Front-running Chilean presidential candidate Michelle Bachelet has declared her opposition to the controversial HidroAysén hydroelectric project in the Patagonian region, the latest setback to the current administration’s efforts to expand hydroelectric sources of power. At the same time, President Sebastián Piñera recently inaugurated new wind farms in the north of the country, where massive mining projects demand more energy. Looking past November’s presidential elections, does hydroelectric power have much of a future in Chile? What other sources of energy (solar, wind, nuclear, gas, etc.) have the best chances for development in Chile in the next administration?

Sergio Bitar, nonresident senior fellow at the Inter-American Dialogue and former Chilean minister of mining, education and public works, said: "Chile faces a critical moment for its electricity supply. It lacks oil, gas and coal. Costs are the highest in the Americas and carbon dioxide emissions are growing (coal). At present, viable new projects are insufficient, and many of them are stuck in the judiciary over environmental disputes. Concerning HidroAysén (2,500 MW), the present government has delayed a decision, and despite the advantages of this project in providing a clean, abundant and secure energy supply, paradoxically no presidential candidate, left or right, has expressed support. I think this investment has no viability in the next five years. So what is to be done in the coming period? First, the country needs to move rapidly on the two issues where political agreement exists: expanding urgently needed transmission capacity and prioritizing renewable energy. Second, it needs to decide on how to install at least 12,000 MW in the next decade to fill the gap. Renewables alone will satisfy at most 15 percent of total elec-

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**Energy Sector Briefs**

**Bolivia Expands Gas Pipeline, Doubles Capital’s Natural Gas Supply**

Bolivian President Evo Morales was in El Alto Tuesday when state oil company YPFB inaugurated a gas pipeline expansion that will double the amount of natural gas supplied to the capital city of La Paz and the adjacent city of El Alto, EFE reported. The $62 million project will increase the supply of natural gas in the La Paz area from 34 million to 68.5 million cubic feet per day. Bolivia’s natural gas reserves are located mainly in the eastern lowland region of the country.

**Jamaica Plans Partnership With Cuba to Manufacture Solar Panels**

Jamaica’s energy ministry is planning to partner with Cuba to manufacture and assemble more cost-effective solar energy panels, the Jamaica Gleaner reported Sunday. Led by Philip Paulwell, the ministry is targeting the four percent of rural households in Jamaica that do not have access to power, most of whom live more than three kilometers from the national grid. Jamaica’s Rural Electrification Programme (REP) Limited will guide the solar panel building process, according to the report, with Cuba providing technical expertise for the most part.

**Ecuador Crude Exports Increase 10% in May Over April**

Ecuador’s central bank said Tuesday that the country exported 11 million barrels of crude oil in May, a 6 percent increase over April’s number, Dow Jones reported. The country’s crude oil export revenue also increased, rising by 10 percent from April figure to $954 million in May, amid a slightly higher average price of crude. Last May, the nation exported 11.44 million barrels of crude for revenue of $1.16 billion.

**Oil & Gas News**

**Ecuador Says CNPC to Join $12 Billion Pacifico Refinery Project**

Ecuador’s government announced last Saturday that it has struck a deal with China National Petroleum Corp. to help finance its $12 billion dollar Pacifico project, Reuters reported. The project, a joint venture between Ecuador’s state-oil company, Petroecuador, and Venezuela’s PDVSA, aims to begin production of 300,000 barrels per day in 2017. Petroecuador and PDVSA are each financing 30 percent of the project and seeking the rest from other partners. Ecuadorian Vice President Jorge Glas said, “We have worked to have a third partner ... and this partner will be no one more and no one less than the biggest oil company in the world,” though he did not disclose further details of the project or its financing. Last month, The Wall Street Journal reported that China National Petroleum Corp. had signed a framework agreement with Ecuador’s government to take part in a major refinery project in the South American country and that the agreement would be finalized by the end of the year. A statement by CNPC at the time said that they will CNPC "take a share in the construction of the Pacific Refinery project and participate in the exploration and development of Ecuador’s upstream resources.” The Ecuadorian government has said the project, which broke ground in April, is 21 percent complete and in the first stage of construction. The goal of the refinery is to lower fuel costs in Ecuador, which although being a crude oil producing nation, imports gas due to low refining capabilities. In May, Ecuadorian President Rafael Correa named the former head of the Pacifico project, Pedro Merizalde, as the country’s oil minister.

**Venezuela, Trinidad & Tobago to Continue Energy Cooperation**

Venezuelan President Nicolás Maduro last Saturday made his first official visit to Trinidad and Tobago and met with regional leaders, the Trinidad and Tobago Newsday reported. Trinidadian President Kamla Persad-Bissessar and Irwin LaRocque, secretary-general of Caricom, welcomed Maduro, who then spent the afternoon meeting with Caricom leaders. Speaking about the meeting, Persad-Bissessar said that Caricom and Venezuela had agreed to re-establish the Caricom-Venezuela Commission to improve trade, social and cultural relations between the nations and announced that the Trinidadian and Venezuelan governments will begin talks July 23 on energy matters. She said that one important matter up for discussion will be the long-standing issue of the Loran Manatee hydrocarbon field that crosses the border between the two countries. Last week at the 2nd Gas Summit of the Gas Exporting Countries’ Forum in Moscow, Trinidadian Energy Minister Kevin Rammarine called for “greater collaboration and partnership” between Trinidad and Venezuela in developing natural gas, specifically focusing on the development of large natural gas reserves in the Deltana Platform, where the Loran Manatee field is located, the Caribbean Journal reported. Rammarine also noted that, “A natural gas strategy is part of the solution to the rising energy cost in the Caribbean and Latin America.”

**OGX Must Work With Brazil's ANP Before it Can Sell Oil License Stakes**

OGX, the Brazilian oil exploration and production company held by billionaire Eike Batista’s EBX Group, will have to sign contracts with Brazil’s oil regulator before going ahead with a plan to sell stakes in licenses it acquired earlier this year, Magda Chambriad, the head of regulatory agency ANP, told Bloomberg News in an interview Tuesday. To date, OGX has not informed regulators about plans to sell holdings in any licenses awarded in an auction in May, although the Rio de Janeiro-based company has said publicly it is “in talks over the blocks it won without partners,” according to the report. OGX
won 10 licenses to operate blocks in May, and three others in partnership with Texas-based Exxon Mobil, France’s Total and Brazil’s QGEP Corp. The company must pay ANP about $167 million in so-called bid bonuses for the licenses it acquired then, but its stock has been hit hard this year and the company could be left with only $13 million in cash on hand by the end of the year, according to Bloomberg News. Five years ago, OGX raised more than $1 billion in capital markets with little more than a license to look for oil and a business plan. But the company has since found extracting commercially viable oil from the technically unprecedented sub salt layer offshore Brazil to be challenging. Last week, OGX canceled three of its offshore projects and said its only oil-producing wells may be closed next year. “At this time, there doesn’t exist any type of technology available to make investments in this field financially viable with the aim of increasing its production,” OGX said in reference to the Tubarão Azul field. In related news, Brazilian officials said last week they will auction offshore areas containing two-thirds of the country’s proven oil reserves in October, Dow Jones reported. Much of the reserves are in ultra-deep waters that have been costly for even the most advanced oil companies to exploit. Still, Brazil needs the investment to meet its economic growth expectations, and government officials are pitching the auction as a rare opportunity and a world where easy-to-refine oil is increasingly scarce. “All the big guys should be interested in the bidding round we are promoting in October,” Chambriard told reporters at a Singapore event to publicize the sale last Thursday. “This is huge.” [Editor’s note: See Q&A on Brazil’s May oil and gas rights auction in the May 27-31 issue of the Energy Advisor.]

Mexico’s P&N to Propose Ending Pemex Oil Monopoly

Mexico’s opposition National Action Party, or PAN, said Tuesday that it will propose a constitutional change that would end Pemex’s monopoly in the country’s oil sector, Bloomberg News reported. The proposal is nearly ready to be presented, but the party has not yet decided whether to propose it on its own or as part of the multi-party “Pact for Mexico” with the government of President Enrique Peña Nieto, PAN spokesman Juan Molinar Horcasitas told Bloomberg News in a telephone interview. The amendment would allow private companies to share the country’s oil output risk, said Molinar. Peña Nieto expressed confidence last month that the Pact for Mexico accord would lead lawmakers to end Pemex’s monopoly this year. He has said that he plans to send Congress an energy reform bill in September. The opposition PAN appears to be in favor of a “much more market-friendly” bill than what Peña Nieto’s Institutional Revolutionary Party, or PRI, would present, Benito Berber, a strategist at Nomura Holdings in New York, told Bloomberg News in an email. “What is interesting about the PAN’s energy bill proposal is that together with the PRI, these two parties will have enough votes in Congress to pass any reform they want” even if it is a constitutional reform, said Berber. “It does not matter what the PRD … party says or does. Also it does not matter if the Pact for Mexico survives or not.” The proposal is also likely to boost the peso, Berber added. Former Mexico City Mayor Marcelo Ebrard, a member of the opposition PRD, has said that the party should “strongly” oppose Peña Nieto’s oil industry reform plan. The PAN “is in favor of real reform,” said Molinar, adding that with no spreading of risk, “there won’t be investment.”

A Daniel Fernández Koprich, executive vice president of HidroAysén:

“Discussing the way we should confront the present and future to ensure growth and improve well-being requires a comprehensive and rational debate that transcends electoral circumstances. Energy-wise, Chile today is progressively more reliant on imported petroleum, carbon and gas. The country imports more than 60 percent of its energy and the only resource it has that is safe, clean, renewable and abundant is water. The new renewables, positive and necessary, have not alone fulfilled the country’s energy demand in 2020. Photovoltaic sources may be relevant in 10 years, but today they are almost nonexistent, as are geothermal projects. Wind generation is increasing, but needs base energy from gas or coal plants. There is no agreement on how much gas, coal and hydro to use. The next government has to decide. Third, the country needs to reinforce state action. By law, the public sector is banned from investing in plants or transmission lines, and even from deciding what to build and calling for tenders. Only private companies can decide and then the government approves or rejects permissions. This weakness has to be overcome by whichever government is elected in December.”

Power Sector News

Construction of the Coca Codo Sinclair Project Progressing: Ecuador

Work on Ecuador’s Coca Codo Sinclair hydroelectric project has progressed by 44.6 percent and it is estimated that it will begin functioning in 2016 with a capacity of 1,500 MW, the country’s ministry of industries said last Friday, reported Agencia Pública de Noticias del Ecuador. The hydroelectric project is being built in the Amazon region of the nation, approximately 100 kilometers (62 miles) east of the capital city of Quito, in the Coca River basin. Ecuador has $4.98 million invested in Coca Codo Sinclair and seven other hydroelectric projects under construction with the aim of generating 6,779 MW of energy by 2016. Currently, approximately 46 percent of the country’s energy comes from thermal sources and 48 percent from...
hydroelectric sources, with the rest coming from biomass and other sources. The government aims to increase the use of hydroelectricity to 93.53 percent by 2020, with the remaining 4.86 percent of energy coming from thermal sources.

**Brazil Plans Year’s Second Energy Auction For December**

Brail will hold an A-5 auction for contracts to sell electricity for plants that are planning to begin operation in five years, according to a notice in the country’s official gazette on Wednesday, Bloomberg News reported. The country will hold two A-5 auctions this year, with the first scheduled to occur on Aug. 23. The December auction was planned to give certain hydroelectric projects, such as the 700 MW São Manoel project, time to receive necessary environmental permits. Companies with hydro projects will bid for 30-year contracts, while coal, natural gas and biomass companies will bid for 25-year contracts, but all winners must begin producing power by Jan. 1, 2018.

**Comsa Wins Contract for Electrical Work at Mexican Wind Farm**

Barcelona-based Grupo Comsa announced Monday that it won a contract to work with Spanish firm Iberdola to complete electrical work on a 234 MW wind farm in Juchitán de Zaragoza, in the Mexican state of Oaxaca. The contract is Comsa’s first for a renewable energy facility in Mexico and covers construction, electrical work, fiber optics and the land network. Comsa already has numerous contracts in Mexico through state-owned oil company Pemex and the country’s Federal Electricity Commission, EFE reported.

**Political News**

**U.S. Allies in Region Seek Answers on Spying Allegations**

Leaders in Mexico, Brazil and Colombia—some of the closest U.S. allies in Latin America—are demanding answers in the wake of reports this week that the United States had engaged in spying throughout the region by monitoring of Internet traffic and telephone calls, BBC News reported Thursday. Earlier this week, Brazil’s O Globo newspaper reported that the United States operated a “data collection” center in Brasilia that was among 16 such facilities run by the U.S. National Security Agency. The reports were based on leaks by Edward Snowden, the former contractor for the spy agency who is wanted in the United States on espionage charges. He is believed to be holed up in a transit area of Sheremetyevo airport in Moscow as he weighs asylum options. O Globo reported that the U.S. facility in Brasilia was functioning at least until 2002, but it was unclear whether it was still in operation. The United States spied on oil and other energy firms, as well as on Venezuela’s military purchases and also gathered information on Mexico’s drug war, according to the report, which added that Brazil apparently has been the main target of U.S. spying in the region. The operations were reportedly conducted through cooperation between U.S. agencies and Brazilian telecommunications firms, the report said without naming any of the companies involved. Brazilian President Dilma Roussef ordered an investigation and said Monday that Washington should explain the situation. If the allegations prove to be true, they would amount to “violations of

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**The Dialogue Continues**

*How Bright Is the Outlook for Mexico’s Solar Sector?*

The International Finance Corporation on May 28 announced that it is providing $25 million and helping Mexico’s development bank, Nacional Financiera (Nafin), to structure a $50 million loan for the construction of the 30-megawatt Aura I Solar project, Mexico’s first private, large-scale solar plant. Statements by Nafin suggested that this was just the start of developing more solar energy plants under the country’s new “small producer” regulatory model and estimates predict that the country’s solar potential could reach 2,000 megawatts by 2020. Is Mexico’s new regulatory model for these sorts of small projects the right formula? How does it compare to the regulatory models elsewhere in the region? What is the outlook for solar energy development in Mexico?

Nicola Melchiotti, area manager of Enel Green Power México: “We find the ‘small producer’ mechanism an attractive opportunity to boost renewable projects in Mexico and, in particular, to foster mid-scale photovoltaic (with an installed capacity up to 30 megawatts) in the country. The small producer mechanism has not been exploited due to the lack of a clear pricing mechanism and dedicated auctions. The use of energy auctions under this mechanism would ensure a natural selection of the most competitive projects, without the common barriers faced by self-supply; revenues would be secured for up to 25 years through a long-term agreement with Federal Electricity Commission based on the price awarded in the competitive auction and adjusted on a monthly basis with inflation. This mechanism also allows more flexibility in terms of project location and design, creating opportunities to bring the projects to the market more quickly. Concerning regulatory models in the region, more and more countries are opting for open energy auctions that have proven to be very successful (see for example Guatemala and Panama) in adding new renewable capacity and ensuring an optimal balance between local supply and demand in the medium and long term.”

*Editor’s note: The above is a continuation of a Q&A published in the June 17-21 [issue](http://www.interamericandialogue.org) of the Energy Advisor.*
sovereignty and human rights.” On Wednesday, Brazilian senators said during legislative debate that Brazil should offer asylum to Snowden, and others said Brasilia should cancel defense contracts with U.S. firms. Also this week, Mexican President Enrique Peña Nieto said his country’s Foreign Ministry had asked the United States “quite clearly” to explain. "We want to know if this is the case, and if it is so, it would obviously be totally unacceptable,” said Peña Nieto. For its part, the Colombian Foreign Ministry issued a communique saying that it rejects "acts of espionage that violate the rights and privacy of persons and international conventions,” the Associated Press reported. Officials in other countries allied with the United States, including Chile, have made similar statements.

**Economic News**

**Mexico Bank Lending Bill Could Boost Growth Next Year: Official**

Legislation to increase the level of bank lending in Mexico could translate to economic growth as early as next year, the country’s deputy finance minister said Wednesday, according to Bloomberg News. The bill, which lawmakers could take up in August, encourages development banks to work with the financial industry to increase lending, which last year amounted to only 26 percent of Mexico’s gross domestic product, said the official, Fernando Aportela. Commercial bank lending in Mexico is the lowest in Latin America as a percentage of GDP, according to the International Monetary Fund.

**Cuba’s Economic Reforms Entering Crucial Phase: Official**

Economic reforms taken on by Cuban President Raúl Castro’s government are entering a crucial phase, the communist island’s economic czar said Tuesday, the Associated Press reported. Cuba has made some limited openings for private entrepreneurs and relaxed some restrictions. Over the next year and a half, the government will take on the “most complex” part of its reforms which involve improving businesses’ efficiency and allowing successful ones to keep more of the profit they have earned, said the economic official, Marino Murillo. “The first stage of the reforms has so far, fundamentally, been the elimination of prohibitions in society,” Murillo told reporters in his second face-to-face interview since gaining prominence three years ago. “During what remains of the year 2013 and in 2014, we will work on ... the most profound transformations.” The economic reforms began in 2010 and aim to revive the island nation’s sputtering economy.

**Brazilian Central Bank Boosts Key Interest Rate**

The board of Brazil’s central bank on Wednesday voted unanimously to increase its benchmark Selic interest rate by 50 basis points to 8.50 percent, Bloomberg News reported. The move was the central bank’s second consecutive half-percentage point rate hike and came as inflation has reached its highest level in 20 months. Rising prices have been among the sparks leading to recent massive protests across the South American country and have undermined its economic growth. The rate hike was widely expected. The government of Brazilian President Dilma Rousseff has implemented government stimulus programs for months, but inflation has taken a toll on consumer confidence and crimped retail sales and industrial output. In their quarterly inflation report released June 27, central bank policymakers said higher costs for food, fuel and public tariffs had hurt business and consumer sentiment. Consumer prices are expected to rise 5.81 percent this year with the central bank boosting the Selic rate to 9.25 percent by November, according to the average estimate of about 100 economists in a July 5 central bank survey. The central bank maintains an inflation target of 4.5 percent, plus or minus two percentage points.

**Brazil’s Rousseff Unveils Plan to Hire 10,000 Doctors**

Brazilian President Dilma Rousseff on Monday announced a plan to hire 10,000 doctors to work in areas of the country that are poorly served by medical professionals, BBC News reported. Under the “More Doctors” program, foreign physicians will be considered if there are not enough Brazilians to fill the posts. The plan also will require new doctors graduating from medical school beginning in 2015 to work two years in the public sector. The announcement followed massive demonstrations in Brazil over poor public services, corruption and other issues.

**Cocaine Production in Andes Falls 10 Percent: U.S. Report**

Production of cocaine in the Andes fell 10 percent last year amid stronger law enforcement and eradication efforts, according to a U.S. government report released Tuesday, Bloomberg News reported. Output of pure cocaine in Bolivia dropped 18 percent to 155 metric tons in 2012, according to the White House Office of National Drug Control Policy. Production slid 7.9 percent in Colombia to 175 metric tons and Peru’s production fell 4.9 percent to 290 metric tons, the report added.

**At Least One Killed as Chantal Skirts Hispanola**

At least one person was killed Wednesday as Tropical Storm Chantal skirted the southern coasts of Haiti and the Dominican Republic, the Associated Press reported. The storm did not make landfall on the island of Hispanola, which the two nations share, but did bring heavy winds and rain, leading to the possibility of flooding and landslides. The storm was downgraded Wednesday to a tropical wave.
Featured Q&A
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filled the required energy demand in any country of the world, and there is no sign that that they can do so in the short or medium term. For geological reasons, Chile has almost no petroleum or gas. What does Chile have? Water, wind, sun and geothermal. Chile’s hydroelectric potential is some 20,000 MW, of which only 5,400 MW are being used so far. The potential of new renewables could contribute 20 percent of energy to the national matrix, but it would be difficult to imagine this happening. What is missing in Chile? Having an established national energy policy that supports the future needs of the country, which is a political challenge. Today, we see politicians discussing specific projects. Nonetheless, beyond the plans of some candidates, the facts tell us that HidroAysén is not only the most energy efficient project in Chile, but also the project that carried out the most comprehensive environmental impact study ever done in the country. HidroAysén fully responds to the energy policy guidelines of this and the previous government. Hydropower is a safe and sustainable option for Chile because it is independent of imported fossil fuels and away from their price fluctuations in the international market. We support the path of hydroelectricity, and the HidroAysén proposal that makes Chile a country with one of the most efficient projects in the world, in terms of land use (5,910 hectares) and power generation (18,430 GWh), and that, according to the CNE, will contribute nearly 20 percent of the energy required in the Sistema Interconectado Central transmission network by 2025. Further, unlike any other hydroelectric project in the country, it guarantees a steady supply since it does not depend on rainwater, but on lakes supplied by glaciers.”

Leni Berliner, founder and CEO of Energy Farms International: "Regardless of the outcome of the elections, my bets are on geothermal, natural gas and energy efficiency as increasingly important sources of energy in Chile. It is likely that the rate of adoption of solar and wind energy technologies will continue to lag behind those of other countries, most of which, while not as well-endowed as Chile with the natural resources needed for renewable energy generation, have been more aggressive, in part because they are more decentralized than Chile. Foreign investment has led the way for energy in Chile and probably will continue to do so. Many investors shun large dams for environmental reasons, and opposition to HidroAysén ought to have been anticipated. If the new government wishes to promote hydroelectric power, it should focus on run-of-river or low-head hydro. Instead of building large hydropower projects, Chile could use its expertise in mining to assist companies exploring for geothermal resources, to add local, off-grid capacity where needed and on the development of the country’s shale gas reserves. Energy efficiency is an important energy resource, in that it can reduce the need for new power plants, and the government of Chile could expand on its recent efforts to promote industrial energy efficiency. Finally, the government of Chile should encourage grid operators to connect and dispatch new capacity and invest in making the power grids more efficient and ‘intelligent.’ The cost of new transmission can be very high so regulations for ‘micro-grids’ and distributed generation should be promulgated.”

“The Energy Advisor welcomes responses to this Q&A. Readers can write editor Gene Kuleta at gkuleta@thedialogue.org with comments.