

## **India Energy Security Scenarios (IESS) 2047**

In view of the rising energy demand and sticky import dependency, the need for long term energy planning for India remains as strong as ever. It has also become important to look at the distant medium term, i.e., the next 3-4 decades, looking beyond 2031-32 the terminal year of the Integrated Energy Policy projections. While doing so, the Indian Government is often provided long-term energy demand/supply numbers estimated by international agencies. Several of them including EIA, IEA as well as corporates like Shell, BP, Mckinsey, etc., have presented India's energy demand-supply scenarios in the years 2035-2050. Projecting India's energy demand/supply is particularly driven by the fact that with opening up of the economy, and rising economic development, India has become an important international player in the global energy scene.

In view of the above, NITI Aayog, Government of India developed the IESS, 2047, which is an energy scenario building tool. The guiding ambition of this is to develop energy pathways leading up to the year 2047, comprising of likely energy demand and supply scenarios. The tool has been so developed, that it can create hundreds of scenarios with different combinations of levels/efficiencies of energy demand and supply sectors. Since the Excel model in the IESS, 2047 has the capability to aggregate both the energy demand and supply choices of the user, it is a handy tool to suggest measures to shift the energy pattern in such a way, that the country's energy security considerations are advanced.

A detailed examination of the tool will reveal how changes in choices of energy demand and supply, yielding different levels of energy import can help a planner to decide the sector(s) in which interventions can be more effective to meet the desired policy objectives. Since the tool also offers fuel-wise data, it is also possible to see as to which demand sectors are to be influenced through suitable policy measures, to curb consumption of such fuels in which India is more import dependent. Hence, it is a handy tool to use, for those interested in understanding the energy security dimensions of the country.

IESS, 2047 has been used in new National Energy Policy of India which is in draft stage. Apart from that it is also used to derive the Intended Nationally Determined Contributions (INDCs) of India for COP 21 in Paris. Many States have expressed their interest to have their state specific calculators and Odisha has already developed a state specific version of IESS with other states like Gujarat and West Bengal falling in line. Moreover, Institutions like Indian Institute of Technology (IIT), Mumbai have adopted IESS in their course. Therefore, IESS has been used by the policy makers and the academic world in their day to day research activities fulfilling the primary purpose of IESS.

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