

2021 ARPEL Annual Report

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Governance

Board of Directors

President:

EP PETROECUADOR – Pablo Luna

Vice-Presidents:

ANCAP – Benito Piñeiro

YPF – Carlos Colo

Directors:

IHS-Markit – Bob Fryklund

OLDELVAL – Adrián Mérida

Pan American Energy – Luis Fredes

Staatsolie – Rekha Bissumbhar

Audit Committee

President:

PETROPAR – William Wilka

Members:

TGN – Carlos Ranzani

TGS Internacional – Mónica Drotleff

Who we are

We are the only regional oil and gas association in Latin America and the Caribbean.

ARPEL was created in 1965, our members include public and private operators, as well as service providers with operations in more than 30 countries in this Region.

We promote

the integration, sustainable growth, and operational excellence in the industry through cooperation among our member companies and the creation of solid alliances with our main stakeholders.

We contribute

to the process of energy transitions within the context of sustainable development through a collaborative effort among different Stakeholders, comprising the entire value chain: upstream, midstream, downstream, including the renewable energy sector.

Strategic Guidelines



Energy transitions



Operational excellence



Sustainable management



Relationship with stakeholders



Message

In ARPEL, we must continue working to achieve an innovative integration to allow us to move towards a sustainable industry, promoting its transformation in a proactive way, facing the challenges of our sector towards less carbon-intensive economies.

The oil and gas industry is driving important changes in information and communication technologies, business models, economic development, and energy supply. All of that has the aim of strengthening the contribution of companies in the sector to sustainable development. This leads to the challenge of developing a systematic work model that can reconcile business development with the consequent creation of value for companies, countries, and the improvement of the social goods that matter to each of the communities where we have operations.

Within the current context, we should continue betting on human talent as a driver of change and as a source of innovations applied to our activities. All of the above, in general terms, within the frame of a strong improvement in efficiency and productivity for the production, transformation, and consumption of energy.

In line with what has been mentioned above, ARPEL has carried out a work plan during 2021 which, aligned with the Strategic Plan, concluded with the performance of more than thirty virtual workshops and webinars where the topics addressed were: Energy Transition – focusing on the role and importance of gas –, the promotion of Sustainable Development Goals (SDGs), climate risks, human talent, best practices in refining, together with our participation in international events accompanying other associations such as OLADE, WPC and IGU, among many others.

Meanwhile, driven by the permanent search for operational and management excellence, our seven Technical Committees and three Work Groups have devoted their work to issues related to the entire value chain: exploration and production, pipelines and terminals, refining and digitalization, gas and energy, health, environmental and industrial safety, social responsibility, human talent and knowledge management, cybersecurity, climate change, and communications.

One of the main new implementations performed in 2021 was the launching – together with the Argentine Oil and Gas Institute (IAPG) – of the first edition of the virtual course on RETOS, a tool developed by ARPEL to assess the oil spill management capacity. It has been successfully used for different training courses organized during 2021.

Another important milestone was the publication of seven new documents on the following topics: Energy Transition of the Refining Sector (which was prepared by ARPEL in collaboration with IHS-Markit and Arthur D. Little); ARPEL and the Global Compact (ARPEL having adhered to the 10 principles of the UN Global Compact); Roadmap to boost the contribution of the oil and gas industry (with the definition of 22 lines of action) to the SDGs; Digital Dialogue Brazil – The New Gas Law (this initiative is part of the Latin American Gas Conference, an event that has been organized annually since 2018 jointly by ARPEL, IGU and EnergyNet, with the support of OLADE); Digital Dialogue Argentina - Vaca Muerta; Digital Dialogue Colombia, and finally ARPEL Report for Senior Management on Methane Emissions Management (based on a survey of 18 operating companies, which suggests the respective lines of action).

On the other hand, in order to strengthen the commitment to academic research and the promotion of E&P activities in the Region, a new institutional agreement has been signed with the American Association of Petroleum Geologists (AAPG), a pillar of the scientific community worldwide since its creation in 1917.

As it may be noticed, during 2021 there was a valuable contribution of the Association to its members and to society in general; therefore, a well-deserved recognition should be given to the members of the team of the Executive Secretariat, as well as to the members of the Technical Committees and Work Groups.

A remarkable fact has been the appointment of the new ARPEL's Executive Secretary, not only because of the appointment of Mr. Carlos Garibaldi – a professional engineer with an extensive international experience – but also, because of the process by which his election was performed.

Nearly twenty candidates of recognized international experience applied for that position, all of whom shared a common factor: they considered ARPEL to be a prestigious association, and that it was an opportunity to continue their professional careers. The selection committee created for such purpose – and of which I was a member, together with Benito Piñero, Luis Fredes, and Henk Chinalie – has faced a great challenge to develop this process, which finally concluded successfully. We wish Eng. Carlos Garibaldi success in his position as head of the Executive Secretariat.

A special mention should be made about Miguel Moyano, an engineer who accepted the challenge of being ARPEL's interim Executive Secretary – until the newly appointed Executive Secretary took office. Miguel has led and successfully managed the Secretariat during a very difficult environment, as a result of the COVID-19 pandemic and its consequences. Both, Miguel and the Secretariat team have once again evidenced their talent and commitment to ARPEL. Thank you so much to all of them!

During this year, let us get ready for our most important event, the ARPEL 2022 Conference, which will take place in Lima, Peru, in November, and will be sponsored by Petroperú. It will be the best environment for the development of a long and rich agenda, as usual at this important event.

Finally, on behalf of myself and the Board of Directors of ARPEL, I would like to thank all our member companies for their support to and trust in this Association and in those of us who represent it.



CARLOS COLO
ARPEL Interim President

Geopark Became an ARPEL Member

GeoPark, which has assets in Colombia, Ecuador, Chile, Brazil and Argentina, has joined ARPEL in 2021 as an active member.

GeoPark, which has traded on the New York Stock Exchange since 2014, is a leading company in Latin America for oil and gas exploration and production. In Colombia, it is the second largest oil producer with almost 8% of the total national production.

Since it was founded, GeoPark has maintained an Integrated Value System known as SPEED that summarizes the company's commitment to the five key areas of Safety, Prosperity, Employees, Environment and Community Development.

For more information about GeoPark, please visit <https://www.geo-park.com/>



Carlos A. Garibaldi takes office as ARPEL'S new Executive Secretary

On January 1, 2022, Carlos Garibaldi took office as Executive Secretary of the Regional Association of Oil, Gas and Biofuels Sector Companies in Latin America and the Caribbean (ARPEL).

Carlos Garibaldi has more than 40 years of experience in the energy sector, mainly in the Caribbean and Latin American region. Carlos is a specialist in corporate strategy, E&P portfolio

planning and valuation, business development (exploration, asset acquisition and corporate mergers), design of contractual and fiscal terms and bidding rounds, and international negotiations.

Carlos Garibaldi took over after Miguel Moyano, who acted as interim Executive Secretary since August 2020 and will be supporting Carlos Garibaldi as Senior Managing Director.

Membership

Active Members



Cooperative Members



Institutional Members



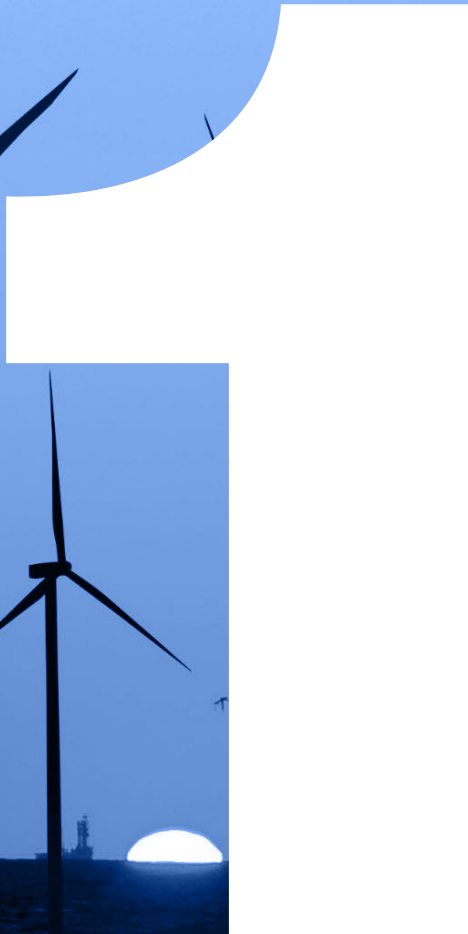
Alliances





Energy Transitions

Publications and Reports

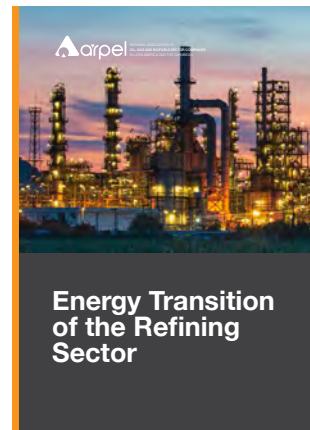


Energy Transition of the Refining Sector

ARPEL, in collaboration with IHS Markit and Arthur D. Little, developed this study of the prospects for the refining sector in the framework of energy transitions.

The energy transition towards a low-carbon economy is an indisputable necessity today, and represents a great challenge for the oil and gas industry in the region. In particular, the refining

sector faces the double challenge of meeting the growing energy demand, and reducing the carbon footprint of its products, all this with minimal margins compared to the other segments of the sector, and in a global and regional context of great uncertainty.



Languages:
Spanish and English.



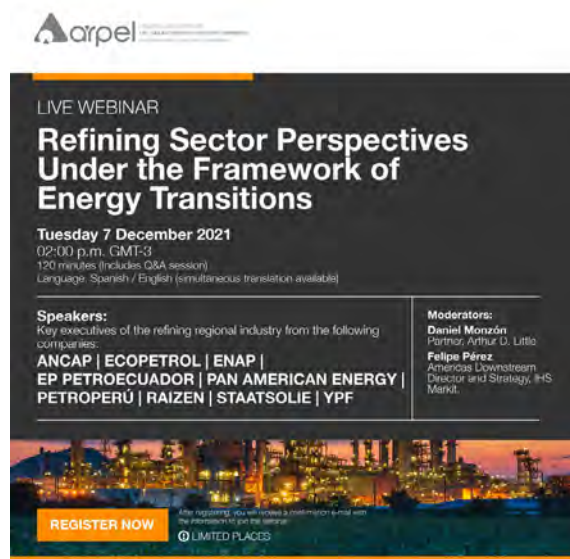
Download:
<https://arpel.org/library/publication/533/>

Launch webinar

The document was presented in the webinar entitled “Perspectives of the Refining Sector Within the Framework of Energy Transitions.”

The virtual meeting, held on December 7, featured a panel integrated by: Walter Fabián Canova, VP Refining and Industrial Processes of Ecopetrol; Daniel Ciaffone, Executive Manager Integrated Supply & Trading in Pan American Energy; Patricio Farfán, Refining Manager of ENAP; Ignacio Millán, Executive Manager Planning and Innovation – Downstream in YPF; José Pastorino, Energy Production Manager of ANCAP; Marcelo Solís Sánchez, Refining Manager of EP Petroecuador, and Alejandro Vago, Refining Director of Raízen.

The webinar was moderated by Daniel Monzón, Partner at Arthur D. Little, and Felipe Perez, Director and Downstream Strategist for the Americas, IHS-Markit.



[Link to the recording of the webinar](#)

ARPEL at the IX Convention of Earth Sciences organized by the Cuban Society of Geology

ARPEL participated in the IX Convention of Earth Sciences, organized by the Cuban Society of Geology from April 5 to 9.

The main topics of the event revolved around the five Congresses that were part of the Convention: Geology, Geophysics, Mining, Oil and Gas, and IT in the Geosciences.

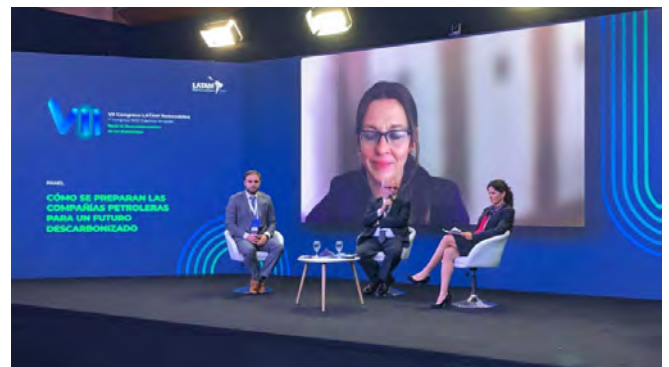


ARPEL Downstream Director, Irene Alfaro, was the Association’s representative at this important Convention. Alfaro gave a presentation on “Energy Transitions in Latin America and the Caribbean. The role of the oil and gas industry.”

ARPEL at LATAM Renewables Congress Dissertation on how companies in the sector are preparing for a decarbonized future

ARPEL participated in the panel “How oil companies are preparing for a decarbonized future” in the VII LATAM Renewables Congress and 1st WEC Uruguay Chapter Congress, organized on September 15 and 16 by the Uruguayan Association of Renewable Energies (AUDER).

The panel was integrated by Nicolás Spinelli from ANCAP, Silvina Oberti from YPF, and Irene Alfaro from ARPEL.



Chevron, Enap and Repsol in a virtual meeting organized by ARPEL and the WPC on the role of associations in energy transition

ARPEL and the World Petroleum Council (WPC) co-organized the webinar “The Role of Business Associations in Energy Transition in the Oil and Gas Sector.”

The objective of this webinar —held mid-April, prior to ARPEL Annual General Assembly— was to analyze how our companies face the challenges derived from energy transitions in the oil and gas sector in Latin America and the Caribbean, and how business associations can help them go through the process of energy transitions.

Also, the strategies companies are implementing and the role they play in national decarbonization plans in the countries of their operations were analyzed at this event.



Executives from Ancap, Axion Energy, Chevron, Enap, EP Petroecuador, IHS-Markit, Oldelval, Petroperú, Tecpetrol, Tema, TGN, TGS, YPF and Repsol participated in the workshop. As well as the organizations IBP (Brazilian Institute of Oil and Gas), IOGP (International Association of Oil and Gas Producers) and WPC.

ARPEL in a webinar organized by SNMPE on Energy Transitions in the Region



At the end of September ARPEL participated in the webinar “The Role of the Oil and Gas Industry in Energy Transition Process” organized by the National Society of Mining, Petroleum and Energy (Sociedad Nacional de Minería, Petróleo y Energía, SNMPE).

The panel was integrated by Virginia Barreda, Natural Gas Supervision Manager of Osinergmin; Antonio López, Senior Manager of Energy Transition and Climate Change of Repsol; Erick García, General Director of the General Directorate of Hydrocarbons of the Ministry of Energy and Mines, and by Irene Alfaro from ARPEL.

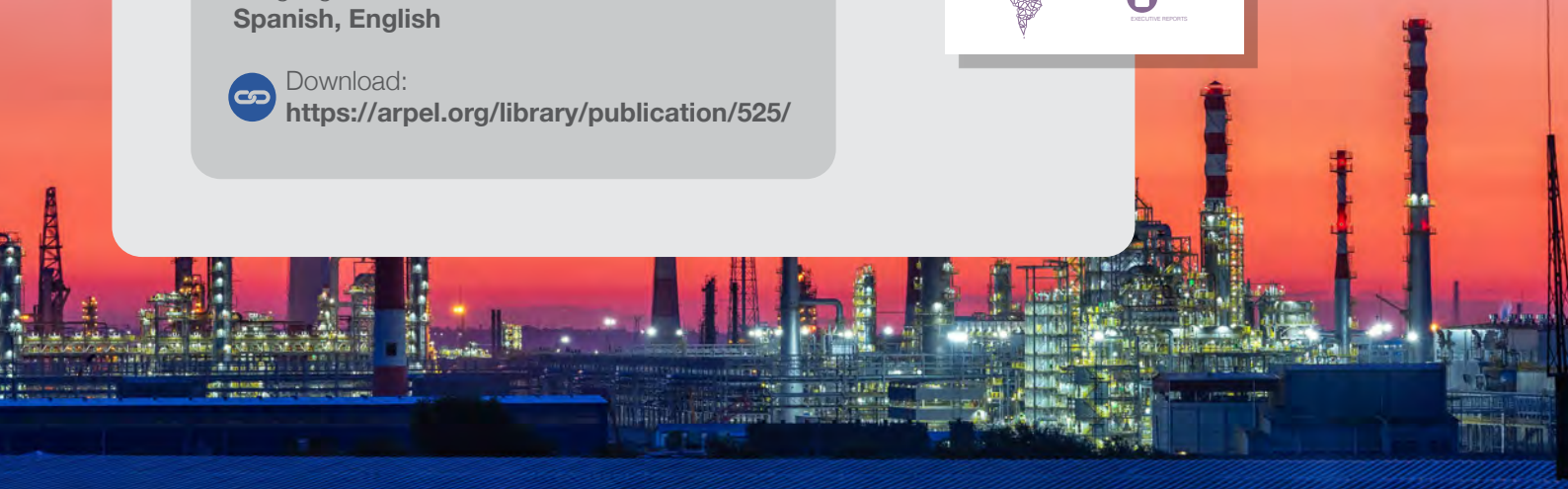
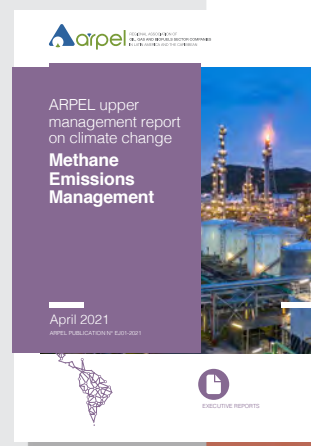
ARPEL UPPER MANAGEMENT REPORT ON CLIMATE CHANGE

Methane Emissions Management

Methane emissions are the second most important cause of global warming, and its reduction represents a strategic challenge for the sector. Based on a survey made among 18 operating companies, the report summarizes the general state of the sector regarding the management of these emissions and suggests some subsequent lines of action.

Languages:
Spanish, English

Download:
<https://arpel.org/library/publication/525/>





Operational Excellence

Development, promotion and implementation of best practices



Process Safety

Series of virtual workshops on Process Safety

By mid-November, ARPEL'S Health, Environment and Safety Committee started a series of virtual workshops on Process Safety Management exclusively addressed to the association's members.

These meetings are intended for all professionals who work on areas where safety is particularly important: operational site personnel, safety and environment professionals, etc., and their main objective is to raise awareness and promote the sharing of information on Process Safety related topics.

The first topic discussed was "Crisis and Emergency Management" and its different aspects: emergency management, crisis management and business continuity. Over 90 professionals from 20 organizations participated in this discussion.

The agenda consisted of two presentations: a theoretical one by Raúl Manga, TEMA Litoclean Industrial Safety and Processes Manager, and a second one with practical cases and lessons learned delivered by Hernán Luna, YPF Maritime and Fluvial Emergency Manager. Both TEMA Litoclean and YPF are members of ARPEL.



Process Safety Methodology and Self-Assessment Tool

Following the publication of the initial version of the Process Safety Methodology and Self-Assessment Tool in 2018, multiple specific application exercises were carried out at different sites of several member companies during 2019 and 2020.

Such tests allowed us to confirm the great added value of the tool for our members and we were able to collect experience data and suggestions for improvement to enhance the use and thus improve the performance of the companies.

In 2021, TEMA was contracted to work, together with the Process Safety project team, on an improved and more user-friendly version of the tool. V2 is in the final stage of review by member companies and will be released in 2022.

Some of the improvements included in this new version are:

- 35% reduction in the number of questions (full assessment), thanks to extensive work on eliminating and integrating items.
- Recommendations and clarifications regarding the modes of use of the tool in connection with, for instance:
 - The choice of the type of evaluation
 - The composition of the assessment team
 - Determination of the maturity level of each item
 - List of reference documents for each item

In 2022, the focus will be on the use of the methodology and tool in the member companies.

BEST PRACTICES GUIDE

Process Safety Methodology and Self-Evaluation Tool

Languages:
Spanish, English



Download this document from
<https://arpel.org/library/publication/503/>



Performance Benchmarking and Mutual Technical Assistance

Process Safety, Industrial Safety, and Environmental Performance Benchmarking

In 2021 ARPEL continued with the process of modernization of the reports of its three annual Benchmarking studies: Process Safety, Industrial Safety, and Environmental Performance.

The migration of the three reports to Power BI was completed at the end of 2021, with the Environmental Performance Benchmarking report.

The main objectives of this migration were:

- To automate as much as possible the import of data coming from the companies for further analysis.
- To improve the user experience by allowing greater interaction, the possibility of using filters (by company, year, line of business, etc.), accessing historical company data, observing trends, among other searches.

In 2022, we want to continue this modernization process with the migration of the traditional Excel forms to web forms (available for the 2023 campaign), with the aim of facilitating the delivery of data by companies and improving the quality of the data collected.

Such three ARPEL reports allow identifying gaps in the performance of the member companies and implementing exchange activities for improvement.

ARPEL'S Benchmarking Reports —the only and most comprehensive regional benchmark of oil and gas companies' performance in process safety, industrial safety and environmental management— are an exclusive benefit for member companies.

All benchmarking reports are available in the Publications section of ARPEL website:



<https://arpel.org/library/publications/search/?title=&types=19>

Cooperation and continuous improvement

Instances of Mutual Technical Assistance

During 2021, new instances of cooperation and mutual technical assistance (RTA) took place between ARPEL members and the professionals working for the Executive Secretariat.

Such activities had the purpose of finding solutions to specific problems of member companies, which are addressed through the knowledge and experience of other companies in the oil and gas industry.

In 2021, 25 companies accessed technical assistance through this ARPEL mechanism, which is at the service of members 365 days a year.

RTA requests can be made through ARPEL website by completing a simple form:

[GO TO THE FORM](#)



Month	Committee	Topic
Feb-21	GTCC	Construction of an inventory of GHG emissions
Feb-21	COMM	Structure of the area of communications
Mar-21	COMREF	Final disposal of calcium fluoride
Mar-21	COMREF	Chemical cleaning with chelating agents
Mar-21	COMREF	Hydrostatic testing after plant shutdowns
Mar-21	COMREF	Automation of water mitigation system in case of HF leakage
Mar-21	COMREF	Powering of loaded chambers at a temperature that is far from the reaction temperature
Mar-21	COMREF	Repair of cutter bars - Bending
Mar-21	COMREF	Valve Switch clogging after plant shutdown
Mar-21	COMREF	Request for S A R A Analysis. Request for crude oil analysis
Mar-21	COMREF	Information about Gas Oil 10 PPM
Apr-21	COMREF	Methodologies to unclog lines clogged with fluorides
Apr-21	COMREF	FH acid accumulator pressure test
Apr-21	COMREF	Odorizer in LPG
Apr-21	COMREF	MP, in heat exchanger cleaning in alkylation plants — definition of optimal time
Apr-21	CEPA	Preparation of E&P Agreements
Apr-21	COMREF	Purchase of phenol
Apr-21	COMREF	Plant shutdown activities
Apr-21	COMREF	Automatic tank cleaning
May-21	COMREF	Intervention on cooling water line, without shutdown of the unit
May-21	COMREF	Exposure time of operators in SH2 atmosphere
May-21	COMREF	Inspection and maintenance of torch moorings
May-21	COMREF	FCC blower actuator with electric motor or steam engine
May-21	CEPA	Digitalization in reservoirs
May-21	COMREF	Safety in the handling of LPG in refineries
Jun-21	COMREF	Specifications of fuels
Jun-21	COMREF	Design of Alkylation reactors
Jul-21	COMREF	Phenol Leak Test
Jul-21	COMREF	H2O / CL2 Ratio
Jul-21	COMREF	Repair of tank tops with non-metallic materials
Aug-21	COMREF	Maintenance of bottom system in FCC units
Aug-21	COMREF	Reactivation of nitrifying bacteria at the effluent treatment plant
Aug-21	COMREF	Euro 6/VI fuel specifications
Sep-21	COMREF	SAP / Cloud implementation
Sep-21	COMREF	Inspection procedures with unmanned aerial vehicles (drones)
Sep-21	COMREF	Repetitive failures in a topping furnace at EP-PETROECUADOR Refinery
Sep-21	COMREF	Quality of slop that is added as a load at FCC
Oct-21	COMREF	Desalter operation and slop treatment
Sep-21	COMREF	Mass meters
Sep-21	COMREF	Use of biocides in cooling water systems
Oct-21	CTHGC	Organizational cultural transformation
Oct-21	COMREF	Containment dikes in storage tanks
Oct-21	COMREF	Contents of solids in crude oil
Nov-21	COMREF	Fuel Reforming operation
Nov-21	COMREF	Instruments and management of mass balance
Dec-21	CEPA	Offshore Wind / H2
Dec-21	CGEA	Gas Markets and Regional Integration

Technical exchange events

**Virtual workshops
developed by ARPEL
in 2021**



Meeting of Refineries of the Region on Plant Shutdowns Respecting the Covid-19 Protocol

In mid-March, the Refining Committee held a virtual meeting for the exchange of best practices in the execution of plant shutdowns respecting the Covid-19 protocol.

The meeting included a presentation by two professionals from YPF La Plata Refinery, Federico Ernst, Plant Shutdown Manager, and Federico Martínez, Industrial Safety Manager, and brought together more than 40 technicians from different refineries in the Region from the following companies: ANCAP, EP Petroecuador, Ecopetrol, ENAP, Pemex, Petroperú, Raizen, Trafigura, YPF and YPFB.



[Link to the workshop](#)

Virtual workshop on Exchange of Best Practices in Equipment Cleaning by YPF and Cosesa

The virtual workshop “Exchange of Best Practices in Equipment Cleaning with Very High-Pressure Water” was held in mid-April.

The speakers were Maximiliano Orzola, Head of Planning at YPF’s Luján de Cuyo Refinery, Leandro Bertona, Head of Shutdowns also at the Luján de Cuyo Refinery, and Gianfranco Verger from Cosesa.

More than 60 professionals from 16 refineries and petrochemical companies: PEMEX, ECOPETROL, EP PETROECUADOR, PETROPERÚ, REPSOL, ENAP, RAÍZEN, AXION ENERGY, YPF, PROFERTIL and TRAFIGURA attended the virtual meeting.



[Link to the workshop](#)



Honeywell at the webinar on “Plants of the Future. Why are Asset Performance Management Strategies the best way to move forward?”

Honeywell conducted a live webinar in late April about “Plants of The Future. Why Are Asset Performance Management Strategies the Best Way to Move Forward?”

The main speaker of this virtual event was Maria Luz Resnizky, Regional Software Consultant for the Honeywell Connected Industrial sector.

The purpose of this talk was to exchange ideas on how APM or asset management technologies may be used to realize the vision of a truly connected plant. It also focused on what is needed from a technology perspective to have sound asset performance management strategies that are practical and accessible, adding value to the company business.

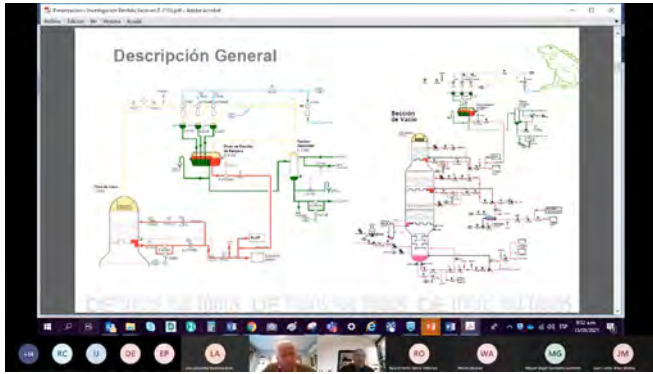
[Link to the webinar](#)

Enap and EP Petroecuador delivered a workshop on Best Pipeline Inspection Practices

In late April, ARPEL Refinery Committee delivered the online workshop on “Exchanging Best Pipeline Inspection Practices,” lectured by Eduardo Delgado, Inspection Engineer from ENAP Aconcagua Refinery, and Vicente Gonzalez, Inspection Manager at EP PETROECUADOR Esmeraldas Refinery.

More than 60 professionals from 14 refineries representing ANCAP, Axion Energy, EP Petroecuador, Ecopetrol, ENAP, Pemex, Petroperú, Profertil, Raizen, Repsol and YPF attended this online meeting.

[Link to the workshop](#)



Technical workshop on “Exchange of Best Practices in a vacuum distillation tower” by Ecopetrol

Continuing with the cycle of virtual exchanges of best practices in the operation of the different production units of the refineries, the professionals responsible for the Refining Department at Ecopetrol’s Barrancabermeja Refinery shared on May 13 the root cause analysis of an operational deviation in one of its vacuum distillation towers.

[Link to the workshop](#)



Enap shared its experience on Scheduled Plant Shutdowns

Scheduled plant shutdowns require a very detailed planning that starts at least two years in advance, although some tasks must be planned well ahead.

At the beginning of June, ARPEL Refining Committee organized a virtual meeting in which ENAP specialists Sebastián Placencia, Felipe Mardones Hernández, and Isaías Allende discussed how they use software in refineries to organize and optimize the productive hours, analyzing different aspects such as the entrance of personnel, the distances from the worksite offices to the execution sites, means of transport to the worksites, canteens, etc.

[Link to webinar](#)



Schlumberger hosted webinar on “Holistic digital approach to well construction”

The webinar “Digital Holistic Approach to Well Construction” took place in mid-June. This event was hosted by Rodolfo Uribe, from Schlumberger, who is in charge of Digital Drilling Business Development for Latin America.

The drilling engineering teams spend a lot of time managing the process involved in well engineering. The use of different engineering applications, databases, and workflows that are usually disconnected from one another makes this process inefficient and inflexible, and certainly leaves little time for engineering itself.

Schlumberger understood the constraints of work method and wanted to change it by leveraging digital technologies to maximize the teams’ results, by granting them access to all the data and science they need in a single common system.

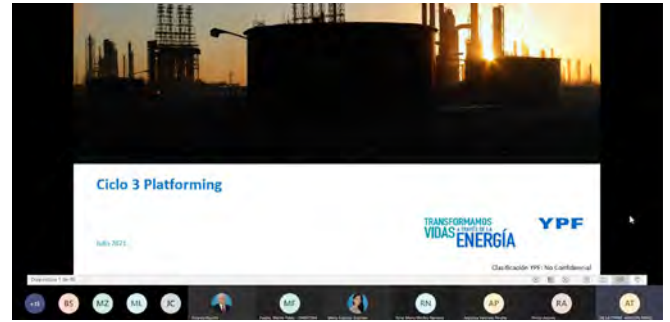
[Link to the webinar](#)

EP Petroecuador presented the case study: Regressive and lateral erosion of Quijos River

The virtual workshop “Case Study: Regressive and Lateral Erosion of the Quijos River - Ecuador”, organized by ARPEL, was held in early July and featured presentations by Alfonso Jiménez and Pablo Ordóñez from EP Petroecuador. It was moderated by Irene Alfaro, Downstream Director of the Association.

For more than a year now, this natural phenomenon has been causing several large-scale impacts on the hydrocarbon transport infrastructure, among others.

The workshop was attended by professionals from Genit, Coga, EP Petroecuador, ECI (Escuela Colombiana de Ingeniería), Honeywell, Otasa (Oleoducto Trasandino Argentino SA), PAE, Petroperú, Recope, TGN, Tecpetrol, YPF and YPFB.



Virtual Meeting organized by Ecopetrol on Water Use in Refineries

Ecopetrol professionals gave a presentation at a virtual workshop organized by ARPEL Refining Committee in early July on the integrated management of water use in refineries.

Since fresh water is a very important supply in refineries, both from a volumetric and process point of view, technicians from Ecopetrol refineries gave a presentation on the actions they are currently taking and their future plans to optimize its use and achieve neutrality in water use.

[Link to the workshop](#)

Presentation on platforming units and liquid effluent treatment by YPF Luján de Cuyo refinery technicians

Last July 8, ARPEL Refining Committee organized a virtual workshop on Best Platforming Units Practices, which was led by technicians Agustin de la Torre and Eduardo Salcedo, from YPF's Luján de Cuyo Refinery.

In 2018, the catalyst was changed (new technology) in the Platforming Unit of the Luján de Cuyo Refinery, with the purpose of reaching two years of operation at maximum load and a RON (Research Octane Number) of 98.

Also, in mid-September a new meeting was held to exchange best practices on treatment of liquid effluents in the Refinery of Lujan de Cuyo.

The presentation was given by Luis Deamici, Head of YPF'S Auxiliary Services Plant.

[To watch the presentation on Platforming](#)

[To watch the presentation on effluents](#)



Virtual meeting on best FCC units practice with a presentation by Ecopetrol

On August 5, a virtual meeting of the Best FCC Units Practices Group, belonging to ARPEL Refining Committee was held to discuss two topics: The catalyst selection process, and particulate emissions in the regenerator effluent gases.

The presentation was made by two Ecopetrol professionals: Neyla Brochero from the Barrancabermeja Refinery, and Carlos Mario Ríos from the Cartagena Refinery.



[Link to the meeting](#)

Cartagena Refinery: workshop on fouling in the distillation tower bottom at the FCC unit and about methodologies for systematic monitoring of risks

In mid-August, the ARPEL Refining Committee's Best Practices Exchange Group for FCC Units met again to discuss the capacity limitation due to fouling in the distillation tower bottoms system and the exchange system in the FCC unit.

On this occasion, the presentation was made by Engineer Carlos Mario Ríos from Ecopetrol's Cartagena Refinery.



[Link to the workshop](#)

While in late September a new virtual meeting was held with professionals to discuss the methodology to systematically monitor risks at Ecopetrol Refinery in Cartagena.

The presentation was given by Engineer Luis Gómez, Comprehensive Risk Management Coordinator of Reficar.

The topics addressed during the workshop included work permit management, change management, maintenance and operational tasks, and the correct operation and reliability of engineering barriers.



[Link to the meeting](#)

Schlumberger delivered a webinar on the evolution of directional drilling toward autonomy

At the end of October, Raúl Suárez Ortega, Well Construction Product Manager of Schlumberger, delivered a live webinar on “The Evolution of Directional Drilling Toward Autonomy.”

Directional drilling has improved a lot in recent years in terms of drilling tools, their specifications and capabilities, and in the monitoring and aid systems used on the surface for the best results.

The evolution of directional drilling capabilities is already taking place, integrating digital advances and data management along with automated systems and processes.

[Link to the webinar](#)

Raízen in a virtual workshop on operational improvements for Claus plants

A virtual workshop organized by the Refining Committee on “Operational Improvements for Claus Plants: Good Practices, Frequent Problems, and Lessons Learned” took place on October 27.

The speakers were Ignacio Raynoldi, Process Engineer for Thermal Cracking and Treating, and Javier Bocalón, RBA Process Engineering Manager, both from Raízen Refinery in Buenos Aires.

[Link to the workshop](#)

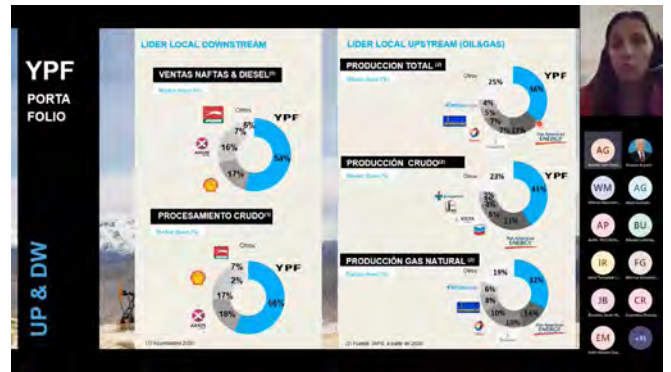


Integration of asset management and mechanical integrity addressed by the Refining Committee

In early November, ARPEL Refining Committee carried out a new virtual workshop to exchange best practices on Integration of Asset Management and Mechanical Integrity, which was in charge of professionals from Profertil (a partnership between YPF and the Canadian fertilizer company Nutrien Ltd.).

The presentation was given by Claudio Pérez, Electronic Engineer and current Reliability and Inspection Supervisor, and Pablo Orozco, Mechanical Engineer and Static Equipment Inspector.

[Link to the webinar](#)



Virtual workshop on Optimizing energy use in the refineries managed by YPF

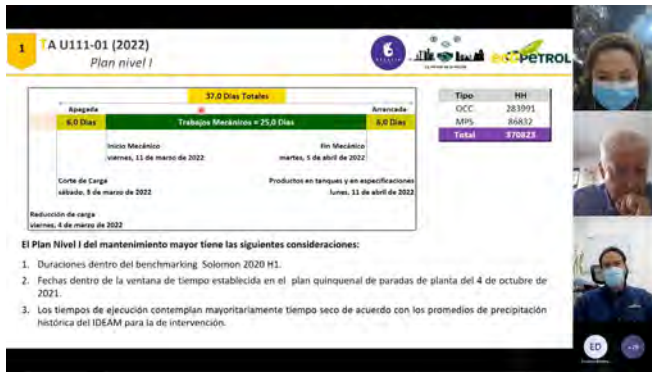
In mid-November, ARPEL Refining Committee organized a new exchange meeting about the topic how to optimize energy use at refineries.

An efficient use of energy contributes to the economy of refineries but, above all, it is an environmental and social imperative to reduce the impact of greenhouse gas emissions.

The presentation was delivered by Romina González, Process and Energy Management Leader in DWN, YPF.

The presentation described the internal organization focused on raising awareness among workers, the actions taken at the operational level and the investments and future plans to minimize the environmental impact.

[Link to the workshop](#)



Meeting on exchange of plant shutdowns in Coker units

On December 16, a meeting was held to exchange best practices on plant shutdowns in coker units. The presentation was given by professionals from Ecopetrol Cartagena Refinery.

The main objective of the meeting was to jointly analyze some points in the first shutdown after the start-up of the refinery unit. The topics discussed were: shutdown schedule; unit cleaning procedure; critical path, especially cleaning of gas and feed lines and disassembly of the main valves; inspection program, and start-up procedure, among others.



[Link to the meeting](#)

Enap and YPF: Workshop on Exchange of Best Practices in Work Permit management

The work permit is the management system mostly used in refineries to carry out the risk analysis before performing a task. But, at the same time, its incorrect application is often the cause of incidents and accidents.

At this virtual meeting, held on December 22, Pablo Alberto Jara Belmar, head of the Risk Prevention area of ENAP Bío Bío Refinery, explained the management process at that refinery.

Then, the engineer Mariano Gurito of YPF's Luján de Cuyo refinery spoke about the progress of the multi-function team that is analyzing the whole process of the work permit in application at that refinery.



[Link to the workshop](#)

Series of virtual Workshops



Human talent transformations in the post-covid scenario

The first delivery of the series of virtual workshops “Human Talent Management Transformations in the Post-COVID Scenario” took place on July 23.

The first meeting was attended by professionals from 12 companies: EP Petroecuador, ANCAP, Petroperú, Honeywell, YPF, Tecpetrol, TGS, IAE, HPINC, PCR, Pluspetrol and Ecopetrol.

The topic was **“New Remote Training Schemes: The Accelerated Transformation to Online Mode”**, in charge of Erica Moya, Head of Training and Education Services, and Sofía Castañeda, Training and Education Content and Services Analyst, both from EP Petroecuador.

The second delivery of the series of virtual workshops, which is promoted by ARPEL Human Talent and Knowledge Management Committee, took place on August 20.

On this occasion, the meeting dealt with the **“Implementation of Diversity, Inclusion, and Gender Programs: Tecpetrol’s Experience,”** and the presentation was led by María Laura García, Senior Talent Management Manager, and Julieta Vиейtes, Human Resources Manager Headquarters and Southern Cone, both professionals from Tecpetrol.

As for the workshop dynamics, after the presentation a group discussion was held on different topics, such as the challenges to carry out a diversity program; the long-term strategy, and whether COVID has brought temporary or permanent changes, opportunities or additional challenges in implementing this type of program, among other aspects.

The third delivery of the series of virtual workshops took place on October 13. The topic for this meeting was **“Beyond the Pandemic: Rethinking Our Ways of Working,”** a lecture delivered by Marisol Córdón, Head of Culture and Change of YPF.

The workshop had the aim of discussing the transformations, advances, and challenges of the companies in the sector, based on the changes induced by the COVID-19 pandemic, which lead us toward a more flexible, agile, digital, and inclusive business culture.



Disertantes:

Erica Moya
Psicóloga, Magister en Dirección de Empresas en Recursos Humanos, 13 años de experiencia en gestión del Talento Humano en EP Petroecuador. Actualmente es Jefe de Servicios de Formación y Capacitación.
EP PETROECUADOR

Sofía Castañeda
Psicóloga Organizacional, Especialista Superior en Dirección de Personas y Gestión del Talento Humano, 8 años de experiencia en Petroleras y EP Petroecuador. Actualmente es Analista de Contenidos y Servicios de Formación y Capacitación.
EP PETROECUADOR

[Haga click aquí para registrarse](#)

El link de conexión lo recibirá un día antes del evento

Audiencia:
Profesionales expertos/superior de las áreas de Gestión del Talento Humano, Gestión del Conocimiento, Capacitación, Desarrollo de Personas o afines de empresas de petróleo y gas.

Alcances / Objetivos:

- Presentación de la experiencia de EP Petroecuador en la transformación al modo online de todo el esquema de capacitaciones de la compañía.
- Intercambiar conocimientos, herramientas, desafíos y casos exitosos de implementación de esquemas de capacitación a distancia.
- Fomentar la interacción de la comunidad de expertos en la temática.

Dinámica:

- Introducción, presentación de la agenda y la dinámica del taller.
- Presentación a cargo de EP Petroecuador: **Gestión de la capacitación post-Covid. Beneficios y retos.**
- Espacio para preguntas sobre la presentación.
- Discusión grupal en torno preguntas orientadoras.
- Resumen y Conclusiones.
- Cierre y futuros pasos.



Disertantes:

María Laura García
Ing. Industrial, MBA en Internacional Business, 25 años de experiencia en áreas de Recursos Humanos, Actualmente Gerente de RH Sede y Cone Sur.
TECPETROL

Audiencia:
Profesionales expertos/superior de las áreas de Gestión del Talento Humano, Diversidad, Inclusión y Género, Sostenibilidad Corporativa, Responsabilidad Social o afines de empresas de petróleo y gas.

Alcances / Objetivos:

- Presentación del **Programa de Diversidad de TECPETROL**.
- <https://www.tecpetrol.com/la-diversidad/>
- Intercambiar conocimientos, herramientas, desafíos y casos exitosos de implementación de Programas de Diversidad, Inclusión y Género.
- Fomentar la interacción de la comunidad de expertos en la temática.

[Haga click aquí para registrarse](#)

El link de conexión lo recibirá un día antes del evento

Julieta Vиейtes
Licenciada en Relaciones Laborales, 16 años de experiencia en RH, Actualmente Gerente de RH Sede y Cone Sur.
TECPETROL

Dinámica:

- Introducción, presentación de la agenda y la dinámica del taller.
- Presentación del **Programa de Diversidad de TECPETROL**.
- Espacio para preguntas sobre la presentación.
- Discusión grupal en torno preguntas orientadoras.
- Resumen y Conclusiones.
- Cierre y futuros pasos.

[Haga click aquí para registrarse](#)

El link de conexión lo recibirá un día antes del evento

Climate Risk

Companies in the oil & gas sector in the Region are gradually incorporating climate risks into their assessment matrices, taking preventive and emergency readiness and response measures in the event of climate emergencies, while insuring their facilities against such risks.

However, there are still many challenges for the industry to face in terms of their adaptation to climate change—public-private articulation, access to funding sources, and the incorporation of climate change into strategic planning processes and corporate management.

The latter aspect was addressed in the first edition of ARPEL'S series of virtual Workshops on Climate Risks, which was held last June 3, promoted by the Association's Climate Change Work Group.

The virtual event was attended by Celeste Moscetta (Oldelval); Erick Tolcach (YPF); Juan del Carmen Gallarday (Petroperú); Cecilia Meza (EP Petroecuador); Rafael Neria (PEMEX); Stephen Wharton (Tecpetrol); Gemma Martínez (TEMA); Federico Paloma, and Irene Alfaro, the Group's coordinator on behalf of ARPEL.

A special guest in the meeting was Fabián Gaioli,

Executive Director of Coralia Environmental, a consulting firm whose mission is to contribute to sustainable development by identifying, implementing, and monitoring environmental and social improvement actions.

At the end of August, a new delivery of the series of virtual workshops on Climate Risk took place.

This edition addressed the cross-sectional aspect, analyzing a particular case study: Development of the Climate Change National Adaptation Plan in Ecuador.

The guest speakers were Jorge Núñez, coordinator of the Plan and member of the Ministry of the Environment, Water and Ecological Transition, and Janeth Mora, a consultant of the United Nations Environment Program (UNEP), in charge of developing the Plan for the hydrocarbon sector.

The meeting was attended by representatives of different member companies, such as Juan Gallarday from PETROPERU, Rafaela Pestana from TEMA, Eric Tolcach from YPF, Stephen Wharton from Tecpetrol, Lorena Bracho and Cecilia Meza from EP Petroecuador, Oscar Álvarez from TGN, and Federico Paloma.





Covid-19

Support for global campaign to promote vaccination

In 2021, ARPEL Safety, Health and Environment Committee, through its Project Manager, Tiphaine Le Moenner, continued participating in the bimonthly meetings of the IOGP/Ipieca Health Committee where the latest developments in pandemic management in companies of this sector were shared.

In this area, ARPEL participated in a video prepared by the Committee to support vaccination, at a time with many questions about the safety and efficiency of vaccines against the disease caused by SARS-COV-2.



[Link to the video](#)

Education and training

Management of Oil Spills (RETOS)

Course and Poster on RETOS in the 2021 IOSC Virtual Edition



Once again, ARPEL participated in the International Oil Spill Conference (IOSC), which took place on May 10-14.

The Association was represented on this first virtual edition by Elliott Taylor, PhD in Oceanography; Darío Miranda, both of them RETOS instructors in ARPEL, and Miguel Moyano, as interim Executive Secretary of ARPEL.

Within the framework of this important event, ARPEL first delivered a course on the “Manual to Assess Oil Spill Readiness and Response Planning” and its assessment tool called RETOS, to later present a poster.

RETOS, which was developed in 2011 and subsequently upgraded in 2014 and 2016, has become an international reference in the matter and is

currently being used by companies and governments in the five continents.

ARPEL developed the RETOS tool supported by international subject-matter experts, to help governments and companies in assessing the competence level of their oil spill readiness and response plans and programs, based on common use criteria that are considered as part of the best international practices.

Link to a free download of the Manual and RETOS Tool, (available in English, Spanish, French, and Portuguese)

<https://arpel.org/library/publication/341/>

How well prepared are countries in Latin America and the Caribbean?
A Benchmarking Assessment for Oil Spill Preparedness and Response
Abstract ID 667973

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Abstract

A guide to best practices in oil spill response preparedness and assessment for the Caribbean and Latin America. The manual provides a benchmarking assessment for oil spill preparedness and response. The assessment criteria are based on the best international practices. The manual provides a benchmarking assessment for oil spill preparedness and response. The assessment criteria are based on the best international practices.

Introduction

The manual provides a benchmarking assessment for oil spill preparedness and response. The assessment criteria are based on the best international practices. The manual provides a benchmarking assessment for oil spill preparedness and response. The assessment criteria are based on the best international practices.

Results & discussion

Type of users of RETOS

Most used scopes

Sub-Regional Status

Conclusions

- Regional initiatives, IASC continued seem to have the greatest opportunity for improvement in the Caribbean and Latin America.
- Logistical capabilities of RETOS™
- Fourteen countries have a comprehensive policy that covers the Caribbean and Central America.
- Assessing the Caribbean and Central America's emergency management and coordination systems from a regional and global perspective for the best opportunities available for identifying logistical and operational response capabilities and needs for training programs.
- Development of a RETOS™ analysis.
- Development of a RETOS™ analysis.
- Development of a RETOS™ analysis.



RETOS Course: First Virtual Edition Together with IAPG, In-Company Course for Recope, and First Delivery in Central and Eastern Mediterranean Countries

The first virtual edition of the RETOS course, a tool developed by ARPEL to assess oil spill management capacity, was held in early September.

The training course was co-organized with the Argentine Oil and Gas Institute (IAPG) and was attended by representatives from Copec, Corena, Ocesa, PAMPetrol, Pan American Energy, Pluspetrol, Recope, Tecpetrol, Terramar Inspection & Trading, TGN, YPF, the National Engineering University of Peru;

professionals from Argentina, Chile, Colombia, Costa Rica, Ecuador and Peru.

Also, by midmonth Dario Miranda, a marine biologist and environmental consultant, delivered a virtual in-company course for Recope.

A major event took place in September, the RETOS course started to be delivered in the Central and Eastern Mediterranean countries.

Methane Emissions Training

At the end of May, the “Methane Emissions for the Oil and Gas Sector” training was organized by the United Nations Environment Program (UNEP) and the Environmental Defense Fund (EDF), supported by ARPEL.

The following ARPEL member companies participated in the online training: TGN, EP Petroecuador, ENAP, CUPET together with the Cuban Meteorological Institute, CUBAENERGÍA, the Ministry of Water and Environment of

Ecuador, the Ministry of Energy and Nonrenewable Resources of Ecuador, and the Ministries of Energy and Environment of Chile.

The main purpose of the activity was to provide information on how to reduce greenhouse gas emissions and avoid wasting energy resources, which will contribute to climate change-related goals, as well as to the programs focused on the hydrocarbon sector.

First Edition: Acquisition of Skills in Smart Technologies for the Oil & Gas Industry

The successful ARPEL Program for Skills Acquisition in Smart Technologies for Industry 4.0 was completed in mid-July.

The training course, which began virtually on March 19 and combines theoretical and practical aspects, was attended by professionals from ANCAP, COGA, ENAP, Pan American Energy, Petroperú, Recope, Tecpetrol, TGN, Sinopec, Tullow Oil, and TotalEnergies.

Artificial Intelligence became a competitive factor for the oil & gas industry, and its solutions go through the entire chain: upstream, midstream, and downstream.

The final papers from two groups—with professionals from Petroperú, Sinopec, Tullow Oil, ANCAP and Recope—of this ARPEL Program edition were selected for the 2nd Virtual Conference “Digital Revolution and Technological Innovation for Oil & Gas,” organized by the Argentine Institute of Oil & Gas, IAPG.



Second Virtual Delivery of The Course On “Energy Management and Iso 50001 Standard for The Oil and Gas Industry”

The second virtual delivery of the course on “Energy Management and ISO 50001 Standard for the Oil and Gas Industry” was held from September 6 to October 22.

Professionals from ANCAP, COGA, ENAP, Recope, Repsol, and Techint participated in this new online delivery. The training course was carried out in an asynchronous mode with a weekly synchronous meeting.

The main goals of the course were to establish guidelines for the implementation of an Energy

Management System in process industries focusing on the oil and gas sector, introduce the ISO 50001 standard, and provide tools to manage the continuous improvement of the company’s energy performance.



Innovation



In 2021, we continued to improve Innovarpel (www.innovarpel.org), ARPEL'S Innovation and Collaboration Platform, to make it increasingly user-friendly. We worked especially on the home page and the menu to facilitate access to each section, in particular the list of platform users and internal messaging.

We also launched the Innovarpel sponsorship program. Based on the level of sponsorship chosen, the company has access to different benefits to enhance its visibility in the industry, such as the publication of banners and the organization of webinars and workshops.

In 2021, Sproule sponsored Innovarpel, first with a Bronze level and then with a Silver level.

Webinar on “Energy Outlook for Latin America” Facilitated by Sproule

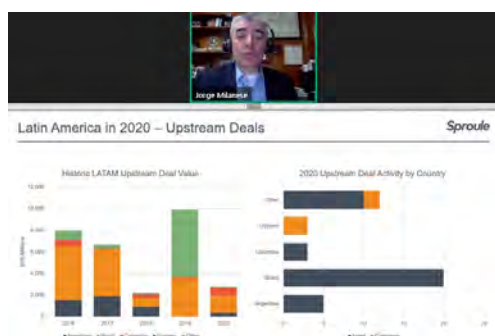
Within the framework of the Innovarpel Innovation and Collaboration platform, the webinar entitled “Energy Outlook for Latin America” was facilitated by Sproule, a sponsor of the platform.

The lecture was in charge of Jorge Milanese, Regional Director for Latin America. The topics addressed during the virtual meeting were key trends, mergers and acquisitions activities in the Latin American energy market in 2020, prospects for development in 2021, and how the energy transition is affecting investment patterns in the Region.

In the Innovarpel virtual platform (a free tool for members and non-members alike), a forum dedicated to the topic allows users to continue exchanging knowledge.

[Link to the forum](#)

[Link to the webinar](#)





Sustainable Management

Development, Promotion and Implementation of Best practices

3

Sustainable development goals (SDGs)

New ARPEL White Paper to boost the contribution of the oil and gas industry to the Sustainable Development Goals in the region



ARPEL launched a new publication entitled “A Roadmap to Boost the Contribution to the SDGs of the Oil and Gas Industry in Latin America and the Caribbean.”

This document establishes a framework for action to boost collaboration and contribution to the SDGs by the oil and gas companies in the region. It defines a common work agenda and concrete actions to promote the incorporation of the SDGs into business strategy, establish partnerships, provide management solutions, measure and communicate progress.

It also represents a milestone in ARPEL’s commitment to sustainability and the United Nations 2030 Agenda.

The document is the result of more than a year of collaborative work among our partners and was developed following several instances of consultation among industry specialists throughout the Region.

Languages:
Spanish, English



Link:
<https://arpel.org/library/publication/531/>

Webinar on Sustainability and Communication and talk on SDGs for SMEs in Neuquén

On October 14, a workshop was held only for ARPEL members on the document “Roadmap to Drive the SDGs and the Importance of Communication”, attended by professionals from the sustainability and communication areas.

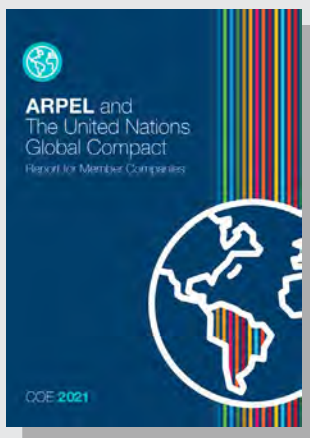
The workshop also featured a remarkable presentation by María Victoria Riaño, former CEO of Equion Energía Colombia, author of the book “Todos Somos Líderes” (We Are All Leaders) and specialist in sustainability issues.

In her presentation <https://www.youtube.com/watch?v=eZNqLByltRo&t=528s> she emphasized the concept of the “Sustainable Self”, from the perspective that we must all contribute to sustainability as individuals and as companies.

In addition, on October 27, through an invitation made by GeoPark, a talk was given on how to incorporate the SDGs in small and medium-sized companies, aimed at suppliers of the oil and gas industry in Neuquén.



Fourth Global Compact Communication on Engagement



The report was published in October and has been issued every two years since 2015, this being the fourth edition of the document prepared by ARPEL.

It is made in order to present to the Global Compact the Association's contribution to promote within its network of companies the 10 Principles of the Global Compact, which are organized around four axes: Human Rights, Labor, Environment and Anti-Corruption.

The report entitled “ARPEL and the United Nations Global Compact (COE 2021)” is available on the Global Compact website and in the ARPEL web library.



See Communication on Engagement



Download from ARPEL website

Webinar “Closing Gender Gaps in the Oil and Gas Industry”

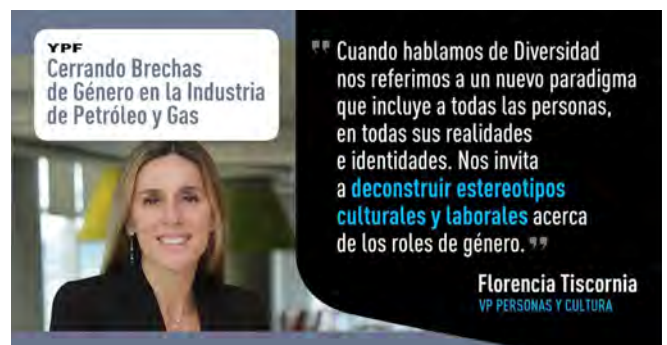
In December 2021, the World Petroleum Council (WPC), in partnership with the Boston Consulting Group (BCG), launched the second edition of “Untapped Reserves”, the global study on gender diversity in the oil and gas industry, whose elaboration was supported by ARPEL for Latin America and the Caribbean.

In the Webinar “Closing Gender Gaps in the Oil and Gas Industry”, held on December 15, the BCG presented the results of the report for the Region and a high-level panel discussion was held.

The virtual meeting was attended by Gustavo Nieponice, Managing Director & Senior Partner Latin America at BCG; María Laura García, Senior Talent Management Manager at Tecpetrol; Florencia Tiscornia, VP People and Culture at YPF; Tony González, HR Manager for Ecuador, Colombia and Peru at Schlumberger, and Francy Ramírez, VP Production for the Andean East Region at Ecopetrol.

The moderator was María Victoria Riaño, former CEO of Equión Energía Ltd., an international leader in sustainability issues.

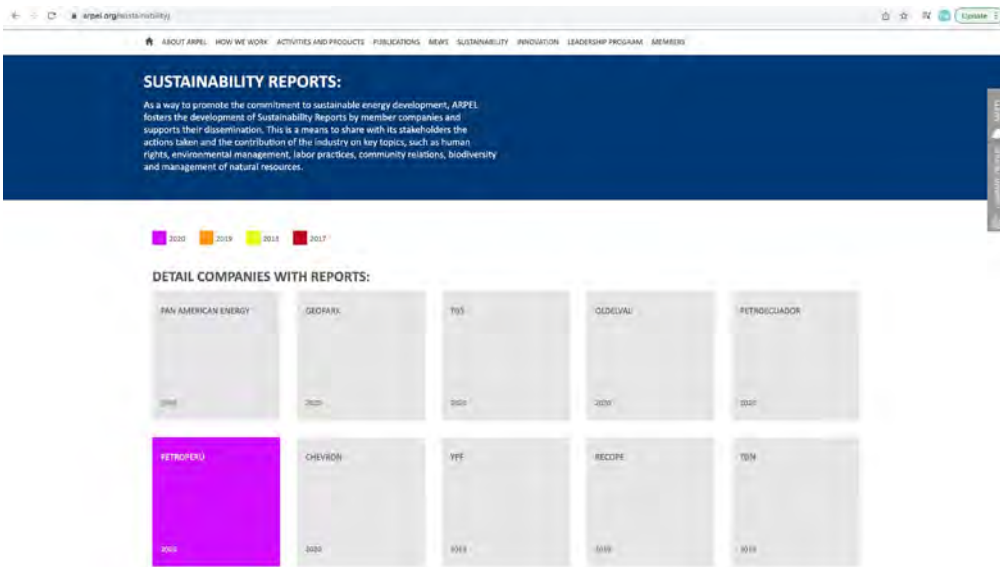
The meeting was hosted by Pedro Mirás, President of WPC, and Pablo Ferragut, Senior Project Manager at ARPEL.



[Watch webinar](#)

Reporting

As a way to promote the commitment to sustainable energy development, ARPEL fosters the development of Sustainability Reports by its member companies and also supports their dissemination from the Association's website and from its LinkedIn and Twitter accounts.



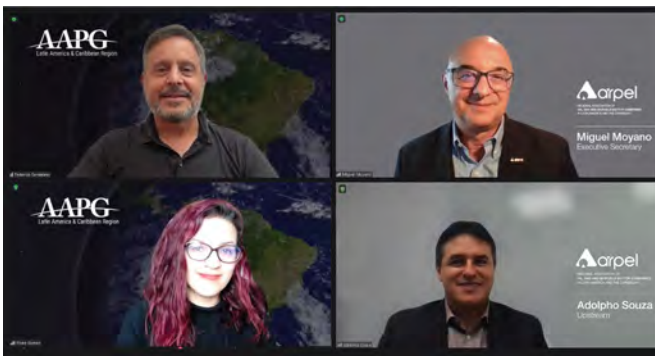


Relationship with Stakeholders

4

Expansion of the institutional network

ARPEL and the American Association of Petroleum Geologists (AAPG) sign a technical cooperation agreement



ARPEL signed in 2021 a Memorandum of Understanding with the American Association of Petroleum Geologists (AAPG), a cornerstone of the scientific community worldwide since it was founded in 1917.

The main purposes of the agreement are based on promoting the systematic exchange and search for

synergies or joint actions in technical activities such as congresses and other industry-relevant projects. On the occasion of the agreement signing ceremony, Miguel Moyano stated: “Together, AAPG and ARPEL may become the spokespersons for science-based alternatives that support the promotion of efficient policies of this sector in our region.”

New virtual IPG Conference organized by ARPEL and the American Society of Mechanical Engineers



ARPEL and ASME (The American Society of Mechanical Engineers) organized the fourth IPG (International Pipeline Geotechnical) Conference, this time in virtual format.

The event, held on June 21 and 22, was sponsored by YPF, Signum-Ingeciencia, BGC Engineering, Penspen, ERDOX-Betonform, ROSEN, CENIT, and Canal Clima.

Once again, the main goal of the IPG conference was to promote knowledge sharing, technological advances and international cooperation to move forward in the management of natural forces that impact pipelines, with a view to protecting the public, the environment and the energy infrastructure, and ensuring the safety and reliability of operations.

The main topics of the 2021 agenda were: Geohazard Considerations for Design and Construction; Geohazard Risk Assessment and Pipeline Integrity Management Planning; Monitoring, Mitigation and Emergency Repairs; Digitization Applied to Pipeline Geotechnics; and Hydrogen Transportation.

The companies and organizations that took part in IPG 2021 were: Ecopetrol, Escuela Colombiana de Ingeniería, YPFB Transporte, CENIT, Repsol, SPEC Services, YPF, Pluspetrol, PAE, INMAC, Transpetro, TGN, Jacame Engs, TC Energy, Rosen, NDT Global, TGI, Andes Geosciences, Penspen, BGC Engineering, DNV Norteamérica, Ecopetrol, Escalar Ingeniería, The Transition Accelerator, Stantec Consulting, Compañía Operadora de Gas SAC, Saipem, 3vGeomatics, Omnisens, Rsread Consulting, Canal Clima, Betonform, Applus Norcontrol, New Global SAC, Center for Reliable Energy Systems, and Enbridge.

Natural gas

- Digital Dialogue Series: Brazil, Argentina and Colombia
- LNG Outlook in Latin America and the Caribbean
- LGC 2021

How will the new law transform the gas market in Brazil and the region?

This was the topic of the first 2021 LGC.

On May 6, the first of a series of digital dialogues organized for the Latin America & Caribbean Gas Conference (LGC) took place, focusing on how the new law will transform the gas market in Brazil and the region.



This cycle is organized by IGU (International Gas Union), Olade (Latin American Energy Organization) and ARPEL, with the support of Energy Net.

The panel was made up by Aldo Barroso Cores Junior, Director of the Natural Gas Department of the Brazilian Ministry of Mining & Energy; Pabo Erias, Commercial Manager at TGN; Heloisa Borges, Head of Oil, Gas and Biofuels Research at EPE (Empresa de Pesquisa Energética); Sylvie d'Apote, Head of the Natural Gas Department at IBP; Edmar Fagundes de Almeida, from the School of Economics of the UFRJ, and Guilherme Goncalves, a consultant specialist in the Brazilian gas market at IHS-Markit.

The moderator was Alfonso Blanco, Executive Secretary at Olade.

“Vaca Muerta: investment and energy policies to accelerate development” was the topic of the second installment of LGC 2021.

On June 3, the second installment of digital dialogue series took place within the framework of the LGC 2021, dedicated to “Vaca Muerta: Investment and Energy Policies to Accelerate Development.”

On this occasion, the Argentine Oil and Gas Institute (IAPG) also contributed to the event. The panel was made up by Verónica Tito, Legal Advisor at the Undersecretary of Hydrocarbons for the Secretariat of Energy; Ceferino Ángel Di Camillo, Commercial Planning Manager of Tecpetrol; Gabriela Aguilar, General Manager Argentina and VP South America of Excelebrate; Pablo Erias, Commercial Manager of TGN, and Patricio Da Re, Manager of Strategy, Business Development and Participated Management, G&E Vice-Presidency of YPF.

The moderator was Jorge Ciacciarelli, Independent Consultant and former Executive Secretary of ARPEL.

Colombian gas outlook in new delivery of the LGC Dialogue Series

On August 5, the third delivery of the digital dialogue series took place within the framework of the LGC, dedicated to the gas outlook in Colombia.

The panel was formed by Alexandra Hernández, VP of Regulatory and Economic Affairs of the Colombian Petroleum Association (ACP); Andrés Sarmiento, President of Naturgas; Andrés Pontón, Gas & LPG Manager of Ecopetrol, and Juan Pablo Henao, VP of Business Development from TGI.

The moderator was Carlos Cortés Simón, Executive Chairman of the Association of Natural Gas Companies (AGN) and Regional Coordinator for Latin America from IGU.

LGC 2021: Digital Dialogue Brazil The New Gas Law

 Link: <https://arpel.org/library/publication/528/>



LGC 2021: Digital Dialogue Argentina Vaca Muerta

 Link: <https://arpel.org/library/publication/529/>



LGC 2021: Digital Dialogue Colombia The Role of Natural Gas in Energy Transition

 Link: <https://arpel.org/library/publication/530/>



Digital dialogue on the LNG Outlook in Latin America and the Caribbean

At the beginning of September, a new edition of the Digital Dialogues series took place within the framework of the 2021 LGC.

This time, a closed workshop was held on “The LNG outlook in Latin America and the Caribbean.”

The panel members were Jorge Rivera Staff, Secretary of Energy of Panama; Heloisa Borges, Head of Gas of EPE Brazil; José María Castro, General Manager of SPEC LNG; Gabriela Aguilar, General Manager for Argentina and VP South America of Excecelerate; Verónica Tito, Legal Advisor of the Under-Secretariat of

Hydrocarbons at the Secretariat of Energy of Argentina; and Lucía Mora Ruiloba, LNG Analyst and Communications Officer of the International Group of Liquefied Natural Gas Importers (GIIGNL). The event was moderated by Kenna Bravo, from GNL Global.

The virtual meeting was also attended by representatives from AES Panama, Enagas, Galileo Technologies, IBP, IHS-Markit, Naturgy, Pluspetrol, SYCAR, YPF, among other prominent participants from operating companies, consulting firms, industry associations, international organizations and government authorities.

Latin America & Caribbean Gas Conference (LGC 2021)

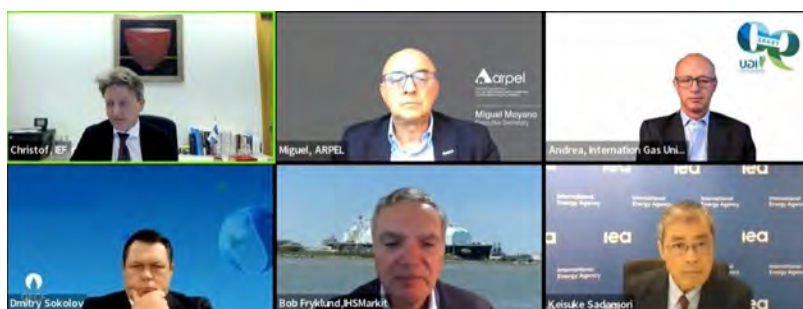
The third edition of the Latin America & Caribbean Gas Conference, an event co-organized by ARPEL, IGU and EnergyNet, with the support of OLADE, took place virtually on December 1st and 2nd.

The agenda of this important event included virtual sessions that addressed the current situation of the natural gas and LNG markets in Latin America and the Caribbean, the main investment and development opportunities for the gas industry in the region, as well as the role of natural gas and LNG in energy transitions.

LGC 2021 brought together energy ministers, high-level officials from government agencies and international organizations, national and international gas companies, investors and solution providers.

The opening ceremony was attended by Alfonso Blanco, Executive Secretary of OLADE; Andrea Stegner, VP of the International Gas Union (IGU); Keisuke Sadamori, Director of Energy Markets and Security of the International Energy Agency (IEA); Dmitry Sokolov, Head of Gas Economics of the Gas Exporting Countries Forum (GECF); Christof van Agt, Director of Energy Dialogue of the International Energy Forum (IEF), and Miguel Moyano, Acting Executive Secretary of ARPEL.

The moderator was Bob Fryklund, Chief Upstream Strategist at IHS-Markit.



Dissemination Activities

ARPEL was Present at the Hydrogen Congress for Latin America and the Caribbean co-hosted by the IDBD

APRIL 2021

ARPEL participated in the Hydrogen Congress for Latin America and the Caribbean (H2LAC 2021), which took place on April 14-15, and was co-hosted by the Inter-American Development Bank (IDB).

H2LAC brought together regional stakeholders and global industry leaders to address key questions such as: What role can hydrogen play in the region's clean energy transition?;

Can hydrogen help reactivate Latin America and Caribbean economies?; or How do we convert this momentum into policies, programs and projects?, among many other questions.

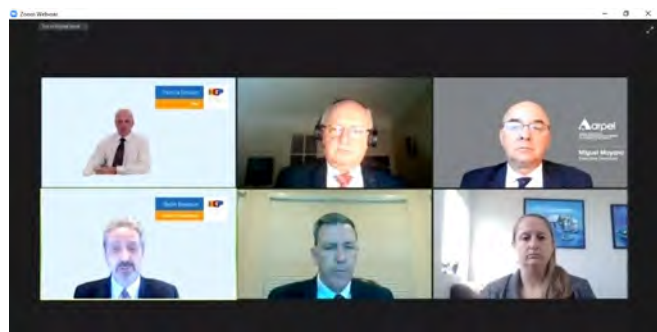
Irene Alfaro, ARPEL's Downstream Director, moderated the panel entitled "A Decarbonized and Competitive Oil and Gas Industry: Is Hydrogen the key?"



ARPEL with IOGP, API, Ipieca and IADC in Business Associations Role Panel.

APRIL 2021

On April 27-28, the virtual conference “Cross-Border Coordination in Spill Prevention and Response in Suriname-Guyana Basin - Collaborative Solutions Enhancing Regional Capacity” was held, supported by ARPEL.



ARPEL took part in two cases: a panel on the Business Associations Role, which analyzed the organizations’ role in supporting the development of the sector, and a session to present the RETOS tool. In particular, ARPEL’s experience and the role that our association can play in regional government/industry cooperation in the Guyana-Suriname basin, an area with intense offshore exploration and production activity, were highlighted.

ARPEL with YPFB, Petroperú, SPH and AMGN in Forum on the CSR Challenge in the Hydrocarbons Sector

MAY 2021

In mid-May, ARPEL participated in the forum “The CSR Challenge and Future in the Hydrocarbons Sector”, organized by Worldcob (World Confederation of Businesses).

The virtual seminar was attended by Mario Catari, Quality, Health, Safety, Environment and CSR Manager at YPFB Chaco; Tiffany Bayly, President of the Peruvian Hydrocarbons Society (Sociedad Peruana de Hidrocarburos, SPH)’s Sustainability Committee; Paulina Gómez, a member of the Communication and Sustainability Committee of the Mexican Natural Gas Association (Comité de Comunicación y Sostenibilidad

de la Asociación Mexicana de Gas Natural, AMGN); Beatriz Alva, Petroperú Social Management Head, and Pablo Ferragut, ARPEL Senior Project Manager. The moderator was Walter Daniel, Worldcob Quality and CSR Director.



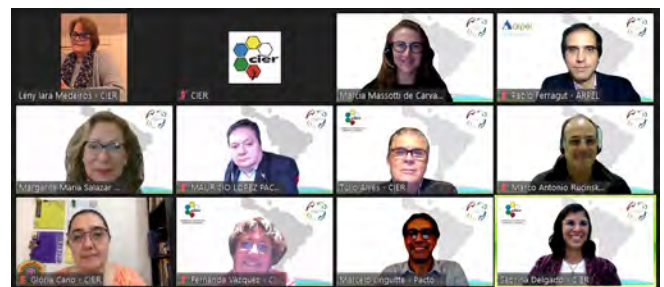
ARPEL Took Part in the CIER Forum on the SDGs Integration in the Energy Sector

MAY 2021

At the end of May, the CIER Forum entitled “The SDGs Integration in the Energy Sector” was held with the participation of Maximiliano Orfali, President of CIER, and Tulio Alves, Executive Director, plus a panel of seven speakers from different organizations and companies in the Region: Global Compact Network Brazil; Global Compact Network Colombia; Enel; Eletrobras; Empresas Públicas de Medellín (EPM); Copel, and ARPEL.

The virtual forum brought together 400 professionals from more than 20 countries.

With the purpose of diving deeper into the 17 Sustainable Development Goals (SDGs), the speakers shared the insights, experiences and action plans they are leading to incorporate the SDGs into their management.



ARPEL Attended the First Edition of the “Suriname Energy, Oil and Gas Summit”, Hosted by Staatsolie

JUNE 2021

In early June, ARPEL participated in the first edition of the “Suriname Energy, Oil and Gas Summit”, organized by Staatsolie, a partner company since the 1990s, with the support of the Ministry of Foreign Affairs, International Business and International Cooperation and the Ministry of Natural Resources of Suriname.

The virtual event featured 68 speakers and an audience of more than 600 participants from all over the world, and its main purpose was to inform about Suriname’s investment opportunities driven by the recent discoveries of hydrocarbon resources and developments in the country,



raising Suriname as a potential global leader in the oil industry.

Miguel Moyano, Acting Executive Secretary, represented the Association for the panel entitled “Suriname - A Country of Choice for New Exploration and Production Development.”

ARPEL Present in Gas Panel at the Latin American Energy Forum

JUNE 24 TO JULY 1

ARPEL participated in the fourth Meeting of the Latin American Energy Forum, which took place from June 24 to July 1, in the session entitled “Gas: The Next Generation of Transformative Projects.”

The panel was formed by Timmy Baksh, Director of the Energy Research and Planning Division at the Ministry of Energy and Energy Industries of Trinidad and Tobago; Yeimy Baez, Gas Vice President of Ecopetrol; Aldo Barroso Cores Junior, Director of the Natural Gas Department at the Ministry of Mines and Energy of Brazil; Andrés Sarmiento Grisales, Secretary General of Naturgas; Liliana Díaz, Director of FTI Consulting, and Pablo Ferragut, Arpel Senior Project Manager and Coordinator of the Gas and Energy Committee.

Daniel Monzón, Managing Partner at Arthur D. Little, was the moderator.

The main topics of the session were: What are the next big transformational projects and what are the partnership opportunities? How is the role of gas changing in Central America and the Caribbean? Can a Southern Cone gas market be consolidated? and the growing role of natural gas in supporting renewable energies, among others.



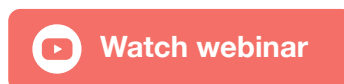
Tecpetrol, Enauta and ARPEL at BNamericas Webinar on the Results of the 2021 Oil & Gas Survey

JULY 2021

On July 29, BNamericas held the webinar “Results of the 2021 Oil & Gas Survey: Investment Perspectives for Latin America.”

The panel was formed by Ricardo Ferreiro, General Director of Business Development, Senior Manager of Tecpetrol Gas & Power and Commercial Departments; Décio Oddone, Enauta Director and CEO, and Miguel Moyano, Acting Executive Secretary of ARPEL. The moderator was Michael Place, BNamericas Energy Editor.

The webinar disclosed the main findings of the 2021 Survey for the hydrocarbon sector in the Region. Next, the guests discussed some key industry topics such as the costs related to the COVID-19 pandemic, the energy transition, and the main investment areas in the next 12 months, among others.



ARPEL Attended a Workshop on Subsea Well Control Techniques Organized by Amexhi

SEPTEMBER 2021

ARPEL participated in the virtual workshop on “Subsea Well Control Techniques”, held on September 22 and 23 and hosted by the Mexican Association of Hydrocarbon Companies (Amexhi).

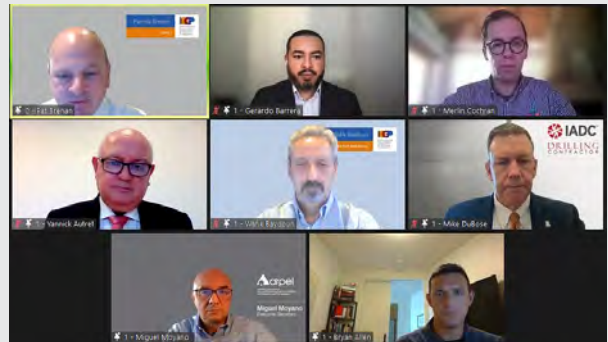
The objective of the meeting was to generate a forum for industry, government and organizations to share good practices to improve the capabilities for spill prevention and subsea response to loss of well control. Experts, industry representatives and government officials shared their knowledge on the subject.

On the first day, ARPEL’s Acting Executive Secretary and Upstream Director, Miguel Moyano, participated in the Industry and Trade Associations Panel along with Merlin Cochran, General Manager of Amexhi; Wafik Beydoun, IOGP Director for the Americas; Bryan Allen, API Senior Global Standards Strategy Specialist; Mike DuBose, International Development Vice President and Gerardo Barrera, Program Manager in the Accreditation Group, both from IADC; and Yannick

Autret (Total Energies), IPIECA Vice President for Associations.

On the second day, Moyano was part of Session 6 on “Consequence Modeling and Spill Preparedness”, in which Deborah French McCay from RPS Group also gave a speech.

This time, the presentation was about the RETOS Manual and Tool, developed by ARPEL and used all over the world.



ARPEL Lectured on Governance to Maximize the Benefits of the Sector at SIPEX 2021 Summit

OCTOBER 2021

Staatsolie, an ARPEL's member, organized the Suriname International Oil & Gas Summit and Exhibition - SIPEX 2021, which took place virtually in October 5-7.

The Association was represented by its Acting Executive Secretary, Miguel Moyano, who took part in Session 2 on "Improving the Governance Structures to Maximize the Benefits of the Oil and Gas Industry in the Region."



The Summit's main goal was to provide a space for dialogue so regional government authorities, local businessmen and entrepreneurs could exchange experiences with representatives of international oil companies, service providers, business experts and investors.

ARPEL Launches OECD-funded Program to Promote Corporate Responsible Behavior in the Extractive Sector

OCTOBER 2021

The Capacity Building Program on Due Diligence for the Extractive and Minerals Sector in Latin America and the Caribbean was launched on October 19.

The program is financed by the Organization for Economic Cooperation and Development (OECD), facilitated by the consulting firm CREER, and supported by ARPEL to encourage the participation of oil and gas companies in the region.

During the launch workshop, which was delivered virtually, the panel "Due Diligence Perspectives and Challenges" was moderated by Luis Fernando de Angulo, Director of CREER; Cristina Muñoz, Technical

Advisor for Regional Cooperation for the Sustainable Management of Mineral Resources (MINSUS); Juan Carlos Vargas, from the Labor Development Program (PLADES)/CNV International; María José Murillo, Supply Chain Leader and Representative of the Alliance for Responsible Mining, and Pablo Ferragut, Senior Project Manager of the Association.

The program seeks to promote corporate responsible behavior for the extractive sector in the region. Some 40 companies and institutions are benefiting from this initiative.

ARPEL was Present in a New Edition of Perú Energía

OCTOBER 2021

ARPEL was present in a new edition of Peru Energía, a reference event for the sector in that country, held on October 21 and 22.

In this edition, the Panel “Social Scenario of the Hydrocarbon Sector” was formed by Pablo Ferragut, Eleonora León y León, Manager of Social Management for the Amazon Region of

Petroperú, and Paúl Sánchez, Head of Social Management and Sustainability of Petrotal.

The moderator was Tiffany Bayly, Institutional Relations Manager of Tullow Oil Peru.



ARPEL at Petrobras Congress on Spill Response in the Equatorial Margin

NOVEMBER 2021

ARPEL participated in the Petrobras Congress on Environment, Health and Industrial Safety and Climate 2021. This internal event took place in November 8-10 and was attended by 170 professionals.

The Association participated in the session entitled “Experience in Oil Spill Preparedness and Response in the Equatorial Margin Region.”

The speakers were Conor Bolas from ITOPF, Michael Roldam from Oil Spill Response Limited (OSRL), and Miguel Moyano from ARPEL.



The moderator was Rodrigo Cochrane, a member of the Oil Spill Response team at Petrobras.

ARPEL's Participation in Panel on ESG Criteria at AAPG Event

NOVEMBER 2021

The session “ESG and Corporate Social Responsibility: Public Policy Trends and Impacts” took place in mid-November, in the context of the Latin America & Caribbean Region Energy Opportunities Conference organized by the American Association of Petroleum Geologists (AAPG), which was co-chaired by Pablo Ferragut and Miriam Winsten, current President of the AAPG Environmental Geoscience Division and former Global Director of Sustainability and ESG Reporting of Schlumberger.

The speakers of the panel were Mónica Tangarife, Ecopetrol's Social Responsibility and Human Rights Leader; Dave Abeleven, Director of the Suriname Energy Authority, and Alex MacGillivray, Director of Assessments of the UK's CDC Group.



I Global LNG International Forum

NOVEMBER 2021

On November 19, GNL GLOBAL, a Spanish-speaking LNG specialized media, held its first virtual event called “LNG and the Energy Transition in Latin America and the Caribbean.”

The objective of this event was to examine the behavior of the LNG industry and trade in Latin America and the Caribbean in 2021.

Pablo Ferragut, Senior Project Manager and Coordinator of ARPEL's Gas Committee, participated in this meeting on behalf of the Association as a guest panelist.

VI Olade Energy Week

NOVEMBER 2021

The VI OLADE Energy Week took place in November 17-24. First, ARPEL's Acting Executive Secretary, Miguel Moyano, participated as an observer in the LI Meeting of Ministers of the Latin American Energy Organization.

Also, Pablo Ferragut, Senior Project Manager, lectured at Panel V on "Gas Integration".

For her part, Irene Alfaro, ARPEL's Downstream Director, took part in the panel "Dialogue between Agencies", which included a round table on "Agendas for the decarbonization of the energy sector."

The moderator was Alfonso Blanco, Executive Secretary at OLADE.

Sub-regional Workshop on the Assessment of the Level of Oil Spill Response Planning and Readiness Management for the Central and Eastern Mediterranean

NOVEMBER 2021

ARPEL was specially invited to the closing ceremony of the Sub-regional Workshop on the Assessment of the Level of Oil Spill Response Planning and Readiness Management for the Central and Eastern Mediterranean, organized by Rempec (Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea).

The session was attended by Malek Smaoui, REMPEC Programme Officer (OPRC) and Miguel Moyano, Acting Executive Secretary of ARPEL. It was a closing session of a distance RETOS course delivered by Rempec to representatives of national authorities responsible for marine oil pollution preparedness and response in the Adriatic, Central and Eastern Mediterranean Coastal States: Albania, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, Israel, Lebanon,

Libya, Monaco, Montenegro, Slovenia, Syria and Turkey.

In April 2019, a RETOS workshop was held in Malta for the benefit of the Western Mediterranean countries. In this way, the governments of all Mediterranean countries have been trained in the use of RETOS and use this ARPEL tool to assess the level of planning and readiness of their oil spill contingency plans.

The objective of ARPEL's participation was mainly to share our experience with Rempec regarding the use of RETOS in a collaborative intergovernmental environment, in order to benchmark and aim at improving the level of planning and readiness for spill response. The possibility for governments to use RETOS as a reference tool for licensing offshore operations in the Mediterranean was also discussed.

ARPEL at 23rd World Petroleum Congress

DECEMBER 2021

The 23rd edition of the World Petroleum Congress, held in Houston, Texas (United States) in December 5-9, gathered more than 5,000 people.

Miguel Moyano, Acting Executive Secretary of ARPEL, was the Association's representative in such prestigious event that gathers in each edition industry and government leaders from around the world to address different aspects of the sector ranging from technological advances throughout the value chain to the role of natural gas, renewable energies, and the management of the oil & gas industry in environmental, social and economic issues as a major topic.

Moyano participated in the CEOs Panel "Encouraging an Open Regulator - Industry Dialogue." The main idea of the panel was the importance of collaboration between regulators and industry to implement new energy policies.

Close communication on issues such as competition advocacy, safety, energy transitions, digital impacts or business development among Stakeholders ensures greater engagement at key moments and maximizes positive impacts.

ARPEL's participation in such panel was an excellent opportunity to represent the industry's vision regarding regulatory issues in a high-level international government/industry dialogue environment.

The moderator was Pedro Miras Salamanca, Vice President of the WPC. Moyano shared the panel with Belarmino Chittarguleca, Executive Director of the

Angola National Oil and Gas Agency; Frank J. Macchiarola, Senior Vice President of the American Petroleum Institute; Rodolfo Henrique de Saboia, Director General of the Brazil National Agency for Petroleum, and Gurmeet Singh, Director General of the Federation of Indian Petroleum Industry (FIPI).

In addition, Moyano was part of the judging panel of the WPC Excellence Awards on Social Responsibility together with Pierce Riemer, Executive Director of the World Petroleum Council, and Brian Sullivan, Executive Director of IPIECA.

On the last day of the WPC, Moyano was Vice Chair of the Forum entitled "Improving the Public Perception of the Oil and Gas Industry" in which new strategies and communication tools were presented to highlight the industry's key role in society, its safety culture and environmental awareness.

This forum aimed to consider the reasons behind the divide in the public perception of the oil & gas industry, how to address these challenges and what role stakeholders can play in improving the industry's reputation globally and in the places where it operates.



Pierce Riemmer, WPC Executive Director, Miguel Moyano, ARPEL Acting Executive Secretary, Tor Fjaeran, WPC Chairman.



Deliverables produced in 2021

are available on the ARPEL website (www.arpel.org), on the Innovarpel platform (www.innovarpel.org), and on the social network: **Youtube, LinkedIn y Twitter.**

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 ARPEL Channel

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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 that brings together companies and institutions from the oil, gas and biofuels sector in Latin America and the Caribbean. It was founded in 1965 as a vehicle for cooperation and reciprocal assistance among sector companies, with the primary purpose of actively contributing to industry integration and competitive growth and to energy development in the region.

Its members currently operate in more than 30 countries in Latin America and the Caribbean, including national and international operating companies; technology, goods and services providers for the value chain, and national and international institutions in the sector.



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