

**GOVERNMENT OF INDIA  
COAL  
LOK SABHA**

UNSTARRED QUESTION NO:763  
ANSWERED ON:27.11.2012  
CARBON EMISSION FROM COAL PLANTS  
Deo Shri Kalikesh Narayan Singh

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

- (a) whether the Government has taken any initiatives for reduction of carbon emissions from coal plants by the year 2020;
- (b) if so, the details and the progress achieved so far in this regard;
- (c) whether the Government plans to make use of carbon capture technologies and clean coal to cut emissions; and
- (d) if so, the details thereof?

**Answer**

MINISTER OF STATE IN THE MINISTRY OF COAL (SHRI PRATIK PRAKASHBAPU PATIL)

(a) & (b): Yes, Sir. Government of India is following a low carbon growth strategy for power sector development as per which all efforts are being made to minimize the carbon emission. The following initiatives have been taken to reduce the carbon emission from coal based power plants:

1. Priority has been accorded for developing cleaner resources like Hydro, nuclear and other renewable energy resources for power generation.
2. Supercritical technology has been adopted to enhance the efficiency of coal fired power generation and reduce coal consumption and carbon emission, with the adoption of supercritical parameters, efficiency gain of about 2% is possible over sub critical units leading to about 5% lower fuel consumption compared to typical 500 MW sub critical unit. All Ultra mega projects being implemented are necessarily required to adopt this technology. A capacity addition of 6080 MW has been generated from supercritical units during XI Plan.
3. Renovation and Modernization (R&M) and Life Extension (LE) of existing old power stations provided an opportunity to get additional generation at low cost in short gestation period, besides generation improvement, it results in improvement of efficiency thus reducing fossil fuel consumption.
4. Number of units is running on low efficiency and low Plant load factor in the country. These units are planned to be retired in a phased manner in case of which R&M is not feasible. A capacity of 2398 MW has already been retired during 11th Plan and about 4030 MW is planned to be retired during the 12th Plan.
5. Perform Achieve and Trade Scheme is a market based mechanism in National Mission on Enhanced Energy Efficiency (NMEEE) wherein 144 fossil fuel fired power generating plants are identified as Designated Consumers (DC). The reduction targets for each power plants is in terms specific percentage of their deviation of the operating Net heat rate from the design Net heat rate.

(c) & (d): Yes, Sir. To make use of carbon capture technologies and clean coal to cut emission, the following initiatives have been taken:

1. For Carbon Capture Technology, during the Inter-Ministerial Meeting held on 23.3.2009 to finalize Government of India's stand on Carbon Capture and Storage (CCS) under the Chairmanship of Secretary (Power), it was emerged that "India supports global efforts at R&D technologies aimed at reducing CO<sub>2</sub> emissions from coal-based industries. In this regard India supports R&D into CCS technologies which, at this time, still remain unproven. Government has reservations as to its safety, cost and permanence of CO<sub>2</sub> storage and consequence of leakages. However, India will continue to participate in Research and Development (R&D) activities and is willing to work on CCS technologies by deputing its scientists and engineers to sites in other countries where R&D into these technologies are being undertaken. Government also support R&D into activities that seek to fix CO<sub>2</sub> convert it into productive uses".
2. In respect of Clean Coal Technology, during 12th plan supercritical units are likely to constitute about 36% of the coal based capacity addition. Further, it has been decided that in 13th Plan, coal fired capacity addition shall be through supercritical units only. In this regard, a Memorandum of Understanding (MoU) has been signed between Indira Gandhi Centre for Atomic Research (IGCAR), National Thermal Power Corporation (NTPC) and Bharat Heavy Electricals Limited (BHEL) for development of Advanced Ultra Supercritical Technology with 700 C temperatures.