

Open Access for Renewables

Emerging Economics, Evolving Regulatory Framework, Increasing Opportunities and Changing Risks

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A key emerging trend in India's power sector is the shift from power offtake contracts signed with government-owned utilities to serving direct consumers. This is happening through acquisitions, franchises and privatisation, but most of all, through the open access route, where regulators have allowed direct power sales to end-consumers. Open access market has been attracting increasing investments in the renewable energy space. Particularly in the case of Karnataka, it propelled the state to lead renewable energy charts in 2017-18.

The government's proposed amendments to the Electricity Act 2003, if enacted, will only accelerate this trend towards open access-based PPAs for solar and power plants. Specifically, the proposal to allow renewable energy generators to supply directly without a licence and the capping of open access charges will set off a scramble for consumers. Even now, rooftop solar is the fastest growing asset category, where self or third-party owned facilities supply a part of the consumer's demand. The final endorsement of this move towards directly serving the consumers will come over time, with the separation of the distribution and supply businesses.

1. MARKET OVERVIEW, KEY TRENDS AND RECENT DEVELOPMENTS

There is a rising popularity among developers, especially renewable energy players, to go for third-party direct sale agreements. States of Karnataka, Tamil Nadu, Andhra Pradesh and Telangana in the southern region of India and Rajasthan, Punjab and Haryana in the northern region of the country are fast catching up with open access transactions. But there are significant challenges in the growth of this segment, especially those pertaining to discoms' resistance to let go of their high-end consumers.

- ❖ Size and Growth of Open Access-based Power Projects
- ❖ Renewable Energy-based Open Access Projects
 - Year-wise Trends
 - Source-wise Share
- ❖ Participation of Open Access Consumers in the REC Market
 - Volume Trends
 - Price Trends
- ❖ Leading States
- ❖ Key Growth Drivers
- ❖ Tariff Trends in Open Access through Solar and Wind
- ❖ Key Issues and Challenges

2. IMPACT OF AMENDMENTS IN ELECTRICITY ACT, 2003

- ❖ Amendments Pertaining to Open Access for Renewables
- ❖ Likely Impact on Growth of Open Access-based PPAs
- ❖ Unaddressed Issues
- ❖ Industry Experts' Opinions and Recommendations

3. EXISTING OPEN ACCESS POLICY AND REGULATORY SCENARIO

The policy and regulatory framework in this space is currently highly dispersed and varied across states, and is not even stable over the years. There is always a risk of open access charges changing year on year, making it a risky proposition to invest in.

- ❖ Overview of Open Access Charges and Losses
 - For Solar Projects
 - For Wind Projects

- ❖ Model Regulations for Intra-state Open Access and Group Captive
- ❖ State-wise Orders of Open Access/Group Captive
- ❖ State-wise Implementation Status Overview
- ❖ State-wise Power Demand and Supply Overview
- ❖ RPO Trajectory for Open Access Consumers
- ❖ Key Issues and Challenges

4. INDUSTRY STRUCTURE AND BUSINESS MODELS

The industry structure in the renewable open access segment has been emerging gradually with more number of players entering into this space. Project developers and investors are currently cautious of investing significantly in this segment, but the trend is now changing.

- ❖ Power sale options
 - Bilateral
 - Collective
 - REC
- ❖ Industry Structure
- ❖ Key Players and Capacities
 - Solar Segment
 - Wind Segment
- ❖ Risks and Concerns

5. TERMS OF THIRD-PARTY POWER SALE CONTRACTS

It is important for both the buyers and sellers to clarify and list out their expectations and accordingly draw up the commercial power sale contract as per the applicable regulatory framework in the respective state.

- ❖ Time Period
- ❖ Extension Provision
- ❖ Tariff and Escalations
- ❖ Provision for Changes in Regulatory Charges
- ❖ Penalties
- ❖ Legal Terms

6. ROLE OF ENERGY BANKING, F&S AND DEVIATION SETTLEMENT MECHANISM

Energy banking will play a key role in the success of solar and wind power-based open access projects. Banking is presently allowed by SERCs upon the levy of a banking charge, which differs in magnitude across states. Rules around energy banking are specified in different types of documents in various states. Additionally, various attributes of the energy banking framework also differ across states.

- ❖ State-wise Energy Banking Mechanism for Open Access Projects
 - Banking Charge
 - Banking Period
 - Buy-back Rate
 - Restrictions on Time of Injection
 - Withdrawal of the Banked Energy
 - Other Attributes (seasonality constraints, buy-back rates, accounting for RPO, etc.)
- ❖ State-wise Emerging Energy Banking Framework
- ❖ State-wise Forecasting and Scheduling
- ❖ Deviation Settlement Charges

7. STATE PROFILES

This chapter will include profiles of Andhra Pradesh, Karnataka, Tamil Nadu, Maharashtra, Gujarat, Rajasthan, Madhya Pradesh, Telangana, Uttar Pradesh, Chhattisgarh, Haryana, Delhi, Punjab, etc.

- ❖ Open Access Charges and Exemptions for Solar and Wind Power
 - Transmission Losses
 - Distribution Losses
 - Wheeling Charges
 - Cross Subsidy Surcharge
 - Additional Surcharge
 - Reactive Energy Charges
 - Standby Charges
 - Banking of Surplus Solar Power
 - Scheduling of Power
 - Energy Metering
- ❖ Key Players and Capacities
 - Overall Solar
 - Solar Open Access
 - Overall Wind
 - Wind Open Access
- ❖ Landed Cost and Return Analysis
- ❖ Process and Approvals for Open Access Projects

- ❖ Key Industrial and Corporate Clusters
 - Existing
 - Upcoming

8. PROJECTED OPEN ACCESS MARKET

Over 2 GW of green power is being sold to big corporates through direct agreements and the trend is northbound as more and more corporates and industries are joining in the race. The business case for renewable energy based open access is getting stronger with the decreasing cost of green power and increasing cost of thermal power.

- ❖ Short-term (2019-23) and Long-term (2024-28) Projections
- ❖ Renewable-based Open Access Capacity Projections
- ❖ Open Access Projected Tariff and Pricing Trends
- ❖ IRR Projections
- ❖ Future Growth Drivers
- ❖ Expected Market Restraints

EXPERT OPINION

The report will feature 5-8 interviews of senior representatives at regulatory commissions, large open access consumers and key open access project developers, and experienced industry consultants on the aforementioned questions.

- ❖ What are the state-wise growth trends in solar and wind open access markets?
- ❖ Which state has the least regulatory barriers for renewable open access buyers?
- ❖ Whether the tariff discovered in third-party solar and wind power sales agreements is sustainable for long-term, i.e. for a period of 10-15 years?
- ❖ What are the various power procurement models that shall be most beneficial given the current regulatory paradigm and policy environment in India?
- ❖ What are the various incentives/benefits to the consumers/generators to wheel renewable power through open access?
- ❖ Which region is most suitable for affecting the open access transactions having the largest cluster of industries, corporates and bulk consumers?
- ❖ What is the process and approvals needed to apply for open access projects?
- ❖ Which transaction, i.e. bilateral or collective, is preferred for solar and wind?
- ❖ What is the projected growth rate for renewable-based open access capacity?
- ❖ What are the typical returns/savings expected from open access projects?
- ❖ How will the open access charges evolve over the next 5-10 years?

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