Prevention of environmental impacts due to operating incidents at Ecopetrol

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ECOPETROL

Introduction

The purpose of this report is to publicize Ecopetrol's management of incidents with an impact on the environment, a key issue within the 2040 Strategy and Ecopetrol's environmental strategy (HSE-N-005).

One of the eight (8) pillars of the environmental strategy is the prevention and enhanced remediation of environmental impacts, which seeks to prevent and mitigate possible effects on the environment due to spills from hydrocarbons or other hazardous substances in Ecopetrol S.A.'s areas of operations.

In line with the above, this prevention and remediation pillar focuses on the prevention of operations-based incidents that have an impact on the environment, incorporating proactive risk management and the analysis of the potential materialization of environmental risks specific to the Company's different businesses.

Scope

This document refers exclusively to Ecopetrol S.A.'s assets under its direct operation between 2015 and 2025. It is worth noting that the figures presented here do not include assets that were transferred to Cenit, a subsidiary of the Ecopetrol Group, responsible for hydrocarbon transportation activities.

Governance

Board of Directors

Ecopetrol's Board of Directors is the Company's highest administrative body, with six (6) permanent committees that support its governance. The main function of these committees is to conduct a preliminary analysis and issue informed recommendations on issues submitted to the Board for consideration. The most relevant of these committees are:

- **Corporate Governance and Sustainability Committee:** This Committee assists the Board of Directors in matters related to good corporate governance and the sustainability agenda.
- **Territorial Transformation and HSE Committee:** This Committee monitors and manages risks associated with occupational health, industrial and process safety, for both workers and contractors; in addition to the Company's environmental performance and contribution to the development of the territories.
- **Audit and Risk Committee:** This Committee is responsible for, among other duties, overseeing the management and effectiveness of the Internal Control System, ensuring timely risk management, and the effectiveness of the controls implemented.

These committees have the power to take cognizance of Ecopetrol's actions that they consider strategic, and may request the Administration to submit specific reports.

In this way, the members of the Board delve into key issues, such as the business risk map, the sustainability agenda, environmental performance, the contribution to territorial development, occupational health, and industrial and process safety, among other topics.

During 2020 and 2021, the HSE Committee of the Board of Directors met regularly to discuss and study matters related to the environment and the Company's industrial and process safety. In 2022, it monitored the industrial safety roadmap, and in 2025, events with environmental impact, as well as corporate environmental management. In addition, every month the Board of Directors receives operational updates that address various issues, including incidents affecting the environment, which allows for constant and timely monitoring of these issues.

Senior Management

The Strategic Committee is the highest-level body, led by the Company's president, and serves as a forum for articulating the Ecopetrol Group's strategy. Its main value lies in ensuring alignment between strategic pillars - such as energy transition, sustainability, and environmental management - and long-term corporate decisions.

In this space, fundamental strategic issues are reviewed, monitored, and approved, including decarbonization objectives, investments in clean technologies, and environmental management across the Ecopetrol Group.

In turn, the Business Line Committees – Hydrocarbons, Energy for the Transition, and Transmission and Toll Roads – perform supervisory and strategic alignment functions within their respective operational areas. These committees monitor progress on the specific environmental objectives of each line, promote the exchange of good practices, and ensure coherence between operations and the corporate environmental strategy. Although they do not have decision-making powers, their role is essential for the effective implementation of the environmental strategy in daily operations.

Environmental Strategy and Incident Management

Ecopetrol's management of incidents affecting the environment at Ecopetrol – within the framework of its direct operation – is conducted in alignment with the HSE Management System and the Company's Environmental Strategy, which guide the way in which environmental risks associated with the Company's operations and processes are identified, evaluated, and controlled. This system incorporates fundamental sub-elements such as comprehensive risk and impact management, operational environmental control, and comprehensive emergency and disaster management. These practices are part of the responsibilities and decision-making processes across all levels of the organization, ensuring dynamic, iterative, and change-responsive management, aligned with Ecopetrol S.A.'s operational context.

Furthermore, management is conducted in compliance with current national legislation: Law 1523 of 2012, which adopts the National Policy for Disaster Risk Management; Resolution 40411 of 2021, the Disaster Risk Management Policy for the mining-energy sector; Decree 2157 of 2017, Risk Management Plans for Public and Private Entities; and Resolution 1402 of 2018,

General Methodology for the Preparation and Presentation of Environmental Studies (MGEPEA). These norms set forth the obligation to implement the three (3) risk management processes in an articulated manner:

1. risk awareness,
2. risk reduction, and
3. disaster management.

These processes are integrated through instruments such as:

- Risk Management Plans (PGRs for their acronym in Spanish), defined as environmental management instruments (Resolution 1402 of 2018);
- Disaster Risk Management Plans for Public and Private Entities (PGRDEPP for their acronym in Spanish), established in Decree 2157 of 2017; y
- Emergency and Contingency Plans (PEC for their acronym in Spanish), defined in Decree 1868 of 2021 and Resolution 1402 of 2018.

The prevention and remediation pillar of the Environmental Strategy focuses on the prevention of operations-based incidents with an impact on the environment, incorporating proactive risk management and the analysis of the potential materialization of environmental risks specific to the company's different business lines.

Its strategic objective is to define actions aimed at the prevention and mitigation of environmental impacts that could be caused by operational incidents and process safety, seeking business sustainability by building trust with its stakeholders.

The strategic lines that underpin the pillar are presented below:

1. **Proactive risk management**: Strengthen and proactively manage the threats and vulnerabilities of the exposed elements, for an accurate and timely assessment of risk scenarios and the prevention of environmental impacts, through the articulation of asset integrity plans and operational tools, and the improvement of corporate management systems that strengthen the decision-making process and the prioritization of their actions.

2. **Incorporation of technology in the management of environmental information**: Strengthening the environmental information generated through the Company's business lines through technological tools that allow for adequate and updated analyses, as well as the fulfillment of objectives in terms of environmental risk management and the prevention of incidents.

3. **Continuous improvement analysis**: Analysis of results, causes, effects, and controls of how incidents affect the environment and their relationship with the scope of the organization's management systems.

4. **Remediation and improvement of the condition**: Remediation of the areas impacted by the materialization of incidents with an environmental impact, ensuring the restructuring and improvement of the initial conditions.

5. **Impact on culture**: Strengthening competencies and culture in environmental risk management to raise awareness about the effects of incidents on ecosystems, the time required to restore the situation to its original conditions, legal risks, and the impact on the Company's reputation and its stakeholders.

Risk Management

Risk management at Ecopetrol is supported by the Integrated Risk Management System (IRS), based on the COSO 2013, COSO ERM 2017 and ISO 31000:2018 references, and is governed by the provisions of the internal regulations, incorporated in the Company's bylaws, comprehensive policy, Code of Good Governance, manuals, guides, and internal instructions determined for this purpose. Comprehensive risk management seeks to draw up general risk management guidelines (identification, assessment, treatment, monitoring, and disclosure), and consolidate a culture that allows for informed decision-making, contemplating possible events that positively or negatively impact the Company's objectives.

Within the Integrated Risk Management System framework, according to the level at which they are managed, risks are classified as strategic, tactical, and operational.

At the level of strategic risk management, the business risk associated with major accidents with human, environmental and operational consequences is identified, where management, monitoring and mitigation mechanisms are highlighted, such as: the design and monitoring of the implementation of process safety, industrial safety and HSE key capacity management programs; implementation of the work control practices as the systematic and sustainable benchmark framework in the development of safe operations and strengthening of the comprehensive emergency management model.

At a tactical risk level, Ecopetrol's Internal Control System has established self-control as a core pillar, seeking to promote transparent and effective performance aimed at achieving organizational objectives. As part of the exercise of self-control and supervision, certifications and self-evaluations are periodically carried out, in which the effectiveness of the controls is declared.

The Internal Control System is a process in which the entire Company participates. Its oversight falls under the competence of the Board of Directors, through its Audit and Risk Committee, as the highest control body responsible for monitoring company management and its effectiveness. The Internal Control System seeks to provide reasonable assurance in the achievement of process objectives, through the timely management of risks and the effectiveness of controls, ensuring individual and consolidated financial statements. As part of this management, Ecopetrol follows a risk matrix and process controls, resulting from the application of the stages of the single risk management cycle.

The Internal Control System is a process in which the entire Company participates. Its oversight falls under the competence of the Board of Directors, through its Audit and Risk Committee, as the highest control body responsible for monitoring company management and its effectiveness.

At the operational level, the organization establishes process risk analysis management guidelines (ARPs for its acronym in Spanish), as a fundamental pillar on which knowledge of operational risk and its scope are determined for all stages of the asset's life cycle (onboarding, operation/maintenance, and disengagement).

Source: Process Risk Analysis Guideline-ARP. HSE-G-050, is articulated with the following documents:

- HSE Management System Manual (HSE-M-003).
- Ecopetrol Group Risk Management Guideline (GEE-G-029).
- Process Safety Administration Guideline (HSE-G-037).
- Risk Management Guideline for Projects (EDP-G-001).
- Process Safety Requirement Guideline for Projects (EDP-G-005).
- Risk Assessment Matrix Guideline (HSE-G-161)
- Ecopetrol S.A. has adopted the ISO 31000:2018 standard as a benchmark for integrated risk management, regardless of its nature, origin, or consequences.

The Process Risk Analysis (ARP) planning involves defining the purpose, scope, and context of the analysis, as well as identifying and involving stakeholders, and establishing objectives, decision criteria, and relevant human, organizational, and social factors. It also includes the clear assignment of roles and responsibilities, such as risk owner, process safety and ARP leaders, analysis facilitator, specialists, and observers. The purpose and scope must be established by the ARP leader in collaboration with the technical team, considering the expected results, the type of information required (qualitative, semi-quantitative, or quantitative), the level of detail, restrictions, assumptions, and resources necessary for the development of the analysis. The ARP deliverables constitute the risk knowledge process, in light of Law 1523 of 2012 and other legislative and regulatory frameworks for technological risk management in Colombia (specific risk analysis). All ARP records and reports are considered in the Process Technology Information Management Guideline (HSE-G-049).

The HSE Risk Assessment Matrix (RAM) is a methodological tool used to evaluate the operational risks associated with the day-to-day activities in Ecopetrol S.A.'s business lines, as well as to classify the materialized events according to their level of risk.

This methodology allows risks to be assessed considering their possible consequences on people, the economic environment, the environment, customers, and the Company's reputation. Based on this assessment, the RAM matrix becomes a key instrument in the risk

management decision-making process, facilitating the prioritization of control, mitigation, or treatment measures required based on the criticality of the identified risk.

An environmental component is included in the classification of risk levels, which incorporates specific criteria affecting the environment. These criteria make it possible to assess both

current and potential consequences of incidents affecting the environment, facilitating adequate environmental risk management.

Strategies and practices

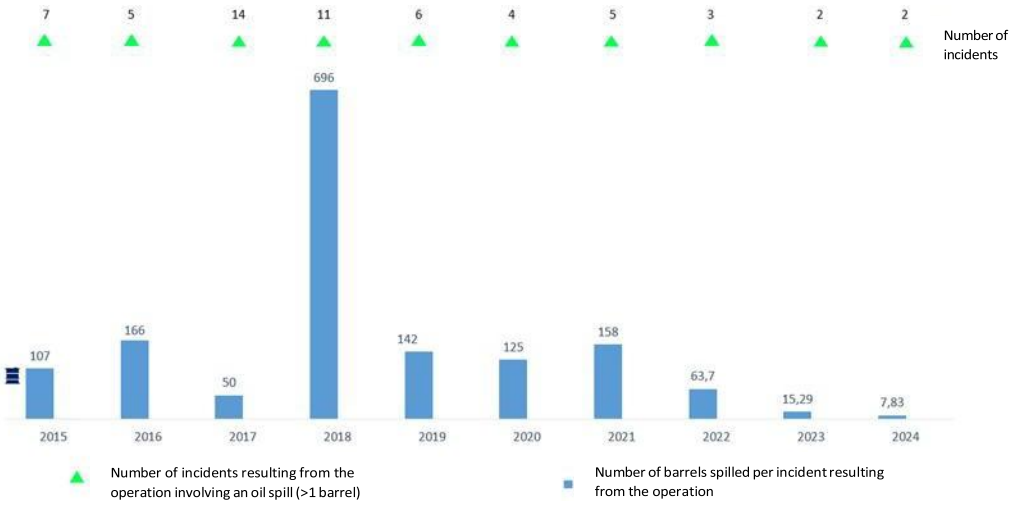
As mentioned above, Ecopetrol S.A. Environmental Strategy is an integral part of the Company's 2040 Strategy, through its Generating Value through TESG pillar. This strategy seeks to foster the fulfillment of corporate goals within the energy transition framework. The prevention and remediation pillar is one of the eight pillars that comprise this Environmental Strategy.

In addition, Ecopetrol has developed complementary documents to those required by the regulations, which strengthen the guidelines for the management of incidents affecting the environment. As part of the Company's continuous improvement approach, in 2019 the HSE Management System was updated, in 2015, the indicator associated with the monitoring of barrels of hydrocarbons spilled in Ecopetrol was established. This indicator helps set limits and, thus, a baseline for process improvement, and ensures operational integrity and reliability.

In turn, there are specific incident management directives, such as the HSE Incident Management Procedure, as well as a technical format for the calculation of barrels of spilled hydrocarbons, which serves as an additional tool for estimates when direct measurements are not available.

The following graph presents the historical behavior of incidents involving more than 1 barrel of oil resulting from Ecopetrol's operation, which have had an impact on the environment, for the period between 2015 and 2025. A significant reduction is observed in this time period, with a 42.86% decrease in the number of incidents, as well as a 88.94% decrease in the volume of hydrocarbon spilled.

Graph 1. History of incidents involving more than 1 barrel of oil resulting from the operation



- *Incidents involving more than 1 barrel resulting from the operation, comprising an oil spill and an environmental impact. Infrastructure operated directly by Ecopetrol.*

It is important to note that the management of incidents with an impact on the environment is

not limited to the environmental component. Its implementation requires effective articulation with other key areas within the Company. In this sense, Ecopetrol strengthens its operational strategies through the integrity of its assets and process safety plans, which incorporate actions such as:

- Critical equipment integrity management;
- Inspections, testing, and maintenance coverage and compliance;
- Elimination of identified defects;
- Periodic asset integrity assessments; y
- Follow-up to the closing of operational gaps.

These guidelines are developed through corporate documents, among which the following stand out:

- Incident Management Procedure defines the guidelines for the timely management of HSE incidents, continuous improvement, and the generation of knowledge to prevent their recurrence.
- Dynamic Process Risk Management Guideline establishes directives for the management of process risks, conditions, and indications, and provides recommendations for the implementation of Dynamic Risk Management (DRM), to support decision-making processes based on informed risk.
- Asset Integrity Management Guideline defines the requirements that must be met to implement the Asset Integrity component on the surface and subsoil, as part of

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Ecopetrol's HSE management system. It also establishes the roles and responsibilities, tools, reference documents, methodologies, and controls that support it.

- Hierarchy and Characterization of Assets Guideline establishes a standardized and structured directive for its application to assets, in alignment with the definitions outlined in the SAP-PM Maintenance Management System.
- Process Safety Management Guide for the Ecopetrol Group establishes the premises, requirements, and governance for risk-based process safety management, seeking the prevention and mitigation of incidents involving a loss of containment of hazardous substances and release of energy within the framework of an HSE Management System.

The above mentioned documents are part of the documented information that supports incident management, the responsibility of which falls on several areas within the organization. Therefore, these achievements are the product of a comprehensive and company-wide management structure that actively involves multiple areas, including: Maintenance, Integrity, Reliability, Risk Management, Operations, Environmental Management, Occupational Health and Safety (OSH), among others.

Each of these areas contributes, from its role and competencies, to the strengthening of the culture for the prevention of incidents, the continuous improvement of processes, and the implementation of effective technical and operational controls.

Likewise, the documented information that supports incident management is not limited to specific reports or records. There are multiple technical documents, procedures, root cause analyses, inspection programs, and contingency plans, among others, which are also an integral part of the management system and support informed decision-making processes to avoid the recurrence of events.

In line with the above, preventive measures have been implemented over time, of which the following are worth noting:

2011 - 2014

- Implementation of industrial asset management and process safety practices.
- Alignment throughout the lifecycle of assets, with plans focused on minimizing environmental impacts, reducing risks and costs, and improving asset performance.

2015 - 2017

- Prioritized surface integrity plans, with resource allocation to critical equipment.

2018 - 2022

- Implementation of integrity guidelines for wells.

- Structuring and implementation of the Surface Integrity Intervention Plan in the Eastern Andean Vice Presidency and Central Regional Vice Presidency, to reduce level 3 process security incidents.*

2022 - date

- Integrity of wells, including process assurance, to achieve excellence levels.
- Consolidation of surface integrity management, given the life cycle of the asset, and its full alignment with the business strategy.
- Cross-checking repetitive incidents (operational and third-party) vs. environmental zoning.
- Prioritization of integrity plans in areas of high environmental sensitivity.
- Definition of High Potential Environmental Incidents (HIPO), formalized and incorporated into Ecopetrol's incident investigation procedure.
- Establishing environmental severity criteria and participation in the identification of environmental consequences for major accident risk and significant consequence scenarios.
- Standardization of the observational methodology for the calculation of volumes of hydrocarbons spilled.
- Strengthening guidelines related to incident management, complementary environmental actions in incident management, determination of incidents classified as High Potential Environmental Incidents - HIPO, indicator resumes, among others.
- Replacement of more than 200 km of pipelines between 2022 and 2024, for which approximately 27.7 MUSD was allocated.

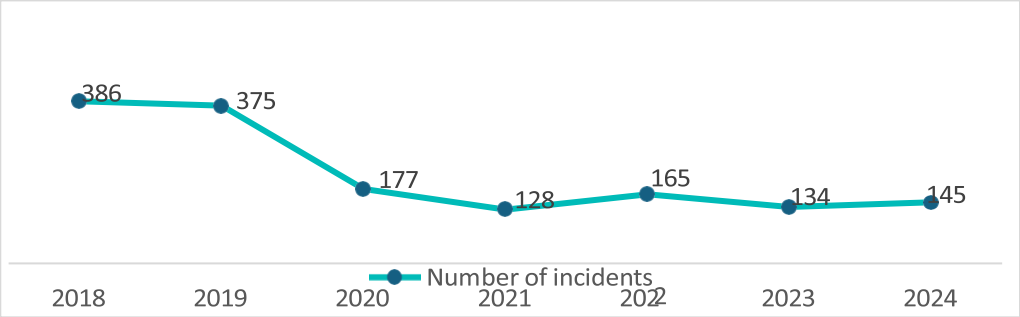
In relation to the reporting of incidents affecting the environment, Ecopetrol, in accordance with Resolution 1767 of 2016, is required to submit to the environmental authority a report stating all events that cause some level of environmental impact, regardless of their origin, magnitude, or type of substance.

Additionally, in compliance with international sustainability standards, Ecopetrol reports incidents differently according to each reporting system. For the SASB (Sustainability Accounting Standards Board) and Dow Jones Sustainability Index (DJSI) standards, only incidents affecting the environment whose volume has been greater than one (1) barrel are reported, as outlined in the criteria defined in these frameworks. This information is verified and monitored by an independent third party and published on the Company's website, in the Management and Sustainability Reports section, ensuring transparency and traceability before the market and its stakeholders. For its part, the company's Integrated Management Report also includes the total volumes of hydrocarbons spilled, thus reflecting a comprehensive view of environmental performance, both in regulatory and voluntary terms. Historical information,

such as current data on oil spills impacting the environment, can be consulted on the company's website. Historical behavior of incidents.

Data on incidents affecting the environment officially reported to the National Environmental Licensing Authority are as follows:

Graph 2. *Total number of incidents resulting from the operation involving oil spills and environmental impact, reported to the environmental authority.*



Given these data, it is essential to consider that incidents with environmental impact can be classified in various ways, which can lead to confusion if the context and applicable reporting standard are not taken into account. The categories used in the report of incidents with environmental impact, among others that may be presented, are:

- Incidents resulting from the operation involving an oil spill.
- Incidents resulting from the operation involving spillage of other substances (e.g. production water).
- Incidents resulting from the operation involving the spill of more than 1 barrel of oil.
- Incidents resulting from third-party operations involving the spill of more than 1 barrel of oil (these last two categories are frequently used for reports such as 20-F, SASB, and DJSI, and used by Oil & Gas companies for reports such as the IOGP).
- Incidents resulting from third-party operations involving an oil spill, with no minimum volume limit.
- Incidents resulting from third-party operations involving the spill of other substances.

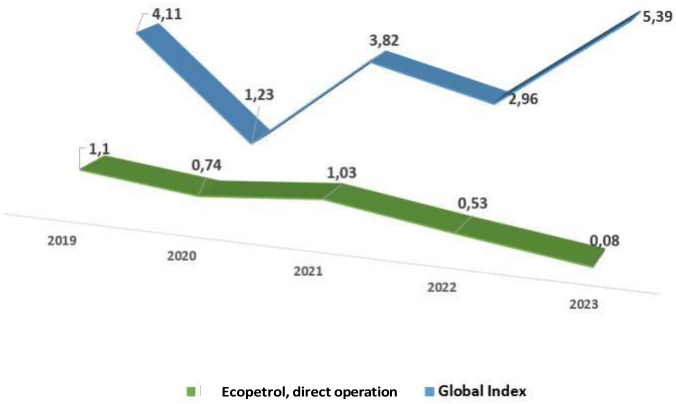
Therefore, when interpreting the data reported by Ecopetrol Direct Operation, it is essential to identify which category each figure corresponds to. This ensures proper reading, aligned with applicable technical and regulatory standards, and avoids misinterpretations when data is presented out of context or under different classifications.

In both Form 20-F filed with the SEC and the sustainability reports and other public reports, Ecopetrol clearly specifies the criteria used: only oil spills involving more than one barrel are reported, in line with widely accepted standards in the Oil & Gas industry. This measure is an internationally recognized benchmark, adopted by organizations such as the International Association of Oil & Gas Producers (IOGP) to facilitate the comparison of data between companies in the sector.

For spills due to incidents resulting from the operation involving more than 1 barrel, and to monitor performance, Ecopetrol S.A. uses as a threshold reference the "Number of oil spills >1 barrel in size and quantity spilled per unit of hydrocarbon production" index established by the IOGP (International Association of Oil & Gas Producers). This index is calculated and published in the fourth quarter of each year, with the information from the previous term. The 2024 report (Environmental performance indicators, Table A.22: Number of oil spills >1 barrel in size and quantity spilled per unit of hydrocarbon production) reports a value of 6.05 for the onshore segment. The calculation of this index for Ecopetrol in the same period is 0.05. This indicates that Ecopetrol is 99.17% below the global result for this segment. The results of the global index for 2025 will be published by IOGP in the fourth quarter of 2026.

Reference: https://www.iogp.org/workstreams/environment/environment/

Graph 3. Volume of oil spills per million tons of production. Ecopetrol is classified as a direct operation with respect to the global reference for the Onshore-IOGP segment.



A fundamental element when analyzing the data is the association with the severity or environmental impact. The severity of the environmental component is discriminated as shown in Graph 4.

Graph 4. Classification of incidents according to the real severity level 2019-2024

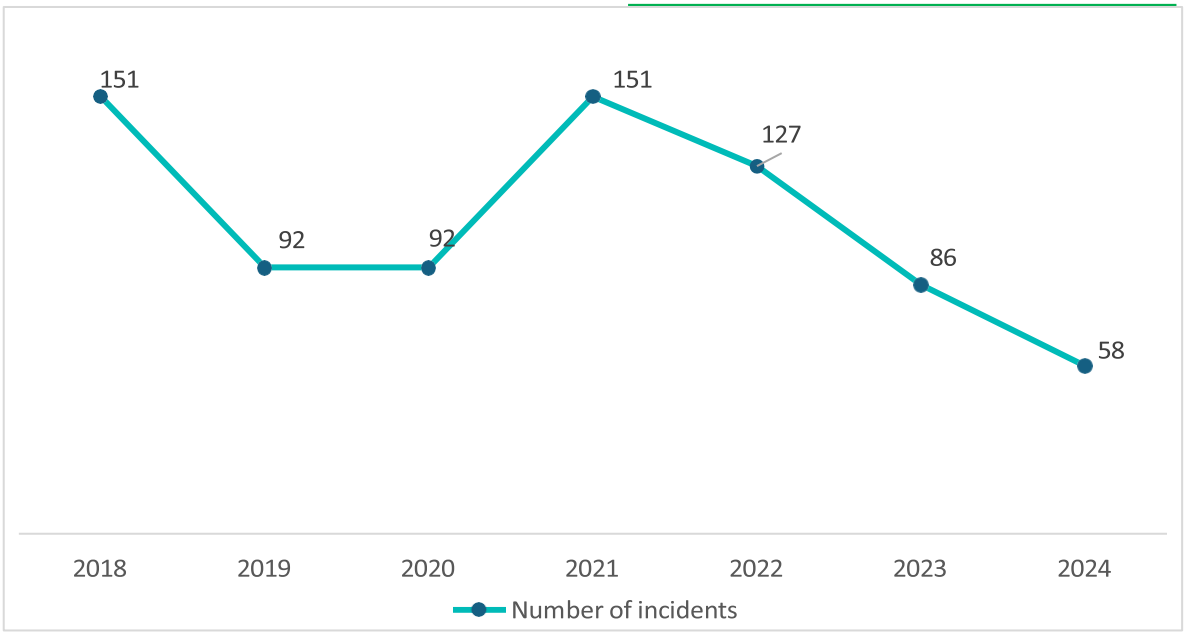
Incidents affecting the environment resulting from the operation starting in 2019, when this classification is consolidated, until December 31, 2024, are distributed as follows, taking into account the areal severity level: Level 0: 0.11%; Level 1: 70.4%; Level 2: 17.6%; Level 3: 6%; Level 4: 4.6%; Level 5: 1.3%.

70.4% of the incidents are classified as level 1, i.e., a minor type of affectation, and only 1.3% reach a level 5 assessment.

With regard to incidents intentionally originated by third parties (illegal armed groups), these correspond to criminal actions that are unforeseeable, irresistible, and unrelated to the company, as described in Article 327A of Law 1028 of 2006, such as seizure of hydrocarbons, their derivatives, biofuels, or mixtures thereof, and acts of terrorism, as stated in article 343 of Law 599 of 2000 (Penal Code); These facts, in turn, generate some effects on the environment. Ecopetrol S.A. has been a victim of continuous attacks on its infrastructure that affect the normal development of its operations, production, and transportation. Ecopetrol has used all necessary resources to address these contingencies in accordance with applicable law.

Although Ecopetrol is not responsible for incidents caused by illegal groups, Graph 5 shows a sustained decrease in this type of event starting in 2015, from 101 incidents to 37 in 2025, which represents a reduction of 63.7% in the last ten (10) years.

Graph 5. Number of incidents caused by third parties involving oil spills and environmental impacts.



- Figures correspond to Ecopetrol, direct operation.

Ecopetrol has implemented prevention mechanisms based on risk analysis and maintenance plans and programs that guarantee the integrity of its infrastructure. However, in the event of an incident affecting the environment, the Company immediately activates its Emergency and Contingency Plan (PEC for its acronym in Spanish) to contain the source, mitigate the impact and prevent further damage.

Subsequently, cleanup and remediation work is carried out in compliance with the guidelines outlined in the National Contingency Plan against Hydrocarbons, Derivatives and Harmful Substance Spills, established by Decree 1868 of 2021 and Resolution 312 of 2019.

In the case of contingencies resulting from the operation, actions include prevention, mitigation, correction, decontamination, and environmental recovery. For contingencies caused by third parties, the removal of spilled hydrocarbons does not reach 100%, since these activities do not contemplate decontamination or environmental recovery processes.

All cleanup and remediation actions, as appropriate, are reported to the environmental authority through the ANLA's *VITAL* platform, through partial and final contingency reports, as well as in the Environmental Compliance Reports (ICA for its acronym in Spanish).

Regulatory context

The regulatory context in Colombia associated with the Prevention and Remediation pillar is based on a set of environmental, risk management and emergency preparedness standards, which apply to industrial activities and especially those in the hydrocarbons sector. This pillar is aligned with the legal duty to prevent, mitigate and remedy the environmental impacts resulting from company operations, and is supported by the following key provisions:

1. **Political Constitution of Colombia (Articles 79 and 80)** recognizes the right to enjoy a healthy environment and assigns to the State and individuals the obligation to protect it and prevent its deterioration.

2. **Law 99 of 1993** creates the Ministry of Environment and establishes the principle of environmental responsibility, according to which all damage to the environment must be prevented, mitigated or repaired by whoever causes it.
3. **Law 1523 of 2012 – National Policy for Disaster Risk Management** establishes the obligation for public and private entities to implement three processes: **Risk Awareness, Risk Reduction, and Disaster Management.** It applies to companies that carry out major civil works or develop industrial activities with the potential to cause disasters, such as oil spills.
4. **Decree 2157 of 2017** regulates the preparation and implementation of the **Disaster Risk Management Plan for Public and Private Entities (PGRDEPP for its acronym in Spanish),** and obliges Ecopetrol to include risk management as part of its planning strategy, including spill scenarios and other incidents that affect the environment.
5. **Resolution 1767 of 2016 – ANLA** regulates the **mandatory reporting of incidents affecting the environment**, and is the basis for the official traceability of the reported events and their follow-up before the environmental authority.
6. **Resolution 40411 of 2021 – Ministry of Mines and Energy,** adopts the **Disaster Risk Management Policy for the mining-energy sector**, which requires the implementation of the three risk management processes and their articulation with existing management systems.
7. **Resolution 1402 of 2018 – Ministry of Environment,** defines the structure and content of the **Risk Management Plans (RMP)** as part of the environmental instruments required for licensing. They must include prevention, care and remediation actions in the event of spills and other events.
8. **Decree 1868 of 2021** regulates the **National Contingency Plan against Oil and Harmful Substance Spills**, which establishes the principles, levels of response, and responsibilities in the event of incidents. It requires **updated Emergency and Contingency Plans (PEC),** with specific protocols for response, cleaning and recovery of areas.

In addition to the documentation established by law and related to risk management plans, disaster risk management plans of public and private companies, emergency and contingency plans, initial, partial and final reports on the *Vital* platform of the National Environmental Licensing Authority-ANLA, the organization has implemented preventive actions for the proper management of issues associated with the prevention of incidents, as listed below:

- **Analysis of repetitive incidents vs. environmentally sensitive areas.** This analysis made it possible to strengthen the prioritization of integrity and reliability plans, as well as the identification of improvements in the maintenance plans of the associated infrastructure.

- **Establishing environmental severity criteria** as a complement to the analysis conducted using the levels and descriptors listed in the HSE-G-161 Risk Assessment Matrix (RAM) guide of Ecopetrol S.A., to determine the real and potential environmental consequences of incidents affecting the environment. See Annex I of HSE-P-007.
- **Participation of environmental teams in the analyses of Major accident scenarios with the potential for disaster (facilities),** Major off-site accident scenarios without the potential for disaster (facilities), Major on-site accident scenarios (facilities), High consequence scenarios with the potential for disaster in pipelines and wells, High consequence scenarios without the potential for disaster in pipelines and wells, to have a holistic view with a zoom in on environmental aspects such as the environmental severity criteria mentioned above.
- **Development of a calculation tool by observation of barrels of hydrocarbons spilled**, which allows for cases in which there is no possibility of performing a scientific calculation such as mass/volume balance, application of physical laws of fluid mechanics or the use of software, among others, to make an objective and standardized approximation of the net volume of hydrocarbon spilled both in soil and in water.
- **Development of the concept of environmental HIPO** as an accident or near miss whose worst probable outcome, under other circumstances, could have realistically resulted in one or more deaths and/or environmental effects of level 5 or higher. Thus, an incident whose potential severity level is 5 or higher, affecting people or the environment, is considered a high-potential incident (HIPO); it may or may not be a recordable incident. The details of the environmental HIPO, as well as its treatment, are determined in Annex 6 of the HSE-P-007.

Environmental Impact Studies (EIA for its acronym in Spanish), prepared and submitted to the National Environmental Licensing Authority (ANLA), to obtain environmental authorizations for the development of operations and projects, constitute the preventive basis. They characterize the baseline conditions of water, soil, biota, and communities, identifying sensitive areas and possible routes of affectation. Based on this information, the potential impacts of a spill are assessed, and management measures are defined. These studies not only measure the risk but also propose scenarios of dispersion and/or spill routes, establish monitoring points, and provide a contingency plan.

The Environmental Licenses include what is stated in the EIA and turn it into mandatory commitments. At this level, a contingency plan is required, including updated equipment, trained brigades and drills; notification to the authority regarding any incident; and reporting the action taken through environmental compliance reports. In addition, the license establishes the monitoring framework for the environmental authority and, in the event of non-compliance, activates the procedures for sanctions provided for in the law.

Together, these instruments ensure that the response to a spill is not limited to immediate containment, but also includes the identification of

Impacts, the adoption of proportional management measures, compliance with regulatory requirements, and the assurance of the environmental recovery of the affected area.

In addition, the organization, within the framework of the implementation of the ISO 14001:2015 standard, identifies and evaluates significant environmental aspects both under normal operating conditions and in emergency or non-conforming situations, such as oil spills or the release of hazardous chemical substances.

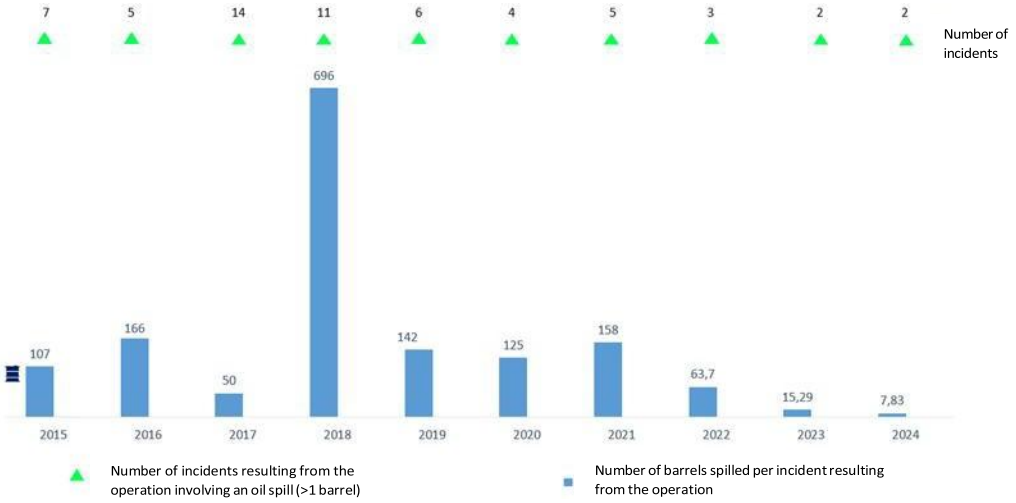
Metrics, indicators and progress:

Historically, incidents resulting from the operation, equal to or greater than 1 barrel of liquid hydrocarbon with an impact on the environment, have been recorded, monitored, and analyzed as a metric used in international reports such as SASB and Dow Jones Sustainability Index.

When analyzing Graph 6, related to this type of incident, a significant decrease is evident:

98.3% in spilled volume in 2025, as compared to 2018, the year in which the maximum value was reached. 63.64% in the number of incidents when comparing these same time periods.

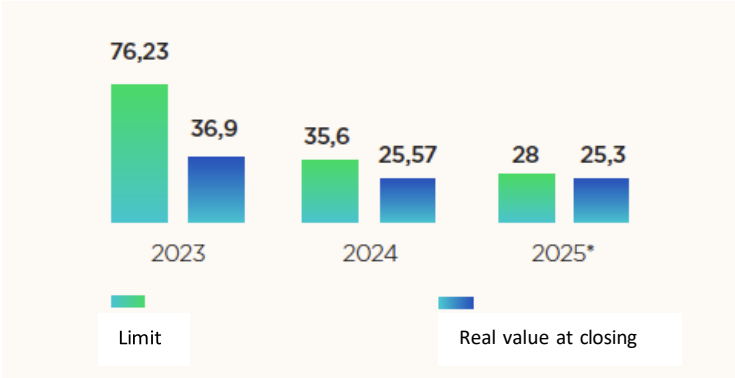
Figure 6. Historical incidents resulting from the operation, greater than 1 barrel of hydrocarbon, and with an environmental impact



Record of Indicator: Total barrels of liquid hydrocarbon spilled due to operational incidents greater, equal to, and less than 1 barrel with an impact on the environment. HSE-H-057.

In order to monitor the entire volume of hydrocarbon spilled due to incidents resulting from the operation, Ecopetrol, in its direct operation, has been implementing the total barrels indicator since 2023. For this indicator, an annual limit is established taking into account historical data of the last three (3) years, the annual production of hydrocarbons, and the analysis of other factors such as integrity, reliability, and maintenance plans. Graph 7 includes data on the limits established for each period and the corresponding result. For 2025, only the value of the limit is presented.

Graph 7. Results of total barrels of oil spills due to incidents resulting from the operation vs established limits (2023 to 2025)



In addition to monitoring the indicator of barrels of liquid hydrocarbon spilled due to incidents resulting from the operation equal to or greater than 1 barrel with an impact on the environment, the historical review of incidents originated by third parties equal to or greater than 1 barrel with an impact on the environment was carried out, and reported to international organizations such as Dow Jones. For more information, see Historical Incident Behavior

Conclusions

1. In its search for continuous improvement, Ecopetrol has implemented substantial changes to its HSE Management System and to the Prevention and Remediation pillar, as seen in the updating of procedures, indicators, and technical instruments, as well as in the collaborative work between key areas for the prevention of incidents such as risks, integrity, and maintenance. This has contributed to a progressive reduction in the number of incidents affecting the environment.
2. The correct interpretation of the data on the number of incidents affecting the environment and the volume spilled depends on the reporting standard and the purpose of the reporting. Ecopetrol notifies and reports all incidents affecting the environment through different formats and metrics, as appropriate; for example, incidents resulting from the

operation with oil spills greater than 1 barrel, total volume spilled due to incidents resulting from the operation, among others. Each category responds to specific criteria and thresholds. To avoid incomplete or erroneous readings, it is essential to contextualize the indicator used, guaranteeing valid comparisons, traceability, and conclusions consistent with the applicable technical and regulatory standards.

3. The official incidents with environmental impact reports are recorded in the Vital platform, defined by the National Environmental Licensing Authority ANLA. It is worth noting that the baseline volumes reported may not match the actual volumes, as these are confirmed only after the corresponding investigations.
4. Incidents intentionally originated by third parties correspond to criminal actions that are unforeseeable, irresistible, and unrelated to the company, as described in Article 327A of Law 1028 of 2006, such as seizure of hydrocarbons, their derivatives, biofuels, or mixtures thereof, and acts of terrorism, as stated in article 343 of Law 599 of 2000 (Penal Code); These facts, in turn, generate some effects on the environment. Ecopetrol S.A. has been a victim of continuous attacks on its infrastructure that affect the normal development of its operations, production, and transportation. Ecopetrol has used all necessary resources to address these contingencies in accordance with applicable law. Although Ecopetrol is not responsible for incidents caused by illegal groups, according to the official reports of this type of incident, a sustained decrease in this type of event has been reported, since 2018 from 151 incidents to 37 in 2025, which represents a reduction of 75.5% in the last seven (7) years.
5. Incidents resulting from the operation follow the corresponding due process regarding their management, measures taken, environmental recovery, and reporting to the National Environmental Licensing Authority of Colombia (ANLA), currently through the VITAL platform.
6. Ecopetrol S.A. has seen a significant decrease in the number of incidents resulting from the operation from 386 incidents in 2018 to 145 in 2024, which represents a reduction of 62.4% in the last 6 years.
7. As part of its operating philosophy and within the framework of the HSE management system, Ecopetrol ensures the implementation of the integrity strategy, which has focused on: keeping an updated inventory of pipelines, ensuring the coverage of its criticality and risk assessments, the preparation of preventive inspection and maintenance plans and their compliance, and monitoring the health status of high-impact lines. The replacement of more than 200 km of lines between 2022 and 2024 is worth noting, for which approximately 27.7 MUSD were allocated.[1]
8. The Company acts in accordance with the national regulations established for the framework of prevention and attention to incidents affecting the environment – such as Law 1523 of 2012, Resolution 1767 of 2016, Decree 2157 of 2017, and Decree 1868 of 2021 – which establish clear obligations regarding the prevention, reporting, attention, and remediation of environmental events

[1] Integrated waste management – Ecopetrol

9. Ecopetrol maintains a focus on continuous improvement, transparency, and traceability by reporting all incidents affecting the environment to the environmental authority, regardless of their origin, volume, or substance spilled, or the importance of the impact. This comprehensive reporting criterion ensures a complete reading of environmental performance, supports regulatory oversight, and allows for verification by independent third parties. According to the classification by level of real severity in force since 2019, 70.4% of the incidents correspond to level 1, that is, minor affectations, which shows that operational controls, risk management, and timely response have contained the severity of the events. This comprehensive reporting policy, coupled with the preponderance of low-severity incidents, reflects responsible and preventive management, aligned with regulatory obligations, the corporate commitment to minimize environmental impact, and continuous improvement. The information is public, is available on Ecopetrol's website in the *Management and Sustainability Reports* section, and is also reported to international oversight organizations.

[1]Comprehensive waste management - Ecopetrol