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First Renewable Energy Auction in Colombia

The Colombian government continued efforts in 2017 and early 2018 to diversify its electricity generation portfolio with a series of regulatory reforms, capped by a call in November 2017 for a non-conventional renewable energy (solar, wind) contracts auction designed to facilitate market adoption of new energy sources. The auction announcement further rein-

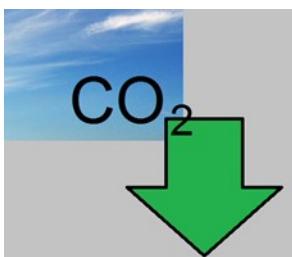
forced the government's increasing support for energy generation outside of traditional hydroelectric and thermal options, which account for over 97 percent of generation in Colombia. Since January 2017, regulatory agencies have taken incremental, yet significant, steps to prepare for the integra-

tion of non-conventional renewable energy (NCRE) sources into the electricity grid.

In January, the Ministry of Mines and Energy (MinMinas) manifested its NCRE support by releasing a draft decree that creates a mandate to support the development of solar and wind

generation through a reverse auction and long term (15-20 years), subsidy-free contracting mechanism. The draft decree emphasizes a number of other benefits to gradually increasing solar and wind generation capacity up to 15 percent of the generation matrix, up from the current three percent, including: reduced energy costs and price spikes;

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Chile Seeks Partnerships with U.S. Companies on Mining Initiatives

Mining plays an enormous role in Chile's economy, with copper alone accounting for approximately 10 percent of GDP and 50 percent of Chilean exports. Chile is the world's top copper producer and has out-

standing mining infrastructure and operations. In 2016, Chile produced 5.6 million tons of copper, representing 30 percent of world production. While copper has long been Chile's top commodity, the surge in

lithium prices in recent years has attracted investment in Chile's Atacama Desert, which is home to the world's most economically extractable lithium reserves. Chile is currently the world's number two lithium pro-

ducer, with 36 percent of global market share. Increased global demand from the electronics and electric vehicle industries has made this resource the focus of international investors and developers. U.S. foreign direct invest-



Chile (continued)

ment (FDI) in Chile reached almost \$30 billion in 2016 and was led by investments in the mining sector. The United States remains the single largest supplier of mining parts and equipment in Chile,

with a market share of around 22 percent. U.S. engineering companies are also involved in Chile's mining sector.

Chile's lithium goes beyond existing extraction sites in the Salar de Ataca-

ma. The Chilean government has committed to expand lithium production to other salares (salt flats) in the Atacama Desert, including Maricunga and Pedernales. Government officials are exploring

ways to manufacture value-added lithium products in Chile, rather than exporting the commodity and manufacturing elsewhere. This presents an opportunity for U.S. investors, according to officials.

Brazil: Energy, Water, and Airports Leading Infrastructure Push

Opportunities for investment in Brazil's infrastructure are growing as government entities at all levels look to shed public assets and bolster their finances and offer concessions to stimulate growth. State and municipal governments and state-owned companies are seeking to raise money by privatizing assets across a range of sectors from public utilities to transportation. In Sao Paulo state, total announced infrastructure investment in 2017 totaled \$8.4 billion, more than double that of 2016, according to the state government. In 2017, the federal government launched a wave of privatization and public

concessions plans to raise nearly \$14 billion in revenue and stimulate job growth and investment. These opportunities vary in risk and profitability, and often require advanced knowledge of the local market. Nonetheless, some companies from a growing number of countries are stepping up to take advantage of these opportunities, particularly European and Chinese firms.

Some experts observe energy and water and sanitation concessions are the most attractive for foreign investment now because they offer the most consistent and predictable return on investment. National energy concessions in 2017 raised

\$4.8 billion in public revenue. Three factors contribute to the appeal of these sectors: a simple tax regime that does not fluctuate, low demand risk, and a sound regulatory framework relative to other sectors. These factors, combined with a number of existing public utility assets up for sale, are driving investor interest, particularly in transmission lines, oil/gas pipelines, and large city water utilities.

Brazil's Ministry of Transportation, Ports, & Civil Aviation (MoTPCA) will tender concessions for 13 airports this year that will likely be awarded to international airport operators and earn an ex-



pected \$8.6 billion. The recently-ratified Open Skies agreement could drive more air traffic between Brazil and the United States, making airport concessions more attractive.

Reduced National Development Bank's (BNDES) financing and lower interest rates are changing the landscape for project finance in Brazil. In addition, interest rates have declined steadily over the past 20 months, reducing the spread between BNDES's subsidized TJLP (long-term interest rate) and market rates. BNDES has moved to a new rate system that will gradually reduce the subsidized spread over time.



transfer of energy cost reductions to final users; increased private sector competitiveness and employment; increased energy resilience during drought periods; leveraging Colombia’s comparative advantages in solar and wind resources; and supporting sustainable economic development. In March, MinMinas released the final decree, which was not limited to NCRE, pitting all energy projects against each other. Some energy experts suggest that this could result in innovative proposals, for example, solar projects paired with battery storage.

Excitement within the private sector about NCRE opportunities has continued to grow as companies see a convergence of clear support signals for renewables from the government, including emerging regulatory developments and continued tax incentives grounded in the key renewable energy Law 1715 of 2014. Companies registered 217 solar projects with the Energy & Mining Planning Unit (UPME) in 2017, a 36 percent increase over 2016, representing a projected generation capacity of 1246 MW. More importantly, several projects

were implemented in 2017. Notably, a solar plant began operations in Valle del Cauca, a department in western Colombia, with an installed capacity of 9.8 MW. This project commenced operations without a power purchase agreement (PPA) and is currently selling its energy on the spot market.

As the government continues to create conditions for NCRE integration, opportunities will be available to U.S. companies to provide technical expertise in the areas of forecasting, market development (intraday mar-

kets, day ahead markets), consulting services to support the creation of new operating rules and dispatching techniques, as well as project finance, and battery storage support.

The U.S. Embassy in Bogota is working with the Office of Commercial and Business Affairs in the State Department to schedule a Direct Line to American Business call to share market intelligence about these auctions with U.S. companies. Details to follow. If you are interested, please register to receive notices at www.state.gov/directline.

Canada: Ontario Wants to Make Testing of Automated Vehicles Easier

Ontario’s autonomous vehicle (AV) sector is growing fast with over 100 leading academic institutions, automotive companies, and technology firms. Industry analysts note Ontario’s competitive advantage is its unique combination of a technology-focused research and development

hub in the Ottawa-Toronto-Waterloo corridor, coupled with 12 automotive plants and 700 auto part manufacturing locations. Specifically, southern Ontario is the fourth largest exporter of AVs in the world. To leverage the existing cross-border auto manufacturing network, Ontario and

Michigan completed North America’s first international AV test from Detroit to Sarnia, ON, on July 31, 2017, and the Ontario and Michigan governments ratified a new agreement to collaborate in testing, developing, and marketing automated and connected vehicle technology.

Ontario has taken the lead as the only Canadian jurisdiction to issue permits for AV testing on public roads. In 2017, Ontario issued seven permits to companies. The Province announced on January 9 that it is proposing to change the rules of its ten-year automated vehicle pilot project to allow for



Canada: Ontario (continued from page 3)

driverless testing. Public consultations ended on February 4 and Ontario's Ministry of Transportation is in the process of reviewing comments it received. Under current regulations, the testing of fully autonomous vehicles is only allowed with a driver behind the wheel, but the government is seeking public comment on a proposal to eliminate that require-

ment. The proposal would also allow the testing of platooning, which is when vehicles with smart technology communicate with and closely follow one another. No date has been set for when the reforms may be implemented. The Ministry also emphasized the proposal would more closely align Ontario with other international jurisdictions currently permit-

ting AV testing and respond to industry needs.

In November 2017, Ontario committed C\$80M over five years to launch the Autonomous Vehicle Innovation Network AVIN in Stratford (95 miles west of Toronto), and a unique demonstration zone that allows researchers to develop their technology and test driverless cars in a wide range of realistic traffic and

weather conditions. Industry analysts believe AVs will significantly improve business productivity across Toronto and bolster the regional economy, resulting in annual savings of C\$6B or four percent of the city's GDP.

Inaugural Joint Ontario-Quebec-California Cap-and-Trade Auction a Success

The Government of Ontario declared its first joint cap-and-trade auction with the Province of Québec and State of California a success after the results were released February 28. The auction generated approximately \$367 million in proceeds for the Province, which was \$1 million less in revenue than the Province's first independent, province-wide auction in March 2017. The cap-

and-trade plan limits industrial carbon emitters on the amount of greenhouse gases they or their products can emit. Companies unable to stay within carbon limits can buy allowances to emit more, while those companies able to emit below their regulatory obligations can sell allowances. As per Ontario's Climate Action Plan, the proceeds from the auction will be reinvested into

Provincial programs aimed at reducing greenhouse gas emissions.

Ontario's Premier signed an agreement entering Ontario into the Western Climate Initiative (WCI) with Québec and California in September 2017, creating the world's second largest carbon market behind the European Union. Approximately 98 million current carbon credits were sold during the first auction between the three

jurisdictions at a settlement price of C\$18.34. Ontario sold approximately 25 million (about 25 percent) of total available current credits, Québec sold around 11 percent, and California claimed 67 percent of total credits sold. Ontario is set to take part in three more WCI auctions in 2018, in May, August, and November.

Canada: Government Reveals Winning Supercluster Bids

The Canadian government is moving into the implementation phase following the announcement of the winners of the Innovation Supercluster Initiative (ISI). The government announced its intention to invest \$730 million over five years, beginning in 2018, to support “a small number of business-led superclusters that have the greatest potential to accelerate economic growth” and that it had received over 50 proposals for the initiative. Industry is expected to match each government dollar invested. The government asserts that these projects will increase Canada’s GDP by more than \$38 billion over 10 years and create tens of thousands of jobs. According to the Ministry of Innovation, Science, and Economic Development, Canada aims to create large scale entrepreneurial and competitive ecosystems like the ones found in places like Silicon Valley and Israel.

Each Supercluster will be industry-led and feature a board of directors made up of industry representatives from each cluster. Each Supercluster includes large and small companies, as well as post-secondary and research institutions, and other innovation actors. Part of the criteria for selecting successful Supercluster applications was the ability to demonstrate the potential for economic

growth and the development of technologies that could thrive on a global scale. The initial list of private sector participants does include some U.S. firms. Each Supercluster came with an initial list of private sector participants, but there are opportunities for other companies, including U.S. companies, to join or invest after each project is launched. The Superclusters are expected to ultimately provide a path for “bridge partners” for each project.

The Winners:

Digital Technology: This Supercluster, based in British Columbia, aims to create better datasets and cutting-edge applications of augmented reality, cloud computing, and machine learning to improve service delivery in natural resources, precision health, and manufacturing sectors. It is the largest Supercluster project announced with over 270 participants.

Protein Industries: The Saskatchewan-based project will comprise over 100 participants to use plant genomics to enhance the value of Canadian canola, wheat, pulses, and other crops. The project will also aim to satisfy growing demand in Europe and North America for “plant-based” meat alternatives.

Advanced Manufacturing: The goal of this Ontario-based Supercluster is to develop next-generation

manufacturing capabilities that incorporate 3D printing, advanced robotics, cyber security, machine learning, and the Internet of Things. Ontario’s advanced manufacturing Supercluster, located in the Toronto-Hamilton-Waterloo corridor, will connect the region’s technology strengths to the manufacturing industry and research institutions.

AI-Powered Supply Chains: The intent of this Quebec-based Supercluster is to bring more than 110 participants together to build intelligent supply chains using artificial intelligence that will bring a number of sectors together, including retail, manufacturing, and transportation.

Ocean Supercluster: This Atlantic Canada-based initiative aims to develop technologies such as digital sensors and monitoring, autonomous marine vehicles, and marine biotechnology to enhance Canadian ocean industries. Industries highlighted include marine renewable energy, fisheries, aquaculture, oil and gas, defense, shipbuilding, and transportation. These sectors are supported by regional universities and all four provincial governments in the region. The supercluster funding also builds on previous investments in ocean sciences by the federal government in an effort to position the region as a world leader in the growing ocean tech or “blue economy” sector.



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>



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

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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/>



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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