

**GOVERNMENT OF INDIA
MINISTRY OF POWER**

**LOK SABHA
UNSTARRED QUESTION NO.2764
ANSWERED ON 12.12.2024**

COAL FIRED ELECTRICITY OUTPUT AND EMISSION

2764. SHRI YADUVEER WADIYAR:

**Will the Minister of POWER
be pleased to state:**

- (a) the data on India's coal-fired electricity output and emissions during the last five years and the current year;**
- (b) whether the Government has any data on the effectiveness of current technologies and practices in reducing emissions from coal-fired power plants including any recent advancements or pilot projects and if so, the details thereof; and**
- (c) the measures taken/being taken by the Government to abide by the international conventions during the process of coal-fired electricity output?**

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

- (a) The details of India's coal-fired electricity generation and CO₂ emissions during the last five years and the current year are at Annexure.**
- (b): In order to reduce emissions, the Government is presently adopting various technologies and practices as mentioned below:**
 - (i) Ministry of Power is promoting installation of efficient Supercritical/ Ultra Supercritical units over Subcritical Thermal Units as these units are more efficient and their CO₂ emission per unit of electricity generation is less than subcritical units. Further, GoI has also planned to set up a highly efficient 800 MW Advance Ultra Supercritical (AUSC) thermal power plant.**
 - (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) Carbon Capture Utilization and Storage (CCUS) project are under implementation in few thermal power plants on pilot basis to reduce carbon dioxide in the flue gases.**
 - (iv) Ministry of Power has issued a policy on Bio-mass Utilization for Power Generation through Co-firing in Coal based Power Plants to use 5-10 % blend of biomass pellets made, primarily of agro-residue along with coal after assessing the technical feasibility.**

(c): As per updated Nationally Determined Contribution (NDC) submissions to United Nations Framework Convention on Climate Change (UNFCCC) in August 2022, India has committed to achieve 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030, with the help of transfer of technology and low-cost international finance including from Green Climate Fund (GCF). India has achieved non-fossil installed capacity of 211.40 GW (46.52 % of total installed Capacity of 454.45 GW) as on 31.10.2024.

The Government has taken following capacity addition programme in non-fossil sectors to reduce dependence on coal based generation:

- i. 13,997.5 MW of Hydro Electric Projects and 6,050 MW of Pumped Storage Projects are under construction and 24,225.5 MW of Hydro Electric Projects and 50,760 MW of PSP are under various stage of planning.**
- ii. 7,300 MW of Nuclear Capacity is under construction and 7,000 MW is under various stages of planning/approval.**
- iii. 1,27,050 MW of Renewable Capacity is under construction and 89,690 MW is under various stages of tendering.**

Further, Government has undertaken the following steps to promote uptake of Renewable Energy :

- i. Transmission plan for integration of 5,00,000 MW RE capacity is being implemented in a phased manner commensurate with RE capacity**
- ii. Waiver of ISTS charges on transmission of electricity generated from Solar, Wind, Pumped Storage Plants and Battery Energy Storage Systems.**
- iii. Renewable Purchase Obligations (RPOs) and Energy Storage obligations Trajectory till 2029-30.**
- iv. Construction of Green Energy Corridors and putting in place 13 Renewable Energy Management Centres.**
- v. Setting up of Ultra Mega Renewable Energy Parks to provide land and transmission to RE developers for installation of RE projects at large scale.**
- vi. Production Linked Incentive (PLI) Scheme: The Government of India is implementing the Production Linked Incentive (PLI) Scheme for High Efficiency Solar PV Modules, for achieving domestic manufacturing capacity of Giga Watt (GW) scale in High Efficiency Solar PV modules, with an outlay of Rs. 24,000 crore.**

ANNEXURE

ANNEXURE REFERRED IN REPLY TO PART (a) OF UNSTARRED QUESTION NO. 2764 ANSWERED IN THE LOK SABHA ON 12.12.2024

Details of coal-fired electricity generation and CO₂ emissions during the last five years and the current year:

| Year | Coal fired Electricity Generation (BUs) | CO₂ emission (Million Tonne) from Coal Based Generating stations |
|---|--|--|
| 2019-20 | 961.21 | 867.92 |
| 2020-21 | 950.93 | 853.82 |
| 2021-22 | 1041.48 | 943.04 |
| 2022-23 | 1145.90 | 1039.55 |
| 2023-24 | 1260.9 | 1135.32* |
| 2024-25 (upto Oct. 2024) | 760.67 | 684.91** |

*** Provisional Figures**

**** CO₂ baseline data report for emission is prepared only year wise, hence tentative figures for 2024-25(upto October 2024) is calculated based on previous year data on pro-rata basis indicated.**
