



Homi Bhabha National Institute

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HBNI Colloquium

Relevance of Small Modular Reactors for a De-carbon Energy Sector

THURSDAY

27 JANUARY, 2022

START AT

05:15 PM

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&

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Abstract of HBNI Colloquium

Energy is one of the most critical requirements for the development of a nation. Of course, India, at present is one amongst the top producers and consumers of energy globally, however, our per capita energy consumption is still very low. We are a developing nation, with an ambitious GDP growth rate which would require significant demand in energy in domestic, transport, industries, infrastructure, etc for a growing population. Today, the country's energy supply is primarily driven by carbon based sources. The international pledge to reduce the global warming due to emission of carbon dioxide gases, would require replacement of carbon based energy sources with clean and green energy sources very soon.

This talk would focus on energy demand of India by 2050, contributions from renewable and requirements of nuclear to meet the low carbon energy budget of India. Small modular reactors (SMRs) are being developed globally as new frontiers in nuclear reactor technology for enhanced safety, economics, accelerated capacity building, and particularly their role in replacement of retired coal plants. Summary of developments worldwide will be presented. Relevance of SMRs for Indian energy sector will be discussed. Apart from electricity production, the energy sector would require hydrogen and high temperature carrying fluids for industry requirements. This talk would also present role of SMRs for hydrogen production, high temperature nuclear heat for industries and desalination.

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