

**Research Unit** Press Information Bureau Government of India

# **Energizing the Future: POWERup Q1 2025 Highlights**

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# Introduction

Power is among the most critical components of infrastructure, crucial for the economic growth and welfare of nations. The existence and development of adequate power infrastructure is essential for sustained growth of the Indian economy. This document details the performance and key developments in India's power sector during the first quarter (January–March) of 2025.

# **Installed Power Generation Capacity (MW)**

India added a total power generating capacity of 13,495 megawatts (MW) in 1Q 2025. Renewables accounted for 78.9% of all new capacity additions.

Energy Source		As on 31 Dec 2024	As on 31 Mar 2025	Change (MW)	% of New Capacity Added#
岙	Wind Power	48,163	50,038	1,875	13.9
44	Solar Power*	97,865	105,646	7,782	57.7
*** 	Small Hydro	5,101	5,101	-	0.0
$\overline{\mathbb{A}}$	Biomass	10,728	10,743	15	0.1
\$	Waste to Energy*	620	840	220	1.6
<u>[aa1</u> ]	Large Hydro	46,968	47,728	760	5.6
÷	Nuclear	8,180	8,180	0	0.0
	Coal (+ Lignite)	218,970	221,813	2,843	21.1
$\langle \mathfrak{D} \rangle$	Gas	24,818	24,533	-285	-2.1
ð	Diesel	589	589	0	0.0
Total		462,002	475,212	13,210 (Net capacity added)	-

\*Includes grid and off-grid capacities # As a % of total new capacity added: 13,495MW

With gas capacity retirement of 285MW, the net capacity added was 13,210MW. With these additions, India's total cumulative power generation capacity reached 475.2 gigawatts (GW) as of March 31, 2025.

Solar, coal, and wind power were the main contributors to this growth, accounting for 57.7%, 21.1% and 13.9%, respectively, of the total capacity added, reflecting the continuing emphasis on clean energy along with targeted thermal capacity additions to meet rising electricity demand.

# Key Capacity Achievements in 1Q 2025:

- Solar power capacity surpassed 100 GW in January 2025; total capacity stood at 105,646 MW by the end of March (an increase of 7,782 MW during the quarter). Solar installed capacity grew at a remarkable rate over a decade, from 2.82GW in 2014 to 100GW in 2025.
- Wind power capacity crossed the 50 GW mark, reaching 50,038 MW (an increase of 1,875 MW).
- Total non-fossil fuel power capacity reached 228GW in 1Q 2025, including contributions from hydro, biomass, waste-to-energy, and nuclear power.
- Hydro capacity increased by 760 MW in Q1, with new stations commissioned in Himachal Pradesh and Kerala.
- Waste-to-Energy capacity rose by 220 MW in the same period, and biomass-based capacity increased by 15 MW.
- Coal capacity recorded a net increase of 2,843 MW during Q1, driven by project completions across multiple states, although coal's share in total installed capacity continued to decline to 46.7%.

# **Capacity Additions by Energy source:**

Capacity installations in 1Q 2025 surged back to the record highs (~13GW) achieved in 1Q 2024 driven by contributions from solar, coal and wind power capacity additions.

Energy Source		1Q 2024	2Q 2024	3Q 2024	4Q 2024	1Q 2025
岙	Wind Power	1,150	770	707	800	1,875
4 <b>7</b> 4	Solar Power	8,495	3,661	5,288	7,103	7,782
***	Small Hydro	17	2	71	25	-
$\overline{\mathbb{A}}$	Biomass	94	-	369	4	15
\$	Waste to Energy (off-grid)	3	8	11	15	220
	Large Hydro	18	-	-	40	760
×	Nuclear	700	-	-	-	-
<u>[]]</u>	Coal (+ Lignite)	3,193	1	60	1,320	2,843
$\odot$	Gas	-	(220)	-	-	(285)
۵	Diesel	-	-	-	-	-
Total		13,669	4,221	6,505	9,307	13,210

# Power Capacity Additions by Energy Source (MW)

Source: Central Electricity Authority, JMK Research, MNRE, IEEFA

#### **Major Coal Capacity Additions:**

- Khurja Super Thermal Power Plant Unit 1 (660 MW) THDC India Limited, Uttar Pradesh
- Panki Thermal Power Station Unit 1 (660 MW) UPRUVNL, Uttar Pradesh
- Yadadri Thermal Power Station Unit 2 (800 MW) TSGENCO, Telangana
- Bhusawal Thermal Power Station Unit 6 (660 MW) MAHAGENCO, Maharashtra

Overall, the pace of capacity additions in 1Q 2025 returned to levels seen in 1Q 2024, driven by simultaneous progress in renewable and thermal projects.

State-wise Renewable Capacity Additions (States with ≥10 GW RE capacity):

- Rajasthan: 1,973 MW
- Gujarat: 1,910 MW
- Maharashtra: 1,780 MW
- Karnataka: 1,316 MW
- Andhra Pradesh: 940 MW

In particular, Andhra Pradesh saw a revival in renewable capacity additions after several subdued quarters. This was attributed to the launch of the state's Integrated Clean Energy Policy in October 2024, targeting the installation of 160 GW of clean energy and energy storage capacity.

# **Electricity Generation**

India's total electricity generation from all sources during 1Q 2025 was **445.49 billion units** (**BUs**), marking a **3.6%** increase over the **429.85 BUs** generated in 1Q 2024. This growth reflects both increasing demand and a transition in the energy mix.

#### Notable Developments in Generation:

- Solar and wind power generation increased by 16.6% from Q1 2024 to Q1 2025.
- Nuclear power generation grew by 16.7% in the same period.
- The share of fossil fuel-based power generation declined to 77.9% from 80.38% in 1Q 2024.

#### **Policies and Capacity Targets**

India continues to implement long-term clean energy goals supported by proactive policy measures. The government aims to install approximately **50 GW** of non-fossil fuel power capacity annually starting from 2023, in order to achieve **500 GW** of non-fossil capacity by 2030.

Since 2018, the central government has consistently issued tenders for solar, wind, hybrid, and energy storage projects. The volume of tendered capacity has risen since 2023, offering greater visibility and investment security to developers.

Additional policy measures have further supported capacity expansion and domestic manufacturing, including:

- PM Surya Ghar Yojana for promoting rooftop solar adoption
- PM-KUSUM scheme for solarisation of agricultural feeders and pumps
- **Production-Linked Incentive (PLI) Scheme** to boost manufacturing of solar modules and related equipment

These policies, combined with a strong demand outlook, have created a favorable environment for private and public sector investments in clean energy.

#### **Investments in Renewable Energy**

Investments in India's renewable energy sector reached record levels in 1Q 2025, driven by large-scale acquisitions and substantial debt financing deals.

#### **Key Investment Trends:**

- Total investment reached US\$9.84 billion in 1Q 2025, a **7.7-fold increase** compared to US\$1.279 billion in 1Q 2024.
- Compared to the previous quarter (4Q 2024), investments increased by **2.6** times.
- This was the highest quarterly investment in India's renewable sector in the last three years.



Source: JMK Research, News Reports

## Conclusion

India's power sector witnessed strong growth in Q1 2025, with substantial capacity additions led by renewables and record-high investments. Supportive policies, rising demand, and increased private sector participation have strengthened the shift toward clean energy. With fossil fuel dependency gradually declining, India remains on course to meet its 2030 non-fossil capacity goals. The coming months will be critical in sustaining this momentum amid rising seasonal electricity demand.

## **References:**

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- https://www.ibef.org/industry/power-sector-india

## Santosh Kumar/ Sarla Meena/ Anchal Patiyal