

Building a Consistent, Useful, Efficient and Policy Relevant Energy Data Spine¹

Collection and dissemination of energy data is very important to support research, analysis and policy formulation on one hand and to support decision making by governments and businesses on the other. Government data agencies should publish such data in the public domain at desired quality, granularity and frequency and in convenient, machine-readable formats. Broadly, energy data should fulfil the following goals:

- Provision of modern, clean and affordable energy services to all citizens
- Development of the sector through robust planning, policy and regulatory processes
- Provision of a level playing field for investment related decision making
- High standards of operational performance (technical and financial efficiency) and optimal utilization of resources
- Socially and environmentally sustainable development by addressing local and global impacts

Data agencies within ministries dealing with supply of commercial energy (namely coal, petroleum and natural gas, power, renewables and nuclear) and with consumption of commercial and non-commercial energy (institutions such as NSSO, CSO, BEE, PCRA, MoRTH and MoA) are the primary sources of energy-related data in the country. In addition, regulators dealing with electricity, oil and gas sectors collect a lot of technical and financial data from utilities and other regulated entities. Some data is also available through private agencies such as industry associations and survey agencies.

Currently, energy data is collected primarily for the purposes of administrative and operational management. As a result, there are several gaps in availability of energy data in India both on the supply and demand side, as well as weaknesses regarding the frequency, consistency and usability of the data. The larger gaps are on the energy consumption side for which data which is generally hard to collect or estimate. The gap is larger in India due to the widespread use of non-commercial energy primarily in the form of biomass and non-motorized transport, which are harder to collect data about. Some data gaps also exist due to lack of infrastructure such as feeder level automated meters, which can help to generate disaggregated power consumption data with little manual intervention. These are just some examples of different data gaps that exist.

A two-pronged approach may be adopted to improve the data spine for the country's energy sector.

One prong would be to improve the processes of data collection and dissemination by existing data agencies through various means, some examples of which are given below.

- Data collection agencies can adopt modern technologies to enable automatic data collection and dissemination. An example from the power sector is automated metering at generation interconnection points and distribution feeders and smart meters at consumer facilities.
- Uniform, user-friendly formats and effective use of software, internet and web infrastructure can enable electronic collection, reporting, processing and dissemination of data that requires

¹ This note represents inputs provided by Prayas (Energy Group) to the Centre for Policy Research to help in their note to the NITI Aayog on institutional framework and energy data spine for the National Energy Policy, 2015.

minimal human intervention. This can help streamline data management at providers as well as consumers of data and minimize operator error.

- Uniform dissemination standards along with an advance release calendar, data quality assessment and punctual dissemination should be complied with in order to provide comprehensive and timely access to quality data to the public.
- States can play an important role in the effort of energy data collection. Capacity of state level statistical agencies could be strengthened along the lines of the ISSP, so that they can design and execute state-specific surveys.
- Existing surveys can be improved and/or new surveys can be introduced to plug many data gaps.
- Survey design and estimation methods can be optimized through collaborative efforts to minimize the resources employed in data collection. Technology can also play an important role in improving survey efficiency and reducing costs.

A second prong would be to ensure better harmonization, validation and dissemination of data across energy sub-sectors in a manner useful for policy formulation, research and investment decision making. To this end, an empowered and adequately staffed nodal agency to collate, harmonize, reconcile and publish energy data from multiple sources is highly desirable. Such an agency, which can perhaps be housed within the NITI Aayog (or MoSPI), should have statistics and energy sector expertise and sufficient leverage to be able to suggest refinements to current data management practices. Individual data agencies that currently collect data will continue to do so, but will work in close coordination with the nodal agency to improve quality of data, its harmonization and its dissemination. In addition to a central agency responsible for managing energy data, there is also a need for an autonomous energy analysis office within the Government with the expertise to analyze energy sector data and inform policy formulation. Such an analysis office should also help to create a vibrant eco-system of energy related research organizations in the country that can collaborate with the Government and among themselves to enrich energy policy formulation in the country.