सत्यमेव परमो धर्मः

INSTITUTE OF ECONOMIC GROWTH

University Enclave, University of Delhi (North Campus), Delhi-110 007, INDIA

November 22, 2019

SEMINAR NOTICE

Topic: **"Open Energy Modelling Session"**

Speaker/s: Dr. Oleg Lugovoy and Mr. Partha Basu
Environmental Defense Fund (EDF)

Chair: Professor Basanta Pradhan, IEG

The seminar details are as follows:

Date & time: **FRIDAY, NOVEMBER 29, 2019 AT 03.30 P.M.**

Venue: A.M. Khusro Room
Institute of Economic Growth,
Delhi-110 007

All are welcome.

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Abstract:
Even if the necessity for rapid reduction of GHG emissions is broadly acknowledged, there is no clear vision of how the economy can be decarbonized. Is decarbonization technically feasible? What are its economic implications? What investments would be needed and how would employment be affected? Achieving consensus on such critical questions is essential for decision-making, and should be broadly discussed using the results from models and scenarios developed from various perspectives.

Reference Energy System (RES) models, such as TIMES/MARKAL, MESSAGE, OSeMOSYS, ReEDS, and many others are powerful tools in brainstorming alternative energy futures, taking into account available resources and desired levels of energy services. Simulation and comparison of alternative scenarios help develop a deeper understanding of the available options and builds knowledge and confidence for decision making. Currently, energy modelling is experiencing an open-source boom. With growing demand from society for deeper and better analyses of "conventional" and "alternative" pathways, models are shifting from traditionally expensive, proprietary, "black-box" consulting tools to freely available, affordable and transparent aids for research and analysis. Moreover, the higher technical and economic potential for penetration of renewable energy sets new requirements for research, pushing development of the models.

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The objective of the workshop is to demonstrate the application of one particular type of model (RES, also known as capacity expansion models, or "Bottom-Up", technological energy models) and to discuss outcomes in the context of deep decarbonization. The demonstration includes an overview of results from a 31-region model of China's electric power sector, with 1-hour resolution and optimized structure of energy system based on 39-years weather data; an overview of open source USENSYS (United States ENergy SYStem with 49 regions and 1-hour resolution) , and a preliminary version of an open-source 30-region model of India's electric power sector.

Potential participants are researchers and students interested in electricity/energy systems modelling with the decarbonization as an application. In addition, anyone interested in estimating the feasibility and costs of decarbonizing the economy, the related methodology, may find such a session interesting. Graduates with energy/ environmental/ economic backgrounds will find it helpful.