

Comments on Proposed Electricity Reforms

Submitted to the Ministry of Power

*This note is prepared based on our reflections on the announcements made in Budget 2021-22 and participation in the webinar convened by MoP and MNRE, on February 18, 2021, to discuss a roadmap for implementation of these proposals. The note is drafted based on internal discussion at the Centre for Policy Research (CPR). They should not be considered an institutional position, as CPR does not take institutional positions on issues. Rather, they reflect the result of internal deliberations, aimed at understanding and reflecting on the reform proposals, with the aim of constructive feedback to the MoP. The document has been prepared by **Ashwini K. Swain, Navroz K. Dubash, Parth Bhatia, Sarada Prasanna Das, and Abhinav Sharma.***

I. India's Electricity at a Critical Juncture

While India is poised to play an important role in 21st century global energy, its electricity sector grapples with many 20th century electricity challenges like operational inefficiencies, unreliable supply, theft & non-payment, and distressed finance. If not addressed, these chronic electricity problems could hurt India's transition to a 21st century energy system. Simultaneously, an unplanned energy transition could exacerbate these problems. However, the transition is also an opportunity to address legacy electricity problems while ensuring a resilient electricity future for India's citizens and businesses. This would require creative manoeuvres and proactive State engagement in the sector.

The Central government recognises the urgency and importance of improving electricity for economic and human wellbeing, as evident in several attempts made in the recent past to identify a befitting reform trajectory. We observe three broad objectives in the current reform approach: a) more power to consumers through technology and market-enabled choices b) ensure economic viability of the electricity system and c) greater adoption of clean energy options.

The budget speech and a background note prepared by the Ministry of Power (MoP) provide some details on the suggested pathways to pursue these goals by enlisting a set of interventions. In this brief note, we reflect on these proposed interventions and suggest a few necessary considerations to improve electricity for Indian citizens and businesses.

II. Current Approach to Reforms

Presenting the budget for FY 2021-22, the Finance Minister announced two initiatives. First, "a revamped reforms-based result-linked power distribution sector scheme", with a budgetary allocation of INR 3,05,984 crores over five years, to support discoms in creating and upgrading the infrastructure necessary to improve their operational and financial efficiency. Second, a framework to give consumers a choice between multiple distribution companies. Are these proposed interventions adequate to address India's electricity challenges?

a) *Distribution Infrastructure Creation and Upgradation*

Prioritisation of distribution infrastructure is a sensible idea. Chronic power shortages until recent years had kept generation capacity addition as the top investment priority in India's electricity sector. Cash-starved distribution utilities had limited funds for investment in distribution infrastructure. The Centre had continued support for rural distribution network creation and urban network upgradation, but the funding was neither adequate nor was the allocated amount ever fully utilised. Consequently, the fragile distribution infrastructure has been a key source of leakages.

Considering the urgency of this situation, the Centre has sanctioned an enhanced budget of INR 5 trillion for five years to support the deployment of pre-paid smart meters, replacement of conductors, addition of HT lines, segregation of agricultural feeders, provision of aerial bunched cables, high voltage distribution system and distribution works for system strengthening. These are necessary infrastructure to reduce distribution losses, improve reliability and prepare the network for energy transition.

However, what is equally necessary for improving electricity but less apparent in the proposal is the state-level prioritisation and sequencing of these technology interventions along with complementary economic and political measures. Three decades of electricity reform experience suggests that one-size-fits-all solutions have not worked well. Not only do political economy structures of electricity vary across states, but the sector itself operates in varying state-level political economy contexts.¹ These diversities necessitate state-specific approaches to electricity.

As the costs and opportunities for technology interventions are context specific, centrally designed universal solutions not only face resistance at the state level but also tend to be resource inefficient. For example, we have earlier suggested² that universalisation of prepaid smart-meters is misplaced. Such a capital-intensive infrastructure may not be cost-effective for nearly half of the households nationally that consume below 50 kWh per month. If the objective is to check non-payment, as a first step, prepayment could be made mandatory for targeted consumers or feeders with high default rates. It could be a choice for the remaining consumers. Such a phased approach will help to free resources for other infrastructure needs.

In another example, the separation of agricultural feeders has been useful to ensure reliable supply to rural households as well as farmlands. Yet, an umbrella approach could result in wasteful infrastructure creation. For instance, based on our personal observations, Odisha (a low agricultural electricity demand state) has utilised the funds to create parallel lines for BPL and non-BPL households in same village.

The MoP recognises the importance of state governments' buy-in for their 'compliance' with the reform interventions and has proposed that reform actions and detail project reports be approved by the state cabinet and a tripartite agreement between state, discom and the Central government for funding. This approach has been tried earlier without much success. There is no assurance that it would work this time. We suggest that perhaps an alternative approach is to empower the states to prepare detail state-specific electricity infrastructure plans – appropriately drawing on the centre's list of infrastructure investments and sequencing these as appropriate for the states -- that can be supported with available funds. Such an infrastructure plan must clearly identify the economic as well as socio-political costs and opportunities of each technology. Accordingly, fund allocations to the states must be based on a careful consideration of infrastructure needs, states' fiscal space and their capacity to deliver.

The MoP, in the background note, has also proposed an annual performance review for fund release. This is a good step. However, these evaluations are often based on a self-declaration by discoms. There have been reports of discrepancy in what the discoms submit to the Central agencies and state regulators. We recommend that the Ministry empanel suitable third-party evaluators for the annual review. The proposed parameters of evaluation are focused on financial and infrastructure outcomes. We recommend that the evaluation must factor electricity outcomes (service and supply quality) for consumers.

¹ For a comparative analysis of state-level political economy of electricity and reform experiences, see: Dubash, NK, Kale, SS & Bharvirkar, R (2018): [Mapping Power: The Political Economy of Electricity in India's States](#), New Delhi: Oxford University Press.

² See more: Swain, AK (2020): [Not So Smart Meter](#), *Indian Express*, March 19, New Delhi.

b) Distribution Delicensing and Consumer Choice

In response to the Finance Minister's announcement on developing a framework for consumer choice, the MoP has proposed to delicense the distribution business. The objective is to remove entry barriers for private sector participation, and thus, promote competition among multiple retail suppliers. In the proposed ecosystem, the suppliers will be required to register with the State Electricity Regulatory Commissions (SERCs), comply with all provisions of the law and follow the ceiling tariff determined by the SERCs. The new entrants will have the choice of using the existing network for a fee or build, operate and maintain their own distribution network.

Retail competition and consumer choice has been a longstanding aspiration in Indian electricity, since the 1990s, but often resisted by the states. Retail competition, as a complement to wholesale competition, is expected to lower retail tariffs for citizens and businesses through competitive efficiency and innovations. It also promises an imagined 'power of choice' to consumers who are free to choose from a menu of electricity supply options. Are these promised benefits verifiable? The MoP needs to consider global experiences with retail competition and engage with domestic contrarian perspectives. We reflect on five points here.

First, the new entrants are required to share the existing power purchase agreements (PPAs) in proportion to their contracted demand. Given that bulk power purchase costs, under existing PPAs, accounts for 75-80 percent of average cost of supply to consumers, the scope for competitive efficiency is limited to the remaining costs. If the overall objective is to bring down costs, the emphasis must be on fixing the process of bulk power procurement and fair competition in the upstream value chain.³ Though India claims to have shifted to a competitive wholesale power market, market transactions (through power exchanges) are limited (hovering around 10 percent of total electricity traded!) and competition in bulk procurement suffers from many structural distortions like monopoly fuel supply, administered fuel prices and the layering of redistributive pressures. We recommend that fixing the distortions in wholesale market must be treated as an immediate priority over retail competition.

Second, competition and choice are not a necessary binary. There is no assurance that existence of multiple suppliers will empower all consumers equally to choose their supply option. Not only do private suppliers tend to cartelize for profit maximisation, but most consumers lack the information and ability to make fully informed choices. An international review of electricity restructuring conducted in 2005, had observed that retail competition benefits the large consumers, often at the detriment of small consumers.⁴ More recent studies, notably a review of retail competition in the USA⁵ makes similar observations and also claims that retail tariff is higher on average in states with retail competition than states with a monopoly supplier. Both the studies observe that transaction costs of switching suppliers are high for small consumers. The experience of retail competition in Mumbai is a sobering testament to these findings, where switching suppliers has offered none or negative benefits. In this backdrop, if choice is a reality only for large consumers, it can possibly be achieved by strengthening open access provisions and extending them to <1 MW consumers.

Third, distribution network or the wires business is a natural monopoly. Proposal for multiple distribution networks is a misplaced idea that will increase the costs and lead to further complications. Rather, the focus must be on upgrading the existing distribution systems, as proposed in the first

³ See our detail recommendations on power procurement and resource planning: Singh, D & Swain, AK (2018): [*Fixated on Megawatts: Urgent Need to Improve Power Procurement and Resource Planning by Distribution Companies in India*](#), New Delhi: Centre for Energy, Environment & Resources.

⁴ See a special issue on [*International Review of Electricity Restructuring*](#) edited by NK Dubash & D Singh, *Economic and Political Weekly*, 40(50), December 10-16, 2005. Morey, MJ & Kirsch, LD (2016): *Retail Choice in Electricity: What Have we Learned in 20 Years?* Madison: Electric Markets Research Foundation.

⁵ Morey, MJ & Kirsch, LD (2016): [*Retail Choice in Electricity: What Have we Learned in 20 Years?*](#) Madison: Electric Markets Research Foundation.

initiative, to improve supply reliability and keep the system ready for emerging demand patterns and behind-the-meter installations.

Fourth, cherry-picking is an often-pointed resistance to the multiple discom/supplier proposal. The MoP seeks to address this concern through creating distribution zones with a mix of rural and urban consumers and creating universal supply obligation (USO) funds for managing redistributive demands. However, in absence of effective consumer grievance redressal, this may lead to a situation where the supplier with USO and private suppliers will compete to get the high-paying consumers, and thus, exacerbate the difference of service and supply quality between remunerative and non-remunerative feeders.

Finally, privatisation as a solution to inefficiencies in electricity distribution is misplaced. Private suppliers are not inherently efficient; they respond better to incentives. Consequently, private participation will only increase efficiency if appropriate incentives to improve efficiency are in place. The Centre must seek to fix those incentives and provide an enabling framework for institutional innovations in electricity distribution business and allow the states to chart their institutional pathways. Varying political economy contexts across states necessitate diversity in the institutional architecture (especially at bottom of the structure), while economic viability must be a common agenda. The MoP can facilitate, through providing insights from past experiences, assessment of alternative options and guidance on governance and accountability mechanisms.

III. Complementary Considerations

While the initiatives proposed by the MoP are in the right direction, are they adequate to achieve the electricity goals set by the Government of India? As we have indicated earlier, the answer lies in how the Centre envisions the institutional and political patterns around these techno-economic interventions. We suggest, as necessary complements to the interventions being planned, the following five priorities:

First, owing to its concurrent status, the electricity sector experiences a see-saw relation between the Centre and states. Given the salience of electricity as an electoral currency at the state level and state ownership of the discoms, the state governments have an important say in implementation of reforms. There is an urgent need for robust institutional coordination between the Centre and states on electricity reforms. The priorities should include developing shared goals, while the states may be allowed to chart diverse yet sustainable pathways to those goals. Such an approach may benefit from learning from past initiatives and maintaining an institutional memory of the processes and outcomes.

Second, the Central government claims that “supply of electricity to consumers should be like retail sale of any commodity. Consumers should have choice to select suppliers based on their performance.” However, the question on whether electricity is a commodity, or a public service, particularly in a developing country like India where there are many positive developmental spillover benefits to electricity access, is still an open question. There is a need to re-engage with the debate on electricity as a private commodity vs electricity as a public good (essential for human development). Governments at the Centre and states have opportunistically shifted their position on the nature of electricity provision. A broad consensus on this matter is a pre-requisite for any serious reform plan.

Third, pre-distribution of clean energy solutions for the poorest citizens should be prioritised at least for a few years to minimise redistributive pressures (i.e. tariff subsidies for the poorest). The redistributive pressures of democratic politics in a developing country have made electricity provision a means of welfare that has fostered a low-level equilibrium trap encompassing poor quality, poor payment and populist politics. The energy transition and the low cost of renewables offer an opportunity to free citizens, businesses and the power sector alike from these redistributive pressures. The Centre’s initiatives like PM-KUSUM and Rooftop Solar Programme

are positive steps in this direction that need to be strengthened and expanded. Treat these interventions as a key part of reform initiatives.

Fourth, for the remaining low-income consumers in need of tariff subsidies, prioritise what we call ‘productive power’ – support for productive (income generating) uses of electricity that allows consumers to pay for better quality service. The current practice of ‘redistributive welfarism’ prioritises subsidised tariffs for the poor while subjecting them to low quality and unreliable electricity supply. A shift to productive power will require a comprehensive strategy that seeks to complement reliable electricity supply to rural areas with targeted interventions to mobilise its productive use. This will also require coordination of electricity sector interventions with rural development and livelihood programmes.⁶

Finally, India’s existing electricity challenges are complex. There is no shortcut to address them. An effective solution would have substantial transaction costs, but the process and costs are worth bearing for the transformative rewards. For that purpose, we suggest the MoP to use this moment to initiate an inclusive deliberation process with all stakeholders to prepare a long-term energy vision for the country. Such a vision must seek to facilitate credible configurations of technologies, institutions and politics.

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⁶ Swain, AK (2020): [*Powering Through the Pandemic: Will Covid-19 Reset India’s Approach to the Future of Electricity?*](#) New Delhi: Centre for Policy Research.