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Brazil: Electric Grid and Expanding Renewables

On September 21, the American Chamber of Commerce in Rio de Janeiro hosted the 12th edition of Brazil Energy and Power (BEP), a conference bringing together policy makers and industry to discuss issues in electric power planning, efficiency, civilian nuclear power, and the petroleum industry.

Discussions of electric power dominated the day. Energy planners, utilities, and consumer representatives debated the factors affecting the future mix of the Brazilian grid. A representative from Brazil's Energy Planning Corporation, a semi-

independent arm that provides demand projections and development plans for the Ministry of Mines and Energy, outlined Brazil's system of auctions for generation contracts and explained how the system has facilitated the rapid expansion of generation capacity



and, in particular, renewable capacity. The representative added that wind power has played an increasingly significant role in adding to

Brazil's non-hydro renewable mix and, in the next 10 years, Brazil plans to add 37 GW of renewables, 10 GW of fossil-fired thermal generation, and 27 GW of additional hydro power generation.

Improved Technology Could Give a Boost to Solar Power

There was broad agreement that Brazil would need to expand both renewables and fossil fuel power generation. According to Brazil's Energy Planning Corporation,

the true "game changer" for Brazil's use of renewables would be improved technology allowing wider use of distributed solar generation, such as large batteries for energy storage – once they are more affordable. Independent analysts outside the event noted that Brazil already has great potential for distributed solar. The biggest challenge is that while consumers can install solar panels and "trade" energy they send to the grid during sunny times for energy they get from the grid at other times, businesses and residences cannot sell excess power to the grid for profit.

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Colombia: 4G Infrastructure Update

The Colombian government continues to solicit bids, award projects, and contribute financing in support of its ambitious Fourth Generation (4G) public-private partnership (PPP) program, a \$17 billion effort which aims to modernize the country's primary road infrastructure. Under Colom-

bia's PPP model, the concessionaire plans, constructs, and operates the road project. During the operation phase, typically 25 years, the concessionaire has the right to charge tolls for the road. Through the National Development Fund (FDN), the government provides low interest loans

to the concessionaire and revenue guarantees and availability payments during the operation phase.

Tranche 1 - Six Down, Three to Go

Goldman Sachs' announced on August 11 that it would provide the private sector funding for three 4G road

projects in 4G's first tranche of nine. Construction, at a total cost of \$1.2 billion, will begin before the end of the year and, once completed, will span 479 kilometers.

FDN announced on October 21 that three additional first tranche project concessionaires landed financing through the Inter-American Development

Colombia (continued)

(IDB) and a variety of Colombian, Chilean, and Brazilian private banks. FDN expects concessionaires and financiers to sign the final contracts in December.

The deadlines for completing financing on the final three projects range from January to September 2016.

Tranche 2 – 10 for 10

As of September 22, the National Infrastructure Agency (ANI) had awarded all 10 in the second tranche of 4G projects. The final concession to be awarded, Autopista al Mar 2 in Antioquia department, represents the first

time a Chinese company participated in a winning bid. China Harbour Engineering Company holds a 30 percent stake in the concession, while four Colombian companies make up the remainder.

Tranche 3

The Santos administration has decided to break the third tranche into phases pending confirmation of additional government funds. Phase one consists of three projects, for which the National Council of Economic and Social Policy (CONPES) approved funding of \$1.66 billion on October 2. The structure of the third tranche is different than the first two in a key aspect - in

the first and second tranches, the contracts stipulate that the government will make revenue guarantee payments in a mix of pesos and dollars, thereby eliminating some of the transaction risk.

This is not the case in the third tranche as the terms are still being negotiated.

Power Sector Sale

The sale of the government's majority share in power company Isagen is expected to generate about \$1.7 billion, which will be used for 4G road project financing. The State Council ruled on September 10 that the administration could proceed with the planned sale, which had been frozen since May 2015 when opponents brought a suit.

Chile: Energia Abierta and Transmission Reform

Chilean National Energy Commission (CNE) Executive Secretary Andres Romero publicly launched the web platform Energia Abierta, Open Energy, on September 7. Modeled on President Obama's Open Government Initiative, Energia Abierta echoes the three pillars of transparency, participation and collaboration.

Energía Abierta is envisioned to provide not only a one-stop location for energy sector information, but also an easy-to-navigate and value-added experience for both the general public and key players in the energy sector. Romero called upon audience members to share and publicize the website, and indicated that the target demographic of users included not only government and private companies, but a 'whole of citizenry' approach to include "nonprofit organizations, academics, lawyers, architects, engineers, and sociologists," - among others. Users can easily share data on social networks relating to electricity, hydrocarbons,

energy efficiency and renewable energy, among other topics. The website URL is: <http://www.energiabierta.cne.cl>

Draft Transmission Law to Merge Chile's Independent System Operators into One Grid

To move forward on Chile's Energy Agenda, the country plans to strengthen and extend the transmission system, as well as integrate the two major systems, the Greater Northern Interconnection System (SING), and the Central Interconnected System (SIC). The northern portion of Chile's SIC transmission system is congested, leading to disruptions and curtailments. With a constrained transmission system, there is excess supply in the SING and generators in the northern portion of the SIC are often curtailed owing to saturated lines. Based on this scenario and the work of a group of experts, the National Energy

Commission (CNE) has presented a modification to the transmission law in Congress. The bill aims to create a new regulatory framework for the entire transmission system by introducing international best practices for the soon-to-be merged single grid operator. In addition, the bill moves toward increasing the frequency and technical review of transmission planning studies and defines a more flexible and faster process for public tenders for line construction, thus, attracting private investors.

The transmission bill establishes that the state, through various agencies, will play an active role in deciding the location of future transmission lines, so as to avoid the environmental and community conflicts currently delaying several private sector initiatives. According to the CNE, the state will carry out early consultation and civil participation processes for new transmission lines, land zoning discussions, as well as indigenous consulta-

Chile (continued)

tions and environmental permits. The bill also introduces the design of a 20-year planning program (to be revised on an annual basis). The bill will transfer the transmission tariff currently paid by generation companies (about 10% of the total price for energy generated) to consumers, charging based on consumption (Stamp System).

Two projects have been already awarded—one is to connect the SIC to the SING, through the Mejillones-Cardones

line, and the other is to bolster the northern portion of the SIC and its connection to Santiago, through the Polpaico-Cardones line. The Mejillones-Cardones, also known as the TEN Project, is being built by the French company GDF Suez with a subcontract to Alstom. The project involves installing an additional 580



kilometers (km) of transmission lines to be fully operational in late 2017. According to the Ministry of Energy, this transmission line will cost approximately \$860 million, and its estimated present value cost savings to the electrical system is \$1.1 billion.

In addition to the SIC-SING interconnection led by GDF Suez, the 500-kV Polpaico-Cardones line, designed to bolster the congested northern portion of the SIC, will transport large

amounts of renewable energy, both solar and wind, and will be necessary to allow the Mejillones-Cardones SIC-SING interconnection to function at capacity. The \$1 billion project is being carried out by InterChile, the local unit of the Colombian transmission firm Interconexión Eléctrica (ISA) and includes 1,700 transmission towers, ex-

tending 753 km from the Cardones substation outside Copiapo in the northern Atacama region to the Polpaico substation outside Santiago.

According to a local renewables association, ACERA, the Polpaico-Cardones line is crucial for connecting many renewable energy projects in the northern part of the SIC network with consumption centers like Santiago and Concepción further south.

In addition to the above transmission line projects, the new transmission law pending in Congress will reorganize the institutional structure of the transmission operators. Once the two grids merge in 2017/2018 they will be transformed into one Independent System Operator (ISO). According to the National Energy Commission, the new ISO will have a seven member board of directors elected by a yet-to-be defined public-private committee and the board is slated to have representatives from generators, distributors, and consumers.

Mexico: Second Oil & Gas Tender

On September 30, Mexico's National Hydrocarbons Commission (CNH) awarded three of five blocks of oil and gas reserves put out to bid in its second hydrocarbon tender (so-called "Phase Two") since the Mexican government's reforms, signed into law in 2014, opened the industry to private and foreign investment. The three blocks awarded, in the Southern Gulf of Mexico, include a total of six oil fields and estimated proven, probable and potential (3P) reserves of 473 million barrels of oil equivalent (mmboc) out of 673 mmboc offered in the five areas of this auction.

Companies submitting the winning bids (Table 1) included Italy's ENI International, Argentina's Pan American Energy (a British Petroleum subsidiary) in consortium with a Mexican firm (E&P Hidrocarburos y Servicios), and U.S. firm Fieldwood Energy in consortium with Mexico's Petrobal. Nine of the 14 companies and consortia that had earlier qualified to participate in this tender phase put in bids.

The CNH and Mexican Secretariat of Energy (SENER) declared this second bid phase successful, since it exceeded SENER's goal of awarding at least two

areas. Maria de Lourdes Melgar Palacios, SENER's Undersecretary of Hydrocarbons, told media that SENER expected production to begin in the areas awarded in 2018, adding that the three contracts would involve about \$3 billion of investment on average for each block. Melgar Palacios noted that it is possible that technological advances and acquisition of new data would allow the fields to sustain high levels of production past 2021.

The Mexican government tweaked the public tender process guidelines in response to industry feedback from the



Mexico Tender (continued)

Phase One tender in July. Two weeks before the September 30 closing, the government announced that companies would be allowed to explore for additional discoveries in most areas, increasing the potential upside for the investors and potentially drawing from them additional investment, above the government’s required minimum “work investment” set for each field. In another change from Phase One, the government announced minimum bid levels (i.e. a set percentage of a company’s operating profits) two weeks prior to the close, thus giving companies time to reassess their bid strategies. By setting minimums in competitive ranges for most areas (30.2-35.9 percent) for the second phase, potential investors were better able to establish the value of the awarded areas, having also analyzed seismic and geological data provided by CNH.

CNH also reduced some investor financial guarantee requirements by lifting an earlier rule that one member of any consortium should hold shareholder equity of at least \$6 billion as a guarantee against the likelihood of a major accident. Instead, for the second tender, consortia needed only put up a corporate guarantee set at 18 times its contractual minimum work commitment – a significantly lower amount. In another change, a \$2.5 million security guarantee required for each block could be applied across a group of blocks, reducing the overall financial cost. Additionally, CNH provided clarification of conditions under which it, as the regulator, could rescind contracts. Juan Carlos Zepeda, CNH President, told media that “we are presenting new alternatives, a package of guarantees that is more open with new



instruments that offer flexibility so investors can comply with the required state guarantees.”

Looking Ahead to Phase Three

CNH’s Zepeda admitted to media that CNH had “learned lessons” after the first phase of Round 1 that led to the “adjustments” introduced in Phase Two.

He reminded his audience that the third phase of Round One, for onshore blocks, is to be conducted in mid-December. Given that many of the firms that took part in Phase Two expressed satisfaction with the latest tender process and the CNH’s management of it, analysts expect there will be a similar if not higher level of interest in the 26 contracts to be offered in Phase Three.

Brazil Electric Grid (cont. from page 1)

The experts contended that a legal or regulatory change allowing such sales could lead to even faster growth in renewable energy generation.

Rising Costs, Risks and Other Concerns

A representative of ABRACE, a coalition of large industrial consumers, noted that despite growth in capacity, electricity costs have grown at an average rate five percentage points high-

er than inflation since 2000. He called for further subsidies to industrial users to boost competitiveness. Meanwhile, a representative of NeoEnergia, a generation company, said companies faced high levels of risk when attempting to add generation capacity, such as difficulty in obtaining environmental licenses and delays in completion of promised transmission infrastructure. A representative of the independent system operator

called for more source-specific and region-specific auctions, to direct investment to solar, wind, and biomass projects where they complement existing hydro infrastructure. Generators and distributors alike discussed their research efforts on improving smart grid technology and implementation. One immediate challenge noted by a municipal power distributor, was that 40 percent of all electricity the company distributes in Rio de Janeiro is intercepted/stolen.

Ecuador: Public Private Partnership Law Approved

Ecuador’s National Assembly approved on October 27 a new law to govern Public Private Partnerships (PPP). President Correa has 30 days from October 27 to accept, veto, or

amend the bill. The PPP law provides income and import tax incentives for foreign and domestic firms that invest in public-private partnership projects, and it establishes an

interagency committee that will approve proposed private investment projects in Ecuador’s constitutionally protected strategic sectors. The PPP law also incorporates reforms to a wide range of



Ecuador (continued)

other laws and codes, including the Organic Law of Internal Tax Regimes, the Reform Law for Tax Equity, and the Mining Law. The National Assembly held two lengthy debates on the draft legislation and approved it by a wide margin.

The 2008 Ecuadorian Constitution grants the state the right to “administer, regulate, monitor, and manage strategic sectors,” which it defines as energy in all forms, non-renewable natural resources, and oil and gas transport and refining, among others. The Constitution also stipulates that the state, on an “exceptional basis,” may allow pri-

private sector participation in strategic areas. While the PPP law emphasizes that the state will maintain control over strategic sectors, it also attempts to mitigate investor fears that the state will not honor contracts by granting private firms the right to bring some contract disputes to Latin American arbitration bodies. The recourse to arbitration is limited -- Article 19 of the PPP law notes that issues related to taxation or any other action directly related to the legislative and regulatory power of the Ecuadorian state shall not be subject to arbitration.

Ecuador’s Coordinating Ministry of Strategic Sectors also held an investment conference on October 27 to promote 94 projects worth over \$37 billion. The pro-

jects included potential investments in mining (44), petroleum (21), electricity (13), basic industries (10), water (3), bio-energy (2), and telecommunications (1). The largest of the petroleum projects was a \$6.7 billion exploration and development project of the Pungarayacu oil field, and a \$5.6 billion exploration and development project of the Ishpingo, Tipuntini and Tambococha oil field (also referred to as Yasuni-ITI). The 13 electricity projects were comprised of potential projects to construct 11 new hydroelectric plants and two geothermal plants.

Other resources for anyone interested in overseas business news:

For **Caribbean and Latin American Markets**, the Department of Commerce has many resources to assist U.S. firms including **market research**, **trade show calendars**, **trade delegation calendars**, etc. Check out their “Trade Americas” and “Look South” websites:

<http://export.gov/tradeamericas/index.asp>

<http://export.gov/tradeamericas/looksouth/index.asp>



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