



# Steps Taken to Improve The Efficiency of Coal Based Thermal Power Plants

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**The Government has taken several measures to improve the efficiency of coal based thermal powerplants & improve the air quality in the vicinity of these plants. These are as follows:-**

- i) Supercritical technology has already been adopted for thermal power generation. The design efficiency of Supercritical units is about 5% higher than typical 500 MW subcritical units and these (supercritical) units are likely to have correspondingly lower fuel consumption and CO<sub>2</sub> emissions in ambient air. A capacity addition of 39,710 MW based on supercritical technology has already been achieved and 48,060 MW of supercritical is in the pipeline.
- (ii) All Ultra Mega Power Projects (UMPPs) are required to use supercritical technology.
- (iii) Coal based capacity addition during 13<sup>th</sup> Plan shall be through super-critical units.
- (iv) Indigenous research is being pursued for development of Advanced Ultra Supercritical Technology (A-USC) with targeted efficiency improvement of about 10% over supercritical unit. Indira Gandhi Centre for Atomic Research (IGCAR), NTPC and BHEL have signed an MoU in August 2010 for development of 800 MW A-USC indigenous demonstration plant with main steam pressure of 310 kg/cm<sup>2</sup> and temperature of 710/ 720 deg C.
- (v) A capacity of about 7751.94 MW of old and inefficient unit has already been retired till date.
- (vi) To facilitate State Utilities/IPPs to replace old inefficient coal based thermal units with supercritical units, Ministry of Coal, Government of India has formulated a policy of automatic transfer of LOA/Coal linkage (granted to old plants) to new (proposed) super-critical units.
- (vii) Perform Achieve and Trade (PAT) Scheme under National Mission on Enhanced Energy Efficiency is under implementation by BEE (Bureau of Energy Efficiency). In PAT cycle-II, individual target for improving efficiency has been assigned to 154 thermal power stations.
- (viii) High efficiency Electrostatics Preceptor (ESP) are installed to capture Particulate Matters (Fly ash) from Flue gases.
- (ix) Low NO<sub>x</sub> burners are installed for reducing NO<sub>x</sub> emission from flue gases.
- (x) SO<sub>2</sub> emission control is achieved through dispersion of flue gases through tall stacks (275 metres) to reduce the concentration of polluting gases at ground level.

This was stated by Shri Piyush Goyal, Minister of State (IC) for Power, Coal & New and Renewable Energy and Mines in a written reply to a question in the Lok Sabha today

