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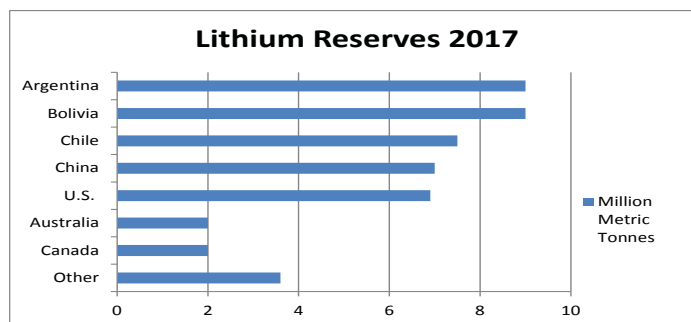
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FEATURED Q&A

Can Latin America Capitalize on the Lithium Boom?



While South America holds the largest lithium reserves in the world, the mineral's use in electric vehicles today does not assure high demand in the medium- to long-term outlook, William Tahil comments below. // Data: U.S. Geological Survey via The Market Mogul.

Q The price of lithium has skyrocketed in recent years in pace with its demand for use in electric vehicles. In a statement Nov. 9, chemicals manufacturer FMC Corp said it plans to invest \$300 million in its lithium operations in Argentina in order to double production, and global mining company Rio Tinto is said to be eyeing a \$5 billion stake in Chilean lithium producer Sociedad Química y Minera de Chile, or SQM. What is the outlook for the lithium sector in Latin America? Which countries have the most to gain from the growing demand for the mineral, and which countries have the right policies in place to attract investors? With prices for lithium rising so fast, is there a fear that resource nationalism, which swept across the region when oil prices spiked less than a decade ago, will again come into favor?

A Chris Berry, founder and president of House Mountain Partners: "The lithium sector has never seen this kind of growth, so, in a way, we are in uncharted territory. In years past, booms and hopes of ever-increasing prices have been dashed by the realities of battery economics remaining uncompetitive in the automotive and energy-storage sectors. This is rapidly changing, and Latin America in particular is positioned to benefit, with Argentina currently an increasingly popular choice for lithium investment. With a favorable regulatory environment around decarbonizing economies, and the lithium ion battery becoming more powerful and cheaper at the same time, Argentina's recent political transformation with the Macri government has investors giving the country a fresh look for lithium investment.

Continued on page 6

TOP NEWS

OIL & GAS

Military Assumes Bigger Role in Venezuela's Energy Sector

President Nicolás Maduro on Sunday named Manuel Quevedo, a major general in Venezuela's military, to be the next president of state oil company PDVSA, as well as the new oil minister.

Page 2

POWER SECTOR

I Squared Capital Acquires Peru's Inkia Energy

I Squared Capital is acquiring the Latin American and Caribbean businesses of Lima-based Inkia Energy from its Israel-based owners in a \$1.2 billion deal.

Page 3

OIL & GAS

Treviño Named New Head of Mexico's Pemex

Carlos Alberto Treviño Medina, 47, has been Pemex's corporate director of administration and services and succeeds José Antonio González Anaya, who has become Mexico's finance minister.

Page 2



Treviño // File Photo: Pemex.

OIL & GAS SECTOR NEWS

Venezuelan Military Assumes Bigger Role in Running Energy Sector

President Nicolás Maduro on Sunday named Manuel Quevedo, a major general in Venezuela's military who is currently serving as the country's housing minister, to be the next president of state oil company *Petróleos de Venezuela*, or PDVSA, as well as the new oil minister, *El Universal* reported. He replaces Nelson Martínez and Eulogio Del Pino in the two positions, respectively. "Quevedo is a professional widely qualified to take on the job," Maduro said. However, critics of the decision



Quevedo // File Photo: via Twitter @MQQuevedoF.

were quick to point out that Quevedo has little direct experience in the oil industry. "The military has achieved its aim of controlling PDVSA. The forecast is somber," Francisco Monaldi, a fellow in Latin American energy policy at the Baker Institute in Houston, told Reuters. PDVSA has not had an active military official at its helm since 2002, when General Guaicaipuro Lameda finished his two-year tenure as head of the company. Oil production has fallen to near 30-year lows in Venezuela, which depends on oil for more than 90 percent of its exports. In announcing the shakeup at PDVSA, Maduro said corruption would be routed from the industry. Last week, the U.S. State Department asked the Maduro government for access to five Venezuelan-American executives of U.S.-based refiner Citgo who were detained in Caracas on corruption charges. Around 50 managers at PDVSA have been arrested since August on corruption charges. [Editor's note: See [Q&A](#) in the Nov. 24 issue of the Energy Advisor.]

Treviño Named the New Head of Pemex

Mexican President Enrique Peña Nieto on Monday named Carlos Alberto Treviño Medina, 47, to be the new chief executive of state oil company Pemex, Bloomberg News reported. Treviño, who has been Pemex's corporate director of administration and services, succeeds José Antonio González Anaya as CEO. González has been named finance minister, replacing José Antonio Meade, who is running for president. Treviño spent a stint as Pemex's CFO, in 2010, and has also served as its corporate director of finance and management. Previously, he worked in the energy and economy ministries, among other government posts. Treviño faces a fast-changing business environment in Mexico's energy sector. Pemex's crude output has been falling steadily since 2004, although an energy reform now underway is bringing billions of dollars worth of fresh investment to the industry. On Nov. 4, Pemex announced its biggest onshore discovery in 15 years, just three months after Mexico reported the first major find by private companies under new contract terms. Pemex reported last Friday that crude output rose by 9.9 percent in October from the previous month to 1.902 million barrels per day (bpd) after suffering a sharp drop in September, Reuters reported. Exports increased by 15.8 percent to 1.342 million bpd,

Political risk has been getting more attention ahead of next year's presidential elections.

the highest total since September 2016. However, political risk has been getting more attention ahead of next year's presidential elections. Frontrunning candidate Andrés Manuel López Obrador, widely known as AMLO, has said that if elected Mexico's president, he would review the oil contracts that were signed after the country's historic oil-sector reforms, adding that he did not trust those who had agreed to the deals on the country's behalf. [Editor's note:

NEWS BRIEFS

Banker Held in Petrobras Corruption Probe

Brazilian authorities on Monday arrested a banker with dual Spanish-Swiss nationality in the corruption probe involving state oil company Petrobras, EFE reported. David Muino Suarez was arrested in São Paulo and taken to the southern city of Curitiba, where he will be held under an order issued by Judge Sérgio Moro, who is running the so-called Car Wash corruption probe. A manager of Zurich-based BSI bank, Muino Suarez allegedly executed transactions to cover up bribes received by Eduardo Cunha, the jailed former speaker of the lower house of Congress.

Ecopetrol Announces New Investment Plans for 2018

Colombian state oil company Ecopetrol said last week it will invest between \$3.5 billion and \$4 billion in 2018, a growth of up to 55 percent from this year. The company also reduced its estimated "break-even price" for oil, forecasting a positive net income if Brent prices average \$35 per barrel of oil. While 96 percent of the investment will be executed in Colombia, the company is also investing in projects in the United States, Mexico, Brazil and Peru. Ecopetrol projects production next year at 715,000 to 725,000 barrels of oil-equivalent per day.

Astaldi, Ghella Team Up on Honduras Hydro Project

Italian construction group Astaldi last week announced it had won a \$113 million contract in Honduras to build the Arenal hydroelectric power project. Astaldi has a minority 49 percent share, along with another Italian company, Ghella, which holds 51 percent. The dam is the largest private hydroelectric project underway in the country. The work, which is slated to start before the end of this year, will take 33 months. The customer is local power provider Energias Limpias del Yaguala.

See related [Q&A](#) in the Sept. 29 edition of the Energy Advisor.]

POWER SECTOR NEWS

I Squared Capital Acquires Inkia's Latin America Unit

New York-based I Squared Capital said Monday it is acquiring the Latin American and Caribbean businesses of Lima-based Inkia Energy, a wholly owned subsidiary of Israel's IC Power Ltd. The deal, which does not include IC Power's Israeli asset, OPC Energy Ltd., is valued at about \$1.2 billion, Reuters reported. Inkia has a highly contracted portfolio of approximately 3.4 gigawatts of gross installed capacity in nine countries, with a mix of hydroelectric, wind and thermal facilities. The company also owns an electricity distribution company servicing approximately 1.7 million customers. Inkia is the second-largest power producer in Peru, I Squared Capital said in a statement. "The Inkia portfolio comes with a highly seasoned and successful development team as well as a robust pipeline of renewable and natural-gas generation projects," Adil Rahmathulla, a partner at I Squared Capital, said in a statement. As part of the transaction, I Squared Capital will assume Inkia's \$450 million of bonds, which were issued this month. Credit Suisse and Norton Rose Fulbright acted as advisors to I Squared Capital.

POLITICAL NEWS

Hernández Pulls Ahead in Honduras as Foes Claim Fraud

Incumbent President Juan Orlando Hernández pulled ahead in the latest partial tally of votes in Honduras' presidential race, as his opponent, Salvador Nasralla, saw his early lead evaporate,

the Los Angeles Times reported. With just under 83 percent of votes tallied from Sunday's presidential election, Hernández led Nasralla 42.21 percent to 42.11 percent, a margin of just 2,911 votes, the country's election officials said Wednesday. On Monday morning, Nasralla had an early lead, and it appeared that he could pull off a victory against the incumbent president, as he was beating him by five percentage points. However, as Nasralla's lead

dwindled and Hernández pulled ahead, Nasralla's supporters claimed that the election was being stolen. In a post on Facebook, Nasralla said he would not recognize "the results of the cheating system of the electoral court," which is tallying the ballots. The head of the electoral court, David Matamoros, said that a final vote would not be released on Wednesday as planned, due to a computer failure. "We apologize to the people of Honduras for the situation

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that has been presented today," he said in a tweet. "In almost all elections there are faults in the system, but never at a critical time." Matamoros said the final results would likely be released today. Supporters of Nasralla allege that election officials are manipulating votes in favor of Hernández, a claim that the election officials have denied. Both Hernández and Nasralla have claimed victory, and supporters of both candidates have taken to the streets. Outside the election tribunal's headquarters in Tegucigalpa, Nasralla's supporters waved



Hernández // File Photo: Honduran Government.

red flags and burned banners bearing Hernández's image, while the president's supporters held a counter-protest. "The only one that can defend these votes is the Honduran people, Nasralla told his backers, urging them to come to the capital to protest. Hernández came to power after a 2013 election that was marred by claims of fraud, vote-buying and other irregularities. Even before it was held, this month's election faced controversy dating back to 2009. That year, Hernández supported a coup against then-President Manuel Zelaya, who was deposed after he made efforts to run for re-election, which at the time was prohibited by the country's Constitution. After Hernández was elected, Congress appointed several Supreme Court judges, who voted to overturn the ban on presidential re-election. [Editor's note: See [Q&A](#) on the Honduran presidential race in the Nov. 13 issue of the Advisor.]

Venezuela's Maduro Plans to Seek Re-Election: VP

Venezuelan President Nicolás Maduro plans to seek another term in next year's presidential

ADVISOR Q&A

How Will NAFTA Negotiations Affect the Agriculture Sectors of North America?

Q In the 23 years since the enactment of the North American Free Trade Agreement, or NAFTA, U.S. agricultural exports have increased by 265 percent to Canada and by 298 percent to Mexico, U.S. Senate Agriculture Committee Chairman Pat Roberts (R-Kans.) said in a recent speech. He added that Canada and Mexico have ranked in the top three destinations for U.S. agricultural exports since 2001. How important is a deal to renegotiate the trade accord to farmers and other agricultural interests in the three NAFTA countries? What would be the impact on agricultural interests in the United States, Mexico and Canada if the three countries cannot reach an agreement? Will political pressure from farming states that helped elect President Donald Trump push his administration toward a deal?

A Antonio Ortiz-Mena, senior vice president at Albright Stonebridge Group: "NAFTA is extremely important for agricultural interests in all three countries. First, without NAFTA, the United States would face high most-favored-nation tariffs for exports to Mexico: 20 percent for fresh beef and sweetcorn, 25 percent for frozen beef, 45 percent for turkey and some dairy, and up to 75 percent for chicken, potatoes and high-fructose corn syrup. Mexican agricultural exports would face significantly lower U.S. most-favored-nation tariffs. Second, if the United States gets its wish to eliminate NAFTA Chapter 19, all three countries'

agricultural exports would face greater market-access uncertainty. Third, there would be little political appetite in Mexico (and possibly Canada) for engaging in regulatory and technical cooperation to deal with sanitary and phytosanitary issues. For example, U.S. potatoes, which still have limited access to the Mexican market, would likely not gain greater access. Without NAFTA, the United States would lose market share in Mexico in its exports of grains, above all yellow corn, as well as high-fructose corn syrup and beef, to name just a few products. Mexico can and would source from other countries such as Argentina and Brazil. U.S. imports of Mexican fruits and vegetables could be reduced, which would make their prices higher in the United States, especially in winter. The U.S. consumer would be left with a higher grocery bill. It remains unclear whether U.S. agricultural interests will have enough power to force the United States to shift its position on issues that are making it difficult to reach a deal, such as the sunset clause, potential restrictions based on the level of the trade deficit, weakening dispute settlement and incorporating excessively high rules of origin for autos. The U.S. administration seems to be obsessed about the trade deficit and manufacturing, sidelining the importance of trade in agricultural products and services."

EDITOR'S NOTE: More commentary on this topic appeared in the Q&A in the Nov. 30 issue of the Dialogue's daily Latin America Advisor.

election, Vice President Tarek El Aissami said Wednesday, Agence France-Presse reported. Next year, "we will have, God willing, people willing, the re-election of our brother

Nicolás Maduro as president of the republic," El Aissami told meeting of the ruling United Socialist Party of Venezuela. The election is currently scheduled for December, but some

NEWS BRIEFS

Crew of Missing Argentine Sub Reported Water Had Entered Through Snorkel

Argentina's navy said Tuesday that the crew of the ARA San Juan reported before losing contact that water had entered the submarine through a snorkel, causing a battery to short-circuit, BBC News reported. The sub, with 44 crew members aboard, went missing Nov. 15, and an ongoing international effort has failed to locate it.

White House Reportedly Planning to Oust Tillerson as Secretary of State

The White House is planning to force U.S. Secretary of State Rex Tillerson out of his position and replace him with current Central Intelligence Agency Director Mike Pompeo, The New York Times reported today. The action is expected within the next few weeks, senior administration officials told the newspaper. Senator Tom Cotton (R-Ark.) would replace Pompeo as CIA director, according to the report. President Donald Trump has soured on Tillerson, though it is unclear whether he has given final approval to the plan, the newspaper reported.

Argentine Court Sentences 29 to Life Terms for Dictatorship-Era Crimes

Argentina on Wednesday sentenced 29 people to life prison sentences in a trial involving some 800 cases of kidnapping, torture and murder during the dictatorship, or "Dirty War" that lasted from 1976-1983, Reuters reported. Many of the defendants had already been serving life sentences. The sentences on Wednesday included convictions for drugging people and dumping their bodies in La Plata River. In addition to the life sentences, 19 people received jail terms lasting eight to 25 years, and six were cleared of wrongdoing.

experts have said the government may seek to move it up to March, AFP reported. Maduro's government in recent years has been facing a crippling economic crisis that has led to shortages of basic goods, including food and medicine, and that has been worsened by runaway inflation at 1,000 percent—the world's highest. In recent weeks, ratings agencies have found the country to be in partial default on international loans, estimated at \$150 billion. Earlier this year, some 125 people were killed during several months of protests against Maduro and his government. The president has also faced criticism for making it nearly impossible for the opposition to have a voice in the government, and for silencing independent news outlets. "If Maduro wants the economic crisis resolved in 2018, all he has to do is leave and allow Venezuela to choose an honest and efficient government," opposition leader Henry Ramos Allup wrote on Twitter following El Aissami's announcement. Maduro was first elected president in 2013 following the death of President Hugo Chávez. In related news, the Venezuelan government has ordered the removal of former oil minister and head of state oil company PDVSA Rafael Ramírez from his current post as U.N. representative in New York, four people with knowledge of the matter said Wednesday, Reuters reported. Ramírez, who is a member of Venezuela's ruling PSUV party, has been an increasingly vocal critic of Maduro in recent months, and has been seen by some as a potential challenger to Maduro for the presidency in next year's election.

ECONOMIC NEWS

Díaz de León Tapped to Lead Mexico's Central Bank

Mexican President Enrique Peña Nieto on Tuesday named Alejandro Díaz de León to be the next head of the Bank of Mexico, the country's central bank known as Banxico, The Wall Street Journal reported. Agustín Carstens, the highly admired chief of Banxico since 2010, is leaving next month to lead the Bank for

International Settlements in Switzerland after delaying his departure earlier this year in order to provide continuity at the bank amid economic turbulence and currency pressures. Díaz de León, 47, had been widely reported to be in the running for the job. He returned to the central bank earlier this year after a decade hiatus in government. His path to the post became clear this week when Finance Minister José Antonio Meade, who reportedly had been a top pick to lead Banxico after Carstens, announced he would run for president in the election next July. Díaz de León, who started his career at the central bank in 1991 and worked there for 16 years, will start his term on Dec. 1, which will run through 2021, when Carstens' term was scheduled to end. The new governor is "a very solid choice," Alberto Ramos, the chief economist for Latin America at Goldman Sachs, told Bloomberg News. "He's a very reputable technocrat with a long career trajectory at the central bank."

U.S. Auto Demands 'Not Viable': Mexican Economy Minister

Demands by U.S. President Donald Trump's administration for requirements on automobile parts produced in the United States, which it presented during the talks to update NAFTA, are "not viable," Mexican Economy Minister Ildefonso Guajardo said Wednesday in Washington, Reuters reported. Guajardo declined to say when Mexico would formally respond to the U.S. demands.

Brazil House Speaker Eyes Pension Reform Vote by End of Year

The speaker of Brazil's lower house of Congress, Rodrigo Maia, on Monday said he will try to pass a hotly debated pension reform bill this year but that he would only put the measure to a vote if it has enough support, Reuters reported. A government proposal to hold a vote next week will likely be put off until Dec. 13.

FEATURED Q&A / Continued from page 1

The challenges that SQM and government agency Corfo are dealing with in Chile have also served to shine a brighter light on Argentina's potential as a lithium investment destination. Current lithium producers in the country include FMC and Orocobre, and the joint venture between SQM and Lithium Americas will add to this increasing total by 2020. Lithium prices have increased from \$6,500 per metric ton to more than \$16,000 per metric ton, so resource nationalism is always a threat, and one can only hope that governments and companies find ways to work together to mutually benefit from the robust lithium market, which is set to continue for the next several years. Clear government policies around royalty and tax regimes are a must. With a majority of the world's low-cost lithium coming from the 'Lithium Triangle' in South America, the region has an unprecedented opportunity to benefit from and maintain its global leadership position as the lithium supply chain grows and evolves in the coming years."

A **William Tahil, research director at Meridian International Research:** "The global automotive industry is entering a critical phase in its electrification revolution. Nearly all the major manufacturers have announced plans to massively expand their electric vehicle product offerings. For instance, Volkswagen alone wants to sell between two and three million e-cars per year by 2025, launching 30 pure electric models between now and that date. Volkswagen put its battery capacity requirement at 150 gigawatt-hours per year in 2025, which would require 300,000 metric tons of technical-grade lithium carbonate, dwarfing current global production. So the future for lithium producers looks assured; apparently, they cannot ramp up production fast enough. However, there is another resource constraint: cobalt. Cobalt was never intended to be used for EV batteries. The iron phosphate, manganate and titanate spinel technologies were all developed for EV batteries because it was widely

recognized in the early 2000s that cobalt is not safe for large format batteries and that there is insufficient cobalt to sustain mass production of EV batteries. However, all the EVs produced so far use cobalt-containing cathodes to give the cars reasonable range. Iron phosphate only has the same energy density as nickel metal hybrid. Meanwhile, China has quietly cornered the global supply of cobalt available for EV batteries. With existing demand for cobalt from industry and for consumer electronics, hardly any is left for non-Chinese EVs. In fact, in September, Volkswagen failed to secure a long-term supply agreement for cobalt. While the car manufacturers could turn to iron phosphate or manganate spinel, as they were expected to originally, this would lead to much heavier vehicles. So, perhaps lithium producers should be somewhat cautious and ask themselves how car manufacturers intend to overcome the cobalt challenge. If solid state (solid electrolyte) technology becomes ready to deploy, that may be one answer, but then, solid-state technology may lead to lithium itself being abandoned."

A **Mark Venning, business development director for mining at Black & Veatch:** "I am bullish about the global lithium market, due to advances in electric car technologies and energy storage using lithium batteries to maintain 24-hour power when renewables like solar-PV are employed. There is a lot of movement in this sector, especially in Chile, which has the largest lithium reserves in the world and the most mature mining sector, followed by Argentina and Bolivia. However, despite the emerging lithium opportunities, the size of the mines is a fraction of the size of copper mines, and the size of the lithium sector will be a fraction of the size of the copper sector, due to different mining and enrichment techniques and due to the relative demand for copper and lithium. I don't expect any resource nationalism in Chile, especially if there is a change of government following the presidential elections."

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