Institute Lecture

Energy in India: Strategies for the Future

Dr. Ajay Mathur,
Director General, Bureau of Energy Efficiency, Government of India

Wednesday, 3rd October 2012, Time: 6.00 PM, Venue: L-1, Lecture Hall Complex

Abstract

Energy supply in India is currently about 0.5 ton oil equivalent (toe) per capita per year, which is far less than the minimum energy supply of 3 toe per capita per year that has enabled countries to achieve Human Development Indices of 0.9 or more. As India strives to enhance energy supply, it faces three grand challenges: shortage of indigenous fuels and therefore increasing import dependence; limited access to clean energy, especially by the poor, and therefore need for expansion of energy distribution systems; and the increasing threat of climate change, and therefore the necessity to reduce the carbon intensity of our growth. These three challenges occur in an environment where the energy prices are already high (especially in comparison to people's incomes); energy tariffs are not high enough to meet the costs of the energy supply companies; and energy efficiency in generation and utilization is lower than the best-available technologies.

There are at least four major strategies that form the basis of our approach. The first strategy is to enable access to clean energy (electricity and LPG) for all citizens, especially those in rural areas. Tariff design and cost recovery form the basis of the second strategy. On one hand, this approach requires ensuring that poor households (those using less than 100 kWh a month of electricity and about 60 kg of LPG per year) have access to electricity and LPG at affordable (i.e. subsidized) prices, whereas on the other hand consumers using more energy pay full costs which are related to the time-of-the-day, and the season-of-the-year. This two-pronged strategy would ensure that there is dependable energy access, while also enabling cost recovery by the energy supply companies. The third strategy, that of enhancing energy efficiency, is to reduce the rate of growth of energy demand so that in the future the energy supply requirement is less than projected today. Consequently, this requires that norms for energy consumption for industry, energy efficient building codes, and standards for equipment and appliances are made more stringent periodically in order to ensure that new factories, buildings, and appliances are always on an efficiency enhancement path. The last strategy deals with enhancement and de-carbonization of energy supply systems.

These four strategies require investments, policy changes, and redesign of institutions. None of these are easy in the current political scenario, and their success will depend on an effective mix of political urgency, smart thinking, and visionary research.

About the speaker

After earning his BE in Chemical Engineering from the University of Roorkee, Dr. Ajay Mathur obtained his Ph.D from the University of Illinois in 1986. Before his current position as Director General at Bureau of Energy Efficiency, he was President of Suzlon Energy Limited.

Dr. Mathur is a distinguished alumnus of the University of Illinois. He is a Fellow of the Indian National Academy of Engineering and a Fellow of the Royal Institute of Chartered Surveyors. He has been honoured with the Global Energy Efficiency Visionary Award by Alliance to Save Energy in 2010.

His current interests include public policy initiatives to promote energy efficiency, private sector business models for clean energy enterprises, climate change negotiations, clean energy technology innovation, global environment issues, human and institutional management and development.

Tea at 5.45 PM **All interested are welcome.**

A. K. Chaturvedi
Dean of Research and Development
IIT Kanpur