



# **DAILY EDITORIAL ANALYSIS**

**TOPIC**

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**UNLEASHING POWER SECTOR  
OF INDIA: TO HELP INDIA'S  
ECONOMY**

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# UNLEASHING POWER SECTOR OF INDIA: TO HELP INDIA'S ECONOMY

## Context

- India's power sector is grappling with technical and administrative hurdles, compounded by macroeconomic constraints that could shape the nation's economic trajectory.

## About Power Sector of India

- Installed Capacity and Energy Mix:** As of mid-2025, India's total installed power capacity has reached 476 GW, with non-fossil fuel sources contributing 49% of this mix. It includes:
  - Thermal (Coal, Gas, Diesel):** 240 GW; ~50.5 %
  - Solar:** 110.9 GW; ~23.3%
  - Wind:** 51.3GW; ~10.8%
  - Hydro:** 46.9GW; ~9.8%
  - Nuclear:** 8.8GW; ~1.8%
- Surge in Renewable Energy:** Installed renewable capacity tripled — from 76 GW to over 226 GW between 2014 and 2025.
  - Solar power alone grew more than 39-fold, and wind energy continues to expand, especially in onshore installations.
  - India's **target of 500 GW of non-fossil fuel capacity by 2030** is ambitious but achievable, with over 176 GW of renewable projects under implementation.
- Demand and Future Projection:** India's electricity demand is growing at 7–9% annually, with peak demand rising even faster.

## How India's Power Sector Impacting the Economy?

- GDP Growth and Industrial Expansion:** Reliable power supply is essential for manufacturing, services, and emerging tech like data centers and electric vehicles.
  - Industrial and commercial power demand rose by over 3x and 4.5x respectively between 2001 and 2022, reflecting modernization across sectors.
- Employment and Investment:** The sector supports millions of jobs across generation, transmission, distribution, and renewables.
  - Infrastructure investments — like 6.4 lakh crore in transmission and distribution projects under the **National Infrastructure Pipeline**—stimulate local economies and create skilled employment.
- Rural Development and Electrification:** Universal household electrification has unlocked latent demand in rural areas, improving productivity, education, and healthcare outcomes.
  - Over 2.8 crore households were connected to the grid under schemes like **Saubhagya** and **DDUGJY**.
- Energy Security and Trade:** India now exports electricity worth **over USD 1.5 billion annually**, with plans for **undersea transmission links** to the Middle East.
  - Diversification into renewables enhances energy independence and reduces import bills for coal and gas.
- Climate and Sustainability Goals:** India's commitment to **500 GW of non-fossil fuel capacity by 2030** supports its pledge **to reduce carbon intensity by 45%**.
  - Transitioning to clean energy reduces long-term environmental costs and aligns with global climate finance opportunities.

## Major Challenges in India's Power Sector

- Electricity as a Hidden Tax on Manufacturing:** Indian firms effectively pay **twice the efficient cost of power**, imposing a '100% tax' on production.
  - Half of this stems from distribution inefficiencies, while the other half arises from **cross-subsidisation**, where industries and commercial users subsidize households and agriculture.
  - Large firms escape this burden through captive power or negotiation, and Small and medium enterprises (SMEs) limit their ability to expand, create jobs, and compete globally.

- **Subsidies Shift from Agriculture to Households:** Electricity subsidies consume about **1.2–1.3% of GDP**.
  - ♦ Earlier, agriculture was the main beneficiary, but now **households account for nearly half**, and parity is approaching.
  - ♦ Between **70–85% of subsidies** flow to middle-class and rich households.
- **Global Stakes:** China is rapidly **becoming an ‘electro-state’**, electrifying its economy with renewables and positioning itself to dominate future industries like AI, electric vehicles, and data centers.
  - ♦ If India fails to reform its power sector, it risks falling behind in this global race.

### Other Challenges in India's Power Sector

- **Distribution and Grid Challenges:** Distribution Companies (DISCOM) have accumulated losses exceeding 6.77 lakh crore by 2022–23.
  - ♦ DISCOMs suffer from inefficiency, political interference, and chronic bailouts.
- **High Aggregate Technical & Commercial (AT&C) Losses:** National average AT&C losses hover around 25%, compared to 6–7% in developed countries.
  - ♦ These losses stem from outdated infrastructure, theft, and poor metering.
- **Fuel Shortages and Supply Gaps:** Coal remains a dominant energy source, but domestic production hasn't kept pace with demand.
  - ♦ It leads to underutilization of generation capacity and increased reliance on imports.
- **Tariff Distortions:** Electricity tariffs are often politically manipulated, with cross-subsidies burdening industrial users.
  - ♦ Delays in tariff revisions and differential pricing structures discourage investment and efficiency.
- **Low Capacity Utilization:** Despite increased installed capacity, actual generation lags due to fuel shortages and unviable Power Purchase Agreements (PPAs).
- **Regulatory and Policy Fragmentation:** Overlapping jurisdictions between central and state governments complicate reforms.
  - ♦ Implementation of progressive policies like open access and subsidy targeting remains uneven.
- **Renewable Integration Challenges:** While India has committed to 500 GW of non-fossil fuel capacity by 2030, grid modernization and storage solutions lag behind.
  - ♦ Balancing intermittent renewable sources with base-load demand is still a technical hurdle.

### Key Policies and Reforms in India's Power Sector

- **Electricity Act, 2003:** Introduced competition, open access, and consumer protection.
  - ♦ Enabled license-free generation and distribution, power trading, and mandatory metering.
  - ♦ Established **State Electricity Regulatory Commissions (SERCs)** and promoted rural electrification.
- **National Electricity Policy (NEP) & Tariff Policy:** It laid the foundation for affordable, reliable electricity for all.
  - ♦ **Tariff Policy (2006, revised in 2016)** emphasized cost-reflective tariffs, renewable integration, and efficiency.
- **Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY):** Focused on rural electrification and feeder separation for agricultural and non-agricultural loads.
  - ♦ Strengthened sub-transmission and distribution infrastructure in villages.
- **SAUBHAGYA Scheme:** It aims to achieve universal household electrification.
  - ♦ Over 2.8 crore households were connected to the grid, improving rural productivity and welfare
- **Ujwal DISCOM Assurance Yojana (UDAY):** Aimed at financial turnaround of state-owned distribution companies (DISCOMs).
  - ♦ Focused on reducing AT&C losses, improving billing efficiency, and eliminating the gap between cost and revenue.
- **National Power Portal:** Centralized data and analytics for generation, transmission, and consumption.
- **One Nation, One Grid:** Unified national grid enables seamless power flow across regions.
  - ♦ Enhances reliability, efficiency, and market integration.

- **Revamped Distribution Sector Scheme (RDSS):** Launched to modernize DISCOMs with smart meters, feeder automation, and loss reduction targets.
  - ♦ Linked financial support to performance metrics.

### Way Forward: Toward an Electricity Revolution

- **Breaking the Cycle of Inefficiency:**
  - ♦ **Radical simplification** of electricity tariffs, based only on technical factors.
  - ♦ **Elimination of cross-subsidies**, ensuring users pay only efficient costs.
  - ♦ **Targeted subsidies** for genuinely poor households, ending benefits for the rich.
  - ♦ **Shared transition costs** between the Centre and states to finance reforms.
  - ♦ **Orderly exits** for unviable discoms to increase reform pressure.
- India's power distribution remains one of the last monopolistic bastions of the public sector. Telecommunications reform in the 1990s sparked the IT revolution; **similar competitive reforms in electricity** could unleash a new wave of productivity and growth.

Source: IE

### Daily Mains Practice Question

**[Q]** Evaluate the role of India's power sector in driving economic growth. Discuss how it contributes to industrial development, rural empowerment, and fiscal sustainability.

