Overseas Business Insights

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In this Issue:

Canada: Nova Scotia Calls for Tidal Energy Projects

The Government of Nova Scotia called for applications for tidal energy demonstration permits for projects that can generate up to five megawatts (MW). These permits also give companies the ability to sell the electricity they generate, and, according to the Nova Scotia government, no more than 10MW of total power will be authorized. The permits fall under the province's new Marine Renewable Energy Act, which provides a framework for the governance and development of marine renewable energy resources – including tidal, wave, and offshore wind energy. Nova Scotia has high hopes for tidal technology, believing tidal energy has enormous potential to create opportunities in rural areas, while addressing Canadian climate change goals. In 2016, Canada's first in-stream tidal power turbine was connected to the North American grid at a test facility in Nova Scotia. That 2 MW experimental turbine was deployed in the Bay of Fundy which has the world's highest tides (with ranges of 45-50 feet). The Bay of Fundy's commercial energy potential is estimated at 2,500 MW, equivalent to the peak energy consumption of all of Nova Scotia. Nova Scotia has been actively encouraging other test projects in an effort to become a world leader in tidal renewable technology.

Chile Poised to Spearhead 21st Century Lithium Rush

Chile has dominated the world lithium markets for decades. The Atacama salt flat's mineral-rich brines make Chile's production costs the lowest in the world. While Bolivia possesses larger quantities of the chemical element (30 percent of the global total compared to Chile's 21 percent), almost all of Chile's lithium is economically extractable, meaning Chile is home to half of all the viable lithium reserves in the world (7.5 million tons of raw lithium). Chilean law stipulates that the Chilean state is the sole owner of lithium reserves, permits lithium mining only through a rental contract between a company and Chile's Economic Development Agency (CORFO), and mandates that lithium sales must be authorized by the Chilean Commission on Nuclear Energy (CCHEN). Only two firms (one U.S. and one Chilean) are allowed to extract lithium brine in Chile under leases signed with CORFO in the 1980s. An unprecedented contract signed in January 2017 doubled the U.S. company's annual extraction rate (from 44,000 tons to 82,000

Chile (continued)

tons) and extended its mining lease to 2043. The agreement supports value sharing principles between the company and the local indigenous communities in the Atacama salt flat; 3.5 percent of sales, or a projected $15-20 million per year, go into a trust administered by the Inter-American Development Bank for local community development projects, including education. Eighteen communities in the area are set to benefit from the contract. The company will set aside approximately $12 million per year for research and development, and sell a quarter of its output at preferential prices to Chile-based firms that will produce value-added products.

Lithium could help the world move away from its dependence on fossil fuels and into a new era of battery-powered energy. Lithium demand is anticipated to nearly triple by 2025, mainly due to demand for batteries and electric vehicles. Supply is lagging, which doubled annual contract prices for lithium carbonate and lithium hydroxide in 2017. CORFO is already working to capitalize on the lithium extraction boom, with an eye to target long term demand from China and attract foreign investment in production plants for cathodes and batteries. In January 2017, CORFO put out a call for proposals to Chile-based firms looking to boost production of value-added lithium products. Winning firms will be able to purchase lithium at preferential prices. CORFO received twelve proposals from companies in China, South Korea, Belgium, Canada, and the United States, and final bidding results are expected within the next few months.

Blockchain Gains a Foothold in South America

South American entrepreneurs and the private sector are embracing blockchain in an effort to become early adopters of a disruptive technology. Blockchain is an open, distributed database that can record transactions between two parties efficiently and in a verifiable and permanent way. It offers increased trust and security over traditional databases and data exchanges. Some businesspeople in Peru, Argentina, and Colombia note that the region traditionally has been slow to adopt emerging technologies, but they believe blockchain offers an opportunity to boost economic growth, promote innovation, and increase transparency. Blockchain is particularly appealing because it helps solve three problems in the region – a lack of trust among different economic actors, inefficient business processes, and corruption.

U.S. companies are world leaders in blockchain technology and are aggressively promoting their products in Colombia, Peru, Chile, Argentina, and Brazil. Financial service companies, start-ups, and financial institutions are leading the blockchain charge in South America. Large, integrated financial service companies believe the technology can speed-up internal processes and lower costs. Financial technology (FinTech) start-ups hope to use blockchain technology to reach unbanked customers and disrupt big players.

Beyond the financial services industry, private sector companies and entrepreneurs are developing blockchain solutions in sectors that lack trust and efficiency: document verification, record keeping, and supply chain management. Entrepreneurs in Peru are seeking government support for a blockchain challenge to register land titles. Peru's Digital Governance Secretariat is facilitating a blockchain pilot project between a university and the Ministry of Production, and sees great potential for the technology in the property and water sectors.

Brazil: Power and Transmission Auctions Show Energy Growth Slowly Returning

From December 15-20, Brazil's national power regulator (ANEEL) held three energy sector auctions. The auctions ended successfully with winning consortiums committing to over $8.3 billion in power sector investments. The influx arrives as Brazil's economy enters a forecasted period of growth, with market consensus GDP growth between 2.5 to 3 percent in 2018. In Brazil, power distributors are required to forecast future demand to the Ministry of Mines and Energy (MME) and to demonstrate whether Brazil's energy agencies should introduce new generation opportunities to market through reverse auctions. With the resumption of economic growth in 2017, power generators have forecasted at least a modest increase in demand through 2023. Analysts with Brazil's Energy Research Company (EPE) noted the most-recent data for power demand in October 2017 rose nearly 3 percent month-on-month, which was the highest increase in over a year and another signal of Brazil's broader economic recovery.

The government of Brazil's successful auctions began December 15 with a $2.7 billion transmission offering that will result in investments for 6,800 miles of high-voltage lines and help pave the way for future renewable energy expansion throughout Brazil. For the first time since 2000, the transmission auction did not feature a winning bid from a state-owned company. All eleven "lots," or segments, at auction were won by private-sector consortiums. The resulting transmission lines will increase power capacity for ten states in Brazil, with an emphasis on long-distance transmission lines that carry power from Brazil's Northeast and North to demand centers in Southeastern Brazil.

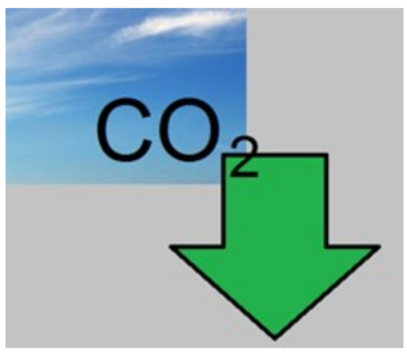
Energy analysts noted that fierce competition for the offered lots forced prices down an average of 40 percent below the opening bid. A variety of international firms bid on the transmission lines, with Indian, Italian, and Brazilian firms claiming the majority of winning bids.

On December 18 and 20, ANEEL held two power generation auctions that yielded $5.6 billion in investments. Natural gas and wind energy captured over 80 percent of the auction at record-low prices. The December 18 auction, for power promised for delivery in 2021, largely focused on wind and solar energy. The auction resulted in contracting 574 MW in new solar projects – equal to about half of Brazil's current installed solar capacity. The December 20 auction, for power to be delivered in 2023, resulted in 3.4 GW in natural gas and wind energy projects alone. Brazil's Wind Energy Association noted that the 1.4 GW of wind power auctioned at $30 per megawatt hour (Mwh) is the lowest price on record for contracted wind energy in Brazil, and some of the lowest-priced wind energy in the Americas.

Colombia: Carbon Tax Drives Emissions Reductions

Introduced in December 2016 as part of Colombia's structural tax reform Law 1819, Article 221 established a carbon tax on the use of liquid fossil fuels in the transportation and industrial sectors, including gasoline, diesel, jet fuel, kerosene, as well as the natural gas used in the hydrocarbon and petrochemical industries. The legislation was designed not only to encourage a shift away from fossil fuel consumption, but also to meet Colombia's Paris Agreement baseline commitment of a 20 percent reduction in carbon dioxide (CO2) emissions by 2030. The 2017 base tax rate was 15,000 Colombian pesos (approximately $5) per ton of carbon dioxide emitted, and the tax authority will adjust the rate each year on February 1 by one percent of the original base plus inflation. Fossil fuel consumption generates 27 percent of Colombia's emissions, releasing nearly 51 million tons of carbon dioxide per year, according to the Ministry of Finance (MOF).

From its inception, the government contemplated alternatives to direct payment of the carbon tax through emission reduction and economic development activities. The MOF, in conjunction with the Ministry of Environment and Sustainable Development (MADS), clarified alternative mechanisms for companies to fulfill their carbon tax requirements in Decree 926, released in June 2017. The decree highlights carbon neutrality as a means to avoid tax payments with less costly carbon offsets, and outlines the manner in which companies can certify



those offsets. Specifically, the decree calls for third-party verified emissions reductions, details qualified accreditation procedures, and dictates that eligible projects must be registered in the National Registry of Reduction of Greenhouse Gas Emissions, created by Law 1753 of 2015. The carbon neutrality mechanism provides several benefits and incentives to companies including financial savings; control over how their efforts and resources are spent in projects versus paying taxes into a general fund; and the ability to participate in projects that are beneficial to local communities and peace implementation.

Notably, Decree 926 mandated that companies can only use international carbon credits through December 31, 2017. From 2018 onward, companies must use carbon offsets that are generated within Colombia. Designed to protect Colombia's rich biodiversity and protect post-peace-accord areas, this innovative regulation is driving development of diverse environmental projects throughout the country and is supporting the creation and expansion of businesses that support and certify these projects. For example, in October 2017, one company became the first to certify its fleet of 1,200 trucks as carbon neutral by engaging in a forestry project that will plant and maintain nearly 480,000 trees, offsetting approximately 120,000 tons of emissions.

The carbon tax, along with Decree 926's carbon neutrality offset option, has created a promising market for carbon credits generated from Colombian

Colombia (continued)

emissions mitigation projects. Since 2012, USAID has supported one of the world's largest mitigation projects, "Reduced Emissions from Deforestation and forest Degradation" (REDD+), instrumental in supporting strategies to reduce drivers of rampant deforestation (e.g. illegal logging, illegal gold mining, coca growing) and to protect over 700,000 hectares of biodiversity-rich tropical forest within these communally owned territories. These strategies included strengthening the communities' governance capacity, developing new economic alternatives (e.g. acai, cacao, annatto, coco, and fishing) and establishing rigorous systems for monitoring and reporting on the projects' impact. In 2018, USAID plans to conduct the first independent verification of the REDD+ projects which will allow the projects to issue an initial tranche of approximately six million carbon credits.

Recife: Biggest LNG-supplied Power Plant in Latin America

The Sergipe Port liquefied natural gas (LNG) project began in 2015 by winning a federal auction to build Brazil's first privately-owned and operated LNG terminal and associated power plant. Today, the private sector-led $ 1.8 billion project is well underway and planners remain committed to the original early 2020 inauguration projection. Located in Brazil's northeastern state of Sergipe, the project consists of an offshore floating storage regasification unit (FSRU) that will receive LNG, a 1.5 gigawatt (GW) power plant that will transform the natural gas into electric energy, and a 20-mile transmission line that will connect the power plant and its generated electricity to Brazil's national energy grid. Once built, the plant will be the largest LNG-supplied power plant in Latin America and at full capacity will provide 15 percent of the Northeast's energy needs.

Argentina Seeks Investment in Transportation Projects

The Government of Argentina (GOA) announced in November 2017 it will launch its first six Public-Private Partnership (PPP) projects to modernize more than 4,300 miles of national highways and roads. Argentina is seeking $4 billion mainly in brownfield investment that corresponds to the first stage of its federal roadway investment plan to construct, improve, and maintain roads and bridges. The GOA defines brownfield investment as investment to expand or improve an existing project. The GOA commenced public consultations in December 2017 and bids for six brownfield toll road corridors are due in early April, to be awarded in April or May. The government seeks an overall PPP investment of $5.2 billion in 2018 and $8.4 billion in 2019. The PPP program envisions the government will repay its portion to the private investor upon conclusion of each project and therefore, the government has not budgeted for PPP expenditures in 2018 or 2019.

Jamaica: Caribbean Infrastructure Forum Highlights Regional Investment Opportunities

Experts at the 2017 Caribbean Infrastructure Forum (CARIF), held in Montego Bay, Jamaica, December 11-12, promoted the Caribbean as a region "ripe with infrastructure opportunities" for investors. The Caribbean Development Bank (CDB) estimated that the region required $21 billion in infrastructure investments over ten years to bring the Caribbean to international standards, while noting that governments may be able to fund only half of that amount. The CDB estimated that 57 percent of the infrastructure needs were energy-related, 25 percent for water, and 18 percent for transportation.

Jamaica promoted the following "unfunded Public-Private Partnerships":

<u>Clean Energy and Energy Efficiency</u>

– The government of Jamaica (GOJ) has adopted a policy to improve energy efficiency of public buildings, with support from international partners such as the Inter-American Development Bank (IDB). While project financing for projects may be available via the IDB or the Development Bank of Jamaica (DBJ), the investor is expected to finance the project with the expectation that the GOJ would repay the investor on a pre-determined scheduled based on cost-savings. The GOJ is also expected to release a Request for Proposals (RFP) in the spring of 2018 for approximately 100 megawatts (MW) of renewable energy generation for the country's electricity utility, pending the completion of Jamaica's Integrated Resource Plan. The expected renewables tender follows successful tenders resulting in over 80MW of new renewables generation.

<u>Improving Water and Sewerage Infrastructure</u>

– The National Water Commission (NWC), Jamaica's state-run water and sewerage company, is challenged by its mandate to improve access, efficiency, and value in the context of austere government budgets. There is an opportunity for private companies to propose unfunded projects to reduce energy consumption and non-revenue water (water lost through theft, leaks and inaccurate metering), including through the introduction of renewable energy and smart metering.

<u>Urban Renewal</u>

– The government's urban development company is seeking investors to revitalize urban areas in Jamaica's major town centers.

<u>Logistics Hub Development</u>

– Jamaica's Logistics Hub Initiative is an aspirational initiative to build a logistics-oriented economy, taking advantage of the island's shipping lanes. The GOJ seeks investors to finance, design, build, and operate facilities engaged in light manufacturing, assembly, third party logistics, and business process outsourcing. To support its bid as a logistics hub, the GOJ has created Special Economic Zones compliant with WTO standards, while privatizing air and sea ports, improving telecommunications and inland road connectivity, and reducing energy costs.

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

BusinessUSA
Discover. Connect. Grow.

The U.S. Government's main website to assist U.S. businesses at home and abroad. URL at http://business.usa.gov/

United States Department of State
BIDS
Business Information Database System

The Business Information Database System (BIDS) is a portal built to help U.S. businesses learn about significant international commercial opportunities. The site connects U.S. business to detailed information about each project as well as information to contact U.S. embassies overseas. URL at http://bids.state.gov/

Direct Line
For American Business

The Direct Line program provides a unique opportunity for American businesses, particularly small- and medium-sized enterprises, to engage directly via webcast with U.S. Ambassadors overseas. The program is open to U.S. companies – whether they are already in the country where the Ambassador serves or if they are interested in expanding their businesses there. Webcasts will vary in topic according to the specific needs for business in a given country. URL at http://www.state.gov/directline/

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