

ROAD MAP FOR ENERGY RESEARCH – 2035

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ABSTRACT

Energy drives the nation. For developing economies such as India and China, the GDP growth is critically linked to the usage of energy. Currently, in India oil, gas and coal constitute the major share of the energy basket. Coal predominantly is used for power generation while oil and gas run the transportation and industrial sectors. With the passage of time, the use of oil, gas and coal will reduce and would be increasingly replaced by renewables which may then perhaps constitute significant part of the energy basket. This would also accelerate due to emphasis on reducing carbon foot print as decided in COP 21 in Paris.

The above factors will drive the future areas of research to meet the future energy demand as well as the requirement of clean energy. Some of the areas which would be of high priority for research is expanding the existing sources of energy supply, improving energy efficiency as well as developing alternative and renewable energy sources. Simultaneously, renewed focus is required to develop advanced energy materials which would be able to sustain the deployment of future technologies including materials for catalysis, solar, wind separation process, utilization of low cost feedstocks etc. In order to sustain development in an environmental friendly manner, innovations are required in the area of waste to wealth, advancement in automotive sector etc.

As we go along to 2035, strong regulatory and policy framework would also be required for which strong scientific bases is necessary; I strongly suggest that a fresh look is required to design methodologies to generate such data which will help the Government in formulating such policies.

This presentation outlines the energy outlook 2035 as well as discusses the research areas which would have to be pursued to meet the nation's energy demand for next 20 years.
