



2016 Top Markets Report **Renewable Energy** Country Case Study

Mexico

Type: Large Market; Small Market Share

In 2016-2017, climate change commitments and energy sector reforms will improve the outlook for Mexico’s renewable industry. These developments, combined with Mexico’s favorable renewable resources and its proximity to the United States, underscore the market’s tremendous export potential. U.S. firms are encouraged to participate in the Mexican market, working with local colleagues to both shape the newly liberalized regulatory environment and benefit from an important first-mover advantage.

Sector Rankings

Geothermal 2	Hydropower 5
Solar 9	Wind 3

Overall Ranking



Mexico is a key destination for U.S. renewable energy exports already, ranking fifth on ITA’s list of top export markets in 2016. It is in the top 10 markets for each of the four technology subsectors covered in the report. Exporters are often closely connected with firms on the other side of the border, with renewable energy goods typically crossing the border several times before they become finished products.

Mexico possesses world-class wind, solar, and geothermal potential, but faces several hurdles to fostering a robust renewables industry. These include a rapidly-changing regulatory regime, a politically important oil sector, falling electricity prices, and an interest in installing gas-fired plants to capture a cheap U.S. supply.¹ Despite these challenges, ITA notes significant potential for renewable energy development, given President Enrique Pena Nieto’s reform efforts, the country’s avowed climate change targets, and high investor interest.² Should Mexico develop a strong and thriving clean energy market as a result of these combined factors, it is likely that no other market would support more U.S. exports.

Overview of the Renewable Energy Market

ITA’s outlook for the Mexican renewable energy market has improved in recent years due to the widespread energy reforms of the Electric Industry Law that was passed into law in August 2014. Although the reform package was largely focused on PEMEX, Mexico’s state-run oil company, and was designed to facilitate foreign investment in unconventional oil and gas development, the law has had a positive impact on Mexico’s entire power sector, including renewables.

The law, which was passed as a series of amendments, was designed to liberalize the electricity generation market; open future development to private firms; and create competition between energy producers. Previously, the majority of Mexico’s electricity was generated by the Federal Electricity Commission (CFE), Mexico’s state-owned utility company. The reform package created an independent grid operator (CENACE) who will control a new, wholesale market and enable customers to purchase power directly from

producers, creating an independent power producer market for the first time in Mexico.

The reforms also mandate the creation of a clean energy certification scheme – to be administered by Mexico’s Energy Regulatory Commission – as the primary mechanism for encouraging the development of clean energy capacity, though the overall effectiveness of this program will depend on details that have yet to be announced. These reforms have been further buttressed by the passing of the Energy Transition Law in December 2015.³ The law set targets of 25 percent for clean energy generation by 2018 and 30 percent by 2021. The law also codified the efforts of the Ministry of Energy (SENER) to establish a tradable Clean Energy Certificate market, which will require many industries to have 5 percent of their power consumption from clean sources (which include renewables, large hydro, nuclear and efficient cogeneration) by 2018.

Exporters are highly encouraged to monitor developments of the energy reform effort closely for opportunities to position themselves for success in the market, as early adopters to the reform regulations may be able to capture new opportunities. In particular, off-grid or roof-mounted solar development appears far more likely after the reforms – a technology that could support significant U.S. exports.

Further buttressing Mexico’s clean energy development is the country’s “General Law on Climate Change” enacted in June 2012. The law affirmed Mexico’s target to increase its electricity generated from clean energy sources to 35 percent by 2024. These clean goals also include clean energy generation to be 40 percent by 2035 and 50 percent by 2050. In addition, Mexico set a national goal to reduce greenhouse gas emissions by 30 percent by the end of the decade.

The continued investment in the sector indicates that global financiers are confident in future development of Mexico’s renewable energy market, amid the ongoing policy changes. Most industry analysts also believe that wind power will continue to dominate the renewable energy market in Mexico regardless of changes to regulation. But greater opportunities for consumers to produce their own power may create additional solar opportunities, particularly as the price of solar continues to fall. Over the medium-term, ITA expects some hydropower development as well.

Challenges and Barriers to Renewable Energy Exports

Many of the challenges associated with the Mexican market impact U.S. suppliers equally as suppliers from other markets – namely, an unclear and changing regulatory environment and a national focus on oil and gas development, which is increasingly uncertain amid a lower global price for oil and worldwide trends to diversify energy mixes away from fossil fuels. At the same time, Mexico faces a similar problem to other emerging markets, namely losses in the transmission and distribution (T&D) network.⁴ For Mexico to capture the greater renewables capacity that is planned, it will need to strengthen the existing grid network.

To date, almost all renewable energy development was either approved or purchased directly by the Mexican government. As a result, negotiating power resided almost exclusively in the hands of the government. As a result, prices offered to developers were often far below those offered in other markets, rendering Mexico an unattractive market for most clean energy developers.⁵

Furthermore, Mexico lacks instruments for encouraging investment, such as a feed-in tariff program.⁶ Instead, Mexico has opted to implement reverse power auctions, the first of which launched at the end of March 2016 with 69 prequalified bidders participating. Through these auctions, CENACE was seeking to contract 6.3TWh of clean energy, which would generate 6.3 million clean energy certificates.⁷ A total of 18 projects were ultimately awarded in that round, with 1,691 MW for solar and 394 MW for wind. The auction’s average contract price (\$47.6/MWh) was one of the lowest and most competitive worldwide, with the lowest bid coming in for a solar project at \$35.5/MWh.⁸

One of the effects of the reform of the power sector has been declining electricity prices, which could erode the cost competitiveness of renewable projects vis-à-vis conventional power.⁹ Previously, high electricity prices have been a boon to renewables, with many companies buying power directly from renewables plants. There is a risk, however, that lower prices – influenced by rising cheaper fossil fuels from the United States and reduced global prices – could disincentivize renewable energy production.

Opportunities for U.S. Companies

Mexico's proximity to the United States means that most companies that manufacture in the United States, whether U.S. headquartered or not, will export from their U.S. facilities to Mexico. This presents a unique opportunity that should not be missed or underestimated.

Wind

ITA expects wind energy to be the dominant player in Mexico's renewable energy market for the foreseeable future. Wind projects continue to command a large portion of clean energy investment in Mexico, attracting over \$1 billion alone in 2014, nearly half of total clean energy investment within the country. The Mexican Wind Power Association, CFE and SENER announced in January investments for \$14 billion by 2018, an increase in almost 7,000 MW for a total of 9,500 MW of installed wind energy.

Mexico currently lacks a full wind supply chain, indicating that any future development will require imports. Many component parts will be shipped from the United States if a foreign turbine manufacturer ultimately supplies a project.

Solar

Mexico's solar industry remains in its infancy. ITA expects the industry to emerge over the next six years, installing 613 MW of new capacity, primarily through distributed PV. The market is already valued at \$2.3 billion, and investment should increase once the new energy reforms are fully implemented. In fact, falling solar prices and high capacity factors should make the industry far more competitive going forward and for

consumers located in remote areas, could become the energy source of choice.

Geothermal

Over the past few years, new regulations from President Pena Nieto have improved the prospects for the geothermal industry. A framework is now in place to facilitate the issuance of permits for site study, as well as concessions for exploration and development of geothermal resources. In addition, SENER announced in June 2014 a partnership with Nacional Financiera and the Inter-American Development Bank to provide risk mitigation and financing for private geothermal energy projects.¹⁰

ITA projects U.S. exporters will capture nearly two-thirds of all geothermal imports in Mexico. Several U.S. firms are active in the market already, and benefit from Mexico's incomplete geothermal supply chain. Opportunities are likely to include operation and management, as well as engineering and drilling services.

Hydropower

In the near term, most of the new capacity in this subsector will be in large hydropower. U.S. exporters are fairly competitive in Mexico for a wide range of hydropower equipment and services (with an overall estimated market share of 11 percent). However there is still potential to further encourage Mexican authorities to consider small hydro projects, in which U.S. suppliers can offer innovative and affordable solutions.

¹ Business Monitor International, "Mexico Renewables Report Q2 2016," February 2016.

² Business Monitor International, "Mexico Renewables Report Q2 2016," February 2016.

³ Bloomberg New Energy Finance, "H2 2015 Mexico and Central America Market Outlook," 23 December 2015.

⁴ Business Monitor International, "Mexico Renewables Report Q2 2016," February 2016.

⁵ Bloomberg New Energy Finance, "Climatescope 2013."

⁶ Business Monitor International, "Mexico Renewables Report Q2 2016," February 2016.

⁷ Bloomberg New Energy Finance Insight, "What to Expect from Mexico's First Auction," March 18, 2016.

⁸ Bloomberg New Energy Finance Insight, "Mexico Auction Results in Record Low PV Prices," March 31, 2016.

⁹ Business Monitor International, "Mexico Renewables Report Q2 2016," February 2016.

¹⁰ Inter-American Development Bank press release, June 2, 2014, "Mexico to develop a Risk Mitigation Program for private geothermal energy projects with support from the IDB"

<http://www.iadb.org/en/news/news-releases/2014-06-02/mexico-to-develop-geothermal-energy-with-idb-support,10830.html>