



Beyond Poles and Wires: How to Keep the Electrons Flowing?

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India's move to electrify every village and household in the country has been lauded as a success. Building on decades of targeted programmes and public investments by multiple governments, the country completed 100% village electrification in April 2018; a year after, it has electrified nearly all 'willing' households. Despite the time it took to get here, these achievements are important milestones in India's development trajectory. But does connecting households to the electric grid resolve the electricity access challenge? The answer depends on whether electrons flow through the wires and whether all consumers are served equally and adequately.

For electrons to flow and for there to be power for all, a vital policy issue to be considered is about the role to be played by the Government of India (GoI). Given the concurrent status of electricity, can the sector be a 'perfect crucible for making effective the cooperative-competitive federalism experiment that is now India?'

Challenges of Electricity Access

Once connected to the grid, consumers face multiple challenges to stay plugged in and realize the full benefits of electricity services. From the perspective of the poor, there are three key challenges that need to be overcome: unreliable supply, poor consumer service, and unaffordable bills.

Although India has become power surplus, many homes, especially those located in rural and low-income areas, have to bear with intermittent and poor quality supply. While government reports indicate 16-24 hours of supply to all homes, several surveys find lower supply hours, particularly, in the evening hours. Prayas Energy Group's Electricity Supply Monitoring Initiative found that less than 20% of rural locations receive continuous supply during 5-11 p.m. This pattern of unreliable supply can be explained by an inherent disincentive to serve the poor. While India's

average monthly household electricity consumption is as low as 90 kWh,² most households consume less than 50 kWh.³ India follows a consumption slab-based tariff system, where initial consumption slabs are charged significantly below the costs. This is one reason why electricity distribution companies (discoms) lose more than 50% of their cost in supplying to low-consumption consumers.⁴

Metering and billing irregularities are common, particularly in rural areas. The human resources of discoms have declined even as their consumer base has increased, leading to lower frequencies of meter reading and billing. Many discoms raise bills once in two months. In several cases, the first bill after the connection is raised after several months. Accumulated dues are often unaffordable to low-income households and increases the likelihood of payment default and subsequent disconnection. Irregular billing also causes a trust gap between discoms and consumers. A recent survey in Uttar Pradesh finds that consumers who are billed monthly are more likely to pay on time and in full amount; but those who are not billed regularly do not believe that their bill is based on actual consumption and are likely to default on payment.⁵

A major barrier to electricity access remains the concurrence between economic poverty and energy poverty. At the launch of Saubhagya, seven states (Uttar Pradesh, Bihar, Odisha, Jharkhand, Assam, Rajasthan and Madhya Pradesh) accounted for two-thirds of the un-electrified households in India. These states are home to about two-thirds of India's population living below the poverty line (BPL). Discoms in these states are already highly indebted, accounting for 42% of accumulated debts of all discoms as of March 2016. Discoms in these seven states have higher losses and revenue gaps than national averages. Despite continued state government subvention (or payment to discoms), all these discoms have been consistently running at a loss, accounting for about 47% of the loss in the electricity distribution business. In 2015-16, subventions to discoms amounted to 10% of these seven states' collective gross fiscal deficit and

accounted for 40% of total subvention from all states. The recent push for financial turnaround of discoms through a centrally designed scheme – Ujwal Discom Assurance Yojana (UDAY) – has not achieved the desired results in many states.⁶ The fiscal space of these states and discoms is cramped by the need to accommodate the electricity subsidy. On the other hand, existing subsidized lifeline tariffs in these states are, ironically, higher than in states with high electricity access.⁷ Media reports suggest that 3.5 million households in Uttar Pradesh are unwilling to get an electricity connection despite the connection charge waiver and subsidized tariff at 50% of the actual costs.⁸

The Centre's Helping Hand

The responsibility for electrification has been shared by governments at the Centre and states. Successive governments at the Centre have played an important role through sustained policy directives, targeted programmes and financial support. The creation of a dedicated financing agency in 1969 – the Rural Electrification Corporation (REC) – helped boost village electrification in the 1970s and 1980s, when two-thirds of India's villages were electrified. To address low household electrification, the Centre launched Kutir Jyoti Yojana in 1989, with budgetary allocations to provide single-point light connections to BPL households. Rajiv Gandhi Grameen Vidyuti Karan Yojana, launched in 2005, extended free electricity connections to about 22 million BPL households, in addition to others who paid for their connection; it also electrified more than a million villages by 2014. The last 18,000 villages were electrified under Deen Dayal Upadhyaya Gram Jyoti Yojana, launched in 2015. Between 2017 and 2019, the central government sponsored an aggressive household electrification drive – the Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya) – to connect more than 26 million households to the electricity grid. With multiple interventions spread over decades and multiple governments, the Centre's thrust has been to connect villages and households to the electric grid, through funding the costs of erecting poles and stringing wires.

The state governments, with oversight on electricity distribution, have manoeuvred to keep electrons flowing through the wires. The key to the states' approach is redistributive welfarism: charging commercial and industrial consumers higher rates to keep electricity affordable for farmers and low-income homes. However, the pattern of electricity provisioning has been intricately shaped by electoral priorities, creating perverse incentives for serving the poor. The result is a low-level equilibrium where the poor are locked into cheap but intermittent, low-quality electricity. Because quality is low, many consumers feel empowered to default on their dues. The forces of inertia have prevailed over reform interventions to rationalize prices and enable cost recovery. Moreover, intermittent supply impacts business competitiveness. A survey conducted in Bihar, Odisha, Rajasthan and Uttar Pradesh suggests that 40% of rural enterprises rely on non-grid electricity sources as grid supply is unreliable and expensive.⁹

The Centre's thrust on connecting villages and households to the electricity grid has been realized, but is only a step towards universal access to modern energy. In 2014, a joint initiative between the Centre and the states – 24x7 Power for All – was launched. It had a state-by-state strategy with a shared goal to ensure round-the-clock supply to all consumer categories starting from April 2019. Despite a strong political mandate, the goal seems to be far from realized. Achieving universal access to electricity will require addressing problems around reliability, affordability, quality of supply and service that are persistently present across states. The new government at the Centre will need to revive its helping hand to support its state counterparts in dealing with diverse electricity access challenges that are entrenched in state-level political economies.

The Way Forward

The challenges to universal electricity access are at the state level and are, in part, beyond an individual state's capacity to address. Given that the poorest states will have higher costs of universal access, the

Centre needs to lend a hand. Simultaneously, the central government will need to steer planning and governance for better coordination and coherence across states. The Centre will thus continue to play a significant role in pursuing the goal of universal electricity access. Towards this, we suggest the following priority actions for the new government.

Beyond Redistributive Welfarism to Productive Power

To achieve universal access, India's electricity policy needs a paradigm shift from 'redistributive welfarism' (that prioritizes subsidized costs for the poor while compromising on the quality of service) to 'productive power' (that empowers and enables the poor to pay for better quality service through productive use of electricity).

Last year, the government proposed a set of amendments to the National Tariff Policy (NTP). These were aimed at a shift away from consumer category-wise tariff to a progressive load and consumption-based tariff for all. While this will not address the cross-subsidy burden on large commercial and industrial consumers, it will make electricity affordable to small industries and entrepreneurs that are currently charged a cross-subsidizing tariff.

Implementing these proposed amendments to the NTP in a time-bound and phased manner to make electricity affordable for productive use by the poor will be an important step. Availability of reliable electricity is necessary, but not sufficient to mobilize its productive use. The Centre will also need to develop a broad strategy around 'productive power', seeking to promote rural industries and businesses (such as agro-processing and cottage industries) with the required financial and infrastructure support.

Revisiting the Definition of Electrification

The existing definition of electrification, set out in 2004, emphasizes the existence of a basic electricity infrastructure, keeping the focus on grid expansion and household access to the grid. Now that the grid has reached nearly all homes, it is important to revisit the

definition, with a focus on ensuring access to reliable and affordable electricity for all.

Holding Discoms Accountable for Performance

Providing productive power requires that discoms are held accountable for performance. While the Electricity Act of 2003 (EAct) has made provisions for standards of performances (SoPs) to be met by the discoms, compliance and monitoring remain low, with significant discrimination across consumer categories. There is a need to implement a stricter legislative mandate for SoP compliance and equal treatment of consumers. Available technologies could be harnessed to monitor discoms' performance in this regard. The Centre has been promoting smart meters for automation of billing and consumer accountability. These meters can also be used to monitor supply quality and for consumer information. In 2013, the Centre made an attempt to make discoms and the respective state governments accountable by presenting a Model State Electricity Distribution Management Responsibility Bill. Rajasthan is the only state government to have enacted this bill. Some of the provisions of this bill were included in UDAY, but without any legislative mandate. These efforts can serve as a template for developing a framework to hold the discoms accountable for their performance.

Better Consumer Protection

The EAct included provisions for consumer protection. While the institutions for consumer grievance redressal—Consumer Grievance Redressal Forums at discom level and Ombudsman at state level—have been put in place, these avenues remain dysfunctional and often influenced by the discoms.¹⁰ There is a need to strengthen these institutions to protect the interests of consumers, hold the discoms accountable, and build trust between the two. This will require raising consumer awareness on the existence of forums for grievance redressal and making these forums accessible to all. Regular analysis of grievance records is required to understand patterns and discoms' performance. These analyses must be accessible to the public and used to make discoms accountable. The grievance redressal forums need to be redesigned to function independently from the discoms.

Alternative Service Delivery Models

The technological transformation in the sector, led by greater penetration of renewable energy, is likely to cause disruption in the electricity distribution structure. Discoms are likely to lose predictability in business and their significance as instruments of redistributive welfarism.¹¹ There has been resistance to past attempts to restructure the distribution business for efficiency gain—through promotion of franchisees and cooperatives, and separation of carriage and contents. The future uncertainties in electricity distribution necessitate planning for alternative service delivery models to ensure that the poor are not left out. The Centre needs to play the role of a catalyst by steering the planning at the state level, without imposing a single, standard model. Diversity in approaches and models will be crucial to manage state-level economic forces and specific electricity demands.

Strengthening the Rural Distribution Network

While the electricity grid has been extended to all corners of the country, the distribution network in rural areas remains fragile and prone to frequent breakdown. Although rural areas presently have low energy demand, the potential for demand growth is high. Distribution networks will require significant upgrades to meet future demand. As the discoms have little incentive to invest in rural networks and many states lack fiscal capacity, the Centre will be required to continue investing in the rural distribution network, until such time as rural consumers climb onto the virtuous cycle of receiving better service and being willing to pay more for quality. The Centre has been supporting urban distribution network upgrades through successive programmes¹². Similar interventions are required to upgrade rural distribution and ensure quality supply to consumers based in rural areas.

The Subsidy Conundrum

Even though the key to electricity reform in India is tariff rationalization, there is no doubt that, for the time being, electricity supply to the poor needs to be subsidized. These subsidy needs are concentrated in poorer states with limited fiscal space. In an interesting development, in the proposed amendments to the EAct

and NTP, the Centre has proposed to make subsidies a collective responsibility of the central and state governments. This is an important shift away from the earlier model where subsidy was the sole responsibility of the concerned state governments. If implemented, this would allow the subsidy-based approach to electricity to continue, with a shift from a rate payer-based cross-subsidy system to a tax payer-based fiscal subsidy system.

The Centre also seeks to promote direct benefit transfer (DBT) for subsidy payment to ensure better targeting. A reform in the subsidy mechanism, seeking to better target and rationalize subsidy, is an urgent need. But the proposed approaches are not free from limitations. Managing electricity subsidy demands with tax revenue will require the electricity sector to assert its claims for support in competition with several other possible uses of these funds; it will also limit the ability of states and regional political parties to make electoral use of electricity pricing, introducing political uncertainty. In addition, identifying and targeting legitimate subsidy demands to use DBT remains a challenge.¹³

The Centre's past guidelines to reduce and eliminate cross-subsidies in a timebound manner and raise revenue from low-paying consumers have been resisted by states. Rather, cross-subsidization and the gap between costs and revenue have gone up in several states. The new government must prioritize the subsidy conundrum and develop a transition plan to gradually reduce subsidies without compromising essential service for the poor. It should consider state-specific political economy forces and must embed a strategy to promote 'productive power' to enable the poor to pay. Large-scale adoption of specific tools or solutions should be based only on successful pilot experiments, after careful consideration of the costs and benefits; a strategy to manage the costs to losers from subsidy reform must be included.

Erecting poles and stringing wires across a country like India is an important step. But the work remains incomplete until high quality reliable power that enhances rural productivity is made available to India's poor. This must be the agenda, going forward.

END NOTES

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