India Energy Dashboards show information is 'power'

Data foray: Developed over a year, the dashboards feature 11 years of statistics from diverse government reports and mark the first such effort in the public domain. | Photo Credit: ROBERT GALBRAITH

NITI Aayog hosts portal to demystify vital and voluminous energy statistics as downloadable data accessible to all

It has often been difficult to analyse critical issues related to the Indian power sector because of the massive amounts of time, effort and money required to gather and process the data available for it.

It's against such a backdrop that the Pune-based public interest non-profit Prayas (Energy Group) developed a proof-of-concept energy data portal hosted by the NITI Aayog at indiaenergy.gov.in/edm. The India Energy Dashboards, introduced in May, turn the official energy statistics already available in the public domain as diverse government reports into visually interesting, easy-to-understand, interactive and downloadable information accessible to everyone. It's the first such effort in India in the public domain.

"Good and easily available data is a requirement for all research organisations in the country, including us," Ashok Sreenivas, Senior Fellow, Prayas (Energy Group), said. "We thought this [the energy dashboards] would address a major need for energy-related research in the country. NITI Aayog also agreed and supported us in the venture."

Developed over a year, the dashboards feature 11 years of statistics from sources such as the All India Electricity Statistics (which had to be digitised first), the Coal Controller's Organisation's Coal Directory of India, the Ministry of Petroleum and Natural Gas' Petroleum and Natural Gas Statistics, and the Ministry of Statistics and Programme Implementation's Energy Statistics.

It was not easy to extract voluminous information provided by government agencies, typically as PDF documents. In contrast, "The dashboard's visualisations offer an immediate

sense of comparative data like, say, the relative shares of different sources of electricity, or sectoral changes over time. Moreover, most screens [on the dashboards] enable data to be downloaded as spreadsheets, which makes them greatly more amenable to analysis," said Srihari Dukkipati, Fellow, Prayas (Energy Group), who led the development of the project featuring more than 80 dashboards for which data was collected and organised in over 190 worksheets and 95 partially normalised database tables.

Left out

The dashboards are primarily useful for researchers and policy makers, the visualisations offer insightful perspective on a range of subjects such as energy imports, capacity addition and electricity consumption across States but sub-State data, which is important for understanding region-specific or localised disparities, could not be incorporated because it was not readily available.

In principle, it is possible to cull energy-related data embedded in State and Central regulatory petitions and orders, which are rich sources of physical, performance and financial data in the electricity sector. But they are scattered over numerous documents and not organised in uniform formats — the purpose of these documents is not to provide 'energy data' but they happen to contain them. However, the systems required to easily extract this data are currently not available.

Moreover, the India Energy Dashboards are not sufficiently rich in the consumption or financial aspects of data.

In most countries, energy supply data is more readily available because it's generally easier to collect from a few large energy companies. Energy consumption data, on the other hand, is much harder to come by because the number of consumers runs to hundreds of thousands and there is high variability of use among them — for example, how do households or enterprises consume energy, for what purposes, at what times of the day/year, and at what costs? The answers may be found via well-designed surveys, which are not yet sufficiently present in India.

Harder to collect

Financial data, which includes data about investments, accumulated losses and cost trends, is also harder to collate and not easily accessible. Reasonable data exists on commercial energy, or energy that's priced/bought-and-sold. But developing countries, including India, also have significant use of non-commercial energy. The most obvious example is firewood or dung cakes used for cooking. Data about such energy hard to find.

Talks on how to update and expand the data are underway, with NITI Aayog keen on enhancing the user-friendliness of the dashboards. "While Prayas has built this first version of the portal for NITI Aayog, there is tremendous potential for cross-linking across related sectors such as coal and power, refining the interface for better interactivity, and adding more information as it starts becoming publicly available," said Sreenivas.