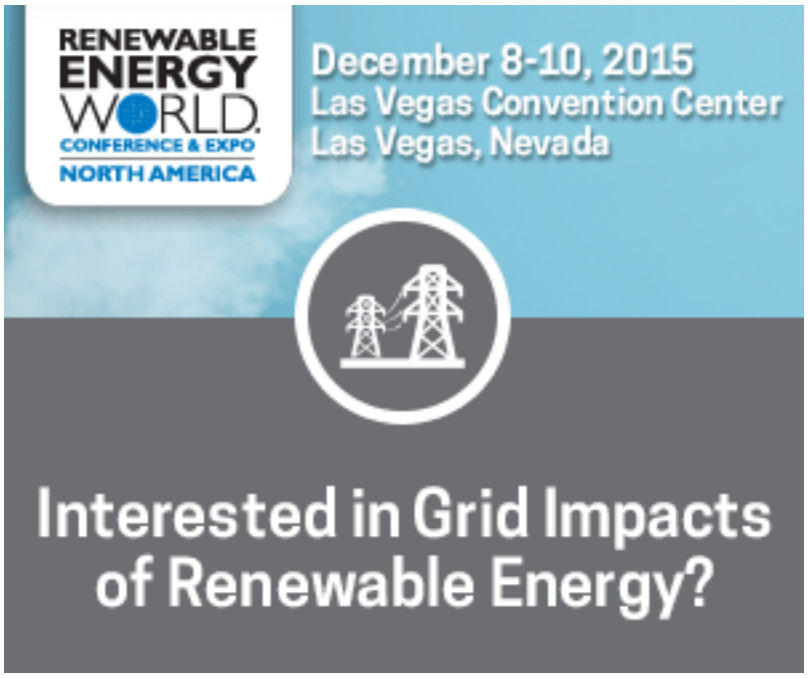

Home » Site map » The Future of Renewable Power in Mexico

The Future of Renewable Power in Mexico

Mexico's solar and wind sectors have experienced triple-digit growth rates over the last 10 years, outpacing the growth of renewable power generation in most developed countries. Will that explosive growth continue?

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The abundance of diverse renewable energy resources, growing demand for power, macroeconomic stability, and historically high electricity prices continue to position Mexico as one of the most attractive destinations for investments in renewable power generation.

Despite enjoying some of the highest wind and insolation levels in the world, Mexico has yet to develop most of the potential of its renewable energy sources. As of 2013, thermal sources represented 75 percent of Mexico's installed capacity, followed by hydropower generation, which accounted for 19 percent of total capacity, while other renewable sources, such as wind, solar and geothermal energy represented less than 6 percent of electricity generation in Mexico.

Mexico's solar and wind sectors have experienced triple-digit growth rates over the last 10 years, outpacing the growth of renewable power generation in most developed countries. However, the real opportunity for renewables lies ahead, as the country will require an additional 22 gigawatts of power generation in the next ten years and its government is set on transforming the country's power mix in order to reach the goal of generating 35 percent of total electricity from clean sources by 2025.

Energy prices in Mexico have been historically very high compared to those of developed nations. By some estimates, electricity costs in Mexico for commercial and non-subsidized residential users are 25 percent higher than in the U.S., while Mexican industrial users pay electricity prices that are almost 85 percent higher than those paid in the U.S. The combination of high energy prices and the decrease in the cost of new solar and wind systems has allowed Mexico to become one of the few countries to have reached grid parity in wind and solar power. This, coupled with some of the highest wind and insolation levels in the world is turning Mexico into one of the most attractive markets for renewable power generation and the first sizeable market in which the development of renewable projects is not dependent on special feed-in tariffs, tax credits or other subsidies.

Starting at the end of 2013 and continuing through 2014, Mexico enacted a series of sweeping reforms to its energy sector, aimed primarily at increasing private investment into the country's oil and gas and power generation sectors. Some of the key reforms affecting the power sector are the streamlining and simplification of the permitting process for new generation projects and the creation of a wholesale electricity market, which will allow large industrial customers to purchase electricity directly from the wholesale market. These changes, along with the creation of a new system of tradable clean energy certificates, are expected to further support the development of new renewable generation projects, even though the reforms do not create any specific fiscal incentives or feed-in tariffs for this type of projects.

The cost of generating power through wind farms in Mexico is already competing with the cost of natural gas powered plants (approximately $75 MW/hr) and is expected to decrease in the coming years. This is one of the reasons why most analysts believe that onshore wind generation will attract the largest investments in the sector. Some estimates project that wind power generation will attract investments of up to $2 billion a year for the next 25 years, which represent almost a third of the total investment in power generation in Mexico over that period. If these forecasts are correct, Mexico would double its current wind capacity (66 GW at the end of 2014) to reach 152 GW by 2040. Despite the security concerns and other social issues affecting these states, Oaxaca and Tamaulipas, where some areas enjoy average capacity factors as high as 45 percent, are considered the regions with the most potential for this type of projects, followed by Baja California, where some of the largest projects are being developed mostly for export purposes.

Mexico's PV market also offers attractive opportunities, with some analysts expecting it to become the strongest PV market in Latin America over the next 5 years. The number of solar power developers has soared since 2010, going from 46 to more than 600 and the country's installed PV capacity is expected to grow from roughly 67 MW at the end of 2014 to more than 1,300 MW by the end of 2018. Not surprisingly, most of this new installed capacity will come from utility-scale projects, while commercial and residential projects are expected to represent less than 23 percent of the total additions.

Despite all of this, investments in the power generation sector since the energy reforms were passed have been slower than expected. Paradoxically, some of this is the result of the uncertainty created by the same energy reforms about the future of the Mexican energy landscape. For instance, the rules for the wholesale electricity market created by the reforms and which is due to begin operating on the last day of 2015 have not yet been finalized, and the application forms for generation permits under the new law were not ready until last April, eight months after the new legislation was enacted. There are also some concerns about the real value of the new clean energy certificates, which will come into effect in 2018. Some developers believe that the target of 5 percent clean or renewable generation set by the government is too low, while the fact that cogeneration facilities and other high-efficiency fossil-fuel projects may also receive credits dilutes the value of the certificates for smaller projects.

There are also structural issues for renewable projects, which the reforms do not fully address. One of them is the lack of transmission capacity in areas with high potential for renewable sources, as well as a historically slow and bureaucratic process for obtaining interconnection agreements. Heavily-subsidized retail electricity rates are another concern, as they make it difficult for developers to find offtakers willing to lock in longer contracts. This, in turn, makes it

difficult for smaller renewable projects to attract capital at attractive rates.

Developers in Mexico also face some of the challenges that come with doing business in emerging markets, particularly in Latin America. Rampant corruption, for example, especially in regulated industries such as power generation, is a major concern for developers and foreign investors in Mexico despite recently enacted anticorruption legislation. Another obvious concern is the crime-related violence affecting certain areas of the country, including some of the border states, like Tamaulipas, which have the greatest potential for renewable projects. Also, complex property rules and deficient public land records in rural areas make it difficult for developers to procure the land for their projects and provide certainty to investors. And local opposition in recent years to some major renewable projects, such as the Mareña wind farm in the State of Oaxaca, has also given developers and investors reason to pause before committing to some of these projects.

Nevertheless, most people would agree that the opportunities for developing renewable projects in Mexico in the coming years and the potential upside of these projects far outweigh the risks involved, but investors would be well advised to partner with developers and advisors with specific experience in Mexico in order to help them navigate the new energy landscape and mitigate some of these risks.

Lead image: Mexico Flag Waving in the Wind. Credit: Shutterstock.

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