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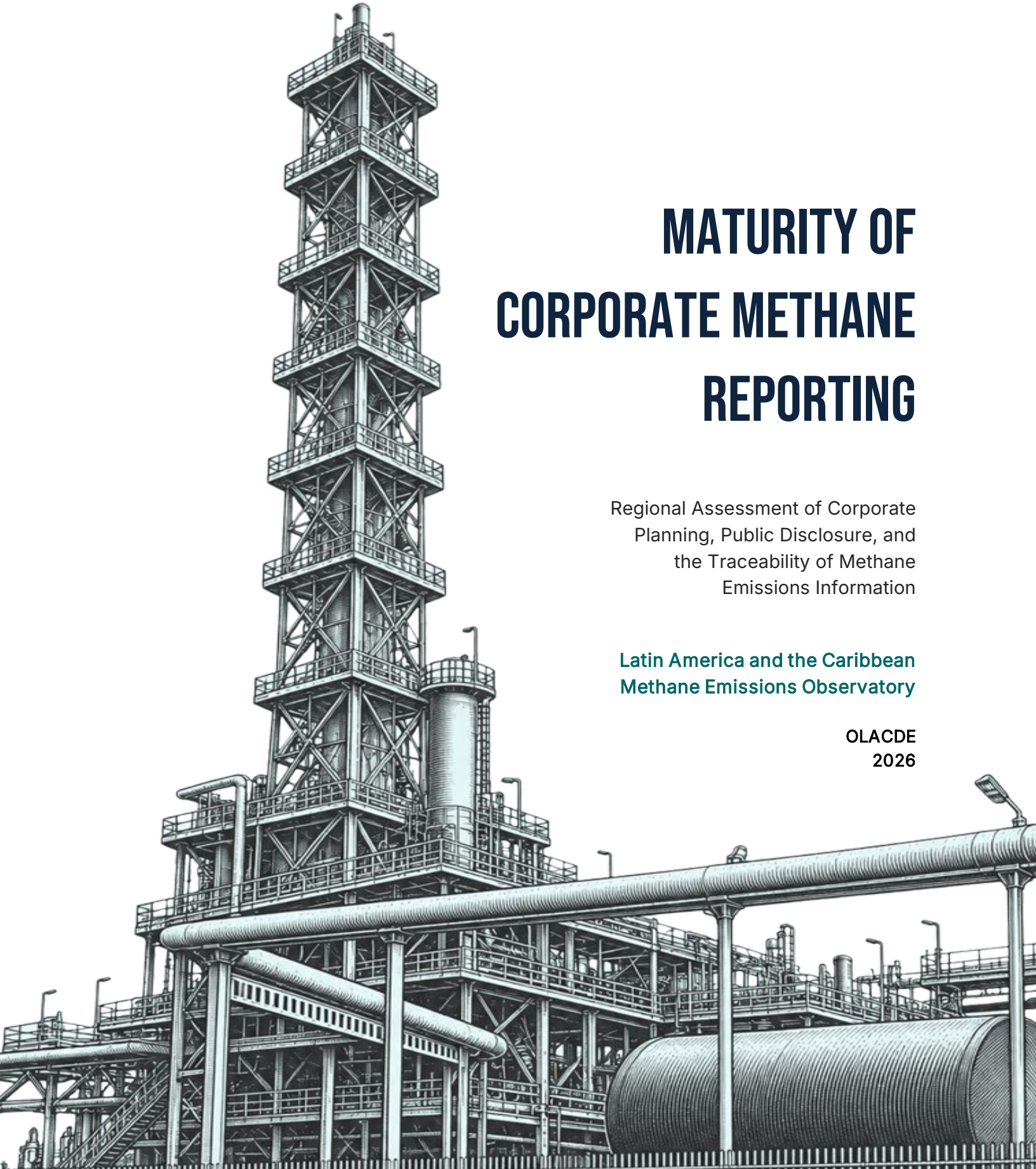

MATURITY OF CORPORATE METHANE REPORTING

Regional Assessment of Corporate Planning, Public Disclosure, and the Traceability of Methane Emissions Information

Latin America and the Caribbean Methane Emissions Observatory

OLACDE
2026

Andrés Rebolledo
Executive Secretary

Gaston Siroit
Director of OEMLAC

Anabella Ruiz
Coordinator of OEMLAC

María Leticia Rodas
Technical Analyst, OEMLAC
Author

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OLACDE Contact Information

Avenida Mariscal Antonio José de Sucre N58-63 y Fernández Salvador
OLACDE Building – San Carlos District
Quito – Ecuador
Telephone: (593 – 2) 2598-122 / 2531-674

FOREWORD

Latin America and the Caribbean are undergoing a transformation of their energy systems, as the challenges of energy security, competitiveness, sustainability, and climate action increasingly converge. In this context, reducing methane emissions represents a tangible opportunity for near-term progress, particularly in the oil and gas sector, where available technologies, practices, and capabilities can help curb these emissions.

National companies and companies with state ownership have an important role to play in this process. Their involvement in strategic activities, their connection to energy policy, and their responsibility for ensuring energy supply place them in a position to drive change within their operations and contribute to the evolution of the region's energy systems.

This role becomes even more significant in light of the dual challenge of reducing emissions from current operations while moving, in accordance with each country's priorities, toward more diversified, lower-emission energy models. Supporting this process requires technical capabilities, corporate decision-making, and reliable information to track progress over time.

Corporate transparency is an integral part of this effort. Accessible and traceable information promotes dialogue among companies, governments, regulators, international organizations, and cooperation agencies, while enabling the development of an evidence-based regional understanding.

Through the Latin America and the Caribbean Methane Emissions Observatory (OEMLAC), the Latin American and Caribbean Energy Organization (OLACDE) contributes to this process by generating knowledge, fostering cooperation, and developing tools to support countries and their companies in managing these emissions.

We hope that this publication will strengthen regional dialogue, facilitate the exchange of experiences, and help identify new opportunities for collaboration to advance methane emissions reduction.

Gaston Siroit
Director of OEMLAC
Latin American and Caribbean Energy Organization (OLACDE)

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ANCAP	**Cecilia San Román** President **Nicolás Spinelli** General Manager
ecopetrol	**Sara Patricia Castellanos** **Cesar Augusto Buitrago** Climate Change Department **Elga Patricia Pabón** **Ángela Cristina Aristizabal** Upstream Technical Management
ENAP	**Douglas Sequeira Morgado** Corporate Integrated Risk Manager **Lorena Carvallo Alache** Corporate Environmental Manager
EP PETROECUADOR	**Carlos Vázquez J.** Deputy Manager for Safety, Health, and Environment **Ana Villarroel** Safety and Environment Specialist OEMLAC Focal Point
Global Methane Hub	**Henrique Bezerra** Regional Director for Latin America
Ministerio de Minas y Energía	**Leonardo Augusto Tamayo** Hydrocarbon Exploration and Production Coordinator OEMLAC Focal Point **Ana Jazmín Medina Rangel** Technical Professional, Directorate of Hydrocarbons
PERÚ Ministerio de Energía y Minas	General Directorate of Environmental Affairs for Hydrocarbons **Vice Ministry of Hydrocarbons**
Gobierno de la República Dominicana, Energía y Minas	**Tomás Varona** Head of the Energy Policy Department OEMLAC Focal Point

PDVSA INTEVEP	**Yanine González** Integrated Gas Management Manager OEMLAC Focal Point
Ministerio del Poder Popular de HIDROCARBUROS, República Bolivariana de Venezuela	**Javier José Ibarra** Technical Coordinator Vice Ministry of Hydrocarbons
PEMEX	**Rafael Neria Martínez** Climate Change Specialist Coordinator Corporate Planning Directorate
PETROBRAS	**Roberto Gennaro Gomes** Upstream Decarbonization and Energy Efficiency Manager **Raffaela Martins Medeiros** Manager of the Carbon Neutrality Program, Decarbonization Fund, and Technology
YPF	**Andrés Scarone** Vice President of New Energies **Silvina Oberti** Sustainability Department Manager **Maria Laura Ayoroa** Sustainability Lead **Maria Victoria David** Energy Transitions Lead – Sustainability **Christian González Saponare** Energy Transitions Portfolio Manager
YPFB	**Mauricio Tejeda** Environmental Manager **Álvaro Murguia** Environmental Director **Jorge Lea Plaza** Environmental Liabilities Specialist OEMLAC Focal Point
YPFB Andina S.A.	**Ramiro Armando Moscoso Zeballos** Quality, Health, Safety, Environment, and CSR Manager **Abelino Menacho** **Celier Herbas** **Noelia Cerruto** **Ever Méndez** Operations and Environmental Management Teams

PREFACE

Methane emissions reduction is receiving increasing attention on the international energy and climate agenda. For Latin America and the Caribbean, progress in this area requires not only the adoption of technical solutions but also access to information that provides insight into how companies plan, implement, and communicate their methane management efforts.

Through the Latin America and the Caribbean Methane Emissions Observatory (OEMLAC), this publication seeks to contribute to that process by providing a regional review of publicly available corporate information. The study does not assume that all companies should follow the same pathway. Rather, it recognizes the need for a common baseline that makes it possible to understand what information companies document, how clearly they present it, and how planning and reporting relate across different corporate contexts.

ABBREVIATIONS AND ACRONYMS

Abbreviation or Term	Definition
AA1000	AccountAbility series of standards addressing principles, stakeholder engagement, and sustainability assurance.
Abatement	The reduction of emissions through technical or operational measures.
AENOR	Spanish Association for Standardization and Certification.
ANCAP	*Administración Nacional de Combustibles, Alcohol y Portland*.
API	American Petroleum Institute.
ARPEL	Association of Oil, Gas, and Renewable Energy Companies of Latin America and the Caribbean.
ASEA	Mexico's Agency for Safety, Energy, and Environment.
Biogas	Gas produced through the decomposition of organic matter in the absence of oxygen; it consists primarily of methane and carbon dioxide.
Biomethane	Methane-rich gas produced by upgrading biogas to make it suitable for energy use.
BNECL	Barbados National Energy Company Limited.
BNOCL	Barbados National Oil Company Limited.
BNTCL	Barbados National Terminal Company Limited.
CCAC	Climate and Clean Air Coalition.
CDP	Organization that operates an environmental disclosure system; formerly known as the Carbon Disclosure Project.
CH_4	Methane.
CO_2	Carbon dioxide.
CO_2e	Carbon dioxide equivalent: a reference unit used to express the climate impact of different greenhouse gases according to the global warming potential and time horizon applied.

CSR	Corporate social responsibility.
DEFRA	United Kingdom Department for Environment, Food and Rural Affairs.
Downstream	Activities in the later stages of the value chain, such as refining, final processing, distribution, and marketing.
Ecoinvent	Life-cycle inventory database used in environmental assessments.
EMMP	Environmental Management and Monitoring Plan.
ENAP	*Empresa Nacional del Petróleo*.
EP	*Empresa Pública* (public enterprise).
ESG	Environmental, social, and governance.
FY	Fiscal year. It may span portions of two calendar years.
GHG	Greenhouse gas.
GHG Protocol	Greenhouse Gas Protocol.
GP1	Identifier for the HPCL East Field vent whose conversion to flaring is described in the documentation reviewed.
GRI	Global Reporting Initiative.
GS-37	HPCL Gathering Station 37, associated with the gas recovery and utilization project described in the study.
Hi-Flow	High-flow sampling technique that combines flow-rate and concentration measurements to quantify emissions from a source.
HPCL	Heritage Petroleum Company Limited.
HSE	Health, safety, and environment.
HSEQ	Health, safety, environment, and quality.
IEA	International Energy Agency.
IFRS S1 / S2	Sustainability disclosure standards issued by the ISSB. IFRS S1 establishes general requirements for disclosing sustainability-related financial information, while IFRS S2 addresses climate-related disclosures.

Infocarbono	Peru's national greenhouse gas information system.
IOGP	International Association of Oil & Gas Producers.
IPCC	Intergovernmental Panel on Climate Change.
Ipieca	Global oil and gas association dedicated to advancing environmental and social performance across the energy transition.
ISAE 3000	International Standard on Assurance Engagements 3000, applicable to assurance engagements other than audits or reviews of historical financial information.
ISO	International Organization for Standardization.
ISO/IEC 17025	Standard establishing general requirements for the competence of testing and calibration laboratories.
ISSB	International Sustainability Standards Board.
LDAR	Leak detection and repair.
Midstream	Intermediate activities in the oil and gas value chain, such as gathering, transportation, and storage.
MRV	Measurement, reporting, and verification. In this study, the monitoring criterion also encompasses indicators, baselines, and documented control mechanisms.
N/A	Not applicable.
NCG 461	Chilean Financial Market Commission General Rule No. 461, concerning sustainability and corporate governance information in annual reports.
NCG 519	Chilean Financial Market Commission General Rule No. 519, which amends sustainability disclosure requirements and incorporates IFRS S1 and IFRS S2.
NDC	Nationally determined contribution under the Paris Agreement.
NGC	The National Gas Company of Trinidad and Tobago Limited.
NOCs	National oil companies. For the purposes of this study, the scope encompasses national companies and companies with state ownership operating in the oil and gas sector.

OEMLAC	Latin America and the Caribbean Methane Emissions Observatory.
OGCI	Oil and Gas Climate Initiative.
OGDC	Oil and Gas Decarbonization Charter.
OGI	Optical gas imaging, used to locate emissions through imaging technology.
OGMP 2.0	Oil and Gas Methane Partnership 2.0, a methane emissions reporting framework.
OLACDE	Latin American and Caribbean Energy Organization.
PEMEX	*Petróleos Mexicanos*.
Q-OGI	Quantitative optical gas imaging, which enables emission rates to be estimated using images and measurement parameters.
RAGEI	Annual Greenhouse Gas Report used within Peru's information system.
SASB	Sustainability Accounting Standards Board; the name used for the SASB industry-based standards.
SDGs	Sustainable Development Goals.
TCFD	Task Force on Climate-related Financial Disclosures.
tCH_4 / $ktCH_4$	Tonnes of methane / thousand tonnes of methane. These units express the mass of CH_4.
tCO_2e	Tonnes of carbon dioxide equivalent. This unit expresses the climate impact of greenhouse gases according to the global warming potential and time horizon applied; it is not equivalent to tonnes of methane.
TDLAS	Tunable diode laser absorption spectroscopy, used to measure gas concentrations.
U / M / D	Abbreviations for upstream, midstream, and downstream used in the operating-segment tables.
UNEP	United Nations Environment Programme.
UNFCCC	United Nations Framework Convention on Climate Change.

UNIT	*Instituto Uruguayo de Normas Técnicas* (Uruguayan Institute of Technical Standards).
Upstream	Oil and gas exploration and production activities.
VRU	Vapor recovery unit. It captures vapors for recovery or beneficial use, depending on the facility.
YPF	*Yacimientos Petrolíferos Fiscales*, the name from which YPF S.A. originated.
YPFB	*Yacimientos Petrolíferos Fiscales Bolivianos*.

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KEY MESSAGES

THE MAIN GAP LIES IN THE TRACEABILITY BETWEEN PLANNED ACTIONS AND REPORTED RESULTS

01

Across several companies, published actions and results cannot always be clearly linked to previously established targets, timelines, responsible parties, and monitoring mechanisms.

PUBLICATION CONTINUITY AND INSTITUTIONAL ARRANGEMENTS STRENGTHEN TRACEABILITY

Reporting series and the identification of responsible departments or committees make it easier to track information over time and understand how methane management is organized within the company.

02

TARGETS, RESPONSIBILITIES, AND MONITORING REMAIN UNEVENLY DEFINED

Planning documents address methane with varying levels of detail. However, specific targets linked to clearly identified responsible parties and defined mechanisms for tracking their achievement remain less common.

03

THE PRESENCE OF FRAMEWORKS DOES NOT, IN ITSELF, DEMONSTRATE THEIR APPLICATION

04

External standards and initiatives provide greater value when corporate documentation shows how they relate to methodologies, targets, actions, responsible parties, and results.

05

THE SAME LEVEL OF MATURITY MAY REFLECT DIFFERENT DOCUMENTATION PATTERNS

Documentary maturity synthesizes the available evidence across planning and reporting, while the relationship between these components shows how that evidence is distributed and

06

THE AVAILABLE EVIDENCE WAS EXPANDED AND REFINED BETWEEN 2025 AND 2026

New publications, additional institutional documentation, and a more detailed review of existing sources expanded and refined the evidence, although differences in access, coverage, and continuity persist across companies.

EXECUTIVE SUMMARY

This study examines how national oil and gas companies and other companies in the sector with state ownership in Latin America and the Caribbean document their management of methane emissions. The assessment distinguishes planning—commitments, targets, planned actions, and monitoring mechanisms—from reporting—implemented measures, data, progress, and results. Documentary maturity integrates the available evidence from both components to reflect its clarity, coverage, and verifiability.

The review covered all 27 OLACDE member countries. In six of these countries, no national company or company with state ownership matching the profile defined for the study was identified. In the remaining 21 countries, 22 companies were identified as potentially eligible for assessment. Ultimately, 14 had sufficient official and verifiable evidence to be included in the analysis.

The exclusion of a company does not constitute an assessment of its operational capacity, internal resources, or ongoing activities. Rather, it reflects limitations in the availability of sources during the assessment period, which prevented the consistent application of the established methodological criteria.

The findings show that the primary challenge lies not only in the availability of public information, but also in the ability to connect and track the different elements of methane management over time. The most significant opportunities for improvement concern the specificity of targets, the identification of responsibilities, and the connections among commitments, actions, and results. A clearer structure would make it possible to determine what a company seeks to achieve, which sources or operations are covered, what baseline is used, what timeframe applies, and which indicators are used to monitor progress. External frameworks, standards, and initiatives are widely referenced, but they provide greater value when their application can be identified in specific methodologies, procedures, or actions.

These connections also have implications for corporate management. For sources such as leaks, venting, and flaring, improved identification and control can support resource recovery and utilization. At the same time, clear and verifiable information can help companies respond to the commercial, financial, and due diligence requirements that are becoming increasingly prevalent across the sector. Transparency can therefore support both corporate communications and decision-making.

The companies analyzed demonstrate a well-developed foundation of documentary maturity: nine of the 14 are classified at the consolidated level and five at the advanced level. This finding does not imply that planning and reporting are equally developed or that every commitment can be fully matched to a corresponding result. These levels must therefore be interpreted in light of how the evidence is distributed across the two components.

The study identifies four types of relationships between planning and reporting. For four companies, reporting provides further detail on matters addressed more generally in planning documents. For six, the two components make it possible to establish clearer connections among commitments, actions, and results. For two, planning currently provides more comprehensive coverage. For the remaining two, the combined interpretation is constrained by the timing or nature of the available sources. These differences show that the same level of maturity may be supported by different documentation patterns and that improvement does not necessarily follow the same sequence across all companies.

The review initiated in 2025 continued in 2026 through an update of the sources and the incorporation of materials available as of the latest documentary review, conducted on August 20, 2026. This second phase expanded and refined the evidence through new publications, planning instruments, and additional official information. It also brought differences in publication continuity, repository organization, the age of available documentation, and access conditions into sharper focus.

The study neither evaluates the environmental or operational performance of the companies nor certifies compliance with their commitments. Its contribution is to establish a regional reference point for observing how corporate reporting on methane evolves and the extent to which the connections among planned measures, implemented actions, and reported results become stronger. This foundation makes it possible to identify progress and areas that continue to require greater clarity, continuity, and alignment.

1

1

CORPORATE TRANSPARENCY AS A PREREQUISITE FOR ADVANCING METHANE MANAGEMENT

Reducing methane emissions requires technical solutions supported by corporate management capable of setting priorities, defining measures, and tracking results.

1.1 FROM EMISSIONS TO VERIFIABLE MANAGEMENT

Methane is the primary component of natural gas and one of the most significant near-term climate pollutants. Although it remains in the atmosphere for less time than carbon dioxide, it has a considerably greater warming effect while present. Rapid and sustained reductions in methane emissions, alongside reductions in carbon dioxide emissions, can therefore help limit warming over the coming decades (UNEP, 2023).

In the oil and gas industry, methane emissions can occur throughout the value chain, from extraction to distribution, including processing, transportation, storage, and refining. They arise primarily from leaks in equipment and pipelines, venting, incomplete combustion during flaring, and certain operating and maintenance activities. The contribution of each source depends on the type of operation and the characteristics of the facilities, although emissions are more heavily concentrated in the exploration, extraction, and processing stages (IEA, 2026).

Understanding how these emissions are generated and how they can be reduced requires a distinction among leaks, venting, and flaring. Leaks are unintentional releases of gas from equipment or pipelines and constitute a form of fugitive emissions. Venting, by contrast, is the deliberate release of uncombusted gas into the atmosphere. Flaring involves the combustion of gas, but it can also emit methane when combustion is incomplete. Within this category, routine flaring occurs during normal oil production when sufficient facilities are not available to use or reinject the associated gas. It is therefore distinct from flaring undertaken for safety reasons or in exceptional circumstances.

A substantial share of these emissions can be avoided through technologies and practices that are already available, including leak detection and repair, equipment maintenance or replacement, gas recovery, and reductions in venting and routine flaring. According to the International Energy Agency, existing technologies could prevent approximately three-quarters of methane emissions from oil and gas operations (IEA, 2026).

1.2 WHY PLANNING AND REPORTING ON METHANE MANAGEMENT MATTER

Planning and reporting serve distinct but complementary functions in methane management. Planning establishes commitments, targets, planned actions, and monitoring mechanisms; reporting provides information on which measures were implemented, what was measured, and what progress or results were communicated. Together, they make it possible to track the transition from commitments to action.

Both components provide insight into how a company incorporates national policies, sector-specific regulations, methodologies, and international initiatives. Beyond simply mentioning these references, it is important to identify how they translate into targets, measurement criteria, actions, and monitoring mechanisms.

Methane management also has operational and economic dimensions. Leaks, venting, and flaring can result in the loss of a usable energy resource. Reducing these losses can improve operational efficiency, mitigate associated risks, and increase the availability of gas for internal consumption or commercial sale.

These benefits are particularly relevant in energy systems facing supply constraints or dependence on imports. Recovering gas that would otherwise be lost enables more efficient use of available resources and, where the scale and system conditions allow, can contribute to energy supply and security. This opportunity extends beyond exploration and production: in natural gas-importing countries, methane management is also relevant to storage, regasification, transportation, and distribution activities.

Realizing these opportunities requires information that supports decision-making and provides evidence of progress. The quality of this information also matters in commercial and financial relationships, given the growing demand from buyers, investors, financial institutions, partners, and regulators for information on operational emissions, inventory quality, and the measures adopted. Clear, comparable, and verifiable documentation facilitates responses to due diligence processes, environmental traceability requirements, and, where applicable, contractual conditions related to climate performance.

This information also helps guide investment. Identifying the principal emission sources, establishing targets, and monitoring results make it possible to prioritize gas recovery projects, facility upgrades, improvements to measurement systems, and other

interventions. In turn, well-defined baselines, objectives, and indicators can facilitate the structuring of climate finance initiatives or access to financial instruments linked to sustainability targets.

In carbon markets, corporate reporting provides a starting point, but it is not sufficient to demonstrate that an emissions reduction is eligible or can generate credits. These mechanisms require recognized methodologies, a baseline against which reductions can be calculated, and specific measurement and verification requirements. They also require additionality to be demonstrated—that is, evidence that the reduction would not have occurred under the baseline scenario without the intervention or incentive under consideration. Robust corporate documentation can support the preparation of these projects and the subsequent demonstration of their results in accordance with the criteria of each mechanism.

Planning and reporting on methane management therefore extend beyond the disclosure of a single emissions figure. Together, they connect decisions with results and provide a foundation for projects that reduce losses, improve gas utilization, and respond to investment and financing requirements.

1.3 THE STRATEGIC ROLE OF NATIONAL COMPANIES AND COMPANIES WITH STATE OWNERSHIP

National companies and companies with state ownership (NOCs) in the oil and gas sector reflect a wide range of circumstances across Latin America and the Caribbean. They differ in size, degree of state ownership, institutional structure, geographic reach, and operational capacity, and they participate in different segments of the value chain: exploration, production, transportation, processing, refining, distribution, and marketing. These characteristics determine the relevant emission sources and the mitigation measures applicable in each case.

Their importance extends beyond the volume of hydrocarbons they produce. Depending on the national context, these companies may contribute to natural resource development, public revenue generation, the operation of strategic infrastructure, and the domestic supply of fuels and gas. Consequently, they occupy a strategic position in the functioning of national energy systems, energy security, and progress toward each country's climate objectives (World Bank, 2011; IEA, 2020).

State ownership also adds an institutional dimension, as these companies operate within the framework of energy and climate policies, sector-specific regulations, and provisions governing venting, flaring, and emissions control. However, a commitment undertaken by a country does not automatically constitute a corporate target. For that connection to be traceable, it must be reflected in the company's own instruments and disclosures.

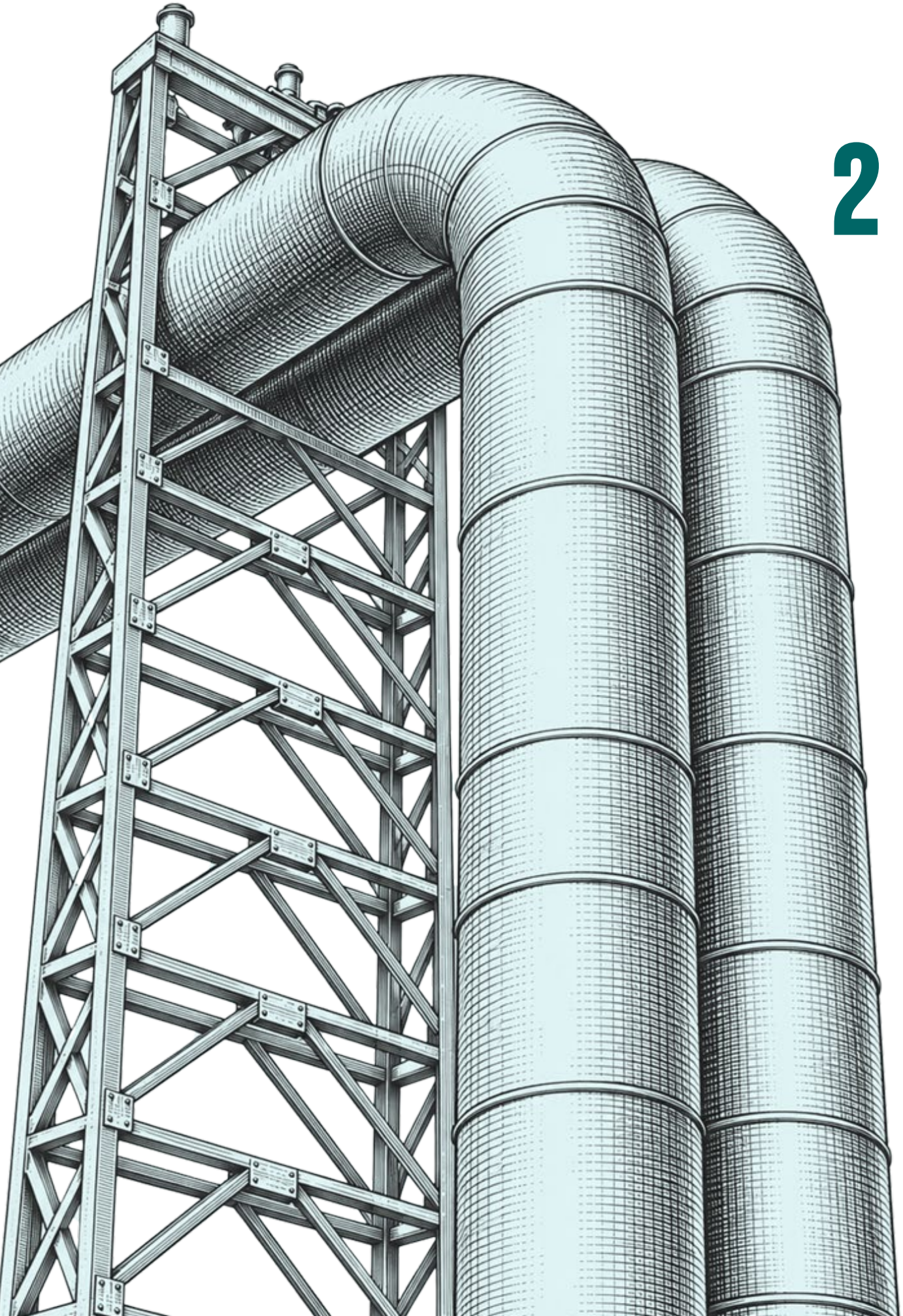
Their position within the value chain also broadens the reach of their decisions. Incorporating emissions measurement, reporting, or reduction requirements into contracts, partnerships, and procurement processes can promote the adoption of these practices among operators, partners, suppliers, and contractors.

This role also encompasses a longer-term perspective. The region's national oil and gas companies must reduce emissions from their current operations while moving, in accordance with each country's priorities, toward more diversified, lower-emission energy models. Documenting both processes will become increasingly important for tracking their evolution.

In several countries, these companies also make key investment and operational decisions concerning assets and infrastructure with long useful lives. Incorporating methane measurement, control, and management criteria into new facilities, expansions, maintenance activities, and modernization processes can therefore influence future emissions trends and the capacity to generate comparable information from the early stages of projects.

The information generated by these companies can also contribute to better alignment between corporate management and national information systems. Sufficiently documented corporate inventories, measurements, and results can provide evidence for understanding relevant emission sources within the sector, supporting regulatory processes, and facilitating dialogue between companies and public authorities. In doing so, differences in scope and methodology between corporate information and national inventories must always be taken into account.

The regional analysis recognizes this diversity. Its purpose is not to assume a single management approach for all companies, but to establish a common foundation for understanding how they document their commitments, actions, and reported results.



2

2

REGIONAL RESULTS

Of the 14 companies analyzed, 12 (86%) demonstrate advanced or consolidated levels of reporting, while 8 (57%) reach these levels in planning.

2.1 FOURTEEN COMPANIES FORM THE BASIS OF THE ANALYSIS

The study began with a regional database developed by OEMLAC, which identified more than 70 public and private oil and gas companies operating in Latin America and the Caribbean. Using this database as a reference, priority was given to national companies and companies with state ownership in OLACDE member countries because of their strategic role in the region's energy systems. The scope of the review and the criteria applied to select the companies are presented below.

The review covered all 27 OLACDE member countries. In six of these countries, no national company or company with state ownership matching the defined profile was identified. In the remaining 21 countries, 22 companies met the initial conditions for assessment; in Trinidad and Tobago, two entities were considered separately. Of this group, 14 had sufficient official and verifiable information to apply the planning, reporting, and documentary maturity criteria. The other eight were not included because the information identified as of August 20, 2026, did not allow these components to be assessed consistently. This decision was based exclusively on the available evidence and does not imply an absence of methane management or related actions.

As a general criterion, one national company or company with state ownership was selected per country. The unit of analysis is the entity whose operational scope and documentation allowed planning and reporting to be examined separately. When sources relate to a company that forms part of a corporate group, the findings are limited to the organizational boundary covered by that information and are not automatically attributed to the parent company, its subsidiaries, or the group as a whole.

Bolivia presents a particular situation. The search began with YPFB's corporate headquarters, and during the institutional consultation, the company reported that the methane management and documentation process had begun at YPFB Andina. This subsidiary had sufficient company-specific information to apply the study criteria, while no equivalent documentation was identified at the parent-company level. YPFB Andina was therefore established as the unit of analysis, and its results are not attributed to the YPFB Group as a whole.

In Trinidad and Tobago, the inclusion of two companies reflects a different corporate structure. HPCL and NGC are independent state-owned entities with distinct institutional structures and operating profiles: HPCL focuses on the oil value chain, while NGC

focuses on the gas value chain. Accordingly, both companies were assessed as separate units.

These arrangements mean that the institutional and operational boundaries are not necessarily equivalent across the companies. The comparison concerns the maturity of the information available for each unit of analysis, not company size, asset base, or environmental or operational performance. Similarly, the categories used describe the completeness and traceability of the documentary evidence and do not constitute a ranking.

Of the 14 companies included, 10 (71%) are wholly state-owned, while four (29%) have majority state ownership. In terms of operating profile, 11 (79%) engage in both oil- and gas-related activities, two (14%) focus on oil, and one (7%) operates exclusively in gas. Their participation across the value chain also varies: some operate in several segments, while others focus on specific stages. Table 1 presents the companies identified, their operating segments, and their inclusion status in the study.

To organize this diversity, activities were classified as upstream, midstream, or downstream. Upstream encompasses exploration and production; midstream includes transportation, processing, storage, and logistics; and downstream covers refining, distribution, and marketing. This classification serves an analytical purpose and does not necessarily correspond to the organizational structures or terminology used by each company. Where applicable, the analysis also considers activities undertaken by operating entities within the same corporate group that are directly linked to the oil and gas value chain.

A company's operating segment provides context for the evidence, but does not, by itself, determine the presence of an emission source or mitigation measure. Targets, actions, sources, and results were included only when they could be identified in the information reviewed.

The assessment relied primarily on documents available through institutional repositories and communication channels. In some cases, it was necessary to request additional information or clarify the scope and function of specific sources.

For YPF, the institutional consultation clarified which content constituted planning. During the initial review, the 2021 Commitment to Climate Action was identified as the company's principal stand-alone planning instrument. YPF subsequently indicated that the forward-looking sections of its 2025 Sustainability Report also form part of its corporate planning framework. These sections bring together decarbonization ambitions, targets for 2030 and 2050, interim milestones, lines of action, monitoring mechanisms, and responsible organizational structures. To preserve the distinction between the components assessed, only forward-looking or programmatic content was

considered under planning. Implemented actions, data, and results for 2025 were analyzed as part of reporting.

For YPFB Andina and EP Petroecuador, the review was supplemented with nonconfidential institutional information provided by the companies. For YPFB Andina, this information clarified aspects of planning, although the corresponding document was not reviewed directly. For EP Petroecuador, the information received expanded the evidence concerning the Decarbonization Plan and actions undertaken after the most recent publicly available corporate report. For PEMEX, institutional communications facilitated access to public documents that were otherwise subject to geographic access restrictions. These contributions helped complete and contextualize the evidence without altering the documentary nature of the assessment.

In ANCAP's case, input from the company helped clarify its operating profile, as it does not currently produce oil and gas. Its upstream activities consist of offshore exploration. Its operations focus primarily on refining, storage, logistics, and distribution, alongside these exploration activities.

National Gas Company (Belize) Limited, RECOPE, CUPET, Guyana Oil Company Limited (GUYOIL), PETRONIC, Petropar, Refidomsa, and PDVSA were not included in the main analysis because the information identified did not allow planning, reporting, or both components to be assessed consistently. This determination was based on the complete set of sources identified for each company and should be distinguished from the absence of evidence for a specific criterion, which is assigned a value of 0 for companies included in the analysis. Nor does it imply that these entities lack commitments, actions, capabilities, or internal instruments.

For PDVSA, the review also coincided with updates to Venezuela's institutional and regulatory framework for the hydrocarbons sector. In the context of the 2026 reform of the Organic Hydrocarbons Law and its implementing regulations, instruments related to emissions management, including methane emissions, are expected to be updated. This process could expand the information available for future editions of the study.

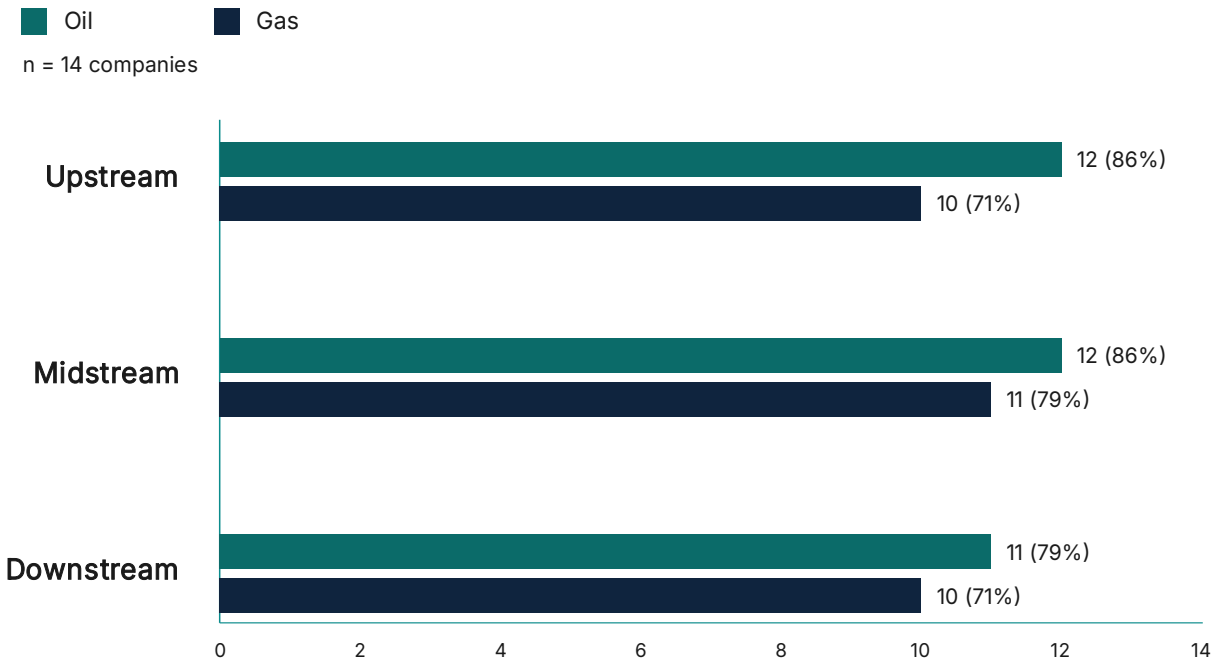
Table 1. Countries Considered and Companies Included in the Analysis

OLACDE Member Country	National Company	Oil Segments	Gas Segments	Included in the Report
Argentina	**YPF**	Upstream, midstream y downstream	Upstream, midstream y downstream	●
Barbados	**BNECL**	Upstream, midstream y downstream	Upstream, midstream y downstream	●
Belize	**National Gas Company (Belize) Limited**	Not applicable	Midstream	○
Bolivia	**YPFB Andina** (YPFB Subsidiary)	Upstream	Upstream y midstream	●
Brazil	**Petrobras**	Upstream, midstream y downstream	Upstream, midstream y downstream	●
Chile	**ENAP**	Upstream, midstream y downstream	Upstream, midstream y downstream	●
Colombia	**Ecopetrol**	Upstream, midstream y downstream	Upstream, midstream y downstream	●
Costa Rica	**RECOPE**	Midstream y downstream	Not applicable	○
Cuba	**CUPET**	Upstream, midstream y downstream	Upstream, midstream y downstream	○
Ecuador	**EP Petroecuador**	Upstream, midstream y downstream	Upstream, midstream y downstream	●
El Salvador	**No national company identified**	Not applicable	Not applicable	○
Grenada	**No national company identified**	Not applicable	Not applicable	○
Guatemala	**No national company identified**	Not applicable	Not applicable	○

	Guyana	**The Guyana Oil Company Limited (GUYOIL)**	Midstream y downstream	Not applicable	○
	Haiti	**No national company identified**	Not applicable	Not applicable	○
	Honduras	**No national company identified**	Not applicable	Not applicable	○
	Jamaica	**Petrojam Limited**	Midstream y downstream	Not applicable	●
	Mexico	**PEMEX**	Upstream, midstream y downstream	Upstream, midstream y downstream	●
	Nicaragua	**PETRONIC**	Midstream y downstream	Not applicable	○
	Panama	**No national company identified**	Not applicable	Not applicable	○
	Paraguay	**Petropar**	Downstream	Downstream	○
	Peru	**Petroperú**	Upstream, midstream y downstream	Upstream, midstream y downstream	●
	Dominican Republic	**Refidomsa**	Midstream y downstream	Not applicable	○
	Suriname	**Staatsolie**	Upstream, midstream y downstream	Upstream	●
	Trinidad &Tobago	**HPCL / NGC**	**HPCL:** Upstream y midstream **NGC:** Not applicable	**HPCL:** Not applicable **NGC:** Midstream y downstream	●
	Uruguay	**ANCAP**	Upstream, midstream y downstream	Midstream y downstream	●
	Venezuela	**PDVSA**	Upstream, midstream y downstream	Upstream, midstream y downstream	○

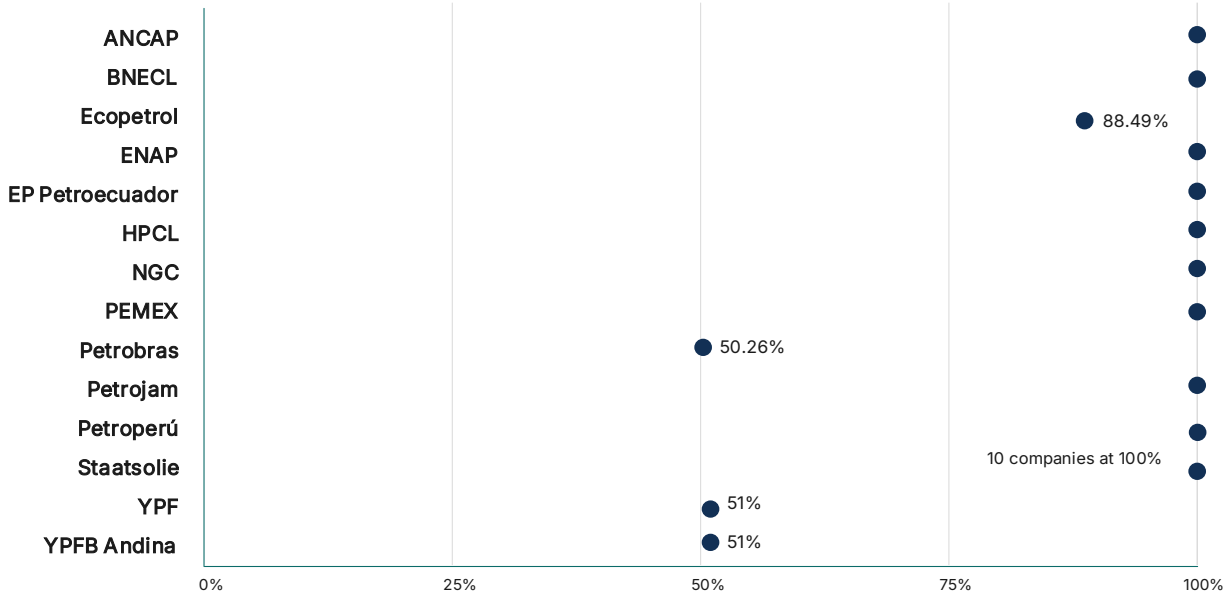
Source: Compiled by the author from the documentation reviewed.
Note. For ANCAP, upstream refers to exploration activities, with no current oil and gas production.

Chart 1. Operating Segments of the Companies Included in the Analysis



Source: Compiled by the author from the documentation reviewed.

Chart 2. State Ownership of the Companies Included in the Analysis



Source: Compiled by the author from the documentation reviewed.
Note. For Petrobras, 50.26% represents the Federal Government's ownership interest in common shares carrying voting rights, rather than in the company's total share capital. This distinction should be considered when comparing ownership percentages across companies.

2.2 WHAT PLANNING REVEALS ABOUT METHANE MANAGEMENT

Planning provides insight into how companies incorporate methane into their climate and sustainability commitments and the extent to which those commitments translate into targets, planned actions, responsible parties, and monitoring mechanisms. The evidence reveals different degrees of methane integration within planning, both across companies and among the components assessed.

Eight of the 14 companies are classified at the consolidated planning level; four at the intermediate level; one at the basic level; and one at the incipient level. This distribution reflects the clarity, specificity, and verifiability of the instruments reviewed, rather than the companies' environmental performance or operational capacity.

2.2.1 Methane Is Addressed with Varying Levels of Specificity in Planning

Nine of the 14 companies include explicit references to methane in their planning: BNECL, Ecopetrol, EP Petroecuador, HPCL, NGC, PEMEX, Petrobras, Staatsolie, and YPF. At ENAP, Petrojam, and Petroperú, the issue is addressed within broader agendas concerning GHG management, decarbonization, efficiency, or the energy transition. For YPFB Andina, the available evidence indicates a progression toward more specific references. ANCAP's assessed instrument, in turn, focuses on other components of climate planning; within that scope, no applicable reference to methane was identified.

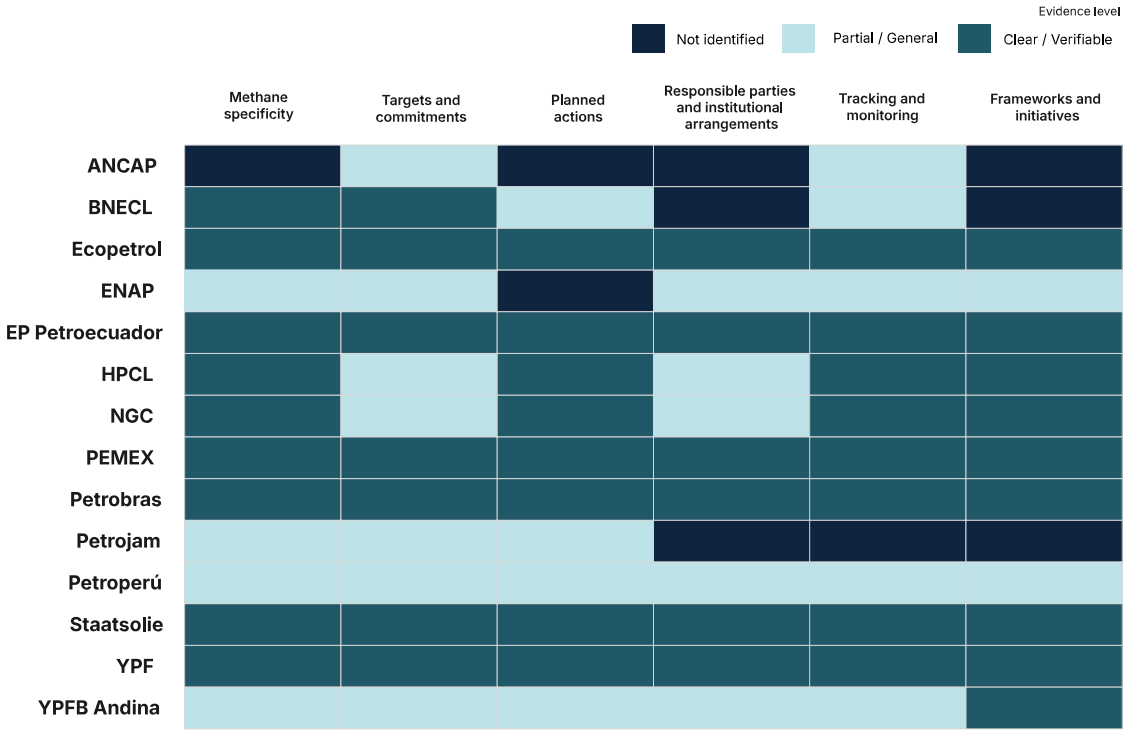
The way methane is incorporated also varies among the companies that refer to it explicitly. Ecopetrol, EP Petroecuador, PEMEX, Petrobras, Staatsolie, and YPF link methane to identifiable targets, actions, or monitoring mechanisms.

At HPCL and NGC, methane-specific evidence is concentrated primarily in actions and monitoring. BNECL, meanwhile, places methane within a broader agenda encompassing carbon neutrality, leak reduction, and the development of biogas and biomethane.

YPFB Andina presents a particular set of circumstances. The company provided institutional information indicating progress in quantification and monitoring, as well as a methodological evolution toward more specific references to methane. Because the

corresponding planning instrument was not reviewed directly, the assessment is limited to the information received. This evidence does not document a quantified CH_4 reduction target or operational abatement measures with the same degree of detail.

Chart 3. Level of Evidence for Planning Components, by Company



Source: Compiled by the author from the documentation reviewed.

2.2.2 Targets and Planned Actions Vary in Their Level of Precision

Targets show one of the greatest degrees of variation within planning. Seven companies—BNECL, Ecopetrol, EP Petroecuador, PEMEX, Petrobras, Staatsolie, and YPF—present identifiable targets or commitments. At the remaining companies, methane is incorporated into broader corporate objectives or addressed with varying degrees of specificity. GHG reduction, carbon neutrality, or energy transition targets may guide methane management, although their scope does not necessarily make it possible to distinguish the specific contribution of CH_4.

The targets identified also use different metrics. An absolute reduction entails decreasing the total quantity of methane emitted over a given period and may be expressed, for example, in tonnes of methane (tCH_4). An intensity reduction relates emissions to a unit of activity or production. Consequently, a decrease in emissions intensity may coexist with an increase in total emissions when activity levels rise. These methodological differences mean that the percentages presented below are not directly comparable across companies.

Ecopetrol, EP Petroecuador, PEMEX, Petrobras, and YPF establish quantified targets directly related to methane. YPF aims to reduce its absolute CH_4 emissions by 30% by 2030, relative to 2021, and to eliminate routine flaring from its *upstream* operations by the same year. Petrobras has set a 2030 methane intensity target of 0.20 tonnes of methane per thousand tonnes of hydrocarbons produced in its *upstream* operations. This target is aligned with its ambitions to achieve near-zero methane emissions and eliminate routine flaring.

Ecopetrol has established methane emissions reduction targets of 45% by 2025 and 55% by 2030, relative to 2019, for its directly operated production assets. The targets are expressed as percentage reductions from a base year and are complemented by measures addressing fugitive emissions and venting, as well as mechanisms for updating and verifying the emissions inventory.

EP Petroecuador aims to reduce its methane emissions by 30% by 2028, relative to 2023, and links this target to reductions in flaring and the utilization of associated gas. PEMEX aims to reduce methane emissions intensity by 30% across its business lines by 2030, relative to 2020; achieve a gas utilization rate of at least 98%; and eliminate routine flaring in exploration and production by the same year. The general target reviewed does

not specify the denominator used for each business line. Consequently, this intensity target cannot be compared directly with the target established by Petrobras.

BNECL and Staatsolie adopt broader approaches. Staatsolie combines a corporate GHG emissions intensity reduction target with commitments and actions related to flaring, venting, gas recovery, reinjection, and CH_4 monitoring. BNECL has established a goal of achieving carbon neutrality by 2040 or earlier and links its strategy to emissions reduction and the development of biogas and biomethane. In this case, the commitment provides overall corporate direction but does not establish a quantified methane-specific target.

2.2.3 Monitoring Is More Clearly Defined Than the Assignment of Responsibilities

Eight of the 14 companies—Ecopetrol, EP Petroecuador, HPCL, NGC, PEMEX, Petrobras, Staatsolie, and YPF—present identifiable monitoring mechanisms. The information reviewed includes indicators, baselines, methodologies, inventories, milestones, deadlines, or other instruments designed to track progress toward targets or the implementation of actions.

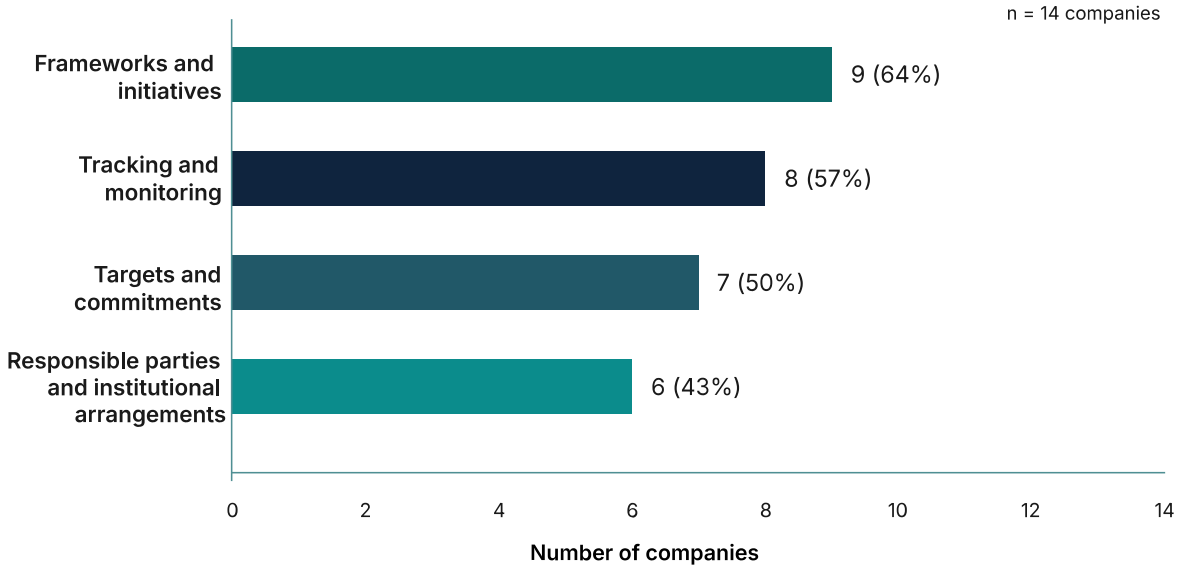
Monitoring elements were also identified at ANCAP, BNECL, ENAP, Petroperú, and YPFB Andina, although their connection to a specific methane target is partial or forms part of a broader management framework. For Petrojam, the scope of the planning instrument reviewed did not reveal a mechanism applicable to methane-specific monitoring.

Ecopetrol presents one of the most comprehensive structures, with procedures for updating and verifying its inventory, performance indicators, senior management review, and corporate monitoring tools. EP Petroecuador, PEMEX, Petrobras, Staatsolie, and YPF also connect targets or actions with indicators, milestones, or oversight mechanisms. At HPCL and NGC, monitoring focuses on specific emissions management mechanisms, while other components are addressed within broader corporate frameworks.

The assignment of responsibilities varies more substantially in its level of detail. Six companies—Ecopetrol, EP Petroecuador, PEMEX, Petrobras, Staatsolie, and YPF—assign implementation, coordination, or monitoring functions to specific organizational bodies within their planning frameworks. ENAP, HPCL, NGC, Petroperú, and YPFB Andina identify structures or departments associated with environmental management, sustainability, HSE, or the energy transition, although the connection between these

bodies and specific methane targets or actions is only partially documented. In the instruments assessed for ANCAP, BNECL, and Petrojam, the available information does not allow this indicator to be attributed to a specific organizational body.

Chart 4. Targets, Monitoring, Responsibilities, and Frameworks in Planning



Source: Compiled by the author from the documentation reviewed.
Note. The chart counts companies with clear and verifiable evidence (a value of 2) for each criterion, out of a total of 14 companies.

This finding must be interpreted within the documentary scope of the study. A company may have formally established committees, management units, or environmental departments without its planning instrument specifying which body is responsible for a particular methane target or action. Accordingly, the analysis considers the assignment of responsibilities that can be traced through the sources reviewed, rather than the company's overall institutional structure.

External frameworks and initiatives are relatively widespread. Nine companies—Ecopetrol, EP Petroecuador, HPCL, NGC, PEMEX, Petrobras, Staatsolie, YPF, and YPFB Andina—demonstrate an identifiable connection to methodological, sector-specific, or climate-related references.

At ENAP and Petroperú, this connection is only partially documented. In the instruments assessed for ANCAP, BNECL, and Petrojam, no specific connection could be established with frameworks applicable to methane management.

These references are subsequently examined alongside the reporting evidence and the documented methodologies and practices. Identifying them provides insight into the

reference framework used by each company. Determining the extent of their application, however, requires examining how they translate into measurement criteria, actions, indicators, and results.

2.2.4 Strength of Planning

Planning differs not only in the amount of information available, but also in how its components are interconnected. In several cases, actions, methodologies, or monitoring mechanisms are clearly defined, even when targets or responsibilities do not exhibit the same level of precision.

The evidence also shows that an explicit reference to methane does not, by itself, ensure comprehensive planning. What matters is whether the different elements can be identified as part of a coherent management and monitoring structure.

Among the components assessed, the assignment of responsibilities has the most limited coverage. This reinforces the importance of identifying not only what is planned, but also who leads, coordinates, or oversees its implementation.

The evidence does not point to a single approach to developing robust planning. Some companies begin with specific targets; others build on methodological capabilities, monitoring mechanisms, or frameworks that have already been adopted. What matters is the extent to which these elements are interconnected and remain identifiable within a coherent planning structure.

Planning provides insight into the commitments and measures intended for implementation and the emission sources to be addressed in efforts to mitigate methane and other GHG emissions.

2.3 WHAT REPORTING REVEALS ABOUT METHANE MANAGEMENT

Reporting contains the most visible evidence of implementation: data, completed actions, progress, results, and responsible organizational structures. Documentation is more developed for this component than for planning: 12 of the 14 companies (86%) achieve advanced or consolidated reporting levels, compared with 8 of 14 (57%) for planning. This difference reflects the greater availability of evidence concerning implementation and results, although gaps remain in the timeliness, continuity, and level of detail of the information.

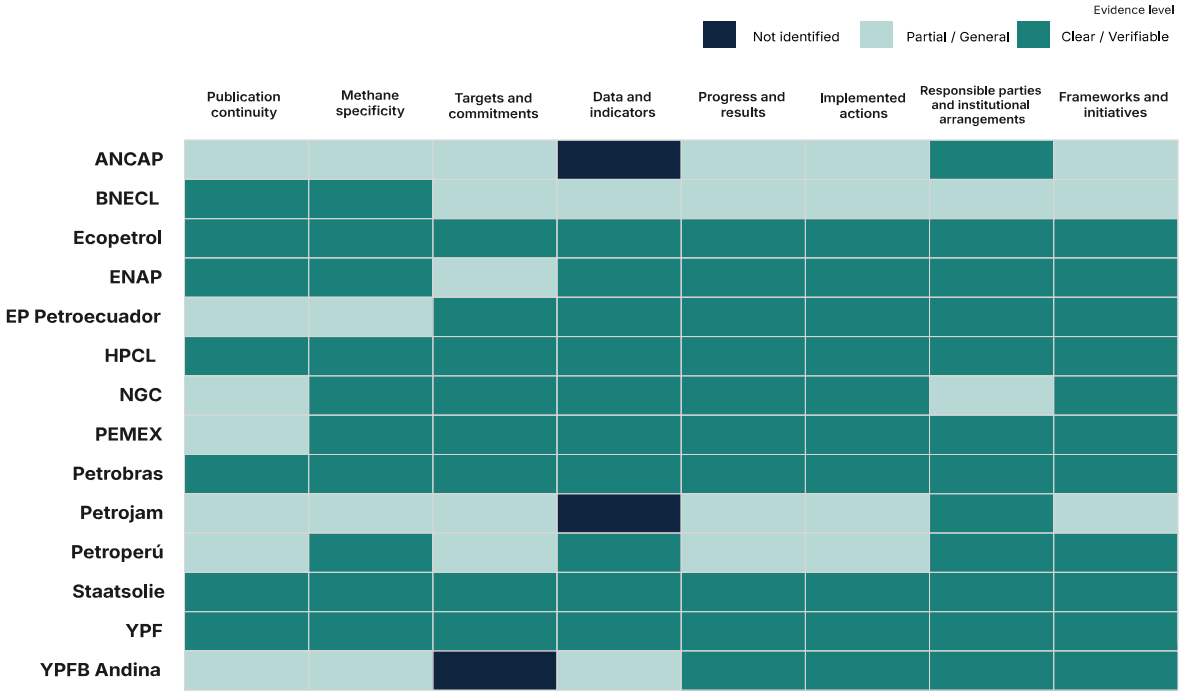
2.3.1 Reporting Is More Fully Documented

The principal strength of reporting is the greater precision with which methane, actions, data, and results can be identified. Ten companies refer to methane explicitly and distinctly. ANCAP, EP Petroecuador, Petrojam, and YPFB Andina provide partial or indirect references associated with GHG emissions, associated gas, flaring, or other relevant sources.

Eight companies communicate clearly defined targets or commitments in their reporting: Ecopetrol, EP Petroecuador, HPCL, NGC, PEMEX, Petrobras, Staatsolie, and YPF. At ANCAP, BNECL, ENAP, Petrojam, and Petroperú, the targets are general or partial. For YPFB Andina, no quantified methane emissions reduction target was identified in the reporting documents reviewed. This distinction remains important: a corporate GHG or carbon-related target may provide context, but it does not, by itself, allow methane-specific progress to be tracked.

Data, actions, and results are covered extensively: ten companies receive the highest assessment value for data or indicators, ten for progress or results, and ten for implemented actions. The groups of companies do not fully overlap, confirming that the strengths of reporting may be concentrated in different components depending on the company.

Chart 5. Level of Evidence for Reporting Components, by Company



Source: Compiled by the author from the documentation reviewed.

2.3.2 Reporting Continuity Remains Uneven

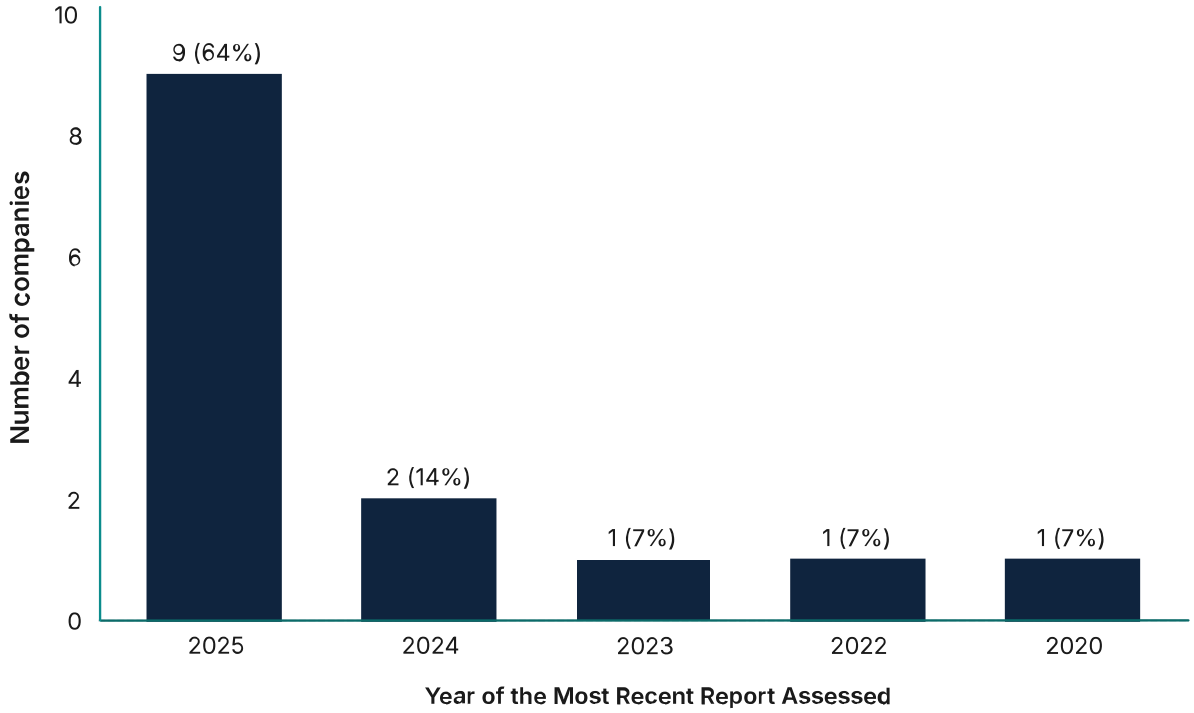
The 2026 update made it possible to incorporate more recent information into the same study process. Nine companies have reports covering 2025; PEMEX and Petroperú have reports covering 2024; NGC, 2023; and Petrojam, 2022. EP Petroecuador's most recent publicly available corporate report covers 2020 and was supplemented with subsequent institutional information.

The date of the most recent report does not, however, necessarily indicate continuity of documentation. Seven companies—BNECL, Ecopetrol, ENAP, HPCL, Petrobras, Staatsolie, and YPF—demonstrate the greatest publication continuity. For BNECL, part of the reporting series must be reconstructed using publications from BNOCL and BNTCL issued during the transition to the new company.

For the remaining companies, continuity is affected by different factors: shorter public reporting series, the age of the most recent report, differences among the periods assessed, or access restrictions. These conditions do not invalidate the available evidence, but they limit the ability to track its evolution with the same degree of consistency.

NGC, Petrojam, and EP Petroecuador clearly illustrate the effect of timing. NGC's most recent report assessed covers 2023; Petrojam's, 2022; and EP Petroecuador's publicly available corporate report covers 2020 and was supplemented with subsequent institutional information. In all three cases, the documented management approach can be characterized, but its recent evolution cannot be tracked with the same degree of precision.

Chart 6. Year of the Most Recent Report Assessed



Source: Compiled by the author from the documentation reviewed.

2.3.3 Reports Make It Possible to Identify Specific Actions, Data, and Results

Reports differ in the types of evidence they present in greatest detail. Some provide extensive information on measurement and quantification, while others make it possible to track implemented measures and reported results more precisely. In the most comprehensive cases, the emission source addressed, the measure implemented, the methodology applied, and the progress achieved can all be identified.

This evidence does not always form a complete sequence. A report may document an inventory, a measurement campaign, or an implemented action in detail without establishing its connection to a target or subsequent result with the same level of precision. This distinction is important when determining the extent to which methane management can be reconstructed from the documentation.

There are also cases in which the evidence is concentrated in different components. Some reports focus primarily on improvements in quantification and inventory coverage; others describe operational actions or monitoring mechanisms; and still others provide quantified results. These conFiguretions are not equivalent, but each provides information that helps explain how implementation is being documented.

Interpreting the results also requires distinguishing operational changes from changes in measurement practices. Expanded coverage, the introduction of direct measurement, or the use of a more precise methodology may alter reported figures without necessarily representing an equivalent change in actual emissions. Similarly, estimated reductions from projects under development must be distinguished from results already achieved during the reporting period.

Table 2. Types of Evidence Identified in Corporate Reports

Company	Key Evidence in the Report	What It Shows
BNECL	References to leak reduction and projects involving biogas and biomethane.	Methane management is presented within a broader GHG agenda, without yet distinguishing methane-specific results.
EP Petroecuador	Associated gas utilization, diesel substitution, and flaring reduction in the 2020 report.	Demonstrates implemented actions, although more recent methane-specific information is provided in subsequent instruments.
NGC	Direct asset-level measurement, LDAR, inspections, and verification of repairs.	Makes it possible to track emission sources, corrective actions, and results through asset-specific information.
PEMEX	Detection and measurement, LDAR, vapor recovery, and gas utilization and reinjection.	Makes it possible to connect different operational measures with quantified methane information.
Petroperú	GHG inventory with CH_4 quantified by source type and monitoring of the ESG Plan.	Provides a breakdown of CH_4 emissions by source, although mitigation results remain largely aggregated within overall GHG management.
YPFB Andina	Emissions calculation system, expanded inventory coverage, and methodological improvements.	Makes it possible to track improvements in quantification and explain changes resulting from greater methodological precision.

Source: Compiled by the author from the documentation reviewed.

2.3.4 Responsible Organizational Structures Are More Clearly Identified in Reporting

For 12 of the 14 companies, reports clearly identify departments, committees, or senior management levels associated with environmental, climate, or emissions management. This is one of the most widespread strengths of reporting. However, identifying a responsible organizational structure does not mean that every methane action or result can be attributed to a specific unit.

Ecopetrol, HPCL, PEMEX, Petrobras, and YPF combine senior management bodies or committees with technical, environmental, or operational departments. ANCAP, ENAP, EP Petroecuador, Petrojam, Petroperú, and Staatsolie also present identifiable institutional structures for coordinating, overseeing, or monitoring environmental, climate, or sustainability matters. At YPFB Andina, the 2024–2025 Annual Report identifies the Quality, Health, Safety, Environment, and CSR Management Division and its departments within a broader corporate structure that includes coordination mechanisms with YPFB Corporation.

BNECL and NGC are the two cases in which the assignment of responsibility is less precise. At both companies, management structures can be identified, but the documentation provides less clarity as to which body holds specific responsibility for methane targets, actions, or monitoring. This distinction explains why the overall institutional structure may be visible without receiving the highest assessment value for the responsibility indicator.

Table 3. Publication Continuity and Responsible Organizational Structures

Aspect	Regional Finding
Recent or Identifiable Publication Continuity	7 of 14 companies (50%)
Clearly Identifiable Responsible Organizational Structures	12 of 14 companies (86%)

Source: Compiled by the author from the documentation reviewed.

2.3.5 Strength of Reporting

The reporting evidence reveals a common characteristic: all 14 companies document some degree of implementation and progress or results, although there are significant differences in specificity and traceability. In ten cases, both components are presented clearly and verifiably; in the remaining four, the evidence is more general or partial.

There is also a correspondence between the two components: across all companies, the level of evidence for implemented actions matches that of the progress or results reported. This relationship does not mean that every result can be attributed directly to a specific action, but it does show that the documentation of both components tends to develop in parallel.

The most significant difference lies in the ability to place this evidence in context. A result is more useful when its scope, reference period, methodology, and connection to the measures reported can be identified. When these elements remain identifiable across publications, reporting provides a stronger foundation for tracking the evolution of methane management.

Across all 14 companies, implemented actions and reported progress or results have the same level of documentary evidence; the difference lies in the extent to which the relationship between them can be traced.

2.4 DOCUMENTED FRAMEWORKS, METHODOLOGIES, AND PRACTICES

Reviewing planning and reporting reveals three forms of evidence: frameworks and methodologies guiding quantification and disclosure; technologies and practices for measuring, detecting, and monitoring emissions; and measures aimed at reducing them. Frameworks and initiatives are more clearly linked in reporting—11 of 14 companies, compared with nine in planning. This distinction clarifies their respective functions and avoids equating a methodological reference with a measurement practice or mitigation action.

2.4.1 External Frameworks Are Widely Referenced, but Their Application Is Not Always Evident

The combinations vary across companies. YPF links the GHG Protocol to its emissions inventory and OGDC to its decarbonization ambitions, while GRI, GRI 11, SASB, and TCFD form part of its disclosures. Petrobras combines OGMP 2.0, Zero Routine Flaring, OGDC, OGCI, and other sectoral and climate references with its methane-intensity target, emissions monitoring, and flaring reduction. The company has also received OGMP 2.0 Gold Standard Pathway recognition for the third consecutive year, reinforcing the continuity of its methane-specific reporting.

Ecopetrol links OGMP 2.0, the Global Methane Initiative, CCAC, Aiming for Zero Methane Emissions, OGDC, and Zero Routine Flaring to methane and flaring targets, inventory updates, direct measurement, LDAR, and results monitoring. The continuity of this process is also reflected in its OGMP 2.0 recognition—Gold Standard Pathway in 2023 and Gold Standard Reporting in 2024 and 2025—and its inclusion among the IEA's Top Performers.

Within OGMP 2.0, Gold Standard Pathway identifies a pathway toward achieving the standard, while Gold Standard Reporting recognizes the level of reporting quality

attained. These are statuses awarded under the UNEP program and do not constitute certification of emissions reductions.

ENAP links OGMP, GRI, GRI 11, SASB, NCG 461 and 519, ISO 14064, and IPCC to source measurement and control, emissions estimation, and corporate disclosure. Petroperú uses GRI and GRI 11 and bases its inventory on the GHG Protocol, ISO 14064-1, IPCC, RAGEI, and Infocarbono. ANCAP links the GHG Protocol and environmental management and certification references to its GHG calculations and emissions monitoring.

In other cases, these references support methodological improvements or more recent planning instruments. YPFB Andina combines IOGP, the GHG Protocol, and OGMP 2.0 in an evolving approach to improving methane quantification and traceability. EP Petroecuador links OGMP 2.0, Zero Routine Flaring, the Ecuador Carbon Zero Program, ISO 14064, and the GHG Protocol to reduction targets, measurement campaigns, source detection, and the monitoring of significant emitting assets.

NGC links OGMP 2.0, the GHG Protocol, API guidance, and IPCC guidance to asset-level inventories, direct measurement, LDAR, targets, and monitoring. HPCL combines the GHG Protocol, ISO 14064-1, API guidance, and other climate-related references with its energy transition framework and subsequently incorporated OGMP 2.0 into its methane-specific monitoring and reporting.

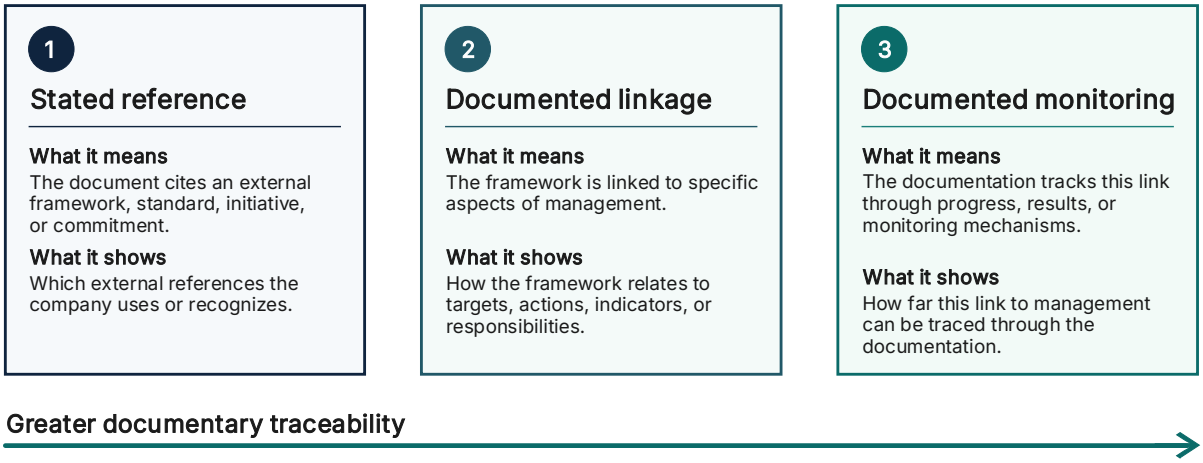
PEMEX incorporates Mexico's NDC, GRI, TCFD, CDP, the Ipieca/API/IOGP guidance, ISO 14001 and ISO 50001, and ASEA guidelines into documentation that connects methane targets, LDAR, gas utilization, and monitoring.

Staatsolie links Zero Routine Flaring by 2030, Ipieca guidance, ISO 14001, TCFD, its Brighter Impact Model, and national references to its decarbonization roadmap and its management of venting and flaring. BNECL connects its sustainability objectives with the Barbados National Energy Policy, the Paris Agreement, and the SDGs, while Petrojam draws on the Jamaica National Energy Policy to frame its sustainability and operational strategy.

These cases show that no single combination of frameworks is associated with greater documentary maturity. What matters is whether the references used by each company can be identified and connected to the management practices it documents.

The presence of a framework or standard does not, by itself, demonstrate its application. Its documentary value increases when it can be linked to specific methodologies, targets, procedures, actions, or results.

Figure 1. Levels of Integration of Frameworks, Standards, and Initiatives



Source: Compiled by the author from the documentation reviewed.

Table 4. Key Frameworks, Standards, and Initiatives Identified

Type of Reference	Frameworks and Initiatives Identified	Primary Contribution
Methane Management and Reporting	OGMP 2.0	Guides measurement, inventory improvement, and methane-specific reporting.
Emissions Quantification	GHG Protocol; ISO 14064 standards; IPCC Guidelines; API Compendium of GHG Emissions Methodologies	Provide criteria and methods for calculating, organizing, and documenting emissions.
Sustainability and Climate Disclosure	GRI, GRI 11, SASB, TCFD, CDP	Structure the disclosure of environmental, climate-related, sector-specific, and risk information.
Industry References	Ipieca, IOGP	Provide methodologies, guidance, and practices for oil and gas companies.
Corporate Initiatives and Commitments	OGCI, OGDC, Zero Routine Flaring by 2030	Promote commitments related to emissions reduction, decarbonization, or the elimination of routine flaring.
Broader Commitments and Policies	Paris Agreement, SDGs, UN Global Compact, and national policies	Place corporate action within broader climate, energy, and development objectives.

Source: Compiled by the author from the documentation reviewed.

2.4.2 What Quantification and Measurement Practices Are Documented

Quantification is the most widespread practice. GHG inventories organize emissions by source, scope, or facility, but differ in specificity: some companies rely mainly on emission factors and calculation methods, while others incorporate direct measurement at the source, asset, or facility level. A methodological improvement may therefore alter a reported series even when operations have not necessarily changed.

Ecopetrol, HPCL, NGC, PEMEX, Petrobras, Petroperú, and YPF present clear evidence of CH_4-specific quantification in the reports reviewed. YPFB Andina documents the consolidation of its GHG emissions system and a methodological evolution toward greater specificity in its treatment of methane. At ANCAP and BNECL, quantification remains aggregated at the GHG level and does not allow methane to be tracked with the same degree of detail.

Direct measurement is most clearly documented at Ecopetrol, EP Petroecuador, HPCL, NGC, PEMEX, and Petrobras. Ecopetrol combines bottom-up source-level measurements with top-down measurements, which capture aggregate emissions at the facility or territorial level and allow source-level estimates to be cross-checked. Its documentation also identifies an inventory incorporating direct measurements for operated and non-operated assets and progress toward higher OGMP 2.0 reporting levels. EP Petroecuador documents technologies such as OGI, Q-OGI, TDLAS, and Hi-Flow in its recent planning; PEMEX incorporates direct and remote measurement; HPCL uses specific measurements for fugitive and vented emissions; and NGC reports direct asset-level measurement. YPF uses cameras and sensors in its detection campaigns, although the documentation does not indicate that its entire inventory is based on direct measurement.

HPCL reports a methane reduction equivalent to 16.3% of its FY 2021–2022 baseline emissions. This percentage can be reproduced by adding the reported GP1 reduction and the expected GS-37 reduction; it therefore combines reported and projected results and does not represent a year-over-year inventory reduction. The company also expanded direct measurement coverage of vented and fugitive sources from 80% to 95%. Staatsolie attributes the increase in its upstream emissions to more comprehensive quantification using new technologies. See Annex 5.

2.4.3 What Detection and Monitoring Practices Are Documented

Detection and monitoring support the transition from general estimates to the identification of specific sources. The study distinguishes among LDAR, leak detection, measurement, inspections, and repair verification because these practices serve different functions.

YPF documents LDAR campaigns using optical cameras and ultrasonic sensors, as well as pilot tests with drones. Ecopetrol combines LDAR with infrared cameras, laser spectroscopy, portable sensors, satellite monitoring, and aerial campaigns. Petrobras documents enhanced monitoring and direct quantification under OGMP 2.0 as part of its emissions monitoring and efforts to improve the quality of reported data. PEMEX incorporates LDAR, aerial surveys, and satellite monitoring. NGC combines asset-level inventories and direct measurement with LDAR, inspections, repair verification, and proactive monitoring, integrated into OGMP 2.0 monitoring mechanisms. HPCL uses OGI, drones, and flare-efficiency measurements.

EP Petroecuador incorporates a broad combination of detection and quantification technologies into its planning, including OGI, Q-OGI, TDLAS, Hi-Flow, and airborne sensors, as well as the future implementation of LDAR. Staatsolie documents continuous monitoring for specific projects, although some of this evidence still relates to facilities under development. ENAP reports source monitoring and control under OGMP, while no specific detection and monitoring programs with the same level of detail were identified for Petroperú, Petrojam, or ANCAP.

2.4.4 What Mitigation Measures Are Documented

The documented measures focus on four areas: reducing fugitive emissions; reducing venting and flaring; recovering and utilizing gas; and modifying equipment or facilities, including electrification. Their relevance depends on the operating segment, the sources present, and the characteristics of each asset.

The identification of a practice at a company does not mean that it is applied throughout its value chain. The study attributes a measure to upstream, midstream, or downstream

only when the sources allow it to be associated with a specific asset, facility, or segment; otherwise, it remains classified at the company level.

The cases reviewed present different configurations. Ecopetrol, PEMEX, Petrobras, and YPF combine measures addressing fugitive emissions, venting, or flaring with gas recovery and equipment modifications. Petrobras incorporates flare gas recovery units and a zero routine flaring criterion for new projects. PEMEX documentation also identifies vapor recovery, gas utilization and reinjection, compression improvements, equipment replacement, and electrification.

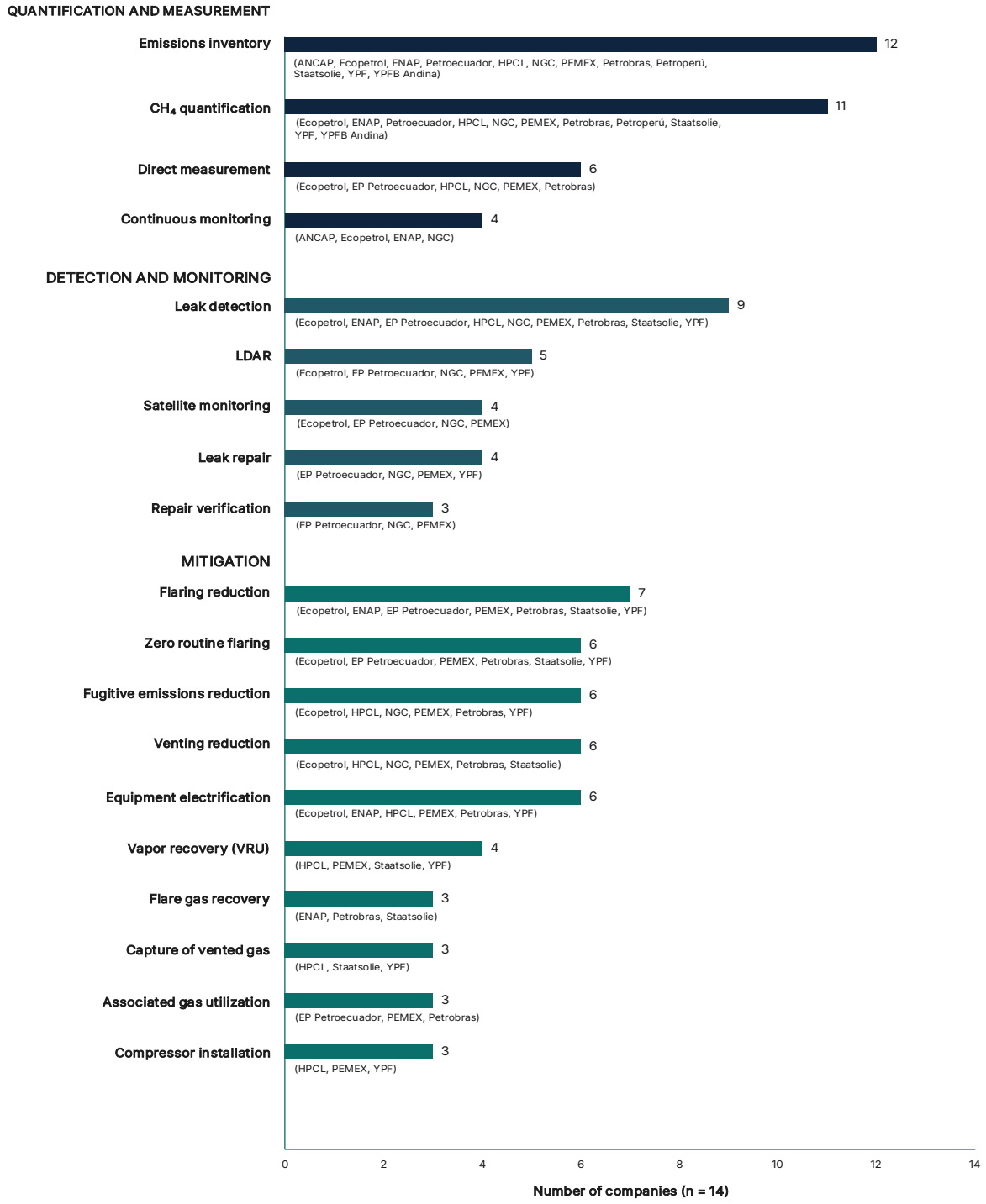
EP Petroecuador concentrates much of its evidence on reducing flaring and utilizing associated gas. Staatsolie combines vapor and gas recovery with measures addressing venting and flaring, compression, and the reuse of recovered gas. Its documentation also distinguishes these operational measures from solutions planned for projects under development. HPCL documents measures addressing vented and fugitive emissions, gas recovery, and equipment modifications associated with specific assets.

The evidence available for other companies focuses on different aspects of mitigation. YPFB Andina demonstrates strengths in quantification, methodology, and monitoring, but does not document specific operational abatement measures with the same clarity. ANCAP, Petrojam, and Petroperú report relevant environmental or operational actions, although the sources reviewed are insufficient to link them directly to methane-specific mitigation.

Each measure retains its documented status: implemented, underway, planned, or under assessment. This distinction separates evidence of current operations from solutions incorporated into the design of future projects.

Chart 7 summarizes the number of companies for which each practice was documented, including measures that are implemented, planned, or under assessment. The count is conducted at the company level and does not represent asset coverage or the number of companies that have already implemented all the measures.

Chart 7. Documented Quantification, Measurement, Detection, and Mitigation Practices



Source: Compiled by the author from the documentation reviewed.

Note. The count includes documented practices that are implemented, planned, or under assessment. Annex 8 distinguishes these statuses by company and presents their general operating segments; it does not attribute each practice to all those segments.

2.5 WHAT DOCUMENTARY MATURITY REVEALS

Documentary maturity integrates planning and reporting evidence to address a different question: how complete, clear, and verifiable the information is when both components are considered together. It does not assess the technical quality of management or assume that planning and reporting are equally developed.

2.5.1 Nine Companies Are at the Consolidated Level and Five at the Advanced Level

At the conclusion of the 2026 update process, nine of the 14 companies are classified at the consolidated level of documentary maturity and five at the advanced level. This concentration in the two highest levels shows that, when the available evidence is integrated, all companies have a substantial documentary foundation, although its composition, timing, and continuity vary.

Table 5. Distribution of Companies by Documentary Maturity Level

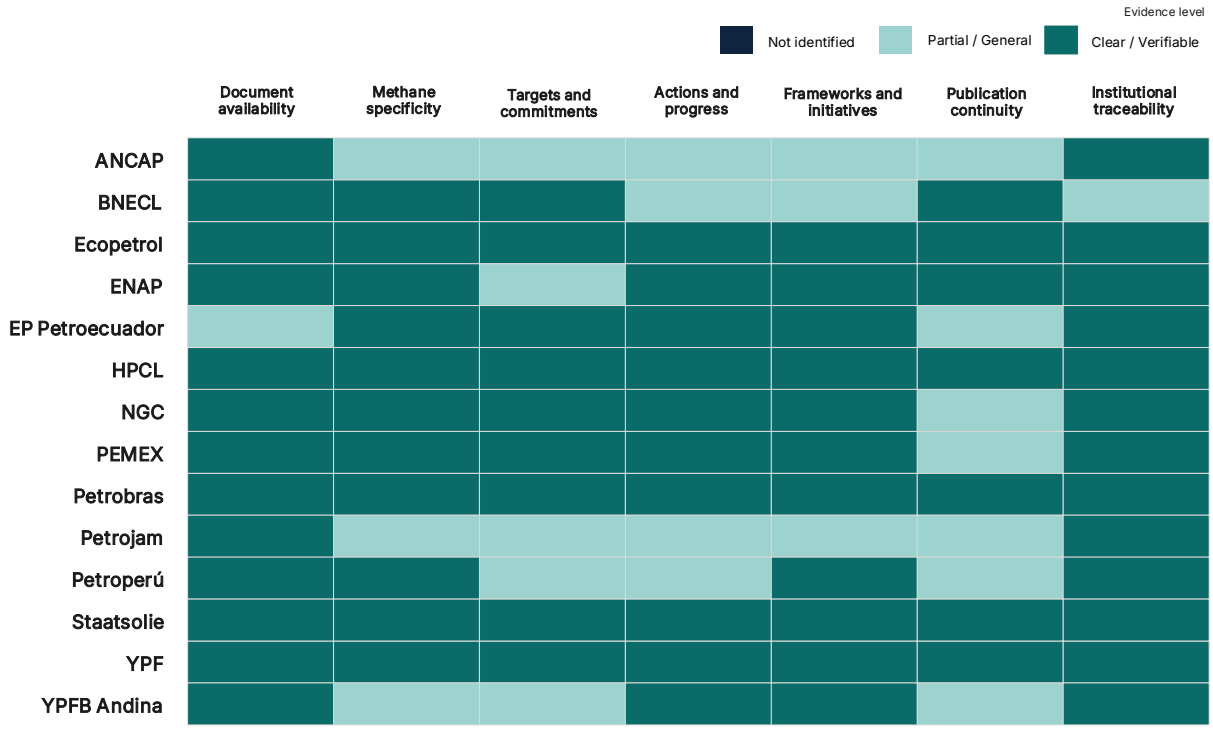
Maturity Level	Number of Companies	Percentage of Companies
Consolidated	9	64%
Advanced	5	36%
Intermediate	0	0%
Basic	0	0%
Incipient	0	0%
Total	**14**	**100%**

Source: Compiled by the author from the documentation reviewed.

Ecopetrol, ENAP, EP Petroecuador, HPCL, NGC, PEMEX, Petrobras, Staatsolie, and YPF achieve a consolidated level.

ANCAP, BNECL, Petrojam, Petroperú, and YPFB Andina are classified at the advanced level. Differences within each level reflect how the evidence is distributed between planning and reporting and, in some cases, the timing or nature of the sources.

Chart 8. Documentary Maturity, by Company



Source: Compiled by the author from the documentation reviewed.

The chart shows that similar maturity results may be supported by different configurations. Ecopetrol, Petrobras, and YPF achieve a value of 10 in planning, reporting, and documentary maturity. For YPF, this assessment incorporates the forward-looking sections of the 2025 Sustainability Report as planning evidence, while keeping them separate from the sections used to assess implementation and results.

ENAP, by contrast, has a planning value of 4.2, a reporting value of 9.4, and a maturity value of 9.3: its evidence is concentrated primarily in reporting.

The result does not necessarily reproduce the highest value of either component. EP Petroecuador achieves 10 in planning and 8.8 in reporting, but 8.6 in maturity because this assessment includes separate availability and frequency dimensions affected by the

time lag between recent instruments and the most recent publicly available corporate report. ANCAP and Petrojam achieve advanced maturity by combining evidence distributed across both components.

2.5.2 Maturity Is Not the Average of Planning and Reporting

Maturity is not calculated as an average or by automatically selecting the higher value for planning or reporting. It is reconstructed across seven dimensions: document availability, methane specificity, targets or commitments, actions and progress, frameworks and initiatives, reporting frequency, and institutional traceability. For each dimension, the available evidence from both components is integrated and, where applicable, specific availability and continuity criteria are applied.

This procedure recognizes evidence distributed across different documents without obscuring its source. A target may be better defined in reporting; a responsible structure, in both components; and a methodology, in subsequent documentation. Bringing this evidence together does not automatically create a traceable sequence.

Consolidated maturity therefore does not mean that both planning and reporting are consolidated or that every target can be linked to an action, a responsible party, and a result. Maturity reflects coverage and clarity; the documentary relationship explains how that evidence is distributed and connected.

2.5.3 The Same Maturity Level May Be Supported by Different Documentary Configurations

Ecopetrol, Petrobras, and YPF combine consolidated planning and reporting and demonstrate a well-developed documentary relationship between the two components. At YPF, part of this relationship is contained within the same 2025 Sustainability Report, which includes both forward-looking information and results for the reporting period. ENAP, by contrast, achieves consolidated maturity with more general planning and considerably more developed reporting.

The relationship may also be reversed. EP Petroecuador and PEMEX present particularly comprehensive planning, while reporting provides less coverage in certain dimensions.

At EP Petroecuador, the difference is mainly due to the time lag between recent planning and the 2020 publicly available corporate report. For PEMEX, no 2025 sustainability report had been identified as of the assessment cutoff date.

Petrojam and YPFB Andina illustrate a third situation: the timing or nature of the sources limits direct sequential comparison. For YPFB Andina, the report was reviewed, while planning information was communicated by the company in 2026 without direct review of the corresponding document. At Petrojam, the planning instrument assessed is more recent than the latest available report.

2.5.4 Four Types of Relationships Between Planning and Reporting Help Interpret Maturity

To make these differences visible, the study describes four types of relationships between planning and reporting. These are complementary interpretations that may coexist within a company; they are not mutually exclusive groups, additional maturity levels, or performance categories. The figure highlights the configuration used to present each case without excluding other documentary conditions.

For four companies—ANCAP, BNECL, ENAP, and Petroperú—reporting develops aspects that planning addresses more generally. Reporting provides greater detail on methane, measurement, actions, institutional arrangements, or results, although the extent of this difference varies across companies.

For six companies—Ecopetrol, HPCL, NGC, Petrobras, Staatsolie, and YPF—planning and reporting connect commitments, actions, and results more clearly. Both components provide substantive evidence and demonstrate a sufficiently developed documentary relationship, although each commitment does not necessarily correspond individually to a specific result.

EP Petroecuador and PEMEX currently provide more comprehensive coverage in planning. In both cases, planning defines targets, actions, responsible parties, or monitoring mechanisms with particular clarity, while reporting does not provide the same coverage because of the timing or recent availability of publications.

Petrojam and YPFB Andina particularly illustrate a comparison constrained by the timing or nature of the sources. This condition also affects EP Petroecuador, presented above under more comprehensive planning coverage. In these cases, the difference between

the components does not demonstrate progress or regression in management: the documents do not form a directly comparable chronological sequence.

This classification complements the maturity assessment by showing where the evidence is concentrated and how clearly the connection between planned and reported information can be identified.

Figure 2 summarizes the four types of relationships. It does not represent a scale, ranking, or assessment of operational performance.

Figure 2. Types of Relationships Between Planning and Reporting

Relationship between planning and reporting

6 companies	**Planning and reporting link commitments, actions, and results** Both components provide consolidated evidence and demonstrate a well-developed documentary link between what was planned and what was reported. **Ecopetrol · HPCL · NGC · Petrobras · Staatsolie · YPF**
4 companies	**Reporting elaborates on aspects addressed more broadly in planning** Reporting provides greater detail or coverage of implementation, measurement, progress, results, or institutional arrangements than the planning documents reviewed. **ANCAP · BNECL · ENAP · Petroperú**
2 companies	**Planning currently provides more comprehensive documentary coverage** Planning provides a more complete basis for identifying targets, actions, and monitoring mechanisms, while reporting also provides relevant information on methane, implementation, and results. **EP Petroecuador · PEMEX**
2 companies	**The relationship between planning and reporting depends on timing or the type of evidence** The dates or characteristics of the available documents prevent a direct link between what was planned and what was subsequently reported. **Petrojam · YPFB Andina**

Source: Compiled by the author from the documentation reviewed.
Note. Each company is presented under one arrangement for clarity, although other patterns may also apply. These categories do not represent maturity levels.

2.6 PROGRESS AND PERSISTENT GAPS

The documentary review began in October 2025 using the official information available at that time, which in many cases covered fiscal year 2024. Between July and August 20, 2026, the study continued with an update of the sources, applying the same criteria and indicators and incorporating information available through the final review date.

This second phase identified changes of different types. Some companies published new reports or planning instruments; in other cases, additional official information was incorporated, previously identified sources were reviewed in greater depth, or their access and consultation conditions were clarified.

The differences observed reflect the evolution of the evidence compiled within the same study. They do not constitute a year-over-year assessment of corporate performance, but rather an update of the documentary basis used to characterize planning, reporting, and the relationship between them.

2.6.1 The Update Incorporated New Evidence and Documentary Clarifications

The scope of the new evidence varied across companies. In some cases, it updated reporting series, targets, methodologies, and results; in others, it expanded the information available on actions, responsible structures, or monitoring mechanisms.

The review also allowed forward-looking content to be distinguished more precisely from previously reported results and operational changes from improvements in how methane management is measured or documented.

Institutional consultations played a complementary role by clarifying the nature or scope of certain documents, facilitating access to recent information, or locating public sources that had been difficult to consult. These clarifications expanded the information available for analysis without changing the criteria or indicators applied across the companies.

The review also showed that document availability does not depend solely on the existence of new content. Repository organization, link stability, and access conditions

affect the ability to reconstruct a sequence across documents and periods. A source may remain publicly available while becoming more difficult to locate or access.

The update does not necessarily mean that companies changed their targets or plans. In several cases, the observed change reflects better documentation of existing actions, greater data disaggregation, or the identification of sources that could not previously be incorporated with the same level of precision.

This consideration is particularly relevant to future monitoring. Keeping base years, scopes, methodologies, and measurement conditions identifiable makes it possible to distinguish documentary improvements from operational changes and preserve comparability across successive publications.

The publications provided different types of evidence, ranging from new data series and indicators to quantified results, methodological advances, and implemented actions.

Table 6. Information Incorporated During the 2026 Update

Company	Information Incorporated During the Update
ANCAP	The 2025 Annual Report updated the evidence on responsible structures, environmental management, emissions monitoring software, and GHG audits, without providing separate CH_4 data or results.
BNECL	The 2025 Annual Report and Audited Statements updated information on operational emissions, the sustainability strategy, and development of the BRIDGE project. It also expanded documentary continuity during the transition from BNOCL and BNTCL to BNECL.
Ecopetrol	The 2025 Integrated Management Report documents 61 methane initiatives and projects implemented between 2020 and 2025. It presents a reduction of 20,846 tCH_4 on p. 172 and, separately, a cumulative reduction of 46% relative to 2019 for production operations on p. 174. For the latter, it distinguishes approximately 21 $ktCH_4$ already incorporated into the 2025 inventory from an additional 14 $ktCH_4$ from 2025 projects whose effects will be fully reflected in the 2026 inventory. These figures should not be interpreted as a single result fully consolidated in 2025.
ENAP	The 2025 ENAP Integrated Report, 2025 ENAP Sipetrol Integrated Annual Report, and 2025 ENAP Refineries Integrated Report expanded the evidence on measurement, source control, and management under OGMP. Together, they provide greater detail on the practices documented across the company's operations and their connection to emissions management.
EP Petroecuador	The 2025 OGMP 2.0 Implementation Plan expanded methane-specific planning, including detection, quantification, asset monitoring, and planned measures. This evidence complements the current 2023–2030

	Decarbonization Plan and institutional information issued after the most recent publicly available corporate report.
HPCL	The 2024–2025 ESG Report and GRI Content Index expanded the evidence on emissions measurement and reduction. HPCL documents 95% direct measurement coverage of vented and fugitive sources, the conversion of GP1, and the GS-37 gas recovery project. The GRI index reports a 16.3% reduction relative to baseline-year methane emissions, combining one reported reduction with another expected reduction.
Petrobras	The update incorporated the 2026–2030 Business Plan, within the framework of the 2050 Strategic Plan, together with the Sustainability Report 2025, ESG Datasheet 2025, and Management Report 2025. The new evidence updated targets, monitoring under OGMP 2.0, and results. In 2025, Petrobras reported an upstream intensity of 0.23 tCH_4 per thousand tonnes of hydrocarbons, below its annual commitment of 0.25 and 65% below the 2015 level. It also reported a 17% reduction in routine flaring relative to 2024 and 14 high-capacity stationary production units operating without routine flaring.
Petrojam	The incorporation of Corporate Strategies 2025–2029 updated the company's planning and identified new strategic lines, although its most recent corporate report assessed remains the 2022 report.
Staatsolie	The Sustainability Report 2025 and Annual Report 2025 updated the evidence on venting and flaring management and distinguished implemented measures from solutions planned for future projects. In 2025, a vapor recovery unit became fully operational, capturing and quantifying previously vented gas and reusing it as fuel.
YPF	The 2025 Sustainability Report incorporated forward-looking information used in the planning assessment, including the target of reducing absolute methane emissions by 30% by 2030, relative to 2021. In its reporting, YPF disclosed 53,466 tCH_4 for 2025, 19% less than in 2024.
YPFB Andina	The 2024–2025 Annual Report and 2025 environmental information expanded the evidence on quantification, inventory coverage, and methodological development, making it possible to distinguish improvements in information quality from specific abatement results.

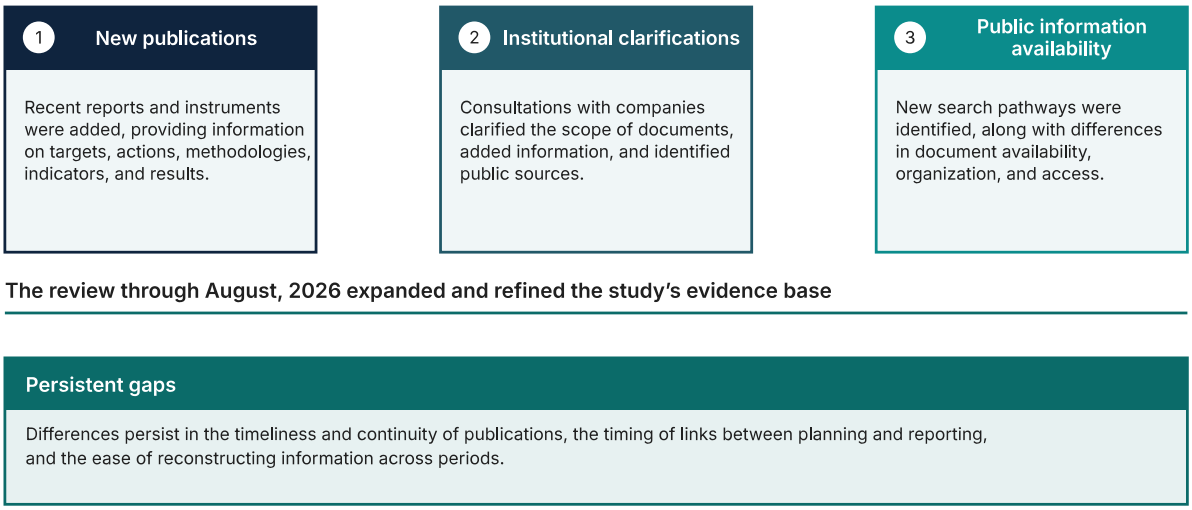
Source: Compiled by the author from the documentation reviewed.

2.6.2 Differences in Publication Continuity and Timeliness Persist

The 2026 update produced different changes in the companies' documentary sequences. In some cases, reports covering 2025 updated data, actions, and results while providing continuity with information from previous periods. In others, the new evidence was concentrated in planning instruments or technical documents issued after the most recent available corporate report. As a result, the update expanded the information compiled but did not produce a consistent timeline across companies or between the two components assessed.

These differences are also evident in the timeliness of reporting. While several companies incorporated information from 2025, the most recent publicly available corporate report assessed for EP Petroecuador covers 2020; Petrojam's covers 2022; NGC's, 2023; and Petroperú's and PEMEX's, 2024. At BNECL, corporate restructuring affects continuity under the company's new name, while YPFB Andina has a shorter public reporting history. When planning is more recent than the latest report, it is not yet possible to observe how planned targets and measures translate into implementation and results. Maintaining comparable publication cycles will help progressively close these gaps and distinguish more precisely among the documentary, methodological, and operational changes reported by each company.

Figure 3. Key Changes and Documentary Gaps Identified



Source: Compiled by the author from the documentation reviewed.

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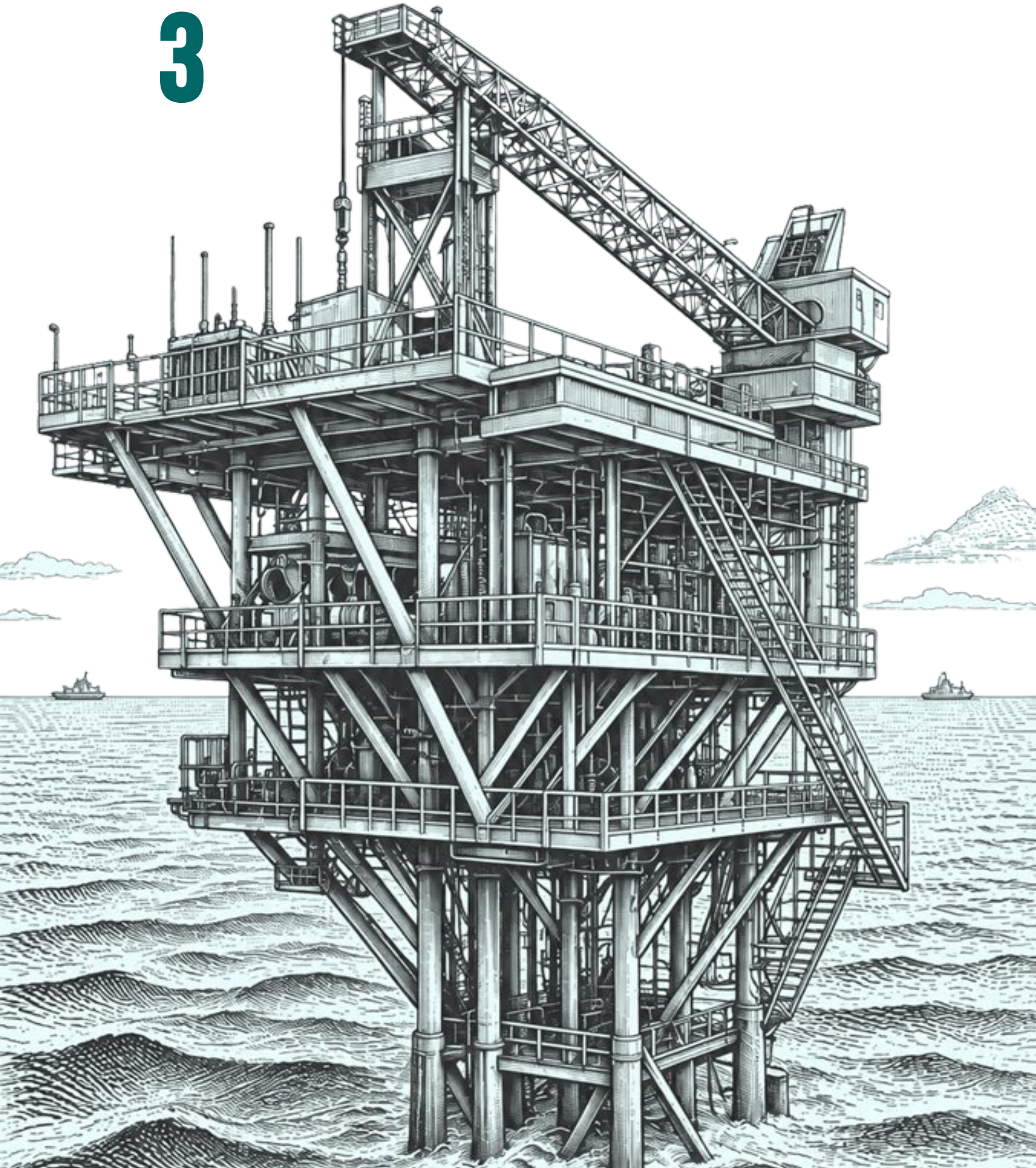


3

A REGIONAL AGENDA FOR STRENGTHENING THE TRACEABILITY OF METHANE INFORMATION

Building on the findings, the regional agenda translates the identified gaps into areas for action for companies, governments and regulators, regional and international organizations, cooperation agencies, and technical partners.

3.1 FOUR GAPS SHAPE THE REGIONAL AGENDA

The findings group the principal opportunities for improvement into four areas: greater target specificity; stronger connections among targets, responsibilities, and monitoring; more traceable application of the frameworks used; and greater continuity of public information.

Moving toward more specific targets requires clearly identifying the methane component, the sources or operations covered, the baseline, and the expected outcome. This definition should be accompanied by elements that make it possible to track progress and identify its connection to subsequently reported actions.

It is also necessary to make the use of adopted frameworks, standards, and methodologies more visible. Their documentary value increases when their function within the management process can be identified, along with their connections to decisions, procedures, actions, or monitoring mechanisms.

Continuity constitutes the fourth dimension. Accessible documents and consistent publication series make it possible to observe changes across periods and maintain an identifiable sequence of information.

These gaps are distinct but closely related: a target may be well formulated yet still lose traceability if it cannot be tracked through indicators, results, and publications that are comparable over time.

Addressing these gaps requires differentiated and complementary responsibilities among companies, governments and regulators, regional and international organizations, cooperation agencies, and technical partners.

Strengthening traceability requires coordinated action across these gaps because the clarity of each element also depends on its connection to the others.

3.2 DIFFERENTIATED RESPONSIBILITIES TOWARD A SHARED OBJECTIVE

Strengthening the traceability of methane management requires action at different levels. Companies generate, organize, and report evidence of their management efforts. Governments and regulators can establish common conditions for measurement, disclosure, and coordination with national systems. Regional and international organizations, cooperation agencies, and technical partners can contribute capabilities, methodologies, experience sharing, and continuity in monitoring.

These functions differ, but they converge on a shared objective: ensuring that commitments, actions, and results can be consistently connected and tracked over time.

3.2.1 Companies Should Connect Commitments with Results

For companies, strengthening the traceability and availability of information means connecting methane management across planning, operations, and reporting so that targets, actions, responsible parties, measurements, and results can be linked over time.

Planning instruments—such as policies, strategies, plans, or other short-, medium-, and long-term documents—provide the framework for identifying the objectives and lines of action that guide management during their period of validity. Corporate reporting, generally updated annually, complements this function by presenting the actions undertaken, progress made, and results achieved. Connecting the two provides a clearer understanding of progress in fulfilling corporate commitments.

Maintaining this relationship across reporting periods facilitates the comparison of results, the identification of methodological or institutional changes, and the preservation of a common reference even when structures, responsible parties, or instruments are updated. The information thus gains continuity and is not limited to isolated publications.

This is particularly relevant within the broader transformation facing national oil and gas companies and other companies with state ownership in Latin America and the Caribbean. Reducing emissions from current operations and moving toward more

diversified, lower-emission energy activities are distinct processes, but both require institutional capacity, consistent information, and long-term monitoring.

Figure 4. Sequence for Connecting Planning with Results

Source: Compiled by the author from the documentation reviewed.

Traceability also depends on data consistency. Units, base years, methodologies, and information boundaries must remain identifiable across periods. When changes occur, they should be explained so that their effect on comparability can be understood.

Information quality can also be strengthened through greater use of direct field measurements, particularly for sources where general emission factors do not adequately reflect operating conditions.

Measurement campaigns, leak detection and repair programs, and other monitoring technologies provide greater value when their coverage, methodologies, and results are documented and can be linked to the estimates used for monitoring.

National oil and gas companies in Latin America and the Caribbean face a dual challenge: reducing emissions from their current operations while moving toward more diversified, lower-emission energy models.

3.2.2 Governments and Regulators Can Promote Common Conditions

Governments and regulatory authorities can promote greater comparability through phased disclosure criteria. These criteria need not impose identical targets on companies with different operations, capabilities, and emission sources, but they can establish common elements that facilitate the interpretation of information.

A shared foundation may include the sources covered, data boundaries, base year, units used, methodologies, targets, principal measures, and results. When coverage or calculation methods change, those modifications should be documented and previous information should remain available.

Strengthening coordination between corporate information and national greenhouse gas inventories is also important. Greater alignment among scopes, source categories, and methodologies can facilitate the use of corporate data in national monitoring and reduce duplication in data collection.

This proposal is not based on a comparative assessment of national regulations, which was outside the scope of the study. It responds to a need identified in the documentation reviewed: establishing common elements that facilitate interpretation and reduce differences in comparability.

3.2.3 Regional and International Cooperation Can Sustain Monitoring and Strengthen Capacities

Regional and international organizations, cooperation agencies, industry associations, and technical partners can coordinate their efforts without replacing corporate, regulatory, or national responsibilities.

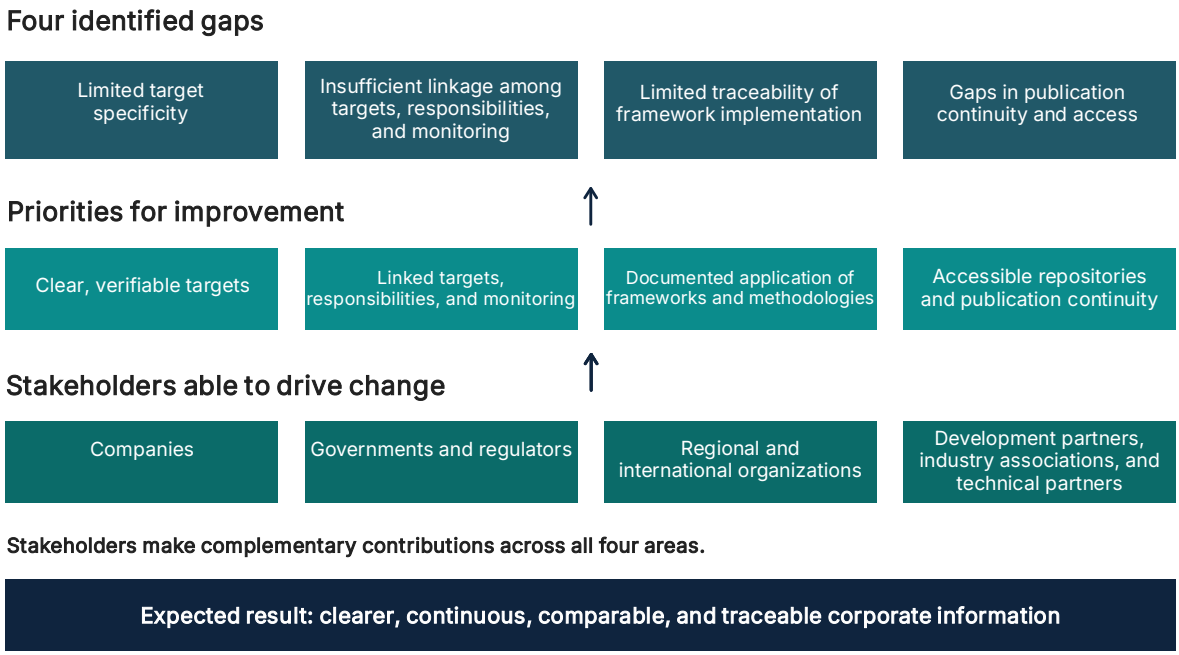
A first contribution is to maintain and periodically update a regional baseline that distinguishes new publications, methodological changes, improvements in information, and persistent gaps using consistent criteria across editions. To preserve comparability, this monitoring should maintain uniform criteria and distinguish changes resulting from new evidence from those arising from a more in-depth review of the sources.

A second area of action is to facilitate common traceability references—not to create a new standard, but to present targets, covered sources, methodologies, indicators, responsible parties, and results in an identifiable manner using existing frameworks.

Cooperation can also strengthen capacities in areas requiring greater specialization, such as emissions inventories, direct measurement, leak detection and repair, target setting, and monitoring mechanisms. These capacities provide greater value when they connect technical information with commitments, results, and reporting.

Regional and technical actors can also support repository organization, the preservation of documentary series, and the development of teams capable of integrating planning, data, and reporting. Industry associations and technical partners can complement this work through tools, guidance, and the exchange of experiences among companies at different stages of development.

Figure 5. From Identified Gaps to a Shared Strengthening Agenda



Source: Compiled by the author from the documentation reviewed.

3.3 A COMMON FOUNDATION FOR FUTURE MONITORING

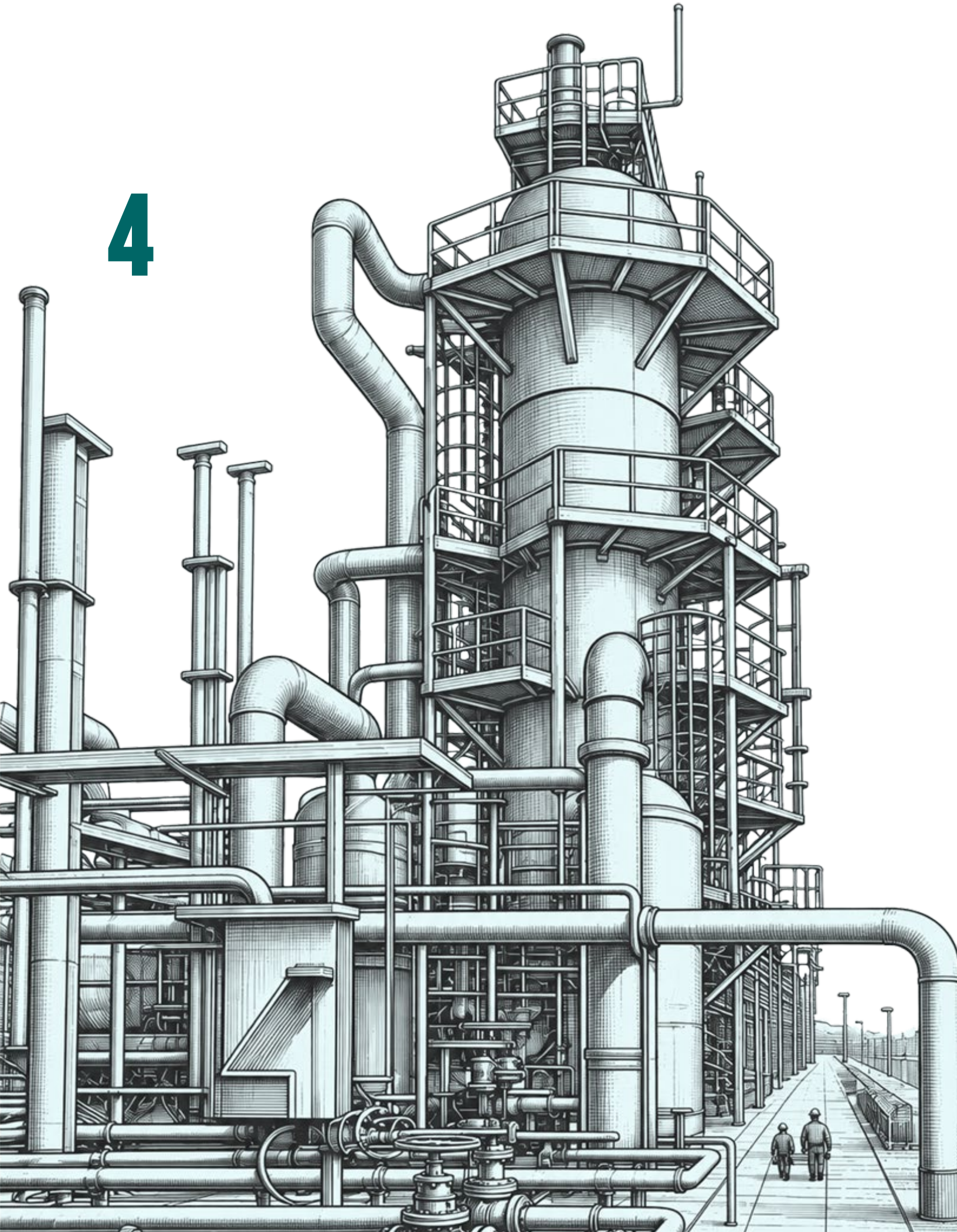
The regional agenda does not seek to standardize operations or require every company to follow the same pathway. Emission sources, technical capabilities, institutional structures, and functions within energy systems differ. The objective is to establish common conditions for understanding and monitoring the management practices communicated by each company.

This common foundation requires sufficiently defined targets, actions linked to responsible parties and indicators, clearly explained methodologies, and documents that remain accessible over time. It should also make it possible to identify changes in scope, the sources covered, or measurement approaches.

This assessment establishes a regional reference point for observing how corporate methane information evolves and where traceability gaps persist. Future reviews will be able to identify new publications, methodological changes, and improvements in how companies document their management efforts using criteria that remain consistent over time.

Plans, policies, inventories, and reports should remain accessible, with previous versions retained when needed to reconstruct the evolution of the information.

4



4

HOW THE ASSESSMENT WAS CONDUCTED

The assessment examines the clarity, specificity, continuity, and traceability of the information companies use to publicly communicate their methane management efforts. It distinguishes documentation presenting commitments and planned actions from documentation reporting implemented measures, data, progress, and results.

4.1 WHAT THE ASSESSMENT SOUGHT TO DETERMINE

The assessment sought to determine whether the available information makes it possible to identify and track methane-related commitments, targets, actions, responsible parties, and monitoring mechanisms. Each of the 14 companies included in the study constitutes a unit of analysis.

The initial scope was defined using the 27 OLACDE member countries. After applying the company profile and reviewing document availability, 14 companies formed the final analytical basis. The selection process and the cases not included are presented in Section 2.1.

One national company or company with state ownership was considered per country. When consultation with a parent company established that methane management and documentation were undertaken by a specific subsidiary, that subsidiary could be defined as the unit of analysis, provided it had an identifiable operational scope and sufficient company-specific documentation. In such cases, the results apply exclusively to the subsidiary assessed and not to the corporate group as a whole.

In Bolivia, this rule was applied to YPFB Andina. Consultation with YPFB's corporate headquarters confirmed that the documented methane process had begun at this subsidiary and that the information required for the assessment was available there. Trinidad and Tobago represents a different situation: HPCL and NGC were included as separate units because they are distinct corporate entities with different operating profiles in the oil and gas value chains, respectively.

Inclusion required official and verifiable sources applicable to both planning and reporting, with sufficient information to identify their scope and reference period and apply the assessment matrix comparably. This condition was applied to each company's complete body of documentation. An included company could therefore receive a value of 0 when no evidence was identified for a specific criterion, without this indicating that its overall documentation was insufficient.

The institutional and operational boundaries of the units analyzed are not necessarily equivalent. The results compare the maturity of their documentation, not their size, operational coverage, or the environmental performance of the companies or the groups to which they belong. The study also does not assess compliance with commitments or actual emissions reductions.

4.2 INFORMATION REVIEWED

The documentary review was conducted in two stages within a single study. The first took place in October 2025. Between July and August 20, 2026, new publications and supporting information available through the final review date were incorporated, and previously considered sources were reexamined.

The results presented integrate the evidence gathered during both stages. Planning evidence included strategic plans, policies, roadmaps, climate commitments, and other instruments that guide corporate management. Reporting evidence included annual reports, sustainability reports, management reports, emissions inventories, and supplementary documents.

The search covered direct references to methane and related terms, including methane, CH_4, leaks, fugitive emissions, venting, flaring, associated gas, and vapor recovery.

Operating segments were used to contextualize each company's activities within the oil and gas value chain. This characterization allows differences in operating profiles to be considered when interpreting the results, but does not constitute an assessment of the significance of methane emissions or of the companies' environmental or operational performance.

For this study, *upstream* comprises exploration and production; *midstream*, transportation, processing, storage, and logistics; and *downstream*, refining, distribution, and marketing.

Activities conducted through subsidiaries or operating entities within the same corporate group were considered only when they could be directly attributed to the value chain under analysis. Participation in contracts, resource administration, or a company's stated corporate purpose were not considered sufficient grounds for assigning an operating segment.

Information was obtained primarily from public, official, and verifiable sources. For EP Petroecuador and YPFB Andina, this was supplemented with nonconfidential institutional documentation provided directly by the companies. For PEMEX, institutional channels facilitated access to documents held in the company's public repository, which was subject to geographic access restrictions.

YPF clarified the scope and purpose of its planning documentation, distinguishing forward-looking content from management and performance reporting. ANCAP clarified

its operating segment, while PDVSA provided details on updates to its institutional and regulatory framework. The clarifications from ANCAP and PDVSA helped contextualize the existing information and distinguish the circumstances relevant to assessing the study's criteria.

The absence of evidence identified during the review does not imply that a company lacks policies, actions, capabilities, or internal documentation. It indicates that such evidence was not available under conditions that allowed its inclusion in the study.

4.3 HOW THE INFORMATION WAS ASSESSED

Planning and reporting were assessed independently because they address different questions. Planning shows what the company states it intends to do; reporting shows what it communicates regarding implementation, measurement, progress, and results.

The evidence identified for both components was assessed on a scale from 0 to 2, allowing its clarity, specificity, and verifiability to be evaluated consistently.

When the same document provided information for both planning and reporting, each item of content was assessed according to its function. Evidence used to substantiate a planned action was not simultaneously used to demonstrate its implementation.

Table 7. Criteria for Assessing the Evidence

Value	Interpretation
0	No evidence was identified in the sources reviewed.
1	The evidence is general, partial, or indirect.
2	The evidence is clear, specific, and verifiable.

Source: Compiled by the author from the documentation reviewed.

A value of 0 does not mean that the company lacks actions, policies, capabilities, or internal mechanisms. It indicates only that these elements could not be identified in the documentation incorporated into the study.

The planning and reporting results were subsequently normalized to a common scale of **0 to 10** to facilitate comparison:

Normalized value = (value obtained / maximum possible value) × 10

Normalization presents both components on the same scale, even though they include different sets of criteria.

Importantly, it does not change the characteristics of the evidence, assign greater weight to planning or reporting, or convert the results into a measure of corporate performance.

4.4 HOW THE RESULTS WERE DEVELOPED

The assessment produces three evidence-based results—planning, reporting, and documentary maturity—and a complementary interpretation of the relationship between planning and reporting. The latter does not constitute an additional assessment value.

Planning shows what the company documents regarding its commitments, targets, and planned actions. Reporting presents the information it communicates regarding implementation, measurement, progress, and results.

Table 8. Study Components and Scope

Component	What It Reveals	Elements Considered
Planning	What the company states it plans to do	Methane, targets, planned actions, responsible parties, monitoring, and frameworks
Reporting	What the company communicates regarding implementation	Frequency, methane, targets, data, progress, actions, responsible parties, and frameworks
Documentary Maturity	How complete, clear, and verifiable the evidence is when both components are integrated	Availability, specificity, targets, actions and progress, frameworks, frequency, and institutional traceability
Documentary Relationship	How the evidence is distributed and connected across planning and reporting	Differences between components, timing, nature of the sources, and the ability to identify connections between planned and reported information

Source: Compiled by the author from the documentation reviewed.

Documentary maturity is assessed across seven dimensions: document availability, methane specificity, targets and commitments, actions and progress, frameworks and initiatives, reporting frequency, and institutional traceability. Each dimension receives a value from 0 to 2, assigned using the planning and reporting indicators according to the criteria described below.

For methane specificity, targets and commitments, and frameworks and initiatives, the corresponding planning and reporting indicators are compared and the higher value is retained. For actions and progress, the highest value among planned actions, implemented actions, and reported progress or results is used. For institutional traceability, the highest value is selected from the responsibility indicators for both components, planning monitoring or MRV, and reporting data and indicators. Reporting frequency uses only the value recorded for reporting.

Document availability is determined from the review status recorded for each component. A value of 2 is assigned when at least one component is marked “Yes” in the document reviewed field; 1 when neither is marked “Yes,” but at least one is marked “Partial”; and 0 in all other cases.

The values for the seven dimensions are added for a maximum of 14. The result is expressed on a scale from 0 to 10 by dividing the total obtained by 14, multiplying by 10, and rounding to one decimal place. This calculation is performed by dimension and is neither the average nor the higher of the overall planning and reporting results.

Documentary maturity reflects the evidence available across all sources but does not show how that evidence is distributed between planning and reporting or imply that every indicator within a dimension is equally developed.

Its interpretation must consider the results of both components, as well as the timing, origin, and nature of the documentation.

Table 9. Maturity Level Scale

Assessment (0–10)	Level
0 to 2	Incipient
More than 2 to 4	Basic
More than 4 to 6	Intermediate
More than 6 to 8	Advanced
More than 8 to 10	Consolidated

Source: Compiled by the author from the documentation reviewed.

The levels summarize the clarity and coverage of the documentary evidence. They do not constitute a ranking or an assessment of environmental or operational performance.

A consolidated maturity level does not necessarily mean that planning and reporting are individually consolidated or that every commitment, action, and result is fully connected.

To complement this assessment, four types of documentary relationships were identified:

- Reporting develops aspects addressed more generally in planning.
- Planning and reporting make it possible to connect commitments, actions, and results.
- The most comprehensive evidence is currently found in planning.
- The combined interpretation is constrained by the timing or nature of the sources.

These relationships do not represent hierarchical levels or modify the assessment values. Their purpose is to help interpret how the documentary evidence is configured for each company.

4.5 CHANGES IDENTIFIED DURING THE 2025-2026 REVIEW PROCESS

Changes identified between the two review phases were analyzed qualitatively within the same study. The analysis focused on determining what changed in the available evidence and what explained that change.
The differences observed resulted from new publications or instruments, the incorporation of additional official information, updated versions of previously available sources, changes in document access conditions, or persistent documentary gaps.

This distinction separates changes in the evidence from possible changes in corporate management. Greater information availability may result from a new publication, the identification of material not previously incorporated, or an expansion of the analysis, without necessarily indicating a recent change in the company's actions. The changes observed during the study are therefore interpreted as an evolution of the documentary evidence compiled within the same study, not as a year-over-year assessment of corporate performance or a comparison between two independent versions.

CONCLUSIONS

Methane is central to the oil and gas industry: it constitutes most of natural gas and is also present in the associated gas produced with oil. Methane emissions can originate across the value chain, from extraction and processing to transportation, storage, refining, and distribution. Managing these emissions therefore serves more than a climate objective. It also entails reducing losses of an energy resource, improving facility efficiency, and strengthening the safety and reliability of operations.

This study demonstrates that Latin America and the Caribbean have a substantial documentary foundation for understanding how national companies and companies with state ownership approach methane management. All 14 companies assessed achieve advanced or consolidated levels of documentary maturity. This finding, however, does not mean that they exhibit the same degree of development or allow conclusions to be drawn about their environmental performance. The evidence is distributed differently: reporting predominates at some companies; others demonstrate clearer alignment between planning and results; and, in certain cases, interpretation is constrained by the timing or nature of the available sources.

Overall, reporting is more developed than planning. It provides clearer information on actions, data, responsible parties, and results, while specific targets, monitoring mechanisms, and the connections between commitments and progress remain the principal opportunities for improvement. The challenge, therefore, is not to accumulate documents, but to establish a verifiable sequence connecting what a company intends to achieve, the decisions it makes, the measures it implements, and the results it reports.

The review shows that this sequence is beginning to take shape through different types of practices. Methane-specific inventories, direct measurement, leak detection and repair campaigns, inspections, and repair verification were identified in the areas of quantification and monitoring. Some companies supplement these activities with optical and infrared cameras, laser spectroscopy, portable and ultrasonic sensors, drones, aerial surveys, or satellite monitoring. These tools serve different functions, but together they support the transition from general estimates to more precise identification of emission sources and their behavior.

Measures directly aimed at mitigation were also documented. These include reducing fugitive emissions, venting, and flaring; recovering vapors and flare gas; capturing and utilizing vented or associated gas; and reinjecting and reusing gas. Other interventions address asset operations through compression improvements, replacement of leaking

equipment, electrification, preventive maintenance, valve and tank controls, tankless facilities, and improvements in flare efficiency and combustion systems. The presence of these solutions confirms that methane management encompasses a broad set of technical and operational decisions whose relevance depends on the sources, operating segments, and characteristics of each facility.

These measures provide greater value when a company can link them to an identified source, investment, timeframe, and result. Such traceability makes it possible to determine where losses occur, assess which interventions offer the greatest technical and economic feasibility, and establish whether reductions result from operational changes or improvements in measurement coverage and accuracy. This last consideration is essential: a higher emissions inventory does not necessarily indicate a decline in performance, as it may also reflect the inclusion of new sources, more accurate measurement technologies, or broader asset coverage.

From this perspective, methane management can become a business opportunity rather than solely an environmental obligation. Reducing leaks and venting can prevent gas losses, while recovery can enable the gas to be used—depending on the conditions of each asset—for internal consumption, commercial sale, reinjection, or the substitution of other fuels. Better information also helps prioritize investments, reduce uncertainty, support modernization projects, and demonstrate to authorities, buyers, financial institutions, and investors how emissions-related risks and opportunities are being managed.

These capabilities are increasingly important in a sector undergoing broader transformation. Several oil and gas companies are diversifying their activities and evolving toward integrated energy company models. In this process, reducing emissions from current assets is not separate from corporate transformation: it helps preserve their efficiency and value while developing capabilities in measurement, data management, traceability, innovation, and investment assessment that can be applied to a more diverse energy portfolio. Verifiable methane management can also strengthen companies' preparedness for emerging regulatory, commercial, and financial conditions.

For Latin America and the Caribbean, progress in this direction would enable better use of existing resources and strengthen energy security, particularly where gas losses coexist with supply needs or dependence on imports. Greater information comparability would also help identify shared challenges, direct cooperation toward capabilities that still require strengthening, and facilitate the exchange of experiences concerning technologies, methodologies, and solutions applicable across different segments of the value chain.

The study establishes a regional baseline for tracking this evolution. Future reviews will make it possible to observe not only whether more information becomes available, but also whether companies connect their targets, measurements, investments, actions, and results more clearly. Decisive progress will occur when this evidence enables the transition from understanding emissions to managing them systematically and turning their reduction into operational efficiency, energy utilization, investment capacity, and preparedness for industry transformation.

REFERENCES

General, Methodological, and Industry Sources

International Energy Agency. (2020). *The oil and gas industry in energy transitions*. Retrieved July 10, 2026, from https://www.iea.org/reports/the-oil-and-gas-industry-in-energy-transitions

International Energy Agency. (2026). *Global methane tracker 2026*. Retrieved July 11, 2026, from https://www.iea.org/reports/global-methane-tracker-2026

World Bank. (n.d.). *Global Flaring and Methane Reduction Partnership*. Retrieved July 12, 2026, from https://www.worldbank.org/en/programs/gasflaringreduction

World Bank. (2011). *National oil companies and value creation* (World Bank Working Paper No. 218). Retrieved July 13, 2026, from https://documents1.worldbank.org/curated/en/650771468331276655/pdf/National-oil-companies-and-value-creation.pdf

World Bank. (2026). *Global gas flaring tracker report 2026*. Retrieved July 14, 2026, from https://www.worldbank.org/en/programs/gasflaringreduction/publication/2026-global-gas-flaring-tracker-report

Cahill, B. (2024, July 23). *National oil companies and methane reductions: How to meet 2030 goals*. Center for Strategic and International Studies. Retrieved July 15, 2026, from https://www.csis.org/analysis/national-oil-companies-and-methane-reductions-how-meet-2030-goals

Global Reporting Initiative. (n.d.). *GRI Standards*. Retrieved July 16, 2026, from https://www.globalreporting.org/standards/

Ipieca, International Association of Oil & Gas Producers, & Global Gas Flaring Reduction Partnership. (2021). *Flaring management guidance for the oil and gas industry*. Retrieved July 17, 2026, from https://www.ipieca.org/resources/flaring-management-guidance

United Nations Environment Programme. (n.d.). *Oil & Gas Methane Partnership 2.0*. Retrieved July 18, 2026, from https://www.ogmpartnership.org/

United Nations Environment Programme. (2020). *Oil and Gas Methane Partnership (OGMP) 2.0 reporting framework*. Climate and Clean Air Coalition. Retrieved July 19, 2026, from https://www.ccacoalition.org/resources/oil-and-gas-methane-partnership-ogmp-20-framework

United Nations Environment Programme. (2023). *An eye on methane: The road to radical transparency. International Methane Emissions Observatory 2023 report*. Retrieved July 20, 2026, from https://www.unep.org/resources/report/eye-methane-international-methane-emissions-observatory-2023-report

Corporate Sources

Administración Nacional de Combustibles, Alcohol y Portland. (n.d.-a). *Corporate strategic map*. Retrieved July 21, 2026, from https://www.ancap.com.uy/1842/1/mapa-estrategico-corporativo.html

Administración Nacional de Combustibles, Alcohol y Portland. (n.d.-b). *Annual reports*. Retrieved July 21, 2026, from https://www.ancap.com.uy/165/1/memorias.html

Administración Nacional de Combustibles, Alcohol y Portland. (n.d.-c). *Sustainability reports*. Retrieved July 21, 2026, from https://www.ancap.com.uy/292/1/reportes-de-sostenibilidad.html

Barbados National Energy Company Limited. (n.d.-a). *Annual reports*. Retrieved July 24, 2026, from https://www.bnecl.com.bb/media-hub/annual-reports

Barbados National Energy Company Limited. (n.d.-b). *Sustainability goals*. Retrieved July 24, 2026, from https://www.bnecl.com.bb/who-we-are/sustainability-goals

Barbados National Energy Company Limited. (2025). *Annual report and audited statements 2025*. Retrieved July 24, 2026, from https://www.bnecl.com.bb/media-hub/annual-reports

Ecopetrol S.A. (2021). *Environmental strategy standard: HSE Management System* (HSE-N-005, Version 1).

Ecopetrol S.A. (2026). *2025 integrated management report*. Retrieved July 26, 2026, from https://files.ecopetrol.com.co/web/esp/aga2026/informe-integrado-gestion-informe-anual-gc.pdf

Empresa Nacional del Petróleo. (n.d.). *Annual and integrated reports*. Retrieved July 28, 2026, from https://www.enap.cl/memorias

Empresa Nacional del Petróleo. (2026a). *2025 ENAP Sipetrol integrated annual report and 2025 ENAP Refineries integrated report*. Retrieved July 28, 2026, from https://www.enap.cl/memorias

Empresa Nacional del Petróleo. (2026b). *2025 integrated report*. Retrieved July 28, 2026, from https://www.enap.cl/files/get/2995

Empresa Nacional del Petróleo. (n.d.). *ENAP sustainability policy 2014–2025*. https://www.enap.cl/files/get/2236

EP Petroecuador. (2021). *Corporate sustainability report: 2020 reporting period*. Retrieved July 30, 2026, from https://www.eppetroecuador.ec/wp-content/uploads/downloads/2021/06/Reporte-de-sostenibilidad-empresarial-23-06-21_anexo-arte.pdf

EP Petroecuador. (2023). *2023–2030 Corporate Decarbonization and Sustainability Plan* [Nonconfidential institutional document provided to OEMLAC by email].

EP Petroecuador. (2025). *OGMP 2.0 implementation plan* [Nonconfidential institutional document provided to OEMLAC by email].

EP Petroecuador. (2026). *Supplementary institutional information on decarbonization and sustainability* [Nonconfidential institutional documentation provided to OEMLAC by email].

Heritage Petroleum Company Limited. (n.d.). *Sustainability*. Retrieved August 1, 2026, from https://heritage.co.tt/sustainability/

Heritage Petroleum Company Limited. (2026a). *ESG report 2024–2025*. Retrieved August 1, 2026, from https://heritage.co.tt/wp-content/uploads/2026/04/Heritage-ESG-Report-24-25.pdf

Heritage Petroleum Company Limited. (2026b). *GRI content index 2024–2025*. Retrieved August 1, 2026, from https://heritage.co.tt/financial-sustainability-reports/

Petróleo Brasileiro S.A. (n.d.). *Strategic plan: What guides our decisions*. Retrieved August 5, 2026, from https://petrobras.com.br/en/quem-somos/estrategia

Petróleo Brasileiro S.A. (2026a). *ESG datasheet 2025 and management report 2025* [Corporate documents supplementing the *Sustainability report 2025*]. Retrieved August 5, 2026, from https://petrobras.com.br/

Petróleo Brasileiro S.A. (2026b). *Sustainability report 2025*. Retrieved August 5, 2026, from https://api.mziq.com/mzfilemanager/v2/d/25fdf098-34f5-4608-b7fa-17d60b2de47d/a8f27240-4808-431b-2258-a8ef8f01a51b?origin=2

Petróleos del Perú–Petroperú S.A. (n.d.). *Strategic objectives*. Retrieved August 11, 2026, from https://www.petroperu.com.pe/acerca-de-petroperu/objetivos-estrategicos/

Petróleos del Perú–Petroperú S.A. (2023). *2023–2050 corporate strategic plan*. Retrieved August 11, 2026, from https://www.petroperu.com.pe/Docs/spa/files/transparencia/PEC-PP-2023-2050.pdf

Petróleos del Perú–Petroperú S.A. (2025). *2024 sustainability report*. Retrieved August 11, 2026, from https://sostenibilidad.petroperu.com.pe/reporte-de-sostenibilidad/?pp=1

Petróleos Mexicanos. (n.d.). *Reports*. Retrieved August 8, 2026, from https://www.pemex.com/etica_y_transparencia/transparencia/informes/Paginas/informes.aspx

Petróleos Mexicanos. (2024). *Pemex Sustainability Plan*. Retrieved August 8, 2026, from https://www.pemex.com/acerca/plan-de-sostenibilidad/Documents/plan_sostenibilidad_pemex.pdf

Petróleos Mexicanos. (2025). *2024 sustainability report*. Retrieved August 8, 2026, from https://www.pemex.com/etica_y_transparencia/transparencia/informes/Paginas/informes.aspx

Petrojam Limited. (n.d.-a). *Annual reports and financials*. Retrieved August 13, 2026, from https://www.petrojam.com/annual-reports-and-financials/

Petrojam Limited. (n.d.-b). *Petrojam*. Retrieved August 13, 2026, from https://www.petrojam.com/

Petrojam Limited. (2025). *Corporate strategies 2025–2029*. Retrieved August 13, 2026, from https://www.petrojam.com/about-us/corporate-fact-sheet/

Petrojam Limited. (2026). *Summary operational plan 2026/27*. Jamaica Public Bodies Estimates 2026/27.

Staatsolie Maatschappij Suriname N.V. (n.d.-a). *Annual reports and other publications*. Retrieved August 15, 2026, from https://www.staatsolie.com/en/media-kit/annual-reports-and-other-publications/

Staatsolie Maatschappij Suriname N.V. (n.d.-b). *Staatsolie*. Retrieved August 15, 2026, from https://www.staatsolie.com/en/

Staatsolie Maatschappij Suriname N.V. (2026). *Sustainability report 2025*. Retrieved August 15, 2026, from https://www.staatsolie.com/media/ayshb3ga/staatsolie-sustainability-report-2025.pdf

The National Gas Company of Trinidad and Tobago Limited. (n.d.-a). *Health, safety, security and environment*. Retrieved August 3, 2026, from https://ngc.co.tt/corporate-social-responsibility/health-safety-security-and-environment/

The National Gas Company of Trinidad and Tobago Limited. (n.d.-b). *Publications*. Retrieved August 3, 2026, from https://ngc.co.tt/media/publications/#1539783188369-007ec44f-8804

The National Gas Company of Trinidad and Tobago Limited. (2024). *Sustainability report 2023*. Retrieved August 3, 2026, from https://ngc.co.tt/wp-content/uploads/2024/11/NGCSustainabilityReport2023.pdf

YPF S.A. (2021). *Our commitment to climate action*. Retrieved August 17, 2026, from https://sustentabilidad.ypf.com/assets/docs/es/YPF-Compromiso-accion-clima.pdf

YPF S.A. (2026). *Sustainability report 2025*. Retrieved August 17, 2026, from https://sustentabilidad.ypf.com/assets/docs/es/YPF-Reporte-de-sustentabilidad-2025.pdf

YPFB Andina S.A. (2025a). *Environmental performance 2025*. Retrieved August 19, 2026, from https://cdn.prod.website-files.com/6981bd68432f9e7a838d8a0c/6a474bd94f383ad356507392_Desempe%C3%B1o%20ambiental%20VINFER%202025_compressed.pdf

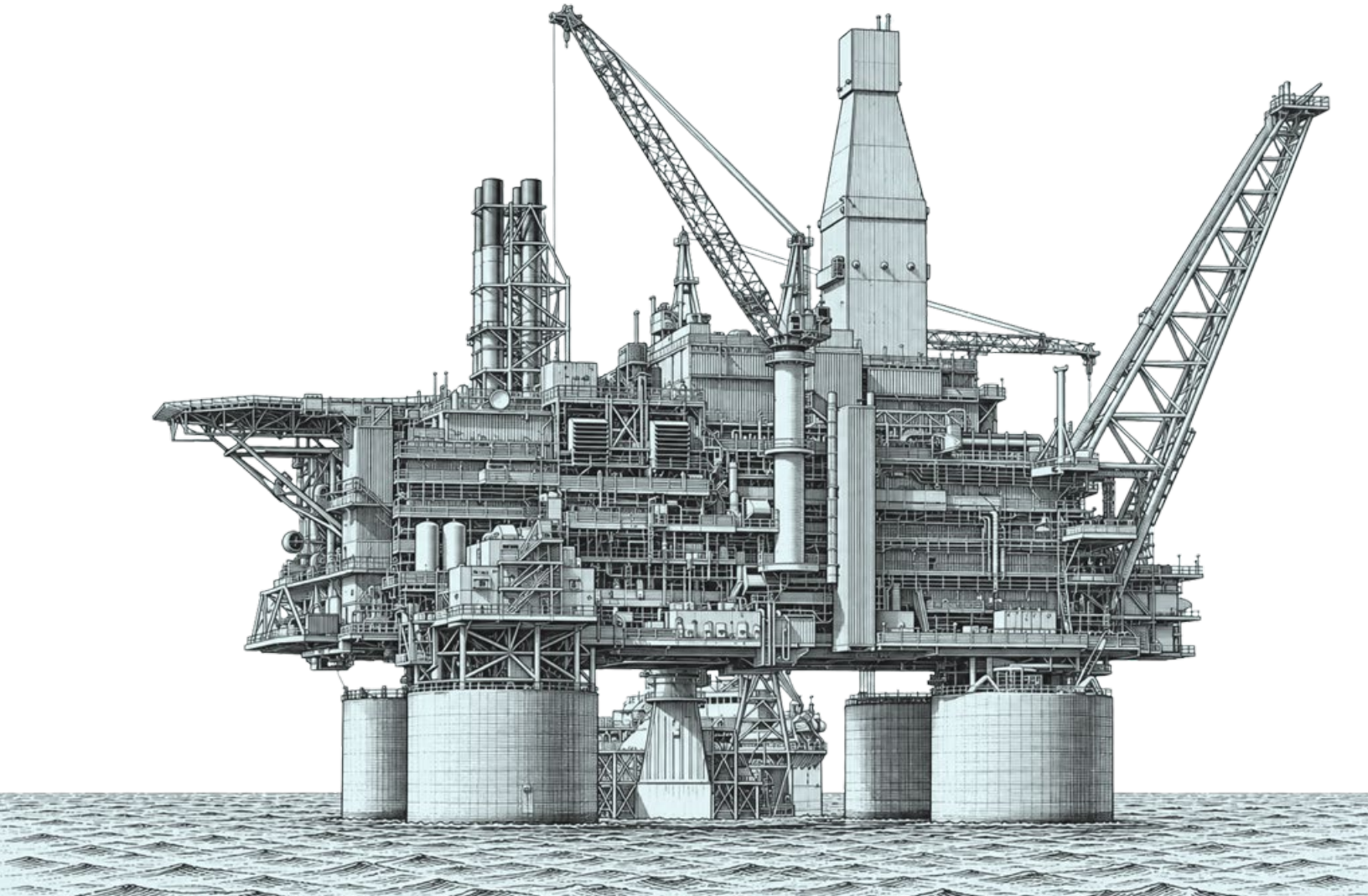
YPFB Andina S.A. (2025b). *Annual report 2024–2025*. Retrieved August 20, 2026, from https://www.ypfb-andina.com.bo/recursos/img/web_memoria_anual/10_09_2025_09_59_51_552229905.pdf

YPFB Andina S.A. (2026). *Supplementary institutional information on environmental management, emissions quantification, and the application of IOGP and OGMP 2.0* [Nonconfidential institutional documentation provided to OEMLAC by email].

Study Database

Latin America and the Caribbean Methane Emissions Observatory, & Latin American and Caribbean Energy Organization. (2026). *NOCs—2026 review* [Unpublished database].

ANNEXES



Annex 1. Companies Included and Documentary Coverage of the Assessment

This annex identifies the documentation used for each component and the principal timing, availability, and source-related constraints that should be considered when interpreting the results. [1] Period covered by the most recent corporate report; this is neither the publication date nor the date of supplementary thematic documentation. [2] Dates or validity periods of the instruments listed; these do not always correspond to the year of publication. 'n.d.' indicates that no date was identified. For YPF, 2025 is the period covered by the report published in 2026; for BNECL, 2019 refers to the national policy, not the corporate objectives.

Country	Company	Profile	Oil	Gas	Planning Reviewed	Date[2]	Reporting Reviewed	Period[1]	Documentary Constraint
Argentina	**YPF**	Integrated oil and gas	Upstream, Midstream, Downstream	Upstream, Midstream, Downstream	Commitment to Climate Action and Energy Efficiency; 2025 Sustainability Report	2021 / 2025	2025 Sustainability Report	2025	The 2025 Sustainability Report contains forward-looking sections used for planning and retrospective content used for reporting; these were separated according to their documentary function.
Barbados	**BNECL**	Integrated oil and gas	Upstream, Midstream, Downstream	Upstream, Midstream, Downstream	BNECL Corporate Sustainability Goals, together with the Barbados National Energy Policy 2019–2030 and its Implementation Plan as a complementary national framework	n.d. / 2019	Annual Report and Audited Statements 2025	2025	The date of the national policy is not attributed to the undated corporate objectives. The BNOCL/BNTCL–BNECL transition affects continuity of the reporting series.
Bolivia	**YPFB Andina**	Integrated oil and gas	Upstream	Upstream, Midstream	Institutional information provided by YPFB Andina S.A. on emissions policies, strategies, and management. Planning document not directly reviewed.	2026	Annual Report 2024–2025; Environmental Performance 2025	2025	Information provided by YPFB Andina in 2026 on emissions policies, strategies, and management was used. The planning document was not directly reviewed; the matrix records 'No' under 'Document Reviewed.' The reporting documentation for 2025 was reviewed.
Brazil	**Petrobras**	Integrated oil and gas	Upstream, Midstream, Downstream	Upstream, Midstream, Downstream	2026–2030 Business Plan, within the framework of the 2050 Strategic Plan	2025	Sustainability Report 2025; ESG Datasheet 2025; Management Report 2025	2025	Planning and reporting share the same reference year (2025), although this does not imply an automatic correspondence between each commitment and result.
Chile	**ENAP**	Integrated oil and gas	Upstream, Midstream, Downstream	Upstream, Midstream, Downstream	Sustainability Policy.	2014–2025 / n.d.	ENAP Integrated Report 2025; ENAP Sipetrol Integrated Annual Report 2025; ENAP Refineries Integrated Report 2025	2025	The policy states a 2014–2025 validity period; no formal date was identified for the strategic framework or web-based plan. Temporal alignment with the 2025 report is not assumed.
Colombia	**Ecopetrol**	Integrated oil and gas	Upstream, Midstream, Downstream	Upstream, Midstream, Downstream	Environmental Strategy Standard – HSE Management System	2021	Integrated Management Report 2025	2025	Planning: 2021; reporting: 2025. The chronological sequence supports a longitudinal interpretation without, by itself, implying complete traceability.
Ecuador	**EP Petroecuador**	Integrated oil and gas	Upstream, Midstream, Downstream	Upstream, Midstream, Downstream	Corporate Decarbonization and Sustainability Plan 2023–2030, Corporate Strategic Plan 2024–2025, and OGMP 2.0 Implementation Plan 2025	2023 / 2024 / 2025	Corporate Sustainability Report 2020. Supplementary thematic evidence: ZNR Company Reporting, July 2026.	2020	The planning instruments postdate the 2020 public corporate report. The 2026 thematic evidence expands the documentary corpus but does not replace that report or demonstrate comprehensive monitoring of the plan.
Jamaica	**Petrojam**	Oil	Midstream and Downstream	Not applicable	Corporate Strategies 2025–2029 and Summary Operational Plan 2026/27, supplemented by the Ministry of Energy's Sectoral Presentation 2025	2025 / 2026	Annual Report 2021–2022	2022	The planning assessed (2026) postdates the report (2022). This time lag must be considered, and automatic monitoring of the plan should not be assumed.

Mexico	**PEMEX**	Integrated oil and gas	Upstream, Midstream, Downstream	Upstream, Midstream, Downstream	Petróleos Mexicanos Sustainability Plan	2024	Sustainability Report 2024	2024	Planning and reporting share the same reference year (2024), although this does not imply an automatic correspondence between each commitment and result.
Peru	**Petroperú**	Integrated oil and gas	Upstream, Midstream, Downstream	Upstream, Midstream, Downstream	PETROPERÚ Corporate Strategic Plan 2023–2050, Annual and Five-Year Objectives 2023–2027, and Integrated Quality, Environment, Process Safety, and Occupational Health and Safety Management Policy	2023 / 2025	Sustainability Report 2024	2024	Planning: 2023; reporting: 2024. The chronological sequence supports a longitudinal interpretation without, by itself, implying complete traceability.
Suriname	**Staatsolie**	Integrated oil and gas	Upstream, Midstream, Downstream	Upstream	Decarbonization Roadmap disclosed in the Sustainability Report 2023, together with the Staatsolie Bond 2025–2033 Prospectus as a supplementary source for continuity and updates	2023 / 2025	Sustainability Report 2025; Annual Report 2025	2025	Planning: 2023 / 2025; reporting: 2025. The planning reference combines more than one period, which must be considered in the interpretation.
Trinidad and Tobago	**HPCL**	Oil	Upstream, Midstream	Not applicable	Heritage Petroleum Company Limited Energy Transition Framework	2021	ESG Report 2024–2025; GRI Content Index 2024–2025	2025	Planning: 2021; reporting: 2025. The chronological sequence supports a longitudinal interpretation without, by itself, implying complete traceability.
Trinidad and Tobago	**NGC**	Gas	Not applicable	Midstream, Downstream	Corporate Profile, NGC Group Sustainability Strategy, Green Agenda, and 'NGC's Facilitation of Point Lisas 2.0' strategic framework	2022	Sustainability Report 2023	2023	Planning: 2022; reporting: 2023. The chronological sequence supports a longitudinal interpretation without, by itself, implying complete traceability.
Uruguay	**ANCAP**	Integrated oil and gas	Upstream, Midstream, Downstream	Midstream, Downstream	Corporate Strategic Map / Balanced Scorecard (BSC)	2022	Annual Report 2025; Sustainability Report 2019	2025	Planning: 2022; reporting: 2025. The chronological sequence supports a longitudinal interpretation without, by itself, implying complete traceability.

Source: Compiled by the author from the evidence reviewed.

Annex 2. Planning Evidence by Company

The matrix presents the six criteria used to assess planning.
The values represent documentary evidence: 0 = not identified; 1 = general, partial, or indirect; 2 = clear, specific, and verifiable.

Company	Methane	Targets	Planned Actions	Responsible Parties	Monitoring / MRV	Fram.	Assessment 0–10	Level
ANCAP	0	1	0	0	1	0	1.7	Incipient
BNECL	2	2	1	0	1	0	5	Intermediate
Ecopetrol	2	2	2	2	2	2	10	Consolidated
ENAP	1	1	0	1	1	1	4.2	Intermediate
EP Petroecuador	2	2	2	2	2	2	10	Consolidated
HPCL	2	1	2	1	2	2	8.3	Consolidated
NGC	2	1	2	1	2	2	8.3	Consolidated
PEMEX	2	2	2	2	2	2	10	Consolidated
Petrobras	2	2	2	2	2	2	10	Consolidated
Petrojam	1	1	1	0	0	0	2.5	Basic
Petroperú	1	1	1	1	1	1	5	Intermediate
Staatsolie	2	2	2	2	2	2	10	Consolidated
YPF	2	2	2	2	2	2	10	Consolidated
YPFB Andina	1	1	1	1	1	2	5.8	Intermediate

Source: Compiled by the author from the evidence reviewed.
Note. For YPF, the forward-looking sections of the 2025 Sustainability Report were incorporated as planning evidence, while the sections used to assess implementation and results were kept separate.

Annex 3. Reporting Evidence by Company

The matrix presents the eight criteria used to assess reported information on implementation, measurement, progress, and results.

Company	Frequency	Methane	Targets	Data	Progress	Actions	Responsible Parties	Fram.	Assessment 0–10	Level
ANCAP	1	1	1	0	1	1	2	1	5	Intermediate
BNECL	2	2	1	1	1	1	1	1	6.3	Advanced
Ecopetrol	2	2	2	2	2	2	2	2	10	Consolidated
ENAP	2	2	1	2	2	2	2	2	9.4	Consolidated
EP Petroecuador	1	1	2	2	2	2	2	2	8.8	Consolidated
HPCL	2	2	2	2	2	2	2	2	10	Consolidated
NGC	1	2	2	2	2	2	1	2	8.8	Consolidated
PEMEX	1	2	2	2	2	2	2	2	9.4	Consolidated
Petrobras	2	2	2	2	2	2	2	2	10	Consolidated
Petrojam	1	1	1	0	1	1	2	1	5	Intermediate
Petroperú	1	2	1	2	1	1	2	2	7.5	Advanced
Staatsolie	2	2	2	2	2	2	2	2	10	Consolidated
YPF	2	2	2	2	2	2	2	2	10	Consolidated
YPFB Andina	1	1	0	1	2	2	2	2	6.9	Advanced

Source: Compiled by the author from the evidence reviewed.

Annex 4. Documentary Maturity and the Relationship Between Planning and Reporting

Documentary maturity integrates seven evidence dimensions. The relationship between planning and reporting provides a complementary interpretation and does not constitute an additional assessment value.

Company	Plan.	Rep.	Avail.	CH_4	Targ.	Act. & Prog.	Fram.	Freq.	Inst. Trace.	Maturity	Level	Type of Relationship
ANCAP	1.7	5	2	1	1	1	1	1	2	6.4	Advanced	Reporting develops aspects addressed more generally in planning
BNECL	5	6.3	2	2	2	1	1	2	1	7.9	Advanced	Reporting develops aspects addressed more generally in planning
Ecopetrol	10	10	2	2	2	2	2	2	2	10	Consolidated	Planning and reporting connect commitments, actions, and results
ENAP	4.2	9.4	2	2	1	2	2	2	2	9.3	Consolidated	Reporting develops aspects addressed more generally in planning
EP Petroecuador	10	8.8	1	2	2	2	2	1	2	8.6	Consolidated	Planning currently provides more comprehensive documentary coverage
HPCL	8.3	10	2	2	2	2	2	2	2	10	Consolidated	Planning and reporting connect commitments, actions, and results
NGC	8.3	8.8	2	2	2	2	2	1	2	9.3	Consolidated	Planning and reporting connect commitments, actions, and results
PEMEX	10	9.4	2	2	2	2	2	1	2	9.3	Consolidated	Planning currently provides more comprehensive documentary coverage
Petrobras	10	10	2	2	2	2	2	2	2	10	Consolidated	Planning and reporting connect commitments, actions, and results
Petrojam	2.5	5	2	1	1	1	1	1	2	6.4	Advanced	The relationship between planning and reporting is constrained by timing or the type of evidence
Petroperú	5	7.5	2	2	1	1	2	1	2	7.9	Advanced	Reporting develops aspects addressed more generally in planning
Staatsolie	10	10	2	2	2	2	2	2	2	10	Consolidated	Planning and reporting connect commitments, actions, and results
YPF	10	10	2	2	2	2	2	2	2	10	Consolidated	Planning and reporting connect commitments, actions, and results
YPFB Andina	5.8	6.9	2	1	1	2	2	1	2	7.9	Advanced	The relationship between planning and reporting is constrained by timing or the type of evidence

Source: Compiled by the author from the evidence reviewed.

Annex 5. Methane Targets, Actions, and Monitoring Mechanisms

This annex presents, by company, the elements used to examine the relationship between planned measures and subsequently reported information, while keeping commitments, actions, and results separate.

Company	Treatment of Methane	Principal Target or Commitment	Planned / Documented Actions	Reported Result or Progress	Monitoring and Responsible Parties	Principal Documentary Limitation
ANCAP	Not identified in planning; indirect and aggregated in reporting.	Guidance on efficiency, carbon reduction, and the energy transition; no methane-specific target.	Audits/certification of GHG calculations, gaseous emissions software, environmental monitoring, and energy efficiency.	No separate CH_4 data or results were identified.	Environment, Safety, Health, and Quality Management; Energy Transition Management; General Management and Board of Directors.	Evidence remains aggregated under GHG and environmental management; no specific methane detection or reduction actions were identified.
BNECL	Explicit, within a broad sustainability agenda.	Net-zero carbon operations by 2040 or earlier; references to methane emissions reduction and biogas/biomethane development, without a quantified CH_4-specific target.	Development of low-carbon projects and BRIDGE; lines of action concerning leak reduction and biogas/biomethane.	The report indicates a 33% decrease in operational GHG emissions between 2021 and 2023; this is not a methane-specific result.	Board of Directors and senior management; methane-specific monitoring remains general.	The BNOCL/BNTCL–BNECL transition affects historical continuity, and several methane references remain general.
Ecopetrol	Explicit and distinct.	Planning: reduction of fugitive and vented emissions, primarily methane, and inventory updating/verification. 2025 reporting: 45% reduction by 2025 and 55% by 2030 for directly operated production assets, together with progress toward zero methane emissions and zero routine flaring.	LDAR, bottom-up and top-down measurements, infrared cameras, laser spectroscopy, sensors, aircraft, satellites, and reduction projects.	Sixty-one methane initiatives and projects between 2020 and 2025; reported cumulative reduction of 46% relative to 2019 in production. The source distinguishes approximately 21 $ktCH_4$ consolidated in the 2025 inventory from 14 $ktCH_4$ whose effect will be fully reflected in 2026 (Integrated Management Report 2025, p. 174).	Board of Directors and corporate and operational areas; OGMP 2.0, inventories, and indicators support monitoring.	The relationship is broadly identifiable, but future monitoring requires comparable coverage and methodological criteria to be maintained.
ENAP	General in planning; explicit in reporting.	Corporate GHG targets: 25% reduction by 2035 and 50% by 2050, relative to 2023; no methane-specific corporate target.	Measurement under OGMP, source monitoring and control, flare gas recovery, electrification, and integrity controls.	No quantified CH_4-specific reduction is reported; numerical results are presented primarily as GHG emissions.	Board of Directors, Sustainability Committee, Corporate Environmental Management, and operational management units.	Differences pending reconciliation: 'other combustion,' 82,211 tCO_2e in the corporate report compared with 84,211 tCO_2e in the Sipetrol report (difference: 2,000 tCO_2e); fugitive emissions, 'Not calculated' compared with 'Not applicable.' References recorded: ENAP 2025, pp. 238–241; Sipetrol 2025, pp. 45–46 and 74. These differences did not alter the assessments.
EP Petroecuador	Explicit and specific in planning; earlier public report.	30% reduction in methane emissions by 2028, relative to 2023; flaring reduction and associated gas utilization.	OGI, Q-OGI, TDLAS, Hi-Flow, airborne sensors, future LDAR implementation, flaring reduction, and associated gas utilization.	The 2020 report documents associated gas utilization, diesel substitution, and flaring reduction; recent methane-specific evidence comes from subsequent instruments.	Corporate Decarbonization and Sustainability Committee and corporate indicators; institutional reactivation and strengthening in 2026.	A time lag exists between 2023–2025 planning and the most recent public corporate report from 2020; recent continuity is supplemented by institutional information.
HPCL	Explicit in planning and reporting.	Reporting: 30% reduction in Scope 1 methane by 2026 and 40% reduction in carbon intensity by 2030, relative to FY 2021–2022 (GRI 102-4). The 2021 framework established a 2020 baseline and 2030 horizon, with magnitudes still to be defined.	Measurement of fugitive and vented emissions, OGI, drones, flare efficiency, vent-to-flare conversion, an electric compressor, and VRU assessment.	The 16.3% figure is supported by GRI 102-4-i, p. 22: (179,963.31 + 50,885.28) / 1,412,464.12 × 100 = 16.3437%. The baseline is FY 2021–2022 Scope 1 methane (102-4-h, p. 21). GP1 contributes a	CEO, Board of Directors, HSE, and corporate committees; monitoring through indicators and reporting frameworks.	Part of the strategic framework is not available as a stand-alone document, and some reductions are expected project values.

		GRI 11.2.3 presents another 2030 GHG target; the formulations are not treated as equivalent.		reported reduction of 179,963.31 tCO_2e/year; GS-37, an expected reduction of 50,885.28 tCO_2e/year. The percentage combines both components and does not measure a year-over-year change in the inventory. Source: GRI Content Index 2024–2025, pp. 21–22.		
NGC	Explicit in planning and reporting.	Relative to 2021: reduce routine venting by 75%, fugitive emissions by 50%, and total methane from operated assets by 25% by 2025. The President's message places the first two percentages in 2030; the report does not explain the relationship between the two timeframes (Sustainability Report 2023, pp. 5, 8, and 84–94).	Asset-level inventories, direct measurement, improved emission factors, LDAR, inspections, repair verification, proactive monitoring, and preventive maintenance.	13.43 thousand tCO_2e of methane in 2023, 21% less than in 2022.	Asset-level monitoring under OGMP 2.0 and the Corporate Sustainability Division; Sustainable Development & Strategic Branding function. Specific responsibility for methane targets is not fully identified.	Specific methane responsibilities are assigned in less detail, and the most recent report assessed covers 2023.
PEMEX	Explicit and distinct.	30% reduction in methane intensity by business line by 2030 vs. 2020; gas utilization ≥98%; zero routine flaring in exploration and production by 2030.	LDAR, direct/remote measurement, satellites and aerial surveys, VRUs, gas utilization and reinjection, compressor maintenance, and equipment replacement/electrification.	Total methane emissions were 12.9% lower in 2024 than in 2023.	Sustainability Committee, Chief Executive Officer, corporate directorates, general directorates, and operational areas.	No 2025 sustainability report was identified by the review cutoff date, and part of the repository was subject to access restrictions.
Petrobras	Explicit and distinct.	Upstream methane intensity of 0.20 tCH_4/thousand tonnes of hydrocarbons by 2030; Near Zero Methane 2030 and Zero Routine Flaring.	Reduction of flaring, fugitive emissions, and venting; equipment replacement/electrification; flare gas recovery; and OGMP 2.0 monitoring.	2025 intensity: 0.23 tCH_4/thousand tHC, below the annual commitment of 0.25, although above the 2024 value.	Executive Directorate for Energy Transition and Sustainability; defined monitoring indicators and time horizons.	References and actions must be distinguished by function; not all associations or frameworks imply operational application.
Petrojam	Indirect and limited.	Carbon Resilience and environmental footprint reduction, without a quantified methane-specific target.	Oil-loss program, tank and plant repair and inspection; emissions-control projects appear mainly as future initiatives.	No methane reduction is reported. The report presents operational losses and notes that high flaring levels contributed to the result.	Safety, Environment & Quality Department; Strategic Planning and Business Support; General Management and Board of Directors.	Planning for 2025–2029/2026–27 postdates the 2022 report; operational measures are not presented as a methane-specific mitigation program.
Petroperú	General in planning; explicit in the reporting inventory.	Reduce GHG intensity by 15% by 2030, with a 2025 baseline under the ESG Plan. The intensity denominator is not identified in the matrix evidence summary. This is not a CH_4-specific target.	2024 inventory with CH_4 quantified by source; carbon-footprint verification and ESG Plan monitoring.	Progress under the ESG Plan is reported, but no methane-specific mitigation results are provided.	Sustainability Projects and Energy Transition Management; ESG Plan and GHG inventory monitoring mechanisms.	CH_4 quantification is clear, but targets and results remain aggregated under GHG emissions and do not allow a methane-specific reduction to be tracked.
Staatsolie	Explicit in planning and reporting.	20% reduction in GHG intensity by 2030 vs. 2021, supplemented by commitments on flaring, venting, reinjection, and methane monitoring at assets/projects.	VRU, gas recovery, venting and flaring management, compression, and use of process off-gas; GranMorgu incorporates full reinjection, a closed flare system, and continuous monitoring as future design features.	The VRU became fully operational in 2025; the increase in upstream emissions is attributed to more comprehensive quantification. Corporate Scope 1 intensity reduction of 0.78%.	Executive Committee, Supervisory Board, ESG Committee, and Corporate HSE Division.	Operational measures must be distinguished from features of projects still under development; no quantified CH_4-specific reduction is reported.
YPF	Explicit in planning and reporting.	Planning: 30% reduction in absolute CH_4 emissions by 2030, relative to 2021; zero routine flaring in Upstream by 2030; net-zero Scope 1 and 2 ambition by 2050.	LDAR, VRUs, capture of vented gas, flaring reduction, electrification, and inventory improvements.	53,466 tCH_4 in 2025; 19% less than in 2024. The report also presents comparisons with 2021.	Risk and Sustainability Committee, Executive Committee, Vice Presidency of New Energies, Sustainability and Energy Transitions Directorate, and	The 2025 Sustainability Report serves two documentary functions; forward-looking and retrospective content was separated to prevent double counting.

					business lines; annual or biennial milestones.	
YPFB Andina	General or indirect; greater methodological specificity.	No quantified CH_4-specific target was identified. Planning demonstrates a commitment to emissions quantification, monitoring, and management.	GHG Emissions Management System; expanded inventory; IOGP factors; progressive application of OGMP 2.0; organizational carbon footprint.	The Annual Report 2024–2025 reports 261,724 tCO_2e of GHG emissions for the period, not CH_4 separately. It attributes the increase relative to 2022 to greater methodological precision. The scopes included in this figure require confirmation; it is not presented as a methane reduction (pp. 63–65).	Quality, Health, Safety, Environment, and CSR Management and its departments; environmental monitoring reports.	The institutional planning provided in 2026 postdates the 2025 report; abatement measures should not be inferred from equipment serving a production function.

Source: Compiled by the author from the evidence reviewed.

Annex 6. Frameworks, Standards, and Initiatives: Presence and Documented Linkages

Mention of a framework alone is not interpreted as formal adherence, comprehensive application, or certification. The table distinguishes its presence from how it can be linked through documentation to methodologies, targets, actions, or monitoring.

Company	Plan. 0–2	Rep. 0–2	Quantification and Measurement	Disclosure and Reporting	Commitments and Initiatives	Continuity and Traceability Considerations
ANCAP	0	1	GHG Protocol; UNIT; AENOR; ISO/IEC 17025	—	UN Global Compact; ARPEL; UNFCCC; 2030 Agenda/SDGs	Linkages remain concentrated in GHG emissions, environmental management, and general sustainability; future publications will show whether a more specific connection to CH_4 develops.
BNECL	0	1	—	GRI and TCFD: planned alignment, not demonstrated application in the 2025 report.	Barbados National Energy Policy 2019–2030; Paris Agreement; 2030 Agenda/SDGs	Methane linkages remain primarily within a broader sustainability agenda; some disclosure references are presented as future alignments.
Ecopetrol	2	2	GHG Protocol; ISO 14064-1; OGMP 2.0	GRI; SASB; TCFD; Ipieca; CDP; OGMP 2.0	Global Methane Initiative; CCAC; OGMP 2.0; Aiming for Zero Methane Emissions; OGDC; Zero Routine Flaring	Comparability across periods requires changes in coverage, scope, and measurement methodology to remain identifiable.
ENAP	1	2	ISO 14064; IPCC; OGMP	GRI/GRI 11; SASB; NCG 461/519	OGMP; UN Global Compact	Application of the frameworks is more developed in reporting than in planning; future monitoring depends on keeping the relationship between the two components identifiable.
EP Petroecuador	2	2	ISO 14064; GHG Protocol; OGMP 2.0	GRI; OGMP 2.0	Zero Routine Flaring; Global Methane Pledge; Ecuador Carbon Zero Program; Paris Agreement/NDC	Current planning instruments postdate the most recent public corporate report; continuity must therefore be interpreted in light of this time lag.
HPCL	2	2	GHG Protocol; ISO 14064-1; API; IPCC; DEFRA; ecoinvent	GRI; CDP; AA1000; ISAE 3000; OGMP 2.0	OGMP 2.0/Gold Standard; Sustainability-Linked Bond/Loan Principles; UNFCCC; Paris Agreement/NDC	Evidence is distributed between the 2021 Energy Transition Framework and subsequent reports; keeping this sequence identifiable facilitates tracking the evolution of the frameworks applied.
NGC	2	2	GHG Protocol; API Compendium; IPCC/AR6; OGMP 2.0	GRI/GRI 11; IFRS S1/S2; SASB; OGMP 2.0	OGMP 2.0/Gold Standard	The most recent report assessed covers 2023; continuity of these linkages must be examined in subsequent publications.
PEMEX	2	2	Ipieca/API/IOGP guidance; ISO 14001/50001; ASEA	GRI; TCFD; CDP; IFRS S1/S2	Global Methane Pledge; Mexico's NDC; Paris Agreement	The documentation combines technical and disclosure references with climate commitments; their respective functions and evolution should remain distinct in subsequent publications.
Petrobras	2	2	GHG Protocol; ISO 14064-1; IPCC; OGMP 2.0	GRI/GRI 11; SASB; TCFD; Ipieca	Gold Standard Pathway; Near Zero Methane 2030; Zero Routine Flaring; OGCI; OGDC; OGMP 2.0	Evidence is distributed across planning, reporting, and supplementary documents; distinguishing the function of each framework facilitates tracking its application and evolution.
Petrojam	0	1	—	—	Jamaica National Energy Policy	The available evidence places management within a general energy framework; continuity of more specific linkages will depend on subsequent publications.

Petroperú	1	2	GHG Protocol; ISO 14064-1; IPCC; RAGEI/Infocarbono	GRI/GRI 11; TCFD	National Energy Policy; Paris Agreement; SDGs	Traceability is clearer for GHG quantification and disclosure than for connections to CH_4-specific targets or results.
Staatsolie	2	2	ISO 14001; EMMP	TCFD; Ipieca	Zero Routine Flaring by 2030; Brighter Impact Model; Suriname's NDC; SDGs	Relevant evidence is distributed across the roadmap, reports, and project documentation; integrating these sources makes the planning-to-implementation sequence easier to track.
YPF	2	2	GHG Protocol	GRI/GRI 11; SASB; TCFD	OGDC; Paris Agreement	Evidence is distributed across planning and reporting instruments; the function of each reference and continuity between forward-looking content and results should remain distinct.
YPFB Andina	2	2	IOGP; GHG Protocol; OGMP 2.0	OGMP 2.0	OGMP 2.0	Some evidence is distributed across public and supplementary institutional documentation; maintaining this sequence facilitates tracking methodological development.

Source: Compiled by the author from the evidence reviewed.

Annex 7. Changes in Evidence Identified During the 2025–2026 Review

The changes in this table describe the evolution of the evidence compiled, not an automatic change in corporate performance.

Company	Information Incorporated or Clarified	What It Clarified	Remaining Gap or Caveat
ANCAP	The 2025 Annual Report updated environmental management, responsible structures, emissions software, and GHG audits.	Updates the evidence on institutional arrangements and environmental monitoring.	Methane remains addressed indirectly and in aggregate, without separate CH_4 targets, actions, or results.
BNECL	The Annual Report and Audited Statements 2025 was incorporated, and the transition from BNOCL/BNTCL to BNECL was reassessed.	Expands evidence on GHG emissions, strategy, and the BRIDGE project and allows corporate continuity to be reconstructed.	The reporting series under the BNECL name is recent and does not present a quantified methane-specific reduction.
Ecopetrol	The Integrated Management Report 2025 was incorporated, with updated targets, initiatives, measurements, and results.	Strengthens the relationship among targets, measurement, actions, and results.	Comparable coverage and methodological criteria should be maintained in future reviews.
ENAP	The ENAP Integrated Report 2025, Sipetrol Integrated Annual Report 2025, and ENAP Refineries Integrated Report 2025 were incorporated.	Expands evidence on measurement, sources, and actions.	Results remain primarily aggregated under GHG emissions, and certain figures differ across documents.
EP Petroecuador	The Decarbonization Plan 2023–2030, OGMP 2.0 Implementation Plan 2025, and institutional information from 2026 were incorporated.	Supports characterization of recent planning and institutional continuity after the 2020 report.	The time lag with the most recent public corporate report persists.
HPCL	The ESG Report 2024–2025 and GRI Content Index 2024–2025 were incorporated.	Provides evidence on measurement, OGI, drones, flare efficiency, and project results or expected reductions.	Achieved results must be distinguished from expected reductions; part of the strategic framework is not available as a stand-alone document.
NGC	The 2022 strategy and Sustainability Report 2023 were reexamined, recovering evidence on OGMP 2.0, inventories, direct measurement, LDAR, and targets.	Strengthens the interpretation of planning, reporting, and the relationship between them.	The most recent report assessed covers 2023; subsequent continuity must be verified.
PEMEX	The 2024 Sustainability Plan and Sustainability Report 2024 were reviewed in greater detail through institutional channels.	Clarifies methane targets, actions, responsible parties, monitoring, and results.	No 2025 sustainability report was identified, and part of the repository was subject to access restrictions.
Petrobras	The Sustainability Report 2025, ESG Datasheet 2025, and Management Report 2025 were incorporated.	Updates methane intensity, OGMP 2.0 monitoring, flare gas recovery, and flaring reduction.	The 2025 intensity was below the annual commitment but above the 2024 value; both references should be retained.
Petrojam	Corporate Strategies 2025–2029 and Summary Operational Plan 2026/27 were incorporated, and the Annual Report 2021–2022 was reexamined.	Supports a clearer interpretation of the case and the time lag between planning and reporting.	Methane-specific targets, measurement, or measures were not identified with the same level of detail as in other cases.
Petroperú	It was clarified that the 2024 inventory quantifies and disaggregates CH_4 by source, and the carbon footprint, ESG Plan, and institutional arrangements were reviewed.	Strengthens the interpretation of methane quantification.	No methane-specific mitigation actions or results were identified, and no 2025 report was identified.
Staatsolie	The 2025 reports distinguished the operational VRU from features planned for GranMorgu and updated information on venting/flaring management.	Improves the distinction among implemented measures, measurement changes, and future projects.	Part of the planning remains distributed across the roadmap, reports, and project documentation.

YPF	The 2025 Sustainability Report was incorporated, and its forward-looking sections were confirmed as part of the corporate planning framework.	Planning increases to 10/10, placing YPF among the companies where planning and reporting connect commitments, actions, and results.	Forward-looking and retrospective sections should remain separate to prevent double counting.
YPFB Andina	The Annual Report 2024–2025, Environmental Performance 2025, and 2026 institutional information on the GHG system, IOGP, and OGMP 2.0 were incorporated.	Strengthens the interpretation of quantification, methodology, and monitoring.	The 2026 institutional planning postdates the 2025 report; no quantified CH_4 target or specific abatement measure was identified with equal clarity.

Source: Compiled by the author from the evidence reviewed.

Annex 8. Operating Segments and Documented Methane Practices

This annex presents the practices, technologies, and mechanisms identified in the documentation reviewed for the 14 companies. Quantification, measurement, detection, and monitoring practices are presented separately from mitigation measures to avoid treating them as equivalent.

- Legend: ● clear, specific, and verifiable evidence; ◐ general, indirect, planned, or limited-attribution evidence; — evidence not identified in the sources reviewed.
- Abbreviations: O = oil; G = gas; U = upstream; M = midstream; D = downstream; N/A = not applicable.

A8.1 Quantification, Measurement, Detection, and Monitoring

Table A8.1a. Inventories and Quantification Methods

Company	Operating Segments	Emissions Inventory	CH_4 Quantification	Emission Factors	Direct Measurement	Remote Measurement	Bottom-Up Measurement	Top-Down Measurement
ANCAP	O: U/M/D | G: M/D	◐	—	—	—	—	—	—
BNECL	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
Ecopetrol	O: U/M/D | G: U/M/D	●	●	—	●	—	●	●
ENAP	O: U/M/D | G: U/M/D	◐	◐	—	—	—	—	—
EP Petroecuador	O: U/M/D | G: U/M/D	●	●	—	●	—	—	—
HPCL	O: U/M | G: N/A	●	●	—	●	—	—	—
NGC	O: N/A | G: M/D	●	●	●	●	—	—	—
PEMEX	O: U/M/D | G: U/M/D	●	●	—	●	●	—	—
Petrobras	O: U/M/D | G: U/M/D	●	●	—	●	—	—	—
Petrojam	O: M/D | G: N/A	—	—	—	—	—	—	—
Petroperú	O: U/M/D | G: U/M/D	●	●	—	—	—	—	—
Staatsolie	O: U/M/D | G: U	◐	◐	—	—	—	—	—
YPF	O: U/M/D | G: U/M/D	●	●	—	—	—	—	—
YPFB Andina	O: U | G: U/M	●	●	●	—	—	—	—

Source: Compiled by the author from the evidence reviewed.

Table A8.1b. Monitoring, Leak Detection, and Repair

Company	Operating Segments	Continuous Monitoring	Permanent Monitoring	LDAR	Leak Detection	Leak Repair	Repair Verification
ANCAP	O: U/M/D | G: M/D	◐	—	—	—	—	—
BNECL	O: U/M/D | G: U/M/D	—	—	—	—	—	—
Ecopetrol	O: U/M/D | G: U/M/D	●	—	●	●	—	—
ENAP	O: U/M/D | G: U/M/D	◐	—	—	◐	—	—
EP Petroecuador	O: U/M/D | G: U/M/D	—	—	◐	●	●	●
HPCL	O: U/M | G: N/A	—	—	—	●	—	—
NGC	O: N/A | G: M/D	●	—	●	●	●	●
PEMEX	O: U/M/D | G: U/M/D	—	—	●	●	●	●
Petrobras	O: U/M/D | G: U/M/D	—	—	—	●	—	—
Petrojam	O: M/D | G: N/A	—	—	—	—	—	—
Petroperú	O: U/M/D | G: U/M/D	—	—	—	—	—	—
Staatsolie	O: U/M/D | G: U	—	◐	—	●	—	—
YPF	O: U/M/D | G: U/M/D	—	—	●	●	●	—
YPFB Andina	O: U | G: U/M	—	—	—	—	—	—

Source: Compiled by the author from the evidence reviewed.

Table A8.1c. Field Measurement and Detection Technologies

Company	Operating Segments	OGI Cameras	Q-OGI	Optical Cameras	Infrared Cameras	TDLAS	Laser Spectroscopy	Hi-Flow	Portable Sensors	Ultrasonic Sensors
ANCAP	O: U/M/D | G: M/D	—	—	—	—	—	—	—	—	—
BNECL	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—	—	—
Ecopetrol	O: U/M/D | G: U/M/D	—	—	—	●	—	●	—	●	—
ENAP	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—	—	—
EP Petroecuador	O: U/M/D | G: U/M/D	●	●	—	—	●	—	●	—	—
HPCL	O: U/M | G: N/A	●	—	—	—	—	—	—	—	—
NGC	O: N/A | G: M/D	—	—	—	—	—	—	—	—	—
PEMEX	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—	—	—
Petrobras	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—	—	—
Petrojam	O: M/D | G: N/A	—	—	—	—	—	—	—	—	—
Petroperú	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—	—	—
Staatsolie	O: U/M/D | G: U	—	—	—	—	—	—	—	—	—
YPF	O: U/M/D | G: U/M/D	—	—	●	—	—	—	—	—	●
YPFB Andina	O: U | G: U/M	—	—	—	—	—	—	—	—	—

Source: Compiled by the author from the evidence reviewed.

Table A8.1d. Remote Monitoring and Complementary Methods

Company	Operating Segments	Drones	Satellite Monitoring	Aerial Surveys / Aircraft	Airborne Sensors	Flare-Efficiency Measurement	OGMP Measurement Reconciliation	Tank-Venting Assessment
ANCAP	O: U/M/D | G: M/D	—	—	—	—	—	—	—
BNECL	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
Ecopetrol	O: U/M/D | G: U/M/D	—	●	●	—	—	—	—
ENAP	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
EP Petroecuador	O: U/M/D | G: U/M/D	—	◐	—	●	—	●	—
HPCL	O: U/M | G: N/A	●	—	—	—	●	—	●
NGC	O: N/A | G: M/D	—	●	—	—	—	●	—
PEMEX	O: U/M/D | G: U/M/D	—	●	●	◐	—	—	—
Petrobras	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
Petrojam	O: M/D | G: N/A	—	—	—	—	—	—	—
Petroperú	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
Staatsolie	O: U/M/D | G: U	—	—	—	—	—	—	—
YPF	O: U/M/D | G: U/M/D	●	—	—	—	—	—	—
YPFB Andina	O: U | G: U/M	—	—	—	—	—	—	—

Source: Compiled by the author from the evidence reviewed.

A8.2 Documented Mitigation Practices

Table A8.2a. Measures Addressing Fugitive Emissions, Venting, and Flaring

Company	Operating Segments	Fugitive Emissions Reduction	Fugitive Emissions Control	Venting Reduction	Venting Elimination	Vent-to-Flare Conversion	Flaring Reduction	Zero Routine Flaring
ANCAP	O: U/M/D | G: M/D	—	—	—	—	—	—	—
BNECL	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
Ecopetrol	O: U/M/D | G: U/M/D	●	—	●	—	—	●	●
ENAP	O: U/M/D | G: U/M/D	—	—	—	—	—	◐	—
EP Petroecuador	O: U/M/D | G: U/M/D	—	—	—	—	—	●	●
HPCL	O: U/M | G: N/A	◐	—	●	—	●	—	—
NGC	O: N/A | G: M/D	●	—	●	—	—	—	—
PEMEX	O: U/M/D | G: U/M/D	●	—	●	—	—	●	●
Petrobras	O: U/M/D | G: U/M/D	●	—	●	—	—	●	●
Petrojam	O: M/D | G: N/A	—	◐	—	—	—	—	—
Petroperú	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
Staatsolie	O: U/M/D | G: U	—	—	●	●	●	●	●
YPF	O: U/M/D | G: U/M/D	●	—	—	—	—	●	●
YPFB Andina	O: U | G: U/M	—	—	—	—	—	—	—

Source: Compiled by the author from the evidence reviewed.

Table A8.2b. Gas Recovery, Utilization, and Reinjection

Company	Operating Segments	Vapor Recovery (VRU)	Flare Gas Recovery	Vented Gas Capture	Vented Gas Utilization	Associated Gas Utilization	Gas Reinjection	Fugitive Gas Recovery
ANCAP	O: U/M/D | G: M/D	—	—	—	—	—	—	—
BNECL	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
Ecopetrol	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
ENAP	O: U/M/D | G: U/M/D	—	●	—	—	—	—	—
EP Petroecuador	O: U/M/D | G: U/M/D	—	—	—	—	●	—	—
HPCL	O: U/M | G: N/A	◐	—	●	●	—	—	—
NGC	O: N/A | G: M/D	—	—	—	—	—	—	—
PEMEX	O: U/M/D | G: U/M/D	●	—	—	—	●	●	—
Petrobras	O: U/M/D | G: U/M/D	—	●	—	—	●	—	—
Petrojam	O: M/D | G: N/A	—	—	—	—	—	—	—
Petroperú	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
Staatsolie	O: U/M/D | G: U	●	●	●	●	—	◐	●
YPF	O: U/M/D | G: U/M/D	●	—	●	—	—	—	—
YPFB Andina	O: U | G: U/M	—	—	—	—	—	—	—

Source: Compiled by the author from the evidence reviewed.

Table A8.2c. Compression, Equipment, and Electrification

Company	Operating Segments	Compression Capacity Expansion	Compressor Installation	Wet-to-Dry Seal Conversion	Replacement of Leaking Equipment	Equipment Electrification	Asset Electrification
ANCAP	O: U/M/D | G: M/D	—	—	—	—	—	—
BNECL	O: U/M/D | G: U/M/D	—	—	—	—	—	—
Ecopetrol	O: U/M/D | G: U/M/D	—	—	—	—	●	●
ENAP	O: U/M/D | G: U/M/D	—	—	—	—	●	—
EP Petroecuador	O: U/M/D | G: U/M/D	—	—	—	—	—	—
HPCL	O: U/M | G: N/A	—	●	—	—	●	—
NGC	O: N/A | G: M/D	—	—	—	—	—	—
PEMEX	O: U/M/D | G: U/M/D	●	●	●	●	●	—
Petrobras	O: U/M/D | G: U/M/D	—	—	—	●	●	●
Petrojam	O: M/D | G: N/A	—	—	—	—	—	—
Petroperú	O: U/M/D | G: U/M/D	—	—	—	—	—	—
Staatsolie	O: U/M/D | G: U	●	—	—	—	—	—
YPF	O: U/M/D | G: U/M/D	—	●	—	—	●	—
YPFB Andina	O: U | G: U/M	—	—	—	—	—	—

Source: Compiled by the author from the evidence reviewed.

Table A8.2d. Tanks, Valves, and Maintenance

Company	Operating Segments	Tank Repair	Valve Inspection	Valve Control	Preventive Maintenance	Tankless Facilities
ANCAP	O: U/M/D | G: M/D	—	—	—	—	—
BNECL	O: U/M/D | G: U/M/D	—	—	—	—	—
Ecopetrol	O: U/M/D | G: U/M/D	—	—	—	—	●
ENAP	O: U/M/D | G: U/M/D	—	—	—	—	—
EP Petroecuador	O: U/M/D | G: U/M/D	—	—	—	—	—
HPCL	O: U/M | G: N/A	—	—	—	—	—
NGC	O: N/A | G: M/D	—	—	—	●	—
PEMEX	O: U/M/D | G: U/M/D	—	—	—	●	—
Petrobras	O: U/M/D | G: U/M/D	—	—	—	—	—
Petrojam	O: M/D | G: N/A	◐	◐	◐	—	—
Petroperú	O: U/M/D | G: U/M/D	—	—	—	—	—
Staatsolie	O: U/M/D | G: U	—	—	—	—	—
YPF	O: U/M/D | G: U/M/D	—	—	—	—	—
YPFB Andina	O: U | G: U/M	—	—	—	—	—

Source: Compiled by the author from the evidence reviewed.

Table A8.2e. Fuel Substitution, Reuse, and Combustion Efficiency

Company	Operating Segments	Diesel Substitution with Associated Gas	Reuse of Recovered Gas as Fuel	Reuse of Process Off-Gas as Fuel	Use of Recovered Gas for Enhanced Oil Recovery	Improved Flare Combustion Efficiency	Improved Burner Combustion Efficiency	Closed Flare System
ANCAP	O: U/M/D | G: M/D	—	—	—	—	—	—	—
BNECL	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
Ecopetrol	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
ENAP	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
EP Petroecuador	O: U/M/D | G: U/M/D	●	—	—	—	—	—	—
HPCL	O: U/M | G: N/A	—	—	—	●	—	—	—
NGC	O: N/A | G: M/D	—	—	—	—	—	—	—
PEMEX	O: U/M/D | G: U/M/D	—	—	—	—	●	●	—
Petrobras	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
Petrojam	O: M/D | G: N/A	—	—	—	—	—	—	—
Petroperú	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
Staatsolie	O: U/M/D | G: U	—	●	—	—	—	—	◐
YPF	O: U/M/D | G: U/M/D	—	—	—	—	—	—	—
YPFB Andina	O: U | G: U/M	—	—	—	—	—	—	—

Source: Compiled by the author from the evidence reviewed.

Note. A symbol indicates that the practice was identified in the documentation reviewed. It does not imply coverage across all company assets or segments or, by itself, confirm that the measure has been implemented. The symbol ◐ is used when the evidence concerns a planned, future, or ongoing action or has limited attribution. Implementation status, scope, and reported results are detailed in Annexes 5 and 7.

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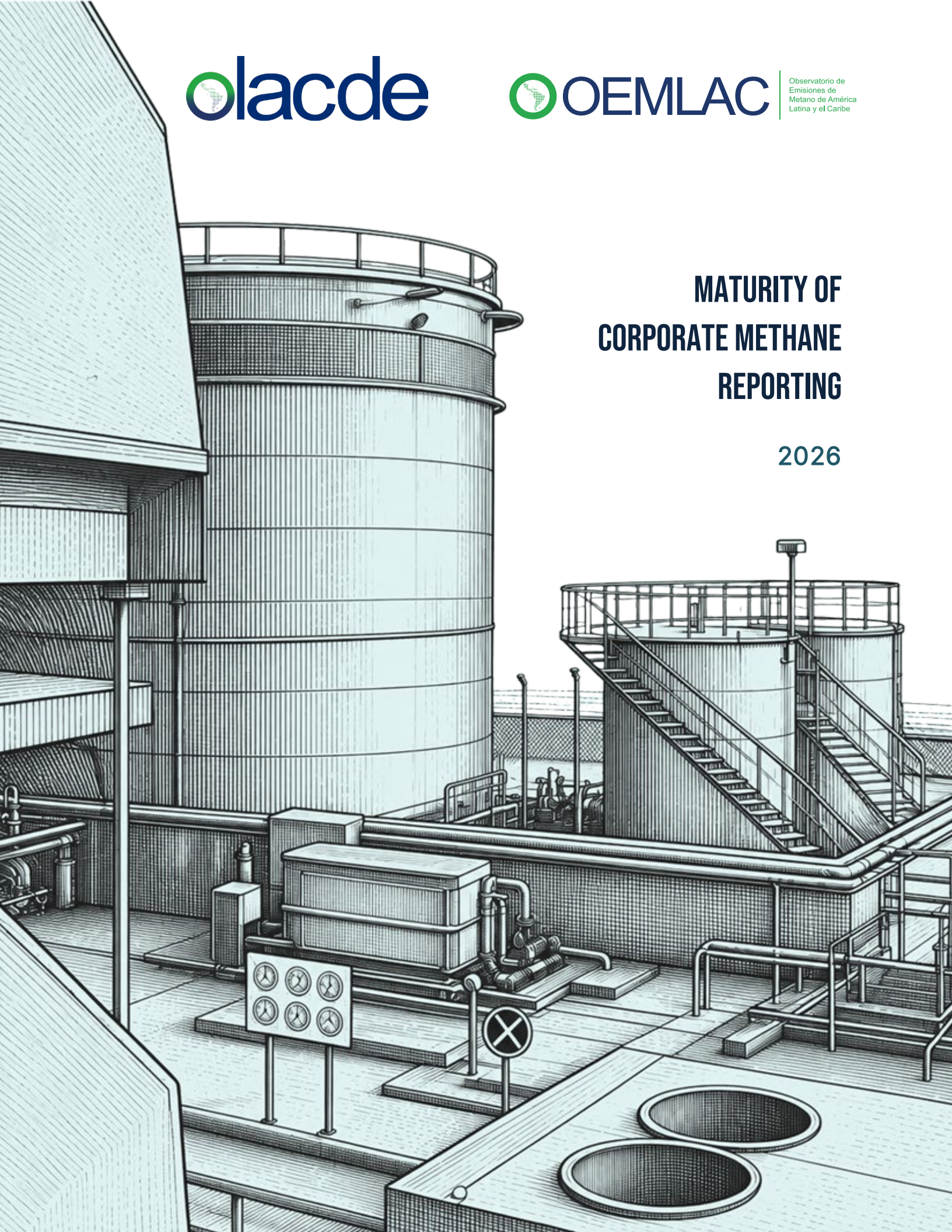
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