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Alert | Energy & Natural Resources

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Latin America Energy Updates: May–June 2023

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Introduction

This GT Alert highlights significant energy-related news in Latin America from May to June 2023.

A. Argentina

New photovoltaic power station in Lincoln

Argentina's leading technology company in the agro-industrial sector, Grupo Mega, through one of its subsidiaries, Mega Energías, launched a photovoltaic park at its industrial plant in Lincoln that can produce electricity amounting to between 40% and 45% of the factory's daily consumption during its hours of generation.

Solar energy reduces operating costs while ensuring energy is provided from the moment of installation. This new solar park is projected to continue generating value after recovering the initial capital.

One company presents proposals for photovoltaic parks auctioned by EPE

The temporary joint venture between Coral Energía and Itasol was the only bidder to submit proposals for the four 5 MW photovoltaic parks auctioned by the Provincial Company of Energy (EPE) of Santa Fé. The

authority will evaluate the proposals; if rejected, the EPE's public bidding for the supply of photovoltaic renewable energy will be left with no bids.

Coral Energía also participated in RenMDI's national public bidding, where it presented 18 projects, second only to Juan F. Secco Industries, which introduced 22 projects. Of these projects, all were photovoltaic, and one was hybrid with batteries.

The World Bank to loan Argentina USD 400 million for renewable energy development

The World Bank's Board of Directors approved three new loans for Argentina, totaling USD 900 million, to finance infrastructure projects, expand access to clean energy, and improve health services.

More specifically, the World Bank will allocate USD 400 million for the "Clean Energy for Vulnerable Households and Communities" project, which will expand access to clean energy, promote energy efficiency measures, and is expected to benefit 200,000 people in remote rural areas. The funds will go toward the construction of mini power plants with renewable generation, installation of individual solar and wind systems in homes, purchase of efficient lighting equipment for community centers, and other projects. Thus, the project aims to reduce electricity consumption and save money.

Energy Secretariat approves the expansion and modernization of the transmission system

Argentina's Energy Secretariat approved a set of extensions to the country's electricity transmission networks and the modernization of existing transformer stations.

The government authorized the "*Plan de Expansion del Sistema de Transmisión de Energía Eléctrica en Alta Tensión*", which calls for investments of up to USD 6.94 billion and an addition of 3,550 MW for wind and solar capacity at medium and high marginal operating costs.

Likewise, the "*Plan Expansión del Sistema de Transporte de Energía eléctrica por Distribución Troncal*" foresees an investment of USD 3.63 billion, as well as 4,994.95 kilometers of transmission lines and 79 new transformer stations.

The government also plans to readjust existing stations in the system with an investment of USD 188.7 million and to modernize 200 transformer stations.

Hydrogen Law moves forward to National Congress

The Hydrogen Law project arose from Argentina's need to comply with its environmental commitments established in the 2015 Paris Agreement. The Argentine government hopes the transition to hydrogen will contribute to the decarbonization of the country's energy matrix. Additionally, the project provides a regulatory framework for the development of hydrogen through the creation of the National Hydrogen Agency as a decentralized body responsible for advising the governing authority.

During the Green Hydrogen 2023 Global Forum, Secretary of Energy Flavia Royon stated that financing has been obtained and dormant projects in the sector have been restarted. It is estimated that 5,000 kilometers of high voltage lines will be added to the Argentine electric system.

In addition, the Secretary stressed the importance of hydrogen in promoting a cross-sectional country and economy, where hydrogen is complemented by the development of liquefied natural gas, the mining sector, and the Gas Plan, which promotes the production of natural gas.

"As part of a structural look at the energy matrix of our country, we are committed to promoting the development of hydrogen. We prepared a bill that contemplates green, pink and blue hydrogen. We have already completed the administrative circuit and we will send it to the National Congress," Royon commented.

B. Brazil

Growth of renewable energy in the electrical matrix

Over the last decade, Brazil has added more than 50 GW of power to its electricity system, which is more than three times the capacity of the Itaipu hydroelectric plant (14 GW), one of the largest in the world.

In recent years, almost 300 new hydroelectric power plants have been installed with capacities ranging from 1 MW maximum to reservoirs of up to three square kilometers. With 948 plants, hydroelectric power plants continue to dominate the renewable energy sector in Brazil.

There also has been a focus on expansion of the wind sector, especially in the state of Bahia, which has obtained 275 new projects since 2013. Installed wind capacity nationwide reached 24.13 GW, making it the second largest energy source in Brazil after hydropower.

Solar parks, which did not exist in Brazil a decade ago, encompass nearly 300 projects connected under the centralized generation model, representing more than 9.4 GW of installed capacity. The largest increase occurred in the state of Minas Gerais, with 74 parks.

With 21.18 GW and almost 2,000,000 systems in operation, distributed generation also has become crucial for the development of solar energy in the country.

The majority of biomass plants use cane sugar as the primary source of raw material and are therefore located in São Paulo, Mato Grosso, and Mato Grosso do Sul, where the cane sugar industry is most concentrated.

Brazil seeks approval of laws for the development of offshore wind and green hydrogen

Brazil aims to approve a regulatory framework for offshore wind and green hydrogen by the end of 2023. Energy Minister Alexandre Silveira commented, "We believe that by the end of the year we will have a secure regulatory framework for offshore power plants that we will be able to present to the world," also stating that "green hydrogen is a real possibility to considerably expand our position in clean and renewable energies."

This is part of President Luiz Inácio Lula da Silva's energy transition agenda, which has also led to auctions of transmission lines to transport solar and onshore wind energy. Silveira highlighted that during the next auction, investments of USD 41.79 billion could be unlocked.

C. Chile

Chile and the EU sign cooperative agreements for the development of renewable hydrogen in Chile

Chilean President Gabriel Boric Font and European Commission President Ursula von der Leyen have agreed on two new cooperative actions for the development of renewable hydrogen in Chile.

The first is the "Team Europe Project for the Development of Renewable Hydrogen in Chile," a technical assistance program to strengthen the renewable and sustainable hydrogen economy in Chile.

The second is a statement of intent to fund the project: a joint initiative between the European Investment Bank and KfW, each providing €100 million in loans, led by the EU Delegation in Chile, which will also finance the project with EUR 4 million.

The project budget is supplemented by a further EUR 4 million from the German Federal Ministry of Economics and Climate Protection and a grant of EUR 16.5 million from the EU's Latin America and Caribbean Investment Facility.

Desierto de Atacama solar park begins construction

Pacific Hydro, a producer of renewable energy generated by hydroelectric power plants, began construction on its first solar farm in Los Loros, located in the Chilean region of Atacama.

With an investment of $260 million, construction is estimated to take around 20 months.

The farm will have an installed capacity of 293 MW with a capacity factor of 36%. The project will generate 784 GWh/year to supply energy to more than 310,000 homes and will offset more than 230,000 tons of CO2 annually.

In addition, the initiative is also key to "encourage[ing] investment in the area and promot[ing] employment," said Carlos Ulloa, Regional Ministerial Secretary of Mining for the Atacama region.

Renewable hydrogen presents a path toward the decarbonization of heavy transport

Air Liquide, a French company specializing in the supply and commercialization of hydrogen, aims to facilitate access to hydrogen for local use. More pointedly, the company seeks to reduce emissions, especially those associated with heavy transport such as heavy-duty trucks and mining trucks, by promoting the use of renewable energy, such as green hydrogen.

The opportunity to develop renewable hydrogen in Chile has attracted Air Liquide, which seeks to become a carbon-neutral company by 2050.

Bill for storage system in the Atacama Desert

President Gabriel Boric's government highlights its commitment to a fair energy transition with a new bill for the development of a large-scale energy storage system in the Atacama Desert. The Chilean Association of Renewable Energies and Storage (ACERA) notes that this project is very important since it addresses the need to complement the wind and solar projects already installed in Chile, to prevent them from being lost due to lack of transmission and grid flexibility. The idea is to use the surpluses of energy already generated and stored in the hours when the system is still dependent on fossil fuel energy sources. The project will have an investment of USD 2 billion.

ACERA commented, "It is planned that by 2026 these storage systems will be operational; therefore, we are committed to collaborate so that this measure is complemented by other regulatory reinforcements aimed at the short term, between 2023 and 2026, to support the renewable energy industry and the just energy transition."

D. Colombia

AES Colombia progresses toward the development of a wind power complex

AES Colombia, the first 100% renewable energy generating company in Colombia, remains committed to the development of a wind power complex, Jemeiwaa Ka I in La Guajira, comprising six wind farms that will generate 1,000 MW of installed capacity.

The project has an investment of more than USD 1 billion and will start operations in 2026.

Three of the six wind farms already have environmental licenses, and by the end of 2023, it is projected that all but one will have licenses.

Colombia and Germany sign an agreement to propel the hydrogen industry

Germany and Colombia have signed an agreement to promote the development of the hydrogen industry in Colombia. The agreement also calls for the cooperation of the Fraunhofer Society to analyze the production of green hydrogen and its derivatives for export to Germany.

A study conducted by experts from both countries suggests that the Caribbean region of Colombia has the potential to become a competitive industrial zone in the hydrogen market, creating economic and employment opportunities.

GreenYellow plans to build five large-scale solar parks

At the 6th Renewables LATAM Meeting and Fair, GreenYellow announced plans to diversify Colombia's energy matrix with a focus on renewable energy through the construction of five solar parks.

GreenYellow intends to generate more than 118,000 MWh per year of clean energy and inject it into the National Interconnected System. In addition, these photovoltaic plants will have an installed capacity of 70 MWp. The 108,788 solar panels installed for the project will be equipped with bifacial microcrystalline technology, which will allow for greater energy capture as both faces of the panel will be able to absorb energy.

The project will help decarbonize the energy matrix by eliminating 78,660 tons of CO_2 emissions, and it will create local jobs, boosting the local economy.

Huila 230 kV substation launches

The Mining and Energy Planning Unit launched the bidding process for the design, procurement of supplies, construction, testing, commissioning, operation, and maintenance of the works associated with the Huila 230 kV substation and transmission lines.

One of the projects being discussed is the installation of a bay and its central cut-off at 230 kV (Huila 230 kV) for the connection of the 200 MW Villavieja solar project.

Defined in the "Reference Generation-Transmission Expansion Plan 2020-2034," the Huila 230 kV substation project will begin operation no later than Aug. 31, 2026.

This will be the third electrical work of President Gustavo Petro's administration. Bids must be submitted by Sept. 8, 2023.

E. Ecuador

Ecuador hopes to reach 70 MW of distributed generation by the end of 2023

On Dec. 31, 2022, the total number of Distributed Generation Systems for Self-Supply (SGDA) of regulated consumers in operation was 423 (17.7 MW), which increased to 486 (24.2 MW) by March 30, 2023. Taking into account this and the new self-supply modalities that are being incorporated, Geovanny Pardo Salazar, Technical Coordinator of Regulation and Electric Control of the Agency of Regulation and Control of Energy and Non-Renewable Natural Resources of Ecuador, expects the installed capacity of SGDA to reach 70 MW minimum by the end of 2023.

Legislative efforts also have been directed at promoting distributed generation and self-supply, such as the new modalities of generation added to Regulation No. ACERNNR-001/2021, which regulates the process of connection, qualification, and operation of SGDAs of regulated consumers.

F. Mexico

Amerali Group plans to reach 3 MW of distributed generation in Hidalgo

Amareli Group, a company that installs solar panels in homes and businesses to provide sustainable savings, aims to double its presence in the energy market. The company plans to install 3 MW of distributed generation in Hidalgo, double the 1.5 MW they installed in 2022.

Founder and Director Aidee Zamora details plans to enter the storage systems market: "We are looking to enter the market for electric chargers in parking lots but as a project or integral solution for those market niches to have economic savings and an environmental and fiscal benefit."

20% yield growth of Renewable E Index Mx

The Renewable E Index Mx is the first Mexican stock market index that measures the transition to renewable energy sources.

Maria Valencia, president of the Renewable E Index Validation Committee, commented, "What is innovative about this index is that in addition to considering companies that report their ESG (Environmental Social and Governance) compliance, also 1% is composed of the S&P benchmark prices of carbon credits, international clean energy certificates, and carbon emission prices."

The index initially reported 500 points and has grown by 20% to 581 points. According to the index, the companies currently leading this change are Tesla, Nvidia, and Pepsico.

Energía Real reaches 50 MW of installed capacity in its solar portfolio

Mexico's largest distributed energy sales company, Energía Real, became the first company to reach 50 MW of installed capacity in solar projects.

Energía Real reported that its generation capacity is equivalent to 300,000 square meters of surface covered by solar panels. Since its founding in 2016, Energía Real has offset more than 16,000 tons of CO_2. With its large capacity, the company will be able to offset 3,000 tons of CO_2 annually.

Notus Energy plans to develop solar and wind projects amassing between 500 and 800 MW in Mexico

Notus Energy, which constructs wind and solar power plants, continues its efforts to decarbonize Mexico by developing of a series of renewable projects, 60% solar and 40% wind, by 2026. These projects would extend from Mexico City to northern Mexico.

The company is currently waiting for the opening of the Mexican energy market while auctions are suspended by the government.

Nuevo León seeks to increase by 30% annually in distributed generation

Given its high level of solar radiation, Nuevo León is well-situated for the installation of solar photovoltaic energy systems.

General Director of the Renewable Energy Agency of the Nuevo León State Government Eduardo Sanchez commented, "With more than 300 MW installed, we are the second state in the country with the highest generation. We are confident that in the next few years we can be number one both in installed capacity and in the number of contracts. With a growth of over 25 or 30% per year, in 5 years we will be number one at the national level and we will displace Jalisco." An increase of 100 MW is expected this year alone.

Although the lack of infrastructure is a challenge for this development, the Agency is promoting communication with industrial parks and developers, which has led to exploring the use of energy polygons in the metropolitan area. If successful, the Agency likely could project energy demand, stabilize energy demand in the short term, and implement energy-efficient projects.

The authorities also are exploring ways to streamline the administrative process to facilitate new projects. In addition, they are working to implement specific regulations on storage systems.

Solar plants installed for rural communities in Sierra Alta

Under the framework of the initiative of the Federal Government and the Government of the State of Sonora, "Social Program of Distributed Solar Generation," solar plants were installed in Sierra Alta, where many rural municipalities of the state in marginalized conditions are located.

The project aims to promote the use of clean energy through investments in small solar plants with a capacity of less than 0.5 MW in areas with high potential for local economic development and political advancements towards an energy transition to renewables. Currently there are only four solar plants built and two in a trial period for interconnection to the national electric grid.

According to the government's report, an investment of between MXN$10 and MXN$12 million is estimated, in addition to annual maintenance and operation costs. These expenses, which in a photovoltaic plant are considered fixed, would total around MXN$7.3 million throughout the plant's useful life.

This report also details the following: "The kWh produced by a typical plant located for example in the Sierra Alta region of Sonora over 25 years of operation can reach 22 million kWh. This considering a 3% loss of efficiency in the first three years and a degradation coefficient of 0.5% from the 4th year on, which gives us an estimated efficiency of 86.44% in year twenty-five."

Decree project to reform articles 48 and 49 of the Energy Transition Law

On June 13, 2023, Senator Alejandro Armenta Mier of the Morena Parliamentary Group presented the "Initiative with decree draft reforming Articles 48 and 49 of the Energy Transition Law, regarding funds for the application of clean technologies, distributed clean generation and the use of renewable energies." As published, the decree draft aims to promote socioeconomic progress through sustainable development without compromising the capacity of future generations. Likewise, the decree highlights the importance of mitigating the effects of climate change through the adoption of innovative technologies.

Perhaps the most relevant measure of the decree draft is the modification of the use of funds: "The purpose of the proposed modification is to expand the channeling of the fund's resources so that they can be requested and received in a particular category by disadvantaged sectors whose programs and projects to be implemented – of course – contribute to the field of clean technologies, distributed clean generation and the use of renewable energies."

CRE's modifications to the clean energy registry to be taken to court

On May 26, 2023, the Energy Regulatory Commission published in the Official Gazette of the Federation Agreement No. A/018/2023, which updates the reference values of the methodologies for the calculation of the efficiency of electric power cogeneration systems and the criteria for determining efficient cogeneration, as well as the criteria for efficiency and methodology of the calculation to determine the percentage of fuel free energy established in the resolutions RES/003/2011, RES/206/2014, /RES/291/2012 and RES/1838/2016, respectively," whereby natural gas combined cycles are considered clean energy sources. See GT Alert for more details.

Environmental NGOs and renewable generation companies are seeking to file an injunction in competition courts to suspend the ordinances. Companies including the Mexican Wind Energy Association and the Mexican Solar Energy Association have spoken out against the Agreement, arguing that it devalues Mexico's commitments to decarbonize the electricity sector. Although based on the Agreement, the Project for the Development of the National Electric System 2023-2037 (PRODESEN) establishes the goal of almost 32% of clean generation in the electric matrix during such period; however, the generation companies underscore the artificiality of the Agreement to fulfill with such clean energy goal as fossil fuels are being integrated. See GT Press Release for more details.

Draft of Mexican Official Standard on the management of liquefied petroleum gas storage facilities is issued

On June 21, 2023, the "Draft of Mexican Official Standard PROY-NOM-017-ASEA-2023, Installations for the storage of liquified petroleum gas (LPG)" was published in the Official Gazette of the Federation. It replaces the "Mexican Official Standard NOM-015-SECRE-2013, Design, construction, safety, operation and maintenance of liquefied petroleum gas storage systems by means of storage plant or supply plant that are directly linked to the transportation or distribution systems by pipeline of liquefied petroleum gas, or that are an integral part of the land or maritime terminals for the import of such product."

The purpose of this NOM Project is to establish the technical specifications and requirements for industrial and operational safety, as well as environmental protection, which must be applied in the design, construction, pre-start-up, operation, and maintenance of LPG onshore and/or offshore storage facilities, to prevent damages to the population, facilities, and the environment.

The Standard will take effect 180 calendar days after its publication in the Official Gazette of the Federation.

G. Panama

Year-on-year growth of 38% in installed solar photovoltaic capacity for self-consumption

At present, Panama has 2,351 users with solar photovoltaic systems interconnected to distribution networks. This translates to 76.77 MW of self-consumption capacity. It is worth mentioning that in the last 12 months, 21.14 MW of solar photovoltaic capacity was added, a 38% growth over last year.

Of these, Empresa de Distribución Eléctrica Metro-Oeste S.A. accumulated 1426 users and 37.43 MW interconnected in its distribution networks. With 745 clients, Elektra Noreste S.A. has the second highest installed capacity, with 32.15 MW of solar self-consumption. These two companies accumulate the largest amount of installed capacity for self-consumption: 46% and 41.9% respectively.

This progress is in line with Agenda 2030, which aims to promote the use of renewable energies in Panama.

Panama plans to launch Hydrogen International Trade Organization during COP28

The Hydrogen International Trade Organization aims to be a space in which to determine the standards for the commercialization of green hydrogen, its prices, valid certifications, and carbon calculation methodologies.

The government intends to launch it during the 28th Conference of Parties (COP28), where other Latin American countries and the rest of the world will be able to join.

Panama's National Undersecretary of Energy, Rosilena Lindo Riggs, stated that the Panamanian government is committed to developing the green hydrogen industry and derivatives, positioning itself not only as a strategic market for transport and storage but also as a producer country.

"We want to be producers; we hope to be producing 500,000 tons of green hydrogen and derivatives by 2030," said Lindo Riggs.

In the Panama Canal energy is dispatched for about 5,000 ships annually. "We have set goals where we hope that by 2030 we will be able to dispatch at least 5% of that bunkering that is green with green ammonia and e-methanol. But we have also set goals for 2040 and 2050, where by 2040 we expect at least 30% of the bunkering to be clean energy and by 2050 at least 40%," the undersecretary said.

In addition to these ambitions for the maritime sector, there also are proposals for the aviation sector. By 2050, the government intends to replace at least 30% of the fuel dispatched with synthetic kerosene and other sustainable aviation fuels.

H. Peru

Third photovoltaic plant inaugurated by Amazonas Energía Solar in Peru

The San Lorenzo plant is the third project inaugurated by Amazonas Energía Solar that combines solar photovoltaic generation with a battery storage system. The new solar plant has an installed capacity of 3 MW of solar generation and 2 MWh of battery storage.

The plant will supply, together with the existing thermal plant, uninterrupted power seven days a week, benefiting the local population that previously received only 14 hours of power per day.

The project will also help replace much of the thermal generation with renewable energy, enabling the reduction of 37,000 tons of CO_2 during the first 15 years.

This plant is part of a set of 10 plants of the same hybrid nature that in total aim to reduce approximately 700,000 tons of CO_2 over the duration of their lives.

Peru introduces first 100% electric truck in mining sector

BYD, a leader in the green vehicle automotive industry, sold the first electric truck for use in Peru's mining industry to the mining company Condestable. The collaboration with Enel X Way enabled the installation of the necessary charging infrastructure to support the truck's operations.

The truck does not emit polluting gasses, nor does it produce noise, reducing air and noise pollution in the area.

This truck marks a milestone for the Peruvian mining sector, known for its high dependence on fossil fuels.

New smart electricity rate option in Peru

Peru's Energy and Mining Investment Supervisory Agency approved a key resolution for the modernization of the Peruvian energy sector: a smart electricity rate that would generate savings of between 5% and 19% on users' electricity bills. In addition, experts believe it will encourage the population to adopt more renewable electricity modalities.

This new rate, called BT5-I, has the capacity to reduce costs, as it offers differentiated electricity prices depending on the time of use. There will be three time blocks: base (11 PM to 8 AM), medium (8 AM to 6 PM), and peak (6 PM to 11 PM). Smart meters will record energy consumption by time of day in homes and users will be charged accordingly.

The Smart Measuring Pilot Plan will take effect Sept. 1, 2023. In stage one, this option will be available to 100,000 users.

I. Venezuela

Renewable and Alternative Energy Bill

Permanent Commission of Energy and Petroleum President Ángel Rodríguez announced the Renewable and Alternative Energies Bill will be submitted for popular consultation in the communes of the states of Venezuela.

In July, the bill will be submitted to the Assembly's Directive to be considered for its first discussion in the Plenary Chamber. Rodriguez pointed out the importance of deputies of the commission making the corresponding links with governors, mayors' offices, and others to systematize the contributions during the final stage of the project, saying, "a good systematization of all the proposals obtained is vital, because it is at these levels of organization that what we call the Legislating People is executed."

Conclusion

In May and June 2023, Latin American countries embarked on a variety of projects to advance the renewable energy movement. Whether it is new agreements to promote international cooperation for a decarbonized market or solar farm projects, Latin America is becoming a focal point for the renewable energy market.

** This GT Alert does not apply to matters or laws in the United States.*

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