

HOW TO ACHIEVE 24X7 POWER FOR ALL

Relevant for: Indian Economy | Topic: Infrastructure: Energy incl. Renewable & Non-renewable

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Almost every willing household in India now has a legitimate electricity connection. The household electrification scheme, Pradhan Mantri Sahaj Bijli Har Ghar Yojana, or Saubhagya, has been implemented at an unprecedented pace. More than 45,000 households were electrified every day over the last 18 months. Against such an achievement, it is important to ask these questions: what did it take for India to achieve this target? Why is electricity access not only about provision of connections? And, how can we ensure 24x7 power for all?

The efforts under Saubhagya have come upon decades of hard work preceding it. The enactment of the Electricity Act, in 2003, and the introduction of the Rajiv Gandhi Grameen Vidyutikaran Yojana, in 2005, expanded electrification infrastructure to most villages in the following decade. But the rollout of the Saubhagya scheme, in 2017, gave the required impetus to electrify each willing household in the country.

However, over the last year, several engineers and managing directors in electricity distribution companies (discoms), their contractors, State- and Central-level bureaucrats, and possibly energy ministers have been working at fever pitch. Discom engineers have evolved in their attitude, as we saw during our on-ground research — from one of scepticism to that of determination. Their efforts to meet targets even included crossing streams in Bihar on foot with electricity poles, and reaching far-flung areas in Manipur, through Myanmar, to electrify remote habitations with solar home systems.

Despite such massive efforts, the battle against electricity poverty is far from won. The erection of electricity poles and an extension of wires do not necessarily mean uninterrupted power flow to households. By tracking more than 9,000 rural households, since 2015, across six major States (Bihar, Jharkhand, Madhya Pradesh, Odisha, Uttar Pradesh and West Bengal), the Access to Clean Cooking Energy and Electricity Survey of States (ACCESS) report by the Council on Energy, Environment and Water (CEEW), has highlighted the gap between a connection and reliable power supply. While the median hours of supply increased from 12 hours in 2015 to 16 hours a day in 2018, it is still far from the goal of 24x7. Similarly, while instances of low voltage and voltage surges have reduced in the last three years, about a quarter of rural households still report low voltage issues for at least five days in a month.

In order to achieve 24x7 power for all, we need to focus on three frontiers. First, India needs real-time monitoring of supply at the end-user level. We achieve what we measure. While the government is bringing all feeders in the country online, we currently have no provision to monitor supply as experienced by households. Only such granular monitoring can help track the evolving reality of electricity supply on the ground and guide discoms to act in areas with sub-optimal performance. Eventually, smart meters (that the government plans to roll out) should help enable such monitoring. However, in the interim, we could rely on interactive voice response systems (IVRS) and SMS-based reporting by end-users.

Second, discoms need to focus on improving the quality of supply as well as maintenance services. Adequate demand estimation and respective power procurement will go a long way in reducing load shedding. Moreover, about half the rural population across the six States reported at least two days of 24-hour-long unpredictable blackouts in a month. Such incidents are indicative of poor maintenance, as opposed to intentional load-shedding. Discoms need to

identify novel cost-effective approaches to maintain infrastructure in these far-flung areas. Some States have already taken a lead in this. Odisha has outsourced infrastructure maintenance in some of its rural areas to franchisees, while Maharashtra has introduced village-level coordinators to address local-level challenges. Such context-based solutions should emerge in other States as well.

Finally, the improvement in supply should be complemented with a significant improvement in customer service, which includes billing, metering and collection. Around 27% of the electrified rural households in the six States were not paying anything for their electricity. Despite the subsidies, constant loss of revenue would make it unviable for discoms to continue servicing these households in the long run. Low consumer density along with difficult accessibility mean that conventional approaches involving meter readers and payment collection centres will be unviable for many rural areas. We need radically innovative approaches such as the proposed prepaid smart meters and last-mile rural franchisees to improve customer service and revenue collection. Rural renewable energy enterprises could especially be interesting contenders for such franchisees, considering the social capital they already possess in parts of rural India.

Electricity is the driver for India's development. As we focus on granular monitoring, high-quality supply, better customer service and greater revenue realisation at the household level, we also need to prioritise electricity access for livelihoods and community services such as education and health care. Only such a comprehensive effort will ensure that rural India reaps the socio-economic benefits of electricity.

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