

Captive Power in India 2018

Trends, Capacity Analysis and Outlook

- ❖ Report (PDF)
- ❖ Data-set (Excel)

Key Takeaways

- Captive power plants (CPPs), set up by industrial and commercial consumers, play a significant role in meeting power generation requirements of such consumers and reduce dependence on grid while optimising the energy costs. As per India Infrastructure Research, the total installed capacity of CPPs (of size 1 MW and above) in the country is estimated at 83,900 MW as of 2017-18, which represents 25% of the overall installed power generation capacity which stood at 334 GW.
- India Infrastructure Research tracked captive capacity of 67,778 MW (above 1 MW plants). Coal is the preferred fuel for captive generation accounting for a major share of 56% in the tracked capacity. Among industries, the CPPs by the metals and minerals industry accounted for the highest share of 39% in tracked captive capacity. The industry is characterised by large facilities for manufacturing and processing metals such as aluminum, iron and steel, copper, etc. and, therefore, has immense power requirements which can be met by CPPs
- Renewable energy based captives (bagasse, wind, biomass, solar and small hydro) accounted for a share of about 21 per cent in the tracked captive capacity. The cost economics of various renewable energy technologies have turned favourable in recent years with falling equipment prices and high impetus on the sector by the government. Solar rooftop has become the preferred captive power generation option for institutional and commercial consumers and is expected to reduce the demand of diesel gensets which were so far preferred by such establishments.
- Given the expected growth in GDP and industry, the investments by industries in CPPs are likely to continue. While the primary driver in the past was power deficit, the need for continuous uninterrupted quality power supply for sustainable industrial operations and high industrial tariffs will drive the setting up of CPPs. However, coal supply issues need to be resolved to enhance captive power addition by industries. Further, the proposed amendments to the Electricity Rules, 2005 are expected to have a significant bearing on the captive power segment, especially the group captives. India Infrastructure Research tracked over 18 GW of upcoming CPPs of which over three-fourths is in the announced or proposal stage. Apart from coal, waste heat recovery and solar based captives are expected to grow rapidly.

Figure 1 Distribution of Tracked Captive Capacity 2017-18- by Fuel

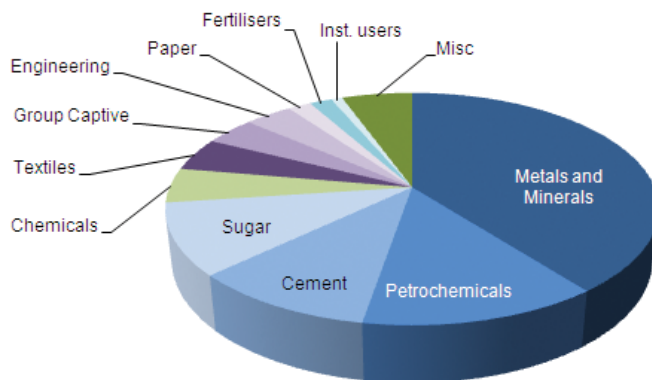
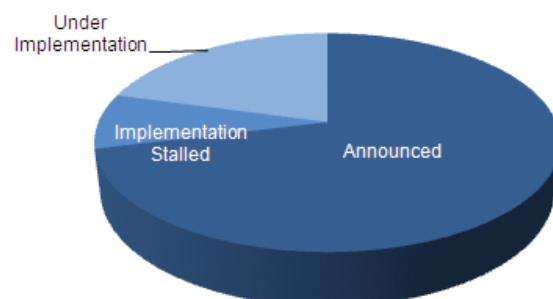


Figure 2 Distribution of Upcoming Captive Capacity - by Status



1. Executive Summary

SECTION I: MARKET TRENDS, DEVELOPMENTS AND OUTLOOK

2. Overview

- ❖ Size and Growth
- ❖ Growth Drivers
- ❖ Key Trends
- ❖ Plans and Investments
- ❖ Future Outlook

3. Policy and Regulatory Developments

- ❖ Draft Amendments in Electricity Rules, 2005
- ❖ CERC's APPC Order
- ❖ Renewable Purchase Obligations
- ❖ Rooftop Market and Net Metering
- ❖ Open Access
- ❖ Wheeling, Banking and Third Party Sale Options
- ❖ Update on Environmental Norms
- ❖ Other Key Developments

4. Installed Capacity Analysis

- ❖ Estimated Total Captive Capacity
- ❖ Distribution of Captive Capacity
 - By Size
 - By Fuel
 - By Industry
 - By State

5. Focus on Group Captives

- ❖ Growth Drivers
- ❖ Market Size
- ❖ Technology Options and Cost Economics
- ❖ Impact of New Draft Rules
- ❖ Future Outlook

6. Captive Power from Renewables

- ❖ Overview
- ❖ Capacity Addition Trends by Source
- ❖ State-wise Capacity Addition
- ❖ Growth Drivers
- ❖ REC Trading Trends
- ❖ Policy Measures and Incentives
- ❖ Challenges and Outlook

7. Outlook and Projections

- ❖ Key Drivers for Future Demand
- ❖ Upcoming Captive Capacity
- ❖ Issues and Challenges

SECTION II: ECONOMICS, FUEL OUTLOOK AND TRADING OPTIONS

8. Captive Power Economics

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- ❖ Coal-based CPPs (Capex and Opex)
- ❖ Gas-based CPPs (Capex and Opex)
- ❖ Liquid Fuel-based CPPs (Capex and Opex)
- ❖ Renewable Energy (Capital Costs and Tariffs)

9. Fuel Outlook

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 - Demand and Offtake Trends
 - Trends in Production and Supply
 - E-auctions
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 - Coking Coal Supply Trends
 - Prices of Linkage Coal
 - International Price Trends
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10. Grid Power Tariffs

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 - LT Industrial Tariff
 - Commercial Tariff
- ❖ Recent Tariff Revisions
 - HT Industrial Tariff
 - LT Industrial Tariff
 - Commercial Tariff
- ❖ Open Access Charges
- ❖ Trends in Cross-subsidisation
- ❖ Future Outlook

11. Power Trading Scenario

- ❖ Short-Term Power Market Trends
- ❖ Key Drivers
- ❖ Power Trading through Exchanges
- ❖ Power Trading through Licensees
- ❖ Open Access in Exchanges
- ❖ Major Buyers and Sellers
- ❖ Issues and Concerns
- ❖ Future Outlook

SECTION III: DATABASE OF CAPTIVE POWER PLANTS

The most comprehensive database covering about 2,600 captive power plants with information on owner, capacity, location and fuel type.

Industries covered would include: Metals and Minerals; Cement; Petrochemicals (Inc. Refineries); Chemicals; Textiles; Engineering; Pulp and Paper; Fertilisers; Sugar; Institutional Users; Group Captive; etc.

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