

## Launch of the Report, "Informing India's Energy and Climate Debate: Policy Lessons from Modelling Studies"

Wednesday, 29<sup>th</sup> April 2015

### Workshop Proceedings

The final report titled "Informing India's Energy and Climate Debate: Policy Lessons from Modelling Studies", jointly produced by CPR and IIASA, was launched on the 29<sup>th</sup> of April 2015. The launch was complemented by a presentation on key findings by CPR and a discussion led by Dr. **Ajay Mathur**, Director General, Bureau of Energy Efficiency and Member, Prime Minister's Council on Climate Change. The final report is available for [download](#) on the CPR website.

This report followed an analysis of seven national modelling studies that projected India's energy future. The report was also finalized after a review workshop with stakeholders and modellers (Details of the workshop are available on the CPR website via [this link](#).)

Some key results from the report that were highlighted by CPR and IIASA during the workshop include:

- India is projected to double or triple carbon dioxide emissions by 2030 under reference cases, but per capita emissions will still be less than today's global average;
- Coal use under reference cases could rise as much as 2.5-3 times current levels;
- Fossil-fuel free share of electricity in reference cases could also rise as high as 31% of the electricity mix, but could also fall from current levels;
- Current studies provide an insufficiently robust basis for determining an economy-wide INDC for India, nor do they adequately address sustainable development outcomes;
- Future energy and climate planning would be enhanced by a long-term, structured process involving policy-makers and modellers

The discussion provided participants with an opportunity to get clarifications on the study conducted by CPR, as well as contribute suggestions towards strengthening the use of energy and climate modelling studies for policymaking. Some of the key discussion points are summarised below.

**Multiple Objectives of Policymaking:** There was general agreement that consideration of multiple objectives was an essential component of modelling studies specifically and energy-climate policymaking in general. Suggestions from the participants on important objectives included affordability of energy, implications of energy policy on industrial policy and vice versa, social objectives such as distribution of and access to energy, local environmental pollution and more broadly, developmental objectives such as Sustainable Development Goals (SDGs). Participants highlighted the presence of some of these parameters in existing studies as well as the need to enhance the capacities of modelling groups within the country to incorporate multiple objectives in their work. A few participants also highlighted that while some of these capabilities already exist, the demand for the use of specific tools and techniques should also come from the Government.

**Scale of Modelling Studies:** A variety of models, across scales of enquiry, are currently being used for energy and climate modelling studies, from macro-economy models to sector specific ones. There was a productive discussion around the use of each type of model and the kinds of policy questions a model was most suited to answer with high degrees of accuracy. Participants also highlighted that current efforts to integrate the top-down

and bottom-up models were significant in order to arrive at robust and policy-relevant outcomes and that ideally the two types of models should inform each other. For example, participants discussed that sectoral models need to consider economy-wide constraints such as the challenge of increasing India's share of global energy supply to meet its energy needs in the coming years. Similarly, sectoral models were better suited for internalizing considerations such as implementation issues such as disputes over land and water, institutional capacities and inter-sectoral coordination. Participants therefore saw a strong role for sectoral studies in order to inform constraints.

**Data sources, validation and ground-truthing:** There was general agreement that reliable, comprehensive and regularly updated data was a key foundation for building future energy and climate scenarios. Currently, data is largely fragmented, leading to variation in the input parameters across different studies while also making the studies incomparable. While having a range of modelling studies is important in order to validate outcomes across studies and to develop a range of possible future outcomes, these studies should be informed by a common pool of input parameters and assumptions around India's energy and climate future in both reference and policy scenarios.

**International Context:** The role of international climate change negotiations in shaping domestic energy-climate policies was the subject of a lively debate. On the one hand, modelling studies may be used as strategic tools for developing national targets for international negotiations, while on the other; the models could be used as domestic planning tools which then inform negotiation while not being directly influenced by negotiation considerations. A few participants were of the view that sectoral models should be developed first and then consolidated to arrive at country level targets for the negotiations.

**Modelling and Planning Horizons:** Participants highlighted that there existed a mismatch between the time horizons over which government plans were developed and those that the modelling studies used for developing future energy and climate scenarios. While government plans are typically developed for a short period of time, modelling studies develop scenarios over a period of 30 years or longer. Related to this, participants felt strongly that sectoral policies and complementary sectoral models should be prioritised.

The workshop concluded with broad agreement that examining a broad range of objectives for energy policy was a useful objective, informed by sectoral as well as economy-wide models. There was also agreement that having a conversation about model results and their implications enhanced the policy value of models.