

Colombia Hops on the Green Revolution's Train

By awarding the Colectoras project to Grupo Energía Bogotá (GEB), the country takes a great step towards boosting low-emission technology. Colombia has great potential in non-conventional renewable energy due to its resources and the energy matrix's readiness to be more solid.

The world is experiencing a true energy revolution. Natural gas and non-conventional renewable energy are in an unprecedented stage of growth and development that is transforming the profiles of energy matrices at a global level, especially in Latin America.

This change in the energy matrix is happening at an accelerated rate because of many governments' decisions to take measures that offset the effects of climate change at the most competitive prices, backing natural gas and multi-million investments that are expanding these technologies' installed capacity.

China, for example, is the world leader in wind energy, with 188,000 installed megawatts as of 2017, which is equal to 35% of this technology's global installed capacity, according to a report from the Global Wind Energy Council (GWEC). The Asian giant is betting large, since it expects to invest 100,000 million dollars in this form of energy by 2020.

Europe is not lagging behind. With 178,000 installed megawatts, various countries, Germany and Spain among them, are global standard-bearers for clean energy. Even large petroleum companies such as Shell, Total and Statoil hopped on the train of change, investing more in wind farms with renewable sources as time goes by. Multinational companies such as Google, Apple, IKEA and BMW are some examples of companies committed to the goal of achieving 100% energy supply from renewable sources in the following years.

But you do not have to go far to see this transformation of the energy matrix. Latin American countries such as Brazil, Chile and Mexico have taken the lead,

and renewable energy is already an important component of their economies. Brazil is among the top 10 countries in the world with the greatest installed capacity in wind energy and is the first in the region, followed by Chile, which has close to 30 wind farms. Chile, Mexico and Argentina had wind and solar energy auctions last year at very competitive prices.

According to Bloomberg New Energy Finance, wind and solar energy will represent 48% of global generation capacity in a little over 20 years.

Awarding Colectoras

Colombia was lagging behind in this area, taking into account that, of its total installed capacity, which is 16,500 megawatts, around 70% of its supply of energy comes from hydroelectric power plants and about 25% of it corresponds to thermal generation (coal and gas). Only 5% corresponds to non-conventional renewable energy, among which are the small hydroelectric power plants of less than 20 megawatts.

However, this picture will begin to change now that the Colectoras project has been awarded, which will allow connecting the energy that will be produced in the wind farms in La Guajira to the National Interconnected System (NIS). This key project for the country's transmission system acts as a before and after in public investments destined to diversifying the national energy matrix.

The Mining and Energy Planning Unit (UPME) made the decision on February 16 when it opened the envelope that made Grupo Energía Bogotá (GEB) the winner. GEB started off on the right foot in this renewable energy era by winning this project. This key infrastructure consists of building a 500 kilovolt substation with the same name that will connect the Cuestecitas (La Guajira) and La Loma (Cesar) substations with 370 kilometers of transmission networks. The networks will have the capacity to transport up to 1,360 megawatts of energy as of 2022.

For the minister of Mines and Energy, Germán Arce, awarding this project is "*a milestone in the sector's history,*" since it meets the national objective and

international commitments to diversify the Colombian energy matrix with renewable energy. The UPME's director, Ricardo Ramírez, indicated that the country's potential in non-conventional renewable energy is immense and that *"we are making the integration of these technologies into the electric system a reality"* with Conexión Eólicas.

Furthermore, Colectoras is momentous for wind energy (which is produced with wind) to take off, because it will boost the construction of wind farms in La Guajira, one of the departments with the greatest potential for developing this kind of energy.

It is worth noting that there is currently only one pilot project in this department, operated by Empresas Públicas de Medellín (EPM). This farm is the Jepírachi wind farm, built in 2004, with a 19.5 megawatt generation capacity.

However, some companies such as EPM, Interconexión Eléctrica S.A (ISA) and Jemeiwaa Ka'i S.A.S are ready to develop new wind farms that could add around 1,050 megawatts to the system, which is equivalent to 6.3% of the country's current installed capacity.

With an investment of 174 million dollars from GEB in this key infrastructure and the UPME awarding other projects, wind farms could be developed, not only in La Guajira, but also in the Cesar, Magdalena and Santander departments.

Alejandro Lucio, director of the Colombian Association of Renewable Energy - Ser Colombia - considers it so and states that introducing non-conventional renewable energy is irreversible and will align the country with global trends.

For the director, the government gave a clear message about its interest in this energy by awarding the Colectoras project, since it was impossible to get the energy out of the wind farms in La Guajira without these electric networks.

Corporate Commitment

Colombian companies are not clueless about international trends. Because of that, many are seeking to reduce their carbon footprint through low-emission generation projects, not only to meet the goals to reduce greenhouse gas emissions, but also to increase their competitiveness. In this last aspect, energy supply contracts with renewable sources ensure the predictability of long-term energy prices and, therefore, greater control over one of their most significant operating costs.

Grupo Energía Bogotá is also betting on contributing positively to the environment and developing communities in the territories in which it operates. So states GEB's president, Astrid Álvarez, who says that the most important thing is to develop a genuine relationship with the communities to support their growth and generate shared value.

This support given to communities is reflected in various activities that GEB has carried out with renewable energy, installing solar panels in communities within its business activities' areas of influence.

Such is the case for 120 school students in the Wayenetamana community in Riohacha's rural area. In 2013, the school had laptops and tablets given to them by the government, but they were not being used well because of the lack of access to energy. GEB decided to install a solar panel system to supply energy to a computer lab. The next day, the school modified its schedule and introduced a computer science class for all students.

This is just one of thousands of examples that show that access to energy changes lives and allows for greater inclusion. Doing it with low-emission technology ensures a more sustainable world for this and future generations.

Awarding the Colectoras project, Colombia has an unprecedented opportunity in its hands that will allow it to capitalize on a set of economic, social and environmental benefits, and accelerate its inclusion into the OECD.

FIGURE

THE BET ON LOW-EMISSION GENERATION

Colombia is a country that is highly developed in low-emission technology, especially hydroelectric generation. However, diversifying the matrix by introducing new low-emission generation sources will be a determining factor for strengthening the national economy in heavy drought periods, as have occurred in recent years with intense El Niño phenomena.

Diversifying the energy matrix will contribute to reducing this risk and will provide greater reliability on the system during critical periods. In this sense, projects such as the Regasification Plant of the Pacific will contribute to the competitiveness of natural gas generation, the perfect complement to non-conventional renewable energy.

The Colectoras project will allow consolidating Colombia's strategy towards a more diversified and competitive energy sector and will boost the development of a new industry in the country.