and opportunities identification, assessment and management

☑ Strategy and financial planning

☑ Target setting and transition planning

(5.1.2.2) Coverage of analysis

Select from:

☑ Organization-wide

(5.1.2.3) Summarize the outcomes of the scenario analysis and any implications for other environmental issues

Ecopetrol's scenario analysis highlights that the global energy transition is not a linear shift, but rather an evolving process characterized by the additionality and diversification of energy sources. Between 2023 and 2050, global energy demand is projected to grow by approximately 14%, driven by economic development and increasing electrification across sectors. In the short term, fossil fuel demand is expected to rise, maintaining a significant role in the energy mix through 2035. By 2050, oil and gas are still projected to account for around 40% of the global energy matrix, underscoring the importance of managing emissions even as cleaner sources expand. From 2035 onward, the energy system is expected to shift more decisively toward electrons, with growing electrification in residential, industrial, and transport sectors. This trend is supported by decarbonization efforts and rising demand for low-emission energy, particularly from sectors like data centers. Solar energy is expected to lead growth in the next five years, followed by wind energy expansion toward 2035. Natural gas plays a critical role in enabling the integration of non-conventional renewable energy sources, offering system reliability and accessibility in hard-to-electrify segments. Global gas demand is projected to continue growing, peaking around 2030. Expectations for hydrogen have been revised downward globally, with long-term projections reduced by 30–40%. A more diverse hydrogen market is anticipated post-2030, with low-emission hydrogen gaining traction, though its share in the energy mix is expected to reach only ~4% by 2050. Transmission infrastructure emerges as a key enabler of the energy transition. In Latin America alone, investments in transmission are expected to reach $312 billion USD by 2050, aimed at upgrading existing assets, expanding capacity, and enhancing resilience to extreme climate events. From an environmental perspective,

global greenhouse gas emissions are nearing their peak and are expected to decline over the long term. However, achieving net-zero emissions by 2050 remains increasingly challenging, as countries adopt transition strategies tailored to their national contexts. In Latin America, the challenge is particularly acute due to the high share of hydropower in the energy mix and the significant contribution of agriculture and land use to overall emissions, especially in countries like Colombia.

Water

(5.1.2.1) Business processes influenced by your analysis of the reported scenarios

Select all that apply

☑ Risk and opportunities identification, assessment and management

☑ Strategy and financial planning

☑ Target setting and transition planning

(5.1.2.2) Coverage of analysis

Select from:

☑ Organization-wide

(5.1.2.3) Summarize the outcomes of the scenario analysis and any implications for other environmental issues

Outcomes of the scenario analysis (with other variables) were used to classify water as a material element within the TESG strategy due to its importance to the company to generate value in the short, medium, and long term and its significant relevance for stakeholders. Water-related risks are also included in the company's Business Risk Map, considering their potential impact on the 2040 Corporate Strategy (the company's business risk management is based on the ISO 31000 standard, which is used to identify, assess, and manage its corporate business risks). Potential financial impacts derived from water-related risks are updated every year after carrying out a sensitivity analysis on how changes in water availability could result in financial impacts to the company. Due to the importance of water as a strategic enabler, Water Neutrality is part of the Ecopetrol´s 2040 strategy. Ecopetrol monitors the probability of occurrence of extreme weather events based on monthly alerts, which are issued by the Institute of Hydrology, Meteorology and Environmental Studies (IDEAM). These alerts are related to the possible occurrence of El Niño and La Niña phenomena, which triggers an action plan when an occurrence probability exceeds 80%. In the case of other risks that can potentially generate losses and damage affecting the company's financials, such as water shortages, floods, forest fires, storms, hurricanes, and rising sea levels, Ecopetrol has implemented an adaptation plan to variability and climate change in six regions of Colombia. Also, Ecopetrol considers water as a strategic enabler, and due to regulation, it must be managed in the best possible way without affecting water bodies and communities.
[Fixed row]

(5.2) Does your organization's strategy include a climate transition plan?

(5.2.1) Transition plan

Select from:

☑ Yes, but we have a climate transition plan with a different temperature alignment

(5.2.2) Temperature alignment of transition plan

Select from:

☑ Other, please specify :1.9°C - 2.3°C

(5.2.3) Publicly available climate transition plan

Select from:

☑ Yes

(5.2.4) Plan explicitly commits to cease all spending on, and revenue generation from, activities that contribute to fossil fuel expansion

Select from:

☑ No, but we plan to add an explicit commitment within the next two years

(5.2.6) Explain why your organization does not explicitly commit to cease all spending on and revenue generation from activities that contribute to fossil fuel expansion

Ecopetrol acknowledges the global urgency of addressing climate change and is actively working toward a just energy transition through its 2040 strategy. This strategy envisions a diversified energy matrix that balances environmental sustainability with social and economic development. Rather than committing to an immediate cessation of all spending and revenue generation related to fossil fuel activities, Ecopetrol adopts a gradual and inclusive approach that reflects the realities of the regions where it operates. The concept of a just transition, as embraced by Ecopetrol, involves public and private efforts to progressively shift the economic structure toward a low-carbon, socially inclusive, and environmentally responsible model. This transformation must be participatory and equitable, ensuring that no community is left behind. In this context, fossil fuels continue to play a role in supporting energy security, economic stability, and system reliability—particularly in developing economies. Ecopetrol does not view the transition as a competition between energy sources, but rather as a process of complementarity. Investments in low-emission technologies are increasing, while fossil fuel-related activities are being adapted to align with stricter environmental standards and long-term

decarbonization goals. This balanced approach allows the company to contribute meaningfully to climate action while maintaining its commitment to national development and energy access.

(5.2.7) Mechanism by which feedback is collected from shareholders on your climate transition plan

Select from:

☑ We have a different feedback mechanism in place

(5.2.8) Description of feedback mechanism

To gather shareholder and investor feedback on our climate transition plan, we follow a rigorous process. On a weekly basis and throughout the year, we hold calls and meetings with the company's various investors and shareholders. In addition, we organize key events such as ESG Day, AGMs and Investor Day. During these events, we communicate our corporate strategy and the decarbonization plan that is part of it. Not only do we share the strategy, but we also gather feedback from shareholders and investors on issues related to the climate transition and its impact on different areas of the company. These comments are shared with the corresponding areas to analyze whether they are aligned with our current plan. Subsequently, internal evaluations are conducted to determine the feasibility and relevance of the suggestions received. If opportunities for improvement or necessary adjustments are identified, specific action plans are developed to implement these changes. This approach allows us not only to continuously improve our climate transition strategy, but also to maintain an open and constructive dialogue with our stakeholders and investors, ensuring that their concerns and expectations are duly considered in our decision-making. In addition, we use digital tools and communication platforms to facilitate the participation of our stakeholders and investors, regardless of their geographic location. This guarantees greater inclusiveness and diversity of opinions, further enriching the feedback process and allowing us to adapt our strategies more effectively to the needs and demands of the global marketplace.

(5.2.9) Frequency of feedback collection

Select from:

☑ Less frequently than annually

(5.2.10) Description of key assumptions and dependencies on which the transition plan relies

Ecopetrol's 2040 strategy, "Energy that Transforms," is built upon a scenario-based approach that incorporates global energy transition trends and sensitivities into three business scenarios. These scenarios serve as the foundation for strategic planning and reflect key assumptions about the pace and direction of the energy transition: The Reference Scenario, which underpins the company's transition plan, assumes a balanced and gradual shift toward a diversified energy matrix. It reflects moderate policy ambition, steady technological progress, and a growing role for low-emission energy sources, while maintaining the relevance of conventional fuels in the medium term. The High Price Scenario is based on a decelerated transition, where current trends persist and global climate targets for 2030 and 2050 are not met. This scenario assumes continued reliance on fossil fuels, limited regulatory pressure, and slower adoption of clean technologies. The Stress Test Scenario explores the implications of an accelerated transition aligned with a 2°C pathway. It assumes rapid decarbonization, strong policy enforcement, and significant shifts in energy demand and investment patterns. The transition plan depends on several critical factors: the evolution of global and national climate policies, technological

innovation, market dynamics, and stakeholder engagement. It also assumes that energy diversification will be achieved through complementarity—not competition—between energy sources, ensuring energy security, economic growth, and environmental sustainability.

(5.2.11) Description of progress against transition plan disclosed in current or previous reporting period

Regarding the progress made during the implementation of Ecopetrol's 2040 strategy, several key milestones were achieved in 2024: 1. Renewable Energy Expansion: By the end of 2024, 610 MW of renewable generation capacity had been incorporated through operational, under-construction, and/or execution-stage projects, marking significant progress toward the 900 MW target. Notably, 2024 saw the completion of Ecopetrol's first two fully in-house developed solar projects: Cartagena and La Cira. During the reporting year, commissioning tests began for the La Cira Infantas solar farm, which has an installed capacity of 56 MWp and is expected to deliver up to 76.3 GWh annually. The project, fully funded by Ecopetrol, will diversify the energy matrix of the La Cira Infantas production field by replacing 14% of its current demand from the National Interconnected System. Additionally, the Cartagena refinery inaugurated a 22.1 MWp solar farm—the first of its kind in a Latin American refinery. 2. Strategic Biomass Options Plan: The results of the "Strategic Biomass Options Plan" were presented to senior management, prioritizing actions related to biofuels and SAF (Sustainable Aviation Fuel) production. The company continues to advance biomass development for power generation and biogas. 3. CCUS Progress: In 2024, subsurface characterization studies continued for CO_2-EOR (Enhanced Oil Recovery with CO_2) and CO_2 storage. Three pilot initiatives were proposed to test recovery technologies in the field. A CO_2 storage potential of 280 million tons and an incremental production potential of 344 million barrels were identified across five studied clusters in Colombia. 4. Hydrogen: Over the past year, Ecopetrol advanced the structuring of new initiatives focused on industrial-scale low-emission hydrogen production. A nearly USD 28.5 million investment was approved to build a green hydrogen plant (Project CORAL) at the Cartagena refinery. The 5 MW facility is expected to produce 800 tons of hydrogen annually and begin operations in the first half of 2026. 5. Net-Zero Commitment: In 2024, the company achieved: • A reduction of 462,704 tCO_2e, reaching a cumulative reduction of 2,248,846 tCO_2e between 2020 and 2024—exceeding the target by 40%. • Cumulative energy optimization of 19.91 PJ between 2018 and 2024. • Reporting to the World Bank of total flaring in 2023, which reached 8,315 million cubic feet, of which 5,808 million were routine flaring—representing a 12.9% reduction compared to 2022. • A reduction of 17,385 tCH_4 (~486,780 tCO_2e) between 2020 and 2024 through methane emission reduction initiatives in the Upstream segment. During this period, the company also closed more than 1,778 identified leaks.

(5.2.12) Attach any relevant documents which detail your climate transition plan (optional)

investor-day-ppt-eng.pdf

(5.2.13) Other environmental issues that your climate transition plan considers

Select all that apply

☑ Water

☑ Biodiversity

(5.2.14) Explain how the other environmental issues are considered in your climate transition plan

Ecopetrol's 2040 strategy, Energy that Transforms, incorporates a comprehensive climate transition plan that addresses not only decarbonization but also a broad range of key environmental issues essential to sustainable development. The plan is grounded in a just energy transition approach, prioritizing environmental responsibility, energy security, and economic growth. The main environmental aspects considered in the plan include: Methane Emissions Reduction: Ecopetrol is committed to reducing methane emissions by 55% by 2030 (compared to 2019 levels), through initiatives such as leak detection and repair, flaring reduction, and operational efficiency improvements. Energy Efficiency: The company has set a target to optimize internal energy consumption by 25 PJ by 2030. As of 2024, it has achieved a cumulative optimization of 19.91 PJ, significantly contributing to emissions reduction and resource efficiency. Water Management: Water has been identified as a material issue. Ecopetrol has achieved a 20% reduction in industrial water intake (compared to 2019) and has eliminated industrial discharges in 11 of its assets. Water-related risks are integrated into the company's risk map and addressed through regional adaptation plans. Low-Emission Solutions: The plan includes the deployment of renewable energy (with a target of 900 MW by 2025), the development of low-emission hydrogen (e.g., the CORAL project), and progress in carbon capture, utilization, and storage (CCUS), with an identified storage potential of 280 $MtCO_2$. Circular Economy and Bioeconomy: Ecopetrol is advancing initiatives in biofuels and sustainable aviation fuel (SAF) as part of its strategic biomass roadmap. Air Quality and Waste Management: The company monitors air emissions and implements waste reduction and valorization strategies, in alignment with its TESG commitments. These efforts are supported by scenario-based planning, stakeholder engagement, and alignment with international frameworks such as the TCFD and the Sustainable Development Goals (SDGs). By addressing these interconnected environmental issues, Ecopetrol ensures that its climate transition plan contributes to long-term resilience, regulatory compliance, and value creation for all stakeholders.

(5.2.15) Primary reason for not having a climate transition plan that aligns with a 1.5°C world

Select from:

☑ Other, please specify :Country's geographic, socioeconomic, and structural conditions

(5.2.16) Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world

Our organization does not currently have a climate transition plan aligned with a 1.5°C scenario, primarily due to the country's geographic, socioeconomic, and structural conditions, which pose significant challenges to achieving an accelerated decarbonization pathway. Nevertheless, we have developed a long-term strategy aimed at building a resilient organization that can adapt to the ongoing transformations in the energy sector, with a focus on diversifying our energy matrix through the gradual incorporation of low-emission businesses. We have developed three energy transition scenarios based on technical and forward-looking analyses. Our base scenario, which guides strategic decision-making, is not aligned with a 1.5°C world. However, it does anticipate significant transformations in public policy, market dynamics, and societal behavior, enabling a transition consistent with a global temperature increase in the range of 1.9°C to 2.3°C. This approach acknowledges the need for a just, gradual, and secure energy transition—one that balances climate change mitigation with the country's economic development and social well-being. In this context, our strategy is grounded in the principle of gradualism, ensuring the financial and operational sustainability of the organization as we move toward a low-carbon economy

[Fixed row]

(5.3) Have environmental risks and opportunities affected your strategy and/or financial planning?

(5.3.1) Environmental risks and/or opportunities have affected your strategy and/or financial planning

Select from:

☑ Yes, both strategy and financial planning

(5.3.2) Business areas where environmental risks and/or opportunities have affected your strategy

Select all that apply

☑ Products and services

☑ Upstream/downstream value chain

☑ Investment in R&D

☑ Operations

[Fixed row]

(5.3.1) Describe where and how environmental risks and opportunities have affected your strategy.

Products and services

(5.3.1.1) Effect type

Select all that apply

☑ Opportunities

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

☑ Climate change

☑ Water

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

The corporate strategy is centered on growing in alignment with the energy transition, supported by a robust decarbonization roadmap and the TESG strategy (Technology at the heart of Sustainability) as key enablers. The company is committed to investing in low-carbon technologies and aligning its operations with global climate trends to mitigate climate change and achieve Net Zero emissions by 2050 for scopes 1 and 2. Key initiatives include the development of low-carbon hydrogen as an energy source, the implementation of Carbon Capture, Utilization and Storage (CCUS) technologies, and the promotion of Natural Climate Solutions (NCS). In 2021, Ecopetrol acquired a 51% stake in ISA, a company with operations in energy transmission, road infrastructure, and telecommunications across Latin

America—strengthening its role in the regional energy transition. Ecopetrol Group also continues to enhance its fuel quality program, supplying Ultra Low Sulfur Diesel and improved gasoline to the Colombian market. Additionally, Ecopetrol S.A. incorporates biodiesel into its diesel supply. The blend produced at the Barrancabermeja Refinery, known as B2E Diesel, contains 2% biodiesel (derived from palm oil) and 98% fossil diesel. Wholesale distributors further blend this with an additional 8% biodiesel to produce B10 Diesel (10% biodiesel), which is the standard consumed in Colombia. Ecodiesel, a subsidiary of the Ecopetrol Group, operates a biodiesel production facility in Barrancabermeja with an annual capacity of 125,000 tons, contributing to the Group's efforts to reduce emissions and support the development of sustainable fuels.

Upstream/downstream value chain

(5.3.1.1) Effect type

Select all that apply

☑ Opportunities

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

☑ Climate change

☑ Water

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

The management of environmental resources in the value chain allows for the establishment of goals in decarbonization and efficient water use. This management is mainly carried out in the commitments that have been established with clients and suppliers through green clauses and the development of the SosTECnibility® Strategy in the supply chain.

Investment in R&D

(5.3.1.1) Effect type

Select all that apply

☑ Opportunities

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

☑ Climate change

☑ Water

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

Ecopetrol's Innovation and Technology Center (ICPET, for its acronym in Spanish) plays a strategic role in supporting the Group's decarbonization and energy transition goals through the development of technological solutions. Since 2021, ICPET has led a portfolio of research and innovation initiatives focused on process optimization, energy efficiency, carbon capture, low-carbon product development, and the assessment of new energy vectors. These initiatives include: • Identification and quantification of the potential for Carbon Capture, Utilization, and Storage (CCUS) in Ecopetrol's operations. • Co-processing of vegetable oils in refineries to produce lower-carbon fuels. • Evaluation of oxy-combustion (flameless combustion) technologies for thermal power generation. • Assessment of technological pathways for low-carbon hydrogen production. • Research on high-enthalpy geothermal energy, including potential estimation and pilot conceptualization. • Evaluation of emerging carbon capture technologies. • Field studies to identify native sources for CO_2 capture and fixation. • Estimation of offshore renewable energy potential in Colombia. • Identification and evaluation of technologies for producing low-carbon fuels from CO_2 and hydrogen. • Implementation of a methane emissions monitoring program using satellite imagery and aerial overflights with infrared spectrum analysis to detect and quantify large emission sources. These research lines contribute to defining Ecopetrol's energy transition roadmap and support the deployment of innovative, science-based solutions to reduce emissions across its operations.

Operations

(5.3.1.1) Effect type

Select all that apply

☑ Risks

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

☑ Climate change

☑ Water

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

Ecopetrol has pledged to reach water neutrality by 2045, putting water management at the forefront of its corporate strategy. Efficient and responsible water management is essential to ensure operational continuity of the Company's assets. As the consequences of climate change become more dire, Ecopetrol is aware of the importance of water quality and availability to stakeholders, like communities surrounding the Company's operations. Furthermore, water availability is pivotal to Ecopetrol's operations. Through the Water Neutrality pillar of the environmental strategy and the Water Neutrality Roadmap, the Company has put in place a set of

initiatives and projects aimed at reaching the 2045 water neutrality goal. These initiatives focus on reducing the Company's water footprint and curtailing potential impacts on water associated conflicts. Water issues considered under the material topic are:(i) Water required for operations: freshwater for both industrial uses and enhanced oil recovery especially in water-stressed areas, (ii) Effluents: discharges treated wastewaters to surface waterbodies, (iii) Water-related risks: decrease in rainfall that drives to a reduction in waterbodies flows and thus its assimilation capacity, and (iv) Watershed compensation: compensation projects in the same basins where water is extracted. Furthermore, we consider the "Inadequate response to challenges associated with climate change, water and biodiversity" as one of the company's strategic risks, as evidenced in our business risk map. In this sense, efficient use of this resource and its stewardship and protection, are measures to mitigate risks associated with water availability in the territories where the Company operates.
[Add row]

(5.3.2) Describe where and how environmental risks and opportunities have affected your financial planning.

Row 1

(5.3.2.1) Financial planning elements that have been affected

Select all that apply

☑ Capital expenditures

☑ Capital allocation

☑ Access to capital

(5.3.2.2) Effect type

Select all that apply

☑ Risks

☑ Opportunities

(5.3.2.3) Environmental issues relevant to the risks and/or opportunities that have affected these financial planning elements

Select all that apply

☑ Climate change

☑ Water

(5.3.2.4) Describe how environmental risks and/or opportunities have affected these financial planning elements

Various environmental aspects influence financial planning. For example, capital expenditure is impacted as the internal price of CO2 is considered in project evaluations as part of OPEX, benefiting those with lower emissions. Additionally, all investments aimed at mitigating CO2 emissions, reducing water intake and discharges, and environmental investments include both mandatory and strategic amounts in the estimated project costs. Furthermore, environmental opportunities are identified when developing projects that, due to their low emissions or environmental sustainability, can access better financial options.
[Add row]

(5.4) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

	Identification of spending/revenue that is aligned with your organization's climate transition	Methodology or framework used to assess alignment with your organization's climate transition
	Select from: ☑ Yes	*Select all that apply* ☑ Other methodology or framework

[Fixed row]

(5.4.1) Quantify the amount and percentage share of your spending/revenue that is aligned with your organization's climate transition.

Row 1

(5.4.1.1) Methodology or framework used to assess alignment

Select from:
☑ Other, please specify :As Colombia lacks a mandatory green taxonomy, Ecopetrol uses a self-classification method aligned with its 2040 Strategy to assess climate-aligned spending/revenue, focusing on decarbonization, energy efficiency, renewables, and sustainability.

(5.4.1.5) Financial metric

Select from:

☑ CAPEX

(5.4.1.6) Amount of selected financial metric that is aligned in the reporting year (currency)

689365619023.37

(5.4.1.7) Percentage share of selected financial metric aligned in the reporting year (%)

2.9

(5.4.1.8) Percentage share of selected financial metric planned to align in 2025 (%)

5.7

(5.4.1.9) Percentage share of selected financial metric planned to align in 2030 (%)

0

(5.4.1.12) Details of the methodology or framework used to assess alignment with your organization's climate transition

Ecopetrol Group (GE) has defined its 2040 strategy, "Energy that Transforms", structured around four strategic pillars: 1. Competitive returns 2. Growth with the transition 3. Generating value with sustainability 4. Cutting-edge knowledge These pillars guide the organization in adapting to the evolving energy landscape and leading a fair and equitable energy transition. The pillar "Growth with the transition" focuses on maintaining competitiveness in the hydrocarbon value chain while diversifying into low-emission and transition-related energy businesses. To assess the alignment of capital expenditures (CAPEX) with its climate transition strategy, Ecopetrol applies a self-classification methodology, as Colombia has not yet implemented a mandatory green taxonomy. This internal framework evaluates investments based on their contribution to climate change mitigation, including: • Deployment of renewable energy projects (e.g., solar and wind) • Expansion of low-emission energy sources • Energy efficiency improvements In 2024, Ecopetrol identified COP 0.689 billion in CAPEX aligned with its climate transition strategy, representing 2.9% of total CAPEX. These investments were primarily directed toward renewable energy and energy efficiency projects, in line with the company's decarbonization roadmap and 2040 strategic objectives. While the national green taxonomy is still under development, Ecopetrol is committed to adopting it once it is formally issued by the Colombian regulator. This methodology ensures that financial planning and investment decisions are consistent with Ecopetrol's climate commitments, including the goal to reduce Scope 1 and 2 GHG emissions by 25% by 2030 and achieve net-zero emissions by 2050.
[Add row]

(5.5) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

(5.5.1) Investment in low-carbon R&D

Select from:

☑ Yes

(5.5.2) Comment

During 2024 Ecopetrol's Innovation and Technology Center change its name from "Colombian Petroleum Institute" (ICP in Spanish) to "Colombian Petroleum and Energy Transition Institute" (ICPET in Spanish) to highlight the relevance of low carbon products and decarbonization in the research portfolio of the company. ICPET is working in several initiatives related to process optimization for energy consumption reduction, new energy vectors and pathways, carbon capture and utilization, and low-carbon products development.
[Fixed row]

(5.5.7) Provide details of your organization's investments in low-carbon R&D for your sector activities over the last three years.

Row 1

(5.5.7.1) Technology area

Select from:

☑ Carbon capture, utilization, and storage (CCUS)

(5.5.7.2) Stage of development in the reporting year

Select from:

☑ Pilot demonstration

(5.5.7.3) Average % of total R&D investment over the last 3 years

13

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

2921970794

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

10

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

Emerging technologies for CO2 capture and utilization: we are looking to determine CO2 mineralization feasibility from technical and economic. Using this pathway CO2 emissions would be avoided while useful products can be manufactured and commercialized.

Row 2

(5.5.7.1) Technology area

Select from:

☑ Other, please specify :Energy Generation

(5.5.7.2) Stage of development in the reporting year

Select from:

☑ Applied research and development

(5.5.7.3) Average % of total R&D investment over the last 3 years

15

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

5660112896

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

5

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

Offshore energy generation from renewable sources: this research project explores the production of low carbon intensity energy, using solar, wind and tidal wave energy. This initiative complements offshore exploration and can reduce the carbon footprint of Ecopetrol and Colombia energy consumption

Row 3

(5.5.7.1) Technology area

Select from:

☑ Carbon capture, utilization, and storage (CCUS)

(5.5.7.2) Stage of development in the reporting year

Select from:

☑ Pilot demonstration

(5.5.7.3) Average % of total R&D investment over the last 3 years

32

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

8679903021

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

10

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

CO2 capture by Natural Climate Solutions: Colombian natural ecosystems have been characterized to prioritize possible Natural Climate Solution projects for CO2 compensation strategies

Row 4

(5.5.7.1) Technology area

Select from:

☑ Other, please specify :Geothermal energy generation

(5.5.7.2) Stage of development in the reporting year

Select from:

☑ Applied research and development

(5.5.7.3) Average % of total R&D investment over the last 3 years

10

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

4419878878

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

20

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

High enthalpy geothermal potential for energy production in Colombia: Characterization of different promising sites for geothermal energy production have been done to perform exploration, exploitation and energy generation pilot trials in Colombian basins. The development of geothermal initiatives would reduce the carbon footprint of energy consumption by Ecopetrol and Colombia

Row 5

(5.5.7.1) Technology area

ECP-INFORMACION PUBLICA

Select from:

☑ Hydrogen

(5.5.7.2) Stage of development in the reporting year

Select from:

☑ Pilot demonstration

(5.5.7.3) Average % of total R&D investment over the last 3 years

17

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

2977567464

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

15

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

Hydrogen production: Industrial scale low emissions hydrogen production has been studied, its use in transportation systems has been characterized and business models have been analyzed. Pilot trials of hydrogen production by electrolysis and natural hydrogen exploitation are being performed to understand how to use this low emission material in Ecopetrol´s industrial processes to reduce carbon footprint.

Row 6

(5.5.7.1) Technology area

Select from:

☑ Other, please specify :Energy production

(5.5.7.2) Stage of development in the reporting year

Select from:

☑ Pilot demonstration

(5.5.7.3) Average % of total R&D investment over the last 3 years

4

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

4101758115

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

15

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

Energy production from biomass: The use of biomass (agricultural wastes, vegetable oils, wastewater treatment plants, landfills, livestock, energy crops, etc) to produce fuels, electric energy and heat have been studied for different regions, to identify the most promising strategies to produce clean energy. Sustainable aviation fuels (SAF) have been produced by palm oil co-processing and flight test evaluations have been performed. The development of biomass initiatives would reduce the carbon footprint of energy consumption by Ecopetrol and Colombia.

Row 7

(5.5.7.1) Technology area

Select from:

☑ Other, please specify :Energy efficiency

(5.5.7.2) Stage of development in the reporting year

Select from:

☑ Full/commercial-scale demonstration

(5.5.7.3) Average % of total R&D investment over the last 3 years

4

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

3412372980

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

10

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

Energy efficiency: Process analysis and optimization have been done to reduce energy consumption in operations to reduce CO2 emissions.

Row 8

(5.5.7.1) Technology area

Select from:
☑ Carbon capture, utilization, and storage (CCUS)

(5.5.7.2) Stage of development in the reporting year

Select from:
☑ Applied research and development

(5.5.7.3) Average % of total R&D investment over the last 3 years

6

(5.5.7.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

5404834572

(5.5.7.5) Average % of total R&D investment planned over the next 5 years

15

(5.5.7.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

CO2 enhanced oil recovery (EOR): We are studying the possibility of using CO2 emitted by Ecopetrol´s operations for enhanced oil recovery for underground CO2 storage.
[Add row]

(5.6) Break down, by fossil fuel expansion activity, your organization's CAPEX in the reporting year and CAPEX planned over the next 5 years.

Exploration of new oil fields

(5.6.1) CAPEX in the reporting year for this expansion activity (unit currency as selected in 1.2)

814350516274

(5.6.2) CAPEX in the reporting year for this expansion activity as % of total CAPEX in the reporting year

3

(5.6.3) CAPEX planned over the next 5 years for this expansion activity as % of total CAPEX planned over the next 5 years

2

(5.6.4) Explain your CAPEX calculations, including any assumptions

Column A – Reporting Year: To convert figures from USD to COP, we used the average Representative Market Exchange Rate (TRM) for 2024: COP 3,978.76 per USD. Column B – CAPEX executed in the reporting year: This figure reflects the execution of crude oil CAPEX for exploration activity, expressed as a percentage of

Ecopetrol Group's total investment in the reporting year. It includes ongoing and completed projects directly related to the expansion of hydrocarbon reserves and production capacity. Column C – CAPEX planned over the next 5 years: Although the question requests the percentage of CAPEX planned over the next five years, Ecopetrol has only publicly disclosed its investment plan for 2025. The projected investments for 2026–2029 remain confidential. Therefore, the reported percentage is calculated based solely on the approved 2025 investment plan, which serves as a representative reference. This approach ensures transparency in reporting while safeguarding strategic information that has not been publicly released

Exploration of new natural gas fields

(5.6.1) CAPEX in the reporting year for this expansion activity (unit currency as selected in 1.2)

990042607816

(5.6.2) CAPEX in the reporting year for this expansion activity as % of total CAPEX in the reporting year

4

(5.6.3) CAPEX planned over the next 5 years for this expansion activity as % of total CAPEX planned over the next 5 years

4

(5.6.4) Explain your CAPEX calculations, including any assumptions

Column A – Reporting Year: To convert figures from USD to COP, we used the average Representative Market Exchange Rate (TRM) for 2024: COP 3,978.76 per USD. Column B – CAPEX executed in the reporting year: This figure reflects the execution of gas CAPEX for exploration activity, expressed as a percentage of Ecopetrol Group's total investment in the reporting year. It includes ongoing and completed projects directly related to the expansion of hydrocarbon reserves and production capacity. Column C – CAPEX planned over the next 5 years: Although the question requests the percentage of CAPEX planned over the next five years, Ecopetrol has only publicly disclosed its investment plan for 2025. The projected investments for 2026–2029 remain confidential. Therefore, the reported percentage is calculated based solely on the approved 2025 investment plan, which serves as a representative reference. This approach ensures transparency in reporting while safeguarding strategic information that has not been publicly released.

Expansion of existing oil fields

(5.6.1) CAPEX in the reporting year for this expansion activity (unit currency as selected in 1.2)

11472941403630

(5.6.2) CAPEX in the reporting year for this expansion activity as % of total CAPEX in the reporting year

49

(5.6.3) CAPEX planned over the next 5 years for this expansion activity as % of total CAPEX planned over the next 5 years

51

(5.6.4) Explain your CAPEX calculations, including any assumptions

Column A – Reporting Year: To convert figures from USD to COP, we used the average Representative Market Exchange Rate (TRM) for 2024: COP 3,978.76 per USD. Column B – CAPEX executed in the reporting year: This figure reflects the execution of crude oil CAPEX for production activities, expressed as a percentage of Ecopetrol Group's total investment in the reporting year. It includes ongoing and completed projects directly related to the expansion of hydrocarbon reserves and production capacity. Column C – CAPEX planned over the next 5 years: Although the question requests the percentage of CAPEX planned over the next five years, Ecopetrol has only publicly disclosed its investment plan for 2025. The projected investments for 2026–2029 remain confidential. Therefore, the reported percentage is calculated based solely on the approved 2025 investment plan, which serves as a representative reference. This approach ensures transparency in reporting while safeguarding strategic information that has not been publicly released.

Expansion of existing natural gas fields

(5.6.1) CAPEX in the reporting year for this expansion activity (unit currency as selected in 1.2)

1398001044074

(5.6.2) CAPEX in the reporting year for this expansion activity as % of total CAPEX in the reporting year

6

(5.6.3) CAPEX planned over the next 5 years for this expansion activity as % of total CAPEX planned over the next 5 years

8

(5.6.4) Explain your CAPEX calculations, including any assumptions

Column A – Reporting Year: To convert figures from USD to COP, we used the average Representative Market Exchange Rate (TRM) for 2024: COP 3,978.76 per USD. Column B – CAPEX executed in the reporting year: This figure reflects the execution of gas CAPEX for production activities, expressed as a percentage of Ecopetrol Group's total investment in the reporting year. It includes ongoing and completed projects directly related to the expansion of hydrocarbon reserves and production capacity. Column C – CAPEX planned over the next 5 years: Although the question requests the percentage of CAPEX planned over the next five years, Ecopetrol has only publicly disclosed its investment plan for 2025. The projected investments for 2026–2029 remain confidential. Therefore, the reported percentage

is calculated based solely on the approved 2025 investment plan, which serves as a representative reference. This approach ensures transparency in reporting while safeguarding strategic information that has not been publicly released.
[Fixed row]

(5.8) Disclose the breakeven price (US$/BOE) required for cash neutrality during the reporting year, i.e. where cash flow from operations covers CAPEX and dividends paid / share buybacks.

60.4

(5.9) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

(5.9.1) Water-related CAPEX (+/- % change)

28

(5.9.2) Anticipated forward trend for CAPEX (+/- % change)

0

(5.9.3) Water-related OPEX (+/- % change)

0

(5.9.4) Anticipated forward trend for OPEX (+/- % change)

0

(5.9.5) Please explain

In 2025, Ecopetrol refined its methodology for identifying water-related investments. The updated approach excluded operational water management activities aimed at increasing production and focused solely on initiatives aligned with the company's long-term Water Neutrality goal, such as reducing freshwater withdrawals and

discharges. This more targeted classification resulted in a 0% change in water-related CAPEX compared to previous years, establishing a new baseline for future tracking.
[Fixed row]

(5.10) Does your organization use an internal price on environmental externalities?

	Use of internal pricing of environmental externalities	Environmental externality priced
	Select from: ☑ Yes	*Select all that apply* ☑ Carbon

[Fixed row]

(5.10.1) Provide details of your organization's internal price on carbon.

Row 1

(5.10.1.1) Type of pricing scheme

Select from:
☑ Shadow price

(5.10.1.2) Objectives for implementing internal price

Select all that apply
☑ Drive energy efficiency
☑ Drive low-carbon investment
☑ Conduct cost-benefit analysis
☑ Identify and seize low-carbon opportunities
☑ Influence strategy and/or financial planning
☑ Setting and/or achieving of climate-related policies and targets
☑ Other, please specify **:Change internal behavior; Stakeholder expectations**

(5.10.1.3) Factors considered when determining the price

Select all that apply

☑ Benchmarking against peers

☑ Cost of required measures to achieve climate-related targets

☑ Price with substantive impact on business decisions

(5.10.1.4) Calculation methodology and assumptions made in determining the price

The capital discipline framework of the Ecopetrol Group evolves with the long-term strategic vision, responding to the current challenges of the generation of sustainable value, and in this sense, establishes the considerations, premises and mechanisms that leverage the consolidation and growth of the group's three business lines, maximizing value, leveraging the fulfillment of strategic goals and ensuring synergies materialization. In this context, the company established as a capital discipline criterion, the setting of an internal carbon price, defined based on the following considerations: (i) analysis of trends and evolution of carbon pricing in the world in recent years, experiences of leading companies in energy transition in the Oil & Gas sector and the perspectives of the International Energy Agency, (ii) evaluation of the costs of emissions reduction initiatives associated with investment projects in the strategic levers of decarbonization prioritized by the company (Energy efficiency, renewable energies, reduction of fugitive emissions and venting, and reduction of flaring), taking into account the Marginal Abatement Cost Curve, and (iii) analysis of the impact on the financial flows of the investment portfolio.

(5.10.1.5) Scopes covered

Select all that apply

☑ Scope 1

☑ Scope 2

(5.10.1.6) Pricing approach used – spatial variance

Select from:

☑ Uniform

(5.10.1.8) Pricing approach used – temporal variance

Select from:

☑ Evolutionary

(5.10.1.9) Indicate how you expect the price to change over time

To leverage compliance with emission reduction targets and manage some of the climate-related risks to which the industry is exposed, Ecopetrol defined an internal price on carbon which considers three time periods: 25 USD/tCO2e for 2024; 40 USD/tCO2e for 2025-2029; and 50 USD/tCO2e for 2030 onwards.

(5.10.1.10) Minimum actual price used (currency per metric ton CO2e)

101783.75

(5.10.1.11) Maximum actual price used (currency per metric ton CO2e)

101783.75

(5.10.1.12) Business decision-making processes the internal price is applied to

Select all that apply

☑ Capital expenditure

(5.10.1.13) Internal price is mandatory within business decision-making processes

Select from:

☑ Yes, for all decision-making processes

(5.10.1.14) % total emissions in the reporting year in selected scopes this internal price covers

23

(5.10.1.15) Pricing approach is monitored and evaluated to achieve objectives

Select from:

☑ Yes

(5.10.1.16) Details of how the pricing approach is monitored and evaluated to achieve your objectives

The internal price of CO2 was established in 2021 as a parameter of capital discipline, which initially had to be applied as a sensitivity in the valuation of investment opportunities, to sensitize the organization in the adoption of this new methodology. Since 2023 it has been established as mandatory in the base scenario for the valuation of investment opportunities. Its application is monitored and evaluated in the different investment decision instances established by the company.
[Add row]

(5.11) Do you engage with your value chain on environmental issues?

Suppliers

(5.11.1) Engaging with this stakeholder on environmental issues

Select from:

☑ Yes

(5.11.2) Environmental issues covered

Select all that apply

☑ Climate change

☑ Water

☑ Plastics

Customers

(5.11.1) Engaging with this stakeholder on environmental issues

Select from:

☑ Yes

(5.11.2) Environmental issues covered

Select all that apply

☑ Climate change

Investors and shareholders

(5.11.1) Engaging with this stakeholder on environmental issues

Select from:

☑ No, and we do not plan to within the next two years

(5.11.3) Primary reason for not engaging with this stakeholder on environmental issues

Select from:

☑ No standardized procedure

(5.11.4) Explain why you do not engage with this stakeholder on environmental issues

Although there is no explicit commitment, the relationship with investors and shareholders is based on reporting information on water and climate, and responding to requirements and requests according to each party's area of interest. On a weekly basis and throughout the year, we hold calls and meetings with the company's various investors and shareholders. In addition, we organize key events such as ESG Day, AGMs and Investor Day. During these events, we communicate our corporate strategy, the decarbonization plan, and the water neutrality roadmap, as well as progress in both environmental issues. Not only do we share the strategy, but we also gather feedback from shareholders and investors on issues related to climate transition and its impact on different areas of the company. This approach allows us to maintain an open and constructive dialogue with our stakeholders and investors, ensuring that their concerns and expectations are duly considered in our decision-making. In addition, we use digital tools and communication platforms to facilitate the participation of our stakeholders and investors, regardless of their geographic location. This guarantees greater inclusiveness and diversity of opinions, further enriching the feedback process and allowing us to adapt our strategies more effectively to the needs and demands of the global marketplace.

Other value chain stakeholders

(5.11.1) Engaging with this stakeholder on environmental issues

Select from:

☑ Yes

(5.11.2) Environmental issues covered

Select all that apply

☑ Climate change

☑ Water

[Fixed row]

(5.11.1) Does your organization assess and classify suppliers according to their dependencies and/or impacts on the environment?

Climate change

(5.11.1.1) Assessment of supplier dependencies and/or impacts on the environment

Select from:

☑ Yes, we assess the dependencies and/or impacts of our suppliers

(5.11.1.2) Criteria for assessing supplier dependencies and/or impacts on the environment

Select all that apply

☑ Contribution to supplier-related Scope 3 emissions

(5.11.1.3) % Tier 1 suppliers assessed

Select from:

☑ 100%

(5.11.1.4) Define a threshold for classifying suppliers as having substantive dependencies and/or impacts on the environment

The Supplier Environmental Screening identifies and prioritizes strategic suppliers that leverage the targets of decarbonization (classification according to the amount of tCO2e generated), materials and waste (categories that leverage circularity), water management (where there is intensive use of materials that affect Ecopetrol's water footprint) and natural capital -biodiversity (categories with intensive use of wood).

(5.11.1.5) % Tier 1 suppliers meeting the threshold for substantive dependencies and/or impacts on the environment

Select from:

☑ 1-25%

(5.11.1.6) Number of Tier 1 suppliers meeting the thresholds for substantive dependencies and/or impacts on the environment

739

Water

(5.11.1.1) Assessment of supplier dependencies and/or impacts on the environment

Select from:

☑ Yes, we assess the dependencies and/or impacts of our suppliers

(5.11.1.2) Criteria for assessing supplier dependencies and/or impacts on the environment

Select all that apply

☑ Dependence on water

☑ Impact on water availability

(5.11.1.3) % Tier 1 suppliers assessed

Select from:

☑ 76-99%

(5.11.1.4) Define a threshold for classifying suppliers as having substantive dependencies and/or impacts on the environment

The Supplier Environmental Screening identifies and prioritizes strategic suppliers that leverage the targets of decarbonization, materials and waste (categories that leverage circularity), water management (where there is intensive use of materials that affect Ecopetrol's water footprint) and natural capital -biodiversity (categories with intensive use of wood). In the case of water, the analysis considered the procurement categories that have impact on Ecopetrol's water footprint.

(5.11.1.5) % Tier 1 suppliers meeting the threshold for substantive dependencies and/or impacts on the environment

Select from:

☑ 1-25%

(5.11.1.6) Number of Tier 1 suppliers meeting the thresholds for substantive dependencies and/or impacts on the environment

120

Plastics

(5.11.1.1) Assessment of supplier dependencies and/or impacts on the environment

Select from:

☑ No, we do not assess the dependencies and/or impacts of our suppliers, and have no plans to do so within two years

[Fixed row]

(5.11.2) Does your organization prioritize which suppliers to engage with on environmental issues?

Climate change

(5.11.2.1) Supplier engagement prioritization on this environmental issue

Select from:

☑ Yes, we prioritize which suppliers to engage with on this environmental issue

(5.11.2.2) Criteria informing which suppliers are prioritized for engagement on this environmental issue

Select all that apply

☑ In line with the criteria used to classify suppliers as having substantive dependencies and/or impacts relating to climate change

☑ Procurement spend

(5.11.2.4) Please explain

The Supplier Environmental Screening identifies strategic suppliers that leverage the targets of decarbonization, according to the amount of tCO2e generated in the operation of each contract

Water

(5.11.2.1) Supplier engagement prioritization on this environmental issue

Select from:

☑ Yes, we prioritize which suppliers to engage with on this environmental issue

(5.11.2.2) Criteria informing which suppliers are prioritized for engagement on this environmental issue

Select all that apply

☑ In line with the criteria used to classify suppliers as having substantive dependencies and/or impacts relating to water

☑ Procurement spend

☑ Product lifecycle

(5.11.2.4) Please explain

The Supplier Environmental Screening identifies strategic suppliers that leverage the targets of water, based on the spend of good and services where there is intensive use of materials that affects Ecopetrol's water footprint, or waste treatment is carried out

Plastics

(5.11.2.1) Supplier engagement prioritization on this environmental issue

Select from:

☑ No, we do not prioritize which suppliers to engage with on this environmental issue

(5.11.2.3) Primary reason for no supplier prioritization on this environmental issue

Select from:

☑ Not an immediate strategic priority

(5.11.2.4) Please explain

Currently, we are not planning to prioritize suppliers based on this environmental issue, since its materiality is not high enough within the company's procurement processes.
[Fixed row]

(5.11.5) Do your suppliers have to meet environmental requirements as part of your organization's purchasing process?

Climate change

(5.11.5.1) Suppliers have to meet specific environmental requirements related to this environmental issue as part of the purchasing process

Select from:

☑ Yes, environmental requirements related to this environmental issue are included in our supplier contracts

(5.11.5.2) Policy in place for addressing supplier non-compliance

Select from:

☑ Yes, we have a policy in place for addressing non-compliance

(5.11.5.3) Comment

The prioritized contracts according to the supplier screening for climate change have clauses that looks to estimate greenhouse gas emissions generation as well as a formulation of a decarbonization plan to reduce the emissions on the operation of each contract. Compliance with the emissions reduction according to the target of each contract is verified by Ecopetrol and it is carried out by personnel involved in the implementation of the operations being verified. The contracts establish the procedure in case of noncompliant

Water

(5.11.5.1) Suppliers have to meet specific environmental requirements related to this environmental issue as part of the purchasing process

Select from:

☑ Yes, environmental requirements related to this environmental issue are included in our supplier contracts

(5.11.5.2) Policy in place for addressing supplier non-compliance

Select from:

☑ Yes, we have a policy in place for addressing non-compliance

(5.11.5.3) Comment

Some of the prioritized contracts, according to the supplier screening for water, have clauses that fosters the calculation of the supplier water footprint which is incorporated in Ecopetrol's indirect water footprint
[Fixed row]

(5.11.6) Provide details of the environmental requirements that suppliers have to meet as part of your organization's purchasing process, and the compliance measures in place.

Climate change

(5.11.6.1) Environmental requirement

Select from:

☑ Implementation of emissions reduction initiatives

(5.11.6.2) Mechanisms for monitoring compliance with this environmental requirement

Select all that apply

☑ Fines and penalties

☑ Grievance mechanism/ Whistleblowing hotline

☑ Supplier self-assessment

(5.11.6.3) % tier 1 suppliers by procurement spend required to comply with this environmental requirement

Select from:

☑ 26-50%

(5.11.6.4) % tier 1 suppliers by procurement spend in compliance with this environmental requirement

Select from:

☑ 76-99%

(5.11.6.7) % tier 1 supplier-related scope 3 emissions attributable to the suppliers required to comply with this environmental requirement

Select from:

☑ 26-50%

(5.11.6.8) % tier 1 supplier-related scope 3 emissions attributable to the suppliers in compliance with this environmental requirement

Select from:

☑ 76-99%

(5.11.6.9) Response to supplier non-compliance with this environmental requirement

Select from:

☑ Retain and engage

(5.11.6.10) % of non-compliant suppliers engaged

Select from:

☑ 100%

(5.11.6.11) Procedures to engage non-compliant suppliers

Select all that apply

☑ Assessing the efficacy and efforts of non-compliant supplier actions through consistent and quantified metrics

(5.11.6.12) Comment

Ecopetrol incorporates environmental clauses for selection processes and contracts executions. For climate change the clauses are based in 1) Liability to periodically report emission sources what allows to estimate GHG emissions generated in each contract, 2) Definition an emission reduction target and plan and, 3) Monitoring scheme to the achievement of reduction goal during the contract. The clauses entail suppliers' disclosure to Ecopetrol of emissions generation, and their reduction target as well compel suppliers to inform and implement initiatives to reduce emissions related to the contract operation. The contract clauses recognize different levels of appropriation of climate change strategies. Ecopetrol designed 3 kind of clauses: 1) For mature markets the selection process incentivize the biggest emissions reduction goal, 2) For markets with decarbonization mature and non-mature suppliers the clauses incentivize the suppliers to estimate their emissions and formulate a plan to reduce emissions during the contract, 3) For decarbonization non-mature suppliers, clauses incentivize the identification of emission sources and actions to start emissions reducing. Ecopetrol provided support to suppliers helping them estimate their emissions and their reduction. In case there is a noncompliant supplier the decarbonization clauses stablished that Ecopetrol may end the purchasing relationship apply the specific consequences defined in the contract or affect de supplier rating.

Water

(5.11.6.1) Environmental requirement

Select from:

☑ Environmental disclosure through a public platform

(5.11.6.2) Mechanisms for monitoring compliance with this environmental requirement

Select all that apply

☑ Fines and penalties

☑ Grievance mechanism/ Whistleblowing hotline

☑ Supplier self-assessment

(5.11.6.3) % tier 1 suppliers by procurement spend required to comply with this environmental requirement

Select from:

☑ 1-25%

(5.11.6.4) % tier 1 suppliers by procurement spend in compliance with this environmental requirement

Select from:

☑ 100%

(5.11.6.5) % tier 1 suppliers with substantive environmental dependencies and/or impacts related to this environmental issue required to comply with this environmental requirement

Select from:

☑ 1-25%

(5.11.6.6) % tier 1 suppliers with substantive environmental dependencies and/or impacts related to this environmental issue that are in compliance with this environmental requirement

Select from:

☑ 100%

(5.11.6.12) Comment

Ecopetrol incorporates environmental clauses for selection processes and contracts executions, with four topics: Decarbonization, circularity, water discharges and biodiversity. In the case of water, the clauses look to calculate the indirect water footprint, prioritizing the contracts that have intensive use of raw materials as pipeline, cement, barite, and calcium carbonate, as well as the contracts of waste management through bioremediation, landfill, incineration, and dump. Ecopetrol has

been providing support to suppliers, socializing the concept of water footprint and helping them to calculate it. The implementation of water clauses is in process between 2024 and 2026.
[Add row]

(5.11.7) Provide further details of your organization's supplier engagement on environmental issues.

Climate change

(5.11.7.2) Action driven by supplier engagement

Select from:
☑ Emissions reduction

(5.11.7.3) Type and details of engagement

Capacity building
☑ Provide training, support and best practices on how to measure GHG emissions
☑ Provide training, support and best practices on how to mitigate environmental impact
☑ Support suppliers to develop public time-bound action plans with clear milestones
☑ Support suppliers to set their own environmental commitments across their operations

Information collection
☑ Collect GHG emissions data at least annually from suppliers
☑ Collect targets information at least annually from suppliers

Innovation and collaboration
☑ Collaborate with suppliers on innovations to reduce environmental impacts in products and services
☑ Collaborate with suppliers to develop reuse infrastructure and reuse models

(5.11.7.4) Upstream value chain coverage

Select all that apply

☑ Tier 1 suppliers

(5.11.7.5) % of tier 1 suppliers by procurement spend covered by engagement

Select from:

☑ 51-75%

(5.11.7.6) % of tier 1 supplier-related scope 3 emissions covered by engagement

Select from:

☑ 51-75%

(5.11.7.9) Describe the engagement and explain the effect of your engagement on the selected environmental action

During 2024 Ecopetrol ran trainings around climate change and circular economy to suppliers, applied specific clauses in contracts and criteria in selection process that promotes the GHG data collection and the design and development of decarbonization plans by suppliers, documents that illustrate their emissions reduction initiatives and targets. Besides, according to innovation and collaboration type of engagement, Ecopetrol accompanied specific suppliers that started developing their own environmental product declaration, and dynamized circular economy initiatives based on remanufacture and reparation principles. From the 739 prioritized suppliers for climate change, 270 were engaged with the described actions, that represented the 67% of prioritized suppliers spend. However, in those actions a total of 426 suppliers participated, that represented the 65% of total spend.

(5.11.7.10) Engagement is helping your tier 1 suppliers meet an environmental requirement related to this environmental issue

Select from:

☑ Yes, please specify the environmental requirement :GHG emission reduction

(5.11.7.11) Engagement is helping your tier 1 suppliers engage with their own suppliers on the selected action

Select from:

☑ Yes

Water

(5.11.7.2) Action driven by supplier engagement

Select from:

☑ Other, please specify :Water footprint calculation

(5.11.7.3) Type and details of engagement

Capacity building

☑ Provide training, support and best practices on how to mitigate environmental impact

Information collection

☑ Collect water quantity information at least annually from suppliers (e.g., withdrawal and discharge volumes)

(5.11.7.4) Upstream value chain coverage

Select all that apply

☑ Tier 1 suppliers

(5.11.7.5) % of tier 1 suppliers by procurement spend covered by engagement

Select from:

☑ 26-50%

(5.11.7.7) % tier 1 suppliers with substantive impacts and/or dependencies related to this environmental issue covered by engagement

Select from:

☑ 26-50%

(5.11.7.9) Describe the engagement and explain the effect of your engagement on the selected environmental action

During 2024 Ecopetrol ran trainings around circular economy to suppliers, applied specific clauses in contracts that promotes the calculation of water footprint, and integrated suppliers' specific data on Ecopetrol's indirect water footprint. Besides, Ecopetrol dynamized circular economy initiatives based on remanufacture and reparation principles. From the 120 prioritized suppliers for water, 34 were engaged with the described actions, that represented the 52% of prioritized suppliers spend. However, in those actions a total of 140 suppliers participated, that represented the 33% of total spend.

(5.11.7.10) Engagement is helping your tier 1 suppliers meet an environmental requirement related to this environmental issue

Select from:

☑ Yes, please specify the environmental requirement :Collect water quantity information at least annually from suppliers (e.g., withdrawal and discharge volumes) and Provide training, support and best practices on how to mitigate environmental impact

(5.11.7.11) Engagement is helping your tier 1 suppliers engage with their own suppliers on the selected action

Select from:

☑ Unknown

Plastics

(5.11.7.2) Action driven by supplier engagement

Select from:

☑ Circular economy

(5.11.7.3) Type and details of engagement

Capacity building

☑ Provide training, support and best practices on how to mitigate environmental impact

(5.11.7.4) Upstream value chain coverage

Select all that apply

☑ Tier 1 suppliers

(5.11.7.5) % of tier 1 suppliers by procurement spend covered by engagement

Select from:

☑ 26-50%

(5.11.7.9) Describe the engagement and explain the effect of your engagement on the selected environmental action

During 2024 Ecopetrol ran trainings around circular economy to suppliers. Besides, Ecopetrol dynamized circular economy initiatives based on remanufacture and reparation principles.

(5.11.7.11) Engagement is helping your tier 1 suppliers engage with their own suppliers on the selected action

Select from:

☑ Unknown

[Add row]

(5.11.9) Provide details of any environmental engagement activity with other stakeholders in the value chain.

Climate change

(5.11.9.1) Type of stakeholder

Select from:

☑ Customers

(5.11.9.2) Type and details of engagement

Education/Information sharing

☑ Educate and work with stakeholders on understanding and measuring exposure to environmental risks

☑ Share information about your products and relevant certification schemes

☑ Share information on environmental initiatives, progress and achievements

Innovation and collaboration

☑ Collaborate with stakeholders on innovations to reduce environmental impacts in products and services

(5.11.9.3) % of stakeholder type engaged

Select from:

☑ 51-75%

(5.11.9.4) % stakeholder-associated scope 3 emissions

Select from:

☑ 1-25%

(5.11.9.5) Rationale for engaging these stakeholders and scope of engagement

In line with Ecopetrol's decarbonization strategy and the medium- and long-term goals already established, joint work with partners is being actively promoted to strengthen how indirect emissions (Scope 3) are addressed. This commitment is materialized through initiatives that promote transparency, collaborative innovation, and the exchange of best practices. Additionally, measurement and reporting tools are being implemented to identify opportunities for improvement, as well as training mechanisms to raise awareness among partners about their role in the transition to a low-carbon economy. All of this is part of a comprehensive vision that articulates sustainability, competitiveness, and climate responsibility: -Transparent recognition and management of carbon footprint: Aware that the first step toward decarbonization is recognizing the impact we generate, we have been working for several years to calculate the carbon footprint of our products as an integrated company. This work has enabled us to make progress in measuring and verifying—with the support of independent third parties—the carbon intensity of two crude oils and three refined products. -Marketing of co-processed fuels aligned with a circularity policy: We have formed strategic alliances with customers, suppliers, and government institutions to develop products with a lower impact. This has allowed us to create synergies that accelerate innovation processes and strengthen competitiveness in the market. It also positions the company as a key player in building a more resilient and lower-emission future. -Maritime transport with a smaller footprint: Our chartering and commercial operations team finalized the first contract for a VLCC (Very Large Crude Carrier) with a hybrid wind propulsion system, capable of reducing fuel consumption by between 5% and 8%. This vessel transported 2 million barrels of crude oil to India. -Joint carbon credit compensation strategies: We develop offsetting strategies together with our customers through the marketing of offset cargoes. These initiatives require the use of carbon credits from projects with high integrity standards, which supports our commitment to promoting the development of sustainable projects in Colombia. -Joint innovation with partners: We continue to develop advanced methodologies to assess carbon footprints and explore innovative solutions, leveraging data analysis tools and predictive models to drive sustainable decisions.

(5.11.9.6) Effect of engagement and measures of success

Marketing of co-processed fuels: Since 2024, the production and commercialization of 32kbls of Jet Coprocessed with 1% renewable material (SAF) has been ensured, including agreements with airlines such as LATAM and distribution at three national airports. The production of 260kbls of Diesel Coprocessed with 2% renewable material (HVO) was carried out Marketing of Asphalt with Recycled Plastic: In 2024, Ecopetrol supplied asphalt made from recycled plastic for projects in Bogotá, Medellín, Bucaramanga, and Meta. A total of 23 projects has been carried out, using 1,300 tons of modified asphalt, which in turn incorporated more than 8 million plastic bags. Portfolio emissions offsetting: In 2024, Ecopetrol successfully continued to offset the carbon emissions generated during the production of premium gasoline for the domestic market. With the support of our customers, emissions from more than 1 million barrels of gasoline were offset, representing approximately 143,000 tons of CO_2e. Additionally, approximately 33 Kton of carbon-offset asphalt was sold, equivalent to 10.1 Kton of CO_2e. These offsets were obtained from nature-based projects in Colombia, thereby contributing to the development and well-being of local communities. We commercialized nearly 33 Kton of carbon-compensated asphalt, equivalent to 10,1Kton of CO_2e. These offsets were sourced from Colombian projects of nature-based climate solution, further contributing to the development and well-being of local community

Water

(5.11.9.1) Type of stakeholder

Select from:

☑ Other value chain stakeholder, please specify :Partners

(5.11.9.2) Type and details of engagement

Education/Information sharing

☑ Educate and work with stakeholders on understanding and measuring exposure to environmental risks

☑ Run an engagement campaign to educate stakeholders about the environmental impacts about your products, goods and/or services

☑ Share information on environmental initiatives, progress and achievements

Innovation and collaboration

☑ Align your organization's goals to support customers' targets and ambitions

☑ Collaborate with stakeholders on innovations to reduce environmental impacts in products and services

☑ Incentivize collaborative sustainable water management in river basins

☑ Run a campaign to encourage innovation to reduce environmental impacts

(5.11.9.3) % of stakeholder type engaged

Select from:

☑ 51-75%

(5.11.9.5) Rationale for engaging these stakeholders and scope of engagement

Over the years, we have collaborated closely with our partners on critical issues related to sustainable water management, recognizing that meaningful progress in this area can only be achieved through shared knowledge and collective action. This ongoing collaboration has enabled us to harness diverse perspectives and implement innovative solutions, significantly strengthening water management practices across our operational footprint. In 2024, reaffirming this commitment, we hosted a dedicated forum on water management and the journey toward water neutrality. The event fostered stronger alignment with our partners and served as a platform to exchange experiences, showcase advancements in water efficiency, and highlight efforts in reducing water footprints, as well as recycling and reuse initiatives. Our engagement with partners continues to emphasize regulatory compliance, knowledge transfer, and the application of rigorous standards and quality

parameters in water management. This collaborative approach is fundamental to safeguarding water resources and to driving the development of integrated, future-ready solutions to the evolving challenges of water sustainability.

(5.11.9.6) Effect of engagement and measures of success

Some of our partners have implemented water reuse and recycling initiatives, reflecting their commitment to sustainable water management and serving as a way to measure the success of our joint engagement. Additionally, we have worked with them to estimate their water footprint and promote the exchange of best practices. These collaborative efforts have fostered greater awareness and encouraged the adoption of proactive measures among our partners to minimize water use and reduce waste. Through quarterly monitoring of essential metrics—including intake, discharge, reuse, and recycling—using standardized sustainability formats, we are able to consistently track progress and evaluate achievement against established goals. Some of our Partners have implemented initiatives focused on water reuse, including the reuse of produced water, rainwater harvesting, and the delivery of water for reuse in communities or for social purposes. The successful completion of milestones tied to these initiatives serves as a tangible indicator of advancement, underscoring our commitment to sustainable water management and continuous improvement across joint operations.

Climate change

(5.11.9.1) Type of stakeholder

Select from:

☑ Customers

(5.11.9.2) Type and details of engagement

Education/Information sharing

☑ Educate and work with stakeholders on understanding and measuring exposure to environmental risks

☑ Run an engagement campaign to educate stakeholders about the environmental impacts about your products, goods and/or services

☑ Share information on environmental initiatives, progress and achievements

Innovation and collaboration

☑ Align your organization's goals to support customers' targets and ambitions

☑ Collaborate with stakeholders in creation and review of your climate transition plan

☑ Run a campaign to encourage innovation to reduce environmental impacts

(5.11.9.3) % of stakeholder type engaged

Select from:

☑ 76-99%

(5.11.9.4) % stakeholder-associated scope 3 emissions

Select from:

☑ 76-99%

(5.11.9.5) Rationale for engaging these stakeholders and scope of engagement

Since 2022, Ecopetrol has strengthened its engagement with partner companies with which it shares upstream assets in Colombia, under a strategy aligned with its decarbonization plan. This collaboration is focused on three main action lines: i) GHG emissions inventories, ii) GHG emissions reduction projects, and iii) methane emissions reporting and management. In 2023, technical meetings were held to promote a shared understanding of Colombia's methane regulations, particularly Resolutions 40066 (2022) and 40317 (2023). Ecopetrol also facilitated training sessions, supported emissions reduction project development, and promoted top-down methane measurement campaigns in coordination with partners. In 2024, this collaboration expanded with the launch of joint activities to implement the Integrated Climate Change Management Plan (PIGCCe, by its Spanish acronym), including actions related to mitigation and adaptation. Additional engagement included thematic workshops, participation in sustainability fairs, and technical follow-up on decarbonization initiatives developed by partners. In 2025, the partnership was further strengthened through a series of decarbonization workshops focused on reviewing emissions inventories, assessing progress on greenhouse gas (GHG) reduction initiatives, and facilitating dialogue around the practical implementation of the PIGCCe. Complementing these efforts, technical sessions were conducted to examine energy efficiency as a vital driver of emission reductions. One of the main advantages of working with Partners is the opportunity to develop joint projects focused on mitigating and reducing emissions. These include initiatives such as fuel substitution, shutdown of self-generators to connect to the national grid, solar farms, flaring reduction, cogeneration, and gas to power projects. These actions reflect a shared commitment to sustainability and the energy transition. Since 2023, selected assets operated jointly by the partners have participated in annual top-down measurement campaigns, promoting a more precise and cooperative approach to emissions management. In continuation, several of these assets were chosen for inclusion in the 2024 top-down and 2025 bottom-up measurement campaigns, forming part of a scientific study on methane emissions in Colombia led by Carleton University and the United Nations Environment Programme (UNEP).

(5.11.9.6) Effect of engagement and measures of success

Success in climate change efforts is assessed based on two key criteria: 1. the granularity and quality of greenhouse gas (GHG) emissions reporting, and 2. the progress achieved in implementing emission reduction initiatives. Ecopetrol is committed to ensuring the availability, accuracy, and completeness of its GHG emissions inventory. In line with this commitment, the company has submitted consecutive reports under the OGMP 2.0 framework: In 2023, the third report included 28 non-operated assets, with reporting levels at L2, L3, and L4. In 2024, the fourth report expanded coverage to 45 assets, spanning levels L1 through L5. In 2025, the fifth report featured 47 assets, with 44 reported at L3 and L4. This latest submission demonstrated marked progress in emissions coverage, data quality, and collaboration with partners, reinforcing Ecopetrol's commitment to transparency and climate action contributing to the achievement of the Gold Standard recognition at Ecopetrol.
[Add row]

C6. Environmental Performance - Consolidation Approach

(6.1) Provide details on your chosen consolidation approach for the calculation of environmental performance data.

Climate change

(6.1.1) Consolidation approach used

Select from:

☑ Operational control

(6.1.2) Provide the rationale for the choice of consolidation approach

Ecopetrol has chosen the operational control approach to consolidate GHG emissions reporting. According to GHG Protocol, a company exercises operational control over an operation if that company has full authority to introduce and implement its operational policies in the operation. This does not mean that the company has the authority to make all decisions relating to a joint venture, for example, making decisions on capital investments is not included in its authority. In this sense, Ecopetrol's GHG emissions include all facilities where it performs day-to-day operations and maintenance, and where it consequently has decision-making control over occupational health and safety issues, irrespective of whether Ecopetrol's ownership of the facility is majority or not. Therefore, the report includes the facilities of Ecopetrol and Cartagena Refinery, one of its subsidiaries (Ecopetrol production: 555,593 BOEPD; load to refineries: 414 KBPD). This consolidation approach is maintained for the reporting of all Environmental performance data, such as water and waste and. Ecopetrol has chosen this approach because: i) the company has easy access to the data needed to estimate emissions; and ii) the company has a greater degree of influence over both the monitoring of generated emissions and the implementation of GHG emissions reduction initiatives. However, Currently, GEE is in the process of implementing the International Financial Reporting Standards (IFRS) S1 (Sustainability disclosure) and IFRS S2 (Climate-related disclosure) for investors. In this process, the GEE has established that the consolidation approach will be updated to align with financial control, thereby integrating sustainability data with financial statements. It is expected that the first financial control report will be disclosed in 4Q 2025 with 2024 data.

Water

(6.1.1) Consolidation approach used

Select from:

☑ Operational control

(6.1.2) Provide the rationale for the choice of consolidation approach

The scope of water-related data disclosed in this report includes all facilities operated by Ecopetrol S.A. This includes Exploration and Production (E&P) assets in Colombia, and Barrancabermeja and Cartagena refineries.

Plastics

(6.1.1) Consolidation approach used

Select from:

☑ Operational control

(6.1.2) Provide the rationale for the choice of consolidation approach

The scope of plastic-related data disclosed in this report includes all facilities operated by Ecopetrol S.A: Plastic-production data includes only the Petrochemical plant of Barrancabermeja's refinery. Plastic-use data includes all Exploration and Production (E&P) assets in Colombia, and Barrancabermeja and Cartagena refineries (REFICAR).

Biodiversity

(6.1.1) Consolidation approach used

Select from:

☑ Operational control

(6.1.2) Provide the rationale for the choice of consolidation approach

The scope of biodiversity-related data disclosed in this report includes all facilities operated by Ecopetrol S.A. This includes Exploration and Production (E&P) assets in Colombia, and Barrancabermeja and Cartagena refineries.
[Fixed row]

C7. Environmental performance - Climate Change

(7.1) Is this your first year of reporting emissions data to CDP?

Select from:

☑ No

(7.1.1) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

	Has there been a structural change?
	Select all that apply ☑ No

[Fixed row]

(7.1.2) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

(7.1.2.1) Change(s) in methodology, boundary, and/or reporting year definition?

Select all that apply

☑ Yes, a change in methodology

(7.1.2.2) Details of methodology, boundary, and/or reporting year definition change(s)

In the reporting year, some emission factors were updated, which were brought back to the base year by recalculation. This did not generate a significant change in base year emissions. Additionally, in 2024, the GHG emissions inventory underwent a third-party verification process, which resulted in some minor changes in activity data for the verified period and base year. The verified period was 2021-2023 for scopes 1 and 2, and 2023 for scope 3.
[Fixed row]

(7.1.3) Have your organization's base year emissions and past years' emissions been recalculated as a result of any changes or errors reported in 7.1.1 and/or 7.1.2?

(7.1.3.1) Base year recalculation

Select from:

☑ Yes

(7.1.3.2) Scope(s) recalculated

Select all that apply

☑ Scope 1

☑ Scope 2, location-based

☑ Scope 2, market-based

☑ Scope 3

(7.1.3.3) Base year emissions recalculation policy, including significance threshold

Ecopetrol's recalculation policy is aligned with recommendations by both ISO 14064-1 and GHG Protocol. Base year emissions are recalculated every time the company undergoes major changes such as acquisitions, divestitures, and mergers, as well as significant changes in the emissions estimation methodology, or improvements in the accuracy of both emission factors and activity data. This recalculation process is developed for both the base year and the historical series, to maintain consistency in the reported data. Additionally, in 2024, the GHG emissions inventory underwent a third-party verification process, which resulted in some minor changes in activity data for the verified period and base year. The verified period was 2021-2023 for scopes 1 and 2, and 2023 for scope 3.

(7.1.3.4) Past years' recalculation

Select from:

☑ Yes
[Fixed row]

(7.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

Select all that apply

☑ ISO 14064-1

☑ The Greenhouse Gas Protocol: Scope 2 Guidance

☑ The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard

☑ 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories

☑ IPIECA's Petroleum Industry Guidelines for reporting GHG emissions, 2nd edition, 2011

☑ The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

☑ American Petroleum Institute Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry, 2009

☑ Other, please specify :- American Petroleum Institute Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry, 2021 - The GHG Protocol: Technical Guidance for Calculating Scope 3 Emissions

(7.3) Describe your organization's approach to reporting Scope 2 emissions.

(7.3.1) Scope 2, location-based

Select from:

☑ We are reporting a Scope 2, location-based figure

(7.3.2) Scope 2, market-based

Select from:

☑ We are reporting a Scope 2, market-based figure

(7.3.3) Comment

Ecopetrol reports Scope 2 emissions using the market-based method, which includes: i) emissions generated by energy purchased from the National Interconnected System (SIN, for its Spanish acronym); and ii) emissions generated by local generation centers (the emission factors are estimated with the generated energy and fuel consumption). Although Ecopetrol also calculates Scope 2 emissions by the location-based method, which is estimated using only the SIN emission factor for all purchased energy, it was decided to report emissions using the market-based method, due to the behavior of the Colombian energy basket, which is mostly composed of hydraulic energy, and therefore generates less emissions than local suppliers; thus, the market-based method is the one that offers a higher result and better describes the operational reality. It should be emphasized that the electricity purchased from local suppliers is favored by causes such as the location of facilities in areas with a deficiency of national electrification, the low reliability of the system or in some cases the use of gas within the decarbonization plan framework.
[Fixed row]

(7.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?

Select from:
☑ Yes

(7.4.1) Provide details of the sources of Scope 1, Scope 2, or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure.

Row 1

(7.4.1.1) Source of excluded emissions

Administrative areas

(7.4.1.2) Scope(s) or Scope 3 category(ies)

Select all that apply
☑ Scope 1
☑ Scope 2 (market-based)

(7.4.1.3) Relevance of Scope 1 emissions from this source

Select from:

☑ Emissions are not relevant

(7.4.1.5) Relevance of market-based Scope 2 emissions from this source

Select from:

☑ Emissions are not relevant

(7.4.1.8) Estimated percentage of total Scope 1+2 emissions this excluded source represents

0

(7.4.1.10) Explain why this source is excluded

The contribution of Administrative Areas owned by Ecopetrol is not significant as compared to the total scope 1 and 2 inventory. These areas are not related to Ecopetrol's core business. For this reason, these are not included as part of scopes 1 and 2 emissions. However, these areas are included in scope 3, as part of category 8.

(7.4.1.11) Explain how you estimated the percentage of emissions this excluded source represents

Emissions of Administrative areas owned by Ecopetrol are estimated as part of scope 3 category 8, based on energy consumption, which is the main emission source. The percentage of emissions is calculated by dividing those scope 3 category 8 emissions by total scopes 1 and 2 emissions

Row 2

(7.4.1.1) Source of excluded emissions

Emissions due to refrigerants and extinguishers

(7.4.1.2) Scope(s) or Scope 3 category(ies)

Select all that apply

☑ Scope 1

(7.4.1.3) Relevance of Scope 1 emissions from this source

Select from:

☑ Emissions are not relevant

(7.4.1.8) Estimated percentage of total Scope 1+2 emissions this excluded source represents

0

(7.4.1.10) Explain why this source is excluded

Ecopetrol excludes these emissions due to their low relevance comparing with total scope 1 and 2 GHG emissions. In 2021, an analysis of GHG emissions associated with the use of Ozone Depleting Substances was made, finding that the percentage equivalent to the emission of these products with respect to total scope 1 and 2 emissions was less than 0.03%. Further information on ODS inventory can be found on the 2024 Integrated Management Report page 304, table 8.22.

(7.4.1.11) Explain how you estimated the percentage of emissions this excluded source represents

To calculate ODS emissions, we consider the emission factors recommended by the Intergovernmental Panel on Climate Change (IPCC), distinguishing between a 1% EF for units with a charge of less than 5 lbs and a 17% EF for units with a charge greater than 5 lbs. The ODS substances used for the calculation include CFC-12 and HCFC-22. Notably, substitute substances for ODS, employed in refrigeration and fire suppression systems, are excluded from the calculation due to their zero-ozone depletion potential. The calculation was done by dividing the ODS emissions by Ecopetrol's scope 1 and 2 emissions.

Row 3

(7.4.1.1) Source of excluded emissions

Non-routinary or emergency activities, such as pipeline pigging operations, and well testing

(7.4.1.2) Scope(s) or Scope 3 category(ies)

Select all that apply

☑ Scope 1

☑ Scope 2 (location-based)

☑ Scope 2 (market-based)

(7.4.1.3) Relevance of Scope 1 emissions from this source

Select from:

☑ Emissions are not relevant

(7.4.1.4) Relevance of location-based Scope 2 emissions from this source

Select from:

☑ Emissions are not relevant

(7.4.1.5) Relevance of market-based Scope 2 emissions from this source

Select from:

☑ Emissions are not relevant

(7.4.1.8) Estimated percentage of total Scope 1+2 emissions this excluded source represents

0

(7.4.1.10) Explain why this source is excluded

Currently, the operational boundary for the inventory covers routinary operations in facilities under Ecopetrol's operational control.

(7.4.1.11) Explain how you estimated the percentage of emissions this excluded source represents

An initial estimation for well testing activities showed emissions are around 8000 tCO2e per year. The percentage is calculated based on Ecopetrol's current GHG emissions inventory.

Row 4

(7.4.1.1) Source of excluded emissions

Polymer and recycled plastic processing

(7.4.1.2) Scope(s) or Scope 3 category(ies)

Select all that apply

☑ Scope 3: Processing of sold products

(7.4.1.6) Relevance of Scope 3 emissions from this source

Select from:

☑ Emissions are not relevant

(7.4.1.9) Estimated percentage of total Scope 3 emissions this excluded source represents

0

(7.4.1.10) Explain why this source is excluded

In 2020, when Ecopetrol develop the first Scope 3 emissions calculation, these emissions were estimated as less than 400 tCO2e. Ecopetrol does not report those emissions in scope 3 because the contribution is not significant compared to the total scope 3 emissions.

(7.4.1.11) Explain how you estimated the percentage of emissions this excluded source represents

To have an estimate of the percentage of emissions that are being excluded, the first calculation (400 tCO2e) was used, divided by total scope 3 emissions

Row 5

(7.4.1.1) Source of excluded emissions

Oil pipeline transportation

(7.4.1.2) Scope(s) or Scope 3 category(ies)

Select all that apply

☑ Scope 3: Downstream transportation and distribution

(7.4.1.6) Relevance of Scope 3 emissions from this source

Select from:

☑ Emissions are not relevant

(7.4.1.9) Estimated percentage of total Scope 3 emissions this excluded source represents

0

(7.4.1.10) Explain why this source is excluded

Until 2021, Ecopetrol's operational control covered upstream, midstream, and downstream. For this reason, all the emissions were reported in Scope 1 and 2. Since 2021, midstream activities left Ecopetrol's operational control. There are four companies in midstream, and all of them develop GHG emissions inventories. Also, those companies are carbon neutral, using the criteria of the "Guide for the Verification and Certification of Carbon Neutrality" developed by Colombian Institute of Technical Standards and Certification (ICONTEC, for its Spanish acronym). Currently, Ecopetrol is analyzing the reporting requirements for sustainability issues under International Financial Reporting Standards (IFRS) S1 (Sustainability disclosure) and IFRS S2 (Climate-related disclosure) to determine whether the consolidation approach should be changed to align with financial reporting. In this case, midstream emissions would be reported in scopes 1 and 2.

(7.4.1.11) Explain how you estimated the percentage of emissions this excluded source represents

To have an estimate of the percentage of emissions that are being excluded, it is considered that the whole Scopes 1 and 2 emissions from all five companies in midstream are part of Ecopetrol's scope 3 category 9 emissions. The scopes 1 and 2 emissions were obtained from the Integrated Management Report from each company. These emissions were divided by total scope 3 emissions, for 2024.

Row 6

(7.4.1.1) Source of excluded emissions

Gas pipeline transportation

(7.4.1.2) Scope(s) or Scope 3 category(ies)

Select all that apply

☑ Scope 3: Downstream transportation and distribution

(7.4.1.6) Relevance of Scope 3 emissions from this source

Select from:

☑ Emissions are not relevant

(7.4.1.9) Estimated percentage of total Scope 3 emissions this excluded source represents

0

(7.4.1.10) Explain why this source is excluded

In 2020, when Ecopetrol develop the first calculation for Scope 3 emissions, these emissions were estimated as less than 7,000 tCO2e. Ecopetrol does not report those emissions in scope 3 because the contribution is not significant compared to the total scope 3 emissions.

(7.4.1.11) Explain how you estimated the percentage of emissions this excluded source represents

To have an estimate of the percentage of emissions that are being excluded, the first calculation (7,000 tCO2e) was used, divided by total scope 3 emissions.
[Add row]

(7.5) Provide your base year and base year emissions.

Scope 1

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

12985973

(7.5.3) Methodological details

Scope 1 (direct) GHG emissions include all activities under operational control. The reported GHG emissions include CO2, CH4 and N2O. Other GHGs are not included as they are not material to our operations. The global warming potentials used are from the Fifth Assessment Report (AR5). The main calculation methodologies are mass balance, direct measurement for methane emissions, and emission factors. Scope 1 emissions accounted for 95% of Ecopetrol's scopes 1 and 2 total emissions. For base year recalculation, the carbon intensity data of the year in which the acquired asset began its operation in Ecopetrol is taken and extrapolated to the base year using the asset's historical production reported in the National Hydrocarbons Agency.

Scope 2 (location-based)

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

377169

(7.5.3) Methodological details

Scope 2 (indirect) GHG emissions are those associated with the consumption of purchased electricity. Scope 2 follow-up and targets are based on market-based method because supplier-specific emission factors are used. However, data for both methodologies are presented in this report. Scope 2 emissions (location-based) were calculated using the national electrical grid emission factor for 2019, calculated by UPME.

Scope 2 (market-based)

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

656028

(7.5.3) Methodological details

Scope 2 (indirect) GHG emissions are those associated with the consumption of purchased electricity. Scope 2 emissions accounted for 5% of Ecopetrol's scopes 1 and 2 total emissions. For base year recalculation, the carbon intensity data of the year in which the acquired asset began its operation in Ecopetrol is taken and extrapolated to the base year using the asset's historical production reported in the National Hydrocarbons Agency. Once total emissions are calculated, scope 2 emissions are calculated using the average of Scope 2 proportion in the last 4 years of Ecopetrol's GHG emissions inventory. Ecopetrol uses market-based method because supplier-specific emission factors are used. It gives a higher value than the one obtained with location-based method because the national electrical grid has a high hydric component, so the emission factor for electricity provided by the national grid is relatively low compared to emission factors for electricity from other countries. It is important to notice that electrical energy purchase from local suppliers is favored by issues such as facilities located in areas with deficiencies in national electrification and low reliability of the national system, which forces the company to acquire electricity from local suppliers. These suppliers have higher emissions factors than the ones for the national electrical grid.

Scope 3 category 1: Purchased goods and services

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

7608166

(7.5.3) Methodological details

Category 1 is Ecopetrol's second most significant emissions contributor, accounting for 5.3% of total scope 3 emissions. Ecopetrol groups all purchases of goods and services (C1) and capital goods (C2) into a single quantification in C1; it also covers all contracts related to oil and fuels purchases. Emissions for purchased goods and services were estimated using 4 methods: i) Supplier specific, used for some suppliers classified as relevant by the supply area; ii) Data-average, used for oil and fuels suppliers, using DEFRA emissions factors; iii) Spend-based, used breaking down Ecopetrol's spend data allocated to the most appropriate product group category available within the Supply Chain GHG Emission Factors Based on USEEIO by EPA; iv) Hybrid, used when a relevant supplier had an inventory of GHG emissions but the purchased good or service did not account for a relevant volume or mass. In this case, carbon intensity revenue-based was used.

Scope 3 category 2: Capital goods

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

0.0

(7.5.3) Methodological details

Ecopetrol groups all purchases of goods and services (category 1) and capital goods (category 2) into a single quantification under category 1. In 2024, Ecopetrol began an internal analysis to understand what should be done to separate the emissions from categories 1 and 2, which currently are reported as a single quantification under category 1. The analysis concluded that it would require great technical and technological efforts to separate them, without generating added value to the supply area in its process. Additionally, from a decarbonization perspective, ISO 14064-1 groups categories 1 and 2 (from GHG Protocol) under category 4 "Indirect GHG emissions caused by products used by the organization", which aggregates emissions from goods, services and capital goods under a "cradle-to-gate" approach.

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

30769

(7.5.3) Methodological details

Category 3 emissions accounted for 0.02% of Ecopetrol's total scope 3 emissions in 2019. In this category "Transmission and distribution TD" losses and surplus energy sales are included. Emissions for TD losses are calculated using the national electric grid emission factor and the percentage of losses which are updated annually emissions for surplus energy sales are calculated using supplier specific emission factor.

Scope 3 category 4: Upstream transportation and distribution

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

232381

(7.5.3) Methodological details

Category 4 emissions accounted for 0.16% of Ecopetrol's total scope 3 emissions in 2019. Ecopetrol divided this category into three 3 subcategories: river, marine, and land transportation. Both river and land transportation occur locally in Colombia, thus the fuel used in these activities corresponds to fuel sold by Ecopetrol. For this reason, these two subcategories are already included in category 11- use of sold product. For marine transportation, it is considered that the fuel is not produced by Ecopetrol nor in Colombia. The reported value corresponds to the whole category divided as follows: 5.928 tCO2e refer to subcategories accounted for in category 11 and 226.453 tCO2e refer to the one subcategory which is not accounted for in category 11 that is marine transportation. Most of these activities are calculated with distance-based method.

Scope 3 category 5: Waste generated in operations

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

31318

(7.5.3) Methodological details

Category 5 emissions accounted for 00.2% of Ecopetrol's total scope 3 emissions. In 2019, Ecopetrol divided this category into four subcategories: waste sent to incineration, landfill, composting, and scrap sold to a third-party that produces steel. The first three subcategories are calculated using waste-type-specific method the last one is calculated using supplier-specific information.

Scope 3 category 6: Business travel

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

4945

(7.5.3) Methodological details

Category 6 emissions accounted for 0.003% of Ecopetrol's total scope 3 emissions in 2019. This category refers to air transportation and hotel nights related to business travel. Since all travel activities begin in Colombia the fuel used in these activities corresponds to fuel sold by Ecopetrol. For this reason, this category is already included in category 11 use of sold product. The reported value corresponds to the whole category divided as follows: 4.569 tCO2e refer to the activity already accounted for in category 11, and 375 tCO2e refer to the emissions related to hotel nights. Air travel emissions are calculated with distance-based methodology following the International Civil Aviation Organization (ICAO) recommendation, which establishes the average emission per passenger according to the route type of aircraft, and cabin on each journey. Hotel nights are calculated using average-data methodology with DEFRA emission factors.

Scope 3 category 7: Employee commuting

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

17729

(7.5.3) Methodological details

Category 7 emissions accounted for 0.01% of Ecopetrol's total scope 3 emissions in 2019. This category refers to both air and ground commuting. Since all activities occur in national territory, the fuel used in these activities corresponds to fuel sold by Ecopetrol. For this reason, this category is already accounted for in category 11 (use of sold product). Some activities are calculated with distance-based method and others with fuel-based method using national fuel emissions factors.

Scope 3 category 8: Upstream leased assets

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

1860

(7.5.3) Methodological details

Category 8 includes emissions associated with non-industrial leased assets, and Ecopetrol's non-industrial own assets including administrative areas. Both subcategories are calculated using the national electrical grid emission factor and the energy consumption in each non-industrial asset. If this information is not available, then spend-based emission factors are used.

Scope 3 category 9: Downstream transportation and distribution

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

1214033.0

(7.5.3) Methodological details

Category 9 emissions accounted for 0.84% of Ecopetrol's total scope 3 emissions in 2019. Ecopetrol divided this category into two (2) subcategories: river, and marine transportation. River transportation occurs locally (in Colombia), thus, the fuel used in these activities corresponds to fuel sold by Ecopetrol. For this reason, this subcategory is already accounted for in category 11 (used of sold product). Regarding marine transportation, most of the exports begin in Colombia. Only one product is sometimes exported from Ecuador. If the marine transport begins in Colombia, the fuel used in these activities corresponds to fuel sold by Ecopetrol, thus this subcategory is already accounted for in category 11 (used of sold product). If the marine transport starts from Ecuador, the fuel used in the activity would not correspond to fuel sold by Ecopetrol, thus, this part of the subcategory would not be already accounted for in category 11 (used of sold product). The reported value corresponds to the whole category, divided as follows: 1,211,602 tCO2e refer to the activities already accounted for in category 11, and 2,431 tCO2e refer to the emissions related to exports from Ecuador. This category is calculated with distance-based method considering the transported load.

Scope 3 category 10: Processing of sold products

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

5869626

(7.5.3) Methodological details

Category 10 emissions accounted for 4.08% of Ecopetrol's total scope 3 emissions in 2019. This category includes the processing of intermediate products that are sold by Ecopetrol such as crude oil. For processing crude oil, average-data method was used. The secondary data used was the carbon intensity of an average refining process. This category is accounted for in category 11 (use of sold products), following GHG Protocol recommendations, where direct use-phase emissions of the product are included considering all crude oil is burned.

Scope 3 category 11: Use of sold products

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

134123150

(7.5.3) Methodological details

Category 11 accounted for 93.3% of Ecopetrol's total scope 3 emissions in 2019. The minimum limit, recommended by the GHG Protocol and adopted by Ecopetrol, corresponds to direct end-use of both products (such as liquid fuels and petrochemicals) and intermediate products (such as crude oil). The methodology uses net volume in commercial operations (where Ecopetrol has the largest total amount of potential sold products). To estimate emissions from fuels based on the final products, the quantities of fuels were multiplied by national combustion emission factor for each type of fuel. Emission factors for CO2, CH4, and N2O were used. National statistics were used to determine the percentage of fuel burned from stationary and mobile sources and the most representative source was used. Finally, for non-energy final product such as lubricants and paraffins, CO2 emissions were estimated using the IPCC default oxidation fraction.

Scope 3 category 12: End of life treatment of sold products

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

37218

(7.5.3) Methodological details

Category 12 emissions accounted for 0.03% of Ecopetrol's total scope 3 emissions in 2019. It includes the emissions associated with end-of-life treatment of lubricants and paraffins. It is assumed that both products are incinerated, so the waste-type-specific method is used.

Scope 3 category 13: Downstream leased assets

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

126

(7.5.3) Methodological details

Category 13 refers to assets leased to others. Emissions are calculated using either the national electrical grid emission factor and the energy consumption in each non-industrial asset, or with spend-based method and the Supply Chain GHG Emission Factors Based on USEEIO by the United States Environmental Protection Agency (EPA), recommended by IPIECA.

Scope 3 category 14: Franchises

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

0.0

(7.5.3) Methodological details

This category is not calculated because Ecopetrol does not have any franchises.

Scope 3 category 15: Investments

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

1655760

(7.5.3) Methodological details

Category 15 emissions accounted for 1.15% of Ecopetrol's total scope 3 emissions in 2019. This category is the company's third most significant emissions contributor, and it includes non-operated assets considering equity share. This category is calculated with the average data method considering the operator's upstream carbon intensity if information is publicly available. If not, then Ecopetrol's average upstream carbon intensity is used.

Scope 3: Other (upstream)

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

0.0

(7.5.3) Methodological details

No other upstream category is considered because all indirect Ecopetrol activities are considered in the above categories.

Scope 3: Other (downstream)

(7.5.1) Base year end

12/31/2019

(7.5.2) Base year emissions (metric tons CO2e)

0.0

(7.5.3) Methodological details

No other downstream category is considered because all indirect Ecopetrol activities are considered in the above categories.
[Fixed row]

(7.6) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

	Gross global Scope 1 emissions (metric tons CO2e)	End date	Methodological details
Reporting year	*11817213*	*Date input [must be between [11/19/2015 - 11/19/2024]*	*Scope 1 emissions accounted for 93% of Ecopetrol's scopes 1 and 2 total emissions.*
Past year 1	*11868593*	*12/31/2023*	*Scope 1 emissions accounted for 94% of Ecopetrol's scopes 1 and 2 total emissions.*
Past year 2	*11960859*	*12/31/2022*	*Scope 1 emissions accounted for 96% of Ecopetrol's scopes 1 and 2 total emissions.*
Past year 3	*11872054*	*12/31/2021*	*Scope 1 emissions accounted for 95% of Ecopetrol's scopes 1 and 2 total emissions.*

[Fixed row]

(7.7) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

(7.7.1) Gross global Scope 2, location-based emissions (metric tons CO2e)

704342

(7.7.2) Gross global Scope 2, market-based emissions (metric tons CO2e)

859892

(7.7.4) Methodological details

Considering scope 2 market-based emissions, Scope 2 emissions accounted for 7% of Ecopetrol's scopes 1 and 2 total emissions.

Past year 1

(7.7.1) Gross global Scope 2, location-based emissions (metric tons CO2e)

534308

(7.7.2) Gross global Scope 2, market-based emissions (metric tons CO2e)

740490

(7.7.3) End date

12/31/2023

(7.7.4) Methodological details

Considering scope 2 market-based emissions, Scope 2 emissions accounted for 6% of Ecopetrol's scopes 1 and 2 total emissions.

Past year 2

(7.7.1) Gross global Scope 2, location-based emissions (metric tons CO2e)

304580

(7.7.2) Gross global Scope 2, market-based emissions (metric tons CO2e)

499052

(7.7.3) End date

12/31/2022

(7.7.4) Methodological details

Considering scope 2 market-based emissions, Scope 2 emissions accounted for 4% of Ecopetrol's scopes 1 and 2 total emissions.

Past year 3

(7.7.1) Gross global Scope 2, location-based emissions (metric tons CO2e)

299879

(7.7.2) Gross global Scope 2, market-based emissions (metric tons CO2e)

583022

(7.7.3) End date

12/31/2021

(7.7.4) Methodological details

Considering scope 2 market-based emissions, Scope 2 emissions accounted for 5% of Ecopetrol's scopes 1 and 2 total emissions.
[Fixed row]

(7.8) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

(7.8.1) Evaluation status

Select from:

☑ Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

7984322

(7.8.3) Emissions calculation methodology

Select all that apply

☑ Supplier-specific method

☑ Hybrid method

☑ Average data method

☑ Spend-based method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

19

(7.8.5) Please explain

In 2024, Categories 1&2 accounted for 5.3% of Ecopetrol's total scope 3 emissions. These categories are the company's second most significant emissions contributor. It is also relevant because Ecopetrol has identified that there are potential emissions reductions that could be undertaken or influenced by Ecopetrol, especially in the supply chain. Reported data for the percentage of emissions calculated using data obtained from suppliers or value chain partners include supplier engagement through both supply chain and sales

Capital goods

(7.8.1) Evaluation status

Select from:

☑ Not relevant, explanation provided

(7.8.5) Please explain

Ecopetrol groups all purchases of goods and services (category 1) and capital goods (category 2) into a single quantification under category 1. In 2024, Ecopetrol began an internal analysis to understand what should be done to separate the emissions from categories 1 and 2, which currently are reported as a single quantification under category 1. The analysis concluded that it would require great technical and technological efforts to separate them, without generating added value to the supply area in its process. Additionally, from a decarbonization perspective, ISO 14064-1 groups categories 1 and 2 (from GHG Protocol) under category 4 "Indirect GHG emissions caused by products used by the organization", which aggregates emissions from goods, services and capital goods under a "cradle-to-gate" approach.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

(7.8.1) Evaluation status

Select from:

☑ Not relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

81904

(7.8.3) Emissions calculation methodology

Select all that apply

☑ Supplier-specific method

☑ Average data method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

50

(7.8.5) Please explain

In this category Transmission and distribution (T&D) losses, and surplus energy sales are included. Emissions for T&D losses are calculated using the national electric grid emission factor, which is updated annually; emissions for surplus energy sales are calculated using supplier-specific emission factor. This category is considered as not relevant because of its low contribution to the total scope 3 inventory.

Upstream transportation and distribution

(7.8.1) Evaluation status

Select from:

☑ Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

233449

(7.8.3) Emissions calculation methodology

Select all that apply

☑ Average data method

☑ Fuel-based method

☑ Distance-based method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

2

(7.8.5) Please explain

Ecopetrol divided this category into three (3) subcategories: river, marine, and land transportation. Both river and land transportation occur locally, in Colombia, thus, the fuel used in these activities corresponds to fuel sold by Ecopetrol. For this reason, these two (2) subcategories are already accounted for in category 11 (use of sold product). The reported value corresponds to the whole category, divided as follows: 174,622 tCO2e refers to the activities that are not double counted, and 58,828 refers to the activities already accounted for in Category 11. Most of these activities are calculated with distance-based method, for which the value chain partner is contacted for the information. This category is considered relevant because Ecopetrol has identified that there are potential emissions reductions that could be undertaken or influenced by Ecopetrol. Since 2022, through supplier engagement, Ecopetrol has started obtaining fuel volume used in each transport activity and is working on completing the historical series data so that emissions could be compared. For one road transport contract, fuel consumption information provided directly from the supplier is available for the whole historical series (2019-2024), and emissions were calculated using national fuel emission factors.

Waste generated in operations

(7.8.1) Evaluation status

Select from:

☑ Not relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

22121

(7.8.3) Emissions calculation methodology

Select all that apply

☑ Supplier-specific method

☑ Waste-type-specific method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

37

(7.8.5) Please explain

Ecopetrol divided this category into four subcategories: waste sent to incineration, landfill, and composting, and scrap sold to a third-party. The first three subcategories are calculated using waste-type-specific method. The information source is E-Mars, an Ecopetrol internal analytical tool for waste management. The last category is calculated using information directly from the third party. This category is considered not relevant because of its low contribution to the total scope 3 inventory.

Business travel

(7.8.1) Evaluation status

Select from:

☑ Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

2684

(7.8.3) Emissions calculation methodology

Select all that apply

☑ Average data method

☑ Distance-based method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

Ecopetrol divides this category in two subcategories: air transportation, and nights spent at hotels. Nights in hotels emissions are calculated using average data method. Air transportation emissions are calculated with distance-based method. Since all travel activities begin in Colombia, the fuel used in these activities corresponds to fuel sold by Ecopetrol. For this reason, the first subcategory is already accounted for in category 11 (use of sold product). This subcategory is calculated following the International Civil Aviation Organization (ICAO) recommendation which establishes the average emission per passenger according to the route, type of aircraft and cabin on each journey. Hotel nights are calculated using average-data methodology with DEFRA emission factors. The reported value corresponds to the whole category, divided as follows: 2,460 tCO2e refer to the activity already accounted for in category 11, and 225 tCO2e refer to the emissions related to hotel nights. This category is considered relevant because Ecopetrol has identified that there are potential emissions reductions that could be undertaken or influenced by Ecopetrol, and currently mitigation and offsetting initiatives are being implemented. Although suppliers from this category are contacted through the engagement on C5 Business Strategy, they do not make the calculation with fuel use because of ICAO's recommendation.

Employee commuting

(7.8.1) Evaluation status

Select from:

☑ Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

11824

(7.8.3) Emissions calculation methodology

Select all that apply

☑ Fuel-based method

☑ Distance-based method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

93

(7.8.5) Please explain

This category refers to both air and land commuting. Since all activities occur in national territory, the fuel used in these activities corresponds to fuel sold by Ecopetrol. For this reason, this category is already accounted for in category 11 (use of sold product). Some activities are calculated with distance-based method and others using national fuel emissions factors. For both activities, the value chain partner is contacted to obtain information about distance and fuel consumption. This

category is considered relevant because Ecopetrol has identified that there are potential emissions reductions that could be undertaken or influenced by Ecopetrol. This activity is calculated with national fuel emissions factors.

Upstream leased assets

(7.8.1) Evaluation status

Select from:

☑ Not relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

930

(7.8.3) Emissions calculation methodology

Select all that apply

☑ Average data method

☑ Spend-based method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

Category 8 includes emissions associated with non-industrial leased assets, and Ecopetrol's non-industrial own assets. Both subcategories are calculated using the national electrical grid emission factor and the energy consumption in each non-industrial asset, or with spend-based methodology using the annual rental fee. This category is considered as not relevant because of its low contribution to the total scope 3 inventory.

Downstream transportation and distribution

(7.8.1) Evaluation status

Select from:

☑ Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

700486

(7.8.3) Emissions calculation methodology

Select all that apply

☑ Fuel-based method

☑ Distance-based method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

Ecopetrol divided this category into two (2) subcategories: river, and marine transportation. River transportation occurs locally (in Colombia), thus, the fuel used in these activities corresponds to fuel sold by Ecopetrol. For this reason, this subcategory is already accounted for in category 11 (used of sold product). Regarding marine transportation, exports begin in Colombia, so the fuel used in these activities corresponds to fuel sold by Ecopetrol, thus this subcategory is already accounted for in category 11 (used of sold product). The reported value corresponds to the whole category. This category is calculated with distance-based method considering the transported load. Since 2022, through supplier engagement, Ecopetrol has started obtaining fuel volume for the river transportation and currently is working on completing the historical series data so that emissions could be compared. This category is considered relevant because Ecopetrol has identified that there are potential emissions reductions that could be undertaken or influenced by Ecopetrol.

Processing of sold products

(7.8.1) Evaluation status

Select from:

☑ Not relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

5701528

(7.8.3) Emissions calculation methodology

Select all that apply

☑ Average data method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

This category includes the processing of intermediate products that are sold by Ecopetrol such as crude oil. For processing crude oil Average-data method was used. The secondary data used was the carbon intensity of an average refining process. This category is already accounted for in category 11 (use of sold product). For this reason, it is considered not relevant.

Use of sold products

(7.8.1) Evaluation status

Select from:

☑ Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

142056821

(7.8.3) Emissions calculation methodology

Select all that apply

☑ Methodology for direct use phase emissions, please specify :Direct use-phase emissions are calculated considering fossil fuels combustion, using national fuels emission factors

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

Category 11 emissions accounted for 94% of Ecopetrol's total scope 3 emissions. For this reason, this is the most relevant category. Use of sold product emissions for Ecopetrol includes the direct end-use phase emissions of final products such as liquid fuels and natural gas. Also, this category includes end-use phase emissions of sold intermediate products such as crude oil. The methodology uses net volume in commercial operations where Ecopetrol has the largest total amount of potential sold products. To estimate emissions from fuels based on the final products, the quantities of fuels were multiplied by national combustion emission factor for each type of fuel. Emission factors for CO2, CH4 and N2O were used. National statistics were used to determine the percentage of fuel burned from stationary and mobile sources and the most representative source was used. Finally, for nonenergy product final such as lubricants and paraffins, CO2 emissions were estimated using the IPCC (Intergovernmental Panel on Climate Change) default oxidation fraction.

End of life treatment of sold products

(7.8.1) Evaluation status

Select from:

☑ Not relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

51594

(7.8.3) Emissions calculation methodology

Select all that apply

☑ Waste-type-specific method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

This category includes the emissions associated with end-of-life treatment of lubricants and paraffins. It is assumed that both products are incinerated, so the waste-type specific method is used. This category is considered not relevant because of its low contribution to the total scope 3 inventory.

Downstream leased assets

(7.8.1) Evaluation status

Select from:

☑ Not relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

243

(7.8.3) Emissions calculation methodology

Select all that apply

☑ Average data method

☑ Spend-based method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

This category refers to assets leased to others. Emissions are calculated using the national electrical grid emission factor and the energy consumption in each non-industrial asset, or with spend-based methodology using the annual rental fee. This category is considered as not relevant because of its low contribution to the total scope 3 inventory.

Franchises

(7.8.1) Evaluation status

Select from:

☑ Not relevant, explanation provided

(7.8.5) Please explain

This category is not calculated because Ecopetrol does not have any franchises.

Investments

(7.8.1) Evaluation status

Select from:

☑ Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

744476

(7.8.3) Emissions calculation methodology

Select all that apply

☑ Average data method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

(7.8.5) Please explain

This category is the company's third most significant emissions contributor. Also, Ecopetrol has identified that there are potential emissions reductions that could be undertaken or influenced by Ecopetrol. For these reasons, it is considered relevant. In this category assets with equity share are included. This category is calculated with the average data method considering the operator upstream carbon intensity if information is publicly available. If not, then Ecopetrol's average upstream carbon intensity is used. Since 2022, Ecopetrol has been strengthening its relationship with the companies with which it has upstream assets in partnership in Colombia, covering more than 70% of scope 3 category 15 emissions. For this purpose, Ecopetrol defined a work plan for each partner, aligned with Ecopetrol's decarbonization plan, which includes the following action lines: i) GHG emissions inventory for the whole historical series (2019-2023), ii) GHG emissions reduction, and iii) methane emissions reporting and reduction. Although value chain partners are contacted, Percentage of emissions calculated using data obtained from value chain partners is still zero because the whole historical series is not complete.

Other (upstream)

(7.8.1) Evaluation status

Select from:

☑ Not evaluated

(7.8.5) Please explain

No other upstream category is considered because all indirect Ecopetrol activities are considered in the above categories.

Other (downstream)

(7.8.1) Evaluation status

Select from:
☑ Not evaluated

(7.8.5) Please explain

No other downstream category is considered because all indirect Ecopetrol activities are considered in the above categories.
[Fixed row]

(7.8.1) Disclose or restate your Scope 3 emissions data for previous years.

Past year 1

(7.8.1.1) End date

12/31/2023

(7.8.1.2) Scope 3: Purchased goods and services (metric tons CO2e)

7878693

(7.8.1.3) Scope 3: Capital goods (metric tons CO2e)

0

(7.8.1.4) Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

73762

(7.8.1.5) Scope 3: Upstream transportation and distribution (metric tons CO2e)

253754

(7.8.1.6) Scope 3: Waste generated in operations (metric tons CO2e)

26570

(7.8.1.7) Scope 3: Business travel (metric tons CO2e)

3277

(7.8.1.8) Scope 3: Employee commuting (metric tons CO2e)

11597

(7.8.1.9) Scope 3: Upstream leased assets (metric tons CO2e)

818

(7.8.1.10) Scope 3: Downstream transportation and distribution (metric tons CO2e)

919640

(7.8.1.11) Scope 3: Processing of sold products (metric tons CO2e)

6013538

(7.8.1.12) Scope 3: Use of sold products (metric tons CO2e)

146055905

(7.8.1.13) Scope 3: End of life treatment of sold products (metric tons CO2e)

39692

(7.8.1.14) Scope 3: Downstream leased assets (metric tons CO2e)

242

(7.8.1.15) Scope 3: Franchises (metric tons CO2e)

0

(7.8.1.16) Scope 3: Investments (metric tons CO2e)

781533

(7.8.1.17) Scope 3: Other (upstream) (metric tons CO2e)

0

(7.8.1.18) Scope 3: Other (downstream) (metric tons CO2e)

0

(7.8.1.19) Comment

The main emissions sources are: Use of sold product, purchase of goods and services, and investments. As in previous questions, the figures for categories 4, 6, 7 and 9 include both the activities that are already included in category 11 (double-counted) and activities that are not included in category 11.

Past year 2

(7.8.1.1) End date

12/31/2022

(7.8.1.2) Scope 3: Purchased goods and services (metric tons CO2e)

8667008

(7.8.1.3) Scope 3: Capital goods (metric tons CO2e)

0

(7.8.1.4) Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

93749

(7.8.1.5) Scope 3: Upstream transportation and distribution (metric tons CO2e)

254295

(7.8.1.6) Scope 3: Waste generated in operations (metric tons CO2e)

175883

(7.8.1.7) Scope 3: Business travel (metric tons CO2e)

3740

(7.8.1.8) Scope 3: Employee commuting (metric tons CO2e)

11349

(7.8.1.9) Scope 3: Upstream leased assets (metric tons CO2e)

728

(7.8.1.10) Scope 3: Downstream transportation and distribution (metric tons CO2e)

911061

(7.8.1.11) Scope 3: Processing of sold products (metric tons CO2e)

5791370

(7.8.1.12) Scope 3: Use of sold products (metric tons CO2e)

140785917

(7.8.1.13) Scope 3: End of life treatment of sold products (metric tons CO2e)

37437

(7.8.1.14) Scope 3: Downstream leased assets (metric tons CO2e)

230

(7.8.1.15) Scope 3: Franchises (metric tons CO2e)

0

(7.8.1.16) Scope 3: Investments (metric tons CO2e)

904847

(7.8.1.17) Scope 3: Other (upstream) (metric tons CO2e)

0

(7.8.1.18) Scope 3: Other (downstream) (metric tons CO2e)

0

(7.8.1.19) Comment

The main emissions sources are: Use of sold product, purchase of goods and services, and investments. As in previous questions, the figures for categories 4, 6, 7 and 9 include both the activities that are already included in category 11 (double-counted) and activities that are not included in category 11.

Past year 3

(7.8.1.1) End date

12/31/2021

(7.8.1.2) Scope 3: Purchased goods and services (metric tons CO2e)

7703577

(7.8.1.3) Scope 3: Capital goods (metric tons CO2e)

0

(7.8.1.4) Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

71242

(7.8.1.5) Scope 3: Upstream transportation and distribution (metric tons CO2e)

223727

(7.8.1.6) Scope 3: Waste generated in operations (metric tons CO2e)

156138

(7.8.1.7) Scope 3: Business travel (metric tons CO2e)

1301

(7.8.1.8) Scope 3: Employee commuting (metric tons CO2e)

9021

(7.8.1.9) Scope 3: Upstream leased assets (metric tons CO2e)

791

(7.8.1.10) Scope 3: Downstream transportation and distribution (metric tons CO2e)

1130378

(7.8.1.11) Scope 3: Processing of sold products (metric tons CO2e)

5321484

(7.8.1.12) Scope 3: Use of sold products (metric tons CO2e)

131756864

(7.8.1.13) Scope 3: End of life treatment of sold products (metric tons CO2e)

29944

(7.8.1.14) Scope 3: Downstream leased assets (metric tons CO2e)

204

(7.8.1.15) Scope 3: Franchises (metric tons CO2e)

0

(7.8.1.16) Scope 3: Investments (metric tons CO2e)

969101

(7.8.1.17) Scope 3: Other (upstream) (metric tons CO2e)

0

(7.8.1.18) Scope 3: Other (downstream) (metric tons CO2e)

0

(7.8.1.19) Comment

The main emissions sources are: Use of sold product, purchase of goods and services, and investments. As in previous questions, the figures for categories 4, 6, 7 and 9 include both the activities that are already included in category 11 (double-counted) and activities that are not included in category 11.
[Fixed row]

(7.9) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	*Select from:* ☑ Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	*Select from:* ☑ Third-party verification or assurance process in place
Scope 3	*Select from:* ☑ Third-party verification or assurance process in place

[Fixed row]

(7.9.1) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Row 1

(7.9.1.1) Verification or assurance cycle in place

Select from:
☑ Annual process

(7.9.1.2) Status in the current reporting year

Select from:

☑ Complete

(7.9.1.3) Type of verification or assurance

Select from:

☑ Limited assurance

(7.9.1.4) Attach the statement

Letter of verification.pdf

(7.9.1.5) Page/section reference

Page document (392-393): Scope, Criteria, EY's responsibilities and International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information ('ISAE 3000 (Revised)'. Page document (394):DJSI 2.5.1 Scope 1. Available online: https://files.ecopetrol.com.co/web/esp/aga2025/IIG-Ecopetrol-2024_30042025.pdf

(7.9.1.6) Relevant standard

Select from:

☑ ISAE3000

(7.9.1.7) Proportion of reported emissions verified (%)

100

Row 2

(7.9.1.1) Verification or assurance cycle in place

Select from:

☑ Biennial process

(7.9.1.2) Status in the current reporting year

Select from:

☑ Underway but not complete for reporting year – previous statement of process attached

(7.9.1.3) Type of verification or assurance

Select from:

☑ Limited assurance

(7.9.1.4) Attach the statement

Statement+Ecopetrol+2023_ENG.pdf

(7.9.1.5) Page/section reference

Ecopetrol defined a biennial verification frequency with the ISO 14064-1 standard. In 2024, Ecopetrol verified the 2021-2023 information with an independent third party (SGS). The verification statement is attached. In 2026, Ecopetrol will perform a new verification.

(7.9.1.6) Relevant standard

Select from:

☑ ISO14064-3

(7.9.1.7) Proportion of reported emissions verified (%)

100
[Add row]

(7.9.2) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Row 1

(7.9.2.1) Scope 2 approach

Select from:

☑ Scope 2 market-based

(7.9.2.2) Verification or assurance cycle in place

Select from:

☑ Annual process

(7.9.2.3) Status in the current reporting year

Select from:

☑ Complete

(7.9.2.4) Type of verification or assurance

Select from:

☑ Limited assurance

(7.9.2.5) Attach the statement

Letter of verification.pdf

(7.9.2.6) Page/ section reference

Page document (392-393): Scope, Criteria, EY's responsibilities and International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information ('ISAE 3000 (Revised)'. Page document (394):DJSI 2.5.2 Scope 2. Available online: https://files.ecopetrol.com.co/web/esp/aga2025/IIG-Ecopetrol-2024_30042025.pdf

(7.9.2.7) Relevant standard

Select from:

☑ ISAE3000

(7.9.2.8) Proportion of reported emissions verified (%)

100

Row 2

(7.9.2.1) Scope 2 approach

Select from:

☑ Scope 2 market-based

(7.9.2.2) Verification or assurance cycle in place

Select from:

☑ Biennial process

(7.9.2.3) Status in the current reporting year

Select from:

☑ Underway but not complete for reporting year – previous statement of process attached

(7.9.2.4) Type of verification or assurance

Select from:

☑ Limited assurance

(7.9.2.5) Attach the statement

Statement+Ecopetrol+2023_ENG.pdf

(7.9.2.6) Page/ section reference

Document pages 1, 2 and 3. Ecopetrol defined a biennial verification frequency with the ISO 14064-1 standard. In 2024, Ecopetrol verified the 2021-2023 information with an independent third party (SGS). The verification statement is attached. In 2026, Ecopetrol will perform a new verification.

(7.9.2.7) Relevant standard

Select from:

☑ ISO14064-3

(7.9.2.8) Proportion of reported emissions verified (%)

100

[Add row]

(7.9.3) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Row 1

(7.9.3.1) Scope 3 category

Select all that apply

☑ Scope 3: Purchased goods and services

☑ Scope 3: Use of sold products

(7.9.3.2) Verification or assurance cycle in place

Select from:

☑ Annual process

(7.9.3.3) Status in the current reporting year

Select from:

☑ Complete

(7.9.3.4) Type of verification or assurance

Select from:

☑ Limited assurance

(7.9.3.5) Attach the statement

Letter of verification.pdf

(7.9.3.6) Page/section reference

Page document (392-393): Scope, Criteria, EY's responsibilities and International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information ('ISAE 3000 (Revised)'. Page document (395):DJSI 2.5.3 Scope 3. Available online: https://files.ecopetrol.com.co/web/esp/aga2025/IIG-Ecopetrol-2024_30042025.pdf

(7.9.3.7) Relevant standard

Select from:

☑ ISAE3000

(7.9.3.8) Proportion of reported emissions verified (%)

99

Row 3

(7.9.3.1) Scope 3 category

Select all that apply

☑ Scope 3: Investments

☑ Scope 3: Business travel

☑ Scope 3: Use of sold products

☑ Scope 3: Upstream leased assets

☑ Scope 3: Downstream leased assets

☑ Scope 3: Processing of sold products

☑ Scope 3: Purchased goods and services

(7.9.3.2) Verification or assurance cycle in place

Select from:

☑ Biennial process

(7.9.3.3) Status in the current reporting year

Select from:

☑ Underway but not complete for reporting year – previous statement of process attached

(7.9.3.4) Type of verification or assurance

Select from:

☑ Limited assurance

(7.9.3.5) Attach the statement

Statement+Ecopetrol+2023_ENG.pdf

(7.9.3.6) Page/section reference

Document page 1. Ecopetrol defined a biennial verification frequency with the ISO 14064-1 standard. In 2024, Ecopetrol verified the 2023 information with an independent third party (SGS). The verification statement is attached. In 2026, Ecopetrol will perform a new verification.

(7.9.3.7) Relevant standard

Select from:

☑ ISO14064-3

(7.9.3.8) Proportion of reported emissions verified (%)

99
[Add row]

(7.10) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Select from:

☑ Increased

(7.10.1) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

Change in renewable energy consumption

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☑ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

NA

Other emissions reduction activities

(7.10.1.1) Change in emissions (metric tons CO2e)

432466

(7.10.1.2) Direction of change in emissions

Select from:

☑ Decreased

(7.10.1.3) Emissions value (percentage)

3.4

(7.10.1.4) Please explain calculation

Ecopetrol has a climate change roadmap that has defined 5 programs for the reduction of greenhouse gas emissions (energy efficiency, fugitive emissions and venting, optimization of flaring, Source substitution, and renewable energies). The reported reductions were estimated using the immediately preceding year as the reference year. Energy efficiency projects, fugitive emissions and venting, and flaring optimization are scope 1 reductions. The percentage was calculated as the emissions change divided by 2023 scope 1 and 2 emissions.

Divestment

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☑ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

NA

Acquisitions

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☑ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

NA

Mergers

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☑ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

NA

Change in output

(7.10.1.1) Change in emissions (metric tons CO2e)

469388

(7.10.1.2) Direction of change in emissions

Select from:

☑ Increased

(7.10.1.3) Emissions value (percentage)

3.7

(7.10.1.4) Please explain calculation

The change in emissions with an increase of 469388 metric tons of CO2e are associated with: 1. Maintenance activities carried out in 2024 in some assets. 2. Increased energy requirements in growing assets in some production fields. The percentage was calculated as the emissions change divided by 2023 scope 1 and 2 emissions.

Change in methodology

(7.10.1.1) Change in emissions (metric tons CO2e)

119485

(7.10.1.2) Direction of change in emissions

Select from:

☑ Increased

(7.10.1.3) Emissions value (percentage)

0.9

(7.10.1.4) Please explain calculation

The emission factor from the national electrical grid increased 23% because of El Niño Southern Oscillation (ENSO) that affected the composition of the country's energy generation matrix, decreasing the hydraulic supply and increasing the thermal energy requirement. It increased from 0.173 in 2023 to 0.217 tCO2e/MWh in 2024. The percentage was calculated as the emissions change divided by 2023 scope 1 and 2 emissions.

Change in boundary

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☑ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

NA

Change in physical operating conditions

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☑ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

NA

Unidentified

(7.10.1.1) Change in emissions (metric tons CO2e)

156406

(7.10.1.2) Direction of change in emissions

Select from:

☑ Increased

(7.10.1.3) Emissions value (percentage)

1.2

(7.10.1.4) Please explain calculation

The overall change in Scope 1 and 2 emissions in 2024 compared to 2023, was also compared to the identified changes (change in production, change in methodology and other reduction activities) to determine the amount of unidentified change. The percentage was calculated as the emissions change divided by 2023 scope 1 and 2 emissions.

Other

(7.10.1.1) Change in emissions (metric tons CO2e)

0

(7.10.1.2) Direction of change in emissions

Select from:

☑ No change

(7.10.1.3) Emissions value (percentage)

0

(7.10.1.4) Please explain calculation

NA
[Fixed row]

(7.10.2) Are your emissions performance calculations in 7.10 and 7.10.1 based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Select from:
☑ Market-based

(7.12) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

Select from:
☑ Yes

(7.12.1) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.

(7.12.1.1) CO2 emissions from biogenic carbon (metric tons CO2)

821

(7.12.1.2) Comment

Direct biogenic CO2 (scope 1):821 tCO2. By national regulation, Colombia establishes the biofuel content of fuels marketed in the country (gasoline and diesel). In 2024, the biofuel content for diesel was set at around 10%. Indirect biogenic CO2 (scope 3): 316,315 tCO2. Scope 3 biogenic emissions occur from biofuels combustion. Diesel sold by Ecopetrol S.A. has a percentage of Biodiesel (Biofuel produced from Palm Oil), in line with Colombia's Law 939 of 2004. The blend

marketed by Ecopetrol from the Barrancabermeja Refinery is known as B2E Diesel (98% Fossil Diesel and 2% Biodiesel). Wholesale distributors mix B2E with Biodiesel, generating a B10 mixture (90% Fossil Diesel and 10% Biodiesel), which is the one consumed in the Colombian market. These emissions are calculated but are not relevant to the company.
[Fixed row]

(7.15) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Select from:
☑ Yes

(7.15.1) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used global warming potential (GWP).

Row 1

(7.15.1.1) Greenhouse gas

Select from:
☑ CO2

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

10423750

(7.15.1.3) GWP Reference

Select from:
☑ IPCC Fifth Assessment Report (AR5 – 100 year)

Row 2

(7.15.1.1) Greenhouse gas

Select from:

☑ CH4

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

1362222

(7.15.1.3) GWP Reference

Select from:
☑ IPCC Fifth Assessment Report (AR5 – 100 year)

Row 3

(7.15.1.1) Greenhouse gas

Select from:
☑ N2O

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

31242

(7.15.1.3) GWP Reference

Select from:
☑ IPCC Fifth Assessment Report (AR5 – 100 year)
[Add row]

(7.15.4) Break down your total gross global Scope 1 emissions from oil and gas value chain production activities by greenhouse gas type.

Row 1

ECP-INFORMACION PUBLICA

(7.15.4.1) Emissions category

Select from:

☑ Combustion (excluding flaring)

(7.15.4.2) Value chain

Select all that apply

☑ Upstream

☑ Downstream

(7.15.4.3) Product

Select from:

☑ Unable to disaggregate

(7.15.4.4) Gross Scope 1 CO2 emissions (metric tons CO2)

8253326

(7.15.4.5) Gross Scope 1 methane emissions (metric tons CH4)

935

(7.15.4.6) Total gross Scope 1 emissions (metric tons CO2e)

8308383

(7.15.4.7) Comment

The figures include both stationery and mobile combustion. Ecopetrol also quantifies N2O emissions, which is included in the total CO2e figures. For this reason, the addition of CO2 emissions and CH4 emissions, both evaluated in CO2e, has an insignificant difference (28890 tCO2e).

Row 2

(7.15.4.1) Emissions category

Select from:

☑ Flaring

(7.15.4.2) Value chain

Select all that apply

☑ Upstream

☑ Downstream

(7.15.4.3) Product

Select from:

☑ Unable to disaggregate

(7.15.4.4) Gross Scope 1 CO2 emissions (metric tons CO2)

855525

(7.15.4.5) Gross Scope 1 methane emissions (metric tons CH4)

1762

(7.15.4.6) Total gross Scope 1 emissions (metric tons CO2e)

906514

(7.15.4.7) Comment

Ecopetrol also quantifies N2O emissions, which is included in the total CO2e figures. For this reason, the addition of CO2 emissions and CH4 emissions, both evaluated in CO2e, has an insignificant difference (1657 tCO2e).

Row 3

(7.15.4.1) Emissions category

Select from:

☑ Venting

(7.15.4.2) Value chain

Select all that apply

☑ Upstream

☑ Downstream

(7.15.4.3) Product

Select from:

☑ Unable to disaggregate

(7.15.4.4) Gross Scope 1 CO2 emissions (metric tons CO2)

5496

(7.15.4.5) Gross Scope 1 methane emissions (metric tons CH4)

42335

(7.15.4.6) Total gross Scope 1 emissions (metric tons CO2e)

1190875

(7.15.4.7) Comment

This category includes emissions associated with venting from upstream tanks, wells and compressors. Previously, venting and process emissions were reported in a consolidated manner within the venting category. However, from this year onwards, these emissions will be reported separately.

Row 4

(7.15.4.1) Emissions category

Select from:

☑ Fugitives

(7.15.4.2) Value chain

Select all that apply

☑ Upstream

☑ Downstream

(7.15.4.3) Product

Select from:

☑ Unable to disaggregate

(7.15.4.4) Gross Scope 1 CO2 emissions (metric tons CO2)

3740

(7.15.4.5) Gross Scope 1 methane emissions (metric tons CH4)

3102

(7.15.4.6) Total gross Scope 1 emissions (metric tons CO2e)

91283

(7.15.4.7) Comment

Ecopetrol also quantifies N2O emissions, which is included in the total CO2e figures. For this reason, the addition of CO2 emissions and CH4 emissions, both evaluated in CO2e, has an insignificant difference (695 tCO2e).

Row 5

(7.15.4.1) Emissions category

Select from:

☑ Process (feedstock) emissions

(7.15.4.2) Value chain

Select all that apply

☑ Upstream

☑ Downstream

(7.15.4.3) Product

Select from:

☑ Unable to disaggregate

(7.15.4.4) Gross Scope 1 CO2 emissions (metric tons CO2)

1305663

(7.15.4.5) Gross Scope 1 methane emissions (metric tons CH4)

518

(7.15.4.6) Total gross Scope 1 emissions (metric tons CO2e)

1320158

(7.15.4.7) Comment

This category includes emissions associated with upstream gas treatment, and with refining processes (hydrogen production, catalytic cracking, delayed coking, among others). Previously, venting and process emissions were reported in a consolidated manner within the venting category. However, from this year onwards, these emissions will be reported separately.
[Add row]

(7.16) Break down your total gross global Scope 1 and 2 emissions by country/area.

	Scope 1 emissions (metric tons CO2e)	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Colombia	*11817213*	*704342*	*859892*

[Fixed row]

(7.17) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

Select all that apply

☑ By business division

☑ By facility

(7.17.1) Break down your total gross global Scope 1 emissions by business division.

	Business division	Scope 1 emissions (metric ton CO2e)
Row 1	*Downstream*	*5643922*
Row 2	*Upstream*	*6173291*

[Add row]

(7.17.2) Break down your total gross global Scope 1 emissions by business facility.

Row 1

(7.17.2.1) Facility

Refining and petrochemical complex, Barrancabermeja Refinery, and its river terminal. The coordinates reported coordinates correspond to the Barrancabermeja Refinery.

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

3321326

(7.17.2.3) Latitude

7.076574

(7.17.2.4) Longitude

-73.873751

Row 2

(7.17.2.1) Facility

Cartagena Refinery and both its terminals (river and maritimal). The reported coordinates correspond to the Cartagena Refinery.

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

2322596

(7.17.2.3) Latitude

10.31625

(7.17.2.4) Longitude

-75.492614

Row 3

(7.17.2.1) Facility

Piedemonte Production Area (GDP for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

1998301

(7.17.2.3) Latitude

5.426086

(7.17.2.4) Longitude

-72.448689

Row 4

(7.17.2.1) Facility

La Cira Infantas Production Area (GCT for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

53729

(7.17.2.3) Latitude

6.991787

(7.17.2.4) Longitude

-73.781754

Row 5

(7.17.2.1) Facility

GTA Production Area, Catatumbo Production Department (GTA_Catatumbo for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

35089

(7.17.2.3) Latitude

8.710475

(7.17.2.4) Longitude

-72.725461

Row 6

(7.17.2.1) Facility

GTA-Catenare Production Area, Teca-NARE Production Department (GTA-Catenare for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

1057869

(7.17.2.3) Latitude

6.032056

(7.17.2.4) Longitude

-74.61196

Row 7

(7.17.2.1) Facility

Rio Production Area (GRI for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

261105

(7.17.2.3) Latitude

7.384778

(7.17.2.4) Longitude

-73.895539

Row 8

(7.17.2.1) Facility

Mares Production Area (GMA for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

172870

(7.17.2.3) Latitude

7.037186

(7.17.2.4) Longitude

-73.556776

Row 9

(7.17.2.1) Facility

Chichimene Production Area (GCH for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

390505

(7.17.2.3) Latitude

3.933415

(7.17.2.4) Longitude

-73.685159

Row 10

(7.17.2.1) Facility

Apiay Production Area (GDA for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

93039

(7.17.2.3) Latitude

4.06691

(7.17.2.4) Longitude

-73.42461

Row 11

(7.17.2.1) Facility

Castilla Production Area (GDT for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

663030

(7.17.2.3) Latitude

3.852624

(7.17.2.4) Longitude

-73.674399

Row 12

(7.17.2.1) Facility

CP09 Production Area (GLC for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

48296

(7.17.2.3) Latitude

3.881469

(7.17.2.4) Longitude

-73.785303

Row 13

(7.17.2.1) Facility

Oriente Production Area (GOR for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

1006926

(7.17.2.3) Latitude

3.803648

(7.17.2.4) Longitude

-71.445118

Row 14

(7.17.2.1) Facility

Andina Production Area, Huila Production Department (GPA_H for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

261901

(7.17.2.3) Latitude

3.077244

(7.17.2.4) Longitude

-75.273189

Row 15

(7.17.2.1) Facility

Andina Production Area, Putumayo Production Department (GPA_P for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

130631

(7.17.2.3) Latitude

0.550179

(7.17.2.4) Longitude

-77.097229
[Add row]

(7.19) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Comment
Oil and gas production activities (upstream)	*6173291*	*According to the selected inventory consolidation approach (operational control), it includes the fields operated by Ecopetrol.*
Oil and gas production activities (downstream)	*5643922*	*According to the selected inventory consolidation approach (operational control), it includes Barrancabermeja and Cartagena Refineries.*

[Fixed row]

(7.20) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

Select all that apply

☑ By business division

☑ By facility

(7.20.1) Break down your total gross global Scope 2 emissions by business division.

	Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Row 1	*Downstream*	*3631*	*3631*
Row 2	*Upstream*	*700711*	*856261*

[Add row]

(7.20.2) Break down your total gross global Scope 2 emissions by business facility.

Row 1

(7.20.2.1) Facility

Refining and petrochemical complex, Barrancabermeja Refinery, and its river terminal. The reported coordinates correspond to the Barrancabermeja Refinery.

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

3299

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

3299

Row 2

(7.20.2.1) Facility

Cartagena Refinery and both its terminals (river and maritimal). The reported coordinates correspond to the Cartagena Refinery.

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

332

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

332

Row 3

(7.20.2.1) Facility

Piedemonte Production Area (GDP for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

0

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

0

Row 4

(7.20.2.1) Facility

La Cira Infantas Production Area (GCT for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

118850

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

181466

Row 5

(7.20.2.1) Facility

GTA Production Area, Catatumbo Production Department (GTA_Catatumbo for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

5181

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

5181

Row 6

(7.20.2.1) Facility

GTA-Catenare Production Area, Teca-NARE Production Department (GTA-Catenare for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

13531

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

13531

Row 7

(7.20.2.1) Facility

Rio Production Area (GRI for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

50857

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

100639

Row 8

(7.20.2.1) Facility

Mares Production Area (GMA for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

12978

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

21484

Row 9

(7.20.2.1) Facility

Chichimene Production Area (GCH for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

52968

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

49158

Row 10

(7.20.2.1) Facility

Apiay Production Area (GDA for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

18653

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

17311

Row 11

(7.20.2.1) Facility

Castilla Production Area (GDT for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

187260

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

173790

Row 12

(7.20.2.1) Facility

CP09 Production Area (GLC for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

8295

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

7699

Row 13

(7.20.2.1) Facility

Oriente Production Area (GOR for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

173287

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

178314

Row 14

(7.20.2.1) Facility

Andina Production Area, Huila Production Department (GPA_H for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

56528

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

88425

Row 15

(7.20.2.1) Facility

Andina Production Area, Putumayo Production Department (GPA_P for its Spanish acronym). The geographic coordinates correspond to a representative point of the reported area.

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

2322

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

19260
[Add row]

(7.21) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

Oil and gas production activities (upstream)

(7.21.1) Scope 2, location-based, metric tons CO2e

700711

(7.21.2) Scope 2, market-based (if applicable), metric tons CO2e

856261

(7.21.3) Comment

Scope 2 (indirect) GHG emissions are those associated with the consumption of purchased electricity. Scope 2 monitoring and targets are based on market-based method because supplier-specific emission factors are used. However, data for both methodologies are presented in this report. Scope 2 emissions (location-based) were calculated using the national electrical grid emission factor for 2024, calculated by XM, the national grid operator.

Oil and gas production activities (midstream)

(7.21.3) Comment

Not applicable, because in question 1.19 midstream was not selected.

Oil and gas production activities (downstream)

(7.21.1) Scope 2, location-based, metric tons CO2e

3631

(7.21.2) Scope 2, market-based (if applicable), metric tons CO2e

3631

(7.21.3) Comment

Scope 2 emissions by both methods (location-based and market-based) were calculated using the national electrical grid emission factor for 2024, calculated by XM, the national grid operator.
[Fixed row]

(7.22) Break down your gross Scope 1 and Scope 2 emissions between your consolidated accounting group and other entities included in your response.

Consolidated accounting group

(7.22.1) Scope 1 emissions (metric tons CO2e)

11817213

(7.22.2) Scope 2, location-based emissions (metric tons CO2e)

704342

(7.22.3) Scope 2, market-based emissions (metric tons CO2e)

859892

(7.22.4) Please explain

Currently, Ecopetrol reports climate performance data from facilities operated by Ecopetrol, which includes Cartagena Refinery, one of its subsidiaries (which means that the consolidation approach is operational control). Currently, Ecopetrol Business Group is in the process of implementing the International Financial Reporting Standards (IFRS) S1 (Sustainability disclosure) and IFRS S2 (Climate-related disclosure) for investors. In this process, the consolidation approach and requirements for reporting sustainability issues will be evaluated to align them with the Financial Statements.

All other entities

(7.22.1) Scope 1 emissions (metric tons CO2e)

0

(7.22.2) Scope 2, location-based emissions (metric tons CO2e)

0

(7.22.3) Scope 2, market-based emissions (metric tons CO2e)

0

(7.22.4) Please explain

Currently, Ecopetrol reports climate performance data from facilities operated by Ecopetrol, which includes Cartagena Refinery, one of its subsidiaries (which means that the consolidation approach is operational control). It does not include other entities in its reports.
[Fixed row]

(7.23) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

Select from:

☑ Yes

(7.23.1) Break down your gross Scope 1 and Scope 2 emissions by subsidiary.

Row 1

(7.23.1.1) Subsidiary name

Cartagena Refinery

(7.23.1.2) Primary activity

Select from:

☑ Oil & gas refining

(7.23.1.3) Select the unique identifier you are able to provide for this subsidiary

Select all that apply

☑ Other unique identifier, please specify :Colombian Tax ID Number (NIT in Spanish)

(7.23.1.11) Other unique identifier

900.112.515-7

(7.23.1.12) Scope 1 emissions (metric tons CO2e)

2322596

(7.23.1.13) Scope 2, location-based emissions (metric tons CO2e)

332

(7.23.1.14) Scope 2, market-based emissions (metric tons CO2e)

332

(7.23.1.15) Comment

Currently, Ecopetrol reports climate performance data from facilities operated by Ecopetrol, which includes Cartagena Refinery and its process facilities and the marine and river terminals.
[Add row]

(7.24) Report your methane emissions as percentages of natural gas and hydrocarbon production or throughput.

Row 1

(7.24.1) Oil and gas business division

Select all that apply

☑ Upstream

(7.24.2) Estimated total methane emitted expressed as % of natural gas production or throughput at given division

0.72

(7.24.3) Estimated total methane emitted expressed as % of total hydrocarbon production or throughput at given division

0.17

(7.24.4) Indicate whether your methane emissions figure is based on observational data

Select from:

☑ Both observational data and estimated or modelled data

(7.24.5) Details of methodology

% of natural gas production or throughput in a given division: Calculated as total Scope 1 gross methane emissions from the upstream segment expressed as a percentage of natural gas production. % of total hydrocarbon production or throughput at given division: Calculated as total gross Scope 1 methane emissions from the production segment expressed as a percentage of total Hydrocarbon production. Note: Ecopetrol within its upstream business processes also carries out gas treatment for sale; the emissions from these plants are included within the scope 1 methane emissions used in the calculation of the indicators.
[Add row]

(7.29) What percentage of your total operational spend in the reporting year was on energy?

Select from:
☑ More than 60% but less than or equal to 65%

(7.30) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	*Select from:* ☑ Yes
Consumption of purchased or acquired electricity	*Select from:* ☑ Yes
Consumption of purchased or acquired heat	*Select from:* ☑ No
Consumption of purchased or acquired steam	*Select from:* ☑ No
Consumption of purchased or acquired cooling	*Select from:* ☑ No
Generation of electricity, heat, steam, or cooling	*Select from:* ☑ Yes

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[Fixed row]

(7.30.1) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

Consumption of fuel (excluding feedstock)

(7.30.1.1) Heating value

Select from:

☑ HHV (higher heating value)

(7.30.1.2) MWh from renewable sources

0

(7.30.1.3) MWh from non-renewable sources

36810847

(7.30.1.4) Total (renewable + non-renewable) MWh

36810847.00

Consumption of purchased or acquired electricity

(7.30.1.1) Heating value

Select from:

☑ Unable to confirm heating value

(7.30.1.2) MWh from renewable sources

1978761

(7.30.1.3) MWh from non-renewable sources

1198163

(7.30.1.4) Total (renewable + non-renewable) MWh

3176924.00

Consumption of self-generated non-fuel renewable energy

(7.30.1.1) Heating value

Select from:

☑ Unable to confirm heating value

(7.30.1.2) MWh from renewable sources

68015

(7.30.1.4) Total (renewable + non-renewable) MWh

68015.00

Total energy consumption

(7.30.1.1) Heating value

Select from:

☑ Unable to confirm heating value

(7.30.1.2) MWh from renewable sources

2046775

(7.30.1.3) MWh from non-renewable sources

38009010

(7.30.1.4) Total (renewable + non-renewable) MWh

40055785.00
[Fixed row]

(7.30.6) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	*Select from:* ☑ Yes
Consumption of fuel for the generation of heat	*Select from:* ☑ Yes
Consumption of fuel for the generation of steam	*Select from:* ☑ Yes
Consumption of fuel for the generation of cooling	*Select from:* ☑ No
Consumption of fuel for co-generation or tri-generation	*Select from:* ☑ Yes

[Fixed row]

(7.30.7) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

(7.30.7.1) Heating value

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Select from:

☑ HHV

(7.30.7.2) Total fuel MWh consumed by the organization

4993

(7.30.7.3) MWh fuel consumed for self-generation of electricity

1504

(7.30.7.4) MWh fuel consumed for self-generation of heat

4947

(7.30.7.5) MWh fuel consumed for self-generation of steam

13

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

24

(7.30.7.8) Comment

By national regulation, Colombia establishes the biofuel content of fuels marketed in the country (gasoline and diesel). In 2024, the biofuel content for diesel was set at around 10%

Other biomass

(7.30.7.1) Heating value

Select from:

☑ Unable to confirm heating value

(7.30.7.2) Total fuel MWh consumed by the organization

0

(7.30.7.3) MWh fuel consumed for self-generation of electricity

0

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.5) MWh fuel consumed for self-generation of steam

0

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

0

(7.30.7.8) Comment

NA

Other renewable fuels (e.g. renewable hydrogen)

(7.30.7.1) Heating value

Select from:

☑ Unable to confirm heating value

(7.30.7.2) Total fuel MWh consumed by the organization

0

(7.30.7.3) MWh fuel consumed for self-generation of electricity

0

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.5) MWh fuel consumed for self-generation of steam

0

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

0

(7.30.7.8) Comment

NA

Coal

(7.30.7.1) Heating value

Select from:
☑ Unable to confirm heating value

(7.30.7.2) Total fuel MWh consumed by the organization

0

(7.30.7.3) MWh fuel consumed for self-generation of electricity

0

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.5) MWh fuel consumed for self-generation of steam

0

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

0

(7.30.7.8) Comment

NA

Oil

(7.30.7.1) Heating value

Select from:
☑ HHV

(7.30.7.2) Total fuel MWh consumed by the organization

504577

(7.30.7.3) MWh fuel consumed for self-generation of electricity

282544

(7.30.7.4) MWh fuel consumed for self-generation of heat

17

(7.30.7.5) MWh fuel consumed for self-generation of steam

222015

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

0

(7.30.7.8) Comment

Ecopetrol consumes crude oil as fuel in areas with difficult access locations.

Gas

(7.30.7.1) Heating value

Select from:

☑ HHV

(7.30.7.2) Total fuel MWh consumed by the organization

33286083

(7.30.7.3) MWh fuel consumed for self-generation of electricity

5069788

(7.30.7.4) MWh fuel consumed for self-generation of heat

15138433

(7.30.7.5) MWh fuel consumed for self-generation of steam

9648948

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

3428914

(7.30.7.8) Comment

Ecopetrol consumes: Refinery Gas (LHV), Natural Gas (HHV) and field-produced gas (HHV).

Other non-renewable fuels (e.g. non-renewable hydrogen)

(7.30.7.1) Heating value

Select from:

☑ HHV

(7.30.7.2) Total fuel MWh consumed by the organization

3015194

(7.30.7.3) MWh fuel consumed for self-generation of electricity

2619341

(7.30.7.4) MWh fuel consumed for self-generation of heat

245961

(7.30.7.5) MWh fuel consumed for self-generation of steam

148185

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

213

(7.30.7.8) Comment

Non-renewable fuels include ACPM, LPG, Fuel Oil #4, Kerosene and fuel similiar Fuel Oil #6

Total fuel

(7.30.7.1) Heating value

Select from:

☑ HHV

(7.30.7.2) Total fuel MWh consumed by the organization

36810847

(7.30.7.3) MWh fuel consumed for self-generation of electricity

7973177

(7.30.7.4) MWh fuel consumed for self-generation of heat

15389358

(7.30.7.5) MWh fuel consumed for self-generation of steam

10019162

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

3429150

(7.30.7.8) Comment

The MWh consumed for each type of fuel were calculated by taking the consumed fuel volume (ft3), multiplied by the calorific value (BTU/ft3), and finally multiplied by the conversion factor 0.0002937 to get MWh.
[Fixed row]

(7.30.9) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

Electricity

(7.30.9.1) Total Gross generation (MWh)

4261891

(7.30.9.2) Generation that is consumed by the organization (MWh)

4193597

(7.30.9.3) Gross generation from renewable sources (MWh)

68892

(7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)

68015

Heat

(7.30.9.1) Total Gross generation (MWh)

15389358

(7.30.9.2) Generation that is consumed by the organization (MWh)

15389358

(7.30.9.3) Gross generation from renewable sources (MWh)

0

(7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)

0

Steam

(7.30.9.1) Total Gross generation (MWh)

10019162

(7.30.9.2) Generation that is consumed by the organization (MWh)

10019162

(7.30.9.3) Gross generation from renewable sources (MWh)

0

(7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)

0

Cooling

(7.30.9.1) Total Gross generation (MWh)

0

(7.30.9.2) Generation that is consumed by the organization (MWh)

0

(7.30.9.3) Gross generation from renewable sources (MWh)

0

(7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)

0
[Fixed row]

(7.30.14) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero or near-zero emission factor in the market-based Scope 2 figure reported in 7.7.

Row 1

(7.30.14.1) Country/area

Select from:
☑ Colombia

(7.30.14.2) Sourcing method

Select from:
☑ Direct line to an off-site generator owned by a third party with no grid transfers (direct line PPA)

(7.30.14.3) Energy carrier

Select from:
☑ Electricity

(7.30.14.4) Low-carbon technology type

Select from:
☑ Solar

(7.30.14.5) Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

28080

(7.30.14.6) Tracking instrument used

Select from:

☑ Contract

(7.30.14.7) Country/area of origin (generation) of the low-carbon energy or energy attribute

Select from:

☑ Colombia

(7.30.14.8) Are you able to report the commissioning or re-powering year of the energy generation facility?

Select from:

☑ Yes

(7.30.14.9) Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2019

(7.30.14.10) Comment

Solar Generation Plant Castilla

Row 2

(7.30.14.1) Country/area

Select from:

☑ Colombia

(7.30.14.2) Sourcing method

Select from:

☑ Direct line to an off-site generator owned by a third party with no grid transfers (direct line PPA)

(7.30.14.3) Energy carrier

Select from:

☑ Electricity

(7.30.14.4) Low-carbon technology type

Select from:

☑ Solar

(7.30.14.5) Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

60488

(7.30.14.6) Tracking instrument used

Select from:

☑ Contract

(7.30.14.7) Country/area of origin (generation) of the low-carbon energy or energy attribute

Select from:

☑ Colombia

(7.30.14.8) Are you able to report the commissioning or re-powering year of the energy generation facility?

Select from:

☑ Yes

(7.30.14.9) Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2021

(7.30.14.10) Comment

Row 3

(7.30.14.1) Country/area

Select from:

☑ Colombia

(7.30.14.2) Sourcing method

Select from:

☑ Direct line to an off-site generator owned by a third party with no grid transfers (direct line PPA)

(7.30.14.3) Energy carrier

Select from:

☑ Electricity

(7.30.14.4) Low-carbon technology type

Select from:

☑ Solar

(7.30.14.5) Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

39935

(7.30.14.6) Tracking instrument used

Select from:

☑ Contract

(7.30.14.7) Country/area of origin (generation) of the low-carbon energy or energy attribute

Select from:

☑ Colombia

(7.30.14.8) Are you able to report the commissioning or re-powering year of the energy generation facility?

Select from:

☑ Yes

(7.30.14.9) Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2022

(7.30.14.10) Comment

Solar Generation Plant Brisas

Row 4

(7.30.14.1) Country/area

Select from:

☑ Colombia

(7.30.14.2) Sourcing method

Select from:

☑ Other, please specify

(7.30.14.3) Energy carrier

Select from:

☑ Electricity

(7.30.14.4) Low-carbon technology type

Select from:

☑ Hydropower (capacity unknown)

(7.30.14.5) Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

2715562

(7.30.14.6) Tracking instrument used

Select from:

☑ Contract

(7.30.14.7) Country/area of origin (generation) of the low-carbon energy or energy attribute

Select from:

☑ Colombia

(7.30.14.8) Are you able to report the commissioning or re-powering year of the energy generation facility?

Select from:

☑ No

(7.30.14.10) Comment

Renewable energy from the national grid (National Interconnected System). Colombia's energy mix is 71% renewable. Consequently, the emission factor associated with the grid is relatively low (Emission Factor 2024: 0.000217 tCO_2/kWh). The reported renewable energy corresponds to the estimated distribution of generation between renewable and non-renewable sources for the year 2024.
[Add row]

(7.30.16) Provide a breakdown by country/area of your electricity/heat/steam/cooling consumption in the reporting year.

Colombia

(7.30.16.1) Consumption of purchased electricity (MWh)

1978761

(7.30.16.2) Consumption of self-generated electricity (MWh)

68015

(7.30.16.4) Consumption of purchased heat, steam, and cooling (MWh)

0

(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)

0

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

2046776.00
[Fixed row]

(7.38) Disclose your net liquid and gas hydrocarbon production (total of subsidiaries and equity-accounted entities).

	In-year net production	Comment
Crude oil and condensate, million barrels	*208.54*	*Mill boe*
Natural gas liquids, million barrels	*14.49*	*Mill boe*
Oil sands, million barrels (includes bitumen and synthetic crude)	*0*	*NA*
Natural gas, billion cubic feet	*284.66*	*MM cf*

[Fixed row]

(7.38.1) Explain which listing requirements or other methodologies you use to report reserves data. If your organization cannot provide data due to legal restrictions on reporting reserves figures in certain countries/areas, please explain this.

The Ecopetrol Group follows international standards for estimating, classifying, and reporting reserves, as defined in SEC regulation. Our reserves process is coordinated by the Resources and Reserves Team. This team supports and interacts with the specialists involved in the estimation and reporting process, following an established procedure with its corresponding internal controls. As in previous years, reserves are estimated and certified by recognized external independent engineers, this year consisting of DeGolyer and MacNaughton, GaffneyCline, and Ryder Scott Company, in compliance with the definitions of the Society of Petroleum Engineers and the applicable SEC rules. According to our corporate policy, we report the values of the reserves obtained from the external engineers, even if they are lower than our expected reserves. The aforementioned external independent engineering consultants have estimated and certified our proved reserves as of December 31, 2024. These external engineers estimated 99% of our estimated net proved reserves for the year ended December 31, 2024, 2023 and 2022. In accordance with these certifications, our reserves report complies with Rule 4-10 of Regulation S-X issued by the SEC. The reserves' reports of the external engineers are included as exhibits to this annual report. Our reserves process uses deterministic methods which are commonly used internationally to estimate reserves. These methods whilst reliable, have some inherent uncertainty, and thus, estimates should not be interpreted as exact amounts. Most of the producing proved reserves were estimated by applying appropriate decline curves or other performance relationships. In analyzing decline curves, reserves were estimated by calculating economic limits that are based on current economic conditions. In certain cases where the methods previously employed could not be used, reserves were estimated by analogy with similar reserves for which more complete data was available. Estimates of reserves were prepared by geological and engineering standard methods commonly used in the oil and gas industry. The method or combination of methods used in the analysis of each reserve was adopted from experience analogy reserves, including information on the stage of development, quality and completeness of basic data and production history. Link: https://www.sec.gov/ix?doc=/Archives/edgar/data/0001444406/000141057825000839/ec-20241231x20f.htm#a353Reserves_436808 See page 41. Reserves Process Section.

(7.38.2) Disclose your estimated total net reserves and resource base (million boe), including the total associated with subsidiaries and equity-accounted entities.

(7.38.2.1) Estimated total net proved + probable reserves (2P) (million BOE)

0

(7.38.2.2) Estimated total net proved + probable + possible reserves (3P) (million BOE)

0

(7.38.2.3) Estimated net total resource base (million BOE)

0

(7.38.2.4) Comment

Ecopetrol did not disclose 2P and 3P volumes nor Resources estimates for 2024.
[Fixed row]

(7.38.3) Provide an indicative percentage split for 2P, 3P reserves, and total resource base by hydrocarbon categories.

Crude oil/ condensate/ natural gas liquids

(7.38.3.1) Net proved + probable reserves (2P) (%)

0

(7.38.3.2) Net proved + probable + possible reserves (3P) (%)

0

(7.38.3.3) Net total resource base (%)

0

(7.38.3.4) Comment

Ecopetrol did not disclose Resources nor the split of 2P or 3P Volumes

Natural gas

(7.38.3.1) Net proved + probable reserves (2P) (%)

0

(7.38.3.2) Net proved + probable + possible reserves (3P) (%)

0

(7.38.3.3) Net total resource base (%)

0

(7.38.3.4) Comment

Ecopetrol did not disclose Resources nor the split of 2P or 3P Volumes

Oil sands (includes bitumen and synthetic crude)

(7.38.3.1) Net proved + probable reserves (2P) (%)

0

(7.38.3.2) Net proved + probable + possible reserves (3P) (%)

0

(7.38.3.3) Net total resource base (%)

0

(7.38.3.4) Comment

Ecopetrol did not disclose Resources nor the split of 2P or 3P Volumes
[Fixed row]

(7.38.4) Provide an indicative percentage split for production, 1P, 2P, 3P reserves, and total resource base by development types.

Row 1

(7.38.4.1) Development type

Select from:

☑ Onshore

(7.38.4.2) In-year net production (%)

88

(7.38.4.3) Net proved reserves (1P) (%)

89

(7.38.4.4) Net proved + probable reserves (2P) (%)

0

(7.38.4.5) Net proved + probable + possible reserves (3P) (%)

0

(7.38.4.6) Net total resource base (%)

0

(7.38.4.7) Comment

Ecopetrol did not disclose Resources nor the split of 2P or 3P volumes.

Row 2

(7.38.4.1) Development type

Select from:
☑ Tight/shale

(7.38.4.2) In-year net production (%)

10

(7.38.4.3) Net proved reserves (1P) (%)

10

(7.38.4.4) Net proved + probable reserves (2P) (%)

0

(7.38.4.5) Net proved + probable + possible reserves (3P) (%)

0

(7.38.4.6) Net total resource base (%)

0

(7.38.4.7) Comment

Ecopetrol did not disclose Resources nor the split of 2P or 3P volumes.

Row 3

(7.38.4.1) Development type

Select from:

☑ Ultra-deepwater

(7.38.4.2) In-year net production (%)

2

(7.38.4.3) Net proved reserves (1P) (%)

1

(7.38.4.4) Net proved + probable reserves (2P) (%)

0

(7.38.4.5) Net proved + probable + possible reserves (3P) (%)

0

(7.38.4.6) Net total resource base (%)

0

(7.38.4.7) Comment

Ecopetrol did not disclose Resources nor the split of 2P or 3P volumes.
[Add row]

(7.43) Disclose your total refinery throughput capacity in the reporting year in thousand barrels per day.

	Total refinery throughput capacity (Thousand barrels per day)
Capacity	*452.4*

[Fixed row]

(7.43.1) Disclose feedstocks processed in the reporting year in million barrels per year.

	Throughput (Million barrels)	Comment
Oil	*151.5*	*NA*
Other feedstocks	*0.5*	*Butanes*
Total	*152*	*NA*

[Fixed row]

(7.43.2) Are you able to break down your refinery products and net production?

Select from:

☑ Yes

(7.43.3) Disclose your refinery products and net production in the reporting year in million barrels per year.

Row 1

(7.43.3.1) Product produced

Select from:

☑ Liquified petroleum gas

(7.43.3.2) Refinery net production (Million barrels) *not including products used/consumed on site

3.07

Row 2

(7.43.3.1) Product produced

Select from:

☑ Still gas

(7.43.3.2) Refinery net production (Million barrels) *not including products used/consumed on site

1.58

Row 3

(7.43.3.1) Product produced

Select from:

☑ Naphtha

(7.43.3.2) Refinery net production (Million barrels) *not including products used/consumed on site

7.97

Row 4

(7.43.3.1) Product produced

Select from:

☑ Gasolines

(7.43.3.2) Refinery net production (Million barrels) *not including products used/consumed on site

30.16

Row 5

(7.43.3.1) Product produced

Select from:

☑ Kerosenes

(7.43.3.2) Refinery net production (Million barrels) *not including products used/consumed on site

12.86

Row 6

(7.43.3.1) Product produced

Select from:

☑ Diesel fuels

(7.43.3.2) Refinery net production (Million barrels) *not including products used/consumed on site

50.64

Row 7

(7.43.3.1) Product produced

Select from:

☑ Fuel oils

(7.43.3.2) Refinery net production (Million barrels) *not including products used/consumed on site

14.4

Row 8

(7.43.3.1) Product produced

Select from:

☑ Asphalt and tar

(7.43.3.2) Refinery net production (Million barrels) *not including products used/consumed on site

5.67

Row 9

(7.43.3.1) Product produced

Select from:
☑ Waxes

(7.43.3.2) Refinery net production (Million barrels) *not including products used/consumed on site

0.2

Row 10

(7.43.3.1) Product produced

Select from:
☑ Other, please specify :Aliphatic

(7.43.3.2) Refinery net production (Million barrels) *not including products used/consumed on site

0.27

Row 11

(7.43.3.1) Product produced

Select from:
☑ Lubricants

(7.43.3.2) Refinery net production (Million barrels) *not including products used/consumed on site

0.2

Row 12

(7.43.3.1) Product produced

Select from:

☑ Other, please specify :Sulphur

(7.43.3.2) Refinery net production (Million barrels) *not including products used/consumed on site

0.28

Row 13

(7.43.3.1) Product produced

Select from:

☑ Other, please specify :Sulphuric acid

(7.43.3.2) Refinery net production (Million barrels) *not including products used/consumed on site

0.09

Row 14

(7.43.3.1) Product produced

Select from:

☑ Petroleum coke

(7.43.3.2) Refinery net production (Million barrels) *not including products used/consumed on site

3.34

Row 15

(7.43.3.1) Product produced

Select from:
☑ Other, please specify :Heavy Distillates Mix

(7.43.3.2) Refinery net production (Million barrels) *not including products used/consumed on site

20.23
[Add row]

(7.43.4) Please disclose your petrochemicals production in the reporting year in thousand metric tons.

	Product	Production, Thousand metric tons	Capacity, Thousand metric tons
Row 1	*Select from:* ☑ Other, please specify :Aromatics	*90.79*	*168.18*
Row 2	*Select from:* ☑ Other, please specify :Polyethylene	*44.4*	*65*

[Add row]

(7.45) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Row 1

(7.45.1) Intensity figure

9.75e-8

(7.45.2) Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

12677105

(7.45.3) Metric denominator

Select from:

☑ unit total revenue

(7.45.4) Metric denominator: Unit total

129997470040804

(7.45.5) Scope 2 figure used

Select from:

☑ Market-based

(7.45.6) % change from previous year

13

(7.45.7) Direction of change

Select from:

☑ Increased

(7.45.8) Reasons for change

Select all that apply

☑ Other emissions reduction activities

☑ Change in revenue

(7.45.9) Please explain

In 2024, Ecopetrol implemented new emissions reduction initiatives that allowed the reduction of 462,074 tCO2e, exceeding the original goal of 269,600 tCO2e. The accumulated GHG emissions reduction between 2020-2024 is 2,248,846 tCO2e. The implemented initiatives include energy efficiency, renewable energy, reduction of venting and fugitive emissions, and reduction of flaring. However, the revenue-based intensity increased because total revenues decreased compared to 2023, mainly due to a USD 9.4 per barrel decrease of our average refined products basket price and a USD 0.1 per barrel decrease of our average crude oil basket price, which in turn was primarily due to a lower Brent benchmark price and narrower spreads against Brent for refined products partially offset by the strengthening of the negotiated crude oil differential. Revenue figures include revenues from the Cartagena Refinery, which is under the operational control of Ecopetrol.

Row 2

(7.45.1) Intensity figure

0.035

(7.45.2) Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

7029552

(7.45.3) Metric denominator

Select from:

☑ barrel of oil equivalent (BOE)

(7.45.4) Metric denominator: Unit total

202791329

(7.45.5) Scope 2 figure used

Select from:

☑ Market-based

(7.45.6) % change from previous year

3

(7.45.7) Direction of change

Select from:

☑ Increased

(7.45.8) Reasons for change

Select all that apply

☑ Other, please specify :Change in operating conditions

(7.45.9) Please explain

The intensity figure corresponds to upstream carbon intensity. It is calculated by diving upstream scope 1 and 2 emissions by oil, gas, and white production (BOE/year). This is done considering operational control boundary. Carbon intensity remained stable with a minimal variation of around 3% for the production segment regarding to the year 2023. However, the increase is associated with maintenance activities carried out in 2024 in some assets and increased energy requirements in growing assets in some production fields.

Row 3

(7.45.1) Intensity figure

0.037

(7.45.2) Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

5647553

(7.45.3) Metric denominator

Select from:

☑ barrel of oil equivalent (BOE)

(7.45.4) Metric denominator: Unit total

151456156

(7.45.5) Scope 2 figure used

Select from:

☑ Market-based

(7.45.6) % change from previous year

1

(7.45.7) Direction of change

Select from:

☑ Increased

(7.45.8) Reasons for change

Select all that apply

☑ Unidentified

(7.45.9) Please explain

The intensity figure corresponds to downstream carbon intensity. It is calculated as downstream scope 1 and 2 emissions divided by annual loaded barrels to the Barrancabermeja and Cartagena refineries (year). This is done considering operational control boundary. Carbon intensity remained stable with a minimal variation of around 1% for the refining segment compared to the year 2023, due to operating conditions.
[Add row]

(7.48) Provide the intensity figures for Scope 1 emissions (metric tons CO2e) per unit of hydrocarbon category.

Row 1

(7.48.1) Unit of hydrocarbon category (denominator)

Select from:

☑ Other, please specify :Thousand barrels equivalent oil (crude oil/Condensate/gas)

(7.48.2) Metric tons CO2e from hydrocarbon category per unit specified

30.44

(7.48.3) % change from previous year

1

(7.48.4) Direction of change

Select from:

☑ Increased

(7.48.5) Reason for change

Carbon intensity remained stable with a minimal variation of around 1% for the production segment regarding to the year 2023. However, the increase is associated with maintenance activities carried out in 2024 in some assets and increased energy requirements in growing assets in some production fields.

(7.48.6) Comment

Carbon intensity remained stable with a minimal variation of around 1% for the production segment regarding to the year 2023. However, the increase is associated with maintenance activities carried out in 2024 in some assets and increased energy requirements in growing assets in some production fields.

Row 2

(7.48.1) Unit of hydrocarbon category (denominator)

Select from:

☑ Thousand barrels of refinery throughput

(7.48.2) Metric tons CO2e from hydrocarbon category per unit specified

37.26

(7.48.3) % change from previous year

1

(7.48.4) Direction of change

Select from:

☑ Increased

(7.48.5) Reason for change

This is done considering operational control boundary. Carbon intensity remained stable with a minimal variation of around 1% for the refining segment regarding comparing to the year 2023, due to operating conditions.

(7.48.6) Comment

This is done considering operational control boundary. Carbon intensity remained stable with a minimal variation of around 1% for the refining segment regarding comparing to the year 2023, due to operating conditions.
[Add row]

(7.52) Provide any additional climate-related metrics relevant to your business.

Row 1

(7.52.1) Description

Select from:

☑ Other, please specify :Non-GHG emissions (SOx) in kton

(7.52.2) Metric value

17802

(7.52.3) Metric numerator

Total non-GHG emissions (SOx) in ton

(7.52.4) Metric denominator (intensity metric only)

NA

(7.52.5) % change from previous year

2.7

(7.52.6) Direction of change

Select from:

☑ Increased

(7.52.7) Please explain

During 2024, the air pollutant emissions inventory was verified for the years 2021-2023. As a result, some input information related to activity data and fuel consumption were adjusted and updated, which did not result in significant changes to SOx emissions data. The emissions inventory of SOx for 2024 had a net increase of 465 ton/y against 2023, due to the increase in the volume of gases burned in flares and the use of liquid fuels (oil) with significant sulfur content. These emissions had a partial offset due to energy efficiency initiatives which reduced the total volume of SOX of about 11 ton/y.

Row 2

(7.52.1) Description

Select from:

☑ Other, please specify :Non-GHG emissions (NOx) in kton

(7.52.2) Metric value

28464

(7.52.3) Metric numerator

Total non-GHG emissions (NOx) in ton

(7.52.4) Metric denominator (intensity metric only)

NA

(7.52.5) % change from previous year

1.4

(7.52.6) Direction of change

Select from:

☑ Decreased

(7.52.7) Please explain

During 2024, the air pollutant emissions inventory was verified for the years 2021-2023. As a result, some input information related to activity data and fuel consumption were adjusted and updated, which did not result in significant changes to SOx emissions data. The emissions inventory of NOx for 2024 had a net decrease of 387 ton/y against 2023, due to global optimization in fuel consumption in all the operative sectors. These emissions had a partial offset due to energy efficiency initiatives which reduced the total volume of NOx emissions of 490 ton/y.

Row 3

(7.52.1) Description

Select from:

☑ Other, please specify :Non-GHG emissions (PM) in kton

(7.52.2) Metric value

1696

(7.52.3) Metric numerator

Total non-GHG emissions (PM) in ton

(7.52.4) Metric denominator (intensity metric only)

NA

(7.52.5) % change from previous year

3.1

(7.52.6) Direction of change

Select from:

☑ Decreased

(7.52.7) Please explain

During 2024, the air pollutant emissions inventory was verified for the years 2021-2023. As a result, some input information related to activity data and fuel consumption were adjusted and updated, which did not result in significant changes to SOx emissions data. The emissions inventory of PM for 2024 had a net decrease of 55 ton/y against 2023, due to global optimization in fuel consumption in all the operative sectors

Row 4

(7.52.1) Description

Select from:

☑ Other, please specify :Non-GHG emissions (VOC) in kton

(7.52.2) Metric value

199965

(7.52.3) Metric numerator

Total non-GHG emissions (VOC) in ton

(7.52.4) Metric denominator (intensity metric only)

NA

(7.52.5) % change from previous year

3.1

(7.52.6) Direction of change

Select from:

☑ Increased

(7.52.7) Please explain

In 2024, the VOCs emissions estimation for Cartagena and Barrancabermeja Refineries storage tanks was updated, due to the implementation of new calculation software, which improved the quality of operational data. As a result of the upstream methane emissions reduction program, some of the sources (fugitive and venting) identified in the previous years were repaired or closed during 2024, which resulted in a reduction of the VOCs (or NMVOCs) emissions. The emissions inventory of VOCs for 2024 had a net increase of 5981 ton/y against 2023, due to the increase in the volume of gases flared in the flare and the volume of process wastewater treated.

Row 5

(7.52.1) Description

Select from:

☑ Waste

(7.52.2) Metric value

87693

(7.52.3) Metric numerator

Total hazardous waste generated in metric ton

(7.52.4) Metric denominator (intensity metric only)

NA

(7.52.5) % change from previous year

13

(7.52.6) Direction of change

Select from:

☑ Decreased

(7.52.7) Please explain

This decrease is primarily due to a decrease in oily sludge associated with periodic maintenance carried out in 2024, the implementation of oil recovery treatments for sludge, which is subsequently reintegrated into operations in Upstream segment, and a 33% reduction in this type of waste generated in the Piedemonte region of the Upstream segment due to lower drilling activity. Additionally, there was a 16% decrease in contaminated soil from spills compared to 2023, driven by a reduced number of spill incidents. The recovery rate for hazardous waste not destined for disposal reached 15%, compared to 10% in 2023.

Row 6

(7.52.1) Description

Select from:

☑ Waste

(7.52.2) Metric value

449366

(7.52.3) Metric numerator

Total non-hazardous waste generated in metric ton

(7.52.4) Metric denominator (intensity metric only)

NA

(7.52.5) % change from previous year

1

(7.52.6) Direction of change

Select from:

☑ Decreased

(7.52.7) Please explain

This decrease is primarily due to a reduction in the generation of metallic scraps. However, the percentage of waste sent for final disposal remains at 60%, thanks to an increase in recycling/reuse efforts, which achieved a recycling/reuse rate of to 40%.

Row 7

(7.52.1) Description

Select from:

☑ Other, please specify :Risk management - Compliance with emission reduction target

(7.52.2) Metric value

1.71

(7.52.3) Metric numerator

Achieved emission reduction in tCO2e

(7.52.4) Metric denominator (intensity metric only)

Emission reduction target per year in tCO2e

(7.52.5) % change from previous year

0

(7.52.6) Direction of change

Select from:

☑ No change

(7.52.7) Please explain

This metric monitors emission reduction progress based on the annual target established by Ecopetrol. It is measured monthly, allowing us to manage any possible delay. This metric is built based on new reduction initiatives identified for the year. For this reason, it is not possible to compare changes regarding the previous year. In 2024, the emission reduction target established by Ecopetrol was 269,600 tCO2e; the achieved emission reduction was 462,074 tCO2e, exceeding by 71% the established target.

Row 8

(7.52.1) Description

Select from:

☑ Energy usage

(7.52.2) Metric value

8212.27

(7.52.3) Metric numerator

Total energy consumption, in GWh

(7.52.4) Metric denominator (intensity metric only)

NA

(7.52.5) % change from previous year

3.57

(7.52.6) Direction of change

Select from:

☑ Increased

(7.52.7) Please explain

Consumed energy increased due to operational conditions.

Row 9

(7.52.1) Description

Select from:
☑ Other, please specify :Energy Intensity Ratio

(7.52.2) Metric value

1.66

(7.52.3) Metric numerator

Electricity, in kWh

(7.52.4) Metric denominator (intensity metric only)

Upstream production, in bbl

(7.52.5) % change from previous year

0.6

(7.52.6) Direction of change

Select from:
☑ Decreased

(7.52.7) Please explain

The ratio is calculated by dividing total electricity consumption associated with Upstream production assets, directly operated by Ecopetrol, by company-specific parameters, which include the sum of crude oil, gas, refined products, and water production from those assets. The indicator excludes assets owned by the Piedemonte Regional Vice Presidency, as their production processes primarily require thermal energy (~97%). In 2023, the calculation method was adjusted to better capture the electrical processes. Moving forward, the method will include only production from assets where electricity use is significant and for which traceable

consumption data is available. As a result, starting in 2023, the Piedemonte production and assets not directly operated by Ecopetrol were excluded, as the electricity consumed in these operations is either insignificant compared to production or data is unavailable. This new methodology was applied retrospectively to 2021 and 2022. This change in methodology had a quantitative impact on the indicator: in 2021, it rose from 1.06 kWh/boe to 1.73 kWh/bbl, and in 2022, it increased from 1.1 kWh/boe to 1.71 kWh/boe, reflecting a 63% and 55% rise, respectively.
[Add row]

(7.53) Did you have an emissions target that was active in the reporting year?

Select all that apply
☑ Absolute target

(7.53.1) Provide details of your absolute emissions targets and progress made against those targets.

Row 1

(7.53.1.1) Target reference number

Select from:
☑ Abs 1

(7.53.1.2) Is this a science-based target?

Select from:
☑ No, and we do not anticipate setting one in the next two years

(7.53.1.5) Date target was set

03/25/2021

(7.53.1.6) Target coverage

Select from:
☑ Organization-wide

(7.53.1.7) Greenhouse gases covered by target

Select all that apply

☑ Carbon dioxide (CO2)

☑ Methane (CH4)

☑ Nitrous oxide (N2O)

(7.53.1.8) Scopes

Select all that apply

☑ Scope 1

☑ Scope 2

(7.53.1.9) Scope 2 accounting method

Select from:

☑ Market-based

(7.53.1.11) End date of base year

12/31/2019

(7.53.1.12) Base year Scope 1 emissions covered by target (metric tons CO2e)

12985973

(7.53.1.13) Base year Scope 2 emissions covered by target (metric tons CO2e)

656028

(7.53.1.31) Base year total Scope 3 emissions covered by target (metric tons CO2e)

0.000

(7.53.1.32) Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

13642001.000

(7.53.1.33) Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

100

(7.53.1.34) Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

(7.53.1.53) Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

(7.53.1.54) End date of target

12/31/2030

(7.53.1.55) Targeted reduction from base year (%)

25

(7.53.1.56) Total emissions at end date of target covered by target in all selected Scopes (metric tons CO2e)

10231500.750

(7.53.1.57) Scope 1 emissions in reporting year covered by target (metric tons CO2e)

11817213

(7.53.1.58) Scope 2 emissions in reporting year covered by target (metric tons CO2e)

859892

(7.53.1.77) Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

12677105.000

(7.53.1.78) Land-related emissions covered by target

Select from:

☑ No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

(7.53.1.79) % of target achieved relative to base year

28.29

(7.53.1.80) Target status in reporting year

Select from:

☑ Underway

(7.53.1.82) Explain target coverage and identify any exclusions

In March 2021, Ecopetrol announced its commitment to reduce its emissions by 25% compared to the 2019 baseline, and to achieve net-zero emissions by 2050 (scopes 1 and 2). Additionally, Ecopetrol seeks to reduce 50% of its total emissions by 2050 (scopes 1, 2 and 3). The established goal by 2030 cover scope 1 and 2 emissions generated by Ecopetrol Business Group, which in 2019 were estimated at 13.5 MtCO2e. This amount included an initial estimate of 2MtCO2e additional to those emitted directly by Ecopetrol SA, which correspond to emissions from subsidiaries, and equity shares. In order to better consolidate and report total emissions for the Ecopetrol Business Group as of 2024, this additional estimate is being reviewed for each of the subsidiaries, and for the assets not directly operated by the company, to standardize the calculation methodologies and to incorporate the emissions of the entire group in the information management tool currently used by Ecopetrol (SIGEA - SAP EC).

(7.53.1.83) Target objective

As part of Ecopetrol's efforts to contribute to the Sustainable Development Goals, the Paris Agreement and Colombia's Nationally Determined Contribution (NDC), and in line with its commitment to mitigate climate change, advance with the energy transition and its TESG agenda, the company maintains its commitment to achieve zero net GHG emissions by 2050 (scopes 1 and 2) and to move towards a fair and equitable energy transition.

(7.53.1.84) Plan for achieving target, and progress made to the end of the reporting year

For achieving this target, the following action lines are developed: i. GHG emissions information management, which includes continuous improvement of the GHG inventory, third party verification and development of technological tools to optimize data management for greater traceability, transparency and information analysis for decision making; ii. Reduction of GHG emissions, which includes the establishment, monitoring and review of decarbonization goals, the development of initiatives

in technological levers such as energy efficiency, leakage and venting reduction, reduction of flaring and renewable energies, the evaluation of emerging technologies (Hydrogen and Carbon Capture, Sequestration and Use - CCUS), the permanent identification of mitigation opportunities, the updating of emission projection scenarios and the gap closure analysis for the fulfillment of goals; iii. Strategic portfolio management, including actions such as implementation of the internal carbon price as an evaluation criterion for capital allocation decisions, analysis of assets with a focus on emissions and generation of value for the group, definition of climate change criteria for the analysis of the incorporation and divestment of assets, and evaluation of other economic instruments that promote the development of low-carbon projects; iv. Emissions offsets, this lever implements the Natural Climate Solutions Portfolio to enable the supply of carbon credits and the development of a robust and standardized strategy for trading carbon credits. Annually, the company establishes a goal that considers the contribution of specific projects in different segments of the company. In 2024, the achieved reduction through new project implementation was 462,074 tCO2e, exceeding the original goal of 269,600 tCO2e. The accumulated GHG emissions reduction between 2020-2024 is 2,248,846 tCO2e, thus achieving Ecopetrol's short-term reduction target, which was to reduce 1.6 million tons of CO2e in the 2020-2024 period.

(7.53.1.85) Target derived using a sectoral decarbonization approach

Select from:

☑ No

[Add row]

(7.54) Did you have any other climate-related targets that were active in the reporting year?

Select all that apply

☑ Targets to increase or maintain low-carbon energy consumption or production

☑ Targets to reduce methane emissions

☑ Net-zero targets

☑ Other climate-related targets

(7.54.1) Provide details of your targets to increase or maintain low-carbon energy consumption or production.

Row 1

(7.54.1.1) Target reference number

Select from:

☑ Low 1

(7.54.1.2) Date target was set

01/01/2018

(7.54.1.3) Target coverage

Select from:

☑ Organization-wide

(7.54.1.4) Target type: energy carrier

Select from:

☑ Electricity

(7.54.1.5) Target type: activity

Select from:

☑ Consumption

(7.54.1.6) Target type: energy source

Select from:

☑ Renewable energy source(s) only

(7.54.1.7) End date of base year

12/31/2017

(7.54.1.8) Consumption or production of selected energy carrier in base year (MWh)

0

(7.54.1.9) % share of low-carbon or renewable energy in base year

0

(7.54.1.10) End date of target

12/31/2023

(7.54.1.11) % share of low-carbon or renewable energy at end date of target

42.1

(7.54.1.12) % share of low-carbon or renewable energy in reporting year

33

(7.54.1.13) % of target achieved relative to base year

78.38

(7.54.1.14) Target status in reporting year

Select from:

☑ Underway

(7.54.1.16) Is this target part of an emissions target?

Yes. Low-carbon energy consumption would reduce scope 2 emissions. This target is part of Abs1 and NZ1.

(7.54.1.17) Is this target part of an overarching initiative?

Select all that apply

☑ No, it's not part of an overarching initiative

(7.54.1.19) Explain target coverage and identify any exclusions

The target covers renewable energy consumption (self-generation) company-wide. Currently, the self-generated energy matrix has three sources: gas, liquid fossil fuels, and renewable energies (mainly, solar and hydro). The target is to increase the share of renewable energy installed capacity in the self-generated matrix. Self-generated electricity capacity with fossil fuels (gas and liquid) may vary, and even increase, in the future because these sources will be considered as a backup.

(7.54.1.20) Target objective

In terms of self-generation of non-conventional renewable energy, the aspiration is to increase renewable energy consumption company wide. The integration of alternative sources are paramount for Ecopetrol's growth and sustainability within the context of Energy Transition. The target allows i) Savings in energy efficiency; ii) GHG emissions reduction; iii) cost optimization.

(7.54.1.21) Plan for achieving target, and progress made to the end of the reporting year

Ecopetrol is committed to diversifying its energy mix through the development of renewable energy projects such as wind, solar, biomass, and geothermal energy, contributing to Colombia's sustainable future. In this context, Ecopetrol is making progress on the development of these projects, recognizing the potential of various energy sources in different regions of the country. Integrating these renewable sources will not only diversify the energy generation mix but also create jobs and foster local development in various parts of the country. By 2024, Ecopetrol had reached a capacity of 610.58 MW of renewable energy through projects in execution, construction, and operation, as well as energy purchases. This capacity increased by more than 138 MW compared with last year, which stood at 472 MW. This significant progress contributes to the continued strengthening of EG's self-generation capacity with renewable sources, leveraging a diversified portfolio of projects based on solar photovoltaic energy, wind energy, geothermal sources, biomass, among others. In 2024, Ecopetrol successfully implemented its Integrated Energy Self-Sufficiency Plan, which was approved at the Executive Committee (ExCo) in July. This plan aims to ensure reliable, cost-competitive, and low-emission energy for the Group. It's seen both as a business viability challenge and as an opportunity to diversify and generate EBITDA. The Ecopetrol Group also secured the right to participate in the offshore wind energy project launched by the National Government. The Company applied independently to obtain the Temporary Occupation Permit and assess the feasibility of incorporating up to 1 GW from this technology. Additionally, Ecopetrol presented the results of its "Biomass Strategic Options Plan" to the Strategic Committee. The plan prioritizes actions related to biofuels and the production of Sustainable Aviation Fuel (SAF). The Company is continuing to develop biomass for electricity generation and biogas. In partnership with USAID and Sun Colombia, Ecopetrol delivered its first project under the "Renewable Energy for Peace" initiative, benefiting 58 families in the La Victoria district of El Copey – Cesar.

Row 2

(7.54.1.1) Target reference number

Select from:

☑ Low 2

(7.54.1.2) Date target was set

01/01/2018

(7.54.1.3) Target coverage

Select from:

☑ Organization-wide

(7.54.1.4) Target type: energy carrier

Select from:

☑ Electricity

(7.54.1.5) Target type: activity

Select from:

☑ Consumption

(7.54.1.6) Target type: energy source

Select from:

☑ Renewable energy source(s) only

(7.54.1.7) End date of base year

12/31/2017

(7.54.1.8) Consumption or production of selected energy carrier in base year (MWh)

0

(7.54.1.9) % share of low-carbon or renewable energy in base year

0

(7.54.1.10) End date of target

12/31/2025

(7.54.1.11) % share of low-carbon or renewable energy at end date of target

44.7

(7.54.1.12) % share of low-carbon or renewable energy in reporting year

33

(7.54.1.13) % of target achieved relative to base year

73.83

(7.54.1.14) Target status in reporting year

Select from:

☑ Underway

(7.54.1.16) Is this target part of an emissions target?

Yes. Low-carbon energy consumption would reduce scope 2 emissions. This target is part of Abs1 and NZ1.

(7.54.1.17) Is this target part of an overarching initiative?

Select all that apply

☑ No, it's not part of an overarching initiative

(7.54.1.19) Explain target coverage and identify any exclusions

The target covers renewable energy consumption (self-generation) company-wide. Currently, the self-generated energy matrix has three sources: gas, liquid fossil fuels, and renewable energies (mainly, solar and hydro). The target is to increase the share of renewable energy installed capacity in the self-generated matrix. Self-generated electricity capacity with fossil fuels (gas and liquid) may vary, and even increase, in the future because these sources will be considered as a backup.

(7.54.1.20) Target objective

In terms of self-generation of non-conventional renewable energy, the aspiration is to increase renewable energy consumption company wide. The integration of alternative sources are paramount for Ecopetrol's growth and sustainability within the context of Energy Transition. The target allows i) Savings in energy efficiency; ii) GHG emissions reduction; iii) cost optimization.

(7.54.1.21) Plan for achieving target, and progress made to the end of the reporting year

Ecopetrol is committed to diversifying its energy mix through the development of renewable energy projects such as wind, solar, biomass, and geothermal energy, contributing to Colombia's sustainable future. In this context, Ecopetrol is making progress on the development of these projects, recognizing the potential of various energy sources in different regions of the country. Integrating these renewable sources will not only diversify the energy generation mix but also create jobs and foster local development in various parts of the country. By 2024, Ecopetrol had reached a capacity of 610.58 MW of renewable energy through projects in execution, construction, and operation, as well as energy purchases. This capacity increased by more than 138 MW compared with last year, which stood at 472 MW. This significant progress contributes to the continued strengthening of EG's self-generation capacity with renewable sources, leveraging a diversified portfolio of projects based on solar photovoltaic energy, wind energy, geothermal sources, biomass, among others. In 2024, Ecopetrol successfully implemented its Integrated Energy Self-Sufficiency Plan, which was approved at the Executive Committee (ExCo) in July. This plan aims to ensure reliable, cost-competitive, and low-emission energy for the Group. It's seen both as a business viability challenge and as an opportunity to diversify and generate EBITDA. The Ecopetrol Group also secured the right to participate in the offshore wind energy project launched by the National Government. The Company applied independently to obtain the Temporary Occupation Permit and assess the feasibility of incorporating up to 1 GW from this technology. Additionally, Ecopetrol presented the results of its "Biomass Strategic Options Plan" to the Strategic Committee. The plan prioritizes actions related to biofuels and the production of Sustainable Aviation Fuel (SAF). The Company is continuing to develop biomass for electricity generation and biogas. In partnership with USAID and Sun Colombia, Ecopetrol delivered its first project under the "Renewable Energy for Peace" initiative, benefiting 58 families in the La Victoria district of El Copey – Cesar.
[Add row]

(7.54.2) Provide details of any other climate-related targets, including methane reduction targets.

Row 1

(7.54.2.1) Target reference number

Select from:
☑ Oth 1

(7.54.2.2) Date target was set

01/01/2018

(7.54.2.3) Target coverage

Select from:
☑ Organization-wide

(7.54.2.4) Target type: absolute or intensity

Select from:

☑ Absolute

(7.54.2.5) Target type: category & metric (target numerator if reporting an intensity target)

Energy consumption or efficiency

☑ GJ

(7.54.2.7) End date of base year

12/31/2017

(7.54.2.8) Figure or percentage in base year

0

(7.54.2.9) End date of target

12/31/2026

(7.54.2.10) Figure or percentage at end of date of target

13300000

(7.54.2.11) Figure or percentage in reporting year

19910000

(7.54.2.12) % of target achieved relative to base year

149.6992481203

(7.54.2.13) Target status in reporting year

Select from:

☑ Achieved

(7.54.2.15) Is this target part of an emissions target?

Yes. This target aims at reducing energy consumption which means scope 1 and 2 emissions will also be reduced. This target is part of Abs1 and NZ1.

(7.54.2.16) Is this target part of an overarching initiative?

Select all that apply

☑ No, it's not part of an overarching initiative

(7.54.2.18) Please explain target coverage and identify any exclusions

The target covers all facilities where Ecopetrol has operational control, which means that includes Ecopetrol and Cartagena Refinery facilities.

(7.54.2.19) Target objective

The effective utilization of energy and the integration of alternative sources are paramount for Ecopetrol's growth and sustainability within the context of Energy Transition. The target allows i) Savings in energy efficiency; ii) GHG emissions reduction; and iii) cost optimization.

(7.54.2.21) List the actions which contributed most to achieving this target

Ecopetrol has established a low-emissions solutions business line with the objective of conceptualizing and developing an integral portfolio of energy solutions for the diversification and decarbonization of Ecopetrol's operations. This business line includes development of Gas, LPG, biogas, energy management, renewable energies (solar, wind, geothermal), hydrogen, CCUS, among others. Specifically, it includes the permanent optimization of energy systems (both electrical, and thermal), increasing the reliability of energy supply for its own operations. It also includes incorporating operational improvements, and new technologies. Since 2018, the Group has optimized its energy consumption by 19.91 PJ, including fuel, electricity, and steam, through 196 initiatives. In 2024, it executed 53 projects that contributed to an optimization of 4.17 PJ. These initiavies allowed the reduction of 357,966 tCO2e. The targets are measured in PJ. Figures reported here are in GJ, considering 1PJ=1,000,000 GJ.

Row 2

(7.54.2.1) Target reference number

Select from:

☑ Oth 2

(7.54.2.2) Date target was set

01/01/2018

(7.54.2.3) Target coverage

Select from:

☑ Organization-wide

(7.54.2.4) Target type: absolute or intensity

Select from:

☑ Absolute

(7.54.2.5) Target type: category & metric (target numerator if reporting an intensity target)

Energy consumption or efficiency

☑ GJ

(7.54.2.7) End date of base year

12/31/2017

(7.54.2.8) Figure or percentage in base year

0

(7.54.2.9) End date of target

12/31/2030

(7.54.2.10) Figure or percentage at end of date of target

25000000

(7.54.2.11) Figure or percentage in reporting year

19910000

(7.54.2.12) % of target achieved relative to base year

79.6400000000

(7.54.2.13) Target status in reporting year

Select from:

☑ Underway

(7.54.2.15) Is this target part of an emissions target?

Yes. This target aims at reducing energy consumption which means scope 1 and 2 emissions will also be reduced. This target is part of Abs1 and NZ1.

(7.54.2.16) Is this target part of an overarching initiative?

Select all that apply

☑ No, it's not part of an overarching initiative

(7.54.2.18) Please explain target coverage and identify any exclusions

The target covers all facilities where Ecopetrol has operational control, which means that includes Ecopetrol and Cartagena Refinery facilities.

(7.54.2.19) Target objective

The effective utilization of energy and the integration of alternative sources are paramount for Ecopetrol's growth and sustainability within the context of Energy Transition. The target allows i) Savings in energy efficiency; ii) GHG emissions reduction; and iii) cost optimization.

(7.54.2.20) Plan for achieving target, and progress made to the end of the reporting year

Ecopetrol has established a low-emissions solutions business line with the objective of conceptualizing and developing an integral portfolio of energy solutions for the diversification and decarbonization of Ecopetrol's operations. This business line includes development of Gas, LPG, biogas, energy management, renewable energies (solar, wind, geothermal), hydrogen, CCUS, among others. Specifically, it includes the permanent optimization of energy systems (both electrical, and thermal), increasing the reliability of energy supply for its own operations. It also includes incorporating operational improvements, and new technologies. Since 2018, the Group has optimized its energy consumption by 19.91 PJ, including fuel, electricity, and steam, through 196 initiatives. In 2024, it executed 53 projects that contributed to an optimization of 4.17 PJ. These initiatives allowed the reduction of 357,966 tCO2e. The targets are measured in PJ. Figures reported here are in GJ, considering 1PJ=1,000,000 GJ.

Row 3

(7.54.2.1) Target reference number

Select from:

☑ Oth 3

(7.54.2.2) Date target was set

01/31/2020

(7.54.2.3) Target coverage

Select from:

☑ Business division

(7.54.2.4) Target type: absolute or intensity

Select from:

☑ Absolute

(7.54.2.5) Target type: category & metric (target numerator if reporting an intensity target)

Methane reduction target

☑ Other methane reduction target, please specify :Reduction of routine flaring (Zero Routine Flaring), measured in Million scf.

(7.54.2.7) End date of base year

12/31/2020

(7.54.2.8) Figure or percentage in base year

6693

(7.54.2.9) End date of target

12/31/2030

(7.54.2.10) Figure or percentage at end of date of target

0

(7.54.2.11) Figure or percentage in reporting year

5037

(7.54.2.12) % of target achieved relative to base year

24.7422680412

(7.54.2.13) Target status in reporting year

Select from:

☑ Underway

(7.54.2.15) Is this target part of an emissions target?

Yes, it is part of the net-zero roadmap. Flaring reduction is one of the main levers to achieve the target. This target is part of Abs1 and NZ1.

(7.54.2.16) Is this target part of an overarching initiative?

Select all that apply

☑ Other, please specify :Zero Routine Flaring by 2030 lead by World Bank

(7.54.2.18) Please explain target coverage and identify any exclusions

The target covers upstream flaring reduction. It does not cover downstream flaring. Regarding upstream flaring, the target covers all production facilities where Ecopetrol has operational control. In 2022 and 2023, Ecopetrol made progress in characterizing which flaring activities are routine, non-routine, and emergency. In June 2025, the company submitted its fourth annual flaring report (2024 reporting year) to the GFMR of World Bank. This report included the routine flaring disaggregated, showing a reduction of 13,3% in comparison to the previous year. Also, by 2024, Ecopetrol has reduced 48% of total flaring in comparison with the 2017 baseline.

(7.54.2.19) Target objective

Currently, the objective is to achieve compliance with national regulation (Resolution 40066 of 2022 of the Ministry of Mines and Energy of Colombia) which aims to reduce exploration and production routine flaring when it is economically possible. This national regulation is aligned with the Zero Routine Flaring initiative. However, Ecopetrol set the target before the regulation was established.

(7.54.2.20) Plan for achieving target, and progress made to the end of the reporting year

To manage flaring emissions, Ecopetrol designed a guide that establishes the internal guidelines required for the implementation of the "Zero Routine Flaring by 2030" initiative, which includes the methodology for estimating the reduction of emissions related to gas flaring. This guide is aligned with Resolution 40066 issued by the Ministry of Mines and Energy. Currently, Ecopetrol is developing a roadmap that will help the company achieve zero routine flaring by 2030, considering that flares should only be used as emergency devices, therefore it is essential to consider the following information: flares inventory, identification of projects, strategic challenges, potential flare volumes to optimize, economic benefits, required resources, optimization lines, definition of performance indicators for different areas, definition and permanent monitoring, among others. This target will be achieved through evaluation and implementation of projects for use of gas, that is currently flared and through process optimization. These are the main actions to reduce routine flaring: - Convert associated gas to electrical power: Gas turbines convert gases that would otherwise be flared into electricity. The electricity is used on-site to power equipment. - Recover associated gas using vapor recovery units: Vapor recovery units capture gas flashed from tanks and compress it into the gas line so that it can be sold rather than released or flared. - Associated gas recovery: Gas is treated to remove water, sulphur, and carbon dioxide and then compressed on-site to produce compressed natural gas (CNG) and a natural gas liquids (NGL) product. Ecopetrol has a decarbonization plan which includes an emission reduction program. One of the main levers is Flaring optimization. In 2024, this lever allowed the reduction of 9082 tCO2e. In 2024, it is expected to reduce more than 17,000 tCO2e with the implementation of new projects.

Row 4

(7.54.2.1) Target reference number

Select from:

☑ Oth 4

(7.54.2.2) Date target was set

03/23/2023

(7.54.2.3) Target coverage

Select from:

☑ Business division

(7.54.2.4) Target type: absolute or intensity

Select from:

☑ Absolute

(7.54.2.5) Target type: category & metric (target numerator if reporting an intensity target)

Methane reduction target

☑ Total methane emissions in CO2e

(7.54.2.7) End date of base year

12/31/2019

(7.54.2.8) Figure or percentage in base year

1800176

(7.54.2.9) End date of target

12/31/2025

(7.54.2.10) Figure or percentage at end of date of target

990097

(7.54.2.11) Figure or percentage in reporting year

(7.54.2.12) % of target achieved relative to base year

60.0904356242

(7.54.2.13) Target status in reporting year

Select from:

☑ Underway

(7.54.2.15) Is this target part of an emissions target?

Yes. This target aims at reducing upstream methane emissions which means scope 1 emissions will also be reduced. This target is part of Abs1 and NZ1.

(7.54.2.16) Is this target part of an overarching initiative?

Select all that apply

☑ Other, please specify :Climate and Clean Air Coalition (CCAC) Oil and Gas Methane Partnership (OGMP 2.0) Aiming for Zero Methane Emissions

(7.54.2.18) Please explain target coverage and identify any exclusions

The target covers upstream methane emissions reduction. It does not cover downstream methane emissions reduction. Regarding upstream, the target covers all production facilities where Ecopetrol has operational control. The reported figures corresponds to fugitive and venting emissions. Originally, the target is measured directly in tonnes of methane. However, figures reported here are converted to tonnes of CO2 equivalent, using IPCC's Global Warming Potential (GWP). In the fifht assessment report (AR5), methane GWP is 28.

(7.54.2.19) Target objective

Currently, the objective is to achieve compliance with national regulation (Resolution 40066 of 2022 of the Ministry of Mines and Energy of Colombia) which aims to reduce exploration and production methane emissions (vented or leaked) when it is economically possible.

(7.54.2.20) Plan for achieving target, and progress made to the end of the reporting year

To the date, Ecopetrol has advanced in methane emissions detection and quantification using different cutting-edge technologies such as infrared cameras and flow meters (bottom-up approach), as well as satellite image analysis and flights with methane sensors (top-down approach) with which it has evaluated about 95% of the

company's operations. Ecopetrol has also joined global initiatives such as the Climate and Clean Air Coalition (CCAC) and the Oil and Gas Methane Partnership (OGMP 2.0) led by the United Nations, with the purpose of exchanging knowledge, accessing cooperation resources and new technologies for detecting, measuring, and reducing methane emissions. This methane reduction target complements the company's announced commitment to achieve net zero emissions by 2050 (Scope 1 and 2) and to reduce 25% of its CO2e emissions by 2030 compared to the 2019 baseline (scopes 1 and 2). It also seeks to contribute to: i) the commitment acquired by the country at the Conference of the Parties-COP26 held in Glasgow in 2021, to reduce 30% of methane emissions by 2030; and ii) to the challenges established in the Paris Agreement to mitigate global warming. Ecopetrol will develop periodic reviews of the goal, analyzing technological, operational and economic aspects with the ambition of approaching zero methane emissions generated in upstream over the next decade, in line with the pioneering companies in the industry. Ecopetrol has a decarbonization plan which includes an emission reduction program. One of the main levers is Fugitive and venting reduction. This includes projects associated with the elimination of leaks and vents in the processes. In 2024, this initiative allowed the reduction of 91,383 tCO2e, through the detection, measurement and elimination of fugitive emissions and the reduction of venting in tanks and wells.

Row 5

(7.54.2.1) Target reference number

Select from:

☑ Oth 5

(7.54.2.2) Date target was set

03/23/2023

(7.54.2.3) Target coverage

Select from:

☑ Business division

(7.54.2.4) Target type: absolute or intensity

Select from:

☑ Absolute

(7.54.2.5) Target type: category & metric (target numerator if reporting an intensity target)

Methane reduction target

☑ Total methane emissions in CO2e

(7.54.2.7) End date of base year

12/31/2019

(7.54.2.8) Figure or percentage in base year

1800176

(7.54.2.9) End date of target

12/31/2030

(7.54.2.10) Figure or percentage at end of date of target

810079

(7.54.2.11) Figure or percentage in reporting year

1313396

(7.54.2.12) % of target achieved relative to base year

49.1648798047

(7.54.2.13) Target status in reporting year

Select from:
☑ Underway

(7.54.2.15) Is this target part of an emissions target?

Yes. This target aims at reducing upstream methane emissions which means scope 1 emissions will also be reduced. This target is part of Abs1 and NZ1.

(7.54.2.16) Is this target part of an overarching initiative?

Select all that apply

☑ Other, please specify :Climate and Clean Air Coalition (CCAC) Oil and Gas Methane Partnership (OGMP 2.0) Aiming for Zero Methane Emissions

(7.54.2.18) Please explain target coverage and identify any exclusions

The target covers upstream methane emissions reduction. It does not cover downstream methane emissions reduction. Regarding upstream, the target covers all production facilities where Ecopetrol has operational control. The reported figures corresponds to fugitive and venting emissions. Originally, the target is measured directly in tonnes of methane. However, figures reported here are converted to tonnes of CO2 equivalent, using IPCC's Global Warming Potential (GWP). In the fifht assessment report (AR5), methane GWP is 28.

(7.54.2.19) Target objective

Currently, the objective is to achieve compliance with national regulation (Resolution 40066 of 2022 of the Ministry of Mines and Energy of Colombia) which aims to reduce exploration and production methane emissions (vented or leaked) when it is economically possible.

(7.54.2.20) Plan for achieving target, and progress made to the end of the reporting year

To the date, Ecopetrol has advanced in methane emissions detection and quantification using different cutting-edge technologies such as infrared cameras and flow meters (bottom-up approach), as well as satellite image analysis and flights with methane sensors (top-down approach) with which it has evaluated about 95% of the company's operations. Ecopetrol has also joined global initiatives such as the Climate and Clean Air Coalition (CCAC) and the Oil and Gas Methane Partnership (OGMP 2.0) led by the United Nations, with the purpose of exchanging knowledge, accessing cooperation resources and new technologies for detecting, measuring, and reducing methane emissions. This methane reduction target complements the company's announced commitment to achieve net zero emissions by 2050 (Scope 1 and 2) and to reduce 25% of its CO2e emissions by 2030 compared to the 2019 baseline (scopes 1 and 2). It also seeks to contribute to: i) the commitment acquired by the country at the Conference of the Parties-COP26 held in Glasgow in 2021, to reduce 30% of methane emissions by 2030; and ii) to the challenges established in the Paris Agreement to mitigate global warming. Ecopetrol will develop periodic reviews of the goal, analyzing technological, operational and economic aspects with the ambition of approaching zero methane emissions generated in upstream over the next decade, in line with the pioneering companies in the industry. Ecopetrol has a decarbonization plan which includes an emission reduction program. One of the main levers is Fugitive and venting reduction. This includes projects associated with the elimination of leaks and vents in the processes. In 2024, this initiative allowed the reduction of 91,383 tCO2e, through the detection, measurement and elimination of fugitive emissions and the reduction of venting in tanks and wells.
[Add row]

(7.54.3) Provide details of your net-zero target(s).

Row 1

(7.54.3.1) Target reference number

Select from:

☑ NZ1

(7.54.3.2) Date target was set

03/25/2021

(7.54.3.3) Target Coverage

Select from:

☑ Organization-wide

(7.54.3.4) Targets linked to this net zero target

Select all that apply

☑ Abs1

☑ Low1

☑ Low2

☑ Low3

(7.54.3.5) End date of target for achieving net zero

12/31/2050

(7.54.3.6) Is this a science-based target?

Select from:

☑ No, and we do not anticipate setting one in the next two years

(7.54.3.8) Scopes

Select all that apply

☑ Scope 1

☑ Scope 2

(7.54.3.9) Greenhouse gases covered by target

Select all that apply

☑ Carbon dioxide (CO2)

☑ Methane (CH4)

☑ Nitrous oxide (N2O)

(7.54.3.10) Explain target coverage and identify any exclusions

The target is company-wide, it covers all activities in facilities where Ecopetrol has operational control. In march 2021, in line with its commitment to mitigate climate change, advance with the energy transition and its TESG agenda, the Ecopetrol Group announced its goal of having net zero emissions by 2050 for scopes 1 and 2. Under this goal, the company ratifies its responsibility with the Sustainable Development Goals (SDGs) and with the Paris Agreement's purpose of curtailing global warming. The 2050 objective has intermediate goals and a short, medium and long-term portfolio, with some projects already implemented or in a research stage. By 2030, the Ecopetrol Group seeks to reduce its CO2e emissions by 25% (scopes 1 and 2) compared to a 2019 baseline. According to the estimated emissions projected by 2030, this reduction represented an initial estimate of between 5 and 6 million tons of CO2e reductions in this decade. In addition, Ecopetrol seeks to reduce 50% of its total emissions by 2050 (scopes 1, 2 and 3). Therefore, the published commitment includes the scopes 1 and 2 reduction target combined with a scope 3 reduction target. The target considers the reduction of 100% scope 1 and 2 emissions, and 45% of scope 3, to achieve a reduction of 50% of total GHG emissions (Scopes 1, 2 and 3). In March 2022, SBTi published a Fossil Fuels Policy, which indicates the following premises: (i) pauses the validation of fossil fuel sector targets, (ii) will not accept new commitments from companies or subsidiaries according to the defined categories, and (iii) removal of previous commitments by oil and gas sector companies immediately. The oil and gas guidance has not been published yet by SBTi, but it is expected by late 2025. Once the specific guidance is released, Ecopetrol will review its ambition and alignment with SBTi.

(7.54.3.11) Target objective

As part of Ecopetrol's efforts to contribute to the Sustainable Development Goals, the Paris Agreement and Colombia's Nationally Determined Contribution (NDC), and in line with its commitment to mitigate climate change, advance with the energy transition and its TESG agenda, the company maintains its commitment to achieve zero net GHG emissions by 2050 (scopes 1 and 2) and to move towards a fair and equitable energy transition.

(7.54.3.12) Do you intend to neutralize any residual emissions with permanent carbon removals at the end of the target?

Select from:

☑ Yes

(7.54.3.13) Do you plan to mitigate emissions beyond your value chain?

Select from:

☑ No, and we do not plan to within the next two years

(7.54.3.14) Do you intend to purchase and cancel carbon credits for neutralization and/or beyond value chain mitigation?

Select all that apply

☑ Yes, we plan to purchase and cancel carbon credits for neutralization at the end of the target

(7.54.3.15) Planned milestones and/or near-term investments for neutralization at the end of the target

The net-zero roadmap includes: 2020- 2025: - Permanently update the inventory of emissions from direct operations, subsidiaries, and non-operated assets, including those associated with scope 3. - Implementation of initiatives identified for energy efficiency, reduction of fugitive emissions, venting and flaring, and renewable energies – solar, wind and geothermal. - Identifying additional initiatives for efficiency, flaring reduction, and biomass. - Developing the portfolio of Natural Climate Solutions. - Green hydrogen pilot. 2025-2030: - Implementing additional technological options in energy efficiency, reduction of fugitive emissions, venting and flaring, fuel substitution, and renewable energies – solar, wind and geothermal. - Further developing the portfolio of Natural Climate Solutions. - Gradually escalating green hydrogen and carbon capture, use and sequestration pilots – if the technologies are competitive. 2030-2050: - Capitalizing on the technological advancement of competitive initiatives in green hydrogen, carbon sequestration and renewable energy with storage through batteries. -Further developing the portfolio of Natural Climate Solutions. Additionally, according to the 2040 Corporate Strategy, the Company will neutralize around 30% of emissions through Natural Climate Solutions. Also, over the next three years more than USD 200 million is expected to be invested in green hydrogen projects in the Cartagena and Barrancabermeja refineries, and in CO2 capture projects through both emerging technologies (CCUS) and Natural Climate Solutions (NCS) projects. Also, Ecopetrol plans to neutralize, in 2050, around 30% of emissions. According to the 2040 Corporate Strategy, the Company will neutralize around 30% of emissions through Natural Climate Solutions.

(7.54.3.17) Target status in reporting year

Select from:

☑ Underway

(7.54.3.19) Process for reviewing target

Ecopetrol will review its net zero target one SBTi releases the specific guidance for oil and gas sector. In March 2022, SBTi published a Fossil Fuels Policy, which indicates the following premises: (i) pauses the validation of fossil fuel sector targets, (ii) will not accept new commitments from companies or subsidiaries according to the defined categories, and (iii) removal of previous commitments by oil and gas sector companies immediately. The oil and gas guidance has not been published yet by SBTi, but it is expected by late 2025. Once the specific guidance is released, Ecopetrol will review its ambition and alignment with SBTi.
[Add row]

(7.55) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Select from:

☑ Yes

(7.55.1) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e
Under investigation	*48*	*`Numeric input*
To be implemented	*56*	*181523*
Implementation commenced	*34*	*280832*
Implemented	*90*	*462074*
Not to be implemented	*17*	*`Numeric input*

[Fixed row]

(7.55.2) Provide details on the initiatives implemented in the reporting year in the table below.

Row 1

(7.55.2.1) Initiative category & Initiative type

Energy efficiency in production processes

☑ Process optimization

(7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

462074

(7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

☑ Scope 1

☑ Scope 2 (market-based)

(7.55.2.4) Voluntary/Mandatory

Select from:

☑ Voluntary

(7.55.2.5) Annual monetary savings (unit currency – as specified in 1.2)

174795174340

(7.55.2.6) Investment required (unit currency – as specified in 1.2)

771160335000

(7.55.2.7) Payback period

Select from:

☑ 4-10 years

(7.55.2.8) Estimated lifetime of the initiative

Select from:

☑ 16-20 years

(7.55.2.9) Comment

Emission reduction, savings, and investment figures include all decarbonization initiatives implemented in 2024 across the five levers identified by Ecopetrol: energy efficiency, renewable energy, fugitive and venting emissions management, flaring optimization, and source substitution. Global calculation is used to determine the payback period and expected lifetime of initiatives. The greatest savings arise from energy efficiency initiatives in both up and downstream. Regarding the scopes where reductions were achieved: -Energy efficiency: scope 1 -Renewable energy: scopes 1 and 2 -Fugitive and venting emissions: scope 1 -Flaring optimization: scope 1 -Source substitution: scope 1 In column 4, 'voluntary' was selected. This applies to all levers except fugitive and venting emissions management, which has been mandatory since 2022.
[Add row]

(7.55.3) What methods do you use to drive investment in emissions reduction activities?

Row 1

(7.55.3.1) Method

Select from:
☑ Dedicated budget for energy efficiency

(7.55.3.2) Comment

Ecopetrol has an Energy Efficiency Program, with a dedicated budget, which aims to optimize the organization's energy performance, achieving a reduction in energy consumption and a reduction in GHG emissions as part of its decarbonization program objectives. This program is based on the ISO:50001 Standard.

Row 2

(7.55.3.1) Method

Select from:
☑ Internal price on carbon

(7.55.3.2) Comment

In 2020 Ecopetrol defined the methodology and implemented an internal price on carbon that incorporates the carbon dioxide emissions' impact (positive or negative) on investments economic valuations as a complementary decision-making criterion. Before 2022, the case with internal price on carbon was used as a sensitivity. In 2022, the methodology was updated, and the case with internal price on carbon became mandatory. One of the pivotal governance instruments in the Environmental Strategy and the "Climate Action" pillar is the roadmap, which enables the gradual definition of actions over time to solidify goals associated with the material issue of

Climate Change. This roadmap encompasses five (5) strategic levers and their associated actions to effectively address the identified challenges and impacts: (i) Greenhouse Gas Emissions Reduction; (ii) Climate-Related Risk Management; (iii) Portfolio Strategic Management; (iv) Greenhouse Gas Emissions Offset; and (v) Greenhouse Gas Emissions Information Management. The portfolio strategic management corresponds to the analysis of the impact of business lines on climate ambition. The associated actions are: a) Implementation of internal carbon pricing as an evaluation criterion for decision-making in capital allocation. b) Asset analysis with a focus on emissions and value generation for the Business Group. c) Definition of Climate Change criteria for the analysis of asset incorporation and divestments. d) Evaluation of other economic instruments promoting the development of low-carbon projects. Currently, Ecopetrol has set an internal carbon price at US$ 25/tCO2e in 2024, 40 US$/tCO2e between 2025 and 2029, and 50 US$/tCO2e from 2030 onwards, which will be used to assess and evaluate current and future projects and investments.

Row 3

(7.55.3.1) Method

Select from:

☑ Dedicated budget for low-carbon product R&D

(7.55.3.2) Comment

Ecopetrol's Center for Innovation and Technology (ICP, for its Spanish acronym) develops different projects, (studies on energy efficiencies, hydrogen, optimization ingas processes, etc.) including those that improve the efficiencies of processes in the hydrocarbon value chain to reduce the carbon footprint. In 2024, ICP changed its name to ICPET (Colombian Institute of Petroleum and Transition Energies), to become a major player in energy transition, generating innovation, development and science that will contribute to Colombia's energy transition and the transformation from fossil fuels to clean energy. ICPET will focus on energy transition, decarbonisation, circular economy and chemical recycling, among other aspects.

Row 4

(7.55.3.1) Method

Select from:

☑ Financial optimization calculations

(7.55.3.2) Comment

In 2021 an update of capital discipline criteria for resource allocation was conducted, considering the energy transition strategy of Ecopetrol, a lower hurdle discounted rate of return (minimum rate of return expected) was set for energy projects including renewables. This adjustement continued to be implemented in 2022 and 2023.

Row 5

(7.55.3.1) Method

Select from:

☑ Marginal abatement cost curve

(7.55.3.2) Comment

To prioritize emission reduction initiatives and capital allocation, the marginal abatement cost curve (MACC) was developed, which represents the CO2e emissions abated by the different technology levers and its cost per reduced tonne of CO2e. Ecopetrol's abatement initiatives portfolio is grouped into six technology levers: fugitive and venting, flaring, energy efficiency, renewable energy, hydrogen, and carbon capture, use and sequestration (CCUS). In 2023, Ecopetrol updated its Marginal Abatement Cost Curve (MACC) to identify emission reduction opportunities for closing Ecopetrol's gap to meet the 2030 emission reduction target. The MACC included adjustments on Ecopetrol's ambition regarding mature levers such as renewable energy, methane reduction projects, and energy efficiency.

Row 6

(7.55.3.1) Method

Select from:

☑ Internal incentives/recognition programs

(7.55.3.2) Comment

The company has a short-term variable compensation plan tied to business results that is applicable to all employees and reviewed annually through the Management Balanced Scorecards (TBGs, for its Spanish Acronym). Since 2010, Ecopetrol has been implementing greenhouse gas emissions (GHG) reduction projects in different operational areas, and since 2012 the company has implemented annual emission reduction targets. Each annual target is set by identifying projects from the portfolio that will be developed the following year. For 2024, the Management Balanced Scorecard includes a greenhouse gas (GHG) reduction goal that measures the cumulative reduction of emissions in the Ecopetrol Group in terms of CO2 equivalent (CO2, CH4, N2O), through the implementation of projects such as energy efficiency, process optimization, gas utilization, changes in the energy matrix, among others. The Long-Term Incentives (LTI) apply to company executives and each plan includes a GHG reduction target for each three-year period, aligned with the company's goal of reducing GHG emissions by 25% by 2030 (Scopes 1 and 2) and achieving zero net carbon emissions by 2050 (Scopes 1 and 2). Currently, Ecopetrol has implemented three LTI plans for the periods 2021-2023, 2022-2024, and 2023-2025.
[Add row]

(7.57) Describe your organization's efforts to reduce methane emissions from your activities.

Ecopetrol has been making progress in the management of methane emissions and complying with the provisions of the national regulation issued by the Ministry of Mines and Energy and the Hydrocarbons National Agency (ANH). Since 2019, Ecopetrol has been systematically advancing in the methane emissions detection and measurement undertaking top-down and bottom-up direct measurement campaigns with different technologies in the assets and facilities of the company in Colombia. These emissions have been tracked in both upstream and downstream segments. Around 96% of methane emissions occur in upstream activities, where the main emission sources are venting from tanks and wells (91%). Other methane emissions sources are fugitives (3%), flaring (4%) and incomplete fuels combustion (2%) in both stationery and mobile sources. Aligned with the company's efforts to reduce methane emissions, Ecopetrol joined the Climate and Clean Air Coalition (OGMP-CCAC) in 2018, and in 2020, the company joined the Oil and Gas Methane Partnership – OGMP 2.0 led by UNEP, which looks for more transparent and standardized reporting of methane emissions from oil and gas value chains. In 2023, Ecopetrol joined the Aiming for Zero Methane Emissions Initiative, launched by the Oil and Gas Climate Initiative (OGCI) that encourages the oil and gas industry to reduce methane emissions close to zero by 2030. Ecopetrol also signed the Oil and gas Decarbonization Charter – OGDC at COP 28 to accelerate the decarbonization of the global oil and gas sector. The Charter lays out a series of ambitions towards net-zero operations by or before 2050 and a commitment to reduce methane emissions near zero by 2030. As part of its commitments, in 2019, the company conducted its first bottom-up measurement campaign. In 2021, the company received technical support from the Canadian government for conducting bottom-up measurements to fugitives and vents in tanks and wells in upstream assets. In the same year, the company performed the first top-down measurement campaign over 95% of upstream assets in Colombia with former Kairos Aerospace, recently rebranded as Insight M. Later, in 2023 and 2024, the company performed additional top-down campaigns over Ecopetrol's material operated and some non-operated assets. In 2024, a dedicated campaign was deployed to measure vents from tanks, wells and incomplete combustion in Magdalena Medio assets. Ecopetrol continually conducts fugitive emissions direct measurements with OGI and QOGI devices. In 2024 and 2025, Ecopetrol participated in an international scientific study for methane measurement, led by the United Nations Environment Program and the University of Carleton of Canada. Its objective was to measure and identify key sources and drivers of methane emissions in the O&G sector in Colombia. The top-down measurements were conducted in 2024, from March to May, using an airborne Gas Mapping LiDAR sensor. The bottom-up campaign was carried out in March and April 2025 to measure flares efficiency, incomplete combustion, vents from tanks and fugitives. In March 2023, Ecopetrol committed to reduce 45% of its methane emissions by 2025 and 55% by 2030, compared to the 2019 baseline, in upstream direct operations. In the period 2020-2024 Ecopetrol reduced ~17.300 tCH4 (~484.000 tCO2e). Ecopetrol was awarded by OGMP 2.0. with the Gold Standard recognition in 2023 and in 2024 for reporting at the highest level of asset granularity. This recognition brings motivation to continue advancing in methane emissions management and pursuing the methane reduction goals achievement. In February 2022, Colombia published the regulation on methane emissions, leaks, vents and flaring, issued by the Colombian Ministry of Mines and Energy and becoming the first regulation on the matter in the country. The Resolution 40066 establishes the "Technical requirements for the detection and repair of leaks, exploitation, flaring and venting of natural gas during hydrocarbon exploration and exploitation activities". Complying with the requirements of this regulation, Ecopetrol submitted to the ANH in February 2024, the fugitives baseline based on direct measurements carried out in all the Upstream assets, including the LDAR (leak detection and repair) program the company is currently implementing to keep leaks at its minimum level. Additionally, on the same dates the company submitted to ANH, the vents closure program, based on engineering calculations, simulations and direct measurements conducted by the company since 2021

(7.61) Does your organization conduct leak detection and repair (LDAR) or use other methods to find and fix fugitive methane emissions from oil and gas production activities?

Select from:

☑ Yes

(7.61.1) Describe the protocol through which methane leak detection and repair or other leak detection methods, are conducted for oil and gas production activities, including predominant frequency of inspections, estimates of assets covered, and methodologies employed.

In 2021, Ecopetrol developed the first major fugitives and venting detection and measurement campaign in 95% of its upstream production assets, with the support of the Canadian government. This campaign allowed the following: i) to structure a robust baseline on methane, and ii) to define specific emissions factors for the organization. In 2022, Ecopetrol used this information to recalculate the historical series 2019 – 2021. The recalculation process included: (i) adjustment and calculation of specific emission factors for Ecopetrol, and (ii) change in the emissions estimation methodology. Ecopetrol has an internal guideline for the implementation of a LDAR program, applicable to exploration and production activities, based on the requirements of Resolution 40066, "Technical requirements for the detection and repair of leaks, exploitation, flaring and venting of natural gas during hydrocarbon exploration and exploitation activities", issued by the Colombian ministry of Mines and Energy in 2022. The program must include: i) at least two inspections per year, ii) definition and schedule of activities aimed at leak detection and repair for a period of one year, and iii) definition of maintenance plan for the equipment to prevent subsequent leaks. The document also includes guidelines for the following activities: i) leak detection, ii) leak quantification, iii) leak repair, iv) LDAR monitoring, and v) LDAR assessment. Ecopetrol acquired measurement equipment as QOGI cameras and hi-flow samplers and appointed a group of people responsible for the development, management, and handling of the LDAR program. This group has knowledge and experience in facilities, operating processes, identification and quantification of leaks, industrial and environmental safety, and the operations and processes related to the development and content of the program. An annual report must be submitted to the National Hydrocarbons Agency (ANH, for its Spanish acronym) of the leak detection and repair actions implemented within the program, as well as a description of 5% of the natural gas leaks that have been left out of the materiality approach. Also, an annual assessment of the LDAR implementation must be developed. The assessment must include: i) developed actions, ii) actions that were not developed with justification, iii) percentage of progress of each action, iv) list of recommendations to address the actions that were not developed, v) schedule for addressing the recommendations, and vi) monitoring of previous recommendations including date of attention. Taking the foregoing as input, as well as the recent regulatory framework in 2023 and 2024 additional fugitives measurements were undertaken to complete the fugitives baseline and to confirm the effective closure of leaks as part of the Leak Detection and Repair - LDAR campaigns across upstream assets. Additionally, in 2024 a dedicated bottom-up campaign was deployed to measure vents from tanks, from wellheads and efficiency of combustion equipment in Magdalena Medio Region assets. For the different bottom-up campaigns developed to this date to measure fugitives and venting methane emissions, the following equipment was used: i) QOGI cameras, to detect the leaks; ii) Hi-Flow Sampler, to take samples of the leak; iii) ultrasonic flowmeter, to measure well casinghead venting and iv) Vortex flowmeter, to measure venting in tanks, v) rotative meter to measure wellhead venting and tanks venting and pitot tubes measurement for efficiency combustion. ~2300 leaks have been closed to this date under the LDAR program implemented by the company.

(7.62) If flaring is relevant to your oil and gas production activities, describe your organization's efforts to reduce flaring, including any flaring reduction targets.

For Ecopetrol, flaring reduction is one of the strategic levers for GHG emissions reduction. Ecopetrol endorsed the Zero Routine Flaring (ZRF) initiative in January 2020, acquiring the commitment of zero routine flaring by 2030, through a scalable effort in the reduction of existing upstream flaring, and zero routine flaring in new oilfield developments. In Ecopetrol, flaring corresponds to 7% of total emissions; being the third most important emission source. By 2024, Ecopetrol has reduced 48% of total flaring in comparison with the 2017 baseline. In June 2025, the company submitted its fourth flaring annual report to the GFMR of World Bank. This report included the routine flaring disaggregated, showing a reduction of 13,3% in comparison to the previous year. 2022 was the first year the Company reported its routine flaring and was set as the baseline to compare the routine flaring reductions. Flaring reduction is one of the main levers in Ecopetrol for emissions reduction,

including projects associated with the optimization of flared gas through sale, use for self-generation, or process improvement. Ecopetrol has implemented the following initiatives to reduce flaring in existing fields: - Convert associated gas to electrical power: Gas turbines convert gases that would otherwise be flared into electricity. The electricity is used on-site to power equipment. - Recover associated gas using vapor recovery units: Vapor recovery units capture gas flashed from tanks and compress it into the gas line so that it can be sold rather than released or flared. - Associated gas recovery: Gas is treated to remove water, sulphur, and carbon dioxide and then compressed on-site to produce compressed natural gas (CNG) and a natural gas liquids (NGL) product. To manage flaring emissions, Ecopetrol designed a guide that establishes the internal guidelines required for the implementation of the "Zero Routine Flaring by 2030" initiative, which includes the methodology for estimating the total, routine, non-routine and safety gas flared and estimating the reduction of emissions related to gas flaring. Additionally, this guide is aligned with Resolution 40066 issued by the Ministry of Mines and Energy. Likewise, Ecopetrol has developed a roadmap that will help the company achieve zero routine flaring by 2030.

(7.74) Do you classify any of your existing goods and/or services as low-carbon products?

Select from:

☑ Yes

(7.74.1) Provide details of your products and/or services that you classify as low-carbon products.

Row 1

(7.74.1.1) Level of aggregation

Select from:

☑ Product or service

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

☑ Low-Carbon Investment (LCI) Registry Taxonomy

(7.74.1.3) Type of product(s) or service(s)

Biofuels

☑ Other, please specify :Biodiesel

(7.74.1.4) Description of product(s) or service(s)

Diesel sold by Ecopetrol S.A. has a percentage of Biodiesel (Biofuel produced from Palm Oil), in line with Colombia's Law 939 of 2004. The blend marketed by Ecopetrol from the Barrancabermeja Refinery is known as B2E Diesel (98% Fossil Diesel and 2% Biodiesel). Wholesale distributors mix B2E with Biodiesel, generating a B10 mixture (90% Fossil Diesel and 10% Biodiesel), which is the one consumed in the Colombian market. Ecodiesel, one of the Ecopetrol Group's subsidiaries, has a biodiesel production plant in Barrancabermeja with a production capacity of 130 thousand tons per year. Ecopetrol has 50% of the total revenues of this production.

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

☑ Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

☑ Other, please specify :Resolution 1962 of 2017 of Colombia's Ministry of Environment and Sustainable Development

(7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

☑ Use stage

(7.74.1.8) Functional unit used

To use Ecopetrol's marketed biodiesel (2% Biodiesel, 98% diesel) compared to 100% fossil diesel

(7.74.1.9) Reference product/service or baseline scenario used

100% Fossil Diesel

(7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

☑ Use stage

(7.74.1.11) Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

195943

(7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

Ecodiesel produces 100% biodiesel. Ecopetrol owns half of Ecodiesel's production. Using the 100% biodiesel high heating value, it was possible to calculate the energy contained in the production owned by Ecopetrol and, using the fossil diesel high heating value, it was possible to determine the produced mass if it were fossil diesel. Avoided emissions were calculated using emissions factors for CO2, CH4, and N2O for national fuels, calculated by Mining and Energy Planning Unit (UPME, for its Spanish acronym), and IPCC's AR5 Global Warming Potentials. Regarding the revenue generated from low-carbon products, Ecopetrol owns 50% of the Joint Venture with Ecodiesel. As of december 31 2024, income generated through the equity method (recognized in the Ecopetrol's Group income statement) rose to 16,524 million, which contributed 0.11% of the group's profit.

(7.74.1.13) Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.11

Row 2

(7.74.1.1) Level of aggregation

Select from:

☑ Product or service

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

☑ No taxonomy used to classify product(s) or service(s) as low carbon

(7.74.1.3) Type of product(s) or service(s)

Other

☑ Other, please specify :Modified asphalt with 50% recycled plastic

(7.74.1.4) Description of product(s) or service(s)

Modified asphalts can have higher durability compared to conventional asphalts. The modification can be done with polymeric materials such as polypropylene. Given the high demand for these plastics and the environmental impacts associated with the extraction of raw material, a project is proposed to replace part of the virgin plastic with recycled plastic, in proportions that meet the required properties.

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

☑ Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

☑ Other, please specify :Ecopetrol performed a Life Cycle Analysis (LCA) on modified asphalt, which included a comparison with conventional asphalt. Avoided emissions are estimated using LCA results for both conventional and modified asphalts.

(7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

☑ Use stage

(7.74.1.8) Functional unit used

To use modified asphalt with 50% recycled plastic compared to conventional asphalt

(7.74.1.9) Reference product/service or baseline scenario used

100% conventional asphalt

(7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

☑ Use stage

(7.74.1.11) Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

3.32

(7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

In 2023, Ecopetrol performed a Life Cycle Analysis for Asphalt modified with recycled plastic, that used two Product Category Rules (PCR): PCR 2018:04. Asphalt mixtures v1.03 and PCR 2010:16 Plastics in primary primary forms v3.0.2. From this study Ecopetrol found that there's a GHG reduction for several stages on the LCA. Specifically for the use stage, the climate impact is reduced from 16,1 kgCO2e/tonne of product (for conventional asphalt) to 8,07 kgCO2e/tonne of product (for asphalt modified with recycled plastic). The use stage considers the preparation of the asphalt mix and its application on the roads. These results were used to estimate the avoided emissions, considering the amount of product sold in 2024. Currently, the modified asphalt with post-consumer recycled plastic initiative continues its massification process.

(7.74.1.13) Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0
[Add row]

(7.79) Has your organization retired any project-based carbon credits within the reporting year?

Select from:
☑ Yes

(7.79.1) Provide details of the project-based carbon credits retired by your organization in the reporting year.

Row 1

(7.79.1.1) Project type

Select from:
☑ Agriculture

(7.79.1.2) Type of mitigation activity

Select from:

☑ Emissions reduction

(7.79.1.3) Project description

The DELFINES CUPICA Conservation Project seeks the conservation of the forests located in recognition of the Afro-Colombian communities grouped in the two Community Councils that integrate and propose this project. The project specific objectives are: to mitigate the effects caused by climate change through the implementation of measures for the reduction and capturing of CO2 emissions, by avoiding deforestation and promoting the restoration of degraded forest territories.

(7.79.1.4) Credits retired by your organization from this project in the reporting year (metric tons CO2e)

165000

(7.79.1.5) Purpose of retirement

Select from:

☑ Compliance with a carbon pricing system

(7.79.1.6) Are you able to report the vintage of the credits at retirement?

Select from:

☑ Yes

(7.79.1.7) Vintage of credits at retirement

2020

(7.79.1.8) Were these credits issued to or purchased by your organization?

Select from:

☑ Purchased

(7.79.1.9) Carbon-crediting program by which the credits were issued

Select from:

☑ Other private carbon crediting program, please specify :Colombian Technical Standard NTC 6802 “Mitigation actions in the land use, land use change, and forestry (LULUCF) sector at the rural level, incorporating social and biodiversity considerations”

(7.79.1.10) Method the program uses to assess additionality for this project

Select all that apply

☑ Other, please specify :The methodology for verifying additionality was defined in accordance with the requirements of Article 43 of Resolution 1447 of 2018.

(7.79.1.11) Approaches by which the selected program requires this project to address reversal risk

Select all that apply

☑ No risk of reversal

(7.79.1.12) Potential sources of leakage the selected program requires this project to have assessed

Select all that apply

☑ Ecological leakage

(7.79.1.13) Provide details of other issues the selected program requires projects to address

There are no other issues to be addressed

(7.79.1.14) Please explain

Available online: https://globalcarbontrace.io/projects/7

Row 2

(7.79.1.1) Project type

Select from:

☑ Agriculture

(7.79.1.2) Type of mitigation activity

Select from:

☑ Emissions reduction

(7.79.1.3) Project description

The KALIAWIRI REDD+ Project is developerd within the Orinoco-Amazon transition zone by 7 "Indigenous groups" of the Sikuani and Piapoco tribes which actively works to ensure the conservation of the 358.000 hectares of tropical rainforest forests they own within their communities. They have defined as cross line of action educational processes in forest governance, entrepreneurship, gender equality, rescue of ancestral cultural traditions, and territorial delineation; reforestation and community monitoring; implementation of renewable energies and improvement of infrastructure in communications, mobility, health and recreation, technification of productive processes carried out by the communities for self-sufficiency.

(7.79.1.4) Credits retired by your organization from this project in the reporting year (metric tons CO2e)

150000

(7.79.1.5) Purpose of retirement

Select from:

☑ Compliance with a carbon pricing system

(7.79.1.6) Are you able to report the vintage of the credits at retirement?

Select from:

☑ Yes

(7.79.1.7) Vintage of credits at retirement

2019

(7.79.1.8) Were these credits issued to or purchased by your organization?

Select from:

☑ Purchased

(7.79.1.9) Carbon-crediting program by which the credits were issued

Select from:

☑ Other private carbon crediting program, please specify :Colombian Technical Standard NTC 6802 “Mitigation actions in the land use, land use change, and forestry (LULUCF) sector at the rural level, incorporating social and biodiversity considerations”

(7.79.1.10) Method the program uses to assess additionality for this project

Select all that apply

☑ Other, please specify :The methodology for verifying additionality was defined in accordance with the requirements of Article 43 of Resolution 1447 of 2018.

(7.79.1.11) Approaches by which the selected program requires this project to address reversal risk

Select all that apply

☑ Other, please specify :change in activity caused by stakeholders

(7.79.1.12) Potential sources of leakage the selected program requires this project to have assessed

Select all that apply

☑ Ecological leakage

(7.79.1.13) Provide details of other issues the selected program requires projects to address

There are no other issues to be addressed

(7.79.1.14) Please explain

Available online: https://globalcarbontrace.io/projects/13

Row 3

(7.79.1.1) Project type

Select from:

☑ Agriculture

(7.79.1.2) Type of mitigation activity

Select from:

☑ Emissions reduction

(7.79.1.3) Project description

The YAAWI IIPANA REDD+ Project is developerd by the indigenous communities of "Morichal Viejo, Santa Rosa, Cerro Cocuy, Santa Cruz, Caño Danta". This project protects 248.046 hectares of the Amazon Forest region and seeks to minimize the impact generated by deforestation and forest degradation through a comprehensive vision of territorial development, following the guidelines dictated by the community in a General Assembly and reflected in its 20-year Life Project. These include initiatives related to the reforestation of degraded ecosystems and social monitoring with forest custodians, the strengthening of the agricultural-productive sector and self-sufficiency with the improvement of chagras (transitional farming area of indigenous peoples) and the enhancement of products; strengthening governance and creating an indigenous guard, building educational institutions, health posts and common room, supporting students to access higher education, improving housing and transportation.

(7.79.1.4) Credits retired by your organization from this project in the reporting year (metric tons CO2e)

133000

(7.79.1.5) Purpose of retirement

Select from:

☑ Compliance with a carbon pricing system

(7.79.1.6) Are you able to report the vintage of the credits at retirement?

Select from:

☑ Yes

(7.79.1.7) Vintage of credits at retirement

2019

(7.79.1.8) Were these credits issued to or purchased by your organization?

Select from:

☑ Purchased

(7.79.1.9) Carbon-crediting program by which the credits were issued

Select from:

☑ Other private carbon crediting program, please specify :Colombian Technical Standard NTC 6802 “Mitigation actions in the land use, land use change, and forestry (LULUCF) sector at the rural level, incorporating social and biodiversity considerations”

(7.79.1.10) Method the program uses to assess additionality for this project

Select all that apply

☑ Other, please specify :Other, please specify: The methodology for verifying additionality was defined in accordance with the requirements of Article 43 of Resolution 1447 of 2018.

(7.79.1.11) Approaches by which the selected program requires this project to address reversal risk

Select all that apply

☑ No risk of reversal

(7.79.1.12) Potential sources of leakage the selected program requires this project to have assessed

Select all that apply

☑ Ecological leakage

(7.79.1.13) Provide details of other issues the selected program requires projects to address

There are no other issues to be addressed

(7.79.1.14) Please explain

Available online: https://globalcarbontrace.io/projects/14/

Row 4

(7.79.1.1) Project type

Select from:

☑ Agriculture

(7.79.1.2) Type of mitigation activity

Select from:

☑ Emissions reduction

(7.79.1.3) Project description

The UNU-MAI Project is a REDD+ initiative aimed at involving the indigenous communities of the Laguna Niñal Cocuy Loma Baja and Loma Alta Reserve in Guainía, Colombia. The municipality of Inírida serves as the core location for this endeavor, which encompasses 131,619 hectares of natural forest. The project is designed to reduce greenhouse gas (GHG) emissions caused by deforestation through forest conservation. It emphasizes: Strategic monitoring, Sustainable forest management, Ecosystem recovery. These actions will enhance national carbon reserves and contribute to Colombia's environmental goals.

(7.79.1.4) Credits retired by your organization from this project in the reporting year (metric tons CO2e)

80000

(7.79.1.5) Purpose of retirement

Select from:

☑ Compliance with a carbon pricing system

(7.79.1.6) Are you able to report the vintage of the credits at retirement?

Select from:

☑ Yes

(7.79.1.7) Vintage of credits at retirement

2020

(7.79.1.8) Were these credits issued to or purchased by your organization?

Select from:

☑ Purchased

(7.79.1.9) Carbon-crediting program by which the credits were issued

Select from:

☑ Cercarbono

(7.79.1.10) Method the program uses to assess additionality for this project

Select all that apply

☑ Investment analysis

(7.79.1.11) Approaches by which the selected program requires this project to address reversal risk

Select all that apply

☑ Other, please specify :change in activity caused by stakeholders

(7.79.1.12) Potential sources of leakage the selected program requires this project to have assessed

Select all that apply

☑ Ecological leakage

(7.79.1.13) Provide details of other issues the selected program requires projects to address

There are no other issues to be addressed.

(7.79.1.14) Please explain

Available online: https://www.ecoregistry.io/projects/148

Row 5

(7.79.1.1) Project type

Select from:

☑ Afforestation

(7.79.1.2) Type of mitigation activity

Select from:

☑ Carbon removal

(7.79.1.3) Project description

The "Carbono Verde" project aims the removal of GHG emissions from forest plantations with Teak, Gmelina and Eucalyptus established in the Municipalities of Puerto Libertador (Córdoba) and Tolú (Sucre).

(7.79.1.4) Credits retired by your organization from this project in the reporting year (metric tons CO2e)

45000

(7.79.1.5) Purpose of retirement

Select from:

☑ Compliance with a carbon pricing system

(7.79.1.6) Are you able to report the vintage of the credits at retirement?

Select from:

☑ Yes

(7.79.1.7) Vintage of credits at retirement

2018

(7.79.1.8) Were these credits issued to or purchased by your organization?

Select from:

☑ Purchased

(7.79.1.9) Carbon-crediting program by which the credits were issued

Select from:

☑ Cercarbono

(7.79.1.10) Method the program uses to assess additionality for this project

Select all that apply

☑ Other, please specify :Guide for the Formulation, Validation, and Verification of Forest Climate Change Mitigation Projects by ICONTEC (ES-I-CC-002) version 2

(7.79.1.11) Approaches by which the selected program requires this project to address reversal risk

Select all that apply

☑ No risk of reversal

(7.79.1.12) Potential sources of leakage the selected program requires this project to have assessed

Select all that apply

☑ Ecological leakage

(7.79.1.13) Provide details of other issues the selected program requires projects to address

There are no other issues to be addressed.

(7.79.1.14) Please explain

Available online: https://www.ecoregistry.io/projects/CDC-79

Row 6

(7.79.1.1) Project type

Select from:

☑ Afforestation

(7.79.1.2) Type of mitigation activity

Select from:

☑ Carbon removal

(7.79.1.3) Project description

Carbono CAS Project is developed by Compañía Agrícola de la Sierra S.C, an organization dedicated to commercial forestry reforestation. The project is located in Northeast Antioqueño, with an eligible area of 6,404 hectares of Tecunumanii pine plantations. The project has personnel, protocols and structured processes to guarantee sustainability in the short, medium and long term in each of its activities

(7.79.1.4) Credits retired by your organization from this project in the reporting year (metric tons CO2e)

30000

(7.79.1.5) Purpose of retirement

Select from:

☑ Compliance with a carbon pricing system

(7.79.1.6) Are you able to report the vintage of the credits at retirement?

Select from:

☑ Yes

(7.79.1.7) Vintage of credits at retirement

2019

(7.79.1.8) Were these credits issued to or purchased by your organization?

Select from:

☑ Purchased

(7.79.1.9) Carbon-crediting program by which the credits were issued

Select from:

☑ Cercarbono

(7.79.1.10) Method the program uses to assess additionality for this project

Select all that apply

☑ Other, please specify :Guide for the Formulation, Validation, and Verification of Forest Climate Change Mitigation Projects by ICONTEC (ES-I-CC-002) version 2

(7.79.1.11) Approaches by which the selected program requires this project to address reversal risk

Select all that apply

☑ No risk of reversal

(7.79.1.12) Potential sources of leakage the selected program requires this project to have assessed

Select all that apply

☑ Ecological leakage

(7.79.1.13) Provide details of other issues the selected program requires projects to address

There are no other issues to be addressed.

(7.79.1.14) Please explain

Available online: https://www.ecoregistry.io/projects/73

Row 7

(7.79.1.1) Project type

Select from:

☑ Afforestation

(7.79.1.2) Type of mitigation activity

Select from:

☑ Carbon removal

(7.79.1.3) Project description

The "Forestal de la Orinoquia" project is a commercial reforestation project which produces wood chips to generate energy. It has a total planting area of more than 9,000 ha, established in dense forest plantations of the species Acacia mangium and Eucalyptus pellita in the municipalities of Puerto Carreño and La Primavera, in the State of Vichada. The project implements appropriate global business practices in all its operations, therefore, it is committed to obtaining Forest Stewardship Council certification for the products it will market.

(7.79.1.4) Credits retired by your organization from this project in the reporting year (metric tons CO2e)

28205

(7.79.1.5) Purpose of retirement

Select from:

☑ Voluntary offsetting

(7.79.1.6) Are you able to report the vintage of the credits at retirement?

Select from:

☑ Yes

(7.79.1.7) Vintage of credits at retirement

2020

(7.79.1.8) Were these credits issued to or purchased by your organization?

Select from:

☑ Purchased

(7.79.1.9) Carbon-crediting program by which the credits were issued

Select from:

☑ Cercarbono

(7.79.1.10) Method the program uses to assess additionality for this project

Select all that apply

☑ Other, please specify :Guide for the Formulation, Validation, and Verification of Forest Climate Change Mitigation Projects by ICONTEC (ES-I-CC-002) version 2

(7.79.1.11) Approaches by which the selected program requires this project to address reversal risk

Select all that apply

☑ No risk of reversal

(7.79.1.12) Potential sources of leakage the selected program requires this project to have assessed

Select all that apply

☑ Ecological leakage

(7.79.1.13) Provide details of other issues the selected program requires projects to address

There are no other issues to be addressed.

(7.79.1.14) Please explain

Available online: https://www.ecoregistry.io/projects/CDC-8

Row 8

(7.79.1.1) Project type

Select from:

☑ Agriculture

(7.79.1.2) Type of mitigation activity

Select from:

☑ Emissions reduction

(7.79.1.3) Project description

The CONDOTO REDD+ Project seeks the conservation of forests located in the territories of the afro communities organized as the Major Community Council of Condoto and Iró, located within the municipalities of Condoto and Río Iró, in the department of Chocó. The project zone has a total area of 65.026 ha, out of which 46.191 ha were forest in 2015. The area is characterized for its high biodiversity and rain tropical forests, but also for the presence of deforestation activities and social conflicts.

(7.79.1.4) Credits retired by your organization from this project in the reporting year (metric tons CO2e)

25607

(7.79.1.5) Purpose of retirement

Select from:

☑ Voluntary offsetting

(7.79.1.6) Are you able to report the vintage of the credits at retirement?

Select from:

☑ Yes

(7.79.1.7) Vintage of credits at retirement

2020

(7.79.1.8) Were these credits issued to or purchased by your organization?

Select from:

☑ Purchased

(7.79.1.9) Carbon-crediting program by which the credits were issued

Select from:

☑ VCS/Verra (Verified Carbon Standard)

(7.79.1.10) Method the program uses to assess additionality for this project

Select all that apply

☑ Investment analysis

☑ Barrier analysis

(7.79.1.11) Approaches by which the selected program requires this project to address reversal risk

Select all that apply

☑ Other, please specify :change in activity caused by stakeholders

(7.79.1.12) Potential sources of leakage the selected program requires this project to have assessed

Select all that apply

☑ Ecological leakage

(7.79.1.13) Provide details of other issues the selected program requires projects to address

There are no other issues to be addressed.

(7.79.1.14) Please explain

Available online: https://registry.verra.org/app/projectDetail/VCS/2723

Row 9

(7.79.1.1) Project type

Select from:

☑ Waste management

(7.79.1.2) Type of mitigation activity

Select from:

☑ Emissions reduction

(7.79.1.3) Project description

The purpose of the Certificación de Reducción de Emisiones de GEI de Aceites Manuelita S.A.project is to reduce emissions through the use and good management of waste from the process of extracting African palm oil and biodiesel in Aceites Manuelita SA, in addition to producing and delivering energy for self-consumption from these, contributing to meet its own energy demand and improve the efficiency of the system. In summary, the objective of the project consists of the implementation of the following processes: 1. Capture of methane from the anaerobic oxidation ponds and burning of the methane captured in TEA (flare stack). 2. Generation of electrical and thermal energy from biogas, by methane captured in the oxidation lagoons, to feed some plant processes. 3. Use of biomass for energy cogeneration 4. Composting

(7.79.1.4) Credits retired by your organization from this project in the reporting year (metric tons CO2e)

22000

(7.79.1.5) Purpose of retirement

Select from:

☑ Compliance with a carbon pricing system

(7.79.1.6) Are you able to report the vintage of the credits at retirement?

Select from:

☑ Yes

(7.79.1.7) Vintage of credits at retirement

2021

(7.79.1.8) Were these credits issued to or purchased by your organization?

Select from:

☑ Purchased

(7.79.1.9) Carbon-crediting program by which the credits were issued

Select from:

☑ Cercarbono

(7.79.1.10) Method the program uses to assess additionality for this project

Select all that apply

☑ Other, please specify :The methodology for verifying additionality was defined in accordance with the requirements of Article 43 of Resolution 1447 of 2018.

(7.79.1.11) Approaches by which the selected program requires this project to address reversal risk

Select all that apply

☑ No risk of reversal

(7.79.1.12) Potential sources of leakage the selected program requires this project to have assessed

Select all that apply

☑ Ecological leakage

(7.79.1.13) Provide details of other issues the selected program requires projects to address

There are no other issues to be addressed.

(7.79.1.14) Please explain

Available online: https://www.ecoregistry.io/projects/CDC-82

Row 10

(7.79.1.1) Project type

Select from:

☑ Agriculture

(7.79.1.2) Type of mitigation activity

Select from:

☑ Emissions reduction

(7.79.1.3) Project description

The CHONTA COROZO REDD+ project is developed in the collective territories of the Community Council of the Alto Guapi in Cauca department. This project aims to reduce the emissions caused by the deforestation and the degradation of forest, through the conservation of 93.142 hectares of very wet forest during for 20 years The community council has established activities focused on the institutional and governance strengthening, which includes training in projects formulation, hiring of different professionals, designing of planning instruments, among others.

(7.79.1.4) Credits retired by your organization from this project in the reporting year (metric tons CO2e)

20000

(7.79.1.5) Purpose of retirement

Select from:

☑ Compliance with a carbon pricing system

(7.79.1.6) Are you able to report the vintage of the credits at retirement?

Select from:

☑ Yes

(7.79.1.7) Vintage of credits at retirement

2019

(7.79.1.8) Were these credits issued to or purchased by your organization?

Select from:

☑ Purchased

(7.79.1.9) Carbon-crediting program by which the credits were issued

Select from:

☑ Cercarbono

(7.79.1.10) Method the program uses to assess additionality for this project

Select all that apply

☑ Other, please specify :The methodology for verifying additionality was defined in accordance with the requirements of Article 43 of Resolution 1447 of 2018.

(7.79.1.11) Approaches by which the selected program requires this project to address reversal risk

Select all that apply

☑ No risk of reversal

(7.79.1.12) Potential sources of leakage the selected program requires this project to have assessed

Select all that apply

☑ Ecological leakage

(7.79.1.13) Provide details of other issues the selected program requires projects to address

There are no other issues to be addressed.

(7.79.1.14) Please explain

Available online: https://www.ecoregistry.io/projects/CDC-117
[Add row]

C9. Environmental performance - Water security

(9.1) Are there any exclusions from your disclosure of water-related data?

Select from:

☑ Yes

(9.1.1) Provide details on these exclusions.

Row 1

(9.1.1.1) Exclusion

Select from:

☑ Facilities

(9.1.1.2) Description of exclusion

Corporate and administrative areas located outside operational areas are excluded from the water accountability, such as administrative buildings (e.g. Principal, Teusacá, Torre AR), healthcare centers (e.g. Policlínica in Barrancabermeja), local attention centers (CALs), and the Colombian Institute of Petroleum and Transition Energies (ICPET). The water used in our excluded facilities is primarily for water, sanitation, and hygiene (WASH) services.

(9.1.1.3) Reason for exclusion

Select from:

☑ Water used for internal WASH services

(9.1.1.7) Percentage of water volume the exclusion represents

Select from:

☑ Less than 1%

(9.1.1.8) Please explain

Water use and discharges from corporate and administrative areas located outside operational areas are measured and monitored in our water management system. However, these facilities are excluded from this report since they represent only 0.09% of the total freshwater withdrawals, 0.03% of total discharges to surface waters, seawater, soil, or managed by a third-party, and 0.05% of total consumption.
[Add row]

(9.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

Water withdrawals – total volumes

(9.2.1) % of sites/facilities/operations

Select from:
☑ 100%

(9.2.2) Frequency of measurement

Select from:
☑ Daily

(9.2.3) Method of measurement

100% of our facilities monitor the volume of water withdrawn based on daily records directly obtained from flow measurement devices located at each withdrawal point. Furthermore, the refineries have real-time devices that allow them to carry on this measurement continuously. Daily measurements are compiled monthly and registered in our water information tool SIGAR-Aguas, where total volumes are consolidated for the entire company and disclosed by segments, basins, and municipalities

(9.2.4) Please explain

Ecopetrol measures and monitors their withdrawal volumes, due to the following requirements: •Operational: to control volume required for secondary and tertiary recovery, industrial services for refining or chemical dosing in water treatment. • Regulatory: to comply with the authorized flow established in each environmental permit or license. It is also required to calculate the tariff to pay for water use. Furthermore, data is disclosed to the IDEAM as an input for the National Water Study. •Corporate: it is a KPI monitored monthly at the corporate level, with established targets for the short, mid, and long term. It is also required for assessing water-related risks. •Stakeholders: for a transparent disclosure of our water data to our stakeholders, through corporate reports such as GRI, CDP, DJSI, among others. Note: A "facility" refers to an exploration well, a production field, or a refinery; no facilities were excluded from this report

Water withdrawals – volumes by source

(9.2.1) % of sites/facilities/operations

Select from:

☑ 100%

(9.2.2) Frequency of measurement

Select from:

☑ Daily

(9.2.3) Method of measurement

100% of our facilities monitor the volume of water withdrawn based on daily records directly obtained from flow measurement devices located at each withdrawal point. Furthermore, refineries have real- time devices that allow them to carry on this measurement continuously. Daily measurements are compiled monthly in SIGAR-Aguas, where each freshwater withdrawal point is assigned with the corresponding source type. This allows us to monitor the water withdrawn by source for the entire company

(9.2.4) Please explain

Ecopetrol measures and monitors their freshwater withdrawal volumes by sources, due to the following requirements: •Operational: water quality may change depending on the source. • Regulatory: a tariff to pay for water use depends on the type of source. Furthermore, data is disclosed to the IDEAM (National Meteorological and Environmental Studies Institute) as an input for the National Water Study. •Corporate: to assess water-related risks due to surface water availability and its seasonal variability. •Stakeholders: for transparent disclosure of our water data to our stakeholders through corporate reports such as GRI, CDP, DJSI, among others. Note: a "facility" refers to an exploration well, an oil & gas production field, or a refinery; no facilities were excluded from this report.

Produced water associated with your oil & gas sector activities - total volumes

(9.2.1) % of sites/facilities/operations

Select from:

☑ 100%

(9.2.2) Frequency of measurement

Select from:

☑ Daily

(9.2.3) Method of measurement

Produced water is estimated for every production well from the daily oil production (measured using flow meters) and the average BSW (Basic Sediment and Water, a measure of the oil-water ratio) measured periodically by an external or internal laboratory. Daily records are reported on the company's official tool for volumetric management of oil, gas, and water production (AVM- AVOCET).

(9.2.4) Please explain

All Ecopetrol's facilities measure their produced water volumes due to the following requirements: • Regulatory: it is required by the National Hydrocarbons Agency (ANH for its Spanish acronym) as part of the oil production balance. In addition, the environmental authorities require a balance between produced water and its destinations (reinjection, surface disposal, recycling, or reuse). Furthermore, data is disclosed to the IDEAM (National Meteorological and Environmental Studies Institute) as an input for the National Water Study which is updated every four years. •Operational: to control oil production considering facilities' water treatment capacity. • Relationship with stakeholders: for transparent disclosure of our water data to stakeholders, through corporate reports such as GRI, CDP, DJSI, among others. Note: a "facility" refers to an oil & gas production field; no facilities were excluded from this report.

Water withdrawals quality

(9.2.1) % of sites/facilities/operations

Select from:

☑ 100%

(9.2.2) Frequency of measurement

Select from:

☑ Continuously

(9.2.3) Method of measurement

Freshwater quality measurements are carried out using the company's own measurement devices and equipment and/or by external accredited laboratories. Methods follow national standards which are based on the Standard Methods, ASTM standards, and EPA, among others.

(9.2.4) Please explain

All Ecopetrol's facilities measure and monitor freshwater withdrawals' quality to respond to the following requirements: • Operational: Some parameters, such as pH, TDS, color, alkalinity, hardness, and turbidity, and jar tests, are usually measured in near real- time to control operational variables associated with raw water treatment. In addition, water used for oil recovery (EOR) is periodically monitored in terms of dissolved CO2, H2S, oil and greases, and TSS to verify water compatibility with the reservoir and control and avoid damage in the injection wells • Compliance: environmental authorities require to carry on water quality analysis on each authorized freshwater withdrawal. Frequency is defined on each permit and license, being "quarterly" the most common frequency. These measurements are carried out by accredited third-party laboratories A "facility" refers to an exploration well, an oil & gas production field, or a refinery. No facilities were excluded from this report

Water discharges – total volumes

(9.2.1) % of sites/facilities/operations

Select from:

☑ 100%

(9.2.2) Frequency of measurement

Select from:

☑ Daily

(9.2.3) Method of measurement

Usually, records are taken daily from flow meters located at each discharge point or at the outlet of the wastewater treatment or reinjection plant. However, for domestic discharges infiltrated into the soil (e.g., septic tanks) or stormwater discharges, volumes are normally estimated using methodologies accepted by national authorities. Data is recorded monthly in SIGAR-Aguas, where total volumes are consolidated for the entire company and disclosed by segments, basins, and municipalities

(9.2.4) Please explain

Ecopetrol measures and monitors the discharged volume to respond to the following requirements: •Operational: to control injection and reinjection rates according to reservoirs' hydraulic parameters. • Regulatory: produced water reinjected for disposal and for secondary oil recovery is required by the National Hydrocarbons Agency (ANH) and the environmental authorities. The quantity of water discharged to surface water, seawater, or soil (including the reuse for agroforestry irrigation) is required by environmental authorities to verify compliance with the maximum authorized flows. Furthermore, data is delivered to IDEAM as an input for the National Water Study •Stakeholders: for transparent disclosure of our water data through corporate reports such as GRI, CDP, DJSI, among others. Note: a "facility" refers to an exploration well, an oil & gas production field, or a refinery; No facilities were excluded from this report

Water discharges – volumes by destination

(9.2.1) % of sites/facilities/operations

Select from:

☑ 100%

(9.2.2) Frequency of measurement

Select from:

☑ Daily

(9.2.3) Method of measurement

In most cases, records are taken daily from flow meters located at each discharge point or at the outlet of the wastewater treatment plant. For domestic discharges that are discharged into the soil through infiltration fields (e.g., septic tanks) or stormwater discharges, volumes are usually estimated monthly using methodologies accepted by national authorities. Produced water reinjected is measured using on-site flow meters located at the Injection Plants outlet.

(9.2.4) Please explain

Ecopetrol measures and monitors the discharged volume by destination to respond to the following requirements: •Operational: to control injection rates according to reservoirs' hydraulic parameters. •Compliance: Reinjection volumes are required by ANH and the environmental authorities. Surface water, seawater, or soil discharges are required by environmental authorities to verify compliance with the maximum authorized flow. Furthermore, data is required by the IDEAM as an input for the National Water Study •Corporate: produced water reinjection for secondary recovery is monitored monthly at the corporate level, with an established target. Discharges' destination is also required for assessing water-related risks. •Stakeholders: for a transparent disclosure of our water withdrawal our stakeholders, through corporate reports and radars A "facility" refers to an exploration well, a production field, or a refinery. No facilities were excluded from this report.

Water discharges – volumes by treatment method

(9.2.1) % of sites/facilities/operations

Select from:

☑ 100%

(9.2.2) Frequency of measurement

Select from:

☑ Daily

(9.2.3) Method of measurement

In most cases, records are taken daily from flow meters located at each discharge point or at the outlet of the wastewater treatment plant. For domestic discharges that are discharged in the soil through infiltration fields (e.g. septic tanks) or stormwater discharges, volumes are usually estimated monthly using methodologies accepted by national authorities. Produced water that is reinjected is measured using on-site flow meters located at the Injection Plants outlet.

(9.2.4) Please explain

All Ecopetrol's facilities measure and monitor the discharged volume by treatment method, especially for cost monitoring and for addressing relationships with stakeholders as well as attending to reporting requirements (GRI, CDP, DJSI, etc.). A "facility" refers to an exploration well, an oil & gas production field, or a refinery. No facilities were excluded from this report.

Water discharge quality – by standard effluent parameters

(9.2.1) % of sites/facilities/operations

Select from:

☑ 100%

(9.2.2) Frequency of measurement

Select from:

☑ Daily

(9.2.3) Method of measurement

Quality measurements are carried out using the company's own measurement devices and/or by accredited third-party laboratories. Some parameters such as pH, TDS, and conductivity are measured using in-situ devices. Other parameters such as oil and greases, TPH, BOD, metals, ions, and nitrogen, among others, are measured in the water laboratories. Methods for determining water quality follow national standards which are based on the Standard Methods and ASTM, EPA, and ISO Standards

(9.2.4) Please explain

Ecopetrol measures and monitors this aspect to respond to the following requirements: •Operational: water quality is daily measured and monitored to guarantee treatment efficiency. The injection water quality is measured to assure injectivity to reservoirs • Regulatory: to verify compliance with the limits allowed by regulations, and to calculate the tariff to pay for discharges to surface water. The frequency is established by the environmental authorities. Furthermore, data is required by the

IDEAM as an input for the National Water Study •Corporate: The TPH content in surface discharges is a KPI monitored monthly at the corporate level, with established targets. It is also required for assessing water-related risks, and for internal management •Stakeholders: for a transparent disclose of our water data to our stakeholders, through corporate reports and radars A "facility" refers to an exploration well, a production field, or a refinery. No facilities were excluded from this report

Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)

(9.2.1) % of sites/facilities/operations

Select from:

☑ 100%

(9.2.2) Frequency of measurement

Select from:

☑ Monthly

(9.2.3) Method of measurement

The mass of relevant pollutants in wastewater discharged to water bodies is calculated using the last measured concentration of the pollutant, and the discharged flow.

(9.2.4) Please explain

All Ecopetrol's facilities measure and monitor the emission to water to respond to the following requirements: •Regulatory: To calculate the tariff to pay for discharging wastewater which depends on the total suspended solids (TSS) and biological oxygen demand (BOD) emission in kg/month. The emissions to water calculation also allow us to verify the assimilation capacity of the receiving water bodies to ensure that their water quality is unaffected by the discharge. Furthermore, data is required by the IDEAM as an input for the National Water Study which is updated every four years •Relationship with stakeholders: for transparent disclosure of our water data to our stakeholders, through corporate reports such as GRI, CDP, DJSI, among others. A "facility" refers to an exploration well, an oil & gas production field, or a refinery. No facilities were excluded from this report

Water discharge quality – temperature

(9.2.1) % of sites/facilities/operations

Select from:

☑ 100%

(9.2.2) Frequency of measurement

Select from:

☑ Daily

(9.2.3) Method of measurement

Quality measurements are carried out using the company's own measurement devices and equipment and/or by accredited third- party laboratories.

(9.2.4) Please explain

All Ecopetrol's facilities measure and monitor the discharge temperature to respond to the following requirements: • Regulatory: Wastewater discharge temperature is one of the quality parameters requested by national and regional environmental authorities with the frequency requested in each discharge permit. In addition, Ecopetrol continuously monitors discharge temperature to ensure compliance with the maximum allowed limit (40 Celsius degrees) and that the temperature change in the water-receiving body does not exceed 5C in the mixing zone. A "facility" refers to an exploration well, an oil & gas production field, or a refinery. No facilities were excluded from this report.

Water consumption – total volume

(9.2.1) % of sites/facilities/operations

Select from:

☑ 100%

(9.2.2) Frequency of measurement

Select from:

☑ Monthly

(9.2.3) Method of measurement

Calculated as the difference between water inflows (freshwater withdrawals, produced water, internal transfers) and outflows (discharges, injection/reinjection, reuse, etc.) at the facility level. Measurement methods were described above.

(9.2.4) Please explain

All Ecopetrol facilities measure and monitor the water consumption due to: • Water consumption is an indicator of balance accuracy. •Freshwater consumption is an impact indicator included in our water footprint assessment •Reporting requirements (GRI, CDP, DJSI, etc.). Water consumption is estimated on a monthly basis for 100% of the Company's facilities. This volume is automatically calculated in the SIGAR information tool, as the difference between water inflows (freshwater withdrawals, produced water, internal transfers) and outflows (discharges, injection/reinjection, reuse, etc.) at the facility level. A "facility" refers to an exploration well, an oil & gas production field, or a refinery. No facilities were excluded from this report.

Water recycled/reused

(9.2.1) % of sites/facilities/operations

Select from:

☑ 100%

(9.2.2) Frequency of measurement

Select from:

☑ Daily

(9.2.3) Method of measurement

In refineries, water recirculated or recycled is measured using flow meters placed on water pipelines or estimated using water balances. In the case of produced water recycled for oil recovery, data is recorded daily on the field using flow measurement devices at the injection plants.

(9.2.4) Please explain

All Ecopetrol's facilities measure and monitor the quantity of water recycled or reused to respond to the following requirements: •Operational: the volume of produced water reinjected for oil recovery is required to control injection rates according to reservoirs' hydraulic parameters • Regulatory: recycled water is required by the environmental authority when reporting the progress of the Efficient Use and Saving Water Plan (PUEAA for its Spanish acronym). Produced water reused for agroforestry irrigation is also required to verify compliance with the maximum authorized flow. •Corporate: it is a KPI monitored monthly at the corporate level, with established targets for the short, mid, and long term. It is also required for assessing water-related risks. •Relationship with stakeholders, for attending inquiries, and reporting (GRI, CDP, DJSI, etc.). A "facility" refers to an exploration well, an oil & gas production field, or a refinery. No facilities were excluded from this report

The provision of fully-functioning, safely managed WASH services to all workers

(9.2.1) % of sites/facilities/operations

Select from:

☑ 100%

(9.2.2) Frequency of measurement

Select from:

☑ Daily

(9.2.3) Method of measurement

Ecopetrol ensures continuous drinking water and sanitation services to all workers in 100% of its facilities

(9.2.4) Please explain

Ecopetrol provides drinking water and sanitation services to all workers in 100% of its facilities.
[Fixed row]

(9.2.2) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, how do they compare to the previous reporting year, and how are they forecasted to change?

Total withdrawals

(9.2.2.1) Volume (megaliters/year)

525816

(9.2.2.2) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.2.3) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in business activity

(9.2.2.4) Five-year forecast

Select from:

☑ Much higher

(9.2.2.5) Primary reason for forecast

Select from:

☑ Increase/decrease in business activity

(9.2.2.6) Please explain

Total withdrawals include freshwater from natural sources (surface water, groundwater, rainwater, and third parties) and produced water. Produced water is a natural by-product during crude oil extraction since oil, gas, and water are mixed in reservoirs; on average for each barrel of oil equivalent, 15 barrels of produced water are produced. •YoY comparison: Total withdrawal was 5% higher than the previous year, caused by higher oil production in Caño Sur (a high water-cut oil field), as well as a natural increase in the oil/water ratio of Castilla, Rubiales, Chichimene and La Cira Infantas fields. Freshwater from natural sources represented 7.5% of total withdrawals, while produced water accounts for 92.5% of total withdrawals. •Five-year forecast: We expect a significant increase in total withdrawals, due to the natural increase in the water/oil ratio because of hydraulic thrust in the Southern Llanos basin, and the aging of the oil fields located in the Middle Magdalena Valley; However, as part of the water neutrality roadmap, we expect a 66% reduction in freshwater withdrawals by 2045. •Data compilation: volumetric data has been compiled on our water management tool (SIGAR-Aguas), based on data collected on the field. •Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).

Total discharges

(9.2.2.1) Volume (megaliters/year)

509104

(9.2.2.2) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.2.3) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in business activity

(9.2.2.4) Five-year forecast

Select from:

☑ Much higher

(9.2.2.5) Primary reason for forecast

Select from:

☑ Increase/decrease in business activity

(9.2.2.6) Please explain

Total discharges include all water streams that leave the company boundaries and return to the environment: domestic and industrial wastewater discharges, freshwater injected for oil recovery (including steam injection), produced water that is reinjected secondary oil recovery or disposal, and produced water reused in agroforestry irrigation. • YoY comparison: Total discharges increased by 5% compared to the previous year, caused mainly by the increase in produced water in the upstream segment as explained above, which is also reflected in discharges as reinjection and surface discharges. •Five-year forecast: Ecopetrol expects a significant increase in total withdrawals, due to higher produced water levels as a natural result of hydraulic thrust in the Southern Llanos basin, and the aging of oil fields in the Middle Magdalena Valley. However, as part of the water neutrality roadmap, we expect to reach zero industrial discharges to surface water by 2045. •Data compilation: Volumetric data has been compiled on our water management tool (SIGAR-Aguas) based on data collected in the field. • Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).

Total consumption

(9.2.2.1) Volume (megaliters/year)

16712

(9.2.2.2) Comparison with previous reporting year

Select from:

☑ Much lower

(9.2.2.3) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in business activity

(9.2.2.4) Five-year forecast

Select from:

☑ About the same

(9.2.2.5) Primary reason for forecast

Select from:

☑ Other, please specify :Produced water volumes are also reflected in discharges

(9.2.2.6) Please explain

Water consumption is estimated as the difference between total withdrawals and discharges. •Consumption breakdown: Most of Ecopetrol's consumption is due to evaporation in cooling towers in Refineries. • YoY comparison: Total consumption was estimated at 16.7 Mm3, about 3% of total withdrawals; compared to the previous year, consumption decreased by 14% caused by lower withdrawals in the refining process and its subsequent evaporation in cooling towers. •Five-year forecast: No relevant changes are expected in the future since an increase in produced water is also reflected in total discharges. • Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).
[Fixed row]

(9.2.3) In your oil & gas sector operations, what are the total volumes of water withdrawn, discharged, and consumed (by business division), how do they compare to the previous reporting year, and how are they forecasted to change?

Total withdrawals – upstream

(9.2.3.1) Volume (megaliters/year)

497196

(9.2.3.2) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.3.3) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in business activity

(9.2.3.4) Five-year forecast

Select from:

☑ Much higher

(9.2.3.5) Primary reason for forecast

Select from:

☑ Increase/decrease in business activity

(9.2.3.6) Please explain

Total water withdrawals in the E&P segment were 497 Mm3, a 5% increase compared to the previous year. This figure includes freshwater withdrawn from natural sources (only 2% of total withdrawals) and produced water (98%), a natural by-product during crude oil extraction, as requested in CDP's technical guidelines for the oil & gas sector. The primary reason for this increase was a higher oil production in Caño Sur (a high water-cut oil field), as well as a natural increase in the water/oil ratio in Castilla, Rubiales, Chichimene and La Cira Infantas oil fields. Five-year forecast: Ecopetrol expects a significant increase in total withdrawals, due to higher produced water levels as a natural result of hydraulic thrust in the Southern Llanos basin, and the aging of oil fields located in the Middle Magdalena Valley. However, as part of the water neutrality roadmap, the Upstream segment expects to significantly reduce its freshwater withdrawals in the mid and long-term. Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%)

Total discharges – upstream

(9.2.3.1) Volume (megaliters/year)

495704

(9.2.3.2) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.3.3) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in business activity

(9.2.3.4) Five-year forecast

Select from:

☑ Much higher

(9.2.3.5) Primary reason for forecast

Select from:

☑ Increase/decrease in business activity

(9.2.3.6) Please explain

The E&P segment recorded discharges (all water leaving the company boundary) of 495.7 Mm3, representing an increase of 5% compared to the previous year. The primary reason for this increase was the increase in produced water levels as a result of higher oil production in Caño Sur, and a natural increase in the BSW (a measure of the oil/water ratio) in Castilla, Rubiales, Chichimene and La Cira Infantas, which is also reflected in total discharges. Five-year forecast: Ecopetrol expects a significant increase in total discharges, due to higher produced water levels as a natural result of hydraulic thrust in the Southern Llanos basin, and the aging of oil fields located in the Middle Magdalena Valley. However, as part of the water neutrality roadmap, the Upstream segment expects to reduce its surface discharges in the mid-term and to reach zero discharges by 2045. Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).

Total consumption – upstream

(9.2.3.1) Volume (megaliters/year)

1492

(9.2.3.2) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.3.3) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in business activity

(9.2.3.4) Five-year forecast

Select from:

☑ About the same

(9.2.3.5) Primary reason for forecast

Select from:

☑ Other, please specify :Produced water volumes are also reflected in discharges

(9.2.3.6) Please explain

Water consumption was estimated as the difference between total withdrawals and total discharges, which resulted in consumption of 1.5 Mm3, about 0.3% of total withdrawals. This figure does not represent a significant variation compared to the previous year, considering that produced water volumes in withdrawals are also reflected in discharges. For the Upstream segment, no relevant changes are expected in the future since increases in produced water are also reflected in total discharges. Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%)

Total withdrawals – downstream

(9.2.3.1) Volume (megaliters/year)

28620

(9.2.3.2) Comparison with previous reporting year

Select from:

☑ Lower

(9.2.3.3) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in efficiency

(9.2.3.4) Five-year forecast

Select from:

☑ About the same

(9.2.3.5) Primary reason for forecast

Select from:

☑ Increase/decrease in efficiency

(9.2.3.6) Please explain

The Refining segment withdrew 28.6 Mm3 of freshwater, a 7% decrease compared with the previous year, mainly due to the increase in the recirculation of industrial water in the Barrancabermeja and Cartagena Refineries. For the next five years, Ecopetrol expects to reduce the freshwater withdrawal intensity in both refineries through the implementation of additional recycling initiatives for the current effluents. This increase in efficiency will allow us to maintain steady freshwater withdrawal levels in a higher-throughput scenario. Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%)

Total discharges – downstream

(9.2.3.1) Volume (megaliters/year)

13400

(9.2.3.2) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.3.3) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in business activity

(9.2.3.4) Five-year forecast

Select from:

☑ Lower

(9.2.3.5) Primary reason for forecast

Select from:

☑ Increase/decrease in efficiency

(9.2.3.6) Please explain

Total discharges in the Refining segment include industrial wastewater from refining processes; Industrial wastewater from raw freshwater treatment; Domestic wastewater from WASH services; and rainwater susceptible to contamination, a type of wastewater that is part of Barrancabermeja's refinery discharge permit, which also could be mixed with domestic wastewater. In 2024, the Refining segment discharged 13.4 Mm3, a figure about the same regarding last year. For the next five years, Ecopetrol expects to reduce its industrial discharges from refining processes as part of the water neutrality roadmap. This includes maximization of recycled and recirculated water use. Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).

Total consumption – downstream

(9.2.3.1) Volume (megaliters/year)

15220

(9.2.3.2) Comparison with previous reporting year

Select from:

☑ Lower

(9.2.3.3) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in business activity

(9.2.3.4) Five-year forecast

Select from:

☑ Higher

(9.2.3.5) Primary reason for forecast

Select from:

☑ Increase/decrease in efficiency

(9.2.3.6) Please explain

Water consumption was estimated as the difference between total withdrawals and total discharges, which resulted in a consumption of 15.2 Mm3, about 53% of total withdrawals. This figure represents a 15% decrease compared to the previous year, due to the reduction in freshwater withdrawals. Internal recirculation of water is vital to achieving the water neutrality ambition since it allows to reduce both freshwater withdrawals and discharges; however, it may increase the freshwater consumption (understood as the difference between discharges and withdrawals) in the next years, since internal recirculation is not considered as a discharge. Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%)

Total withdrawals – chemicals

(9.2.3.1) Volume (megaliters/year)

0

(9.2.3.2) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.3.3) Primary reason for comparison with previous reporting year

Select from:

☑ Other, please specify :Not applicable

(9.2.3.4) Five-year forecast

Select from:

☑ About the same

(9.2.3.5) Primary reason for forecast

Select from:

☑ Other, please specify :Not applicable

(9.2.3.6) Please explain

Total withdrawals from Barrancabermeja's refinery petrochemical processes are reported within the downstream segment. Esenttia, a petrochemical company of the Ecopetrol Group, is not operated by us (Ecopetrol S.A), hence, is out of the scope of this report (e.g. operational control)

Total discharges – chemicals

(9.2.3.1) Volume (megaliters/year)

0

(9.2.3.2) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.3.3) Primary reason for comparison with previous reporting year

Select from:

☑ Other, please specify :Not applicable

(9.2.3.4) Five-year forecast

Select from:

☑ About the same

(9.2.3.5) Primary reason for forecast

Select from:

☑ Other, please specify :Not applicable

(9.2.3.6) Please explain

Total discharges from Barrancabermeja's refinery petrochemical processes are reported within the downstream segment. Esenttia, a petrochemical company of the Ecopetrol Group, is not operated by us (Ecopetrol S.A), hence, is out of the scope of this report (e.g. operational control)

Total consumption – chemicals

(9.2.3.1) Volume (megaliters/year)

0

(9.2.3.2) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.3.3) Primary reason for comparison with previous reporting year

Select from:

☑ Other, please specify :Not applicable

(9.2.3.4) Five-year forecast

Select from:

☑ About the same

(9.2.3.5) Primary reason for forecast

Select from:

☑ Other, please specify :Not applicable

(9.2.3.6) Please explain

Total consumption from Barrancabermeja's refinery petrochemical processes is reported within the downstream segment. Esenttia, a petrochemical company of the Ecopetrol Group, is not operated by us (Ecopetrol S.A), hence, is out of the scope of this report (e.g. operational control)

Total withdrawals – other business division

(9.2.3.1) Volume (megaliters/year)

0

(9.2.3.2) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.3.3) Primary reason for comparison with previous reporting year

Select from:

☑ Other, please specify :Not applicable

(9.2.3.4) Five-year forecast

Select from:

☑ About the same

(9.2.3.5) Primary reason for forecast

Select from:

☑ Other, please specify :Not applicable

(9.2.3.6) Please explain

Not applicable. EcoDiesel, a biofuel company of the Ecopetrol Group, is not operated by us (Ecopetrol S.A), hence, is out of the scope of this report (e.g. operational control)

Total discharges – other business division

(9.2.3.1) Volume (megaliters/year)

0

(9.2.3.2) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.3.3) Primary reason for comparison with previous reporting year

Select from:

☑ Other, please specify :Not applicable

(9.2.3.4) Five-year forecast

Select from:

☑ About the same

(9.2.3.5) Primary reason for forecast

Select from:

☑ Other, please specify :Not applicable

(9.2.3.6) Please explain

Not applicable. EcoDiesel, a biofuel company of the Ecopetrol Group, is not operated by us (Ecopetrol S.A), hence, is out of the scope of this report (e.g. operational control)

Total consumption – other business division

(9.2.3.1) Volume (megaliters/year)

0

(9.2.3.2) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.3.3) Primary reason for comparison with previous reporting year

Select from:

☑ Other, please specify :Not applicable

(9.2.3.4) Five-year forecast

Select from:

☑ About the same

(9.2.3.5) Primary reason for forecast

Select from:

☑ Other, please specify :Not applicable

(9.2.3.6) Please explain

Not applicable. EcoDiesel, a biofuel company of the Ecopetrol Group, is not operated by us (Ecopetrol S.A), hence, is out of the scope of this report (e.g. operational control)
[Fixed row]

(9.2.4) Indicate whether water is withdrawn from areas with water stress, provide the volume, how it compares with the previous reporting year, and how it is forecasted to change.

(9.2.4.1) Withdrawals are from areas with water stress

Select from:

☑ Yes

(9.2.4.2) Volume withdrawn from areas with water stress (megaliters)

20503

(9.2.4.3) Comparison with previous reporting year

Select from:

☑ Much lower

(9.2.4.4) Primary reason for comparison with previous reporting year

Select from:

☑ Change in accounting methodology

(9.2.4.5) Five-year forecast

Select from:

☑ Much lower

(9.2.4.6) Primary reason for forecast

Select from:

☑ Increase/decrease in efficiency

(9.2.4.7) % of total withdrawals that are withdrawn from areas with water stress

3.90

(9.2.4.8) Identification tool

Select all that apply

☑ WRI Aqueduct

☑ WWF Water Risk Filter

(9.2.4.9) Please explain

Ecopetrol annually uses the World Resources Institute (WRI-Aqueduct) and WWF Water Risk Filter methodologies and identifies its facilities located in areas with potential water stress, when the baseline water stress index (ratio between water demand and available surface supply of the sub-basin) is greater than 40%. This is done using official information published in the 2022 National Water Study by IDEAM (Colombia's Institute of Hydrology, Meteorology and Environmental Studies). However, from this report we started to use more local hydrological data if available in the POMCAS (regional basin's management plans). In 2024 Ecopetrol's total withdrawals from basins under the mentioned water stress condition were 20.5 Mm3 (3.9% of total withdrawals), consisting in 8.4 Mm3 of freshwater and 12.1 Mm3 of produced water. This figure represents a 24% decrease compared to the previous year due to lower freshwater withdrawal in the Cartagena refinery as a result of the increase in water recycling, as well as a change in the identification of water-stressed areas, using from this report more local hydrological data if available in the POMCAS (regional basin's management plans). Volume from water-stressed areas is based on the location of freshwater withdrawal points, as well as the location of the oil fields where produced water is extracted along with the oil and gas. Ecopetrol continues to develop initiatives to reduce its dependence on freshwater availability at these facilities. Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%)
[Fixed row]

(9.2.7) Provide total water withdrawal data by source.

Fresh surface water, including rainwater, water from wetlands, rivers, and lakes

(9.2.7.1) Relevance

Select from:
☑ Relevant

(9.2.7.2) Volume (megaliters/year)

24692

(9.2.7.3) Comparison with previous reporting year

Select from:
☑ About the same

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in efficiency

(9.2.7.5) Please explain

•Relevance: Fresh surface water is relevant since this source represents 63% of Ecopetrol's total freshwater withdrawals. Our fresh surface water sources include rivers and other water streams (91%), wetlands (9%), and rainwater (<0.1%). •YoY Comparison: This figure represents a 2% decrease compared to the previous year due to an increase in water recirculation in Barrancabermeja refinery. •Type of measurement: All data is obtained directly from flow meters located at each withdrawal point. This data is uploaded to our information system, allowing us to monitor each source volume's trend. •Future trend: As part of the Water Neutrality roadmap, Ecopetrol expects to reduce 66% of its freshwater withdrawals by 2045, compared to the 2019 baseline year. •Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).

Brackish surface water/Seawater

(9.2.7.1) Relevance

Select from:

☑ Relevant

(9.2.7.2) Volume (megaliters/year)

0

(9.2.7.3) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

☑ Investment in water-smart technology/process

(9.2.7.5) Please explain

•Relevance: Ecopetrol currently does not use seawater. However, seawater remains as a relevant source because it is a potential alternative source of water for the Cartagena refinery in the long term.

Groundwater – renewable

(9.2.7.1) Relevance

Select from:

☑ Relevant

(9.2.7.2) Volume (megaliters/year)

6377

(9.2.7.3) Comparison with previous reporting year

Select from:

☑ Lower

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in efficiency

(9.2.7.5) Please explain

•Relevance: Groundwater is relevant since it corresponds to 16% of total freshwater withdrawals. The E&P segment uses groundwater mainly for injection for secondary and tertiary oil recovery in some oil fields. •Type of measurement: All data is obtained directly from flow meters located at each withdrawal point. •Comparison with the previous reporting year: This figure represents a 12% decrease compared to the previous year, mainly due to lower requirements for injection in Casabe and Tren Nare. •Future trend: As part of the Water Neutrality roadmap, Ecopetrol expects to reduce 66% of its freshwater withdrawals by 2045, compared to the 2019 baseline year. •Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%)

Groundwater – non-renewable

(9.2.7.1) Relevance

Select from:

☑ Relevant

(9.2.7.2) Volume (megaliters/year)

0

(9.2.7.3) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

☑ Investment in water-smart technology/process

(9.2.7.5) Please explain

Relevance: Currently, Ecopetrol does not extract non-renewable groundwater. However, in the coming years, saline deep-aquifers may be of interest as an alternative source of water for secondary oil recovery, especially in the Middle Magdalena Valley basin, considering that this source does not compete with other water users

Produced/Entrained water

(9.2.7.1) Relevance

Select from:

☑ Relevant

(9.2.7.2) Volume (megaliters/year)

486436

(9.2.7.3) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in business activity

(9.2.7.5) Please explain

•Produced water is relevant since it is naturally brought to the surface during oil extraction. On average, each barrel of oil comes with 15 barrels of produced water •Type of measurement: Produced water is estimated from the daily oil production (measured using flow meters) and the average BSW (Basic Sediment and Water) measured periodically by an external or internal laboratory •Comparison YoY: There was an 5% increase due to a higher oil production in Caño Sur (a high water-cut oil field), as well as a natural increase in the BSW (a measure of water/oil ratio) of Castilla, Rubiales, Chichimene and La Cira Infantas oil fields. •Future trend Ecopetrol expects a significant increase in total withdrawals, due to higher produced water levels as a natural result of hydraulic thrust in the Southern Llanos basin, and the aging of oil fields located on the Middle Magdalena Valley •Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%)

Third party sources

(9.2.7.1) Relevance

Select from:

☑ Relevant

(9.2.7.2) Volume (megaliters/year)

8311

(9.2.7.3) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in efficiency

(9.2.7.5) Please explain

•Relevance: Freshwater from third-party sources is equivalent to 21% of the total freshwater withdrawn. It corresponds mainly to raw water supplied by the Cartagena public aqueduct (ACUACAR) to the Cartagena Refinery. •Type of measurement: All data is obtained directly from flow meters located at each withdrawal point. •YoY Comparison: There was a 5% decrease due to higher water recirculation in Cartagena refinery. •Future trend: As part of the Water Neutrality roadmap, the Cartagena refinery expects to reduce the volume of water received from ACUACAR by enabling alternative sources of water. •Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).
[Fixed row]

(9.2.8) Provide total water discharge data by destination.

Fresh surface water

(9.2.8.1) Relevance

Select from:
☑ Relevant

(9.2.8.2) Volume (megaliters/year)

86736

(9.2.8.3) Comparison with previous reporting year

Select from:
☑ Higher

(9.2.8.4) Primary reason for comparison with previous reporting year

Select from:
☑ Increase/decrease in business activity

(9.2.8.5) Please explain

•Relevance: Discharges to surface water are relevant since 16% of total produced water and all wastewater from the Barrancabermeja refinery are managed through this destination. •Type of measurement: Most representative data is obtained directly from flow meters at each discharge point or the wastewater treatment plant outlet. •YoY comparison: There was a 6% increase due to higher discharges in Castilla and Rubiales caused by the increase in water production as a normal behavior of the reservoir. •Future trend: As part of the Water Neutrality roadmap, the company expects to gradually reduce discharges to surface freshwater bodies, aiming to reach zero discharges by 2045 in both E&P and Refining segments. • Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).

Brackish surface water/seawater

(9.2.8.1) Relevance

Select from:

☑ Relevant

(9.2.8.2) Volume (megaliters/year)

3306

(9.2.8.3) Comparison with previous reporting year

Select from:

☑ Higher

(9.2.8.4) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in business activity

(9.2.8.5) Please explain

•This destination is relevant since all wastewater from the Cartagena refinery is managed through this option. •Type of measurement: Data is obtained directly from flow meters at the wastewater treatment plant outlet. •YoY comparison: There was a 10% increase due to higher generations of sour water in Unit U-111 as a result of adjustments to the cooling and washing systems, which increased the treated water flow from 285-300 gpm (gallons per minute) to 350-370 gpm. In addition, there was a lower recycling of stripped water from the Unit U-037 in the desalters of the Unit U-001 due to the high pH of the stream. •Future trend: No significant changes

are expected since seawater will continue to be the primary destination of wastewater discharges. However, recycling and recirculation alternatives are currently under review seeking to reduce freshwater withdrawals and discharges to the sea. •Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).

Groundwater

(9.2.8.1) Relevance

Select from:

☑ Relevant

(9.2.8.2) Volume (megaliters/year)

418928

(9.2.8.3) Comparison with previous reporting year

Select from:

☑ About the same

(9.2.8.4) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in business activity

(9.2.8.5) Please explain

Discharges to groundwater include freshwater injected for oil recovery (including steam), produced water reinjected for oil recovery or disposal, reuse in agroforestry, and discharges to the soil. This destination is relevant because 84% of total produced water is reinjected for disposal or secondary recovery. Discharges to soil are relevant for domestic wastewater management. •Measurement: Data is obtained directly from flow meters located in the injection plants or pipelines before the discharge. Domestic effluents are estimated using approved methodologies. •YoY comparison: There was a 5% increase due to higher produced water levels as a natural result of hydraulic thrust in the Southern Llanos basin, and the aging of oil fields located on the Middle Magdalena Valley •Future trend: we expect to increase water reinjection to reduce and eliminate discharges to surface freshwater bodies by 2045. •Thresholds: Much higher/lower (+/-20%), Higher/Lower (+/- 5-20%), About the same (+/- 5%)

Third-party destinations

(9.2.8.1) Relevance

Select from:

☑ Relevant

(9.2.8.2) Volume (megaliters/year)

134

(9.2.8.3) Comparison with previous reporting year

Select from:

☑ Much lower

(9.2.8.4) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in efficiency

(9.2.8.5) Please explain

•Relevance: Although third-party destinations' volume is much lower than other destination sources, it remains relevant to Ecopetrol because they are the main discharge alternative for some exploration and drilling projects. •Measurement: Volume is normally measured by the third-party using flow meters located in transportation trucks. •YoY comparison: There was a 31% decrease due to greater water recycling, and the completion of drilling activities located in the Middle Magdalena Valley. •Future trend: the company expects to reduce this destination as a result of the maximization of water recirculation initiatives. • Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).
[Fixed row]

(9.2.9) Within your direct operations, indicate the highest level(s) to which you treat your discharge.

Tertiary treatment

(9.2.9.1) Relevance of treatment level to discharge

Select from:

☑ Relevant

(9.2.9.2) Volume (megaliters/year)

3621

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

☑ Lower

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in business activity

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

☑ 1-10

(9.2.9.6) Please explain

•Relevance: Tertiary treatment is relevant for the E&P segment to produce the steam required for tertiary oil recovery in the Teca and Nare assets. It is also relevant for drilling activities, where wastewater is treated by reverse osmosis and/or demineralization allowing the recycling of at least 90% of the treated water; however, this stream is not considered as a discharge since treated water is recycled at the sites, and only the rejected water (brine) is disposed through authorized external managers. •YoY comparison: There was a 6% decrease mainly due to lower steam requirements for tertiary oil recovery in the operation of Nare fields. •Quality standards: the water quality required for steam generation may vary depending on the manufacturer's requirements for each boiler. However, it usually requires low levels of hardness, salts, and some metals such as copper or iron. •Future trend: No relevant variations are expected in the short term according to the development plan for the Nare assets. • Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).

Secondary treatment

(9.2.9.1) Relevance of treatment level to discharge

Select from:

☑ Relevant

(9.2.9.2) Volume (megaliters/year)

95140

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

☑ Higher

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in business activity

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

☑ 11-20

(9.2.9.6) Please explain

•Relevance: Secondary treatment is relevant for the E&P and Refining segment as it allows us to remove substances of environmental interest in discharges to natural receivers (fresh surface water, seawater, and soil), ensuring compliance of the maximum allowed limits established in environmental regulations. Secondary treatment corresponds to systems that remove pollutants by both physical (i.e. skimming tanks, API and CPI separators, floating cells, flocculation/coagulation, filters, decanters, etc.) and biological processes (oxidation and stabilization ponds, activated sludges, etc.). •YoY comparison: there was a 6% increase due to the increase in surface discharge from Castilla and Rubiales caused by the increase in water production in these assets. •Quality standards: Secondary treatment allows us to ensure compliance with the environmental regulation in terms of the maximum concentration of certain substances in wastewater depending on the type of receiver. For instance, Resolution 631-2015 (to surface water), Resolution 883-2018 (to seawater), Resolution 1256-2021 (agricultural reuse standards), and Resolution 699-2021 (domestic discharges to soil). •Future trend: As part of the Water Neutrality roadmap, the company expects to reduce discharges to surface freshwater bodies aiming to reach zero discharges by 2045 in both E&P and Refining segments. In this sense, secondary treatment is also expected to decrease during the next years. • Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%)

Primary treatment only

(9.2.9.1) Relevance of treatment level to discharge

Select from:

☑ Relevant

(9.2.9.2) Volume (megaliters/year)

410258

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

☑ About the same

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in business activity

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

☑ 81-90

(9.2.9.6) Please explain

•Relevance: Primary treatment is relevant for the E&P segment, since it allows to reduce interest substances in water to the standards required for injection or reinjection according to reservoir's characteristics. In the Downstream segment, stormwater and effluents from the raw water treatment systems are also treated by primary treatments. •Primary reason for variation: there was a 5% increase mainly for higher water injection volumes for both oil recovery and disposal. •Quality standards: Usually primary treatment allows to reach NACE standards required to injection. It also allows to meet environmental quality standards for stormwater and effluents from raw water treatment discharges. •Future trend: As part of the Water Neutrality roadmap, the company expects to increase water reinjection (resulting in higher primary treatment) to reduce and eliminate discharges to surface freshwater bodies by 2045 • Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).

Discharge to the natural environment without treatment

(9.2.9.1) Relevance of treatment level to discharge

Select from:

☑ Not relevant

(9.2.9.6) Please explain

Ecopetrol considers this destination as "Not relevant" since no wastewater to the natural environment without prior treatment is discharged. All discharges to surface water, sea, or soils, are treated to remove harmful substances and to comply with the Colombian regulation.

Discharge to a third party without treatment

(9.2.9.1) Relevance of treatment level to discharge

Select from:

☑ Relevant

(9.2.9.2) Volume (megaliters/year)

85

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

☑ Much lower

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in business activity

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

☑ Less than 1%

(9.2.9.6) Please explain

•Relevance: It relates to domestic and industrial wastewater discharged to public sewer and other third- party discharges. Although third-party destinations' volume is much lower than other destination sources, it remains relevant to Ecopetrol because they are the principal discharge alternative for some exploration and drilling projects. •YoY comparison: There was a 25% decrease due to the completion of drilling activities located in the Middle Magdalena Valley. •Quality standards: The third-party treats wastewater to reach environmental standards depending on the type of receiver. However, some external managers recycle the wastewater instead of discharging it. •Future trend: the company expects to reduce this destination because of the maximization of water recirculation initiatives. • Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).

Other

(9.2.9.1) Relevance of treatment level to discharge

Select from:

☑ Relevant

(9.2.9.2) Volume (megaliters/year)

0

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

☑ About the same

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

☑ Increase/decrease in efficiency

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

☑ Less than 1%

(9.2.9.6) Please explain

It is worth mentioning that the domestic water in some assets is treated using a Phyto evaporator system which consists of an inlet of domestic wastewater through an up-flow anaerobic filter (UAFP) and the outlet release in a phyto evaporator system with grass (Vetiever sp.). Some of the water is absorbed by the grass, and some is lost through evapotranspiration. For the system to function correctly, maintenance is carried out to avoid the accumulation of fats and oils to guarantee its normal operation. Maintenance is carried out by a third party that holds an environmental permit for this activity.
[Fixed row]

(9.2.10) Provide details of your organization's emissions of nitrates, phosphates, pesticides, and other priority substances to water in the reporting year.

(9.2.10.1) Emissions to water in the reporting year (metric tons)

144.5

(9.2.10.2) Categories of substances included

Select all that apply

☑ Nitrates

☑ Phosphates

(9.2.10.4) Please explain

Nitrates: 108.6 metric tons were emitted to water in 2024, representing an average nitrate concentration of 1.25 mg/L in wastewater discharged to water. This is a very low concentration considering that, for instance, the standard for nitrate in drinking water is 10 mg/L. •Phosphates: 35.9 metric tons were emitted to water in 2024, representing an average phosphates concentration of 0.41 mg/L in wastewater discharged to water. This is a very low concentration considering that, for instance, the Colombian standard for phosphate in drinking water is 0.5 mg/L. • Pesticides: No pesticides have been found in our wastewater discharges (i.e. below the detection limit). •Priority substances: No listed metals nor PHA have been found in our wastewater discharges (i.e. below the detection limit)
[Fixed row]

(9.3) In your direct operations and upstream value chain, what is the number of facilities where you have identified substantive water-related dependencies, impacts, risks, and opportunities?

Direct operations

(9.3.1) Identification of facilities in the value chain stage

Select from:

☑ Yes, we have assessed this value chain stage and identified facilities with water-related dependencies, impacts, risks, and opportunities

(9.3.2) Total number of facilities identified

5

(9.3.3) % of facilities in direct operations that this represents

Select from:

☑ 1-25

(9.3.4) Please explain

On the one hand, Ecopetrol has identified that 1 of 48 assets (Castilla oil field) could be exposed to possible water risks due to seasonal variability with the potential to have a substantive financial impact on the Company. Part of Castilla's oil production depends on the surface water discharges, and it could be affected if the Guayuriba river decreases its water flow below the ecological threshold due to the dry season (that could be intensified by climate variability phenomena such as El Niño). Moreover, the reputational and regulatory risks could also be increased by the dry season. On the other hand, we have identified 4 additional facilities with substantive water-related dependencies. Note: Rubiales is not considered a facility exposed to water risks that could have a substantive financial impact as the reduction in production associated with seasonal variability is already included in the production forecast (P50), and thus the production effects due to the yearly surface water discharge temporary suspension, are not considered a deferred production.

Upstream value chain

(9.3.1) Identification of facilities in the value chain stage

Select from:

☑ No, we have not assessed this value chain stage for facilities with water-related dependencies, impacts, risks, and opportunities, and are not planning to do so in the next 2 years

(9.3.4) Please explain

Contracts with major water use are related to activities of well drilling, workover, general oil services, and operation and maintenance of production facilities. Water required for these activities is provided by Ecopetrol so that their water-related risks are already included in Ecopetrol's direct operation analysis. Also, it is important to mention that risk related to freshwater availability for drilling operations (in terms of both water use and discharges) has decreased due to the implementation of reverse osmosis and demineralization treatments for domestic and industrial wastewater, allowing the recycling of at least 90% of the related water in activities such as drilling fluid preparation, equipment washing, pump cooling, and other industrial uses. About 80-90% of Ecopetrol's indirect consumption water footprint is related to the electrical energy supply. Although it has been found that seasonal variability and climate phenomenon like "El Niño Southern Oscillation" could potentially impact the energy supply due to the low level of the rivers that feed the hydroelectric generation system, which could increase electricity costs and shortages of electricity supply, it is not expected that this situation may significantly affect Ecopetrol's operational continuity in the coming years.
[Fixed row]

(9.3.1) For each facility referenced in 9.3, provide coordinates, water accounting data, and a comparison with the previous reporting year.

Row 1

(9.3.1.1) Facility reference number

Select from:
☑ Facility 1

(9.3.1.2) Facility name (optional)

Castilla

(9.3.1.3) Value chain stage

Select from:
☑ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply
☑ Dependencies
☑ Risks

☑ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

☑ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Colombia

☑ Orinoco

(9.3.1.8) Latitude

3.87

(9.3.1.9) Longitude

-73.65

(9.3.1.10) Located in area with water stress

Select from:

☑ No

(9.3.1.12) Oil & gas sector business division

Select all that apply

☑ Upstream

(9.3.1.13) Total water withdrawals at this facility (megaliters)

125668

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☑ Higher

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

57

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

14

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

125597

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

125584

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☑ Higher

(9.3.1.23) Discharges to fresh surface water

45879

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

79703

(9.3.1.26) Discharges to third party destinations

2

(9.3.1.27) Total water consumption at this facility (megaliters)

84

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:
☑ Lower

(9.3.1.29) Please explain

Castilla is in the municipalities of Castilla La Nueva and Acacías in the Department of Meta. Its withdrawals are in the sub-basin of the Metica River, while the discharge point is in the Guayuriba River sub-basin. Both sub-basins are part of the Orinoco River. According to the baseline water stress estimated using WRI's methodology and local hydrological information, neither of the two sub-basins are in a water- stressed area. •Surface withdrawals correspond to rivers and other water streams. •Variation: Total withdrawals and discharges were 8% higher compared to the previous year due to higher produced water levels as a natural result of hydraulic thrust in the basin. •Data sources: Volumes of total freshwater withdrawals are obtained from direct measurement; produced water is estimated considering the oil production and the average field's BSW (basic water and sediment); discharges are also obtained from direct measurements; total consumption was estimated as the difference between total withdrawals and discharges. • Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).

Row 4

(9.3.1.1) Facility reference number

Select from:

☑ Facility 2

(9.3.1.2) Facility name (optional)

Rubiales

(9.3.1.3) Value chain stage

Select from:

☑ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

☑ Dependencies

☑ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

☑ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Colombia

☑ Orinoco

(9.3.1.8) Latitude

3.831

(9.3.1.9) Longitude

-71.455

(9.3.1.10) Located in area with water stress

Select from:

☑ No

(9.3.1.12) Oil & gas sector business division

Select all that apply

☑ Upstream

(9.3.1.13) Total water withdrawals at this facility (megaliters)

239964

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☑ About the same

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

183

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

239781

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

239890

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☑ About the same

(9.3.1.23) Discharges to fresh surface water

25075

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

214815

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

74

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☑ Much lower

(9.3.1.29) Please explain

The Rubiales field is in the municipality of Puerto Gaitán in the Department of Meta. Its freshwater withdrawals and discharges are in the high basin of the Vichada River, which is part of the Orinoco River. According to the baseline water stress estimated using local hydrological data, this basin is not considered a water-stressed area. Rubiales is not considered a facility exposed to water risks that could have a substantive financial impact as explained before. However, it does have a substantive dependency on water resources, and opportunities (such as increasing recycling for maintaining reservoir's pressure, and the pilot of agricultural reuse in association with Frontera Energy) have been assessed for reducing its dependance on surface water availability. •YoY comparison: Total withdrawals and discharges remained about the same (+1%) compared to 2023. •Data sources: Volumes of total freshwater withdrawals and discharges are obtained from direct measurement; produced water is estimated considering the oil production and the average field's BSW (basic water and sediment); total consumption was estimated as the difference between total withdrawals and total discharges. •Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).

Row 5

(9.3.1.1) Facility reference number

Select from:

☑ Facility 3

(9.3.1.2) Facility name (optional)

Refinería de Cartagena

(9.3.1.3) Value chain stage

Select from:

☑ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

☑ Dependencies

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

☑ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Colombia

☑ Magdalena

(9.3.1.8) Latitude

10.317

(9.3.1.9) Longitude

-75.491

(9.3.1.10) Located in area with water stress

Select from:

☑ Yes

(9.3.1.12) Oil & gas sector business division

Select all that apply

☑ Downstream

(9.3.1.13) Total water withdrawals at this facility (megaliters)

8302

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☑ About the same

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

0

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

8302

(9.3.1.21) Total water discharges at this facility (megaliters)

3306

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☑ Higher

(9.3.1.23) Discharges to fresh surface water

0

(9.3.1.24) Discharges to brackish surface water/seawater

3306

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

4996

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☑ About the same

(9.3.1.29) Please explain

The refinery of Cartagena is in the municipality of Cartagena in the Department of Bolivar. It purchases raw freshwater from ACUACAR (the city's public aqueduct) withdrawn from the sub-basin of the Canal del Dique, while the discharge point is carried out directly to the Caribbean Sea. The Canal del Dique's basin is part of the great basin of the Magdalena River, and it is considered as a water-stressed area according to the baseline water stress estimated using local hydrological information. This facility has a substantive dependency on water resources for its operation. However, even though there is an inherent physical risk posed to the Canal del Dique's basin, the contingency and response plans established by ACUACAR for facing seasonal variability, decrease substantially the probability of occurrence and duration of water shortages; furthermore, the Cartagena refinery has implemented actions for maximizing water recycling, which allows to reduce the

dependance on freshwater supply. •YoY comparison: Total withdrawals were 5% lower, while discharges were 10% higher compared to 2023. •Data sources: Volumes of total freshwater withdrawals and discharges are obtained from direct measurements; measurements; total consumption was estimated as the difference between withdrawals and discharges

Row 6

(9.3.1.1) Facility reference number

Select from:

☑ Facility 4

(9.3.1.2) Facility name (optional)

Refinería de Barrancabermeja

(9.3.1.3) Value chain stage

Select from:

☑ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

☑ Dependencies

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

☑ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Colombia

☑ Magdalena

ECP-INFORMACION PUBLICA

(9.3.1.8) Latitude

7.075

(9.3.1.9) Longitude

-73.876

(9.3.1.10) Located in area with water stress

Select from:

☑ No

(9.3.1.12) Oil & gas sector business division

Select all that apply

☑ Downstream

(9.3.1.13) Total water withdrawals at this facility (megaliters)

20318

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☑ Lower

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

20318

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

0

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

10094

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☑ About the same

(9.3.1.23) Discharges to fresh surface water

10094

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

0

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

10224

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☑ About the same

(9.3.1.29) Please explain

The refinery of Barrancabermeja is in the municipality of Barrancabermeja in the Department of Santander. It is in the sub-basin of the Opón and Sogamoso rivers, which are part of the great basin of the Magdalena River. For its operation, the refinery has a substantive dependency on the freshwater withdrawn from the Magdalena River and the San Silvestre swamp. For the latter one, we have identified an inherent physical and reputational risk for the mid-term, since it is located at the same supply source of municipality's public aqueduct; however, the potential impacts have been reduced over the years due to increasing water recycling and reduced withdrawal. According to the baseline water stress estimated using local hydrological information, none of the basins are located in a water stressed area.. •YoY comparison: Total withdrawals were 8% lower due to higher water recirculation; total discharges were 4% higher compared to 2023. •Data sources: Volumes of total freshwater withdrawals and discharges are obtained from direct measurements; measurements

Row 7

(9.3.1.1) Facility reference number

Select from:

☑ Facility 5

(9.3.1.2) Facility name (optional)

La Cira Infantas

(9.3.1.3) Value chain stage

Select from:

☑ Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

☑ Opportunities

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

☑ Yes, withdrawals and discharges

(9.3.1.7) Country/Area & River basin

Colombia

☑ Magdalena

(9.3.1.8) Latitude

6.947

(9.3.1.9) Longitude

-73.76411

(9.3.1.10) Located in area with water stress

Select from:

☑ No

(9.3.1.12) Oil & gas sector business division

Select all that apply

☑ Upstream

(9.3.1.13) Total water withdrawals at this facility (megaliters)

35824

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☑ About the same

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

4065

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

3

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

31756

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.21) Total water discharges at this facility (megaliters)

35654

(9.3.1.22) Comparison of total discharges with previous reporting year

Select from:

☑ About the same

(9.3.1.23) Discharges to fresh surface water

182

(9.3.1.24) Discharges to brackish surface water/seawater

0

(9.3.1.25) Discharges to groundwater

35472

(9.3.1.26) Discharges to third party destinations

0

(9.3.1.27) Total water consumption at this facility (megaliters)

170

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☑ Much lower

(9.3.1.29) Please explain

La Cira Infantas field is in the municipality of Barrancabermeja in the Department of Santander, located in the sub-basin of the Opón river, which is part of the great basin of the Magdalena River. According to the baseline water stress estimated using local hydrological information, this basin is not considered as a water-stressed

area. Furthermore, we have not identified major water-related risks for this facility. However, it does have a dependance on surface freshwater for fulfilling the difference between the reservoirs' water required for secondary oil recovery (EOR) and the water produced by the field which is 100% recirculated. For this facility, we are evaluating the feasibility of using water from deep aquifers for secondary oil recovery activities. •YoY comparison: Total withdrawals and discharges were 4% and 5% higher (respectively) compared to 2023, showing no significant variation. However, it is important to highlight that the consumption of freshwater used for injection in secondary oil recovery (EOR) increased by 42% due to the needs of the production process to stimulate the reservoir for oil production • Data sources: Volumes of total freshwater withdrawals and discharges are obtained from direct measurements; measurements; total consumption was estimated as the difference between total withdrawals and total discharges. Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).
[Add row]

(9.3.2) For the facilities in your direct operations referenced in 9.3.1, what proportion of water accounting data has been third party verified?

Water withdrawals – total volumes

(9.3.2.1) % verified

Select from:
☑ 76-100

(9.3.2.2) Verification standard used

All the water figures reported are included in the Integrated Sustainable Management Report 2024, which was verified by the independent consultant "EY"

Water withdrawals – volume by source

(9.3.2.1) % verified

Select from:
☑ 76-100

(9.3.2.2) Verification standard used

All the water figures reported are included in the Integrated Sustainable Management Report 2024, which was verified by the independent consultant "EY"

Water withdrawals – quality by standard water quality parameters

(9.3.2.1) % verified

Select from:

☑ 76-100

(9.3.2.2) Verification standard used

All the water figures reported are included in the Integrated Sustainable Management Report 2024, which was verified by the independent consultant "EY"

Water discharges – total volumes

(9.3.2.1) % verified

Select from:

☑ 76-100

(9.3.2.2) Verification standard used

All the water figures reported are included in the Integrated Sustainable Management Report 2024, which was verified by the independent consultant "EY"

Water discharges – volume by destination

(9.3.2.1) % verified

Select from:

☑ 76-100

(9.3.2.2) Verification standard used

All the water figures reported are included in the Integrated Sustainable Management Report 2024, which was verified by the independent consultant "EY"

Water discharges – volume by final treatment level

(9.3.2.1) % verified

Select from:
☑ 76-100

(9.3.2.2) Verification standard used

All the water figures reported are included in the Integrated Sustainable Management Report 2024, which was verified by the independent consultant "EY"

Water discharges – quality by standard water quality parameters

(9.3.2.1) % verified

Select from:
☑ 76-100

(9.3.2.2) Verification standard used

All the water figures reported are included in the Integrated Sustainable Management Report 2024, which was verified by the independent consultant "EY"

Water consumption – total volume

(9.3.2.1) % verified

Select from:
☑ 76-100

(9.3.2.2) Verification standard used

All the water figures reported are included in the Integrated Sustainable Management Report 2024, which was verified by the independent consultant "EY"
[Fixed row]

(9.5) Provide a figure for your organization's total water withdrawal efficiency.

(9.5.1) Revenue (currency)

133300000000000

(9.5.2) Total water withdrawal efficiency

253510733.79

(9.5.3) Anticipated forward trend

Total water withdrawal efficiency was estimated at COP 253,511 per cubic meter of water withdrawn (freshwater and produced water), which is way higher than the Colombian target by 2030 of COP 4,400/m3 of freshwater withdrawn established in the Green Growth Policy. Considering the nature of our reservoirs, produced water levels may increase in the future, decreasing this figure in the future. However, regarding freshwater withdrawals efficiency it will be lower due to the water neutrality targets
[Fixed row]

(9.11) Do you calculate water intensity for your activities associated with the oil & gas sector?

Select from:
☑ Yes

(9.11.1) Provide water intensity information associated with your activities in the oil & gas sector.

Row 1

(9.11.1.1) Business division

Select all that apply
☑ Upstream

(9.11.1.2) Water intensity value (m3/denominator)

0.05

(9.11.1.3) Numerator: water aspect

Select from:

☑ Freshwater withdrawals

(9.11.1.4) Denominator

Select from:

☑ Barrel of oil equivalent

(9.11.1.5) Comparison with previous reporting year

Select from:

☑ About the same

(9.11.1.6) Please explain

Freshwater intensity for the E&P segment was estimated at 0.05 m3/BOE, representing a 5% increase compared to 2023. This increment is due to a greater requirement (18%) of fresh water for injection for secondary oil recovery, especially in the Tibú and La Cira Infantas fields This metric is relevant for Ecopetrol as an indicator of freshwater use efficiency in the E&P segment that allows us internally benchmark our oil fields and to identify and prioritize where the water management actions should focus. It is also a reference for comparison with other oil and gas companies. We expect to continue decreasing the freshwater intensity due to the implementation of the water neutrality roadmap, which prioritizes the maximization of internal water recirculation and using alternative water sources (such as brackish water from deep aquifers) to reduce our freshwater withdrawals. Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).

Row 2

(9.11.1.1) Business division

Select all that apply

☑ Downstream

(9.11.1.2) Water intensity value (m3/denominator)

0.19

(9.11.1.3) Numerator: water aspect

Select from:

☑ Freshwater withdrawals

(9.11.1.4) Denominator

Select from:

☑ Barrel of crude oil throughput

(9.11.1.5) Comparison with previous reporting year

Select from:

☑ Lower

(9.11.1.6) Please explain

The downstream freshwater intensity was estimated at 0.189 m3 per barrel of oil throughput. This figure shows a decrease of 6% compared to 2023 due to higher water recirculation in the refining segment. This metric is relevant for Ecopetrol as an indicator of freshwater use efficiency in the Refining segment, allowing us to benchmark our refineries with others in the world, and as a reference for establishing mid and long-term targets. We expect to decrease the freshwater intensity in the future due to the implementation of the water neutrality roadmap, which prioritizes the maximization of internal water recirculation and using alternative water sources such as municipal domestic wastewater or seawater (in Cartagena Refinery) to reduce the freshwater withdrawals. Thresholds: Much higher/lower (+/- 20%), Higher/Lower (+/- 5 to 20%), About the same (+/- 5%).
[Add row]

(9.13) Do any of your products contain substances classified as hazardous by a regulatory authority?

	Products contain hazardous substances
	Select from:

	Products contain hazardous substances
	☑ Yes

[Fixed row]

(9.13.1) What percentage of your company's revenue is associated with products containing substances classified as hazardous by a regulatory authority?

Row 1

(9.13.1.1) Regulatory classification of hazardous substances

Select from:

☑ Federal Water Pollution Control Act / Clean Water Act (United States Regulation)

(9.13.1.2) % of revenue associated with products containing substances in this list

Select from:

☑ More than 80%

(9.13.1.3) Please explain

Crude oils and refined petroleum products naturally contain different hydrocarbons and other organic and inorganic substances including sulfur, nitrogen, and heavy metals. Some hazardous substances listed in the US regulation are naturally contained in our products such as polyaromatic hydrocarbons (e.g. naphthalene, acenaphthene, etc.), volatile organic compounds (benzene, toluene, etc.), phenols, and metals (e.g. lead, arsenic).
[Add row]

(9.14) Do you classify any of your current products and/or services as low water impact?

(9.14.1) Products and/or services classified as low water impact

Select from:

☑ Yes

(9.14.2) Definition used to classify low water impact

☑ Definition provided by the GRI standard, disclosure 303-2 (2016): Water sources significantly affected by water withdrawal: withdrawals that account for an average of five (5) percent or more of the annual average volume of the water body

(9.14.4) Please explain

During 2024, no surface bodies of water were affected by withdrawals, given that the ratio of 5% between the volume collected and the available surface supply of a given hydrographic subzone was not exceeded.
[Fixed row]

(9.15) Do you have any water-related targets?

Select from:

☑ Yes

(9.15.1) Indicate whether you have targets relating to water pollution, water withdrawals, WASH, or other water-related categories.

	Target set in this category
Water pollution	*Select from:* ☑ Yes

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	Target set in this category
Water withdrawals	*Select from:* ☑ Yes
Water, Sanitation, and Hygiene (WASH) services	*Select from:* ☑ Yes
Other	*Select from:* ☑ Yes

[Fixed row]

(9.15.2) Provide details of your water-related targets and the progress made.

Row 1

(9.15.2.1) Target reference number

Select from:
☑ Target 1

(9.15.2.2) Target coverage

Select from:
☑ Organization-wide (direct operations only)

(9.15.2.3) Category of target & Quantitative metric

Water use efficiency
☑ Reduction in total water withdrawals

(9.15.2.4) Date target was set

12/31/2023

(9.15.2.5) End date of base year

12/31/2019

(9.15.2.6) Base year figure

47516

(9.15.2.7) End date of target year

12/31/2024

(9.15.2.8) Target year figure

42379

(9.15.2.9) Reporting year figure

36620

(9.15.2.10) Target status in reporting year

Select from:

☑ Achieved

(9.15.2.11) % of target achieved relative to base year

212

(9.15.2.12) Global environmental treaties/initiatives/ frameworks aligned with or supported by this target

Select all that apply

☑ Sustainable Development Goal 6

(9.15.2.13) Explain target coverage and identify any exclusions

Target coverage: It includes both E&P and Refining segments; •Exclusions: No facilities were excluded from this target

(9.15.2.15) Actions which contributed most to achieving or maintaining this target

In 2024, Ecopetrol withdrew 36.6 million m3 of freshwater for industrial uses, representing a 23% reduction compared to the baseline. This reduction represents 212% compliance with the 11% reduction target for 2024, due to higher recycling of produced water for secondary oil recovery (EOR) in La Cira Infantas, and lower demands in the Tibú, Cantagallo and Casabe fields. Furthermore, there was a 6% increment in the recycled water resulting from freshwater use, due to the identification and implementation of new recirculation initiatives mainly in the Downstream segment which also contributed for reducing the freshwater withdrawn. Having the water neutrality ambition within the Corporate Strategy 2040 has been of key importance for the achieving this target

(9.15.2.16) Further details of target

Target description: 11% reduction in freshwater withdrawals for industrial uses with regards to the baseline year. •Units for the base year, target year, and reporting year figures: Megaliters per year. •Motivation: As part of the water neutrality commitment, Ecopetrol seeks to reduce 66% of its freshwater withdrawals for industrial uses by 2045, to reduce its water footprint (impacts) and its dependence on freshwater availability, which allows it to manage physical, regulatory, and reputation risks, and increases the resilience of operations in more a challenging territory. We set year- by-year rolling targets to drive the company toward the achievement of the water neutrality goal.

Row 2

(9.15.2.1) Target reference number

Select from:

☑ Target 2

(9.15.2.2) Target coverage

Select from:

☑ Organization-wide (direct operations only)

(9.15.2.3) Category of target & Quantitative metric

Water use efficiency

☑ Increase water use met through recycling/reuse

(9.15.2.4) Date target was set

12/31/2023

(9.15.2.5) End date of base year

12/31/2019

(9.15.2.6) Base year figure

35.8

(9.15.2.7) End date of target year

12/31/2024

(9.15.2.8) Target year figure

43.1

(9.15.2.9) Reporting year figure

55

(9.15.2.10) Target status in reporting year

Select from:

☑ Achieved

(9.15.2.11) % of target achieved relative to base year

263

(9.15.2.12) Global environmental treaties/initiatives/ frameworks aligned with or supported by this target

Select all that apply

☑ Sustainable Development Goal 6

(9.15.2.13) Explain target coverage and identify any exclusions

•Target coverage: It includes both E&P and Refining segments; •Exclusions: No facilities were excluded from this target

(9.15.2.15) Actions which contributed most to achieving or maintaining this target

In 2024, Ecopetrol recycled 20.2 million m3 of effluents resulting from withdrawn freshwater. The percentage of recirculation was 55% (an increase of 19 percentual points with respect to the base line), achieving the stablished target for 2024 thanks to higher water recycling in our refineries as well as lower freshwater withdrawals (denominator of the equation). Having the water neutrality ambition within the Corporate Strategy 2040 has been of key importance for achieving this target.

(9.15.2.16) Further details of target

•Unit for the target year, and reporting year figures: percentage (%). •Description of target: % of freshwater recycling is calculated as the ratio between freshwater water recycled and total freshwater withdrawals for industrial uses. •Motivation: Year-on-year rolling targets are set to drive the company toward the achievement of the water neutrality goal. Ecopetrol is committed to recycling water as a strategy to reduce freshwater withdrawals and discharges. This indicator is part of the corporate indicator "Efficiency in water management".

Row 3

(9.15.2.1) Target reference number

Select from:

☑ Target 3

(9.15.2.2) Target coverage

Select from:

☑ Organization-wide (direct operations only)

(9.15.2.3) Category of target & Quantitative metric

Water use efficiency

☑ Increase water use met through recycling/reuse

(9.15.2.4) Date target was set

12/31/2023

(9.15.2.5) End date of base year

12/31/2019

(9.15.2.6) Base year figure

18

(9.15.2.7) End date of target year

12/31/2024

(9.15.2.8) Target year figure

29.4

(9.15.2.9) Reporting year figure

29.5

(9.15.2.10) Target status in reporting year

Select from:

☑ Achieved

(9.15.2.11) % of target achieved relative to base year

101

(9.15.2.12) Global environmental treaties/initiatives/ frameworks aligned with or supported by this target

Select all that apply

☑ Sustainable Development Goal 6

(9.15.2.13) Explain target coverage and identify any exclusions

Target coverage: It includes the E&P segment; •Exclusions: No facilities were excluded from this target.

(9.15.2.15) Actions which contributed most to achieving or maintaining this target

In 2024, Ecopetrol recycled 143.8 million m3 of produced water, which represents 29.5% of total produced water, achieving the established target for this year. Having the water neutrality ambition within the Corporate Strategy 2040 has been of key importance for achieving this target.

(9.15.2.16) Further details of target

•Description of target: % of produced water recycled/recirculated calculated as the ratio between produced water recycled/recirculated and total produced water extracted. •Unit for the target year, and reporting year figures: percentage (%). Motivation: Year-on-year rolling targets are set to drive the company toward the achievement of the water neutrality goal. Ecopetrol is committed to reusing water as a strategy to reduce freshwater withdrawals and discharges. This indicator is part of the corporate indicator "Efficiency in water management".

Row 4

(9.15.2.1) Target reference number

Select from:

☑ Target 4

(9.15.2.2) Target coverage

Select from:

☑ Organization-wide (direct operations only)

(9.15.2.3) Category of target & Quantitative metric

Water pollution

☑ Reduction in concentration of pollutants

(9.15.2.4) Date target was set

12/31/2023

(9.15.2.5) End date of base year

12/31/2019

(9.15.2.6) Base year figure

11.3

(9.15.2.7) End date of target year

12/31/2024

(9.15.2.8) Target year figure

3.3

(9.15.2.9) Reporting year figure

2.2

(9.15.2.10) Target status in reporting year

Select from:

☑ Achieved

(9.15.2.11) % of target achieved relative to base year

114

(9.15.2.12) Global environmental treaties/initiatives/ frameworks aligned with or supported by this target

Select all that apply

☑ Sustainable Development Goal 6

(9.15.2.13) Explain target coverage and identify any exclusions

•Target coverage: E&P discharges to surface water. •Exclusions: No facilities were excluded from this target.

(9.15.2.15) Actions which contributed most to achieving or maintaining this target

In 2024, the concentration of Hydrocarbons (measured as Total Petroleum Hydrocarbons-TPH) in surface discharges registered an average value of 2.2 mg/L. This was achieved thanks to improvements in the treatment systems of Castilla, Rubiales, and Cartagena refinery.

(9.15.2.16) Further details of target

Description of target: 3.3 mg/L of TPH (total petroleum hydrocarbons) concentration in surface discharges, equivalent to a 70% reduction with regards to the baseline. This internal target is below the regulatory limit of 10 mg/L. • Unit for the base year, target year, and reporting year figures: mg/L. • Baseline: The water neutrality roadmap defined 2019 as its baseline year; That year, the average concentration of TPH in surface discharges was 3.19 mg/L.

Row 5

(9.15.2.1) Target reference number

Select from:

☑ Target 5

(9.15.2.2) Target coverage

Select from:

☑ Organization-wide (direct operations only)

(9.15.2.3) Category of target & Quantitative metric

Water recycling/reuse

☑ Other water recycling/reuse, please specify :Increase in water reuse for agroforestry irrigation

(9.15.2.4) Date target was set

12/31/2023

(9.15.2.5) End date of base year

12/31/2019

(9.15.2.6) Base year figure

1159

(9.15.2.7) End date of target year

12/31/2024

(9.15.2.8) Target year figure

3482

(9.15.2.9) Reporting year figure

4575

(9.15.2.10) Target status in reporting year

Select from:

☑ Achieved

(9.15.2.11) % of target achieved relative to base year

147

(9.15.2.12) Global environmental treaties/initiatives/ frameworks aligned with or supported by this target

Select all that apply

☑ Sustainable Development Goal 6

(9.15.2.13) Explain target coverage and identify any exclusions

Target coverage: E&P reuse of produced water for agroforestry irrigation

(9.15.2.15) Actions which contributed most to achieving or maintaining this target

In 2024 we reused 4.6 million cubic meters of treated produced water from Castilla (irrigation of agroforestry crops in the A SA La Guarupaya Ecoreserve and Rubiales (PW is delivered to Frontera fields for it reuse in palm oil crops).

(9.15.2.16) Further details of target

Description of target: Our target was to reuse 60,100 barrels per day of water (3497 ML per year) for agroforestry irrigation. • Unit for the base year, target year, and reporting year figures: Megaliters • Baseline: The water neutrality roadmap defined 2019 as its baseline year when 20,000 barrels per day were reused.

Row 6

(9.15.2.1) Target reference number

Select from:

☑ Target 6

(9.15.2.2) Target coverage

Select from:

☑ Organization-wide (direct operations only)

(9.15.2.3) Category of target & Quantitative metric

Water, Sanitation, and Hygiene (WASH) services

☑ Increase in the proportion of local population using safely managed drinking water services around our facilities and operations

(9.15.2.4) Date target was set

12/31/2021

(9.15.2.5) End date of base year

12/31/2019

(9.15.2.6) Base year figure

6598

(9.15.2.7) End date of target year

12/31/2024

(9.15.2.8) Target year figure

1329704.0

(9.15.2.9) Reporting year figure

1059129

(9.15.2.10) Target status in reporting year

Select from:

☑ Expired

(9.15.2.11) % of target achieved relative to base year

80

(9.15.2.12) Global environmental treaties/initiatives/ frameworks aligned with or supported by this target

Select all that apply

☑ Sustainable Development Goal 6

(9.15.2.13) Explain target coverage and identify any exclusions

Target coverage: Municipalities within Ecopetrol's area of influence in Colombia.

(9.15.2.16) Further details of target

Ecopetrol aimed to provide access to drinking water and basic sanitation to 1,329,704 people by 2024. [Progress] 246,533 people benefited from access to drinking water and basic sanitation projects in 2024, achieving a total of 1,059,129 people benefited in 2019-2024. It is worth highlighting the following projects that finalized in 2024: •Phases II and III of the Cúcuta Metropolitan Aqueduct, improving the continuity of the service in the municipalities of Los Patios and Villa del Rosario (Norte de Santander). •Construction and optimization of the Drinking Water Treatment Plants in Alto Pompeya (Villavicencio) and Puerto Lopez (Meta). • The Water for Education and Water Education program in Puerto Wilches (Santander). •Construction and commissioning of the drinking water supply system in Manzana, Mayapo district, in the municipality of Manaure (La Guajira). Manaure became an Energy Community with recognition from the Ministry of Mines and Energy for incorporating renewable energy into its water purification processes. Similarly, three (3) projects continue to be implemented, which will benefit more than 396,791 people, and that will lead us to meet the target figure established by 2024; these include the construction of the San Silvestre Wastewater Treatment Plant in Barrancabermeja, the optimization of the WWTP of the urban aqueduct in Barrancabermeja (Santander), and the optimization of the WWTP in the municipality of Guamal (Meta).
[Add row]

C10. Environmental performance - Plastics

(10.1) Do you have plastics-related targets, and if so what type?

(10.1.1) Targets in place

Select from:

☑ Yes

(10.1.2) Target type and metric

Plastic polymers

☑ Increase the proportion of post-consumer recycled content in plastic polymers produced and/or sold

End-of-life management

☑ Increase the proportion of recyclable plastic waste that we collect, sort, and recycle

(10.1.3) Please explain

The objectives defined for the following periods related to plastic are related firstly to increasing the utilization factor and the operational availability of the low-density polyethylene production units to cover the greatest demand in the country, secondly to evaluate expansion or construction projects New polyolefin plants with a view to achieving greater coverage of the potential national market, evaluating initiatives to process recycled plastics and finally evaluating biodegradable additives for the production of low-density polyethylene that is easy to degrade and friendly to the environment.
[Fixed row]

(10.2) Indicate whether your organization engages in the following activities.

Production/commercialization of plastic polymers (including plastic converters)

(10.2.1) Activity applies

Select from:

☑ Yes

(10.2.2) Comment

Ecopetrol produces low density polyethylene (Barrancabermeja Refinery) and Polypropylene (Esenttia)

Production/commercialization of durable plastic goods and/or components (including mixed materials)

(10.2.1) Activity applies

Select from:

☑ No

Usage of durable plastics goods and/or components (including mixed materials)

(10.2.1) Activity applies

Select from:

☑ Yes

Production/commercialization of plastic packaging

(10.2.1) Activity applies

Select from:

☑ No

Production/commercialization of goods/products packaged in plastics

(10.2.1) Activity applies

Select from:

☑ No

Provision/commercialization of services that use plastic packaging (e.g., food services)

(10.2.1) Activity applies

Select from:

☑ No

Provision of waste management and/or water management services

(10.2.1) Activity applies

Select from:

☑ No

Provision of financial products and/or services for plastics-related activities

(10.2.1) Activity applies

Select from:

☑ No

Other activities not specified

(10.2.1) Activity applies

Select from:

☑ No

[Fixed row]

(10.3) Provide the total weight of plastic polymers sold and indicate the raw material content.

(10.3.1) Total weight of plastic polymers sold during the reporting year (Metric tons)

47500

(10.3.2) Raw material content percentages available to report

Select all that apply

☑ % virgin fossil-based content

☑ % post-consumer recycled content

(10.3.3) % virgin fossil-based content

100

(10.3.6) % post-consumer recycled content

0.15

(10.3.7) Please explain

Between 45000 and 50000 tons of low-density polyethylene are produced annually, understood as a raw material for the manufacture of plastics. The raw material to produce polyethylene is mainly ethylene. The pyrolysis oil incorporated in the cracking allowed the production of refinery-grade propylene, which was sold to Esenttia, a subsidiary of Ecopetrol, for the production of polypropylene.
[Fixed row]

(10.4) Provide the total weight of plastic durable goods and durable components produced, sold and/or used, and indicate the raw material content.

Durable goods and durable components used

(10.4.1) Total weight during the reporting year (Metric tons)

22.4

(10.4.2) Raw material content percentages available to report

Select all that apply

☑ % virgin fossil-based content

(10.4.3) % virgin fossil-based content

100

(10.4.7) Please explain

Based on the circular economy model, a pilot project was developed at the Rubiales Hub, transforming industrial plastic waste into plastic lumber materials for infrastructure. This initiative led to the creation of the first circular zone, with sports and recreational spaces. It is being developed eventually.
[Fixed row]

(10.6) Provide the total weight of waste generated by the plastic you produce, commercialize, use and/or process and indicate the end-of-life management pathways.

Production of plastic

(10.6.1) Total weight of waste generated during the reporting year (Metric tons)

0

(10.6.2) End-of-life management pathways available to report

Select all that apply

☑ Preparation for reuse

☑ Recycling

(10.6.3) % prepared for reuse

100

(10.6.4) % recycling

100

(10.6.12) Please explain

NA

Commercialization of plastic

(10.6.1) Total weight of waste generated during the reporting year (Metric tons)

0

(10.6.2) End-of-life management pathways available to report

Select all that apply

☑ Preparation for reuse

☑ Recycling

(10.6.3) % prepared for reuse

100

(10.6.4) % recycling

100

(10.6.12) Please explain

NA

Usage of plastic

(10.6.1) Total weight of waste generated during the reporting year (Metric tons)

228

(10.6.2) End-of-life management pathways available to report

Select all that apply

☑ Preparation for reuse

☑ Recycling

(10.6.3) % prepared for reuse

6.9

(10.6.4) % recycling

86

(10.6.12) Please explain

NA
[Fixed row]

C11. Environmental performance - Biodiversity

(11.2) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

(11.2.1) Actions taken in the reporting period to progress your biodiversity-related commitments

Select from:

☑ Yes, we are taking actions to progress our biodiversity-related commitments

(11.2.2) Type of action taken to progress biodiversity- related commitments

Select all that apply

☑ Law & policy

☑ Species management

☑ Education & awareness

☑ Land/water protection

☑ Land/water management

☑ Livelihood, economic & other incentives

[Fixed row]

(11.3) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
	Select from: ☑ Yes, we use indicators	*Select all that apply* ☑ State and benefit indicators

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	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
		☑ Response indicators

[Fixed row]

(11.4) Does your organization have activities located in or near to areas important for biodiversity in the reporting year?

Legally protected areas

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

☑ No

(11.4.2) Comment

The environmental licensing process begins with the filing of an Environmental Impact Study (EIS) carried out by the interested party, which includes, among other aspects, the identification of environmental impacts with the project and without it, which can be classified as indirect, synergistic and cumulative. Likewise, the evaluation and assessment must be carried out with methodologies consistent with the nature of the project, justifying the assessment of each impact, whether negative or positive. Additionally, the EIS proposes environmental management programs that constitute a detailed description of the set of actions, measures, and activities that, because of the environmental assessment, are aimed at preventing, mitigating, correcting, and compensating for the environmental impacts that have been identified as generated by the development of a project, work or activity. During 2024, Ecopetrol S.A. conducted activities at 144 sites with environmental licenses, covering a total area of 972,862.76 hectares. Of this total, 217,619 hectares represent the current spatial footprint of operational activities. For the 2024 report, only the number of sites and the areas with actual intervention during the year are reported. Operational areas refer to those that were effectively intervened, typically representing a smaller portion of the total licensed area. We only report the areas of direct operation. All of our operating areas have an environmental management instrument. Ecopetrol legally operates in 11 production assets in 5 Regional Integrated Management Districts (DRMI) and Civil Society Nature Reserve (RNSC). According to IUCN categories, DRMIs, and RNSC can be considered as a level VI Protected area, which allows for the sustainable use of natural resources. The DRMIs were declared by regional authorities after the start of Ecopetrol´s operations, as follows: - DRMI San Silvestre, which was declared in 2006, after Ecopetrol S.A. began operations. This figure, according to the zoning, presents production areas among which hydrocarbon exploitation is recognized. - DRMI of Serranía de los Yariguíes was declared in 2005 after Ecopetrol S.A. began operations in the area in 1951. This protection status allows for hydrocarbon exploitation. KBAs are areas that contribute significantly to the global persistence of biodiversity, without limiting the productive processes that take place in the area. - RNSC was registered after Ecopetrol S.A. began operations.

UNESCO World Heritage sites

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

☑ No

(11.4.2) Comment

Ecopetrol has no projects or operations in areas declared World Heritage Sites by UNESCO, nor does it plan to intervene in this type of areas.

UNESCO Man and the Biosphere Reserves

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

☑ No

(11.4.2) Comment

Ecopetrol has no projects or operations in areas declared Man and the Biosphere Reserves by UNESCO, nor does it plan to intervene in this type of areas.

Ramsar sites

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

☑ No

(11.4.2) Comment

Ecopetrol has no projects or operations in areas declared as Ramsar sites, nor does it plan to intervene in this type of areas.

Key Biodiversity Areas

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

☑ Yes

(11.4.2) Comment

Based on the cartographic overlay of the Key Biodiversity Areas (KBA) dataset (March 2025 version), an overlap was identified between the Yariguies Mountain Range KBA and assets from the Guariquies, Quebrada la Roja, Coyote, La Cira Infantas, Lisama, Nutria, Peroles, Tesoro, and Cardales fields, which are part of the Central Regional Vice Presidency. It is important to highlight that the Yariguies Mountain Range KBA covers an area of 502,558 hectares, of which Ecopetrol's operations within the KBA account for 7,966 hectares, representing 1.65% of the total area. The Yariguies Mountain Range KBA was declared in 2008 after Ecopetrol S.A. began operations in the area in 1951. KBAs are areas that contribute significantly to the global persistence of biodiversity. This includes species, ecosystems and ecological processes; without limiting the productive processes that take place in the area.

Other areas important for biodiversity

(11.4.1) Indicate whether any of your organization's activities are located in or near to this type of area important for biodiversity

Select from:

☑ Yes

(11.4.2) Comment

Ecopetrol operates in 4 assets that are located in proximity to two Protected Areas, known as Regional Integrated Management Districts (DRMI) - equivalent to category VI of the IUCN, named La Ciénaga San Silvestre and La Serranía de los Yariguíes located in the department of Santander, this category contemplates the sustainable use of natural resources. Ecopetrol operates legally in these four production assets, which were declared by regional authorities 50 years after the company began operations in the area.
[Fixed row]

(11.4.1) Provide details of your organization's activities in the reporting year located in or near to areas important for biodiversity.

Row 1

(11.4.1.2) Types of area important for biodiversity

Select all that apply

☑ Key Biodiversity Areas

(11.4.1.4) Country/area

Select from:

☑ Colombia

(11.4.1.5) Name of the area important for biodiversity

Yariguies Mountain Range KBA

(11.4.1.6) Proximity

Select from:

☑ Overlap

(11.4.1.7) Area of overlap (hectares)

7966.2

(11.4.1.8) Briefly describe your organization's activities in the reporting year located in or near to the selected area

The Yariguíes mountain range is in located in the Santander department, on the western slope of the Eastern Cordillera of Colombia. It is a vast area that harbors forests in very good conservation status, serving as a transition between the Magdalena River valley and the highlands of the eastern Colombian Andes. The Serranía comprises approximately 500,000 hectares, of which 38% remains untouched as primary forest, about 26% is used for crops such as corn, coffee, sugar, cocoa, tomato, and blackberry, and the remaining 35% consists of grasslands. The Yariguies Mountain Range KBA covers an area of 502,558 hectares, of which Ecopetrol's operations account for 7.9 hectares—representing 1.65% of the total area. This KBA was designated in 2008, although Ecopetrol S.A. began operations in the region in 1951. The oil blocks that directly overlap with the KBA are: Guariquies, Quebrada La Roja, Coyote, La Cira Infantas, Lisama, Nutria, Peroles, Tesoro, and Cardales. According to the environmental zoning of each block, the areas that intersect with the KBA correspond to exclusion zones, meaning the company is not permitted to carry out any production or exploration activities within these areas.

(11.4.1.9) Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Select from:

☑ Yes, but mitigation measures have been implemented

(11.4.1.10) Mitigation measures implemented within the selected area

Select all that apply

☑ Scheduling

☑ Restoration

☑ Site selection

☑ Project design

☑ Physical controls

☑ Operational controls

☑ Biodiversity offsets

(11.4.1.11) Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Environmental instruments issued by national and regional authorities define the types of activities permitted in each area, based on land-use zoning. These instruments specify which zones allow productive activities and which are designated as exclusion areas due to their ecological significance. In this context and based on the spatial overlap between the company's operational areas and the KBAs, it has been determined that the zones intersecting with the KBAs fall within exclusion areas. Therefore, in accordance with current regulations and the designated land use of the oil blocks, no production or exploration activities are carried out in these areas, ensuring that there are no direct impacts on these ecologically valuable ecosystems.

Row 2

(11.4.1.2) Types of area important for biodiversity

Select all that apply

☑ Other areas important for biodiversity

(11.4.1.4) Country/area

Select from:

☑ Colombia

(11.4.1.5) Name of the area important for biodiversity

Regional Integrated Management Districts (DRMI) - equivalent to category VI of the IUCN, named La Ciénaga San Silvestre and La Serranía de los Yariguíes

(11.4.1.6) Proximity

Select from:

☑ Overlap

(11.4.1.7) Area of overlap (hectares)

8157

(11.4.1.8) Briefly describe your organization's activities in the reporting year located in or near to the selected area

Ecopetrol operates four assets located near two Protected Areas, known as Integrated Management Regional Districts (IMRDs)—equivalent to IUCN Category VI—named La Ciénaga San Silvestre and La Serranía de los Yariguíes, in the department of Santander. The IMRDs contemplate the sustainable use of natural resources. Ecopetrol legally operates these four production assets, which were declared by regional authorities 50 years after the company began operations in the area. According to the environmental zoning of each of the oil blocks, the areas that are extrapolated with the IMRD correspond to exclusion areas, which means that the company cannot carry out any production or exploration activities in these zones.

(11.4.1.9) Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity

Select from:

☑ Yes, but mitigation measures have been implemented

(11.4.1.10) Mitigation measures implemented within the selected area

Select all that apply

☑ Scheduling

☑ Restoration

☑ Site selection

☑ Project design

☑ Physical controls

☑ Operational controls

☑ Biodiversity offsets

(11.4.1.11) Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented

Environmental instruments issued by national and regional authorities define the types of activities permitted in each area, based on land-use zoning. These instruments specify which zones allow productive activities and which are designated as exclusion areas due to their ecological significance. In this context and based on the spatial overlap between the company's operational areas and the Regional Integrated Management Districts (RIMD) it has been determined that the zones intersecting with the RIMD within exclusion areas. Therefore, in accordance with current regulations and the designated land use of the oil blocks, no production or exploration activities are carried out in these areas, ensuring that there are no direct impacts on these ecologically valuable ecosystems.
[Add row]

C13. Further information & sign off

(13.1) Indicate if any environmental information included in your CDP response (not already reported in 7.9.1/2/3, 8.9.1/2/3/4, and 9.3.2) is verified and/or assured by a third party?

	Other environmental information included in your CDP response is verified and/or assured by a third party
	Select from: ☑ Yes

[Fixed row]

(13.1.1) Which data points within your CDP response are verified and/or assured by a third party, and which standards were used?

Row 1

(13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

☑ Climate change

(13.1.1.2) Disclosure module and data verified and/or assured

Environmental performance – Climate change

☑ Waste data

☑ Fuel consumption

☑ Methane emissions

☑ Product footprint

☑ Emissions reduction initiatives/activities

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☑ Electricity/Steam/Heat/Cooling consumption

(13.1.1.3) Verification/assurance standard

General standards

☑ ISAE 3000

Climate change-related standards

☑ ISO 14064-3

(13.1.1.4) Further details of the third-party verification/assurance process

Partial Product carbon footprint (PPCF): Ecopetrol contracted an independent verification by SGS for a PPCF, "cradle-to-gate", for Castilla Blend crude oil, using ISO 14064-1 as verification standard, covering extraction, production, and transportation processes. 10% materiality was considered. Conclusion: The GHG information was verified by SGS to a limited assurance level, consistent with the objectives, criteria, and verification agreement. It is concluded, with limited assurance, that:·The PPCF Statement is materially correct and is a fair representation of the GHG data and information. ·The GHG accounting methodology applied is robust, valid and compliant with ISO 14067:2018. ·The PPCF is accurate, complete, consistent, transparent, and free of material errors or omissions. Other climate-related metrics: Ecopetrol's Senior management reviewed and approved the 2024 Integrated Management Report and entrusted EY with the limited assurance of the social, environmental, and economic indicators. Some of the material topics were: ·Waste data (DJSI indicator – Waste disposal, and Hazardous Waste),·Energy consumption (DJSI indicator),·GHG emissions reduction (GRI 305-5 – 462,074 tCO2e);·Methane emissions (DJSI indicator),·Fuel consumption (Own indicators – Volume of biofuels produced and purchased meeting sustainability criteria). SGS verification statement and EY verification statement are attached in a single document.

(13.1.1.5) Attach verification/assurance evidence/report (optional)

Statements.pdf
[Add row]

(13.2) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

(13.2.1) Additional information

Ecopetrol S.A. defined climate change as a material issue considering the direct impact on operations, infrastructure, the sustainability of the company and decisions towards the different stakeholders. This issue is managed from the components of decarbonization (mitigation), compensation and adaptation to climate change in line with the long-term 2040 strategy. The mitigation component includes the management of information on greenhouse gas emissions, scenarios analysis, the definition and implementation of GHG reduction opportunities and the strategic management of the company's asset portfolio to guide additional actions that contribute to avoiding the increase in GHG emissions. Although the management of GHG emissions is focused on reducing GHG emissions following the concept of the mitigation hierarchy, the company also has an offsetting component to support the fulfilment of climate ambition, through the consolidation of a portfolio of Natural Climate Solutions. For its part, the adaptation component contributes to managing the physical risks of the climate considering the direct impact on operations, infrastructure and the environment, due to the increase in the global average temperature and its consequent effect on climatic conditions (precipitation and temperature) in the areas where the company operates, based on future climate scenarios. This component includes the analyses associated with physical risks in terms of exposure and vulnerability to natural hazards, in addition to developing transition risks, which evaluate the speed of acceleration of decarbonization and its effect on the company's asset portfolio. In addition, it incorporates a governance component that develops the means of implementation, through the appropriation of climate-related issues at the different levels and areas of the organization, the allocation of resources for the implementation of mitigation and adaptation actions, and the monitoring and dissemination of climate-related issues and metrics. The plan is built following the recommendations of the guidelines for the formulation of the Comprehensive Business Climate Change Management Plans (PIGCCe), published by the Ministry of Mines and Energy in 2023, whose objective is to guide companies in the mining and energy sector in the identification, definition, implementation and monitoring of initiatives or measures for the management of climate change. In 2018, the Mines and Energy sector developed the Comprehensive Change Management Plan (PIGCCME) with a vision for 2050 in line with Law 1931 of 2018, which establishes the guidelines for the management of climate change in Colombia and the Long-Term Climate Strategy (E2050). The PIGCCME establishes mitigation and adaptation commitments, as well as actions and guidelines to achieve the climate objectives of the mining and energy sector. Mitigation figures: - Colombia committed to reducing 51% of Greenhouse Gas (GHG) emissions by 2030, which correspond to 176.4 MtCO2e, in addition to being a carbon neutral country by 2050. Adaptation figures: - Colombia is one of the most vulnerable countries to climate change in the world; due to its geographical location, its water resources and crops could be affected. - 13% of the departments in Colombia have a high vulnerability to climate change, mainly associated with the management of water resources, biodiversity and ecosystem services. - In Colombia, extreme weather events (El Niño/LaNiña) have substantially affected the country, impacting territorial and sectoral development.

(13.2.2) Attachment (optional)

Ecopetrol+SA+PIGCCe+version+1+EN.pdf
[Fixed row]

(13.3) Provide the following information for the person that has signed off (approved) your CDP response.

(13.3.1) Job title

President

(13.3.2) Corresponding job category

Select from:

☑ Chief Executive Officer (CEO)

[Fixed row]

(13.4) Please indicate your consent for CDP to share contact details with the Pacific Institute to support content for its Water Action Hub website.

Select from:

☑ Yes, CDP may share our Disclosure Submission Lead contact details with the Pacific Institute

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