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FEATURED Q&A

Is Bolivia Prepared for its Transition to Renewable Energy?

As its natural gas production steadily declines, Bolivia is under increasing pressure to transition toward renewable energy at a quicker rate. A thermoelectric power plant near the Bolivian city of Santa Cruz is pictured. // File Photo: Bolivian Government.

Q **In 2014, Bolivia laid out a strategy to gradually transition away from fossil fuels and to become a net exporter of surplus energy to its neighbors by 2025. Despite making some headway in wind, solar and hydro power generation, however, the landlocked South American country is still heavily reliant on natural gas for its power needs, and studies show Bolivia's gas reserves are dwindling. To what extent is Bolivia experiencing what's been called an "involuntary" transition toward renewables as natural gas output declines? What changes should the country make to its legal and regulatory framework to modernize its power grid and attract investment? Is Bolivia managing the energy transition well, or might there be a power-generation crisis on the horizon?**

A **Francesco Zaratti, energy analyst, columnist and former advisor to former Bolivian President Carlos Mesa:** "The contribution of the Bolivian energy sector to global warming is insignificant due to its small size, however, the transition from fossil fuels to renewable sources of energy is an economic urgency due to the 'end of the gas cycle.' Gas is running out in Bolivia because of natural causes (declining gas fields) and political causes (the insane legal and tax regulations that scare away foreign investment in hydrocarbon exploration). In fact, production has fallen 30 percent in the past eight years. The government has willfully avoided updating gas reserve figures. But fuel imports are on the rise and that fuel is then subsidized to keep consumer prices low, which is unsustainable. Bolivia's loss of prominence

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TOP NEWS

OIL & GAS

Investors Eye PDVSA Oil if U.S. Eases Sanctions

Venezuela creditors and investors are holding a first-of-its-kind meeting in Davos this week to discuss potential opportunities in the country's oil sector, should the United States decide to ease some economic sanctions.

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RENEWABLES

Shell, Porto do Açu to Build Green Hydrogen Plant

Oil major Shell and Brazil's Porto do Açu industrial and port complex have signed a memorandum of understanding to work together to build a green hydrogen plant in the South American country.

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OIL & GAS

Bolsonaro Ousts Petrobras CEO After 40 Days

Brazilian President Jair Bolsonaro fired Petrobras CEO José Mauro Coelho after the state-run oil firm refused to sell fuels at a discount to consumers, warning it could lead to diesel shortages.

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Coelho // File Photo: Brazilian Government.

OIL & GAS NEWS

Brazilian President Ousts Petrobras CEO After 40 Days in Job

Brazilian President Jair Bolsonaro on Monday fired the chief executive of state-run oil producer Petrobras after the company refused to sell fuels at a discount to consumers, warning it would lead to diesel shortages, Reuters reported. Bolsonaro also called for the election of a new board of directors. Brazil's Ministry of Mines and Energy released an official note late Monday night informing that José Mauro Ferreira Coelho, who took office 40 days ago, will be replaced by Caio Mário Paes de Andrade as president of the company, Agência Brasil reported. The note states that the country "is currently experiencing a challenging moment, due to the effects of the extreme volatility of hydrocarbons in international markets." According to the ministry, geopolitical factors have driven up the price of gasoline, diesel and energy components. "Working and contributing to a balanced scenario in the energy area is fundamental for the generation of value for the company, generating benefits for the whole society," the note added. Fuel prices are a politically charged issue in Brazil, which sought to manage its oil and gas reserves efficiently by pegging local consumer rates to international prices for oil, and this is an election year. Paes de Andrade has served in Bolsonaro's government as the Special Secretary for Debureaucratization, Management and Digital Government at the Ministry of Economy. His biography reflects no experience managing a state oil company, however, and minority shareholders have expressed concern that he does not have the industry experience required for the job, Folha de S.Paulo reported Tuesday. In the private sector, he has worked in the areas of information technology and real estate. In related news, Bolsonaro on Monday signed a decree that he says will create a national carbon market, although critics say the measure is too vague and fails to address deforestation in the Amazon, the Associated Press reported.

Investors Eye PDVSA Oil Amid Prospect of U.S. Easing Sanctions

Venezuela creditors and investors are holding a first-of-its-kind meeting in Davos this week to discuss potential opportunities in the oil sector as hopes rise for an easing of U.S.-led sanctions on the Andean nation, Bloomberg News reported Sunday. London-based brokerage IlliquidX Ltd. and Canaima Capital Management are hosting the session on the sidelines of the World Economic Forum, with international oil company Shell cited among those expected to participate. The price of defaulted bonds issued by state oil company PDVSA rose last week as investors priced in optimism over potential changes to sanctions, according to data compiled by Bloomberg. Analysts say the United States has held out the prospect of easing restrictions as one of its strategies to encourage Venezuelan leader Nicolás Maduro to enter back into talks with opposition leaders over holding new elections. Analysts say another motive could be the surging global price of oil, which, along with decades of high inflation, has become a political liability for the administration of President Joe Biden. Meanwhile, oil production in Venezuela has gained strength in recent months after historic lows despite those sanctions.

Iranian Repairs of Venezuela Refineries to Boost Oil Output

Officials from state-owned Iranian companies have begun repairs to Venezuela's long-neglected Paraguana and El Palito oil refineries in a bid to increase output at both facilities, Reuters reported Monday. The projects are part of the energy cooperation agreements signed between Venezuela and Iran earlier this month that deepen the relationship between the two U.S.-sanctioned nations. The repairs are a much-needed improvement to Venezuela's dilapidated oil infrastructure. Venezuela's Para-

NEWS BRIEFS

Chilean Lithium Firm SQM Reports 12-Fold Spike in Q1 Profit

The Chilean lithium mining company SQM reported a near twelve-fold rise in quarterly profit, Reuters reported Wednesday. Profit for the first quarter of 2022 rose to $796 million, while revenue nearly quadrupled to $2.02 billion. The company reaped a windfall from the high price of lithium, a metal used in electric vehicle and cellphone batteries, according to the report. SQM's jump was also due to a 59 percent surge lithium sales.

Cosan Unit Acquires PetroChoice for $479 Mn

Brazilian energy conglomerate Cosan announced Tuesday that it has acquired the largest lubricants distributor in the United States for $479 million. Cosan's subsidiary Moove will purchase Pennsylvania-based PetroChoice Lubrication Solutions from Golden Gate Capital. PetroChoice operates more than 50 distribution centers across 25 states. Moove is one of the largest producers and distributors of lubricants and base oils in Brazil and other countries in South America, as well as Europe.

Brazil's Auren Energia Starts Work on Two Wind Farms in Pernambuco

São Paulo-based Auren Energia has started construction of two wind farms in the state of Pernambuco with an investment of more than $80 million, Renewables Now reported Monday. The wind farms, which are scheduled to start operations in November, will be located in the municipalities of Araripina, Ouricuri and Santa Filomena. The company, which says it operates one of the largest installed capacities of renewable energy in Brazil, was created in 2017 from the integration of the energy assets of Votorantim and CPP Investments.

guana oil refinery—which is among the world's largest—has been operating at just 17 percent capacity, Reuters reported. On May 3, Venezuelan leader Nicolás Maduro and Iran's Petroleum Minister Javad Owji agreed to work together to dilute Venezuela's heavy crude oil, and make it export-ready for foreign oil markets where U.S. sanctions are not stringently enforced. Iran's National Oil Refining and Distribution Company was part of the delegation that signed a $116 million deal with Venezuela's PDVSA to also repair and expand its El Palito refinery, according to the wire service. As part of the energy cooperation pact made earlier this month, Iran has supplied the Maduro regime with oil and diluents necessary for making its crude oil export ready, according to Reuters. The energy pact with the Middle Eastern country could complicate U.S. overtures with Venezuela to lift some economic sanctions in exchange for the sale of oil and other conditions. [Editor's note: See the related **Q&A** in the May 20 edition of the Energy Advisor.]

RENEWABLES NEWS

Shell, Porto do Açu to Build Plant for Green Hydrogen in Brazil

Oil major Shell and Brazil's Porto do Açu industrial and port complex have signed a memorandum of understanding (MOU) to work together to build a green hydrogen plant in the country, Reuters reported last week. The entities will invest in the construction of a 10-megawatt green hydrogen plant at Açu's facility in Brazil's Rio de Janeiro state, according to the terms of the MOU seen by Reuters. The massive industrial complex and port is owned by Prumo Logistica, which is controlled by U.S. private equity firm EIG Global Energy Partners, according to the wire service. The green hydrogen plant, which is to be completed by 2025, is to produce a zero-carbon fuel made by using water that is split into hydrogen and oxygen. The fuel has increasingly been promoted as a viable alternative fuel for industries that rely

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in the regional gas market is an incontrovertible reality. In response to the crisis, the government has chosen to increase supply by betting on biofuels, which, at the end of the day will do little to mitigate the coming energy shortage. The alternative is to reduce the demand for fossil fuels by inverting the electricity generation ratio (currently 60 percent of electricity is generated by fossil fuel and 40 percent by renewable energy) and executing an aggressive power generation plan with the abundant renewable resources that Bolivia possesses, mainly solar and hydro. The government should also encourage investment in electric vehicles by providing financial incentives, and, last but not least, improving the business climate to attract investment in the energy sector—both foreign and domestic. Unfortunately, there is still no energy transition plan in Bolivia that gives certainty to investors, which is essential at this stage of Bolivia's energy transition."

A **Miguel Fernández Fuentes, director of the sustainable energy NGO Energética:** "Fossil fuels cover just over 90 percent of the country's total energy demand, and the decline of natural gas production is putting pressure on Bolivia to transition to renewable energy at a quicker rate. Despite this trend, an energy crisis is unlikely under any scenario. Energy transition is already a part of the official discourse among energy sector authorities. Some encouraging signs come from two government decrees, one that promotes distributed power generation, and another that promotes investment in electric public transportation vehicles. Bolivia has outlined its commitments under the Paris Agreement on climate change and its goals for the energy sector, but in my opinion, they don't go far enough. Climate change action and a transition to renewables is one in the same, and both would be advanced if the government did more to encourage investment, such as relaxing regulations, providing financing and clarifying regulations in relation to CO2 emissions. To achieve an orderly and effective energy transition, it is important to put in place a legal framework, incorporating the goal of carbon neutrality for the energy sector by 2050—and this should influence long-term energy planning. Another important aspect in the transition will be the maintenance and modernization of energy grid infrastructure and its modernization so that power generation won't be interrupted by the phasing out of fossil fuels. Finally, there is an underlying problem, and that is Bolivia's fiscal deficit. The Bolivian economy is heavily dependent on hydrocarbon export revenues. As these revenues drop with the decline of natural gas production, the question must be asked: what can Bolivia do to replace this source of income? It isn't clear how the country will cover the costs associated with transitioning to renewables. This is perhaps the most pressing challenge facing Bolivia—achieving the energy transition while maintaining economic stability."

A **Jeremy Martin, vice president of energy and sustainability at the Institute of the Americas:** "Bolivia, like many countries in South America, has a low-carbon power generation footprint thanks to legacy hydroelectricity generation. Increased deployment of natural gas in the electricity mix over the last two decades has also allowed the country to meet demand growth with domestic resources. Alas, in terms of the primary energy matrix, Bolivia has not been as successful in reducing the role and usage of oil, primarily for transport. Meanwhile, despite concerns around diminishing natural gas reserves, the amounts required for power generation can be met. The ability to meet regional integration commitments and to continue to export significant quantities of natural gas to Brazil and Argentina are very different questions and ones that merit attention by policymakers. Current upstream policies and regulations do not appear adequate to reverse

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heavily on fossil fuels, Reuters reported. The plant will be built and expanded upon to add to its megawattage production capacity, and it will require an initial investment of between $20 million and $40 million, with the goal of producing 100 megawatts by 2029, Reuters reported. By creating a supply of green hydrogen in Brazil, Shell and Açu have said they hope to generate demand for the fuel in a green energy market that is still in its infancy. "The idea is to test the market for green hydrogen in Brazil," said Mauro Andrade, executive director of business development at Prumo, Reuters reported. "We want to test off-takers outside of Brazil as well. Everyone talks about green hydrogen, but in the market today the number of off-takers is still limited." [Editor's Note: See related **Q&A** in the June 18, 2021 edition of the weekly Energy Advisor.]

POLITICAL NEWS

Boat Carrying More Than 800 Haitians Rescued in Cuba

A cramped boat carrying more than 800 Haitians trying to reach the United States wound up on the coast of central Cuba, the Associated Press reported Tuesday. The group, which had been abandoned by the vessel's captain with little food and water after he took their cell phones, arrived at Villa Blanca, a town east of Havana. Now being housed at a tourist campground by the Red Cross, the group reportedly includes 70 children and 97 women. One Haitian refugee said their journey started months ago, and that 15 people "threw themselves into the sea because they couldn't stand hunger," according to the report. The United States and other nations have reported intercepting boats carrying well over 100 Haitians in recent months, but a total of 800 migrants on a single vessel appeared to be unprecedented. Lack of jobs, food scarcity and a spike in gang-related violence and kidnappings in Haiti has prompted thousands of Haitians to flee their country. [Editor's note: See related **Q&A** in the May 17 edition of the daily Latin America Advisor.]

IN FOCUS

Petro Leads Polls Ahead of Colombia's First Round, Rivals Vie for Spot in Runoff

By Mark Kennedy

BOGOTÁ—Just days ahead of Colombia's presidential election on Sunday, polls show leftist senator and former M-19 guerrilla Gustavo Petro with a double-digit lead over his closest rival. In a crowded field, only Petro, center-right former Medellín Mayor Federico "Fico" Gutiérrez and independent populist Rodolfo Hernández are polling in the double digits.

Recent polls show that Petro's lead has remained a steady 12 to 15 percentage points ahead of Gutiérrez. Pollster Invamer released a survey May 19 showing Petro with 40.6 percent support, down three percentage points from an April 22 poll, while Gutiérrez had 27.1 percent support, up about half a percentage point from April. Hernández's support jumped to 20.9 percent in the latest survey, up from 13.9 percent in the April poll.

Petro // File Photo: Petro campaign.

But undecided voters still could play a big role. One recent opinion poll revealed that 14 percent of eligible voters remain uncommitted to a candidate. The candidate who can tap into that rich pool of votes could secure a place in the second-round runoff election.

Among Petro's opponents, it's a contest for second place, and Petro does not have the more than 50-percent support needed to win the presidency in the first round, meaning that a runoff on June 19 is all but assured.

"This is a race for second place, as Petro is leading by such a wide margin that the only interesting race at this point is between the second and third place candidates in the first round," Sergio Guzmán, director of consultancy firm Colombia Risk Analysis, told the Latin America Advisor.

Among the problems that Colombia's next president will have to tackle are rampant corruption, persistent poverty and hunger, as well as street crime in the cities, illegal armed groups at war with each other in the countryside and a labor market where roughly 40 percent work in the informal sector.

As in previous elections, candidates have rallied their supporters to worry less about issues and more about the implications if the opposing side wins.

At its core, what is being presented to Colombian voters is a choice between change and continuity. "This election in particular will be defined by those who fear a left-leaning government and those who ask for change and fear the continuity of another center-right government," said Silvana Amaya, a senior analyst for the Americas at Control Risks.

If Petro and Gutiérrez emerge as the top vote-getters in the first round on Sunday, Colombia could elect its first left-wing president in next month's runoff, Guzmán told the Advisor. Against Gutiérrez, "Petro wins, I think quite handily," he said.

NEWS BRIEFS

Corrupt Acts in Mexico Cost Citizens Affected $452 Million in 2021

Corruption in Mexico costs the average person affected some 3,000 pesos ($150), according to a survey published by state statistics agency INEGI, El Universal reported Tuesday. The total cost of corruption last year reached $452 million. The survey includes only corrupt activities related to the daily life of households and not corrupt activities of companies or between public servants. Corruption for people in contact with public security authorities had the greatest weight in the survey.

Argentine Judge Declares State Responsible for Indigenous Massacre

In what has been described as an "historic ruling," a judge in the Chaco Province of Argentina last week ruled that the state was responsible for the killing of more than 400 Indigenous people on a reservation almost a century ago, the Buenos Aires Times reported. In the Napalpí Massacre of 1924, the state committed "crimes against humanity" and the "genocide of Indigenous peoples," the judge ruled, adding that the event led to the loss of Napalpí language and culture.

El Salvador Congress Extends Emergency Decree on Gangs

El Salvador's Congress on Wednesday granted a request by President Nayib Bukele for a second extension of the country's anti-gang emergency decree, the Associated Press reported. The vote extends for 30 more days the state of emergency that critics say has swept up innocent people, although polls suggest the emergency decree has strong support among Salvadoran citizens. Since an outbreak of killings in March, authorities have apprehended some 34,500 suspected gang members.

Police Operation in Rio de Janeiro Leaves 22 Dead

A police operation in a Rio de Janeiro favela left 22 people dead on Tuesday, making it the third deadliest police action in the city's recent history, Folha de S.Paulo reported. Brazilian President Jair Bolsonaro praised police for their work in the Vila Cruzeiro neighborhood, according to the report. A police statement issued the morning of the incident said that officers were fired on while preparing their incursion and that one resident had been shot and killed on site. Local media reported that person was a 41-year-old woman hit by a stray bullet, the Associated Press reported. The operation was conducted jointly by the military police and federal highway police, who seized 16 vehicles and 13 automatic rifles, as well as pistols and grenades, authorities said. Earlier this year, Brazil's Supreme Court established a series of conditions for police to conduct raids in Rio's favelas as a means to reduce police killings and violations of human rights. On Tuesday, Rio state public prosecutors said in a statement they had opened a criminal investigation on the incident, giving military police 10 days to provide details about the operation. [Editor's note: See related **Q&A** in the Feb. 14 issue of the Advisor.]

ECONOMIC NEWS

Brazil: Prices in May Rise Most Since 2016

Consumer prices in Brazil rose more than economists expected in May, according to data released Tuesday from state statistics agency IBGE. The closely followed IPCA-15 index in May was 0.59 percent, the biggest change for the month of May since 2016. Moreover, the May data marks the biggest variation accumulated in the previous 12 months since November 2003. Eight of the nine groups of products and services surveyed by IBGE were up in May, with the exception being housing. The biggest increase in inflation came from the health and personal care sector. Services inflation also spiked higher than analysts expected. "Inflation is now not only very high but also highly disseminated," Goldman Sachs economist Alberto Ramos told clients in a research note Tuesday. To calculate the IPCA-15, IBGE collected pricing data in major cities from April 14 to May 13, and compared it with those in effect from March 17 to April 13. Facing a tough election in October, Brazilian President Jair Bolsonaro announced a plan in March to provide $32 billion of economic stimulus this year through a program known as the "Income and Opportunity Program." The initiative includes early payment of pension checks, the expansion of payroll-deductible loans and a new microcredit program. However, critics said the package is ill timed and poorly organized in terms of targeting those struggling most with rising prices, Leandro Ferreira, head of the Brazilian Basic Income Network, told the Advisor in a **Q&A** published March 29.

USTR Files Third Labor Complaint Against Mexico

The United States last week submitted its third labor complaint to Mexico under the United States-Mexico-Canada Agreement, or USMCA, Reuters reported. The case involves the rights of workers at a Panasonic auto parts factory. Mexico's Economy Minister Tatiana Clouthier received a letter from U.S. Trade Representative Katherine Tai, which cited concerns about whether workers at the unit of the Japanese conglomerate were being denied rights to collective bargaining and free association. If authorities find that the rights are not being respected, then Mexico could be in breach of the USMCA free trade agreement, the wire service reported. Tai said in a statement that when "concerns arise, we will work swiftly to stand up for workers on both sides of the border." The Mexican Economy Ministry confirmed the receipt of Tai's request, and said that it would consult with its Labor Ministry before responding.

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that trend. Equally important for the nation's energy sector is the issue of access and energy poverty. These challenges remain critical. The country has set 2025 as the target for achieving universal access. There have been important national and development bank-supported efforts that have reduced the number of households without access. Yet, according to the International Energy Agency (IEA), 12 percent of the population remains without access to electricity. This is particularly acute in rural areas of the country. To reach their goal of universal access, distributed generation and off-grid solutions must be facilitated. Bolivia's next-door neighbor Brazil offers possible solutions. Over the last ten years in Brazil, a series of laws and regulations have greatly facilitated the deployment of distributed renewable energy solutions for a variety of consumers. The Bolivian government can draw from this evolving experience. The country's ample wind and solar resources should continue to be harnessed for grid-scale projects to diversify the country's energy matrix. But, just as importantly, they should also be leveraged to meet the country's energy access needs."

A **Jose Valera, partner at the law firm Mayer Brown LLP:** "Bolivia is not managing the energy transition well. It should make reforms in two areas. The first reform should relate to the hydrocarbons industry, as the statutory framework currently provides limited economic incentives to the private sector to invest capital, especially in exploration. Bolivia's gas reserves are dwindling because they are not being replaced with new discoveries. New discoveries require the investment of risk capital. Bolivia should move away from the risk service contract model, such as Ecuador has done under the current administration. This circumstance affects not only Bolivia's power sector but also its exports. Bolivia has not been able to maintain gas export levels to Brazil and Argentina. As with any other state-owned oil company in Latin America, Bolivia's state-owned oil firm YPFB competes with the national treasury for capital resources, and it is not in a financial condition to undertake the degree of hydrocarbon exploration activities that the country needs. The second reform should relate to the electricity generation industry. In order to ensure a sufficient supply of electricity to sustain Bolivia's economic growth, it is also necessary to engage the private sector with incentives to invest capital in renewable and thermal generation. There are huge distortions, as the consumer retail sector is heavily subsidized and the direct sale of power to large industrial and commercial companies is monopolized by the state. The electric sector should be opened to wholesale and retail competition by the private sector to drive down costs. Bolivia's transition toward renewables does not have to be 'involuntary.' It can be managed in a non-disruptive way. But it must have the resources with which to do so."

> **"Bolivia's gas reserves are dwindling because they are not being replaced with new discoveries."**
> — Jose Valera

The Advisor welcomes comments on its Q&A section. Readers can write editor Gene Kuleta at **gkuleta@thedialogue.org**.

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