XXIX LA JOLLA ENERGY VIRTUAL CONFERENCE

Navigating Crisis

2020 REPORT

INSTITUTE OF THE AMERICAS®

Energy & Sustainability Program

Introduction

On May 18-22, 2020 the Institute of the Americas hosted the XXIX La Jolla Energy Conference. Given the unprecedented travel and meeting restrictions due to the COVID-19 pandemic, for the first time ever, this year's event was held by way of a unique virtual platform.

Key topics and panels included trends and outlook for the energy sector in Latin America as well as the implications of COVID-19, but also the massive shock to the global oil market and its impact across the hemisphere. We launched the conference by addressing key questions such as what do these issues mean for Latin America? Have habits temporarily or permanently changed? What are the policies governments should be considering for the "day after?" What does it signify for the energy transition?

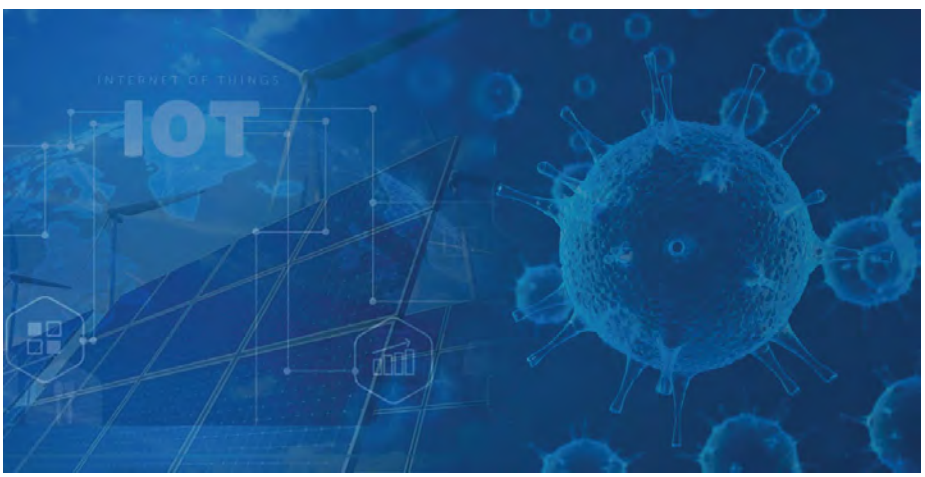
The analysis and discussion of these critical cross-cutting themes came together with our country panels that focused on US-Latin America relations and critical minerals, Mexico, The Southern Cone, Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, and Peru.

What follows are a series of summaries derived from the panels, presentations and speeches. This synopsis document is organized in line with the conference agenda and sessions.

Monday, May 18

COVID-19, Global Trends and Latin America's Energy Sector

Have habits temporarily or permanently changed? Will we travel less, commute less, consume less energy?



Leonardo Sempertegui, General Legal Counsel of OPEC noted that COVID-19 is an unprecedented situation causing shocks to the oil market most critically on the demand side. For the moment, he said, it appears that trends of the day-to-day workplace that were previously done in person will remain online. However, it is unclear how this will affect the energy transition.

Christoffer Mylde, Senior Vice President at consulting firm Sproule shared their analysis that pointed to an expectation that after the pandemic people around the world will travel less, work more remotely, and companies will have the need to rework their supply chains, there is also the possibility for an economic recession. He did, however, point to some optimistic factors for the oil and gas sector are that people will increase the use of their own cars, although decrease in discretionary travel and therefore, gasoline consumption will start to recover but on a slower pace. Their view is that behavior will change regardless of how governments respond to the pandemic and we will face the overarching threat of recession.

Andres Chambouleyron, Non-Resident Fellow at the Institute of the Americas & Managing Director at consultancy Berkeley Research Group (BRG), discussed the electric sector and analysis he had completed on quarantine measures and their impact. He stated that in the short-term, electricity consumption fell significantly across all sectors in Argentina during the lockdown and that in the medium-term, a permanent reduction in consumption by about 4-5% from small businesses is expected.

Claudia Pessagno, Associate Director, Upstream Company Research at IHS Markit suggested that oil markets had never seen simultaneous demand and supply shocks of this magnitude and that it likely will have long-lasting impacts. Their research shows that oil and gas companies will continue to reduce their capital expenses and NOCs have already reduced their 2020 budgets by a third while exploration and production have slashed budgets by 3/4s. IHS forecasts a recovery next year but to be still lower than 2019. She also posited the important, but not terribly good news, that oil and gas companies entered the current crisis in in worse financial position than in the 2014 downturn with higher debt and lower cash balances.

The impact in Latin America in the intersection of overproduction and demand destruction will influence different areas. For example, upstream portfolios will be reduced, and the production shut downs will have long-term impacts on volume, and exploration will be temporarily removed due to lack of capital investments. Companies will cancel dividends and share buyback plans to remain sustainable.

OPEC's effort to bring the market back into balance include improving relationships between OPEC and the US. Traditional big producers are carrying the weight of this crisis pushing for cooperation by all producers to reduce oil production and there is need to have be a conversation between energy-producing and consuming countries to stabilize energy markets.

For service companies, capital discipline is key. Latin America is likely to see longer-term effects as NOCs have policy objectives outside of maintaining price, and less market-driven response. The pandemic could create support for energy transition, but service companies will have continued capital reduction, especially as they are still being affected by the last recession.

Impacts on oil-dependent countries/National Oil Companies (NOCs)

The impacts are not just limited to Latin America, these countries are likely to continue their subsidies and reduce supply to help balance the situation. The market is adjusting to new levels of demand and subsidies need to be sustainable in order to respond to the current situation and thus governments will need to rethink the role of their NOCs to be able to adapt to change. However, some NOCs will hold onto strategic models and incongruences with more market-oriented strategies based on political stakes are likely to continue. Mexico's NOC, Pemex is not cutting its spending because the President Lopez Obrador is committed to growing production. Another shock to the industry in addition to the supply and demand is the reduction of investor confidence and there is less appetite for oil and gas equities as investors remain concerned that companies will not adapt to climate change and will not pull back from ESG commitments, especially on the part of IOCs.

Energy Transition in a time of Low Oil Prices: Assessing the Outlook for Electric Vehicles, Renewables and Energy Efficiency

What will the new normal look like? Is this a different transition to the future? Is the demand destruction positive or will it recover?

Demand for energy in Latin America has plummeted, by late April/early May the region saw30% reduction in demand for electricity and up to 75% reduction in the transport sector with total energy demand down 9-14%, depending upon the country. As of early May, forecasts for GDP anticipate significant drops in the region on the order of -2%-12%. On the positive side, the economic contraction and demand destruction has led to emissions falling dramatically: ~14% across the region.

The future of the transition

With the pandemic still gripping the world, predictions are difficult if not impossible but panelists felt that some of the changes in consumer behavior will remain in the future and have a high impact on the energy sector, particularly in the renewable energy and transport sectors. The obvious signs point to lasting decreases in energy demand: telecommuting, remote meetings, changes to land use, for example car free zones; however, use of transit is down while use of passenger cars, ecommerce and delivery is up.

The pandemic has reinforced the need for government to evaluate how to work with the energy and the environmental sectors yet the US Government does not have a coherent green stimulus plan. However, states like California will continue to pursue ambitious policies, though investment is down, and states are suffering from the major economic impacts wrought by the pandemic and lockdowns. Panelists emphasized that, on the other hand, China and the European Union already have plans for a green stimulus that will pursue a smoother if not accelerated energy transition.

International companies such as General Motors also continue pushing towards an *all-electric future* and Caribbean-based company InterEnergy will continue to deploy its EV infrastructure to the countries it serves such as Panama and the Dominican Republic integrating an acceleration of energy storage use. Progress on these green initiatives has slowed a little due to value erosion and less demand for cars in general, but it has also created a need to quickly adapt. Today, EVs present an opportunity for green stimulus, but there is work to be done on infrastructure and range to equalize overall value.
The outlook for the oil industry is uncertain. Dramatic cuts to production mean that supply may recover even slower than demand and cause prices to rise. This could be the knockout punch for coal in the West unless governments continue to support it. The oil shock occurred in an already rapidly changing environment: huge increase in supply from the US, remarkable reduction in costs of wind and solar over the last decade, are making prediction and forecasting very difficult, especially since recovery depends on the virus itself, which has shown no sign of abating. Ultimately, shifts – and as discussed at length, whether they are temporary or permanent - in consumer preference will be a major determinant in the future of the energy sector and the energy transition.

Latin America's Lithium Outlook: What makes a market competitive?

In a robust discussion with consultant and lithium analyst Emily Hersh, she noted that the energy transition is alive and well and will be supported by governments during the pandemic recovery. The need to transition is not just driven by consumer preference, but by answering the question, what makes a market competitive? Or what makes a product/project profitable? In the lithium sector, the value-add does not come from extraction itself, but from having the right technology to extract lithium in a particular location be it brine, tuff, clay, or rock.

Lithium production has to follow specific steps and order: 1) Convert the lithium into a concentrate; 2) Create a battery-level chemical and 3) Move up the battery/EV supply chain. For countries to add value, they should focus on being able to create the battery-level chemical domestically, rather than simply selling the brine concentrate. Brazil for example, has high level offtake agreements with battery-makers in Japan. This sends a message that they have access to financing and are producing the highest value product possible. Argentina on the other hand is the only country that has had a new lithium project come online in the past decade and new discoveries in Mexico and Peru have been less successful at moving from step 1 to step 2.

What is the outlook for lithium?

The lithium market is small but growing quickly because of electrification. The market needs new projects, but aspiring producers face challenges and uncertainty. For instance, it is a nascent market without strong financial structures to allow for continued investment when prices are low. When prices rise, the industry requires at least two years to bring a new project online. Because product specifications vary, a producer must sell to the off-taker with whom they have a contractual relationship. Thus, producers must achieve a scale that makes it feasible for suppliers to complete due diligence on the project across the two-year development span. With regards to security issues, they are not a serious concern or significant problem because it is hard to steal and sell lithium. Indeed, infrastructure is a much larger issue because producers need good roads for project development and to move their products to market.

Can lithium help Latin America recover from Covid-19?

There are good projects in countries such as Argentina, Brazil, Peru, Mexico, and Chile, but each face unique challenges that prevent them from developing a market. COVID-19 adds additional layers of challenges. Brazil and Peru are the most affected by the pandemic, and Chile is challenged by political and social barriers. Therefore, more than ever governments across Latin America need to embrace a long-term view and seek to establish and eventually grow a lithium industry that adds value.

Regarding the role of China, the country has had a clear path to becoming the unquestionable world leader in lithium investment, with 60-80% control over supply chains, perhaps largely due to the risk and hassle of developing lithium projects. China is more focused on economic development than in incentivizing Latin America to develop a sustainable industry. If other countries wish to counter or limit China's control over these critical supply chains and minerals, they will need to consider large financial investment – the old axiom of putting your money where your mouth is comes to mind.

Tuesday, May 19

Focus on the Southern Cone

Brazil Energy Update – Production Cuts, Natural Gas, Power Market and Policy Developments and Brazil-US Energy Forum

The "Brazil Energy Update" session provided timely analyses on oil and gas developments, the Brazil-US Energy Forum, energy transition, and investment outlooks in the context of COVID-19. In order to frame the panel discussion, Clarissa Lins, a Senior Fellow for CEBRI's Energy Program, presented general figures on oil and energy in Brazil. According to Lins, the oil and gas industry currently accounts for half of the primary demand in Brazil and 10% of the country's industrial GDP. Due to regulatory advances, the industry has acquired a certain "vibrancy," translating into approximately $100 billion worth of investment over the last five years. Lins stressed that it remains absolutely key to maintain an attractive investment environment in Brazil, with regulatory and institutional frameworks providing predictability and clarity for investment as the country faces a more severe price situation in the future. Decio Oddone, former General Director of the National Agency of Petroleum, Natural Gas and Biofuels, echoed these sentiments, recalling when the new Brazilian government stimulated the industry in 2016-17 by adopting a series of measures aimed at facilitating the return of investors in years to come.

In discussing whether renewable energy transitions will assume greater roles in the recovery from COVID-19, Lins, Oddone, and Elizabeth Urbanas, the Deputy Assistant Secretary for Asia and the Americas at the US Department of Energy, described their visions for the future of energy in Brazil.

According to all panelists, Brazil possesses all of the necessary conditions to deploy several diverse energy sources in a profitable manner. With competitive advantages in many energy sources (wind, solar, biomass, hydro.) Brazil remains a "strong and relative player" globally. Though investments in renewables might experience delays due to financial constraints caused by the pandemic, Lins did not envision a reversal of Brazil's plan to decarbonize. According to Lins, renewable energy sources account for 40-45% of Brazil's energy mix today with wind and solar set to experience growth. However, with this growth, each panelist stressed the importance of gas development for "renewable integration." Oddone described the necessity of increasing the presence of natural gas to guarantee these systems and "the baseload," especially in isolated areas.

Elizabeth Urbanas provided a status update on the Brazil-US Energy Forum and bilateral energy relationship, describing the principal areas of focus, including: 1) sharing best practices on environmental improvements to the production and commission of oil and gas, 2) promoting a competitive natural gas market in Brazil, 3) supporting greater cybersecurity in the oil and gas industry, 4) working with compressed natural gas vehicle utilization, and 5) exploring the potential for civil nuclear expansion in Brazil with additional technical assistance on small modular reactors. Urbanas stressed that this initiative does not solely include the work of the US Department of Energy. Rather, it encompasses efforts across multiple government institutions.

Both Oddone and Lins briefly discussed Brazil's new open and competitive natural gas market, which includes actors other than Petrobras. Emphasizing the importance of implementing legislation and setting clear rules with the trading of gas, states like Rio de Janeiro, Sergipe, and Amazonas are leading the way for the new gas model in Brazil.

In closing, each panelist was asked to provide suggestions and highlight Brazil's most important actions moving forward. All agreed that the country should keep insure that there is no wavering with regards to the best social and environmental standards moving forward. Urbanas highlighted that with the pause of Pre-Salt auctions, this period provides an opportunity for Brazil and others to help the government make the sector and auctions more attractive to investors. Finally, with data at the time of an oil price under US$30 dollars per barrel and the oil industry attracting ⅕ of foreign direct investment, 65% of the audience agreed with the panelists, in that "Pre-Salt is one of the most competitive plays in the current oil and gas landscape."

Brazil's Petroleum, Natural Gas and Biofuels Outlook

The Secretary of Petroleum, Natural Gas and Biofuels, Jose Mauro Ferreira Coelho, presented the outlook, forecast and the consequences of the crisis caused by COVID-19 in the energy sector in Brazil. Despite the current crisis, he noted that Brazil expects to increase its production of oil, its derivatives, natural gas, and biofuels. The country is working on structural reforms in order to make these markets more attractive and competitive. Brazil has planned investments in the oil, natural gas and biodiesel chain on the order of US $319 billion.

Currently, Brazil produces 2.8 million barrels of oil per day and the forecast for 2030 is for more than 5 million per day, thus becoming one of the 5 or 6 largest world producers and consequently one of the largest oil exporters in the world (about 3 million barrels per day). There are now 45 FPSO platforms and 42 new platforms are expected to be built to support this increase in production.

Due to the oil price crisis and COVID-19, the auctions that were scheduled for 2020 (17th Bidding Round for areas for exploration and production of oil and natural gas, under the concession regime and the 7th Production Sharing Bidding Round) had to be postponed. The auctions for the permanent round for on-shore blocks and shallow waters are still scheduled for July. The government is working to proceed with the auction of the Atapu and Sépia TOR surpluses, possibly for 2021.

The fuel demand suffered a big drop due to the pandemic. The most affected was the aviation (85%) since flights decreased dramatically. Demand for gasoline decreased by 35%, hydrated ethanol by 49% and diesel by 20%. However, the demand for LPG (the gas used in cooking) increased by 12%. In Brazil there are 17 refineries, using 76-77% of their capacity. With the crisis, this figure dropped to 53%, but in the last few weeks it has risen to 71% (as of late May). With the drop in the oil price and in the demand for gasoline caused by the pandemic, the price of gasoline fell and, consequently, ethanol became less competitive compared to gasoline.

The net production of natural gas is about 65 million cubic meters per day. Brazil has a great potential for natural gas in its maritime basins, in the Pre-Salt and Northeast, and expects to increase to 140 million cubic meters per day by 2030. However, with social isolation and lockdown protocols, natural gas demand has dropped across the country in about 30%.

Brazil imports all oil products, gasoline, diesel, LPG and aviation fuels and the perspective is, although at lower levels, to continue to do so.

Has Petrobras taken sufficient measures to address the global oil production overhang and demand downturn? What should the company focus on for the remainder of 2020? In the longer term?

To deal with the current crisis, Petrobras managed to reduce costs without reducing personnel. There has been a great concern in testing, in reducing the number of people actually working in confined places, such as platforms and refineries. Petrobras has managed to maintain the level of oil production, despite the decrease in fuel demand. At a certain point, Petrobras, due to the price drop, had to stock up on gasoline, but in recent weeks (at the end of May) there has been a resumption of demand and use of refineries.

Even before the beginning of the current crisis, Petrobras was already divesting in areas considered of reduced importance to the company, such as refineries, natural gas and some smaller production assets in on-shore fields and shallow waters to dedicate itself to the deep water, mainly in the Brazilian Pre-Salt region, where it has more expertise and profits. Petrobras has been preparing itself so that, in the medium and long term, it can work with a lower price of Brent, but continuing to have profitable operating conditions.

Before it stalled in Congress, significant progress had been made on implementing a “New Natural Gas Market aimed at creating an open and competitive gas market. What can be done to recover that effort and accelerate its implementation? How does the industry intend to convince the political authorities that it is necessary to continue the process?

Before the crisis, the legislative agenda of the Brazilian congress was very much focused on structural issues. The “New Natural Gas Market” is one of the structural programs being pursued by the Ministry of Energy and the Federal Government. The objective of this program is to create a dynamic, competitive and open market that will lead to a decrease in price in order to increase the competitiveness of industry.

Currently, the focus in Congress had to be shifted to emergency measures to deal with the problems related to the pandemic. Brazil is already preparing the recovery through the Federal Government program Pro Brasil, which includes investments in public works and improvement of the business environments where the project for the new natural gas market is included.

Will the Pre-Salt become less attractive to new investments in future bidding rounds under a potential scenario of excess oil supply and low consumption? What about other bid rounds – will delays allow for revised terms and competitiveness?

The international companies that are operating in the Pre-Salt have kept their investments and their operations were not affected. This proves that it is a region with low exploratory risk and that produces large volumes when compared to the world average. Even during the crisis, Petrobras has been increasing oil production and oil exports. Brazilian oil is very competitive, it is an average oil in terms of API, but with a low sulfur content.

In addition, Brazil is focused on making its auctions increasingly attractive and competitive. To this end, in April the Program for the Improvement of Tenders for the Exploration and Production of Oil and Natural Gas and the its Executive Interministerial Committee was approved.

Argentina Energy Outlook

A discussion of the energy sector and its outlook in Argentina must also consider the context of the issues facing the Argentinian economy, the new presidential administration, its debt and financial crisis, and the international oil price crisis. Therefore, the role of the energy sector is imperative to support the economic recovery in Argentina.

Jose Luis Manzano, Chairman of Integra Capital, underscored that the economy was already in recession before COVID-19 in Argentina. Therefore, there is a need to make energy accessible for consumers and industries, offer an affordable product and reduce petroleum imports. Due to the fact that global oil prices will continue to be low, Argentina will need to reduce costs of production, especially in Vaca Muerta.

The industry is going through third shock already in the last few years and it will be more difficult for Argentina to recover because of its struggling economy. But Argentina is almost fully energy self-sufficient and the industry is very resilient. The elements for a full recovery are present and the country must do all it can to support them.

Oil and gas will not support economy, it will suffer more as Argentina restructures its debt and as companies continue to reduce their capital expenditures. The oil sales are forecasted to make up only 3% of GDP. Government can institute an export tax to raise revenue and the sector would be better served by being more independent, which does not appear too likely. It is important to consider that Argentina is deindustrializing. The country is more dependent on commodities (agriculture, mining, and energy) than it has ever been, and it will be difficult for foreign operators to work in Argentina caused by lack of policy predictability due to both ideological and economic issues changing export policies.

Will there a renewed effort to reinvigorate oil and gas, or will the focus be energy transition?

The panel of experts mentioned that the government should push legislation to give certainty to the industry but cannot create demand, yet there should be a level of involvement with suppliers and international companies. There have been announcements that will continue to provide funding for various hydrocarbon projects around the country amounting to US$8 billion. It appears that the administration is not funding solar and wind although there may be interest in nuclear projects.

The industry faces competition and has an imperative need to improve technology. But, as the panelists noted, there may be a more important overarching challenge: investors do not have confidence in Argentina and the country struggles to get funding.

Renewable energy investment is expected to increase but will remain difficult as most PPAs are not actually awarded and it is hard to predict Argentina's regulatory environment which had been in flux prior to pandemic.

The government has sought to reboot the capacity to transport gas to Chile, but this is a political issue specially given that the same government is trying to ensure that local companies are economically viable, especially YPF. In the longer term, Argentina could increase LNG exports, strategically advantaged by to export to Asia, but many logistical and political challenges need to be overcome for the country to become a major LNG exporter.

As is common in other countries, the need to derive diversification in its energy matrix in Argentina, and the competitive scientific edge and funding for nuclear, makes it a potential source. The natural gas being exported to Chile is problematic due to political divisions, but negotiations are ongoing, and Chile may be increasingly recovered as a key market. Fertilizers are an unexplored opportunity for gas, as well as expanding gas-using transport in the country. However, drilling new gas wells may not be economically feasible until 2021.

Freezing tariffs has been very difficult for the economy as they need consistent policy and there are more efficient measures to take. For instance, natural gas is very important to Argentina and consumption is increasing over time and it is critical to increase pipeline capacity, especially from Vaca Muerta. But has YPF taken sufficient measures to address oil oversupply and demand destruction? Apparently no, the company has not addressed this because it is focused on debt problems and there is uncertainty on how YPF will be able to be refinance their bonds. Panelists agreed that YPF must find a way to lower cost of capital to become domestically and internationally competitive.

Chile Energy Policy Update

Francisco Javier Lopez, Chile's recently appointed Deputy Secretary of Energy, discussed the country's goal of strengthening its regional leadership and influence in the energy transformation process. Through these efforts, Chile hopes to support a more sustainable energy matrix, with President Piñera identifying 2050 as the national target to reach carbon neutrality. Currently, Chile is co-leading the Renewable Energy for Latin America and the Caribbean (RELAC) initiative with Costa Rica and Colombia. With 10 countries already committed to achieving the regional goal of at least 70% renewable energy in Latin America and the Caribbean by 2030, López extended an invitation to other possible regional partners for the RELAC initiative during this discussion.

Pivoting to the impacts of COVID-19, López detailed several measures taken by Chile to protect its economy. One of the core measures involves a contingency plan aimed at "helping Chilean families with the payment of their energy bills during the State of Disaster." With this, payment defaults will not result in service outages and payment facilities have been approved. This contingency plan benefits approximately 7 million people, i.e. 40% of low-income individuals.

According to Lopez, this measure would not have been possible without the commitment of the power utilities to suspend the measurement of "peak hour" during April and May of this year. This display of public-private partnerships demonstrates what López described as the "main guideline of Latin-American governments to face other complex challenges."

The second portion of the policy update he offered in his remarks involved highlighting the progress made and challenges faced by Chile's Energy Roadmap. Lopez first described the "social challenge," in which Chile adopted a "Price Stabilization Mechanism." "With the Price Stabilization Mechanism, the decreases in electricity prices that were expected for 2023 are brought forward, so that prices will remain fixed now (instead of rising) and in the future, they will be compensated, taking advantage of the reductions that come with the new contracts." Furthermore, Chile plans on participating in the deepest reform of the distribution sector in 40 years. With this, they will open the market to competition, allowing Chileans to "take advantage of the benefits of technological improvements" and experience enhanced distributed generation.

In the realm of improved access to energy, aligned with the commitments of the Sustainable Development Goals (SDG), Chile has updated power supply for stand-alone systems, ensured fuel availability in rural areas, provided renewable energy programs in several schools and nursing homes, and promoted the integration of renewable energy in Indigenous communities.

Lopez also discussed what he termed the "environmental challenge," in which 78% of Chile's greenhouse gas emissions are generated by the energy sector. Thus, Chile's decarbonization schedule forecasts the withdrawal of ten coal-fired power plants by 2024, representing "a quarter of the installed coal power generation capacity of the country; and the total shut-down of coal-fired power generation by 2040." With their goal of reaching carbon neutrality by 2050, Chile hopes to garner large investment opportunities "between US$27.3 and US$48.6 million" by that year. To achieve these sustainable scenarios, approximately 40% of emission reductions should come from energy efficiency programs. Thus, in 2019, the first bill on energy efficiency was sent to the National Congress of Chile.

Lastly, Lopez described the "international challenge," which involves deepening the exchange of energy integration with countries, like Argentina and Peru. In his closing remarks, Lopez remarked that fostering public-private partnerships will allow the country to continue "moving forward toward a cleaner, more efficient energy system with access for all Chileans."

Wednesday, May 20

Focus on the Andes

Colombia Energy Update – Energy Transition, Fracking, Power Market and Policy Developments

The discussion started with the questions what role will the energy sector play in Colombia's recovery and what will an economic stimulus look like for the industry? Armando Zamora, Chairman of ANH mentioned that the sector and the organization he leads is already playing a key role in supporting the country as it has maintained transmission during the crisis and has continued to be an essential industry focusing on key functions and postponed some secondary commitments. ANH's interest in facilitating development of the country's offshore continues as it is a sector with high potential and economic development promise. Lately, he discussed the evolving review and process surrounding the country's fracking regulations and desire to accelerate the next steps prepare for review with the authorities.

Ana Maria Duque, Country Chair for Shell Colombia mentioned that our lives now rely more than ever on energy and consumption is expected to increase in Colombia. For instance, natural gas plays a key role in energy security. In Colombia, she noted, natural gas distribution must be enhanced throughout the country to replace the use of coal; there is an opportunity for gas transportation systems to be developed. For achieving an energy transition there is need to continue working with the government not only during but also after the crisis to improve the industry's competitiveness and to achieve what is needed for the country in terms of a just and sustainable energy transition path.

What can the government do to make the energy sector globally competitive?

Mr. Zamora stated that reviewing all contracts will be key to make sure they are competitive and that part of it will be reassessing tariffs that are currently considered excessive. Further, Colombia is expected to enhance institutional strengthening that would allow the industry to have access to the vast gas reserves and streamline process to produce energy along with PPAs in place.

Panelists argued that oil and gas production can be increased while at the same time preparing for energy transition. The government seeks an international presence in the energy sector and has proved to be successful on its ability to constantly review and improve contracts.

In terms of the fracking regulations, there is a scientific project that will allow fracking to begin and at the same time is working to address the concerns of water availability for the community. Pilot projects will be able to show how the impacts to the communities can be managed and will be an example of transparency. Critical areas for environmental conditions are being monitored for animal life and water levels and due to these environmental considerations. According to the panel, the attitude of communities toward fracking is improving especially because the government is listening to their concerns.

Companies like Shell have keenly focused on community issues and gone to important lengths to obtain the so-called social license to operate in Colombia. Ana Maria Duque mentioned the importance of being close and immersing in the community has proved that it takes time to engage with the communities but patience and actions are key to reach openness in the community and socialize the projects. Industry must take into consideration that they have a lot to learn from communities, relating not only to energy projects but also to offshore projects.

In terms of the biggest risk moving from the pilot project stage to commercial stage is that there is still a major division within the country around the use of fracking technology in the oil and gas sector; there remain distinct groups on both sides of the equation. Therefore, it is imperative to take community views into account when considering the move to commercial stage.

The panelists also addressed the COVID-19 crisis and how it has impacted the energy productivity. For industry, it has created awareness of how important the energy sector is, as users sometimes take it for granted and has assessed the priorities of the well-being of staff while at the same time delivering service to customers. Duque mentioned that the company has proved and shown its ability to adapt and to still being productive. ANH’s Zamora noted that he took over just days before the lockdown in Bogota and has been managing all of the agency’s proceedings remotely; the success so far has led him to reevaluate a proposed series of new offices slated to be rented for ANH staff.

Ecuador Energy Update

Rene Ortiz, Ecuador's recently appointed Minister of Energy, provided an update on his country with respect to COVID-19 and oil market volatility. Ortiz began by describing the triple storm currently faced by the world through 1) "the shrinking of the entire economy," 2) the "solitary" crisis of COVID-19, and 3) the collapse of the oil market. Mr. Ortiz stated that though the destruction is immense with respect to families, schools, employment, etc., the reconstruction of these systems is far more difficult. When individuals and public figures discuss the path to "normality," what many individuals do not understand is that this is not the same form of "normality" experienced prior to COVID-19. Ortiz discussed Ecuador's energy landscape with mining, electricity, and hydrocarbons representing the most principal sectors. Ecuador is an industrial scale exporter of minerals, remaining a prominent "player in the mining world" for the first quarter of 2020. As for electricity, Ecuador presently exports to both Peru and Colombia with their figures set to increase in the coming quarter.

According to Ortiz, predictions from October 2019 concluded that 2020 would represent the "restarting" of Ecuador's economy. However, Ortiz stressed that there is no guidebook on how to manage a crisis of this magnitude. In addition to mitigating the effects of a global pandemic, Ecuador had to manage a domestic, local crisis when three oil pipelines collapsed due to heavy rainfall. The reconstruction of these pipelines involved creating new routes, but Ortiz assured the audience that transportation has been normalized and recovered, with these systems set to return to full production (approximately 535,000 barrels) in the next few days. Though the collapse caused some spillage into Ecuador's Coca River, Ortiz stated that a major remediation process is underway and going well. These efforts include constructing containment barriers, cleaning the banks of the river, and providing clean and accessible water to close communities.

Ortiz also discussed Ecuador's desire to expand the aforementioned sectors of mining, electricity, and hydrocarbons. However, he further expressed that the treasury is "dry," necessitating the support of the international private sector to accomplish said goal.

Finally, Ecuador is adopting a "new modality" of production sharing and liberalizing the upstream/downstream. To land international private sector investment, Ecuador is working with new legal frameworks and systems of leasing infrastructure with respect to PetroEcuador.

US Energy and Minerals Diplomacy Update

Francis R. Fannon, Assistant Secretary at the Bureau of Energy Resources at the US Department of State discussed the global trends that have created a bottom-up demand for minerals that provide the new forms of energy, especially on critical minerals. Several international organizations such as the

International Energy Agency, International Renewable Energy Agency, the World Bank, among others are looking into the topic and have undertook analyses and counseled as to the growing demand of minerals. There will be a particular focus on the lithium, copper and nickel segments.

Taking into account that energy is foundational to society and opens new frontiers, Assistant Secretary Fannon posited key questions around ongoing energy developments in the world, e.g. will they be done responsibly? Will they empower communities and drive economic development?

To respond to these foundational challenges , countries including the US, Australia, Canada, Botswana and Peru developed a toolkit, the Energy Resource Governance Initiative (ERGI: www.ergi.tools) launched in March 2020. ERGI seeks to provide guidance for governance and serve as a robust energy sector response look at the issue of supporting new demand expansion for minerals that drive clean energy technology. ERGI looks to support best practices for governance, regulation, environmental stewardships. The toolkit aims to help other countries to level up their standards to attract worldwide investment.

America Crece is another initiative developed by the U.S. Government that seeks to support economic development by catalyzing the energy sector practices across the hemisphere. This initiative includes top policy makers that work with countries to make conditions to support investment in fellow countries to get quality investment to develop their sectors. US companies bring their best technology but also respect the sovereignty of the host countries they work in, collaborating together in partnerships.

The conversation and discussion of the hemisphere also pivoted to top policy objectives, of which Mr. Fannon included Venezuela. A principal goal of the US administration is to support democracy on behalf of the Venezuelan people by putting pressure on the Maduro government in order to to bring back democracy. The US supports the Guaido government to support the Venezuelan people through implementation of a regulatory framework that can support a democratic election in the country. The Maduro regime has created economic crisis and a diaspora that also greatly impacted neighboring countries.

The COVID-19 virus and policy responses have created a global slowdown. But some companies with significant operations in the Western Hemisphere, even with demand delays, continue to maintain a certain level of investment. For instance, General Motors is opening a multi-million-dollar facility in Ohio to manufacture EVs; however, other sectors as the mining sector in Latin America, has been largely impacted as it has shut down temporarily due to safety issues.

Finally, with regards to the continued global oil price shock and supply-demand balance, the US is developing efforts to support the oil sector and its reactivation by having conversations with the Crown Prince to encourage his Kingdom to serve as a global energy leader platform but also as a leader of the G20 to support economic development in stable to conditions.

Peru Oil & Gas Update

Echoing what many other speakers had noted during the Conference, PERUPETRO General Manager, Daniel Hokama began by discussing that demand and supply are being affected by COVID-19 at the same time. He emphasized that it's the first time the country has ever been affected on both sides for one specific issue; however, there is an opportunity for the country. Even though Peru is not a big player in the hydrocarbons sector it serves as a unique market as it has a good potential for different energy resources: natural gas and natural gas liquids.

The pandemic has been an example of the Peruvian energy sector's resiliency: the oil and gas sector has not stopped operations and electricity production has been able to keep the country running during these hard times. Due to COVID-19, the country electricity sector is operating with the highest safety measures supporting employees' wellbeing.

In terms of its demand profile, Peru currently uses 250,000 barrels per day. 69% of energy consumption comes from the hydrocarbons sector and 23% from the natural gas sector. But, as with other markets where severe lockdown measures were implemented, Peru has been affected by diminishing electricity demand by 23% during the pandemic. But there are economic packages on the order of US$1 bn already in place to support the economic recovery.

Peru, as other countries, has reduced its capital investment for upstream projects as well as for natural gas and LNG to focus only on urgent matters. Camisea is the main source of natural gas in Peru, it has diminished almost 50% of its production but it is still working to provide energy needs to the country. But was also important to note, Hokama mentioned, that companies working in the same geographical area are struggling to transport the generated power due to logistical issues. Therefore, COVID-19 and logistics are the two main challenges for the sector development.

In order to reactivate the sector, the government is working on implementing regulations to have more royalties in the contracting process, from the production and price points of view, and at the same time, creating special regulations to support social and environmental issues.

In Peru, there is a growing view that the hydrocarbon sector will reduce its importance over the years due to the energy transition and the increasing use of Electrical Vehicles (EVs); however, EVs need electricity to run and Peru's main electricity production source comes from natural gas, so it is not expected that the country will be highly dependent on non-hydro renewable energy in the short term.
Hokama further underscored the understanding across players in the sector that Peru needs to accelerate its work on exploiting its high potential on natural gas and natural gas liquids by offering incentives to international investors to find more resources, assigning new projects and creating infrastructure that will ease the transportation. This is imperative because once Argentina's Vaca Muerta goes to *Vaca Viva*, Peru will struggle to compete with such a large market, Hokama pointed out.

In terms of social license to operate, PERUPETRO is taking the risk to explore blocks that may not have any resources; therefore, it is hard to commit to any profit sharing with the communities nearby. PERUPETRO is committing to only engage in economic contracts with the communities once the sources are being discovered. Finally, Peru has a good reputation and economic stability together with a good legal and economic framework that will allow more confidence to investors.

Regional Natural Gas and LNG Outlook

The discussion was based largely in a report that Alvaro Rios, founding partner at Gas Energy Latin America partner and former Bolivian minister of hydrocarbons, prepared in advance of the Virtual La Jolla Conference. Rios began his comments emphasizing the huge hydrocarbons potential that the Southern Cone possesses: Peru, Bolivia, Brazil, Argentina all have abundant oil and gas reserves but with the current market conditions and the uncertainty that COVID-19 brings to the economies, there are a series of concerns and issues that demand further understanding and assessment, particularly with regards to the future energy relations between Brazil, Chile, Bolivia and Argentina.

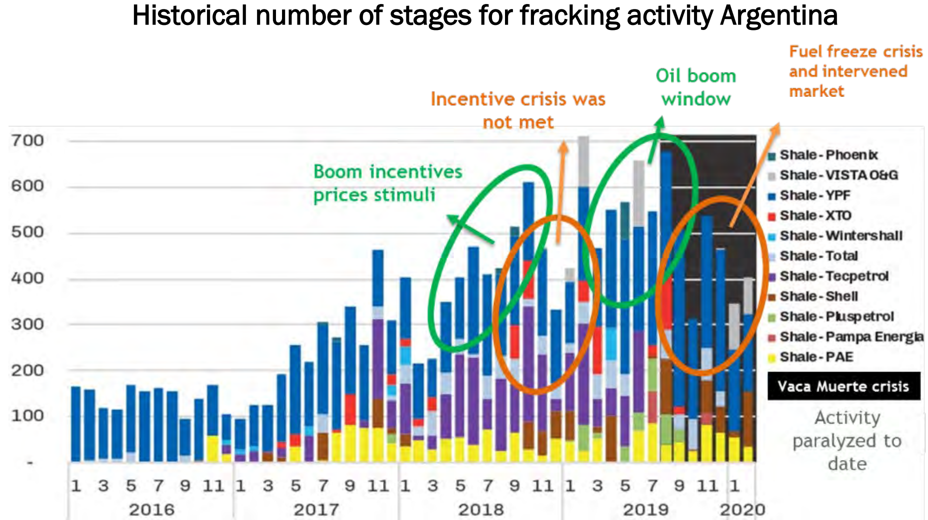
Argentina

The economic issues and pandemic added to the problematic situation in Vaca Muerta, one of the world´s most prolific shale formations in the world. Unfortunately for Argentina, fracking activities in the oil window came to a virtual halt in March 2020 as a consequence of the plummeting of oil prices.

Argentina must keep drilling new wells in order to ensure natural gas supply to Chile. If not, Argentina´s production will start to decline, and so, the imports of LNG will be needed, as well as natural gas imports from Bolivia. But, a major setback for Bolivia is the evolving demand profile and outlook from Argentina. In Argentina, there is the need to transition to continuous drilling, which will have important efficiency impacts and increase the reliability of supply to support the medium to long-term goal of becoming a major LNG supplier in order to take full advantage of the resource.

Argentina could become an anchor due to the accessibility to reserves, but it does not have the infrastructure to take advantage of it and bring in new investment. Thus, Argentina might eventually see that Vaca Muerta is the only solution to tight budgets and may be able to eventually adopt rules similar to those of Peru and Colombia.

Historical number of stages for fracking activity Argentina



Source Luciano Fuchelo – GELA analysis – Virtual La Jolla Conference White Paper
https://www.iamericas.org/documents/energy/reports/Alvaro_Rios_Gas%20Energy_Nat_Gas_Paper.pdf

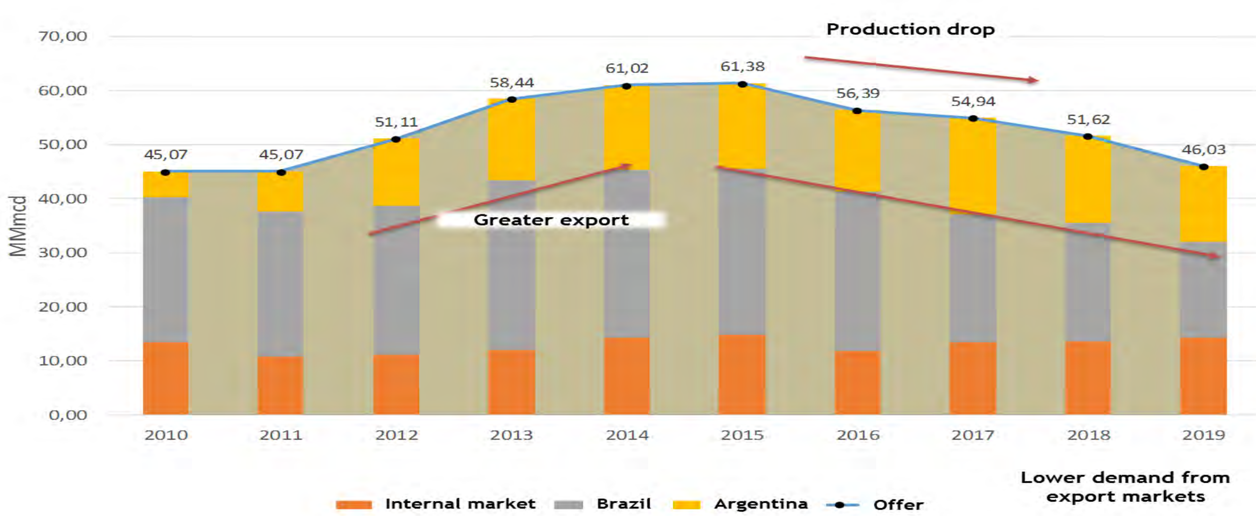
Bolivia

During the administration of former Bolivian president Evo Morales, the increased government role in the oil and gas industry resulted in a lack of exploration and poor management, particularly at YPFB, the Bolivian national oil company. Ríos indicated his belief that COVID-19 will boost the industry shift towards the private sector because the government will not be able to incur in such large investments to carry out expensive oil and gas projects in the country. In addition, he highlighted issues that will increasingly affect Bolivian gas competitiveness such as the growing output from Vaca Muerta, offshore gas and the abundant LNG in the coming years, which will also affect directly in Brazil´s demand for natural gas. Brazil remains a key market and guarantor of security of demand for Bolivian natural gas.

Therefore, in Rios estimation, Bolivia needs to address two major factors to be competitive in the market: 1) the fact that their natural gas reserves are dwindling, there is a need for new reserves to be discovered and 2) the fact that other natural gas alternatives are starting to become more economically appealing, there is need for immediate actions.

Bolivia must address the lack of new reserves discoveries from the state-owned company, although, private companies such as Shell and Petrobras, are carrying out discovery activities in Bolivia. He also mentioned that the reserves in Bolivia depend on politics; therefore, uncertainty must be expected.

Balance of supply and demand for natural gas



Source: GELA analysis – Virtual La Jolla Conference White Paper
https://www.iamericas.org/documents/energy/reports/Alvaro_Rios_Gas%20Energy_Nat_Gas_Paper.pdf

He also noted that we must remember that many Southern Cone countries are exporters and the low oil prices are hurting the whole region. It is expected that there will be an accelerated shift toward private investment in the region due to increased need to attract outside investment because of limited government budgets, but also that the political climate will be an important fact for the sector's development.

Thursday, May 21

Guyana, Suriname and Trinidad & Tobago Update – Political Context, Oil Production, Institutional and Policy Developments

Across Latin America and the Caribbean, national measures to combat the COVID-19 pandemic such as lockdowns along with the global drop in oil prices have caused reductions in upstream development plans, particularly in exploration throughout. Once demand starts to pick up, low cost producers will be the most competitive. Countries in the Caribbean region such as Trinidad and Tobago, Suriname and Guyana are oil producers and are expected to be the most competitive post-COVID-19 when compared to the leading producers outside the region; however, political instability might be their biggest obstacle for fast economic recovery.

Guyana

The country is rich in natural resources including oil with a potential of about 8 billion barrels that has attracted international attention and investors in the last few years. Political upheavals in addition to the pandemic are threatening the progress of oil exploration and revenues. Guyana held presidential elections in early March, which have been contested by the incumbent party. A recount process started in May, which is making the country´s political situations precarious because the results of that may exacerbate the controversy.

The light at the end of the tunnel would be for the election recount to deliver results of the election that are validated and accepted by the local people and the international community. The contrary could lead to sanctions including denying Guyana access to oil revenues kept in the United States, that is about $300 million USD per year. By 2024 this could ramp up to about $500 million USD per year, that is, more than double the country´s GDP in five years. In addition, sanctions can affect production levels and expected revenues besides adding political risks for future projects.

Panelists did not believe the country has been greatly impacted from the decline in oil price. According to most, Guyana oil is competitive with a breakeven price at $35 per barrel, which is even more competitive against shale oil. However, political uncertainty is already causing permit approval delays which will delay goals to increase oil production and revenues.

Trinidad and Tobago

Natural gas exports were the main drivers of Trinidad and Tobago´s economic growth during the last 20 years. Natural gas production and prices have been declining since 2014 and the industry along with the economy have contracted by about 13%. COVID-19 is expected to exacerbate the problem.

The country is set to have a $20 billion deficit (about $3b USD) and to finance this, the government is turning to its sovereign wealth fund. While the government may also borrow money, it can do both or either for a limited time. Fundamental changes must be made at the policy level.

Fiscal regulation has to change for the nation's upstream to survive. Reduction of government royalties should be considered, and the national gas company, currently a monopoly and a middleman in the value chain should be reviewed and/or restructured. This is government owned, which role should also be reviewed. Not all is bleak in Trinidad and Tobago as new natural gas sources have been found and more oil discoveries are expected next year.

Suriname

The country has not yet been routinely grabbing the headlines as we have seen in Guyana, but the Maka Central offshore discovery certainly squarely places Suriname in the oil and gas discussion in the Western Hemisphere. The recent announcement of the new discovery by the Apache-Total venture proceeded the COVID-19 crisis and has been a major economic development opportunity for the country. Petronas and Exxon Mobil announced 50% farming into the country's block 52.

Suriname recently went to the polls and had an election on May 25, 2020 in the middle of the pandemic. The elections expected to have transparency especially that this time international observers were unable to travel to the country. The results were recently announced and it appears that the opposition party is poised to win.

Outlook for Latin America's National Oil Companies (NOCs)

To begin the panel, and to complement elements of discussion throughout the Virtual La Jolla Conference, panelists were asked where NOCs in Latin American fit in and what can they do to support economic recovery in their countries and in the region. Secondarily, responding with an eye toward certain NOCs, are they currently viable in how they are constituted, in terms of their objectives and goals, to support the process of recovery?

Initial comments focused on the fact that the oil & gas sector, along with the airline sector, have been hit the hardest by the pandemic. The global demand for oil is now expected to decrease about 8% in 2020 and this is coming on the back of an already oversupplied market. The shock that we are going through is particularly acute for the energy sector, because of its unique dynamics. Prices are going to take some time to recover and a lag with respect to the demand as the industry consumes the excess inventory. Nobody knows exactly how much oversupply there is in the oil and gas market. In the past crisis, underinvestment typically follows, then there is a price spike, and that is what keeps the oil market moving forward. This framework that persisted during multiple decades. The current crisis has huge implications for the region. The gold rush is over. Making profit in the sector in Latin America will require efficiency.

From the perspective of a net oil importer like Uruguay, the COVID-19 oil price shock could be viewed in positive terms because it reduces the nation's oil import bill, but in the long term we should be thinking on how to make this an opportunity to build more resilient energy systems. In the short term, addressing volatility is a key issue and setting up a proper risk management framework is vital. The name of the game is adaptation: NOCs, as a source of cash and power, find change difficult. This can be a window to adapt into more resilient and innovative organizational forms. NOCs need to be nimble, adapt, and be more flexible. It would be difficult to go into the future and be innovative if NOCs stay as rigid organizations. Efficiency is going to be the name of the game for what is coming.

Panelists commented on the expectation that there will be short-term opportunities for NOCs, but in the long-term volatility and cyclicality will be mixed into the other burden that investors need to face — social and environmental aspects— adding layers of difficultly to attract capital for the fossil fuel industry. What we expect from the NOCs and in the economic recovery, especially in 2021, is lower distribution from the NOCs to their governments. Dividends will come down for Ecopetrol and Petrobras. There will be a drop in royalties because they are a function of oil prices. If governments in Latin America want their NOCs to play a significant role through transfers to the central governments, throughout CAPEX, preferential prices, etc., this will put additional pressure on their capital structure, and it will make it harder, and for sure more expensive, for them to attract private capital.

The COVID-19 crisis has put to the test all organizations and SOEs are no exception. Which begs the question: Are these companies viable as currently constituted and structured? The answer is that some are and some are not. A review of the region's four largest NOCs: Pemex, Petrobras, YPF and Ecopetrol provide ample material.

For Pemex and YPF, before the current crisis in 2019, at their per barrel economics for the upstream sector, their costs added up more than their products worth; they were actually incurring economic loss by producing. In today's price band the loss is more significant. For the case of YPF, the majority of its production comes from gas and this market has been very depressed and their breakeven per barrel oil is above $45, this will constraint the free cash flow generation of the company for the rest of the year and will not be able to pay its obligations with cash. It is more likely that YPF will need to restructure its obligations if it doesn´t find alternative sources to the capital markets to fulfil its obligations.

Petrobras and Ecopetrol are in a different situation. In the past three years they have made significant effort to strengthen their capital structure and improve their cash position. Petrobras has repaid 63 billion dollars of debt out of 126 billion by the end of 2016. Petrobras has been repaying more than 20 billion dollars per year, and they did it while maintaining their CAPEX levels, while investing and maintaining productions levels. This is a tremendous improvement, which places Petrobras in a much better position to a face downturn in the oil prices.

Ecopetrol has done something similar, therefore these NOCs have an improved capital structure that will allow them to access capital markets, and access financing to get them through the current downturn. Petrobras was quick to respond, using lines of credit, bolstered its cash position to preserve liquidity during the downturn. Both Petrobras and Ecopetrol have breakeven points for oil of about $35. Petrobras sells its gas above its cost. Therefore, this country is in a different dynamic: gas helps Brazil and reduces the breakeven price for oil, they are adjusting CAPEX to the new scenario and the liquidity should be fine by 2021.

There was general agreement that Latin America's NOCs may be a drag in the recovery but that could lead to pragmatism in the sector and an opening to private investment. It is not going to be an easy time to attract any type of private investment. A paradox for Latin America: "when you invite them, they don´t want to come but when you don't, they want to come."

Most of the countries in the region have been export-driven markets. We are seeing credit downgrades across the region and we are likely to see more downgrading. The cost of capital is going to go up, and that is going to have big implications on what happens next. Cheap money drove up the leverage that we see today, and that will not be true in the future. The export-driven model has created two economic sectors with big economic and social disparity. Cultivating domestic and regional markets in Latin America might be important going forward. The fact that NOCs are not going to have the same role is going to have a fundamental impact on the region's economic dynamic.

An interesting element of the discussion focused on the age-old swinging pendulum between more market and private participation and state-led approaches. With the current crisis the question posed was where does the latest turn of events leave the pendulum?

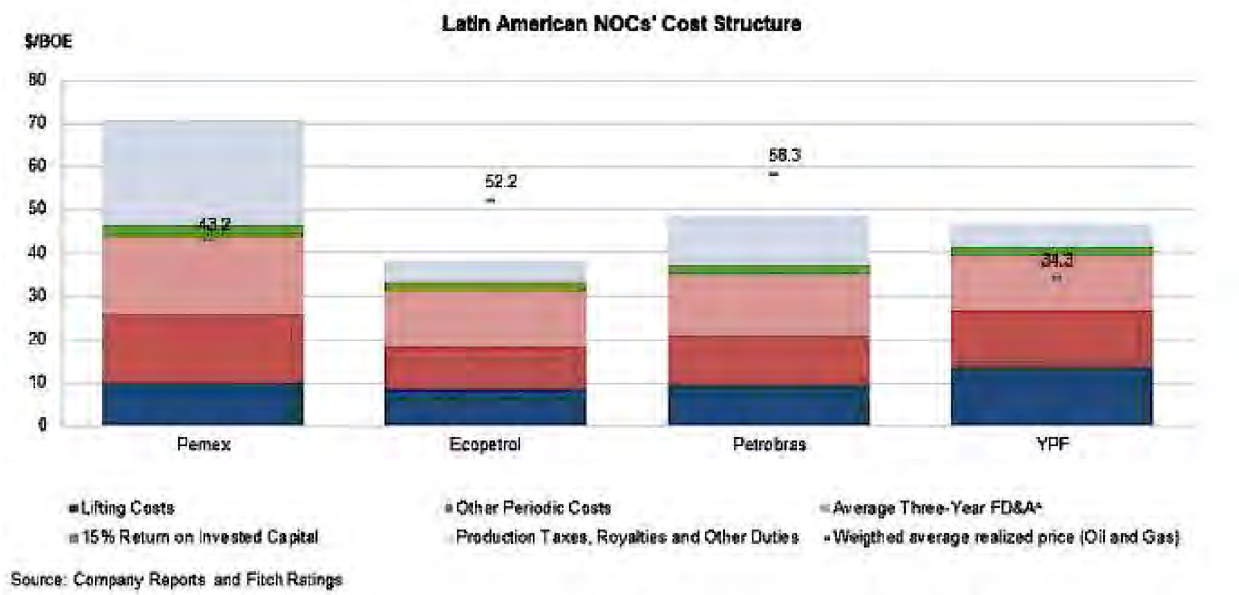
We can expect that the governments that are more dependent on oil and have NOCs in the worse shape, like Venezuela, Ecuador, and Argentina, will be more likely to allow a larger role for the private sector. More pragmatism from desperation. For the NOCs that are in a better shape —Petrobras and Ecopetrol — this is still going to be a tough time. The three NOCs listed in the market, YPF, Ecopetrol, and Petrobras, their stock prices have collapsed to half or less than half of the prices at the beginning of 2020, which is still a fraction of their maximum valuation. But the NOCs listed on the market, and better corporate governance are in better position.

For the case of Pemex in Mexico, the country's oil and gas import and exports are now very balanced and the country – with more economic diversity in recent years - is in a better fiscal position, therefore it shouldn't be an issue at the sovereign level. But Pemex is tremendously indebted and losing money, and it might drag the Mexican government down with them because, in particular, President Lopez Obrador, or AMLO as he is known, has not shown any intention to be pragmatic. There are those who suggest AMLO could eventually take a pragmatic turn, but it might be too late. It is a big concern of what this will mean for Mexico because the country has the tools that the government needs to take action on the matter. Unfortunately, there is no sign of dramatic change in Mexico´s government and that appears to be increasingly problematic.

With regards to YPFB, Bolivia's national oil company, it appears that the firm and the country are in a though position. Evo Morales was in some ways pragmatic, and the nationalization of the gas sector was conducted with some rationality but there are trends that are very problematic for them. There has not been significant investment in the sector in the past years. With its principal markets, Brazil, Chile and Argentina, there have been difficult relations; with Brazil, the longstanding GASBOL pipeline has been renegotiated in terms of volumes and price, Chile because of territorial disputes and with Argentina due to Vaca Muerta and its massive potential, even though it is a bit less active today. They are certainly being more pragmatic and want to attract investment in natural gas and in lithium but YPFB as a company is going to be in a relatively tough position —landlocked, surrounded by two countries whose markets are declining— that is a big problem. No security of demand.

Given the foregoing discussion about the outlook for NOCs in the region, a more financially-focused set of questions was considered particularly given the not very promising financial situations in most. Most directly, with the financial outlook bring new investment structures for NOCs? If not privatization, what solutions could it bring?

Panelists agreed that there is certainly no single answer across the board, but pragmatism is going to be key. Sometimes ideology might be driving privatization/nationalization. Monopolies are just a solution to a market problem, not an objective per se. Technocrats need to fuel the debate with evidence, rationality, and information, so that whatever decision is taken, it should be an informed one. At the end of the day, all policies and policy choices will have trade-offs. The states that are going to succeed, especially in the current environment l, are those that are pragmatic, those that focus on principles, and the rest of the details are just a way of getting there. Resiliency is needed to strive and not just survive.



From the equity or ownership point of view, there might not be a standard answer. For Mexico, this is not a choice. For Colombia, it could float a little more. However, with today's prices, now is not the time to be discussing equitization. On the question of how they are going to attract private capital, it's going to depend on the type of business. One important point to discuss is that in Brazil, Petrobras went into tremendous privatization inertia—of selling assets— which helped achieve the company deleveraging. Their move was privatizing downstream, which is very challenging because from the policy side you have a government that is constantly intervening with prices. In the downstream segment, you have pressure from the cost side, a need for working capital, and this can only be maintained by very well-capitalized companies, therefore making it very difficult to navigate.

Examining country by country, privatizing assets in Mexico would be challenging and costly, and might not be the most attractive financial strategy for the Pemex. In the case of Argentina, YPF's renewable energy assets might be something that they could explore, but in today's situation, with the "pesification" of energy tariffs, the timing for privatization might not be the best. Overall, there might be a halt in privatization because the sector will not be attractive in the short-term for private capital.

Navigating the energy transition is what is really important. Countries, governments, NOCs, industry – we all need to be prepared for a price rebound while avoiding the temptation of only seizing short-term opportunities and forgetting about the roadmap for an energy transition. As governments develop fiscal stimulus packages, it is important to secure some of this money for the development and growth of better energy systems. Low price periods are the ideal time to deal with entrenched subsidies that are difficult to remove. Investing in a counter cyclical manner and setting aside some of the budget to strengthen the system's governance will be key for a successful recovery.

Hydrogen could be a bet for the future, along with renewables for decarbonizing the transport sector. Looking at IEA reports, the amount of energy that is going to come from other sources is going to be significant. Whether the company is a NOC or a private company, they will have to pivot, be more flexible, and start to adapt to the new reality. This will be critical for attracting capital. The oil and gas industry has become the "dirty" word, the new "tobacco" industry, and the issue is going to be how they will differentiate themselves from the rest of the industry players.

Credit ratings in the next five years are going to have a huge effect on the cost of capital. In Mexico, where policy is being shaped more by ideological reasons than technical ones and the goal is making Pemex and CFE great again, it is unclear what kind of drain this will mean for the Mexican government and what true bandwidth is required to keep those inefficient models functioning. By contrast, there is a tremendous amount of liquidity in the market today. We see this with the bonds of Ecopetrol. However, if they become a sub-investment grade company like Pemex, we will not see this as much. The decoupling of the credit ratings between the government and Pemex shuts off the markets for Pemex to access capital. Thus, the only way they can do it in an economic manner is through sovereign debt.

Which Latin American NOCs are more critical to its country recovery?

YPF is the most likely but in the current scenario of low prices achieving this role will be more difficult. Upon examination, Argentina's sources of capital and export generating revenues are agriculture, oil and gas, and textiles. Agriculture and textiles are going to be heavily depressed, and the only source of stimulus can come from the oil industry with the *"barril criollo"* (a government price intervention setting the domestic barrel at US$45) and despite a diverging official and unofficial rate. But it's unclear whether it will create the stimulus necessary for drilling as well as the transport to evacuate it. At the current prices is hard to foresee a *"barril criollo"* that could get Vaca Muerta going. Given the weight the oil sector has in the Venezuelan economy, PDVSA would have a great potential for recovery, unfortunately not in its current form. This view was the most shared by the panel´s audience.

Will the current crisis accelerate the energy transition in the NOCs? In the adoption of hydrogen fuel, or in accelerating the deployment of EV charging infrastructure?

Panelists noted that an accelerated energy transition is unlikely to happen given that the region is now filled with cheap oil and gas. The availability and price of hydrocarbons, in their estimation, makes it less compelling to either continue the shift or make the shifts inherent in the global energy transition. As discussed at length, the region's NOCs in particular will be in very bad shape, and therefore unlikely to pursue investments that could accelerate the energy transition.

With respect to natural gas, perhaps there will be an opportunity for some countries, but in general terms, NOCs are unlikely to be a key player advancing the energy transition. Looking at the lifecycle of assets, the time is ripe to start securing cash flows for all that will be needed for a successful energy transition. Proactivity in this area is greatly needed at a regional level. Hydrogen fuel might play a role in power generation. In transport, electric vehicles are the solution for short-haul and cities, but for long-haul transportation, hydrogen fuel is the way to go. Nevertheless, hydrogen is the only clean energy source at the consuming point, but not at the production point, so that problem still has to be fully solved. In Latin America, the energy transitions will not accelerate. Instead, they might be delayed. The investments for energy transition are very long-term and NOCs in Latin America will likely prioritize any investments that will give them profits sooner, so to preserve their cash generation capacity in the foreseeable future.

Finally, on the question of political will, panelists expressed concern over how governments react to a 'public bad' like the COVID-19 pandemic, with very little cooperation. This can be extrapolated to the question on the energy transition in Latin America. Indeed, in order to achieve the goals and targets particularly for emissions reduction, the global energy transition is going to need massive cooperation, and this crisis is showing us at our worst in our capacity to solve a problem together. Sadly, polarization is deepening.

US Election and Latin America

Taking the virtual form of the La Jolla Conference's famous annual nightcap roundtable, the discussion centered on the upcoming US election and implications for Latin America. Jonathan Wood, Control Risks' lead analyst for the United States and Canada, as well as the Deputy Global Research Director, began the discussion by setting the scene for the 2020 US Election. Per Control Risks most likely scenario (as of late May), they predict that former Vice President Joe Biden (Democratic candidate) will win largely due to the economic crisis caused by COVID-19.

Wood added that the race will remain close and dependent upon key swing states, such as Florida, Wisconsin, Pennsylvania, New Hampshire, and Michigan. Wood further explored thinking about how Biden can use immigration as a "wedge issue" to expand the democratic map to some of those traditionally Republican states in the South, such Florida, Arizona, etc., that have large Latinx voter constituencies. "There is a sentiment that with very narrow margins, some of these more niche policy issues could become very important." Though the world currently operates in a time of great uncertainty, Wood predicts that the 2020 election will not be delayed due to constitutional and statutory reasons. Rather, it will follow a predictable and orderly process with mail voting (turnout) constituting the main variable. Wood stated that though many individuals want to make this race about China and the US's strategic position, the election will instead center around domestic issues, such as the economy and healthcare.

Raul Gallegos, Associate Director for Control Risks' Global Risk Analysis in the Andean region, complemented Woods' insights and shared perspectives on implications for the Latin American region. According to Gallegos, given the level of crisis in the US surrounding COVID-19 and its economic repercussions, there is a distinct temptation to look inward to the domestic arena. If a Democrat is elected in 2020, one will observe fewer sanctions and fewer attempts at political change in countries, like Venezuela. Wood added that Joe Biden will most likely revert to the status quo under Obama, which stressed policies of multilateralism and enhanced trade. However, it is important to note that with Biden will also come a "deprioritization" of sanctions or an incremental lift with certain concessions, rather than a total reversal or lifting in countries, like Cuba, Nicaragua, and Venezuela.

Given the current context, regardless of the administration, one will see the US government participating in lobbying rather than regime change. In the case of Venezuela, with US companies being further punished economically due to the effects of COVID-19, Gallegos expressed that despite the United States' general dislike of regime practices, the business side must continue with these companies' interests advanced. Thus, Gallegos sees this as "an interesting opportunity for a slight adjustment in the way sanctions are being used." As a general trend throughout the region, neither administration will overly emphasize environmental issues, understanding that the interactions constitute commodity plays. However, under Biden, predictions suggest increased investments in renewables, a re-entry into the Paris Agreement, and reduced investments in the fracking industry.

Friday, May 22

Mexico Focus

Mexico Energy Outlook

During the previous La Jolla Energy Conference, we discussed our thoughts about AMLO's administration. Since we met in May 2019, this year, we are seeing a radicalization of energy policy in Mexico; a president fundamentally committed to his vision of the energy sector: energy sovereignty and a firmer hand. Some experts believe that the consequences may force the administration to become a bit more liberal, but those are increasingly in the minority. So far, we see AMLO trying to change the metrics by which economic success is measured using happiness, rather than GDP. This has been done by other nations as well, including Bhutan and France. In the energy sector, the rhetoric that AMLO has been long known for with regards to energy and private investment, has begun to translate to policy efforts and shaking up the market in Mexico.

Oil & Gas Update – Price, Upstream and Production, Storage, Downstream and Dos Bocas

How are oil and gas prices impacting the investment climate in Mexico right now?

The general feeling in the panel was that, rather than reacting pragmatically, the Mexican government has used COVID-19 to justify what some deemed a massive power grab. For example, the government has no economic recovery plan in place and does not acknowledge that the financial hedge for the price of oil will run out next year, which continues to undermine private investment. Therefore, AMLO's policy has been totally consistent for 18 months: "to produce energy through the State no matter the cost"; however, this has implied the loss of many talented resources and savvy officials due to this sentiment and guiding principle.

With regards to Pemex, the state company has pushed ahead with its presidential mandate to increase control over the energy sector. Nonetheless, on the positive side, we observe the following: a good series of discoveries by Pemex and private companies, progress in developments moving ahead, progress in reducing fuel theft, and the fact that 2020 saw the highest spending by new investors and IOCs since the energy reform. But there are many negatives as well. For example, Pemex production costs are higher than its prices, demand is down, all operations are financed by debt, thus debt rating was unfortunately downgraded to junk status, and it is not clear that they accept the need to cut production.

Pemex is facing many problems, such as cyberattacks, pirate attacks, COVID-19 contagion at their sites and employee deaths from the virus, corruption sagas, dry wells, limited storage options, continued wasteful gas flaring, and more than $100 billion in debt. Pemex also saw one of the single largest quarterly losses (of value, not cash) by any oil company ever in Q1. Still, taxes paid to the government were good and everyone else will do poorly as well, hence, this is an opportunity to put out bad results and blame COVID-19 and OPEC+. On the other hand, the private sector is under enormous financial and social pressure, with suppliers in many cases isolated and sitting idle.

One bright spot is that natural gas is extremely abundant in Mexico. Part of the opportunity is derived from Pemex's longstanding posture to focus on oil instead of natural gas. Mexico is facing many challenges, such as increased country risk, deep recession, continual decline in security, and increased corruption. All have led to low business confidence in private investors. But there is hope and a large potential to attract private capital as pipelines are already in place and located very close to the largest oil/gas service center in the world in the US with support. With this said, there is potential to reduce dependence on inefficient imports, keep the money in Mexico, boost local economies, and reduce emissions. This should be a primary role of the private sector because small developments are highly inefficient and unprofitable for Pemex, but it must be done safely with buy-in from governments and communities.

What is the future?

There was consensus among the panel that the administration cannot afford to continue down this path, but yet in the near-term it appears that there are no elements to prevent them from doing so. Underscoring what has been evermore obvious, President Lopez Obrador is driven by political symbols and motives particularly with regards to the energy sector and state actors Pemex and CFE. There is certainly a high-level view from the government that can only be interpreted as a confrontational posture against private investment. But, at other levels, CNH and others are invested in finding ways to facilitate the contracted investments and the obligations set forth contractually with private investors.

Gas and Power Update – Pipelines, Power Markets, and Renewables

The discussion began with moderator Montserrat Ramiro, a former commissioner at CRE, asking the panel to reflect on the perspectives and implications for Mexico regarding the latest events of uncertainty and the deployment of renewables. Guillermo Zuñiga, an International Energy Transition Attorney for Earthjustice, explained that Mexico had begun on the right path but was now facing the normal challenges of the technology adaptation process.

Competition

Following up on the issue of the outlook for renewable energy deployment, a question of competition was set forth for discussion: What is the legal framework for competition in the Mexican power sector? Gerardo Serrato, Managing Director for Hartree Partners, explained that Mexico faces a conceptual contradiction. The current administration considers that they can use the last energy model to strengthen the CFE, but it seems impossible. He explained that this does not necessarily suggest that one model is better than the others, but the objectives do not align. CENACE is losing their independence and not behaving as an independent technical entity, or system operator. In his view, there will ultimately need to be a change in the policy landscape; he noted that the current administration cannot continue using the same rules that were not designed to pursue the current administration objectives.

What is next for Mexico?

Leonardo Beltran, a Non-Resident Fellow for the Institute of the Americas and Former Deputy Secretary of Energy in Mexico, stated that in his estimation it was clear: the present and the future of energy in Mexico centers around renewables. He added the role of energy is fundamental and Mexico is facing a real transition. However, he acknowledged that it is a a very political time, and a lot of decisions are going to be more political than technical. Beltran noted that it is, of course, possible, technically speaking, to revert to fuel oil and coal for power generation in Mexico. But he also highlighted that most private companies are willing to join the current path to transition toward renewable technologies and more importantly, consumers in Mexico are too.

Juancho Eekhout, Vice-President of Development for Sempra LNG, affirmed that future generations approve of the liaison between natural gas and renewables. There has been enormous progress and a significant amount of investment to build and expand natural gas pipelines in Mexico given the proven effectiveness and reliability for the Mexican economy that the fuel provides.

Guillermo Zuñiga explained that COVID-19 will set an example as a crisis that was out of our control. With respect to the climate crisis, we need to be humble and look forward to cleaner energy solutions.

The panel concluded that Mexico cannot change global trends. Mexico must continue to monitor the reality of global changes and how societies are internalizing this new reality and its impacts. Technology is going to play a huge role. Mexico will have to face the reality that “burning fossil fuels is not the trend path anymore.” The poorest countries face the worst impacts of the climate crisis, and as soon as we address solutions and the best outcomes, this becomes more than a political issue.

Energy Well-Being: Changing the Conversation

In a purposefully open and freewheeling discussion panel to intended to wrap-up the discussion of the current and near-term developments, Carlos De Regules of Deloitte, and former Executive Secretary of ASEA, joined in conversation with Duncan Wood and Jeremy Martin. The goal of the session was to pivot toward considerations of the future, reflecting on how to move forward after the pandemic and explore the connection between the environment and health, the future of fuel and oil in transportation, and their repercussions in society as we observe a movement toward cleaner sources.

In setting the stage for the discussion, the fact that, regarding energy there is no true conversation or will to engage in it by the Mexican government was set forth. Nobody is listening, the rationale is strictly political, and sector participants, especially the private sector, need to keep a proactive attitude. What has become an increasing outlet for disputes is the legal arena and courts

But as the panel intended to frame, there is another arena where the conversation is possible: the medium and long-term future. The present is full of noise and loyalties that make it difficult to have a meaningful conversation. Important decisions are being made, and made entirely with political interests oftentimes with important consequences, many of which are being challenged in the courts. They are not going away, but this too shall pass, and when it does there will still be a country in need of a reliable, cost-effective and modern energy sector. Carlos De Regules suggested to imagine the possibilities for the next Energy Minister. If we can frame the energy debate in empowering social progress, there could be a bright future in Mexico.

De Regules argued that the pandemic might be accelerating the future instead of slowing it – like the use of digital platforms in general and our ability to host the La Jolla Conference in a purely virtual setting. Mexico is facing the opportunity to show leadership, but present-day Mexico is an outlier because of the decisions that the current administration is taking. We see a president who is refusing to see the opportunity of modernization. Instead, he is pulling for a more traditional model by betting on Pemex and the oil industry.

However, there are many different stakeholders in the discussion apart from the president. There are young energy professionals, young voters, nonpolitical technical officials, and small and medium-size energy suppliers. A constant interaction between the government, the private sector, and society in general exists. There is work to be done by making sure that those citizens feel the benefits that come from those projects and not just the downsides. It is important to make sure that everyone feels included in the conversation of energy transition since the situation that we are living today has shown that stability of supply is vitally important. Now, more than ever, we are incredibly dependent on the electricity in our homes.

Further expanding into energy security, if the president is serious about the *new happiness index* he is proposing, this is a perfect opportunity to push this conversation. Access to reliable electricity, molecules, and electrons is politically neutral. It should be a citizen's right to have the opportunity to access these services. It is time to have a conversation on how energy affects social wellbeing, as well as access to clean water and other types of social rights.

We need to make sure that the energy transition makes sense to people. For example, it is encouraging that the State of Baja California in Mexico is independently pushing towards energy transition with a bottom-up approach. The challenge is to translate that into how that impacts the common citizen. The different state governors might take an interest in, for example, how coal plants affect their respective citizens and territory. It depends on how the different stakeholders exert political pressure.

External oversight will be very important though mechanisms, such as an international court or trade institutions. The judiciary will be more compelled to properly rule if they feel like they are being overseen internationally. USMCA, set to go into effect in July, includes articles on disputes.

When pushing for the energy transition, is public health a domain in which we can find common ground? We would have thought that environmental protection could have been it. However, it hasn't done so. What about economic opportunities and job creation? After this crisis is over, countries are going to try to attract foreign investment. If investors don't feel that Mexico is going to provide legal stability, they will not invest. In conclusion, it seems that Mexico is taking a step backward. However, there is an opportunity to keep improving the energy literature and awareness, which will hopefully contribute to a better future in the energy sector.

The Institute of the Americas would like to thank and recognize the efforts made by our rapporteurs in preparing this report. From the UC San Diego Graduate School of Global Policy and Strategy (GPS): **Rolando Almada**, **Emily Carlton**, **Ryan Ellis**, **Marco Gutierrez**, **Kathryn Hillis** and **Romie Tejeda**. From the University of San Diego: **Teagan McGinnis**. From National Polytechnic Institute of Mexico (IPN Mexico): **Jorde De La Garma**