



2016 Top Markets Report **Smart Grid** Country Case Study

Mexico

Opportunities for U.S. exporters to Mexico are strong given the interconnection of the Mexican and U.S. electrical grids along the border, longstanding relationship between U. S. and Mexican firms, competitive advantages created by NAFTA, collaboration at a government level between both countries on energy issues, and the business potential brought about by a single utility company covering a rapidly-expanding customer base of 40 million clients.



Mexico is the United States’ third largest trading partner and second largest export market for U.S. products. U.S. T&D equipment exports to Mexico increased by 47 percent in 2015 with revenues rising to \$327 million. This marked one of the few U.S. export destination locations for T&D equipment to see year-to-year increases over the last two years.

Market Overview

Mexico is considered one of the top emerging global markets for U.S. smart grid technology exports. Mexico’s 2014 energy reforms have significantly improved the outlook for the Mexican smart grid market. These reforms are designed to liberalize the electricity generation market, open future development to private firms and create competition between energy producers. Mexico’s state-owned Comisión Federal de Electricidad (CFE) previously owned and operated nearly 100 percent of the country’s national electric transmission and distribution grid. The utility will now be broken into 10 discrete companies. The reform also created an independent grid operator, CENACE, which controls a new, wholesale market and enables customers to purchase power directly from producers,

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

CFE’s smart grid vision must now also be understood in view of the changes produced by the energy reform. This is to assist CFE in its transition from a state monopoly serving nearly 40 million customers to a productive and competitive company in the new open market. CFE has undergone grid modernization efforts during the last five years through smart metering pilots, control and automation systems, and grid monitoring solutions, such as phasor measurement units (PMU) among several other technologies.

Some recent projects include the installation of 700,000 smart meters in 2015, with a total of 2 million meters to be deployed during 2016, through an eight-phase distribution loss reduction metering program and a new energy management system (EMS) to be procured by CENACE. The timeline for this last project is still under discussion. U.S. smart metering and communications companies have already been awarded several contracts within this set of projects. ITA anticipates that international suppliers, including U.S. firms, will continue to capitalize on these tenders

Overview of ITA's Analysis: MEXICO

Strengths

- Ease of cross-border trade
- Existing grid interconnections

Key Trends

- Energy sector reforms opening up new market opportunities
- Increased renewable resources deployment through auctions

Risks

- Insufficient standards and interoperability
- Budget cuts

for so-called “smart technologies.”

In August 2015, Mexico announced that it would invest \$330 million in the development of smart grids over the next three years, with expectations that investments in power transmission and distribution would surpass \$17 billion over the next 15 years.

The country has forecast as much as \$62.5 billion in private investment in the energy industry by 2018. This includes significant investment in renewable energy deployment.

ITA further assesses that opportunities for smart grid ICT technologies will increase as its deployment of renewable energy increases. Mexico announced in September 2015 that its first-ever energy auction will award contracts priced in U.S. Dollars, an effort to make the newly opened power industry more attractive to developers

Policy and Regulatory Environment

The Comision Reguladora de Energia (CRE) has the main regulatory role in the power sector, with the Energy Secretariat (SENER) taking on the policy role with less guidance from CFE. In June 2015, SENER released the first-of-its-kind 15-year plan for generation, transmission and distribution. This plan called for additional investments to reduce grid losses, modernize the grid, install smart meters and gradually deploy additional smart meter technologies.

Smart grid implementation is specifically mentioned in the Constitutional Energy Reform as a means to reduce power losses, increase quality and reliability, and enable the integration of energy generated from intermittent renewable sources. CRE received a grant from the U.S. Trade and Development Agency to

develop a smart grid and renewable energy integration regulatory roadmap in 2012. The roadmap was published in February 2015.

Market Analysis

Rising electricity demand and strong investment in electric power infrastructure are expected to support increased opportunities for electric grid equipment and smart grid exporters to Mexico. International investors, including U.S. firms, are expected to bid on related projects.

Furthermore, in 2015, the U.S. and Mexican governments established a new U.S.-Mexico Energy Business Council under the auspice of the U.S.-Mexico High Level Economic Dialogue. This council will be stood up in 2016, and power sector reform will be an area of focus, thus strengthening opportunities for U.S. exports and enhancing cross-border electricity coordination, including smart grid development.

The 2016 *Smart Grid Top Markets Report* reflected these trends with Mexico jumping in the 2016 rankings to second overall, first in the T&D Equipment sub-sector, and seventh in the Smart Grid ICT sub-sector.

Opportunities and Challenges for U.S. Companies

Opportunities

- The CFE has identified five priority projects in its rollout of the smart grid. Opportunities are available to U.S. firms offering technologies in the following areas: reduction of technical and non-technical losses, enterprise IT and communications architecture, strengthening of the billing system, management of assets, and implementation of GIS.
- An outline of the CFE's smart grid roadmap has been made available to government entities and industry stakeholders. It creates short and mid-term opportunities for:

- Smart meters and AMI
- Demand response
- Energy storage
- Microgrids
- EV pilots
- SCADA systems
- Data management
- Cybersecurity
- IT services
- Business Process Management
- Customer based solutions

Challenges

- Standards are a crucial smart grid topic and one that the CFE has not yet addressed. The CFE is currently part of the Smart Grid Interoperability Panel, and numerous efforts are being made by the U.S. Department of Commerce, including the U.S. Commercial Service in Mexico, and U.S. trade associations, such as the National Electrical Manufacturers Association (NEMA), to generate increased awareness. The energy regulator, CRE, will also be involved in standards development for the smart grid.
- In particular, small and medium-sized enterprises (SMEs) find it difficult to obtain financing at reasonable rates despite the Mexican Government's efforts to increase capital for SMEs.

Know Your Buyer

In order to do business in Mexico, it is crucial to develop and maintain close relationships with clients and partners. Mexicans prefer direct communication, such as telephone calls or face-to-face meetings. U.S. companies should engage CFE early in order to promote the inclusion of their products or services in

the utility's specifications. This can be a lengthy process, as can be the tender process. Companies should be patient and make sure they have sufficient resources to dedicate to these efforts or engage Mexican partners that have experience working with the CFE.

In its new, post-reform role as a productive and competitive state company, CFE's procurement process has been modified to facilitate direct purchases, less cumbersome tender processes and partnerships with the private sector. The company is open to new technologies and welcomes commercial presentations, which may lead to invitations or specific technology recommendations in tenders.

Mexico's size and diversity are often under-appreciated by U.S. exporters. It can be difficult to find a single distributor or agent to cover this vast market. A local distributor or partner is recommended to track tender announcements and complete bids. Foreign companies often form consortiums with Mexican vendors to compete in the CFE tenders, benefitting from their partners' local expertise.

Summary of Resources

- U.S. Department of Commerce Mexico Country Commercial Guide:
<http://www.export.gov/ccg/mexico090857.asp>
- Mexico 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>