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- Solar Power Potential
- Growth of Solar Power Capacity
- Key Growth Drivers
- Evolving Policy and Regulatory Scenario
- Project Allocation Mechanisms (FIT, competitive bidding, government schemes, etc.)
- Key Projects Awarded Recently
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     - Ports
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   - Industrial consumers (This will include players like Indian Oil Corporation Limited, ONGC, HPCL, ACC Cement and the GMR Group)
     - Key operational projects
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9. KEY DEVELOPER PROFILES
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     - CleanTech Solar
   - ClearMax Solar
   - Fourth Partner Energy
     - Gensol Engineering
   - Hero Future Energies
   - Rays Power
   - ReNew Power
   - Sterling & Wilson
   - Etc.

The report will be available in a PDF format.
EXECUTIVE SUMMARY

With the growing demand for power in urban areas and industries, underground cable systems are becoming an increasingly indispensable part of power transmission and distribution systems. With improved technologies and increased reliability, the cost differential between underground cables and overhead power lines is narrowing and utilities are acknowledging the benefits associated with underground cabling. This report will attempt to take a look at the key trends in the deployment of underground cables so far; analyse the plans and proposal of T&D utilities; examine new and evolving technology improvements and solutions being offered by the industry; as well as assess the key issues and challenges.

1. T&D INDUSTRY OVERVIEW

The T&D industry has been growing steadily with investments being made in system strengthening and capacity additions. This chapter gives an overview of the T&D industry and will focus on:
- Growth and Size of Existing T&D Networks
- Recent T&D Network Additions
- Projected T&D Network Additions
- Projected Capex (till 2022-23)
- Future Outlook
- Issues and Challenges

2. MARKET SIZE AND GROWTH FOR UNDERGROUND CABLES

Most of India’s T&D network continues to be strung overhead across the country; however, concerns about reliability and quality of supply are making utilities gradually replace their networks with underground lines. This chapter gives an overview on the new and emerging utility requirements in the underground cabling segment and will cover the following:
- Experience so far in T&D Networks
- Emerging Utility Requirements
  - Transmission
  - Distribution
- Major Projects Commissioned
- Major Projects Awarded/Under Construction
- Key Recent Tenders
- Issues and Challenges

3. RECENT TRENDS AND ADVANCES

Well-designed and well-installed underground cable systems are expected to have a service life of 30-40 years. Utility providers, transmission companies and cable manufacturers are hence, looking for new technologies and solutions to respond to new grid challenges. This chapter looks at the new and promising technologies, designs and solutions for underground cable networks.
- Design, Laying and Construction Processes
- Product and Technology Trends
- Market Trends and Developments (I Vs/Acquisitions/Partnership Deals)
- Pricing and Cost Trends

4. OPPORTUNITIES UNDER KEY CENTRAL/STATE GOVERNMENT PROGRAMMES

Underground cables are an important part of several central government initiatives for improving T&D networks under IPDS. This chapter provides the details of plans and targets of works proposed to be taken up under various schemes.
- Snapshot of Key Government Programmes (IPDS, Green Energy Corridors, State Government Initiatives, etc.)
- Physical Targets for UG Cabling Works
- Funding Availability for UG Cabling Projects
- Issues and Concerns

5. OPPORTUNITIES UNDER SMART CITIES MISSION

The Smart Cities Mission offers significant opportunities for underground cabling in key cities. Some cities such as Indore, Belagavi, Dharamshala, Lucknow, Kanpur and Tirupati are implementing projects for setting up underground cabling network for utilities such as electric wires, water pipelines, stormwater drains, sewers and telecommunication cables. This chapter provides the details of plans and targets of works proposed to be taken up under various schemes.
- Snapshot of the Mission
- Physical Targets for UG Cabling Works
- Projects Completed so Far in Key Cities
- Projects Under Construction/ Awarded
- Proposed Projects
- Issues and concerns

6. OUTLOOK AND PROJECTIONS (till 2022)

This chapter will give a snapshot of the investments and physical targets proposed for underground cabling networks by transcos and discoms. The information presented in this chapter is based on both primary and secondary information collected from transcos and discoms.
- Growth Drivers for UG Cabling
- Expected Demand for UG Cables
- Plans and Targets of Utilities by Segment
  - Transmission
  - Distribution
- Budgeted Capital Expenditures on UG Cabling
- Future Outlook

7. LEADING PLAYERS

This chapter primarily focuses on the profiles of key vendors and technology providers for underground cabling. Each profile covers the following information:
- Brief Company Overview
- Key Product Offerings
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- Financial Performance
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Solar plants are built to last 20-25 years. After the engineering procurement and construction period is completed, developers need to ensure that the operations and maintenance (O&M) activities are seamless for sustained energy generation over the project lifetime. The report will highlight the emerging opportunities in this space and the growing role of new technologies like automation and artificial intelligence.

### 2. MARKET OVERVIEW

In the initial years of solar power development in India, O&M was often coupled with EPC and performed by the same vendors, but of late, solar O&M has emerged as a separate market with its own landscape, trends and dynamics. This chapter will cover the following areas:
- Current size of the solar O&M market
- Market size by segment
  - Utility-scale, Rooftop, Canal-top & floating solar
- Key growth trends and drivers
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- Emerging Role of Energy Storage
- Key issues and concerns

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The cost of O&M services has been declining over the past few years and the downward trend is expected to continue. The cost composition itself is changing due to greater automation and use of advanced tools. This chapter will cover the following areas:
- Solar O&M cost trajectory (2012-18)
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### 4. EMERGING O&M BUSINESS MODELS

Globally, there has been a rise of third party solar O&M service providers. As more sophisticated and structured approach emerges in the solar O&M market, third party providers are able to deliver more value to solar investors and owners. This chapter will cover the following areas:
- Capex-based
- Profit-sharing
- Fixed cost
- O&M extensions
- Others

### 5. TERMS OF O&M CONTRACTS

It is important for both developers and O&M service providers to clarify and list out their expectations and accordingly draw up a long-term contract. An effective contract will result in higher plant efficiencies. This chapter will cover the following areas:
- Time periods
- Product warranties
- Performance guarantees/SLAs
- Penalties
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### 6. GRID MANAGEMENT BY O&M PLAYERS

As the government becomes stricter in its implementation of forecasting, scheduling and deviation settlement mechanism regulations, grid management will become a key component of O&M players. Integration of energy storage on to existing plants will lead to a greater O&M play. This chapter will cover the following areas:
- Forecasting and scheduling
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- Integration of energy storage into existing plants
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### 7. O&M COMPANY PROFILES

A large number of O&M focused players are coming up, some as hive-offs from existing EPC companies and others as independent specialists. This chapter will have 5-8 profiles of key O&M players in India covering the following:
- Project portfolio
- Service offerings
- Technology tie-ups
- On-ground experience
- In-pipeline capacity
- Etc.

### 8. DIGITALISATION AND AUTOMATION AT PLANT LEVEL

Digitalisation and automation will play a key role in providing efficient O&M services, thereby changing the current O&M cost composition, which is currently dominated by manpower expenses. New technologies are being adopted for improving asset lifecycle management, predictive maintenance, remote sensing and control, cloud computing, and use of drones for visual imaging. A number of companies have also already started using robotics for cleaning modules. This chapter will cover the following areas:
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  - (Views of key personnel from the solar O&M industry and technology providers on the growing role of AI, robotics and data analytics)

### 9. KEY CHALLENGES, BEST PRACTICES AND CASE STUDIES

The lack of attention given to O&M practices is one of the primary challenges that the segment is facing. If the plant is not maintained properly, developers can lose up to 15 per cent of the returns. This chapter will cover the following areas:
- O&M challenges matrix
- Best practices (Globally and in India)
- Case studies (This will cover successes and failures of various technologies, business models and strategies adopted by O&M players)

### 10. PROJECTED O&M MARKET SIZE (FROM 2019-20 TO 2024-25)

The total addressable market for solar PV O&M is expected to reach 30 GW in 2018-19. It is likely to more than triple by 2022 to exceed 100 GW. In fact, going forward, as the installed base gets larger, O&M revenue may even exceed the development and construction revenue. This chapter will cover the following areas:
- Impact factors
- Emerging O&M industry structure
- Short-term projections
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The report is available in a PDF format.
Industrial and Commercial Grid Power Market in India 2017

Price: Rs 40,000 (USD 944)

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The report is available in a PDF format.
Power Distribution in India 2020 (February 2020) (Draft ToC)

Section Growth Discom performance, Emerging Trends and Future Outlook

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      - Textiles  
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      - Pulp and Paper  
      - Fertilisers  
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The report will be available in a PDF format
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The report is available in a PDF format.
Hydro Power Market in India 2019  (May 2019)
Market Analysis and Developments; Changing Role in Energy Mix and Future Outlook

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ENERGY

Solar Power in India 2017 (May 2017)

Segment Analysis, Trends and Developments

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The report is available in a PDF format.
# Wind Power in India 2017

## (August 2017)

**Sector Analysis, Market Outlook and Opportunities**

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The report is available in a PDF format.
Solar Plant Performance in India 2017-18

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January 2018
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Each country profile provides information on:
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    - Etc.

The report will be available in a PDF format.
The report is available in a PDF format.

Price: Rs 100,000 (USD 2,360)
EXECUTIVE SUMMARY

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   Each state profile will cover road network, recent developments and project portfolio (completed, under implementation and upcoming).

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   Each profile will provide an overview of the project portfolio (completed and under construction), financial performance, recently secured contracts, future plans, strategies, etc.

The report will be available in a PDF format.

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EXECUTIVE SUMMARY

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The report will be available in a PDF format.
Clean Bus Market in India: Hybrid, Electric, Gas-Based

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The report is available in a PDF format.
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This chapter will analyse the impact of these initiatives and policy changes on container terminal operators, container train operators, road transporters, trucking industries, shipping companies, CFSS, ICDS, etc.

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Each profile will cover information on company operations, existing infrastructure, network covered, financial performance, future plans, etc.

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The report is available in a PDF format.
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The report is available in a PDF format.
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The report is available in a PDF format.
# Water Market in India 2019 (November 2019)

**Municipal, Industrial, Desalination & Wastewater Treatment/Reuse**

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    (Each state profile will give an overview of the housing scenario, role of key agencies and housing boards, state policy on affordable housing, new initiatives and incentives, and ongoing and upcoming housing schemes/projects.)

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The report is available in a PDF format.

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EXECUTIVE SUMMARY

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The report also provides a comprehensive Excel-based database of ongoing and upcoming projects across the water supply, sewerage, waste, energy, mobility, roads, flyovers, safety and security, e-governance, healthcare, capacity building and city gas distribution segments.

Each project provides information on: Scope; Current Status; Mode of Implementation; Implementing agency; Project Cost; Type of Project (Area-based or Pan-City); Contractor/Developer; Expected Date of Completion, etc.

The report is available in a PDF format.

[Image: The report is available in a PDF format.]

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# Municipal Solid Waste in India 2019

## Key Takeaways and The Road Ahead

The report is available in a PDF format.

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Sewage Treatment Market in India 2019  
Key Trends, Government Initiatives, Emerging Technologies and Upcoming Opportunities

Price: Rs 75,000 (USD 1,770)
No. of slides: 501

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The report is available in a PDF format.
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Each project provides information on project scope, cost, capacity, location, implementing agency, ownership, EPC contractor/developer, equipment provider (wherever available), current status, date of commencement of construction/month of award (wherever available), and expected date of completion (wherever available).

The report is available in a PDF format.
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Each of the sectors covers:
- Size and Growth, Emerging Trends and Recent Developments,
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The report is available in a PDF format.
Investment and Market Opportunities in Southeast Asian Infrastructure

(August 2019)  No. of slides: 704

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**OPINION AND INSIGHTS** ....................................................

- Niraj Didwania, Head, Corporate Development and Investor Relations, Healthcare Global Enterprises
- Nitin Nag, Regional Director (South), Cloudnine Group of Hospitals
- Dr. Nitrj Gandhi, Senior Manager, Business Advisory Services, EY
- Dr. Kiril Chadha, Senior Vice President - GRL Operations and Medical Affairs, Metropolis Healthcare
- Dr. Manjirin Bakre, CEO and Founder, OncoStem Diagnostics
- Nitin Sisodia, Founder and CEO, Sohum Innovation Lab
- Arun Agarwal, Founder, J anitri Innovations

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Price: Rs 75,000 (USD 1,770)

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18. KEY PLAYERS/CONTRACTORS

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The report is available in a PDF format.

www.indiainfrastructure.com
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The report is available in a PDF format.
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Each profile gives an overview of the company's operations, key contracts, recent collaborations, joint ventures, and future plans and strategies.

The report is available in a PDF format.
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**Total**

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Weekly Newsletters

India Infrastructure Publishing brings out weekly newsletters that cover the latest developments in infrastructure sectors such as power, oil & gas, infrastructure finance, ports & shipping, roads & bridges, urban water & sanitation, telecom and aviation.

These newsletters are sent every Monday morning via e-mail or fax to provide subscribers with accurate, reliable, up-to-date and comprehensive information on the key developments in these sectors during the previous week.

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<th>Newsletter</th>
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<tr>
<td>Power News</td>
<td>The latest developments in the Indian power sector across all key segments - generation, transmission and distribution. The focus areas of this newsletter are government policy, project updates, legal and regulatory developments, contracts and orders, corporate news, financings and reform/restructuring developments.</td>
</tr>
<tr>
<td>Oil &amp; Gas News</td>
<td>The latest developments in the Indian oil and gas sector in the upstream, midstream and downstream segments. The focus areas of this newsletter are developments in policy, exploration and production, downstream, LNG, transportation and finance. It covers news related to investments, contracts and orders, legal and regulatory affairs and corporate developments.</td>
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<tr>
<td>Telecom News</td>
<td>The latest developments in the Indian telecom sector across all segments - fixed, wireless, broadband, long distance, satellite-based services, etc. The focus areas of this newsletter are government policy, legal and regulatory developments, contracts and orders, corporate news, sales promotion news, and new product/service introductions.</td>
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<tr>
<td>Ports &amp; Shipping News</td>
<td>The latest developments in the Indian ports and shipping sector. The focus areas of this newsletter are policy, deals, investments, contracts, plans, financings, projects, tariffs and other regulatory developments. It covers news related to major and minor ports, Indian and foreign shipping lines as well as related segments and sectors like rail connections, containers, etc.</td>
</tr>
<tr>
<td>Roads &amp; Bridges News</td>
<td>The latest developments in the Indian roads and bridges sector. Its scope includes national, state and key local projects. The focus areas of this newsletter are project updates, government plans and initiatives, contracts and orders, corporate news, financings, concessions and other agreements.</td>
</tr>
<tr>
<td>Infrastructure Finance News</td>
<td>The latest developments in the area of infrastructure finance. The focus areas of this newsletter are policy, equity moves, debttbond issues, mergers and acquisitions, loans and credit, credit ratings, primary and public issues, joint ventures/agreements and financial results. The sectors covered include power, telecom, oil &amp; gas, ports &amp; shipping, roads &amp; bridges, aviation, railways, urban infrastructure, water and housing. The lending institutions covered include financial institutions, nationalised banks, private banks, foreign banks, multilateral institutions and bilateral funding agencies.</td>
</tr>
<tr>
<td>Aviation News</td>
<td>The latest developments in the Indian aviation sector. It covers both the airline and airport segments. The primary focus areas of this newsletter are infrastructure development, policy, investment, contracts and orders, privatisation and modernisation initiatives, promotional offers, financing and key statistics.</td>
</tr>
<tr>
<td>Urban Water &amp; Sanitation News</td>
<td>Policies, regulations, projects, finance, service providers, sanitation, and international news in the urban water development and sanitation sector. The newsletter will include a brief write-up on trends, project developments, key concepts, city profiles, relevant data, etc.</td>
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