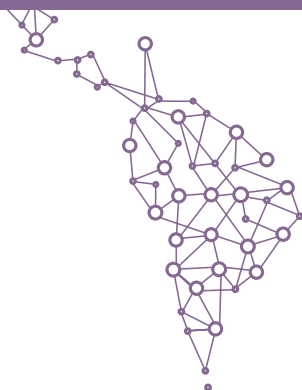
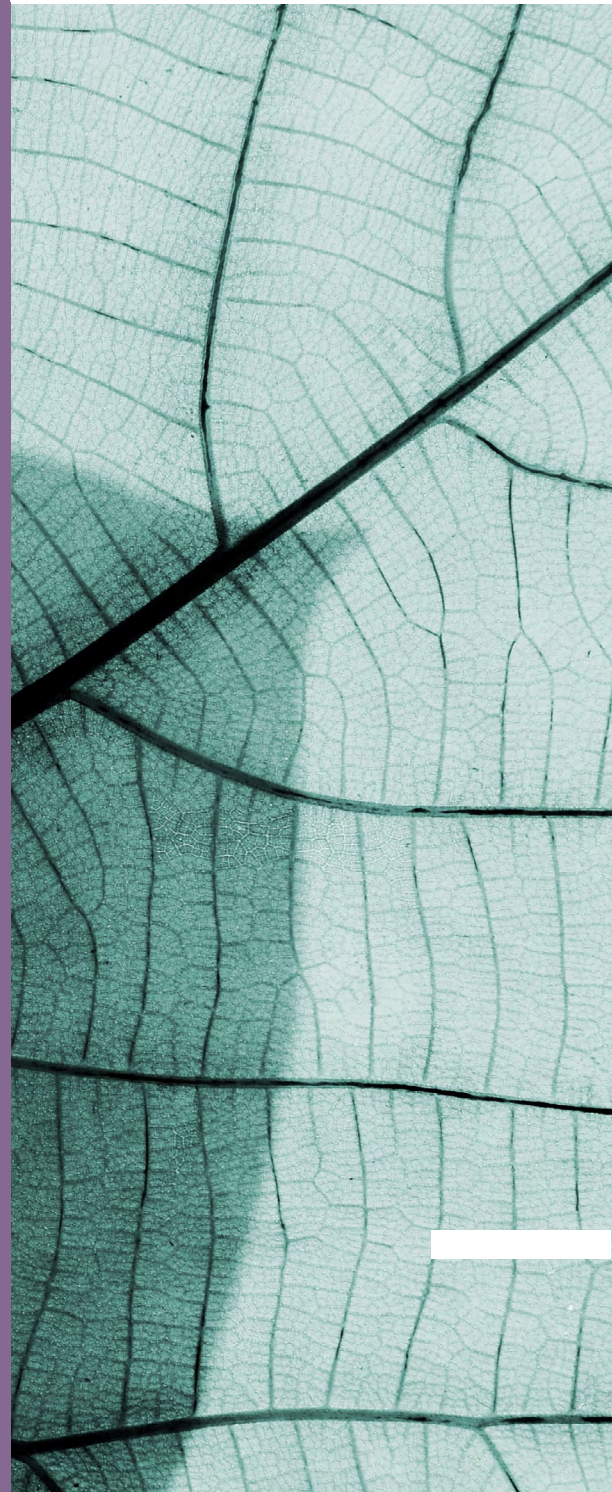


ARPEL upper management report on climate change

2018 Summary

March 2019

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EXECUTIVE REPORTS

Introduction

Since the signing of the Paris Agreement in 2015, the international community has been mainly focused on the definitions and advances on how it will be implemented from 2020, and on aligning the individual actions of the countries with the overall objective of the Agreement, which was already ratified by 184 countries out of a total of 197 that make up the United Nations Framework Convention on Climate Change (UNFCCC).

During 2018, several advances were made in this regard, which are summarized below in this document. Likewise, ARPEL experienced two milestones in the area of climate change: it had an informal and direct dialogue with the Executive Secretary of the UNFCCC, Ms. Patricia Espinosa, within the framework of the Latin America and the Caribbean Climate Week, held on August 20-23, 2018, in Montevideo, Uruguay; and participated as an observer organization in the 24th Conference of the Parties to the UNFCCC (COP 24), held on December 2-14, 2018, in Katowice, Poland.



Game rules

One of the main achievements in 2018 on climate change was the almost complete development of the **Paris Agreement Rules Book**, within the framework of COP24. This document represents the institutional framework with detailed guidelines for the implementation of the Agreement, and provides the necessary technical guidance to measure the levels of mitigation achieved, account for the climate finance provided from one nation to another and guarantee the transparency of the entire process.

More specifically, **countries should measure, report and review progress** in various areas, including: inventory of GHG (Greenhouse Gases) sources and sinks; progress in the implementation and achievement of contributions; climate impacts and adaptation; financial support; development and transfer of technology; and capacity building. Likewise, the rules grant flexibility to those developing countries that require it. The only issue still unfinished within the document is referred to as 'cooperative approaches and market mechanisms' (Article 6 of the Agreement). The detailed requirements on this subject will continue to be negotiated during COP25 in 2019.



National contributions

The nationally determined contributions (NDCs), are the commitments that each country voluntarily pledges to contribute to achieving the goals of the Paris Agreement, whose main objective is to maintain the global average surface temperature rise in 2100 to less than 2°C with efforts towards 1.5°C compared to the pre-industrial era.

As of today, the commitments set are insufficient to meet the objective of the Paris Agreement, since they will result in temperature rise of more than 3°C to 2100. Despite the fact that at COP24 it was not made explicit that **countries should reinforce their ambitions**, they

were invited to do so, assuming more demanding commitments before 2020. This pre-2020 process of review and strengthening of the NDC will be carried out considering the results of the Talanoa Dialogue, developed throughout 2018 with the objective to identify, jointly and participatively among all the countries, the necessary actions to align the NDC with the objectives of the Paris Agreement.

Additionally, the agreed rules for the implementation of the Agreement will allow greater clarity and similarity in the NDC, particularly for developing countries, which will facilitate the comparison between the relative levels of ambition.



1.5°C scenarios and their implications in future NDCs

In October 2018, the IPCC (Intergovernmental Panel on Climate Change) published a report on the impacts of a global warming of 1.5°C compared to the pre-industrial era, as well as the corresponding path of GHG emissions, as requested by COP21 (December 2015).

In mid-2019, the countries will consider again the results of the IPCC report in the context of the actions being taken towards the long term goals of the Paris Agreement. According to said report, in the projected scenarios for 1.5°C without major deviations, the electric power by 2050 will be provided in 70 to 85% by renewable sources, and thanks to carbon capture and sequestration (CCS), approximately 8% will come from natural gas.

In the transport sector, low-emission energy sources would go from less than 5% in 2020 to around 35-65% in 2050. However, this transition may face diverse economic, institutional, and socio-cultural barriers depending on the circumstances, capabilities and availability of capital at the national, regional and local levels.

The annual investments that should be destined to low carbon energy technologies and energy efficiency will multiply by a factor of approximately 6 in the period 2015-2050.

All scenarios for 1.5°C without major deviations include CO₂ removal practices in the order of 100 to 1000 GtCO₂ in the 21st century, which may relate, among others, to land use, generation of bioenergy with carbon capture and sequestration, or atmospheric carbon capture and storage.

Mitigation options consistent with 1.5°C are associated with multiple synergies and possible trade-offs through the **Sustainable Development Goals** (SDGs). For example, mitigation options could generate risks for sustainable development in regions highly dependent on fossil fuels for income, employment, and livelihoods. In such regions, policies to transition and diversify the economy and the energy sector must be taken into account.



Length shows strength of connection
The overall size of the colored bars depict the relative potential for synergies and trade-offs between the sectoral mitigation options and the SDGs



Very high Low

Shades show level of confidence
The shades depict the level of confidence of the assessed potential for Trade-offs/Synergies

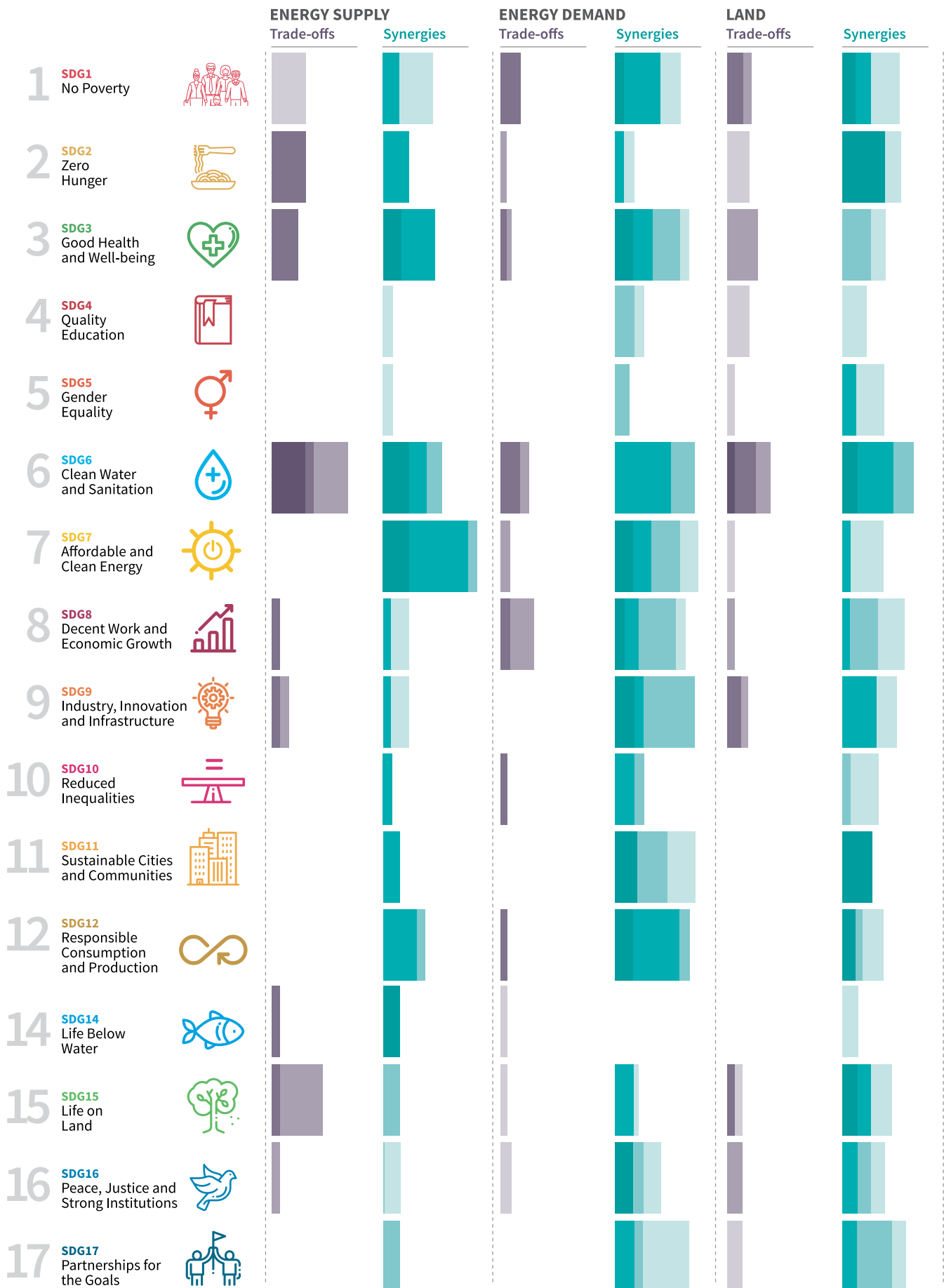


Figure SPM.4 – Potential synergies and trade-offs between the sectoral portfolio of climate change mitigation options and the Sustainable Development Goals (SDGs). The SDGs serve as an analytical framework for the assessment of the different sustainable development dimensions, which extend beyond the time frame interactions is based on the qualitative assessment of individual mitigation options listed in Table 5.2. For each mitigation option, the strength of the SDG-connection as well as the associated confidence of the underlying options within a sector (see Table 5.2) are aggregated into sectoral potentials for the whole mitigation portfolio. The (white) areas outside the bars, which indicate no interactions, have low confidence due to the uncertainty and limited number of studies exploring indirect effects. The strength of the connection considers only the effect of mitigation and does not include benefits of avoided impacts. SDG 13 (climate action) is not listed because mitigation is being considered in terms of interactions with SDGs and not vice versa. The bars denote the strength of the connection, and do not consider the strength of the impact on the SDGs. The energy demand sector comprises behavioural responses, fuel switching and efficiency options in the transport, industry and building sector as well as carbon capture options in the industry sector. Options assessed in the energy supply sector comprise biomass and non-biomass renewables, nuclear, carbon capture and storage (CCS) with bioenergy, and CCS with fossil fuels. Options in the land sector comprise agricultural and forest options, sustainable diets and reduced food waste, soil sequestration, livestock and manure management, reduced deforestation, afforestation and reforestation, and responsible sourcing. In addition to this figure, options in the ocean sector are discussed in the underlying report. (5.4, Table 5.2, Figure 5.2).

Information about the net impacts of mitigation on sustainable development in 1.5°C pathways is available only for a limited number of SDGs and mitigation options. Only a limited number of studies have assessed the benefits of avoided climate change impacts of 1.5°C pathways for the SDGs, and the co-effects of adaptation for mitigation and the SDGs. The assessment of the indicative mitigation potentials in Figure SPM.4 is a step further from AR5 towards a more comprehensive and integrated assessment in the future.

Technology

The Technological mechanism established in 2010 within the UNFCCC framework, and serving the Paris Agreement, has the objective to promote the technology development and transfer for its purpose. It includes two components: the Climate Technology Center and Network (CTCN) and the Technological Executive Committee (TEC). The CTCN is focused on implementation and the TEC is focused on policy.

Throughout 2018 there was an increase in the development of climate technologies climate thanks to a greater commitment and cooperation between the TEC, the CTCN and the Green Climate Fund, as well as with the operational entities of the UNFCCC Financial Mechanism, which is also serving the Paris Agreement. Likewise, COP24 formalized the scope and modalities of the periodic evaluation that entities of both mechanisms should carry out. The first evaluation will be completed in November 2022, and thereafter every 5 years.

Financing

In 2009, developed countries agreed to finance USD 100 billion per year in support to developing countries by the year 2020. Following the Paris Agreement, a roadmap was defined for this financing, which has not yet been possible to achieve. At COP24, developed countries agreed to define a new financial goal that will come into effect in 2025 with the minimum of USD 100 billion per year.

As of 2020 (COP26), countries will define the new collective objective quantified with a minimum of USD 100 billion per year, taking into account the needs and priorities of the developing countries. Meanwhile, developed countries should include their financial contributions in the biennial reports that begin in 2020. The first compilation and synthesis report will be prepared in 2021, and will be analyzed in a high-level ministerial dialogue on climate finance that will take place that year.



CONSTRUYENDO
CONSENSO PARA
UN DESARROLLO
EQUITATIVO Y SOSTENIBLE

Global and regional leadership

Under the framework of the 2018 G20 summit, held in Buenos Aires, Argentina, the preparatory position paper developed by the B20 Task Force on Energy, Resources Efficiency and Sustainability, includes the following 5 recommendations: accelerating energy transitions towards a future low carbon; increase the scope and impact of energy efficiency policies; ensure access to sustainable, affordable and reliable energy; promote resources efficiency and circular economies; and increase policies to adapt to climate change.

Although only 3 of its members belong to our region, this summit marked a milestone for Latin America and the Caribbean because it was celebrated within it, in addition to the fact that **climate change was one of the central themes of the meeting.**

¹19 países miembros permanentes: Alemania, Arabia Saudita, Argentina, Australia, Brasil, Canadá, China, Corea del Sur, Estados Unidos, Francia, India, Indonesia, Italia, Japón, México, Reino Unido, Rusia, Sudáfrica y Turquía, a los cuales se suma una representación adicional por la Unión Europea.

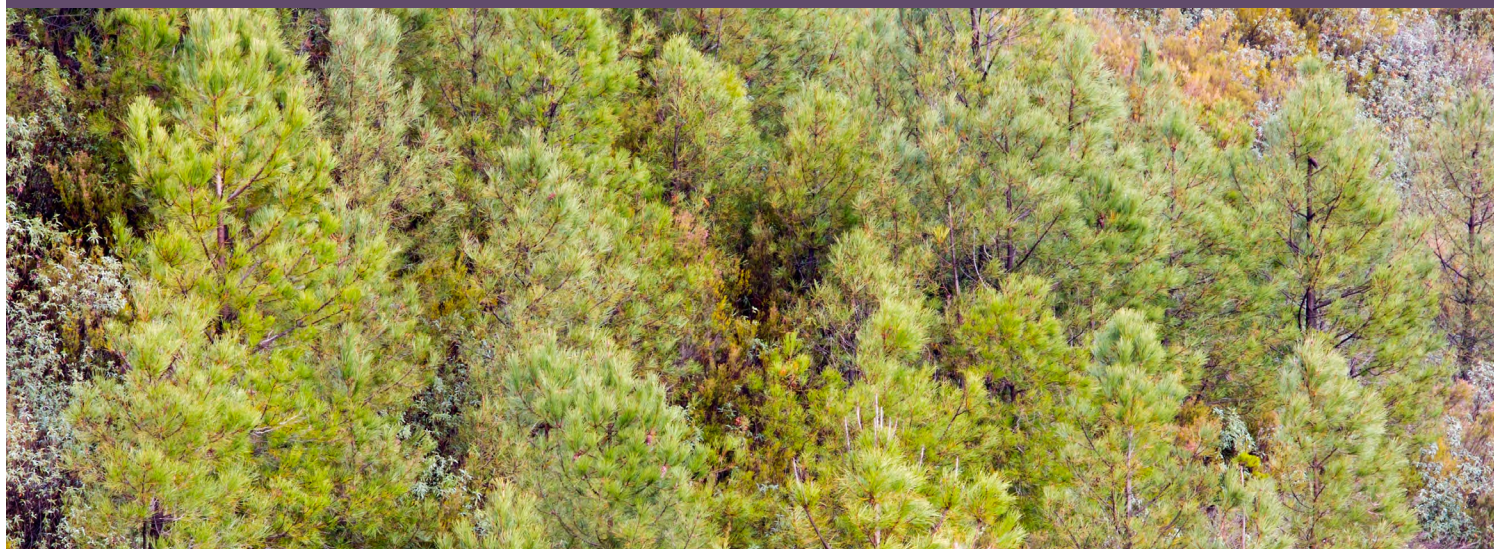
Final summary

NDCs already promised are still insufficient to meet the objective of the Paris Agreement. The IPCC Special Report 1.5°C further reinforced this perspective and served as a starting point to demand that more ambitious NDCs be submitted, to which, for the moment, only the Maldives has responded.

The G20 summit reaffirmed that the Paris Agreement is irreversible and committed to its implementation, reflecting common but differentiated responsibilities and capacities, given the different national circumstances. The G20 members committed themselves to continue fighting climate change, and promoting sustainable development and economic growth.

UNFCCC Executive Secretary, during the dialogue held with ARPEL, was very interested and willing to collaborate with the oil and gas sector, and to **maintain an institutional approach with the sector through ARPEL**. There were several topics discussed, i.e. the preferential financing for projects in the sector, and the increasing difficulties for their access, despite the high impact they generate. This approach, initiated in 2018, will continue to grow in 2019, with the aim to promote a proactive role for the sector in reaching the objective of the Paris Agreement.

In 2019, the focus will be on the UN Climate Summit on the theme **"A career that we can win. A race that we must win"**, to be held on September 23, 2019, in New York, USA. This summit will be followed immediately by the High Level Political Forum on Sustainable Development, and the year will culminate with the pre-COP25 in Costa Rica (October), and the COP25 in Santiago, Chile (December 2-13). In this way, two of the most relevant events of the year on climate change will be held within our region, representing a unique opportunity to show the world the specific reality and nationally determined contributions of our countries in this area.



This report was developed by the ARPEL Climate Change Working Group, in which the following member companies participate: Ancap, Chevron, Cupet, Enap, EP Petroecuador, Honeywell, KBR Technology, Oldelval, Pemex, Petroamazonas EP, Petropar, Petroperú, Tecpetrol, YPF.

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REGIONAL ASSOCIATION OF
OIL, GAS AND BIOFUELS SECTOR COMPANIES
IN LATIN AMERICA AND THE CARIBBEAN

ARPEL is a non-profit association gathering oil, gas and biofuels sector companies and institutions in Latin America and the Caribbean. Founded in 1965 as a vehicle of cooperation and reciprocal assistance among sector companies, its main purpose is to actively contribute to industry integration and competitive growth, and to sustainable energy development in the region. Its membership currently represents a high percentage of the upstream and downstream activities in Latin America and the Caribbean and includes national and international operating companies, providers of technology, goods and services for the value chain, and national and international sector institutions.



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