



Commercial Sector: Renewable Energy

A Top Export Prospect for Mexico

September 2014

Market Estimates

Table 1. Renewable Energy Market Overview

(in US\$ millions)	2011	2012	2013 ^{est}	2020 ^{est}
Total Market Size	969.8	1,667.4	2,051.5	27,164.0
Total Local Production	412.5	1,135.4	1,423.3	12,633.0
Total Exports	73.5	82.1	85.8	2,840.0
Total Imports	630.8	613.9	714.0	17,371.0
Total Imports from the U.S.	173.7	196.1	262.1	7,896.0
Exchange Rate: 1 USD	4.30	4.40	5.47	6.50

Total Market Size = (Total Local Production + Total Imports) - (Total Exports)

^o Estimated data

^p Projected data – Secretariat of Energy (SENER)

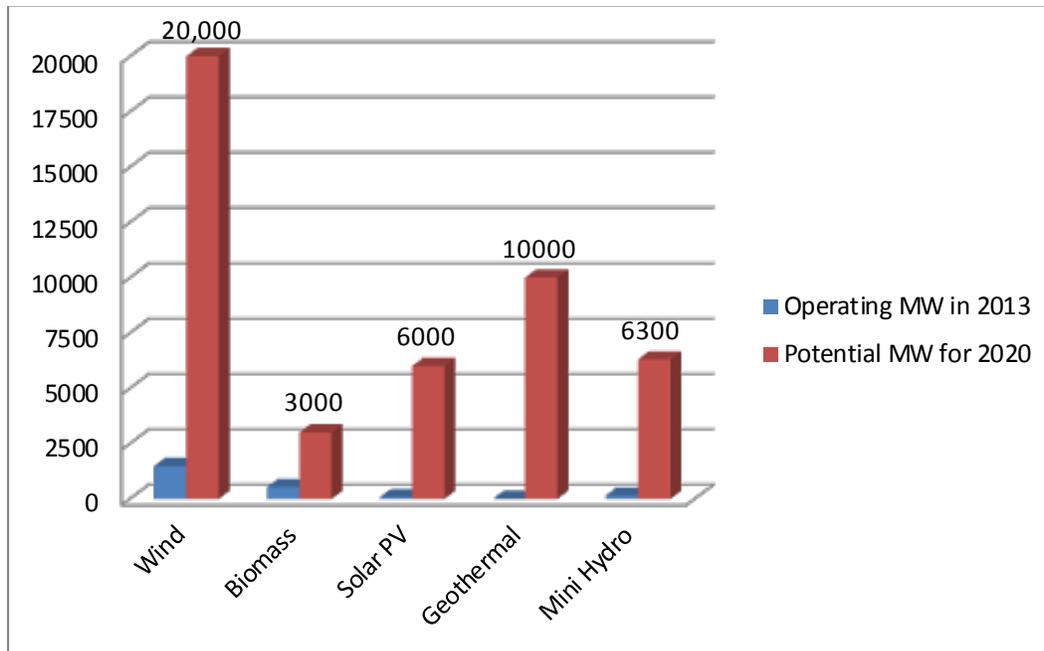
Source: Secretariat of Energy (SENER), Energy Regulatory Commission (CRE), Federal Electricity Commission (CFE), National Bank for International Trade (BANCOMEXT), Secretariat of Economy, Central Bank of Mexico (Banco de Mexico) officials, Mexican Association for Wind Energy (AMDEE), National Association for Solar Energy (ANES), & representatives from American companies in Mexico.

Overview

The renewable energy market in Mexico is currently shaped by the General Law on Climate Change, enacted in June 2012. The law affirmed Mexico's intent to increase electricity generated from clean energy sources, including nuclear energy, to 35 percent by 2024 and 50 percent by 2050. As a result of the legislation, international investment in Mexico's renewable energy market increased sharply, rising from just \$532 million in 2011 to \$2.9 billion in 2012 (latest figures available).

Historically, most of the renewable energy investment in Mexico has supported the wind industry, which in 2012, received nearly 78 percent of global investment in Mexico's renewable energy sector. Yet, other sectors have also benefited from opportunities created by the law. In fact, Mexico generated 28 percent more renewable energy in 2012 than the prior year and future growth is highly anticipated.

Graph 1. Renewable Energy Operating vs. Potential Capacity in Mexico
(Figures in megawatts)



Source: Secretariat of Energy (SENER), Energy Regulatory Commission (CRE), Federal Electricity Commission (CFE), National Bank for International Trade (BANCOMEXT), Secretariat of Economy, Central Bank of Mexico (Banco de Mexico) officials, Mexican Association for Wind Energy (AMDEE), National Association for Solar Energy (ANES), Mexico Energy and Sustainability Review, & representatives from American companies in Mexico.

The National Energy Strategy published by the Secretariat of Energy (SENER) has set a goal of generating 35 percent of Mexico’s energy from clean sources by 2024 and up to 50 percent by 2050. The Mexican Congress passed an energy reform in December 2013, indicating the current Administration’s commitment to meet these ambitious goals. However, secondary laws are crucial to initiate new projects. The content of these laws is expected to be released between the third and fourth quarters of 2014. Once they are announced, a transitional period will extend well into 2015 before the impact is fully understood. In the interim, as implementing regulations are approved, exporters are encouraged to further develop their contacts in Mexico and position themselves for opportunities, should new renewable energy investment begin to materialize.

Based on language of the recent energy reform, Mexico’s renewable energy market is expected to be strengthened – but only slightly. The reform bill is largely focused on PEMEX, Mexico’s state-run oil company, and is designed to facilitate foreign investment in unconventional oil and gas development. However, some changes to electricity regulations could support new renewable energy development as well. As with any reform effort, early adopters of the reform regulations will likely capture new opportunities, ahead of other competitors.

As of September 2013, a total of 182 renewable energy permits have been issued to the private sector with a capacity of 6,369 megawatts (MW), of which 2,244 MW are already in operation. The following table contains the details of the permits granted by the Mexican Federal Energy Regulatory Commission (CRE).

Table 2. Renewable Energy Permits Issued in Mexico*(Figures in megawatts, where labeled MW)*

Renewable Energy	Permits Issued	MW in Operation	MW in Development	Inactive MW	Sum (MW)	% of Total
Wind	44	1,474.2	2,876.2	0	4,350.4	68.3
Biomass	55	536.4	115.4	0	651.8	10.2
Photovoltaic (PV)	25	40.7	393.7	0	434.4	6.8
Geothermal	2	0	65	0	65	1
Hydro	36	147.5	578.3	23	748.8	11.8
Biogas	20	45.8	73.7	0	119.5	1.9
Total	182	2,244.6	4,102.2	23	6,369.8	100

Note: Figures as of September 15, 2013.

Source: Energy Regulatory Commission (CRE)

Sub-Sector Best Prospects

After the secondary laws of the energy reform are enacted, the renewable energy sub-sectors are expected to grow. As a result, the following sub-sectors will represent opportunities for U.S. exporters: wind, mini-hydro, photovoltaic/solar, geothermal and biomass.

In the wind power industry, there will be opportunities in the deployment of projects, including financing, servicing of equipment, etc. According to ProMexico, the Mexican Government's trade export promotion agency, construction, power generation equipment, metal production, machinery and equipment, plastics, IT equipment, and other smaller sectors would amount to a potential market of \$167 billion, if the wind power industry supply chain consolidates in Mexico. Wind power components are reaching the end of their warranty and will soon need servicing. Key stakeholders are requesting government authorities to boost Mexico's capacity in transportation and crane equipment.

The Energy Regulatory Commission (CRE) has stated that they will soon publish regulations to support small producers. This will likely boost solar competitiveness, as 70 percent of the country has insolation levels greater than 4.5 kWh/m²/day, placing Mexico among the top five countries in the world for solar project investment. Although, in most cases, solar energy has still not reached grid parity, it is advisable for U.S. companies to develop a market entry strategy in order to take advantage of opportunities as soon as secondary laws are enacted.

As the price of technology justifies the investment, utility-scale solar projects will be built; consequently, companies with large energy needs in Mexico are being approached. The first large-scale solar project, Aura Solar I, was completed in March 2014 by Gauss Energia in La Paz, Baja California Sur. The \$100 million project has a capacity of 39 MW and will produce 82 GW annually.

Ultimately, customers want more competitive energy sourcing that includes energy cost savings, predictable electricity rates, no capital commitments, proven technology with an appropriate warranty, and even the satisfaction of knowing that their footprint is not damaging the environment.

Small solar installations, specifically net-metering residential and commercial rooftops up to 500 kWp that require simplified permitting, are starting to appear with price-competitive equipment, but for the most part, their performance is unreliable.

Other opportunities include those for cross-border energy projects.

The main challenge is the high cost of debt. However, the Export-Import Bank of the United States, Mexican development banks (such as the BANOBRAS for public works and the NAFINSA for small and medium-sized enterprises), private financial institutions, and multilateral development institutions (such as the Inter-American Development Bank, the International Finance Corporation, and the North American Development Bank) are willing to finance renewable energy projects in Mexico.

The state of Oaxaca is experiencing a slowdown in projects, likely due to a lack of community engagement in early projects. Transmission infrastructure may be insufficient in crowded areas, particularly in Oaxaca, where wind power projects require more transmission lines and there are active hydro energy projects.

Opportunities

According to SENER, Mexico will invest \$300 billion in clean energy infrastructure over the next four years to increase clean energy generation to 32.9 percent of the country's total. CFE has expressed interest in engaging in strategic partnerships with private companies in the development of renewable energy generation projects. In July 2014, the Director of CFE will announce a 296 MW wind project known as 44 CE in La Rumorosa, Baja California with an expected investment of \$634 million. Currently, the proposals are due to CFE by January 2015 and companies the submitted proposals would be expected to be in operation by December 2016.

The Mexican Government has prioritized wind, solar and geothermal power development projects. The markets in these three subsectors are relatively mature, allowing U.S. companies to sell related products into the Mexican project pipeline. Currently, there are some private sector projects in the early phase of implementation. Nevertheless, most renewable energy companies are waiting for the passage of the secondary legislation related to energy reform to understand the new rules that will dictate the sector.

In June 2014, SENER announced a public tender for 32 million energy efficient light bulbs to promote energy efficiency usage. According to SENER, Mexico will stop selling regular light bulbs by 2015.

Web Resources

Secretariat of Energy (SENER)	http://www.energia.gob.mx
Federal Electricity Commission (CFE)	http://www.cfe.gob.mx
Energy Regulatory Commission (CRE)	http://www.cre.gob.mx
National Development Plan	http://www.pnd.gob.mx
Fund for Energy Saving (FIDE)	http://www.fide.gob.mx
Mexican Association for Wind Energy (AMDEE)	http://www.amdee.org
National Association for Solar Energy (ANES)	http://www.anes.org
National Commission for the Efficient Use of Energy	http://www.conuee.gob.mx

Events

National Week of Solar Energy October 6-10, 2014 Queretaro, Queretaro	http://www.anes.org http://solarthermalworld.org/content/38th-national-week-solar-energy-queretaro
Border Energy Forum XXI October 15-17, 2014 Monterrey, Nuevo Leon	http://www.glo.texas.gov/border-energy-forum
MiaGreen Expo February 11-12, 2015 Miami, FL	http://www.miagreen.com
Mexico WindPower Expo February 25-26, 2015 Mexico City, Mexico	http://www.mexicowindpower.com.mx
Lightfair International May 3-7, 2015 New York, NY	http://www.lightfair.com
WindPower May 18-21, 2015 Orlando, FL	http://windpowerexpo.com/wp15
Mexican International Renewable Energy Congress (MIREC) Late May 2015 Mexico City, Mexico	http://www.greenpowerconferences.com

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For More Information

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