NTPC Initiatives in Renewables

D.K.Jain and A.K. Mohindru

NTPC Limited, India

ABSTRACT

NTPC with 34194 MW installed capacity is the largest public Utility in India, contributing to about 28% of total generation and 18% capacity of the country. NTPC is targeting to be 128 GW Company by 2032 with non-fossil fuels of 28%. NTPC is conscious of the responsibility of adopting low carbon path and in pursuit of this a greater focus is being given to non-fossil fuels along with improving efficiency. As a policy it has been decided to discontinue installation of machines lower than 250 MW.

The first super critical unit of NTPC has been commissioned recently, heralding the era of super critical technology. Under National Mission indigenous development of advance ultra super critical technology on the way which will have enhance efficiency in the range of 45-47% and about 15-17% less CO_2 emission as compared to conventional 500 MW sub-critical thermal power plants.

NTPC has drawn a long term technology roadmap up to 2032 which involves development, adoption and promotion of safe, efficient and clean technologies for entire value chain of power generation business. Some of the target technologies includes setting up of Ultra Supercritical Units, Ddevelopment of 100MW IGCC power block.

NTPC plans around 1000 MW from renewable sources. Currently implementing 1320 MW hydro capacity. 105 MW of solar projects and 175 MW of wind power are under development.

NTPC Energy Technology Research Alliance (NETRA) has been created with research on developing technologies for efficiency improvement, renewable, waste heat utilization, waste management and climate change besides providing scientific support to utilities for improving their performance. Some of the technologies undertaken at NETRA cover development of 1MW solar thermal , PV, integrated biodiesel, energy from waste (waste heat, municipal solid waste, etc).