



**northeast** group, llc

Mexico Smart Grid and Smart Cities:  
Market Forecast (2018 – 2027)

Volume IV  
July 2018 | [www.northeast-group.com](http://www.northeast-group.com)

## Mexico Smart Grid and Smart Cities: Market Forecast (2018 – 2027)

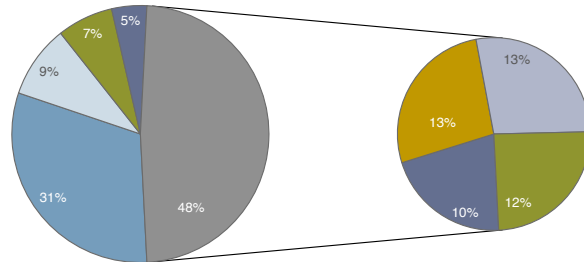
Mexico is steadily progressing in developing one of the largest smart grid infrastructure and smart cities markets in both Latin America and among all emerging market countries. Since the third volume of this study was published back in 2015, Mexico has institutionalized smart grid regulations and significantly increased its near-term smart metering plans. The country is also progressing with large-scale deployments of LED street lighting and is in the early stages of smart, or connected, street lighting.

Mexico’s smart grid development is driven by

both regulatory incentives and business case benefits. Overall transmission and distribution (T&D) losses and electricity consumption rates are average for emerging markets. However, in some cities non-technical loss rates are among the highest in the world and in other areas average electricity consumption rivals levels seen in developed countries. Slumping energy supplies and high carbon emissions have vaulted energy reform to the top of the political agenda. Recent reforms have expanded the number of small-scale generators in the electricity market, meaning that Mexico will need a more flexible and resilient grid.

The transmission and distribution segments remain entirely controlled by a single state-owned utility (CFE), and ultimately CFE and the regulator CRE will dictate the pace and scale of smart grid deployments in Mexico. All relevant smart grid regulations have been developed under outgoing President Peña Nieto and there is some risk with a new administration taking office in December 2018. President-elect López Obrador has been critical of many recent energy reforms – reforms that have been

Market share of leading AMI meter hardware vendors in Mexico



Source: Northeast Group



critical in driving smart grid development. But the overall goals of smart grid infrastructure align with the new administration’s interests and changes are not expected. Increased appetite for infrastructure investment could also lead to financing for more ambitious smart city projects, which are only just getting started in the country.

Until recently, Mexico’s smart grid plans were mostly only that – roadmaps, plans, and pilots. Deployment is now well underway, and while details of a national rollout have failed to emerge, investment plans have been increased in recent years, setting the stage

for large-scale investment in the 2020s. By 2027, CFE will have deployed smart meters to over 50% of its customers and added large-scale investments in distribution automation, wide area measurement, home energy management, information technology, and battery storage.

Key questions answered in this study:

- What smart grid tenders have been announced and who has won the most recent tenders?
- What smart grid regulations have been institutionalized in Mexico's T&D investment plans?
- Which smart city and smart street lighting projects are developing in Mexico?
- How will the recent Mexican elections affect smart grid infrastructure plans?
- Which local vendors are active and who are they likely to partner with?

*Research deliverables: 116-page PDF study + Excel dataset*

## Table of Contents

i. Executive Summary	1
<b>1. What's new in 2018</b>	<b>5</b>
<b>2. Mexico smart grid snapshot</b>	<b>15</b>
<b>3. Current smart grid regulations</b>	<b>32</b>
<b>4. Current and planned smart grid activity</b>	<b>44</b>
<b>5. Smart grid market forecast</b>	<b>53</b>
<b>6. Smart city policies and activity</b>	<b>61</b>
<b>7. Vendor activity</b>	<b>69</b>
<b>8. Appendix</b>	<b>87</b>
8.1 Methodology	87
8.2 Smart grid overview	91
8.1 Global smart grid activity	102
8.4 List of companies and acronyms	105

## List of Figures, Boxes, and Tables

Mexico smart grid: key takeaways	3
Mexico smart grid: leading indicators	4
Figure 1.1: Timeline of regulatory development in Mexico	6
Table 1.1: Recent PIDIREGAS tenders in Mexico	7

## List of Figures, Boxes, and Tables (cont.)

Figure 1.2: PIDIREGAS smart metering tenders in Mexico	8
Figure 1.3: AMI forecasts in Mexico	9
Figure 1.4: Recent smart street lighting announcements in Mexico	10
Figure 1.5: Market share of leading AMI meter hardware vendors in Mexico	12
Table 1.2: Smart grid partnerships between Mexican and international vendors	13
Table 2.1: Key indicators in Mexico	15
Figure 2.1: Current installed base of AMI meters in Latin America	15
Figure 2.2: Emerging markets smart meter potential	16
Figure 2.3: Per-capita electricity consumption	18
Figure 2.4: Per-capita CO <sub>2</sub> emissions	18
Figure 2.5: Projected GDP growth	19
Figure 2.6: Global electricity prices	20
Figure 2.7: The divisions of CFE	21
Figure 2.8: Electricity generation mix in Mexico	23
Figure 2.11: T&D losses in Latin America	26
Table 2.4: Consumer appliance ownership in Mexico	27
Table 2.5: Smart grid drivers and barriers in Mexico	28
Figure 2.14: Ten-year price per kWh of AMI deployments	29
Figure 3.1: Timeline of regulatory development in Mexico	33
Figure 3.2: Government bodies involved in electricity regulation in Mexico	34
Table 3.1: Key smart grid regulatory terms	35
Figure 3.3: Earlier proposed smart grid goals and tasks at CFE	38
Box 3.1: Political risk in Mexico	39
Table 4.1: Recent PIDIREGAS AMI tenders in Mexico	45
Figure 4.1: Projected cumulative AMI deployments from 2017 – 2021 by region (2016 Sener projection and 2018 PRODESEN projection)	46
Table 4.2: AMI meters by region in Mexico, according to smart grid program in 2017	47
Table 4.3: AMI meters by region in Mexico, according to PRODESEN in 2018	48
Table 4.4: GWh saved in PIDIREGAS projects (through end of 2016)	49
Figure 5.1: Mexico smart grid forecast	53
Table 5.1: Mexico smart grid forecast data	54
Figure 5.2: Mexico smart meter penetration rate	54
Figure 5.3: Annual AMI deployments	55
Figure 5.4: AMI cost breakdown	56

## List of Figures, Boxes, and Tables (cont.)

Figure 5.5: AMI forecast by segment	57
Table 5.2: AMI forecast data by segment	57
Figure 5.6: DA forecast by segment	58
Table 5.3: DA forecast data by segment	58
Figure 5.7: HEM forecast by segment	59
Table 5.4: HEM forecast data by segment	59
Figure 5.8: IT forecast by segment	60
Table 5.5: IT forecast data by segment	60
Figure 6.1: LED streetlights deployed by Mexico's national program	62
Table 6.1: Companies participating in national public lighting program in 2018	63
Figure 6.2: LED streetlight forecast in Mexico	64
Figure 6.3: Connected streetlight forecast in Mexico	65
Figure 6.4: Recent smart street lighting announcements in Mexico	66
Figure 6.5: Smart city pilot projects in Mexico	67
Figure 7.1: Market share of leading AMI meter hardware vendors in Mexico	69
Figure 7.2: Market share of leading AMI communications vendors in Mexico	70
Table 7.1: Mexican vendors that have won PIDIREGAS contracts	71
Table 7.2: International smart meter vendors with manufacturing facilities in Mexico	77
Figure 7.3: Projects carried out by Tecnologías EOS, in partnership with Honeywell	78
Table 7.3: Companies participating in national public lighting program in 2018	84
Figure 8.1: Smart grid value chain	91
Figure 8.2: Smart grid model highlighting focus in Mexico	92
Table 8.1: Benefits of AMI in Mexico	95
Table 8.2: Demand Response Options	97
Figure 8.3: Global smart grid activity	102
Figure 8.4: Cumulative smart grid investment from 2018 – 2027 by region (\$m)	103
Figure 8.5: Annual smart grid and AMI investment by region in 2027	103
Table 8.3: Global smart grid drivers and activity	104

## Order Form – Mexico Smart Grid and Smart Cities: Market Forecast (2018-2027)

### Pricing

Single user – \$3,250 | Enterprise license – \$4,495

*Clients purchasing a single user license are limited to one user for this report. The enterprise license allows all employees within a single organization to view the report. Any forwarding or sharing of the report to others who have not paid for it is strictly forbidden.*

**Email orders:** Two options: (a) Fill out and scan the sheet below; or (b) Email us a request for a secure link to pay by credit card (specifying single or enterprise license). Please email orders to: **ben.gardner@northeast-group.com**

**Telephone orders:** We can be reached at **+1.202.538.0848**. Please have all of the information below ready to expedite your order.

### Customer information

SINGLE USER  ENTERPRISE LICENSE

NAME		POSITION		COMPANY	
ADDRESS					
CITY		STATE		POSTAL CODE	COUNTRY
TELEPHONE			EMAIL		

**Credit card information** Card type:  VISA  MASTERCARD  AMERICAN EXPRESS  DISCOVER

CARD NUMBER		EXPIRATION DATE		CV CODE	
CARDHOLDER'S NAME		SIGNATURE		DATE	
BILLING ADDRESS					
CITY		STATE		POSTAL CODE	COUNTRY

*By purchasing this report I agree to abide by the following terms and conditions: 1. Single-user license - use of this report is restricted to one individual. 2. Enterprise license – use of this report is restricted to individuals within a single enterprise or organization. I agree not to forward or share this report to others who have not paid for its use.*