BRIDGE TO INDIA is a clean energy consulting and research services company
India Solar Navigator

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Tenders | Projects | Policies and regulations | Prices | Player profiles | News

Tenders & projects
Online | Comprehensive | Real-time

- Project development tenders
- EPC tenders
- Utility scale and rooftop solar
- Key players
- Open access projects

Policies & regulations
Online | Comprehensive | Real-time

- Solar policies
- Rooftop policies
- Tariff orders
- Net metering regulations
- Updates on UDAY scheme
- Scheduling & forecasting orders
- Open access regulations

Pricing trends
Online | Comprehensive | Real-time

- Bid tariffs
- Equipment prices
- EPC costs
- Power exchange prices

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India is the third largest solar market in the world

Solar capacity addition, GW

Over 100% CAGR in 3 years

Source: REN21, Greentech Media, BRIDGE TO INDIA research
Solar has overtaken wind and all other technologies to become the leading power source

Capacity addition, MW

Solar    Wind
Utility scale solar is leading the way

- Off-grid, 771 MW
- Rooftop solar, 3,855 MW
- OA, 3,630 MW

Policy based, utility scale 20,533 MW

- Strong policy thrust
- High impact

Capacity addition, MW

Source: MNRE, BRIDGE TO INDIA research
Open access solar outlook is uncertain because of policy challenges

- Financially attractive
- Policy uncertainty

Policy based utility scale
20,553 MW

Rooftop solar
3,855 MW

Off-grid
771 MW

Open access solar
3,630 MW

Capacity addition, MW

Source: MNRE, BRIDGE TO INDIA research
Rooftop solar has great momentum

- C&I demand driver
- Net metering challenges
- Financing problems for residential and SME customers

Rooftop solar
3,855 MW

- Off-grid, 771 MW
- OA, 3,630 MW

Policy based utility scale
20,553 MW

Capacity addition, MW

Source: MNRE, BRIDGE TO INDIA research
Off-grid solar is heavily dependent on government incentives

- **Rooftop solar, 3,855 MW**
- **OA, 3,630 MW**
- **Policy based utility scale, 20,553 MW**

Off-grid solar 771 MW

- Focus on grid expansion
- Policy uncertainty
- Solar pumps?

Source: MNRE, BRIDGE TO INDIA research
Concentration of capacity in a few states has highlighted execution challenges

Utility scale solar capacity, MW

Rajasthan
Karnataka
Andhra Pradesh
Tamil Nadu
Gujarat
Telangana
Maharashtra
Madhya Pradesh
Uttar Pradesh
Punjab
Odisha
Uttarakhand
Chhattisgarh
Bihar
Kerala
Others

Central government tenders
State government tenders
Others
Pipeline
Pipeline ISTS projects

Source: BRIDGE TO INDIA research
Tender progress is being slowed down by pricing pressure and execution challenges

Utility scale solar tender issuance and auctions, MW

Tender issuance, MW
Auctions, MW

Average tender size
Average successful bid size

Note: Figures exclude cancelled tenders.

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Source: BRIDGE TO INDIA research
Solar tariff decline is being checked by adverse movement in other factors
Solar tariff decline is being checked by adverse movement in other factors

- GST
- Interest rates
- Rupee depreciation
- Land cost
Financial investor driven platforms have been the most aggressive

Commissioned and pipeline capacity, MW (Dec 31, 2018)

Indian corporates

Financial investor-backed platforms

International utilities

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Source: BRIDGE TO INDIA research
The sector faces huge pricing pressure across the value chain
The sector faces huge pricing pressure across the value chain

If risk is not priced properly:

• Poor quality projects
• Poor performance > bank defaults
• Loss of capital
Conclusion
India is expected to add 80 GW of RE capacity in the next 5 years.

Source: India RE CEO Survey by BRIDGE TO INDIA

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We need a stronger foundation for long-term growth of the market

- Fixation with low prices must go, focus more on performance and reliability
- Prioritise distributed generation
- Act proactively on land acquisition and transmission
- Act urgently on grid integration
  - Ancillary services; storage technology; flexible thermal plants; demand side management
- PPA structure and risk allocation needs to change
- Provide visibility on manufacturing policy
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