MONITORING PROGRESS OF POWER PROJECTS

(As on September 2025)

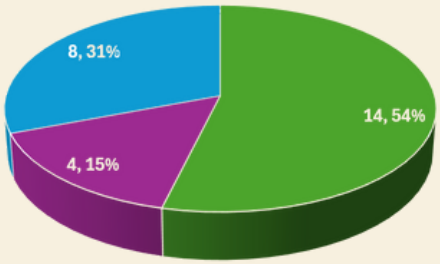
PROJECTS UNDER CONSTRUCTION V/S DELAYED

Sector	Under Construction		Delayed		Delayed (%)	
	No. of Projects	Capacity (MW)	No. of Projects	Capacity (MW)	No. of Projects (%)	Capacity (%)
Generation: Central, State and Private Sector						
Thermal	26	37,620	12	18,460	46%	49%
Hydro^	26	13,224	23	9,814	88%	74%
Pumped Storage Projects^	11	12,110	3	1,240	27%	10%
Renewable Energy*	661	1,48,116	219	49,156	33%	33%
Nuclear	10	8,000	6	4,600	60%	58%
Transmission (TBCB - ISTS): PGCIL and Other Transmission Operators						
Transmission Lines (ckm)	87	35,074	42	19,347	48%	55%
Transmission Capacity (MVA)		3,18,400		1,46,500		46%

TBCB- *Tariff Based Competitive Bidding,* ***ISTS***- *Inter State Transmission System,* ***PGCIL***- *Power Grid Corporation of India Limited*
Note: *We have considered the Project as a whole and not unit-wise. If any unit of a project is delayed, then that project is categorised as a Delayed project.*
**Renewable Energy includes only Solar, Wind and Hybrid.*
^The original Scheduled Commercial Operation Date (SCOD) is sourced from PIB notifications at the time of project announcement or foundation stone laying or old CEA reports.
Source: *CEA - Broad Status Report- Under Construction Thermal Projects (Sept. 2025), Quarterly Report on Under-construction Renewable Energy Projects (Sept. 2025), State Profile on Hydro Development (Sept. 2025), Status of Pumped Storage Development in India (Sept. 2025), Monthly Progress Report of Transmission Projects awarded through Tariff Based Competitive Bidding Route (Under Construction Projects) (Sept. 2025), Atomic Energy Regulatory Board (Nuclear Projects)*

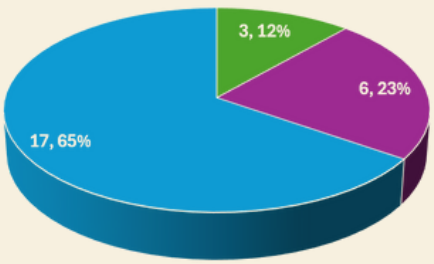
UNDER CONSTRUCTION PROJECT STATUS

THERMAL



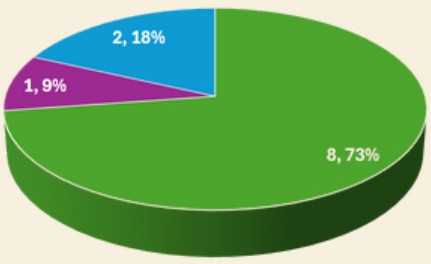
TOTAL U/C PROJECTS: 26

HYDRO



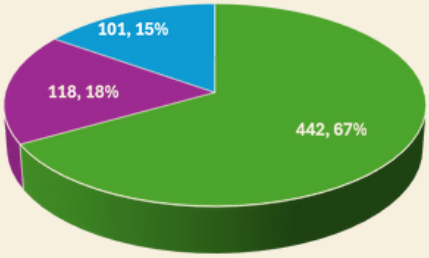
TOTAL U/C PROJECTS: 26

PUMPED STORAGE PROJECTS



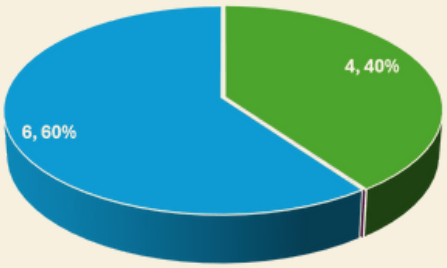
TOTAL U/C PROJECTS: 11

RENEWABLE ENERGY SOURCES



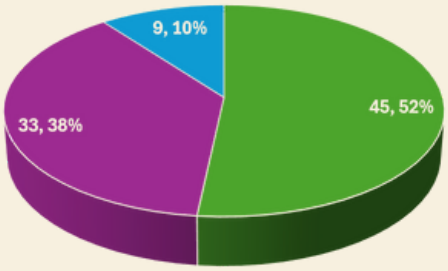
TOTAL U/C PROJECTS: 661

NUCLEAR



TOTAL U/C PROJECTS: 10

TRANSMISSION PROJECTS (TBCB)



TOTAL U/C PROJECTS: 87

Projects as per timeline | Delayed Projects (<1 year) | Delayed Projects (>1 year)

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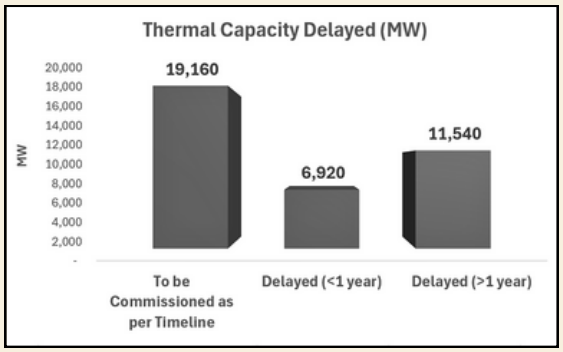
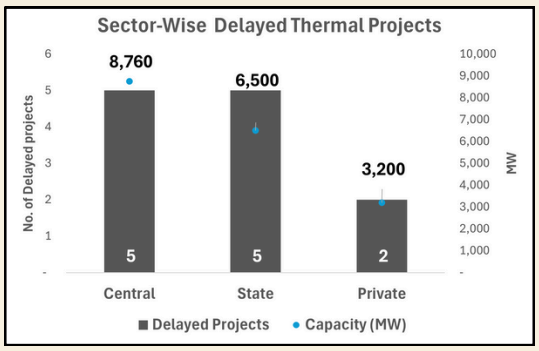
THERMAL PROJECTS





Major Reasons for Delay in Thermal Power Projects

1. Contractor Underperformance: Slow progress by Engineering, Procurement, and Construction (EPC) contractors and sub-agencies, including inadequate manpower mobilisation.

2. Procurement Delays: Late supply of critical equipment and materials such as boiler parts, cranes, etc.

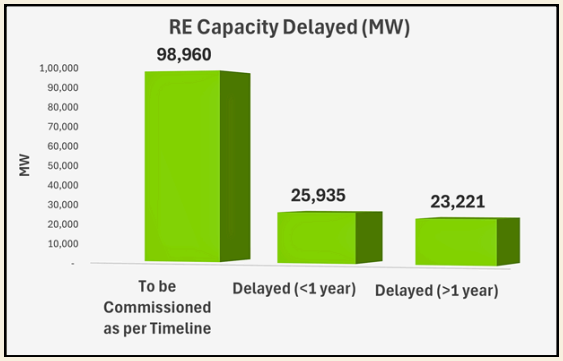
3. Land & Clearance Issues: Incomplete land acquisition and delays in approvals for corridors, and related infrastructure.

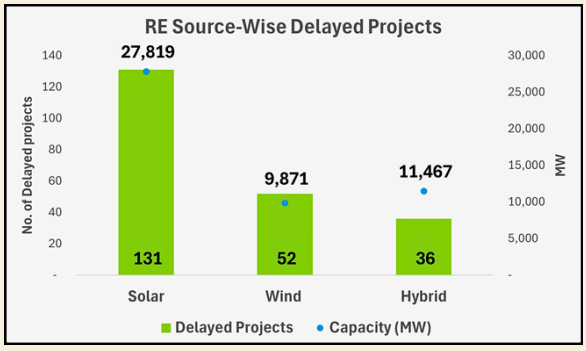
4. COVID-19 Disruptions: COVID-19 Lockdowns caused labour shortages, and non-availability of industrial oxygen impacting fabrication and erection work, disrupting the foundational work of the projects.

5. Legal & Social Constraints: Litigation, National Green Tribunal (NGT) orders, and local agitations leading to suspension or slowdown of site activities.

6. Weather & Site Conditions: Heavy monsoons, flooding, and difficult ground conditions hindering movement of men and machinery.

RENEWABLE ENERGY(RE) PROJECTS





Note: *Projects delayed by more than 1 year also includes projects where there is delay in PPA signing or LTA connectivity*

Major Reasons for Delay in RE Power Projects

1. Land Acquisition Issues: Delays in securing land parcels or obtaining land-use permissions slow down project initiation.

2. Right of Way (RoW) Constraints: Challenges in accessing transmission routes or laying evacuation lines halt construction progress.

3. Transmission Infrastructure Not Ready: Substations or evacuation networks are incomplete, preventing project commissioning.

4. Connectivity Delay / Statutory Approvals: Delays in obtaining CTU/STU connectivity, forest clearance, or environmental approvals postpone execution.

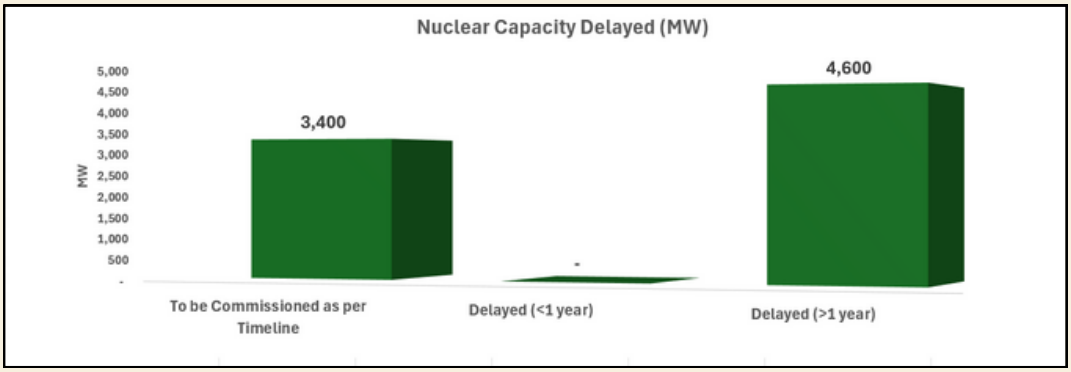
5. Litigation / Regulatory Matters: Court cases, disputes, or policy ambiguities stall construction timelines.

6. Design & Engineering Delays: Slow progress in module design, BoP engineering, or equipment finalization impacts project schedules.

7. Connectivity–Scheduled Commercial Operation Date Mismatch: Projects receive connectivity, but scheduled commissioning dates shift due to developer or system delays.

8. PPA/PSA Pending: Lack of clarity on Power Purchase Agreement (PPA), Power Sale Agreement (PSA) tie-ups, or bidding timeline leads to project delay.

NUCLEAR PROJECTS



Major Reasons for Delay in Nuclear Projects

1. Design Reviews & Safety Upgrades: Incorporation of enhanced safety features and design modifications after global events like the Fukushima accident significantly extended timelines.

2. Technological Challenges: New reactor technologies required extensive testing, troubleshooting, and validation, causing inherent delays in construction and commissioning.

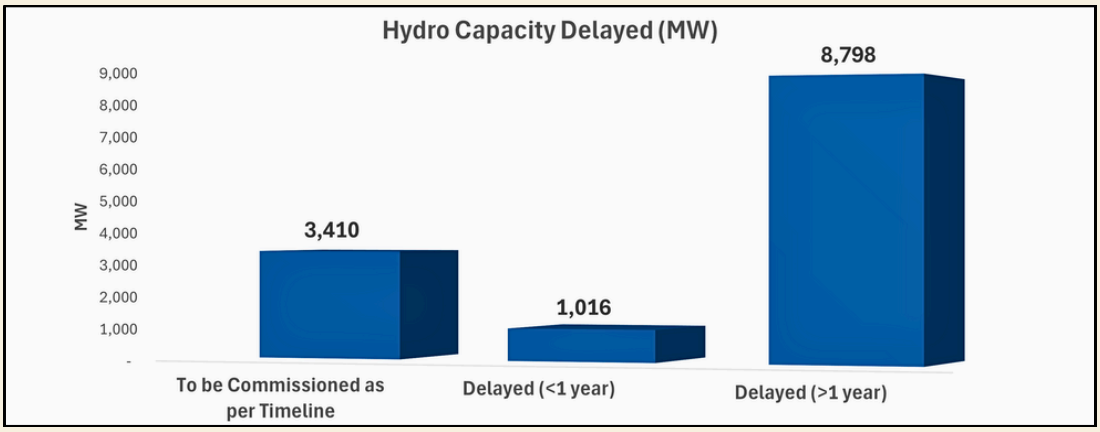
3. Supply Chain & Geopolitical Disruptions: The Russia–Ukraine conflict affected availability of critical equipment and materials, slowing project progress.

4. Material Shortages & Local Restrictions: Non-availability of rock products due to halted quarry operations and site-specific restrictions impacted civil works.

5. Contractor Financial Stress: Financial constraints faced by key contractors led to slower mobilization and delayed completion of construction milestones.

6. COVID-19 Pandemic Impact: Manpower shortages, supply interruptions, and restricted movement during the pandemic further disrupted execution schedules.

HYDRO PROJECTS



Major Reasons for Delay in Hydro Projects

1. Land Acquisition & Right-of-Way Issues: Delays in acquisition of land at critical locations such as adits, Head Race Tunnel (HRT), powerhouse areas, and transmission line corridors significantly slowed project execution.

2. Geological & Technical Challenges: Unforeseen adverse geological conditions, including weak strata and tunnel collapses, led to repeated stoppages of tunnel works and malfunctioning or jamming of Tunnel Boring Machines (TBMs).

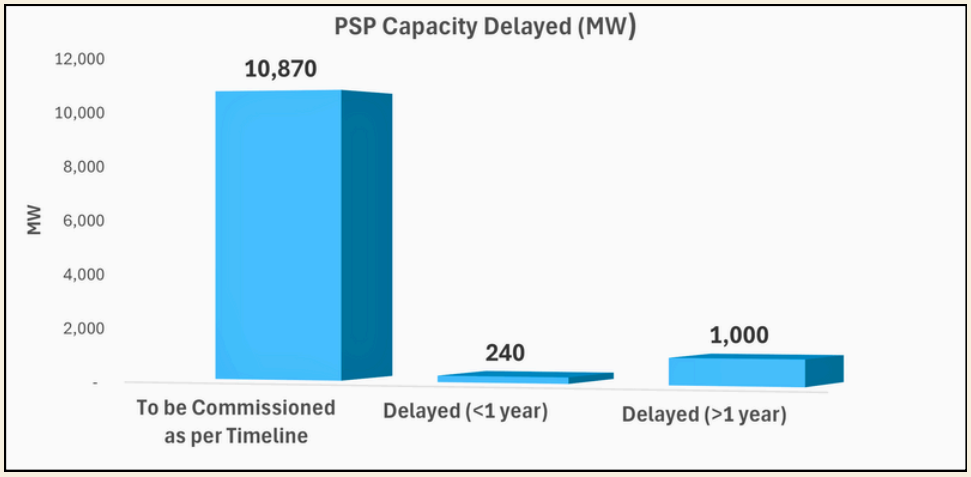
3. Contractor Performance Issues: Slow progress, poor mobilization, and non-performance of key contractors resulted in termination of contracts for major components such as HRTs and barrage works, causing substantial time overruns.

4. Natural Calamities & Extreme Weather Events: Unprecedented floods and extreme rainfall damaged cofferdams, approach roads, and other temporary and permanent works, necessitating restoration and redesign.

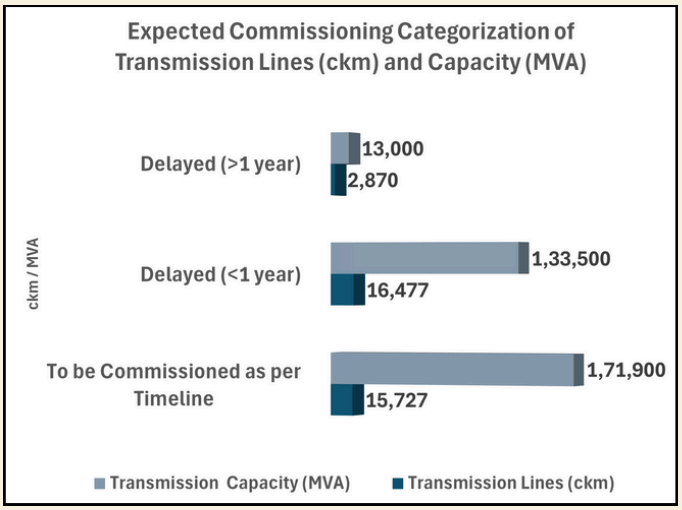
5. Inter-Agency & Statutory Clearance Issues: Delays due to coordination with defense and other authorities, including relocation of Army installations (e.g., ammunition depots), affected timely execution of project works.

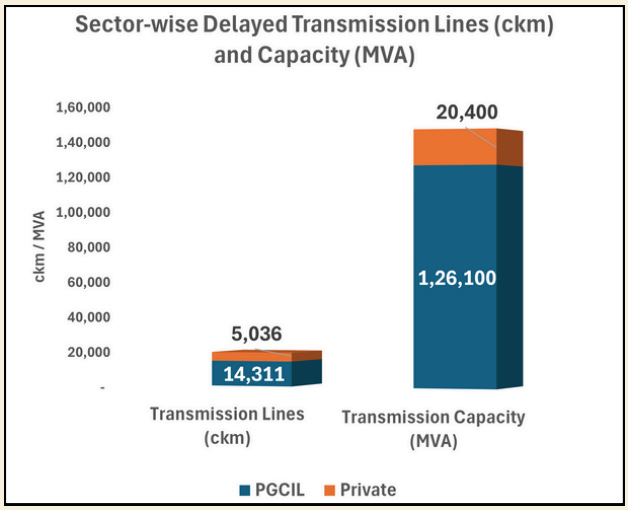
6. Transmission Infrastructure Constraints: Delay in completion of associated transmission lines emerged as a critical bottleneck, impacting commissioning despite substantial completion of generation works.

PUMPED STORAGE PROJECTS (PSP)



TRANSMISSION PROJECTS (TBCB)





Major Reasons for Delay in Transmission Projects

1. Land Acquisition & RoW Constraints: Delays due to pending allotment of government land, private land disputes, compensation issues, and unresolved RoW permissions.

2. Forest & Wildlife Clearances Pending: Multiple stretches awaiting Stage-I/Stage-II approvals, wildlife permissions (National Board Wildlife/State Board Wildlife), payment demands, and prolonged processing at state forest departments across several states.

3. Regulatory & Inter-Agency Bottlenecks: Pending approvals fromProject Screening Committee (PSC), Rural Electrification Corporation (REC), Power Line Clearance (PLC), and Divisional Forest Officer (DFO) offices; delays in shutdown permissions from

4. Construction & Material Dependencies: Work held up due to pending tower foundations, erection activities, stringing gaps, shutdown unavailability, pending installation/testing of reactors.

5. State-Specific Administrative Delays: Issues like non-finalisation of compensation orders, high compensation demands, quarry operation bans (impacting rock supply), and state-level clarifications.

6. Interlinked Project Dependencies: Commissioning dependent on completion of upstream/downstream transmission lines, causing cascading delays when linked infrastructure is unfinished.

POWER FOUNDATION OF INDIA

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