INTER-AMERICAN DIALOGUE'S
LATIN AMERICA ADVISOR ▸ ENERGY

FEATURED Q&A

Will Low-Cost Natural Gas Undermine Renewable Energies?

Q United Nations Secretary General Ban Ki-moon said earlier this month that renewable sources could supply nearly 80 percent of the world's energy by mid-century, if the 'right, enabling public policies' were in place. But a recent PricewaterhouseCoopers study suggested that the advent of low-cost shale gas and oil could stifle investments in renewable energy and threaten global emissions targets. How is the outlook for renewable energy development shaping up in Latin America and the Caribbean? What sorts of public policies would best counter the economic forces that are emerging in the region over the coming decades? How will different countries and subregions of the Americas be affected as compared to others?

A Steve Sawyer, secretary general of the Global Wind Energy Council: "We certainly agree with the secretary general's assessment, but the devil, as always, is in the details. A large part of the 'right, enabling policies' would be doing away with existing subsidies to fossil fuels, which according to IEA Chief Economist Fatih Birol in 2012 amounted to the equivalent of a subsidy of $110 per metric ton of carbon dioxide emitted. If methane and carbon dioxide emissions were priced in any meaningful way rather than heavily subsidized, then 'non-conventional' oil and gas would be far from cheap and renewables could easily compete in more markets. Even in that heavily subsidized environment, however, the position of renewables in Latin America and the Caribbean is improving. Wind power has consistently competed successfully with all other forms of generation in recent auctions in Brazil, and is also thriving in Mexico despite the lack of any regulatory framework or support system. Of course, many parts of the region are also heavily reliant upon hydro for a large portion of

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Brazilian Judge Dismisses Criminal Suit in Frade Case

Magda Chambriard, the head of Brazil's oil regulator, ANP, said this week that only "operational issues" stand in the way of re-starting production at the Frade offshore oil field. A judge dropped criminal charges against Chevron and Transocean that stemmed from a 2011 oil spill there. See story on page 2.

File Photo: ANP.

Inside This Issue

ENERGY SECTOR BRIEFS

India's GAIL, EDF Trading Bid on Repsol Gas Assets in Trinidad

India's state-run gas utility, **GAIL**, and London-based **EDF Trading** have jointly submitted a non-binding bid to acquire **Repsol**'s liquid gas assets in Trinidad & Tobago, the *Times of India* reported last Friday. The Spanish oil major's 25-year supply contracts and issues with its Canaport gas import hub are proving to be major stumbling blocks, according to the report. [Editor's note: See Q&A on India-Latin America commercial ties in the Feb. 19 issue of the daily *Advisor*.]

Harvest Natural Says $725 Million Deal Is Off for Venezuela Assets

Texas-based **Harvest Natural Resources** said Wednesday its planned $725 million sale of Venezuelan assets to Indonesia's state-owned **PT Pertamina** has been terminated, Bloomberg News reported. Harvest Natural's stock fell 41 percent on the news. Indonesia's government voted not to approve the deal for the 32 percent stake in the Venezuelan Petrodelta SA joint venture. "We are disappointed," Harvest CEO James Edmiston said in a statement.

Brazil's MPX Gets Green Light for Second Gas Turbine at Parnaíba

MPX, the energy company held by billionaire Eike Batista's **EBX Group**, said Wednesday that Brazilian regulator Aneel has authorized the Parnaíba Thermal Power Plant in Maranhão to begin commercial operation of its second turbine. The plant has total installed capacity of 676 MW, composed of four gas turbines with 169 MW each. MPX said this week it will invest more than $300 million this year to complete several thermoelectric projects in Brazil's northeast.

Oil & Gas News

Brazilian Judge Drops Criminal Case Against Chevron, Transocean

A judge in Brazil has dropped criminal charges against U.S.-based oil company **Chevron** and Swiss driller **Transocean** that stemmed from a 2011 oil spill in the Frade offshore oil field, Reuters reported Wednesday. The criminal case, which included 17 of the companies' employees, carried potential penalties of up to 30 years in prison for accused executives and sought nearly $20 billion in damages, making it Brazil's largest-ever environmental lawsuit, according to the report. "We welcome this news that the Court recognized, with respect to the Frade event of November 2011, that Transocean's crews did exactly what they were trained to do, acting responsibly, appropriately and quickly while always maintaining safety as their top priority," Guy Cantwell, a Transocean spokesman in Houston, said in an e-mailed statement to Reuters. A civil suit is still pending, however, and prosecutors can still appeal the ruling dismissing the criminal charges, which was made by Judge Marcelo Luzio of the 10th Criminal Unit of the Rio de Janeiro Federal Court. Chevron halted production at Frade last March after reports of new oil seepage. On Tuesday, the director of Brazil's petroleum regulatory agency, ANP, said Chevron needs to resolve only some "small operational questions" before Brazil gives the company clearance to restart production at the site of the 2011 oil spill, Dow Jones reported. "The ball is in Chevron's court," Magda Chambriard said Tuesday. She declined to give a timeline for when crude oil output at the Frade field could be restarted, according to the report.

A civil suit is still pending, and prosecutors can still appeal the ruling.

Petrobras, PDVSA in Talks Over Terms of Joint Refinery Project

Brazilian state oil company **Petrobras** is in talks with counterpart Venezuelan firm **PDVSA** over the terms of constructing the giant Abreu e Lima refinery project in Pernambuco, *El Universal* reported Tuesday. Facing a Petrobras deadline at the end of this month to put up a down payment on some $8 billion that Venezuela has promised for the joint project, PDVSA is now proposing to pay for its share with 70,000 barrels of crude oil per day, according to a report in *Folha de São Paulo*. The two companies agreed to the project in 2005, when then-president Luiz Inácio Lula da Silva and Venezuelan President Hugo Chávez saw the refinery as a means to strengthen ties and build self-reliance for their growing energy reserves. Brazil claims that PDVSA has not contributed toward its share of the project, however. PDVSA says the project has been over budget by billions of dollars and is no longer profitable, according to the report. So far the facility is only prepared to process Brazilian crude oil, which is relatively light compared to Venezuela's ultra-heavy oil.

Ecopetrol Oil Reserves Rise Slightly Last Year

Colombian state oil company **Ecopetrol** said Monday its proven net hydrocarbon reserves rose 1.1 percent in 2012, to 1.877 billion barrels of oil equivalent, the company said in a press release. During 2012, proven reserves increased by 252 million barrels of oil equivalent, and net production was 232 million boe. The reserves replacement ratio in 2012 was 109 percent, which means that for each barrel of oil equivalent produced, 1.09 barrels were added to the proven reserves. The average life of Ecopetrol's reserves is 8.1 years, assuming production levels remain at 2012 levels. Over the past three years (2010-2012), Ecopetrol has increased its net reserves by 22 percent, the company said. Last month, Ecopetrol surpassed Brazil's **Petrobras** as the largest listed energy company in Latin America by market capitalization, and that despite the fact that Petrobras' production is about three times larger. [Editor's note: See related Q&A in the Feb. 4-8 issue of the *Energy Advisor*.]

YPF Spending $12 Million on First Unconventional Gas Well in Chubut

Argentina's **YPF SA** plans to spend $12 million to drill an unconventional well in Chubut province, *Oil & Gas Journal* reported Monday. The move expands YPF drilling outside Neuquén province in its search for unconventional oil and gas, according to the report. The well will be drilled to more than 3,000 meters. Last week, Argentina's government announced it will almost triple natural gas prices paid to producers in order to encourage shale drilling and stem declining output, Bloomberg News reported. The government will pay producers $7.50 per million British thermal units. The average price paid to producers in 2011 was $2.50 per million Btus, according to the report.

Azerbaijan Oil Fund Looking at Latin America Investments

Azerbaijan's president, Ilham Aliyev, said last week his oil-rich nation is considering investing in Latin American and Asian markets, Bloomberg News reported. "Asia and Latin America look attractive in terms of diversifying our investment portfolio," Aliyev said in a Web site communique, according to the report. Aliyev, who took over from his father in disputed presidential elections in 2003, plans to run for a third term in October. **Sofaz**, the Caspian nation's sovereign wealth fund, has more than $33 billion in assets. Last month, Sofaz finalized an agreement with the IFC, a member of the World Bank Group, to expand their cooperation to support private sector development in emerging markets. Sofaz committed $50 million to the IFC Catalyst Fund, which the IFC says is designed to stimulate the development of funds and projects "focused on renewable energy and climate-friendly solutions," according to the IFC. That recent investment follows a $100 million commitment by Sofaz in 2010 to the IFC's African, Latin American, and Caribbean Fund.

Sofaz, the Caspian nation's sovereign wealth fund, has more than $33 billion in assets.

Spain's Gas Natural Sees Profits Rise 8.8 Percent on Strong Latin America

Spain's **Gas Natural** said Tuesday that net profits rose 8.8 percent last year mainly due to higher sales in Latin America, the company said in an earnings release. Net profit last year totaled 1.44 billion euros ($1.92 billion), up from 1.33 billion euros in 2011. The company's international operations grew by 22.6 percent last year and now represent 43.2 percent of total consolidated earnings before interest, taxes, depreciation and amortization (EBITDA), compared with 38.5 percent in the previous year. EBITDA of gas distribution in Latin America rose 3.1 percent last year with respect to 2011, with the sales volume of 10.1 percent higher than in the previous period. Brazil and Colombia represented almost 80 percent of total regional EBTIDA. The company's distribution network in Latin America increased by 1,503 kilometers last year.

Power Sector News

Distribution, Generation Companies Deflect Blame for DR Power Outages

The Dominican Republic's power generators and distribution companies sought to deflect blame for electricity outages throughout the country this week,

Featured Q&A

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their electricity as they have been for many decades. Still, there is much to do in the region. Wind power needs to spread, and photovoltaics need to assume a larger role, as they are becoming increasingly competitive globally. But there is no reason to believe that the region could not decarbonize the electricity sector with elimination of subsidies and a price on carbon. In the process, the region would create new industries, new jobs and increase its energy security and self-sufficiency."

A **Pietro Erber, director of Brazil's National Institute of Energy Efficiency:** "Although the secretary general's 80-percent target is highly desirable, it seems a bit optimistic in view of world population growth, living standards improvements and the probable persistence of present consumption patterns and goals, in which individual transportation is paramount. Latin America and the Caribbean are well-endowed with renewable energy sources: hydro, wind and biomass. In a hopefully near future, solar energy-based power generation will also be competitive. However, most of these sources are not continuously available. They require some kind of backup, like large hydro reservoirs or thermal power generation. The construction of the former is being hindered by environmental issues, and fossil fuel-based generation presently has competitive prices. The region is also well-endowed with oil, natural gas and coal (mostly concentrated in Colombia and Brazil). Gas utilization is also expanding fast. The concern about the effect of cheap fossil fuel on the development of renewables is well founded, mainly with regard to transportation and industry, but also with respect to power generation. Although renewables will certainly be developed, presently it does not seem that their expansion will be much faster than that of fossil fuels. The basic issue is whether shale gas and oil products are really cheaper than electricity and fuel derived from renewables. The present crisis and the consequent urge to recover production are probably leading to a minimizing of the importance of environmental effects and concern about the sustainability of the production and utilization of these fuels. And this contributes to promoting their apparent competitiveness and to reducing efforts toward efficiency improvement. So, unless people

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Dominican Today reported Wednesday. Power companies grouped in the Dominican Association of Industry and Energy, or ADIE, denied that the blackouts over the first three days of the week, some lasting as long as 24 hours, stem from the lack of generation, as electricity distributor **Edesur** reportedly asserts. Edesur warned its customers on Wednesday morning that it might not provide regular service to its customers in the afternoon, due to below-normal generation. The statement drew a public response from the power generators. "We are obliged to inform that the blackouts that occur in the national electricity grid are due to many reasons, involving both distribution companies, as well as the transmission company, and operating decisions by the coordinator of the Interconnected Electric System," ADIE said in an emailed statement. "Another reason for the interruptions is the lack of payment by some distribution companies, with months arrears to settle debts, and leads to the lack of money to buy fuel to generate," ADIE added, according to the report.

Political News

Ecuador's Correa Vows to Be 'Legislative Steamroller' in New Term

Emboldened by his resounding re-election victory, Ecuadorean President Rafael Correa vowed Wednesday to push through a series of reforms that will make his government's socialist model permanent, Reuters reported. "This is going to be a legislative steamroller to serve the interests of the Ecuadorean people. ... In democracy, the winners rule, but the losers have to be respected," Correa told foreign journalists at the presidential palace. "We're overwhelmed with the amount of support from people. ... We're going to deepen the citizens' revolution, build a new homeland and make it irreversible." Correa won re-election Sunday with approximately 57 percent of the vote, about 34 percentage points more than his nearest rival, former banker Guillermo Lasso. Votes are still being counted, but Correa said that his Alianza País party

Advisor Q&A

What Does Mexico's Education System Need to Improve?

Q: Billionaire Carlos Slim announced last month he is investing more than $300 million in connectivity, digital libraries and equipment for schools in Mexico. Beyond that, Slim is also underwriting translation of Khan Academy online course videos into Spanish, with a goal of having 1,000 videos translated by April. Is Slim's investment the sort of infusion that Mexico's school systems most need? Will it make a difference in addressing low levels of learning and widespread inequality in educational opportunity? Will other businesspeople in Mexico become more engaged in the country's schools, following Slim's example? How does Slim's initiative fit with the larger reforms to the education system announced by the Peña Nieto government?

A: Reyes Tamez Guerra, former Mexican secretary of education: "Several international assessments, like the PISA test, show that the level of learning in basic education in Mexico is lower than in many other countries, certainly not enough to make the Mexican economy competitive in the 21st century and not enough for the functioning of a mature democracy and cohesive society. One of the main problems than we need to address is the way children are learning, because right now most of the teaching process is focused on memorization rather than comprehension. Among the causes of this problem is that teachers in most cases don't have access to technology, digital educative materials, information, connectivity and other tools that facilitate teaching and learning. For these reasons, the participation of stakeholders like Carlos Slim, who just started a program that provides access to connectivity and digital libraries, is beneficial. His program is a good example of social participation in education and could be provide positive pressure to education authorities to make better efforts to improve the quality of our education system. It can also be seen as an opportunity to generate more relevant answers to the demands of society. In addition to this, we must develop more effective ways for players such as parents, businessmen and non-governmental organizations to cooperate with teachers, principals and education authorities. It is necessary to create new spaces so that organized stakeholders may positively affect the development of education, thereby avoiding inefficiencies and conflicts."

A: Jeffrey Puryear, director of PREAL, the Inter-American Dialogue's education program: "The Khan Academy is well-regarded in the United States, and having their videos available in Spanish is a plus. However, the most effective step that Carlos Slim could take to give poor children greater access to online courses would be to share his near-monopoly in telecommunications. Slim's companies control nearly 75 percent of Mexico's broadband connections, and fast broadband in Mexico costs nearly twice as much as in Chile. The inability of poor Mexican families to pay these fees keeps the digital divide far too large, and limits families' access to innovative programs like Khan. The biggest obstacle to addressing Mexico's low levels of learning is the poor quality of teaching, and the Peña Nieto government has taken a big step forward with its constitutional reform designed to improve teacher training, spark rigorous performance evaluations and reduce the outsized power of the teachers union. If the Khan Academy videos complement these measures, and raise the average quality of teaching in public schools, Slim's investment will be worthwhile. A big question is whether anyone will manage to incorporate the videos on a large scale into the public education system."

The above is an excerpt from a Q&A in the Feb. 20 issue of the daily Advisor.

most likely won 73 percent of the seats in Congress, meaning that he would be able to win broad legislative support for his agenda. Among the measures Correa is expected to push through is a plan to redistribute idle land to the poor, Reuters reported. He is also expected to tighten restrictions on the media with a law to regulate newspapers' and television stations' content. "We'll ask for the same things that we asked for before this resounding victory: for the media to be decent, ethical, to inform instead of manipulate, to communicate instead of getting involved in politics," said Correa. The president has previously labeled journalists "dogs" and "hired assassins" and has personally sued journalists for libel. Also on Correa's agenda is a proposal for a new mining law that could lead to more development in the sector in order to allow the country to diversify away from oil exports. Correa said Wednesday that he did not plan to take on a greater role in the leftist ALBA alliance during the convalescence of ailing Venezuelan President Hugo Chávez.

Report Accuses Mexican Security Forces of Rights Abuses

Human Rights Watch said in a report released Wednesday that there is evidence Mexican security forces violated human rights in its "disastrous" offensive against drug traffickers, the Associated Press reported. The report cites 249 instances of forced disappearances that the human rights group said are linked to evidence of being carried out by law enforcement or the military. Former President Felipe Calderón ignored human rights abuses, the group said, adding that the case constituted "the most severe crisis of enforced disappearances in Latin America in decades." The AP requested a comment from Harvard University's Kennedy School of Government, where Calderón is a fellow, but did not receive a response. Mexico's Interior Department, which handles internal security, declined to provide an immediate comment to the AP. In the report, Human Rights Watch calls on President Enrique Peña Nieto, who took office in December, to take quick action "in cases where people have been taken against their will and their fate is still unknown." In most of the forced disappearance cases, security forces detained individuals arbitrarily "without arrest orders or probable cause," BBC News reported. The report added that, "In many cases, these detentions occur in victims' homes, in front of family members; in others, they take place at security checkpoints, at workplaces, or in public venues, such as bars." Some 70,000 people are believed to have been killed in Mexico's drug-related violence since Calderón took office in December 2006.

Economic News

Rousseff Boosts Monthly Stipends for Brazil's Poor

Brazilian President Dilma Rousseff on Tuesday boosted a stipend provided to 2.5 million of the country's poor, raising the monthly "Bolsa Familia" payment to 70 reais ($35), Reuters reported. At the same time, Rousseff said her government is getting close to reaching its goal of eradicating extreme poverty. "We are turning the page on our long history of social exclusion that had perverse roots in slavery," said Rousseff after signing the legislation for the increase, which takes effect March 18. However, Rousseff also acknowledged that there are still Brazilians living in dire poverty who the government does not know about because they have not taken part in social programs. According to census data, there still could be 700,000 families, or 2.5 million people, living in extreme poverty, Reuters reported. "The state will have to go and find them to include them before they come knocking on our door," said Rousseff. More than a quarter of the country's population, or 48 million Brazilians, take part in social programs, which cost the government 24 billion reais annually. That includes the expansion that Rousseff approved Tuesday, which will cost 800 million reais. Rousseff said her government will turn its focus toward boosting access to public services, extending school hours for the poor and working to guarantee that the poor have water, electricity, housing and sewers.

POLITICAL & ECONOMIC BRIEFS

Argentina Refurbishing Railway Network With Chinese Trains

Argentina will receive Chinese-built trains next year as part of a push to modernize its aging metropolitan railway network, state news agency Xinhua reported Wednesday. The railroad cars, which will better link the city of Buenos Aires with its main suburbs, are scheduled to be delivered in 13 months, according to the report. China's **CSR Qingdao Sifang Locomotive & Rolling Stock Co.** has received advance payment of $164 million for the trains.

Russia's Medvedev Begins Latin American Trip With Stop in Brazil

Russian Prime Minister Dmitry Medvedev visited Brazil on Wednesday, the first stop on a Latin America trip that took him to Cuba later in the week, Voice of Russia reported. Medvedev met with Brazilian President Dilma Rousseff to discuss trade, science, energy and other economic sectors. Russia hopes to participate in a tender for the construction of four nuclear power plants in Brazil and expand military-technical cooperation with the Latin American country, RIA Novosti reported.

Ailing Chávez Makes Surprise Return to Venezuela

Ailing Venezuelan President Hugo Chávez made a surprise return to Venezuela in the early morning hours on Monday, after more than two months of convalescence in Cuba following his fourth cancer surgery. Chávez's return was announced in postings to Twitter, his first tweets since Nov. 1. "We've arrived once again in our Venezuelan homeland. Thank you, my God!! Thank you, beloved nation!! We will continue our treatment here," said the messages.

Featured Q&A

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are willing to pay for the cost of externalities, and to pay now, as a price increment of the same fuels, the prospects of a significant increase of the renewables share in the region (which is comparatively high) will be jeopardized. Claims about sustainability must reflect energy transformations and final uses costs to society in order to make sense. "

A Scott Sklar, president of The Stella Group in Washington: "At the present time, global oil demand is exceeding new oil supply from oil drilling. Oil prices have stabilized only because of the recent global economic slowdown, but the global economies are expanding slowly again. The increase in shale oil production will not exceed the expanding global demand, and the shale oil goes into the global market, not relegated to the Western Hemisphere. The Caribbean gets nearly all its electricity from diesel generators whose costs are much higher than the current costs of biomass, combined heat and power systems, geothermal, photovoltaics and concentrated solar power, and wind energy. While shale oil on the open markets will dampen diesel fuel prices, it will not depress prices below many of the renewable energy alternatives. More importantly, electric grids throughout Latin America have a large number of electric outages per month. Distributed electric generation helps sustain electric power because generation is closer to the customer. Building-based high-value energy efficiency and building-based renewable energy systems are far more reliable than these electric grids and more resilient against the more intense weather patterns being experienced in the region. Solar water heating, solar, daylighting, geothermal heat pumps, solar industrial process heat and combined heat and power systems are absolutely cost-effective in all conditions. Rooftop and ground-mounted photovoltaics and small wind systems tied to battery banks are being utilized in thousands of buildings in North America, but have even more economic value in Latin America. The region has some of the world's best biomass, geothermal, marine, solar and wind resources and just needs more focused policies to allow market access."

A Cláudio Frischtak, president of Inter. B Consultoria Internacional de Negócios in Rio de Janeiro: "It is unquestionable that shale gas will have a major impact in the coming years and decades in the competitive landscape of industry and energy in the Americas, where close to 50 percent of identified recoverable reserves lie. While the United States, Mexico and Canada hold an estimated 862, 681 and 388 trillion cubic feet (tcf) respectively, Argentina and Brazil hold 774 and 226 tcf. Yet the impact will not be uniform; it will be more profound in North America—certainly in the United States and Canada, possibly in Mexico—in view of the availability of financial and entrepreneurial resources, technology, demand and a favorable business environment; and less so in Brazil and Argentina. The short- to medium-term effect of lower gas prices in North America will be a relocation of energy-intensive manufacturing into the United States mainly, but also Mexico and Canada, and possibly a shift away from coal as a source of energy. This might be replicated in China (which leads with reserves at 1,275 tcf). Over the longer term, the commitment to renewable energy will not depend solely on relative prices, as it stems from the credible and material threat to the global commons, and it will be increasingly costly for major carbon dioxide polluters to simply ignore it. Not ignoring the commercial gains from technological leadership in renewables, it is telling that China and the U.S. have taken the leadership in wind power, the installed capacity of which grew globally by 20 percent in 2012, while solar expanded by over 30 percent."

The Advisor *welcomes reactions to the Q&A above. Readers can write editor Gene Kuleta at gkuleta@thedialogue.org with comments.*

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