

Evaluation of Clean Coal Technologies

Foreword

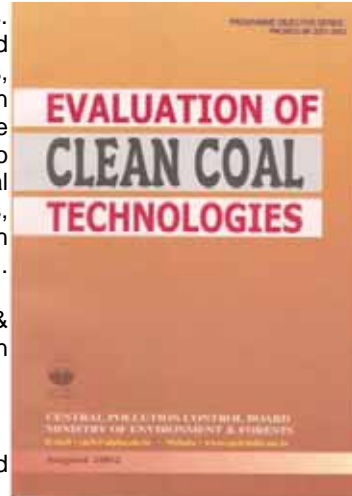
Coal has been used as primary energy source for hundreds of years. However, coal is a polluting fuel. The conventional pulverised coal fired power stations emit large amounts of pollutants like particulates, sulphur-di-oxide and oxides of nitrogen. Technologies have been developed to improve the environmental performance of coal-use techniques which are less polluting. Such technologies are designed to enhance both the efficiency and environmental acceptability of coal extraction, preparation and use. These technologies reduce emissions, waste (ash), and increase the amount of energy gained from each tonne of coal.

This report examines the current status of coal combustion & processing technologies internationally, and their viability in Indian context. Technologies that are examined include the following:

- Pre-combustion technologies (coal washing);
- End-of-pipe clean-up equipment for SPM, SO_x and NO_x; and
- Advanced coal generation technologies (Atmospheric and Fluidized Bed Combustion, Integrated Gasification Combined Cycle System, and Oil/gas Fired Cycle Power Plant)

The report is the outcome of team efforts of Tata Energy Research Institute, and my colleagues Dr. S.K. Paliwal, Scientist 'B', Dr. B. Sengupta, Member Secretary, Shri Lalit Kapur, SEE, Dr. S. A. Dutta, Scientist 'C' and Ms. Meetu Kapoor, JRF. Shri Mahendra Kumar Gupta, DEO has typed the manuscript.

We hope the report will be useful for user industries, boiler manufacturers, regulating authorities, academic institutions & others concerned with pollution control.




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