Managing Expectations
XXV La Jolla Conference

As the 25th annual La Jolla Energy Conference approached, the landmark climate agreement reached in Paris dominated headlines and pervaded the energy world. The focus on decarbonization and emissions reduction, and particularly the role of technology in the global energy transition cut across the Conference's panels and discussions and clearly was on the minds of attendees.

But the need to manage expectations also emerged as a central theme, whether in terms of the Paris Accord, renewable energy, oil prices, Latin America's upstream, Mexico, Argentina, or the future of transportation.

Paris Agreement

The Paris Agreement and nationally determined contributions, or NDC's, have been roundly applauded for the bottom up approach. The discussions at La Jolla concurred with the critical nature and great value in this element of the agreement.

At the same time, panelists noted that the agreement will not achieve the ideal level of reduction of global warming through the NDC's but emissions reduction is still occurring. For example, Canada will be hard pressed to meet its targets set in Paris suggested a former Canadian government official.

Yet, panelists did agree that while the aggregate reductions to achieve the goals of Paris may not be met, positives exist such as the increased levels of transparency, the five year review mechanism, and the agreement's conditionalities set in the individual NDC's that allow for dialogue between nations. As one panelist aptly noted, the Paris Agreement is like a plane where all the passengers have agreed it's time to land, but at what pace and where now demand determination. Managing expectations will be required.

Energy Security

The energy transformation occurring in the United States and its impact on foreign policy and diplomacy was set forth in bold terms. As the US has reasserted itself as an energy super power, so has the importance of energy security grown in terms of impact on foreign policy.

The State Department, along with several other US government agencies, are working on myriad programs across the globe to boost energy security, access to energy, regional energy integration and the deployment of renewables and emissions reduction. But at the same time, on the back of the US energy renaissance the demand for natural gas supplies from the US has also presented a critical piece of the managing expectations puzzle. The huge growth in Mexican imports of US natural gas, but also the desire for countries across the globe to have access to the US's natural gas abundance by way of liquefied natural gas (LNG) demands measured discussions and rational approaches by policymakers and industry, not to mention a focus on the necessary infrastructure at home and abroad.

Volatile Commodity Prices

Volatility in commodity markets, and particularly oil prices, continues to cast a long shadow over the hemisphere and globe. But despite the continued commodity price downturn, there are examples of mining economies in Latin America such as Chile and Peru that have demonstrated greater diversification than their oil exporting brethren.

Figure 1

Pemex has a wide variety of opportunities to partner with national and international companies in different ways…

	Partner	Business case	Decision / Authorization
Farm-outs	• Selected through a competitive bid by CNH	• A program already authorized through Entitlement. Upside by increasing activities or applying technology	• Pemex decision to farming out • CNH leads the bidding process for seeking Pemex partner
Mexican State Bidding Rounds	• Pemex selection	• Best offer for partnership and government	• Pemex decision / (subject to approval by Pemex Board)
Service contracts to new Exploration and Extraction Contracts	• Pre-selected	• Reassess upside and profitability under a new contractual model	• The contractor has the priority to be the PEMEX partner • SCHP and SENER predominantly
New service contracts	• Pemex selection	• Incentives for contractors to receive a better remuneration when achieving a better performance	• Pemex leads the bidding process
Farm-in	• Pemex selection	• Expand Pemex opportunities to grow in other locations	• Pemex decision / (subject to approval by Pemex Board)
Other options	• Pemex selection	• Expand Pemex opportunities to grow	• Pemex decision / (subject to approval by Pemex Board)

In discussing the outlook for oil prices and markets, panelists asserted that OPEC still matters for global oil markets and, according to one analyst, the oil cartel has proved itself extremely resilient. More broadly, oil markets are facing a question of peak demand now instead of peak production. The always dangerous territory of predicting oil price did not deter the panelists from setting forth their opinions of a price range of $60-70 in the coming months; the $20-30 range has proven unsustainable.

Panelists were split on what the continued price volatility will mean for National Oil Companies (NOC's) in Latin America, though they agreed that the region's NOC's come in various shapes and sizes. There were arguments that NOC's will emerge stronger from the current crisis. But it was perhaps the NY Cut vs Wagyu beef analogy set forth that best underscored the situation: is the fat ingrained or influenced from the outside?

Again, the need to manage expectations when it comes to the price of oil, its outlook and what it means for NOC's and economies in Latin America is of utmost importance.

Nowhere is this more evident than at Pemex. The NOC's call for partners as it develops opportunities in the new upstream environment in Mexico was emphatic and consistent throughout remarks at the Conference. Moreover, the variety of ways to partner, the diversity of opportunities, and wide range of needs of Mexico's NOC were set forth. (Figure 1- previous page)

Latin America's Upstream

Beyond the role of NOC's, Latin America's upstream continues to face challenges. Panelists agreed that given the price environment, and particularly when it comes to deep-water, the industry will become more selective. There will be a greater focus on appraisal and development work and for IOC's, shareholders are now playing a more important role. But the key element of managing expectations both for industry and government seeking to attract investment, such as Mexico's ongoing Round One and efforts in Colombia, Peru and Argentina, is that fact that there is less capital to invest on exploration. Always intense, the global competition for capital is ever more at the forefront of upstream discussions, as was also underscored during the investment and finance panel.

Argentina

Argentina has emerged from more than a decade of a statist and interventionist energy model to reassert its relevance and attractiveness. The new Macri government has committed to revamping dormant entities and resetting the country's energy investment climate and regional energy role. The government is targeting 2017 for completion of the normalization efforts.

Argentina's Secretary of Strategic Energy Planning admitted that there may still be perceived risks when it comes to investing in Argentina but emphasized that the new government was committed to a model of competitive markets in the medium term and with a focus on ramping up renewable energy.

Figure 2

Renewables replacing fossil fuels in power generation matrix

Ministerio de Energía y Minería
Presidencia de la Nación

	2015	Capacity Addition	2025
Thermal	64%	+ 8,000 MW	43%
Nuclear	5%	+ 1,500 MW	10%
Hydroelectric	30%	+3,000 MW	27%
Renewable	1%	+10,000 MW	20%

Total investment = 50 Billions US$

Beyond normalization of institutions, the government is committed to reinvigorating regional integration and believes that the nation's energy supply must be met through collaboration and not through a self-sufficient model. In addition, the government has set a target of 20% renewable energy consumption by 2025; renewable generation today stands at just over 1%. (Figure 2)

A focus on boosting renewable energy in Argentina has figured since the government began to lay out its energy plans, following on a highly popular renewables law passed in September 2015. Government authorities have argued that their "late" arrival vis-à-vis renewables will provide sufficient lessons learned and the ability to leverage newer technologies and lower prices. In an effort to confront the question of investment risk, the government has brought on a World Bank guarantee. Moreover, the government is structuring a trust fund that will minimize risk and provide possible co-financing arrangement for projects on the back of the World Bank guarantee, as well as creating a range of tax incentives for new capacity. The first tender for 1,000MW of renewable projects was launched in early May with results due later in the year.

The Macri government has also committed to efforts to arrest the decline of domestic production of oil and natural gas, with the unconventional and Vaca Muerta fields critical, though imports will be required to meet peak demand. The Energy Ministry has indicated that offshore oil and gas exploration will be developed in the next year with the aim of understanding the resource potential after years without drilling.

Mexico

Speaking about energy reform, Mexican President Enrique Pena Nieto said "it is not the time to stop. It is the time to move forward." Panelists from across government and industry, including the Mexican Hydrocarbons Commission (CNH), Ministry of Energy of Mexico (SENER), and Environmental Resources Management (ERM) and Curtis, Mallet-Prevost, Colt & Mosle LLP embraced the president's admonition. There was consensus that that the country continues to move forward at a fast pace towards achieving its dynamic energy sector transition goals. Indeed, even in the face of strong headwinds due to the price of oil the country has pursued a redoubled effort to reduce costs and increase competitivity at state energy firms CFE and Pemex. Three oil and gas bid rounds have been conducted by CNH and the rules for a new wholesale electric market are in place. But liquidity issues at Pemex and the need for a government bailout, delays with farmouts, and the continued volatility of the price of oil have sent mixed signals to investors and possible partners.

Beyond volatile commodity prices, the region's energy sector is being threatened by lower levels of growth and currency devaluations across several markets.

While the oil and gas sector have received a great deal of attention, the changes underway in the electric sector must be recognized. Mexico garnered international attention with its first electricity auction to boost clean energy generation. 1,720 MW of solar and wind projects with a total worth of $2.1 billion of investment were awarded with prices on the order of USD$47/MW. The price and success of the auction was referenced across several panels. Terms for the second auction were published in April and will be awarded by the end of September. Moreover, the Federal Commission of Electricity (CFE) has achieved a historic milestone having been decentralized and divided into seven companies that will independently be in charge of conducting activities such as IPP's.

Mexico has also been progressing on community engagement and social impact issues. For investors it is imperative to have a close link with inhabitants of the locales of major energy infrastructure projects. Private environmental consulting companies such as ERM have noticed with their experience that human relations on these types of projects are imperative as locals must be satisfied with the outcomes and feel comfortable and confident that their needs are being considered and met.

Both the public and private sectors have come to realize the importance of addressing community concerns and the value of early engagement. For private sector companies, good community relations have a positive impact of project execution, safety and security. For governments, there are a multitude of reasons to shore up community support, from the desire for private investment and economic development, to the social benefits for communities in the vicinity of energy projects and beyond.

Financing the Next Energy Boom

Beyond volatile commodity prices, the region's energy sector is being threatened by lower levels of growth and currency devaluations across several markets, which is forcing caution among investors. Indeed, since the price of oil spiraled downwards in 2014, predictions abounded of deal making across the energy world reminiscent of the flurry of mergers in the late 1990's. But beyond Shell's acquisition of BG, it seems there have been more scuttled deals than successful ones. By many accounts, energy industry deals declined in the first quarter of 2016 compared to 2015. On the other hand, the renewable energy industry saw record investment levels in 2015.

In terms of financing energy across the Americas, a familiar refrain was set forth: Competition for capital and investment is not one between countries in the region but rather with the rest of the world. Moreover, panelists from law firms, investment funds and ratings agencies agreed that investors are looking for sufficient returns and benefits that balance risk and reward particularly for long-term investments, that is 10-20 years. And it seems that the old axiom still holds: there is not a lack of capital but rather a lack of good projects and opportunities. There are billions of dollars of investment, available and eager to invest in Latin America given the appropriate conditions, market rules, regulations, guarantees, and transparency in the process.

While Argentina has garnered much buzz since the Macri government took over, for investment and investors the country's boom bust cycles insures that evaluation of opportunities are all about risk and prices. Moreover, there needs to be appropriate contracts and regulation to allay fears. But, the key might be impossible for the new government to prove: Is this a four year phenomenon to be overturned by the next political cycle?

Despite massive corruption scandals and economic downturn in some of the region's key markets, there are hints of optimism. Indeed, Mexico and Brazil are the biggest opportunities to deploy capital. The possibility of new legislation in Brazil that would allow IOC's as operators in the Pre-Salt as well as the booming natural gas midstream market in Mexico and forthcoming farm-outs with Pemex hold much allure. Interestingly, panelists also noted that Venezuela remains a tremendous opportunity given its massive natural resource potential.

Renewable Energy

Major advances in deployment of renewable energy and electric vehicles, and increasingly competitive costs for these technologies added to the narrative throughout the Conference. Renewable energy has seen huge increases in investment despite the persistent downturn in the price of oil. Many speakers pointed to this as a paradigm shift.

Channeling the theme of managing expectations, several speakers touted the Mexico auction and huge gains in cost reduction for renewables, but warned that for renewables to be competitive, they must be in the $40/megawatt hour range. Not just in Mexico but across the region, the elements of storage, dispatching and intermittency must be taken into account at the same time that a focus on increasing electric grid infrastructure must also be enhanced to allow for increased renewable deployment.

Future of Transportation

Given the attention on the Paris Agreement and decarbonization, the future of transportation was a key topic for discussion. Trends such as urbanization, managing air quality, and innovation in mobility such as electric vehicles all figured prominently.

Certainly, there have been major changes in the last few years that impact the traditional interconnection between petroleum and transportation, but globally, transportation still accounts for 55% of oil demand. With that said, it is not a matter of if but when peak oil demand will occur; estimates point to the peak arriving between 2025-2030.

Regulations and policies – both aimed at transportation fuel demand and clean air – will be key pieces of the supply-demand puzzle in the coming years. Indeed, according to IHS, by the year 2020, 80% of vehicles globally will be regulated under fuel economy regulations.

While managing expectations of the pace at which the transportation sector will decarbonize, California's leadership role on increasing deployment of renewable energy and how that is also manifesting it in electric vehicles (EV's) was cited -- California is driving its way to sustainability. EV's can also support the integration of renewable energy on the grid by providing storage and dealing with intermittency issues typically associated with renewables. It is also important to understand that the current low price environment for oil may slow EV sales but will not kill them. The fact that battery costs are coming down coupled with environmental benefits secures EV's place in the transportation market going forward regardless of oil prices. However, EV's take time to enter into the vehicle fleet and affect fuel demand.

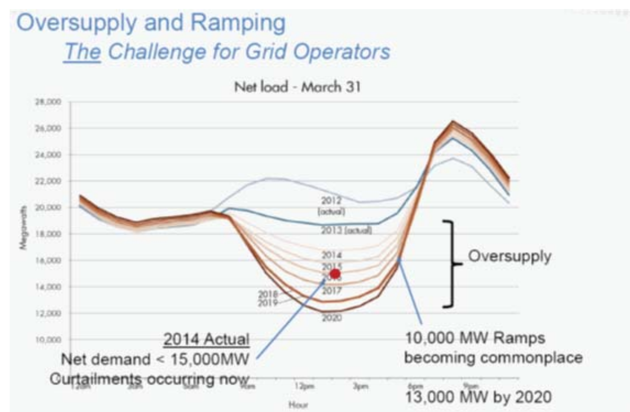
With proper planning, increased deployment of electric vehicles will complement renewable energy production and dealing with intermittency by offering an effective storage solution and demand management possibilities.

But at the end of the day, the key issue for EV's is infrastructure and for consumers to fully understand the benefits and incentives of EV's. There is no doubt that the so-called "range anxiety" must be addressed and fully overcome; infrastructure needs to be developed so that people know charging stations are available so that the concerns of potentially running out of "fuel" can be assuaged.

Energy Transition

The Conference's final session brought together a series of themes that had echoed throughout the panels and sidebar discussions: the role of technology, decarbonization and the future of energy. In particular, when it came to the element of managing expectations, the representative from California's Independent System Operator (CAISO) spoke of CAISO's efforts to balance peak demand and the so-called Duck Curve, that is the increased load from renewable energy and distributed generation being fed into the California system. This is *the* challenge for grid operators and the electric sector. (Figure 3)

Figure 3



Panelists agreed that technology and data could provide much of the solution to meeting these issues across the hemisphere. Indeed, energy storage remains one of the key pieces to managing expectations for renewable energy, but also the future of energy markets in the Americas and across the globe.

But CAISO emphasized that the most important expectation power systems and the energy sector across the Americas must manage is that of reliability. Consumers expect the lights to come on when they flip the switch. And all panelists agreed that consumers are more informed, discerning, and better able to manage their energy needs than any time in history.

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