

1. Countries like India which depend majorly on coal for their electricity production face a surmounting international pressure and an environmental concern. Discuss how the coal fed power plants can be uplifted using newer technologies? Examine how the revised standards for coal-based thermal power plants will help in minimising pollution?

**Answer:**

India derives nearly 60% of its energy from coal. These thermal power plants emit CO<sub>2</sub>, NO<sub>2</sub>, SO<sub>2</sub> which cause serious environment and health damage in the form of acid rain, global warming and respiratory disease. Therefore if the environmental impact of these can be reduced it will help in great way to achieve Indian obligation for sustainable development.

Clean coal technologies can be used to achieve this which are:

- Chemically washing minerals and impurities from coal to reduce SOX
- Coal gasification
- Carbon capture and sequestration to remove CO<sub>2</sub> from the flu gas
- Improved technology to remove flu gas (the gas emitted after the burning of coal through chimney)
- Dewatering of lower rank coal (brown coal) to improve its efficiency.

Min of Environment has finalized, in consultation with CPCB new emission norms for coal power plants.

- The new standards are aimed at reducing emission of PM<sub>10</sub>, sulphur dioxide and Oxide of nitrogen, which will in turn help in bringing about an improvement in the Ambient Air Quality (AAQ) in and around thermal power plants.
- The technology employed for the control of the proposed limit of Sulfur Dioxide - SO<sub>2</sub> & Nitrogen Oxide - NO<sub>x</sub> will also help in control of mercury emission (at about 70-90%) as a co-benefit.
- Limiting the use of water in thermal power plant will lead to water conservation as thermal power plant is a water-intensive industry. This will also lead to a reduction in energy requirement for drawl of water.

Indian government has been making continuous efforts to improve the quality of environment in India. Imposition of coal cess, air quality index to give air quality data and categorization of industries based on their environment impact into four categories are some other steps taken in this direction.

## PRACTICE QUESTIONS

### **Answer the following Questions**

1. The views of Gandhi, Nehru and Bose broadly represented the major strands of debate on the question of India's support to British efforts in World War-II. Elucidate. (150 words)
2. Even as the British tried to suppress it at every conceivable opportunity, the vernacular press played a crucial role in the freedom movement. Discuss. (150 words)

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