India Smart Grid: Market Forecast (2015 - 2025)

Description: In many ways, India represents the best smart grid market opportunity among all emerging market countries. India has the second largest electricity customer market size in the world. Unlike China, which has the largest, the Indian market is likely to be open to international vendors, creating significantly larger market opportunities. Just as important, India has power sector market conditions that will require significant smart grid investment. At 22.7%, India has one of the highest T&D loss rates in the world. In some states, loss rates exceed 50%, and almost all states have loss rates above 15%. Most Indian utilities fail to achieve cost recovery, and smart grid investment will be an important tool for utilities to reduce losses and improve revenue collection and operational efficiency.

Key questions answered in this study:

- How large will six smart grid market segments and fourteen sub-markets be in 2025?
- What are the unique regulatory frameworks and industry structures in place in the leading Indian states?
- How much money can each state and utility save by reducing non-technical losses?
- What financing mechanisms are available for smart grid in India?
- Where are distribution franchises improving the market conditions for smart grid investment?
- What is the current status of smart grid pilot projects in India and what are the major hurdles?
- Who are the leading local and international vendors?

Contents:

i. Executive summary
ii. Methodology

1. Introduction
1.1 What is smart grid?
1.2 How has smart grid been used elsewhere in the world?

2. India smart grid snapshot
2.1 India in comparison
2.2 Smart grid drivers
2.3 Smart grid challenges
2.4 Recent activity

3. India smart grid market forecast

4. Industry structure
4.1 Generation
4.2 Transmission
4.3 Distribution
4.4 Power sector regulatory bodies

5. Smart grid regulatory framework
5.1 Smart grid within broader government regulations
5.2 Pilot projects developed by ISGTF
5.3 India smart grid roadmap

6. Maharashtra
6.1 Electricity industry structure
6.2 Smart grid regulatory environment
6.3 Drivers and barriers
6.4 Utility activity

7. Karnataka
7.1 Electricity industry structure
India cumulative smart grid forecast data
Northeast Group Smart Grid Forecasting Model

Figure 1.1: Smart grid value chain
Figure 1.2: Smart grid model highlighting focus in India
Table 1.1: Solar potential in India by state
Figure 1.3: Regional transmission grids in India
Table 1.2: Benefits of AMI in India
Table 1.3: Demand response options
Figure 1.4: Global smart grid activity
Figure 1.5: Cumulative AMI investment by region up to 2015
Figure 1.6: Cumulative DA investment by region up to 2015
Figure 1.7: Cumulative AMI investment by region from 2015 – 2025
Figure 1.8: Cumulative DA investment by region from 2015 – 2025
Figure 2.1: Emerging markets smart meter potential
Figure 2.2: Per-capita electricity consumption
Figure 2.3: Per-capita CO2 emissions
Figure 2.4: Projected GDP growth (2014 – 2018)
Figure 2.5: T&D losses in India
Figure 2.6: Net profits of state utilities in India
Figure 2.7: T&D loss rates and smart grid activity in Indian states
Figure 2.8: Smart grid regulatory drivers in India
Figure 2.9: Total electricity demand growth in India
Figure 2.10: Solar and wind resources in India
Table 2.1: Distribution franchises in India
Figure 2.11: Delays in India's ISGTF pilot projects in 2014
Table 2.2: Status of India's ISGTF pilot projects (as of December 2014)
Figure 2.12: Per-capita electricity consumption by state in India
Figure 2.13: Costs of AMI deployments per kWh
Figure 2.14: Power sector spending in India to 2019
Figure 2.15: Global electrification rates
Table 2.3: Other smart grid pilot projects in India
Figure 3.1: India AMI penetration rate
Figure 3.2: India cumulative smart grid forecast
Table 3.1: India cumulative smart grid forecast data
Figure 3.3: Annual AMI deployments in India
Figure 3.4: Comparison of local and internationally made AMI meter costs
Figure 3.5: RF-based AMI cost breakdown
Figure 3.6: AMI forecast by segment
Table 3.2: AMI forecast data by segment
Figure 3.7: DA forecast by segment
Table 3.3: DA forecast data by segment
Figure 3.8: HEM forecast by segment
Table 3.4: HEM forecast data by segment
Figure 3.9: IT forecast by segment
Table 3.5: IT forecast data by segment
Table 4.1: Ownership and control in India's electricity sector
Figure 4.1: Generation in India
Table 4.2: Utilities and regulators in India by state
Figure 4.2: Growth in transmission networks in India
Figure 4.3: Regulation of India's transmission sector
Table 4.3: Main utilities in India
Figure 4.4: T&D losses and consumption at India's largest distribution utilities
Figure 4.5: Map of distribution franchises in India
Table 4.4: Distribution franchise models
Table 4.5: Key elements of the Electricity Act of 2003
Table 5.1: R-APDRP
Box 5.1: Political risk in India
Figure 5.1: Roadmap to Enable the Transformation of Power Distribution Through Technology
Table 5.2: India Smart Grid Task Force pilot projects
Figure 5.2: Map of ISGTF pilot projects
Table 5.3: India smart grid roadmap
Figure 5.3: Goals of India's smart grid roadmap
Table 6.1: Maharashtra key data
Table 6.2: Smart grid indicators in Maharashtra
Figure 6.1: Maharashtra electricity generation statistics
Table 6.3: Main utilities in Maharashtra
Figure 6.2: Distribution franchising in Maharashtra
Figure 6.3: T&D loss comparison in Maharashtra
Table 6.4: Smart grid projects in Maharashtra
Table 7.1: Karnataka key data
Table 7.2: Smart grid indicators in Karnataka
Figure 7.1: Karnataka electricity generation statistics
Table 7.3: Main distribution utilities in Karnataka
Figure 7.2: Karnataka solar policy
Figure 7.3: T&D loss comparison in Karnataka
Figure 7.4: Karnataka smart grid projects
Table 8.1: Delhi key data
Table 8.2: Smart grid indicators in Delhi
Figure 8.1: Delhi electricity generation statistics
Table 8.3: Main distribution utilities in Delhi
Figure 8.2: Evolution of T&D losses in Delhi
Figure 8.3: T&D loss comparison in Delhi
Figure 8.4: Tariff and T&D loss rates in metropolitan India
Table 9.1: Gujarat key data
Table 9.2: Smart grid indicators in Gujarat
Figure 9.1: Gujarat electricity generation statistics
Table 9.3: Main distribution utilities in Gujarat
Figure 9.2: ADB support for power sector projects in Gujarat
Figure 9.3: T&D loss comparison in Gujarat
Figure 9.4: Smart grid drivers in Gujarat
Table 10.1: West Bengal key data
Table 10.2: Smart grid indicators in West Bengal
Figure 10.1: West Bengal electricity generation statistics
Table 10.3: Main distribution utilities in West Bengal
Figure 10.2: Annual growth rate of key electricity metrics in West Bengal
Figure 10.3: Contributing factors to West Bengal's strong utility performance
Table 10.4: Electrification progress in West Bengal
Figure 10.4: Electrification programs in West Bengal
Figure 10.5: T&D loss comparison in West Bengal
Table 11.1: Tamil Nadu key data
Table 11.2: Smart grid indicators in Tamil Nadu
Figure 11.1: Tamil Nadu electricity generation statistics
Figure 11.2: India's Green Energy Corridor project
Figure 11.3: State distribution losses due to underpricing
Figure 11.4: Tamil Nadu smart grid plan
Figure 11.5: Renewable energy in Tamil Nadu
Figure 11.6: T&D loss comparison in Tamil Nadu
Figure 11.7: 1.5 million meter replacement tender in Tamil Nadu
Table 12.1: Kerala key data
Table 12.2: Smart grid indicators in Kerala
Figure 12.1: Kerala electricity generation statistics
Figure 12.2: Annual capital outlay in Kerala
Figure 12.3: Renewable energy policies in Kerala
Figure 12.4: T&D loss comparison in Kerala
Figure 12.5: Kerala meter replacement program
Figure 12.6: Annual per-capita consumption in key states
Table 13.1: Key data for other main states in India
Table 13.2: Smart grid pilot projects in other Indian states
Figure 13.1: Population, market size, and electrification rates of largest Indian states
Table 13.3: Key data for Joint Union Territories and Goa
Table 13.4: Rajasthan key data
Figure 13.2: Smart grid drivers in Andhra Pradesh
Figure 13.3: States with highest T&D losses in India
Table 13.5: States not covered in depth in this study
Figure 14.2: Leading smart grid vendors in India
Table 14.1: Other leading Indian smart grid vendors
Figure 14.2: Other leading international smart grid vendors in India
Table 14.3: Partnerships of key Indian vendors

Ordering:
Order Online - http://www.researchandmarkets.com/reports/3079887/
Order by Fax - using the form below
Order by Post - print the order form below and send to
Research and Markets,
Guinness Centre,
Taylors Lane,
Dublin 8,
Ireland.
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct and select the format(s) you require.

<table>
<thead>
<tr>
<th>Product Name:</th>
<th>India Smart Grid: Market Forecast (2015 - 2025)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Address:</td>
<td><a href="http://www.researchandmarkets.com/reports/3079887/">http://www.researchandmarkets.com/reports/3079887/</a></td>
</tr>
<tr>
<td>Office Code:</td>
<td>SC</td>
</tr>
</tbody>
</table>

Product Formats
Please select the product formats and quantity you require:

<table>
<thead>
<tr>
<th>Quantity</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic (PDF)</td>
<td>USD 3750</td>
<td></td>
</tr>
<tr>
<td>Single User</td>
<td></td>
<td>USD 3750</td>
</tr>
<tr>
<td>Enterprise Wide</td>
<td>USD 5495</td>
<td></td>
</tr>
</tbody>
</table>

* The price quoted above is only valid for 30 days. Please submit your order within that time frame to avail of this price as all prices are subject to change.

Contact Information
Please enter all the information below in BLOCK CAPITALS

<table>
<thead>
<tr>
<th>Title:</th>
<th>Mr ☐</th>
<th>Mrs ☐</th>
<th>Dr ☐</th>
<th>Miss ☐</th>
<th>Ms ☐</th>
<th>Prof ☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email Address:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Title:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postal / Zip Code:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Country:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone Number:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fax Number:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card:  You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check:  Please post the check, accompanied by this form, to:

Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by Wire Transfer:  Bank details will be provided on the invoice which you will receive after you place your order with us.

If you have a Marketing Code please enter it below:

Marketing Code: __________________________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp

Please fax this form to:

(646) 607-1907 or (646) 964-6609 - From USA

+353-1-481-1716 or +353-1-653-1571 - From Rest of World