

THE NECESSITY OF ELECTRICITY DISTRIBUTION COMPANIES

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'The problems with Discoms, however, lie in the domain of political economy' | Photo Credit: G. KRISHNASWAMY

The Electricity Act 2003 provided the framework for the dismantling of the State Electricity Boards and the separation of generation, transmission and distribution into separate companies. Electricity generation was delicensed, while transmission and distribution remained licenced and regulated activities. Promoting competition, protecting consumer interests, and the supply of electricity to all were key objectives of the legislation.

Under the new regime, a competitive industry structure in generation has evolved. The share of private investment in the creation of new generating capacity has increased rapidly. Competitive procurement through long-term power purchase agreements (PPAs) grew and prices discovered through the market turned out to be lower than anticipated under the earlier cost-plus dispensation for determining tariffs. The impressive growth in renewable power is entirely the result of private investment. Tariff-based bids for the supply of electricity to distribution companies (Discoms) has been the key to the extraordinary success of the National Solar Mission. Further, India now has one of the cheapest rates for solar power supply in the world.

When the contours of the new law were being discussed, the introduction of full deregulation and competition (like in the United Kingdom in the early 1990s) was advocated by those who believed that we should adopt the latest 'reforms' from the West. In the U.K., a mandatory power pool had been created where all generators submitted bids for the next day, indicating the quantity they could supply along with the price. These bids were stacked in ascending order of price. The price with the quantity at which the total demand indicated by the suppliers would be met became the pool price for electricity. This mimicked the intersection of the supply and demand curves to get the market price. Full retail competition had also been introduced and consumers could choose from among several suppliers who had emerged to serve the market. Though these reform ideas had a strong constituency (including Enron), these were found to be unsuitable for India.

Power was and is being supplied from individual power plants through long-term contracts at prices determined for each. As the plant depreciates, the fixed (capital) cost component in the tariff declines; the older the plant, the cheaper its electricity. Adopting the free market (power pool) model would have meant that all electricity would be sold at the price of the electricity from

the most expensive plant at which demand would be fully met. The resultant steep price shock could just not be absorbed. For example, electricity from Bhakra Nangal which was being supplied at a few paise per unit would have had to be sold at over 4 a unit then. For decision-makers, such deregulation became a non-starter once the full implications were understood.

The Distribution Licensee (Discom) has the universal service obligation of supplying electricity to meet the full demand of every consumer (existing and new), in its licence area. Therefore, the Discom has the responsibility of projecting demand growth and making arrangements for reliable electricity supply. It does this by entering long-term power purchase contracts. Power-generating capacities have risen rapidly and the power supply position has become comfortable. There has also been the milestone of the completion of rural and household electrification, where discoms have been pivotal.

The Electricity Act gives consumers with a load of 1 MW and above the right to open access, enabling them to buy electricity from whomever they choose to and pay the Discom only for the use of their distribution network and a cross-subsidy surcharge. This cross-subsidy surcharge became necessary as higher-end industrial and commercial consumers pay more and cross-subsidise the lower-end households whose tariffs are less. However, the explicit mandate in the Electricity Act to the State Electricity Regulatory Commissions, to progressively reduce cross-subsidies remains unimplemented. This has resulted in the cross-subsidy surcharge continuing and acting as a barrier. Not many large consumers are meeting their electricity needs even now using open access. At the margins, generating plants may be able to generate electricity over and above what they are required to supply through their existing contracts; Discoms may have surpluses as well as shortages at different points of time. These can be sold. Power exchanges have come up to enable trading and optimal utilisation of the total generating capacity in the country. The exchange prices are volatile — either a little above marginal cost when demand is modest and shooting up when demand surges, necessitating the imposition of price caps. This is not an unexpected phenomenon as demand for electricity is inelastic.

‘Reforms’, ‘markets’, ‘competition’ and ‘consumer choice’ have positive connotations. Discoms are seen as the weak link in the supply chain of electricity, with rising cumulative losses and an inability to pay generators on time. The idea of somehow dispensing with the Discoms and letting the free market solve the problems of the power sector appears deceptively simple and attractive.

The problems with Discoms, however, lie in the domain of political economy. Foremost here is the inability of regulators in the States to determine cost reflective tariffs. State governments find it difficult to give timely subsidies as required by law. This underlying problem cannot be solved by implementing some imported reform idea(s). There is the political economy issue of misgovernance and rent seeking in some States where privatisation, as in Delhi, may perhaps be the only solution.

Investment in generating capacity has been taking place primarily on the strength of long-term PPAs with Discoms. Financing, equity as well as debt are de-risked by these PPAs which have the implicit guarantee of the state. The energy transition to renewables is accelerating and the reliability of power supply is increasing. This is based on Discoms projecting demand and entering long-term contracts for meeting increasing demand. Without Discoms this edifice would collapse; and without new investment, we may face power shortages again. It needs to be noted that the exemplar for reformers, the U.K., did not see significant demand growth, and the consequent need for new generating capacity after the new dispensation came into place. However, to drive their energy transition, the state had to invite bids for renewable energy through “contract for differences” which assured successful bidders’ payment of the difference between the market price and their bid price whenever the market price fell below their bid price.

The war in Ukraine has led to ironical consequences, emanating from a dogmatic faith in the deregulated market. Electricity prices went up many times due to the inelasticity of electricity demand, government was compelled to give cash support for lifeline consumption, profits of energy companies reached record highs, and government had to impose taxes on their windfall profits. In an earlier era, governments would have considered imposing price controls. Gordon Brown, the former Prime Minister, went so far as to call for temporary nationalisation.

The consequences of implementing the reform idea of doing away with the centrality of the Discom must be thought through. Lessons from the experience of the last year in the U.K. should be analysed. There are no quick-fix easy solutions.

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