

Technology Option for Cement Sector in Karnataka

In Cement sector, the energy demand has been estimated based on the current status of the technologies and adoption of new technologies by the industries in future. The Cement Industries in Karnataka are less efficient compared with the national average efficiency indicator. This shows that the Cement industries in Karnataka have additional area for improvement. Cement Sector in Karnataka is one of the major energy consuming sector having 6 energy intensive units covered under PAT with a total energy consumption of around 1.76 Million tonnes of oil equivalent (TOE). For Cement sector, four technology options have been defined. These options are not only installation of new technology but opportunities available for industry to reduce their energy demand and improve their efficiency.

A. Default

This option assumes implementation of common technology options which are already penetrated into the market and well proven for energy reduction. The trajectories of power consumption and specific energy consumptions under the default option are based on the chosen levels.

B. Increased Waste heat recovery (WHR)

The penetration of Waste heat recovery technology in cement plants of Karnataka is presently very low due to various reasons. In India also, the adoption of this technology is very limited. Under this technology option, adoption of this technology is assumed in all the cement industries in Karnataka which will result in reduction of overall electrical and thermal energy in their industry.

C. Increased Electricity from Grid

Cement industries in general prefer to produce the electricity through use of captive power plant rather to purchase electricity from the grid. This technology option assumes the impact of switching the power procurement to grid power instead of own generation. This is assumed considering the availability and reliability of the grid power. The captive generation has its own inefficiencies which in turns impacts the overall efficiency of the plant. Switching to the grid power will improve plants efficiency and reduce power losses in the industry.

D. Increased Alternate Fuels and Raw Materials

Alternate fuels and raw material (AFRM) option impacts substantial reduction in thermal energy consumption in cement plant. In India the use of AFRM is less than 1 per cent. Therefore huge potential is available in cement industry in this technology options to replace the coal consumption by around 30-50 percent with the AFRM. This option should be supported by government incentives as the investment is high to avail the benefits.