China Smart Grid:
Market Forecast (2016 – 2026)

Opportunities for International Vendors

July 2016 | www.northeast-group.com
China will invest more in smart grid infrastructure than any other country over the next ten years. But, contrary to many reports, it is not already the largest smart grid market and in cumulative value will likely continue to trail the US throughout the next ten years. This is because most of the existing investment in China does not fall into the category of true “smart grid” infrastructure with two-way communications. Of the future investment, just more than one third will realistically be open to international vendors. Viewed through this lens, the market opportunity in China’s smart grid is significantly more limited than the figures stated by many reports.

But there are still many opportunities for international vendors and the smart grid market conditions in China are strong. There is risk involved in the AMI segment due to low T&D losses, low per-capita electricity consumption, and a soon-to-be completed AMR rollout. But government policies are now pushing for large-scale investment in grid segments such as wide area measurement and distribution automation. These are also the segments where international vendors are most competitive due to long-standing relationships in the country and capacity to carry out these capital-intensive projects. This study of smart grid market opportunities in China therefore shows that while many China smart grid forecasts are exaggerated, the country still represents one of the largest smart grid opportunities in the world and current policies are only pointing towards further growth.

Key questions answered in this study:

- Which smart grid market segments will be open to international vendors?
- How large will the electricity metering and smart grid markets in China be over the next ten years?
- What is the most recent smart grid policy in China and who will benefit from it?
- Who are the leading vendors and which ones are well placed to compete for this growing market?
Table of Contents

i. Executive summary 1
ii. Methodology 8
1. China power sector industry structure 10
2. Smart grid policy 13
3. Smart grid activity 18
   3.1 Metering activity 28
   3.2 Grid activity 20
   3.3 Additional smart grid activity 21
4. Vendors 22
   4.1 International vendors 23
   4.2 Chinese vendors 25
5. Appendix 29
   5.1 List of companies covered in this study 29
   5.2 List of acronyms and abbreviations 30

List of Figures, Boxes, and Tables

China smart grid: Key insights 2
Cumulative smart grid investment from 2016 – 2030 3
Cumulative smart grid investment by 2020 3
Annual investment in 2015 3
$20 billion of smart grid investment in 2015? 4
Value added by segment (smart grid plus all metering), 2016 – 2026 5
Smart grid market forecast by segment in China 6
Smart grid forecast data by segment 6
Metering market forecast by segment in China 7
Meter forecast data by segment 7
Table 1.1: Power generation groups 10
Table 1.2: T&D utilities in China 10
Table 1.3: T&D statistics in China 11
Table 1.4: Electricity tariffs in Beijing 12
Table 2.1: Key smart grid related policies 13
Box 2.1: Nine aspects of smart grid that China’s Ministry of Science and Technology is promoting in 12th Five-year Specialized Plan 14
Table 3.1: Annual AMR procurement at SGCC 18
Figure 3.1: Annual meter deployments in China by type 19
Table 4.1: Leading international and local vendors in China 22
Info boxes for Wasion, Sanxing, Linyang, and Hexing 25
Order Form – China Smart Grid: Market Forecast (2016-2026)

Pricing

Single user – $1,995 | Enterprise license – $2,800

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: Fill out and scan the sheet below. Please email orders to ben.gardner@northeast-group.com

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

<table>
<thead>
<tr>
<th>Customer information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
<td>POSITION</td>
</tr>
<tr>
<td>ADDRESS</td>
<td></td>
</tr>
<tr>
<td>CITY</td>
<td>STATE</td>
</tr>
<tr>
<td>TELEPHONE</td>
<td>EMAIL</td>
</tr>
</tbody>
</table>

Credit card information Card type:

- Visa
- MasterCard
- American Express
- Discover

<table>
<thead>
<tr>
<th>CARD NUMBER</th>
<th>CV CODE</th>
<th>EXPIRATION DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARDHOLDER’S NAME</td>
<td>SIGNATURE</td>
<td>DATE</td>
</tr>
<tr>
<td>BILLING ADDRESS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CITY</td>
<td>STATE</td>
<td>POSTAL CODE</td>
</tr>
</tbody>
</table>

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.