

## **Strengthening India's Energy Data Management System**

*(Based on the report by Prayas (Energy Group), India and Pacific Northwest National Laboratory, USA)*

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Energy data management is said to be an efficient if it covers all areas in an automated manner: Collects data, compresses it, analyses it, and provides a basis for decision-making and reporting. Readily available, accurate, reliable and comprehensive data is essential for effective analysis, research and policy formulation in the energy sector. Such data is also useful for effective citizen engagement, business strategy formulation and performance evaluation of energy sector programs and agencies. Provision of such data requires institutional mechanisms and processes to collect, validate and disseminate data in a timely manner.

In India, Multiple agencies collect and publish energy related data. However, this data is not always easy to access, consistent or available. Consistent with the structure of the Indian energy sector, Indian EDM system is fairly decentralized. Central and state governments in India have sufficient legal authority to collect administrative and statistical data with sufficient provisions in place to ensure privacy and confidentiality. However, there are weaknesses in processes and systems of data collection, and insufficient mandate for data dissemination.

Collection and public dissemination of energy supply data is reasonably good but there are rooms for improvement in harmonization and reconciliation of data across energy sub-sectors. There are many gaps in energy consumption data because it is more difficult to gather this data, and because existing mechanisms are insufficient. Insufficient use of technology leads to inefficiencies in data collection as well as lack of timely and accessible data. Insufficient capacity and mandate to validate and disseminate data leads to lack of coordination among various data and energy sector institutions in India. Data dissemination practices vary widely across different sub-sectors due to the decentralized nature of energy and data systems in India.

There is growing recognition of the importance of data in India as exemplified by initiatives such as formation of the National Statistical Commission (NSC) and the National Data Sharing and Accessibility Policy (NDSAP). India's EDM system can be further strengthened with lessons and ideas from an understanding of international best practices.

Four countries – the United States, United Kingdom, Canada and Germany – were examined by Pacific Northwest National Laboratory (PNNL), USA with this objective. All of them rely on codes of practices to help agencies within their systems maintain a common understanding. Codes in different countries have many similarities in their core elements. Despite the similarities in underlying principles, these countries have adopted diverse EDM models with differing degrees of centralization.

Coordination is important in each of these models, but particularly in decentralized ones. Even in the most centralized systems, energy data institutions rely on data from other agencies or sources in some circumstances, for example, when other agencies collect data for regulatory functions. Coordination can include agreement on principles and data quality procedures, conferences and other less formal meetings, and interagency approval processes, to name a few. Energy data management requires a range of skills and adequate staffing for survey development, data processing and compilation, and coordination.

Most countries have better data on energy supply than on energy consumption because energy supply surveys are easier, involving fewer respondents. The Energy Information Agency (EIA) in the United States conducts periodic, standardized consumption surveys of buildings and manufacturers. Other countries typically survey consumers through a more informal approach. Other important types of data include: prices and taxes, and indicators on energy poverty and energy efficiency.

Some of the common theme identified for better management of EDM is:

1. Establishing of common core principles for EDM in India. These include standardized definitions, classification, and data quality standards. Examples from the principles/codes of practices from the UN Statistical Commission, as well as the US and other countries can help India frame a set of principles for all organizations involved in EDM in India.
2. Enhance coordination between statistical agencies to maximize the use of existing data, and improve data quality and relevance. An institutional mechanism to reconcile data from different sources and to share EDM experiences can also help.
3. Prioritize data improvements on consumption and non-commercial energy sources, in particular, is inadequate and needs to be prioritized, as it is critical to planning for inclusive, low-carbon development.

4. Adopt technology to increase efficiency in data collection. Where applicable, use common formats for similar data providers and automate data collection to ensure accuracy and completeness.
5. Continuous training and strategic staff planning can be used to maximize effective use of staff at central and state levels. Adequate staffing and financial support needs to be ensured. Working closely with stakeholders can help build the economic case for data-related budgets, while improving data relevance.
6. Enhance data dissemination through better data integration, uniform dissemination standards and customer-oriented data formats.

Keeping the above objective in mind, NITI Aayog convened meeting with the relevant Government of India (GOI) ministries and stakeholder to strengthen EDM. NITI Aayog has also entered into a tripartite agreement (SOP) with United States Energy Information Administration (EIA) and the United States Agency for International Development (USAID) in the area of energy data management (EDM). Planned areas of cooperation include: (a) adapting EIA best practices to the Indian context; (b) sharing methodological approaches towards improving the accuracy, availability and timeliness of energy data; (c) sharing analysis tools; and (d) compiling lessons learned in EDM institutional design, including structure, authority, budget, manpower requirements and other activities. EIA is the U.S. Government's nodal agency on EDM, and has supported these efforts

Therefore, setting up an independent agency empowering all the above responsibilities along with dedicated manpower, infrastructure and budget would certainly bring transformational change in EDM for the country. We must enrich the agency as the challenges would be further aggravated when we plan for real time data and implementing energy efficiency plan. You must need accurate device level data which enable organisations to measure, monitor and manage consumption across every site, every facility and every networked device.