



RAP[®]

Energy solutions
for a changing world



cambridge
econometrics
clarity from complexity

E3-India

A model designed to support evidence-based policymaking, continually tested and enhanced by users

Motivations

In February 2015, the Government of India released the “Renewable Electricity Roadmap 2030 for India” at the first RE-INVEST summit in New Delhi, India. What was difficult to assess at that point in time was the economic implications (e.g. GDP, employment, etc.) - both benefits and costs - accruing to the nation as a whole. Equally important is the distribution of these benefits and costs between the various states, given the geographical deployment of both conventional resources (with coal concentrated in five eastern states) and renewables (the most suitable sites are in the western and southern states).

When analytical frameworks are being used to inform policymaking, it is essential that they are available to all stakeholders, so that analyses submitted in the policy development process can be independently validated. Furthermore, the analysis must be deployable in an iterative manner, as opposed to one-time studies, to allow stakeholders to test various assumptions and scenarios within the same analytical framework. In the absence of a publicly available model, that is transparently documented and vetted extensively by experts, the benefits of evidence-based decision-making to society are lost.

Constructing the model

No publicly available and transparently documented sophisticated economic impact analyses framework - especially

that can conduct analyses at state-level - existed in India in 2015. Hence, the Regulatory Assistance Project, in association with Cambridge Econometrics, sought to first assess whether the creation of such a framework was feasible in India given data availability and quality constraints. Once it was established that sufficient data was available (and was of reasonable quality) in mid-2016, the model development process was initiated.

Regular engagement with experts and potential users - both stand-alone and as part of conferences - were conducted to solicit their input throughout the model development phase. In early 2017, extensive testing of the model by experts was initiated. This led to the publication of a series of papers at the IORA Conference in Pune, India and the IIOA Conference held in Atlantic City, both in mid-2017. The testing and validation of the model is expected to continue across an increasing number of expert users. The validation reports and model reviews will be published as soon as they are prepared.

Future development of the model

Models used for policy analyses purposes - necessarily - evolve over time as the user community grows and identifies model flaws and limitations which over time can be addressed through new and/or better-quality data. Similarly, enhancements occur due to development of new analytical methodologies. Consequently, it is

necessary for any model to engage with as broad a user community as possible in order to retain relevance and continue to develop.

On this basis, RAP and CE are extremely happy to make E3-India available for all users free of charge (in the short- to medium-term) under license for academic use. In addition, RAP and CE will be conducting a series of outreach events that explore various aspects of the framework, including use of models for policy analyses, the theoretical under-pinnings of E3-India, training in using the model, and others. RAP and CE will be releasing a set of work-books that demonstrate the use of E3-India for three types of policy analysis that are currently relevant to the energy domain in India.

We hope that users will consider these as starting points and extend those

demonstration cases in various policy-relevant directions. We request that users engage with each other and the model development team in designing and implementing enhancements on an ongoing basis, so that the model continues to develop and the most up-to-date version of the model is available for all stakeholders in India at any point in time.

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