Major Highlights (as on 31.01.2025)

1. Meeting Peak and Energy Demand

- **Peak Demand Met**

	2014	2024	2025	2026	2030
Peak demand met increased (GW):	130	240	250	278	335
Peak shortages declined (%):	4.5	1.4	0.001	-	-

- **Energy Demand Met**

	2014	2024	2025	2026	2030
Energy met increased (BU)	960	1622	1415	-	2388000
Energy shortages declined (%):	4.2%	0.3%	0.1%	-	-

- **Per capita Electricity Consumption**

	2014	2024	2025	2026	2030
Per capita electricity consumption increased by ~46%	957 kWh	1395 kWh	1538kWh	1636kWh	2109kWh

2. Universal Electrification and Improved Supply

- **100% electrification of Census Villages:** Achieved 100% electrification of all census villages. Around 18,374 villages were electrified between April, 2015 and April, 2018 under Deen Dayal Upadhyay Gram Jyoti Yojana (DDUGJY).
- **100% electrification of willing households:** Achieved 100% electrification of all willing un-electrified households. Connected 2.86 crore households between Oct, 2017 and Mar, 2022 under PM Sahaj Bijli Har Ghar Yojana (SAUBHAGYA).

- **Electrification of Households**: Electrification works have been sanctioned for electrifying 9.98 lakh households under Revamped Distribution Sector Scheme (RDSS) covering following initiatives:
    - Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan for Particularly Vulnerable Tribal Groups (PVTG)
    - Dharti Aaba Janjatiya Utkarsh Abhiyan (DA-JGUA) for other tribal households and
    - Vibrant Village Progarmme for border villages

  A total ₹4,538 crore has been sanctioned.

- **Power Availability:** Average electricity supply in rural areas increased from 12.5 hours (2014) to 22.6 hours (FY25), with urban areas reaching 23.4 hours.
- **Consumer Empowerment:** Electricity (Consumer Rights) Rules, 2024, mandated
    - 24x7 supply
    - reduced connection times to 03 days in Metro cities, 07 days in municipal areas and 15 days in rural areas (30 days for hilly terrain).
    - grievance redressal,
    - facilitation of rooftop solar facilitation

3. Generation Capacity

- **Capacity Expansion:** India's installed power capacity increased from 249 GW (2014) to 466 GW (31 January, 2025), transforming the nation into a power-sufficient country exporting to Nepal, Bangladesh, and Myanmar.

	2014	**2024**	**2025**	**2026**	**2030**
Installed Capacity increased (GW)	249	442	466	526	777

Year	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
Power Export (in BU)	9,641	9,653	9,784	10,664	12,120	9980

- **Renewables Growth:** Added 136 GW of renewable capacity taking the total non-fossil capacity to 220 GW. This addition includes solar (97 GW), wind (27 GW), and hydro (6.4 GW).

- To facilitate ease of doing business, TBCB Guidelines amended for procurement of Solar, Wind, Hybrid RE in February, 2025. The amendments include recognition of Insurance Surety Bonds (ISB) for EMD / PBG.

- **Hydropower Expansion:** Hydro capacity (including PSPs) increased from 41 GW to 47 GW. Targeting 89 GW by 2030, supported by ISTS charges waiver. Equity assistance (up to ₹ 750 Cr per project) provided for North East Hydro projects at a total outlay of ₹ 4136 crore.
- Scheme on Budgetary Support for the Cost of Enabling Infrastructure for HEPs with an outlay of ₹ 12461 crore.
- Approved ₹ 1939 crore and ₹ 1750 crore for construction of Heo (240 MW) and Tato-I (186 MW) Hydro Electric Projects respectively in Shi Yomi District of Arunachal Pradesh.
- Hydropower has been declared renewable energy**.** Facilitated tariff rationalization and investment in hydro projects.
- Navratna status has been conferred to NHPC Ltd & SJVN Ltd, Central Public Sector Enterprises on 04.09.2024.
- **Nuclear Power Expansion:** Nuclear capacity increased from 4.8 GW in 2014 to 8.2 GW as on 31st Jan, 2025.

	2014	**2024**	**2025**	**2026**	**2030**
Non-fossil capacity increased (GW)	80.3	198.7	220.35	265	500.6
Solar	2.6	81.8	100.3	136.33	293
Wind	21	45.9	48.3	55.5	100
Hydro	40.5	47	47	52.6	89
Nuclear	4.8	8.2	8.2	10.58	16
Share of non-fossil capacity increased	32%	45%	47.3%	50.4%	64.4%

- **Thermal Energy:** Coal-based thermal capacity increased from 140 GW in 2014 to 214 GW as on 31 January, 2025.

	2014	2024	2025	2026	2030
Installed Coal and Lignite Capacity increased (GW)	145.3	217.6	220.5	235.5	252

- **Pumped Storage Projects (PSP):** Targeting 35 GW PSP capacity by 2030, 8 GW under construction.
- In February 2025, Tariff based competitive bidding (TBCB) guidelines have been issued for procurement of storage from Pumped Storage Plants (PSP).
- **Battery Energy Storage Systems:** Approved development of 13,200 MWh under Viability Gap Funding (VGF) Scheme.
- **Power Markets.** Real-Time Market (RTM) enabled 24x7 competitive power trading. Day-Ahead Market (DAM) facilitated separate prices for renewables and conventional power. Term-Ahead Market (TAM) enabled power trading for up to 90 days ahead, enabling participants manage their portfolio effectively.

4. Transmission Network

- **Unified Grid:** One of the world's largest synchronous national grid, capable of transferring 119 GW power nationwide thus achieving One Nation-One Grid-One Frequency.
- 53 ISTS projects capable of connecting 57 GW at a Cost of Rs 65,086 Cr. have been approved in FY 24-25 till date.
- **Network Growth:** Total (220 kV and above) network in the country increased by 67 % between 2014 and 2024. In FY 2024-25 (as on 31-01-2025), 6327 ckm of transmission lines (of 220 kV & above) and 51,500 MVA of transformation capacity (of 220 kV & above) have been added.

	2014 (31.03.2014)	2024 (31.03.2024)	2025	2026	2032
Total Network (220 kW and above) expanded (lakh ckm)	2.91	4.85	4.92	5.13	6.48
Transformation capacity increased (GVA)	530	1251	1344	1444	2345

Inter-Regional Transfer Capacity increased (GW)	36	119	119	125	168

- **Green Energy Corridors:** Approved a cost of ₹ 22,173 Cr (10,142 Cr Phase 1 + 12,031 Cr Phase 2). Released Grants of Rs. 3,211 Cr (Phase-I – 2827 Cr and Phase-II – 384 Cr.) for expanding InSTS to 10 states (Andhra Pradesh, Gujarat, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, Kerala and Uttar Pradesh) to integrate RE.

	2014 (31.03.2014)	**2024 (31.03.2024)**	**2025**	**2026**	**2032**
InSTS Network (220 kV and above) expanded (lakh ckm)	1.72	2.74	2.81	2.90	3.53
InSTS Transformation Transformation capacity increased (GVA)	336	734	777	810	1130

- **Right of Way (RoW):** Increased the compensation paid to the land owners for laying transmission lines. Compensation for tower area increased from 85% to 200% of land value and for RoW corridor from 15% to 30% of land value. Compensation has been linked to market value of land.
- **Computer Security Incident Response Team – Power (CSIRT–POWER)** facility was inaugurated by the Minister of Power on 23rd September, 2024 improved the resilience of Indian grid against cyber attacks.

5. Distribution Network

- **Distribution Network.** Central Government provided grants have Under various schemes of Central Government to expand the distribution network of State Distribution Utilities. These schemes include Deen Dayal Upadhyay Gram Jyoti Yojana (DDUGJY), Integrated Power Development Scheme (IPDS), Pradhan Mantri Sahaj Bijlee Har Ghar Yojana (Subhagya) and Revamped Distribution Sector Scheme (RDSS). As a result, progress achieved in key Distribution Infrastructure components is as under:

	Addition during 2014 to 2021 under DDUGJY, IPDS and Saubhagya	Addition under RDSS during 2021 to 2025
Distribution Substations (nos)	6,892	423
Distribution network (lakh ckm)	8.4	4.14
Distribution Transformers (nos)	6,96,302	68,905

- **Revamped Distribution Sector Scheme (RDSS):** Under RDSS, 19.8 Cr smart meters, 52.5 lakh DTRs and 2.1 lakh feeders have been sanctioned. A total of 2.13 Cr smart meters have been installed.

  So far, projects worth Rs. 1.31 lakh Cr for smart metering works and Rs. 1.48 lakh Cr for distribution network have been sanctioned across the country.

  An overall physical progress of 22.03% has been achieved.

6. Financial Viability

- **Late Payment Surcharge Rules, 2022:** Ensured timely payments to generating companies. Financial discipline of Distribution utilities improved. Outstanding Genco payments reduced from ₹1.4 lakh crore (2022) to ₹20,690 crore (as on February 2025). This has also helped to ease the burden of late payment surcharges on distribution utilities.

- **Cost Reflective Tariffs:** Electricity Rules now mandate cost-reflective tariffs, timely payment of subsidies and government department dues. Fuel and Power Purchase Cost Adjustment (FPPCA) ensure timely recovery of Power dues.

- An additional borrowing of 0.5% of the Gross State Domestic Product (GSDP) and the benefits under the RDSS scheme have been permitted, subject to the fulfilment of specified reform conditions.
- Between FY2015 and FY2023, AT&C losses have come down from 25.7% to 15.4%, and ACS-ARR gap narrowed from ₹0.78 per kwh to ₹0.45 per kwh.

	2014	2024	2025	2026	2030
AT&C losses reduced	25.7 %	16.28%	15%	14%	10%
Under recovery (ACS-ARR gap) reduced (paise/kWh)	78 paise	19 paise	10 paise	5 paise	0
Average Cost of Supply (ACS)(Rs./kWh)	5.19	7.09	7.30	7.52	8.22

7. Energy Conservation and Emissions Reduction

- Consistent efforts since 2014 have led to a savings in annual energy consumption of 53 MTOE in 2024 in the Indian economy. The corresponding savings in emissions has been 321 Mn tons CO_2.

Final Energy Consumption in MTOE	**2014**	**2024**	**2030**
BAU	456	650	997
Achieved	450	597	908
Savings	6	53	89
CO_2 emissions in Mn Tons			
BAU	2653	3453	3936
Achieved	2607	3132	3250
Savings	46	321	686

- **Industry**: The Perform Achieve Trade scheme which mandated energy savings in 9 large industrial sectors is now being migrated to Indian Carbon Market.
- A new scheme ADEETIE has been approved to provide up to 5% interest subsidy to MSMEs in 14 sectors in 60 identified clusters.
- **Building Codes:** Launched sustainable building codes to improve energy efficiency of commercial and residential buildings.

- **EV Charging Guidelines:** Issued charging guidelines for EV Charging Stations and Battery Swapping Stations on 17.09.2024 and 10.01.2025 respectively, to facilitate setting up of 1 lakh EV charging stations by 2030.
- **"Go Electric" Campaign:** Raised awareness about electric vehicles and clean energy cooking.
- **Standards & Labelling Program:** This program is being revamped with higher standards being considered particularly under cooling sector to meet global energy saving benchmarks. Presently, 39 (16 mandatory and 23 voluntary) appliances which covers 3662 brands and 29,328 models.
- **UJALA Programme:** Distributed 36.87 crore LED bulbs, saving ₹19,335 crore annually in consumer bills.
- **Biomass Utilization:** Promoted co-firing with agricultural residue in coal plants, reducing emissions.
- **Fly Ash Utilization:** Transparent auctions minimized consumer burden and improved sustainability.

8. Investment

- The market cap (in Cr.) of power sector utilities improved.

	2014	**2024**	**2025**
NTPC	98,846	3,25,759	3,05,251
PGCIL	54,957	2,57,673	2,44,745
REC	22,681	1,16,402	1,18,456
PFC	25,503	1,28,770	1,47,922
NHPC	20,145	90,034	74,936
SJVN	8,707	47,708	35,360
Total	**2,30,839**	**9,66,346**	**9,26,670**

- The loans disbursed by power sector NBFCs increased. During FY25, till 31.12.2024, 5,45,403 Cr loans have been sanctioned.

Loans Outstanding as of	**March 2014**	**March 2024**	**Jan 2025**
REC	1,48,641	5,09,371	5,65,621
PFC	1,88,995	4,81,462	5,03,824
Total	**3,37,636**	**9,90,833**	**10,69,445**