

Addressing Carbon Emissions & Environmental Impact of Coal Based Thermal Power Generation

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In order to reduce carbon emissions and environmental impact of coal-based thermal power generation, the Government is taking following steps:

- (i) Ministry of Power is promoting installation of efficient Supercritical/ Ultra Supercritical units which are more efficient and leading to reduced CO₂ emission per unit of electricity generation. A total capacity of Supercritical/ Ultra-supercritical units of 70,190 MW (101 Units) and 7,680 MW (11 units) have been commissioned respectively till 31.10.2025
- (ii) To improve the energy efficiency, the Perform Achieve and Trade (PAT) scheme has been implemented in various thermal power plants. Improvement in energy efficiency reduces carbon dioxide emission in thermal power generation.
- (iii) Ministry of Power has issued a comprehensive policy on 07.11.2025 for co-firing of Bio-mass pellets [including torrefied charcoal made from Municipal Solid Waste (MSW)] in Coal Based Power Plants to use 5-7% blend of biomass pellets and/or MSW-based torrefied charcoal along with coal, after assessing the technical feasibility.
- (iv.) Reduction of Stack Emissions - MoEF&CC vide notification dated 07.12.2015 and its subsequent amendments has notified norms in respect of reducing stack emissions such as Suspended Particulate Matter (SPM), Sox & NO_x from coal based Thermal Power Plants. To meet these standards, Thermal Power Plants are using techniques like ElectroStatic Precipitator (ESP), Flue Gas Desulphurization (FGD), NO_x Combustion Modification etc.
- (v) NTPC Ltd. has commissioned a 20 Tonnes Per Day (TPD) capacity Pilot Carbon Capture Project at its Vindhayachal Thermal Power Station

As on 31.10.2025, the total installed capacity of thermal power generation in the country and its share in the overall energy mix are given below:

Category	Installed Capacity (MW)	% Share in Total

Fossil Fuel	Coal	2,18,258	43.22%
	Lignite	6,620	1.31%
	Gas	20,132	3.99%
	Deisel	589	0.12%
	Total Fossil Fuel Based Capacity	2,45,600	48.63%

This Information was given by the Minister of State for Power, Shri Shripad Yesso Naik, in a written reply in the Rajya Sabha today.

NR/MD

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