

Transformational changes not based on ground reality – Electricity Sector reforms

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Electricity today has to be treated as a fundamental right and not a product. It permeates every aspect of life and with the advent of the internet, electricity is no longer a luxury but a necessity. Given that reality is electricity a product or a service? If it is a service, is it an essential service? Answer to these questions determine the severe limitations to market led development and/or privatization.

In 2003, electricity legislation was changed with the sole objective of transforming a state controlled “autonomous” integrated electricity boards into a market and investor friendly “ambiguous” structure.

Desperation for foreign investment

The Ministry of Power, Govt. of India produced a paper on the 15th January 1994 in which it stated:

“As such private investors have been allowed entry in the power sector not for exploitation of the country, but to rescue the country out of a quagmire of resource crunch dangerously threatening to paralyze the power sector and consequently the country..... if private sector was not allowed to come in the power industry to take up generation, this nation would plunge itself with certainty into an abyss of distress and misfortune which one would shudder to imagine.”

The only difference between then and now is that, given the failure to attract large sums, these sentiments are spoken in undertones, while there is no let or change in the direction of “reforms”

Indian private investment in thermal power

The first major investment attempted was in 1992 by US based ENRON company that built a 2,184 Megawatts LNG powered thermal power station at Dhabol, Ratnagiri Maharashtra. In September 2015, the company had a total debt of nearly Rs. 10,500 crore. In a bid to try and revive the loss making plant, the Company owning the power plant [RGPPL](#) was split into two separate Power (RGPPL) and LNG entities Konkan LNG Private Limited (KLPL), one to manage the power plant and the other to try and manage the import of LNG and taken over by the public sector at a huge loss, that continues unabated, to the Indian people.

The next biggest private investment is coal fired power stations were 34 stations built in the late 90s. This time around with Indian capital. By end of August, 2018, the situation was, “Lenders to about 30 stressed power assets will refer them to bankruptcy courts, after the Allahabad High Court denied any relief to the sector from the Reserve Bank of India’s February 12 circular setting a 180-day deadline for resolution, which ended on Monday” By September, the Supreme Court stayed the Reserve Bank of India's circular, preventing initiation of insolvency proceedings against these stressed power assets. This hurdle was overcome. Not quite. Their liabilities were just transferred to the State-owned Power Finance Corporation, Fifty- five percent of the loans made by PFC to the private sector turned bad. In contrast, asset quality of government-driven projects held up well.

The next hurdle for these 34 units was show cause notices issued by the Directorate of Investigation (DRI) worth about 20 thousand crores for irregularities in equipment imports and 30 thousand crores for coal imports. This too was overcome since nothing has been done to translate show cause into conviction. One of the consequences, that rarely finds mention, is that the import of equipment from China was equivalent to four years production capacity of Bharat Heavy Electricals Ltd (BHEL), the profit making company. Consequently, BHEL was pushed into losses.

In 2005-06, to achieve economies of the scale in generation Ultra Mega Power Projects (UMPPs) (each having a capacity of about 4000 MW), were facilitated. Well established entrepreneurs like TATA and Adani set up UMPPs, successfully. They won the bids in a tariff based tender bidding process. The underlying assumption being that Independent Power Producers cannot take market risk and must sell their output to the State Electricity Board on fixed revenue from two streams - fixed or capacity charge and variable or energy charge. In July 2012, coal prices were increased in Indonesia and there was a demand for increase in tariffs. In April, 2017, the Supreme Court set aside a 2016 order of the Appellate Tribunal for Electricity (Aptel) that allowed Adani Power and Tata Power to charge compensatory tariffs. But in October, 2018 the Supreme Court, in a review petition, directed the apex electricity regulator to decide on changes to power purchase agreements (PPAs). The verdict effectively paved the way for renegotiation of power tariffs. And now in 2021, the question of compensatory tariff will be reexamined by the through open court hearing.

About Rs.6 lakh crore of the total NPAs of public sector banks are from the power sector particularly relating to thermal power plants. The jury is open on whether or not, *this nation did actually plunge itself with certainty into an abyss of distress and misfortune*, by allowing the private sector into coal-based power generation.

Experience with Solar power

Government had an initial target of 20 GW capacity for 2022, which was achieved four years ahead of schedule resulting in the country's solar installed capacity being 44.3 GW by 31 August 2021. At the recent COP 26 meeting held in Glasgow the Prime Minister committed that within the next 8 years and a month (that is by 2030) India will have 500 GW of non-fossil electricity generation capacity. 500 GW of non-fossil capacity is likely to be more than 55% of the total install. Of this 500 GW, around 105 GW is projected to be from hydro, small hydro, pumped storage, nuclear and biomass. Thus, some 400 GW capacity would be from solar and small amount of wind.

The development of solar power generation has been based mostly on terms set by the power purchase agreements (PPAs). Many State Governments – Andhra Pradesh, Punjab have and are attempting, unsuccessfully, to abrogate or modify the PPAs. States like Gujarat continue to pay Rs. 15 per unit when the cost of solar power has come down to Rs. 2.4 per unit.

The problems with the solar power purchase agreement are:

- a) Almost the entire solar power generation is based on imports (China being the biggest beneficiary). If lithium-ion batteries are going to be added for storage the import bill would go up further.
- b) They are long term, generally 25 years duration. They are inflexible and cannot be modified.
- c) They have a must run status. That means, irrespective of their cost of generation they would be scheduled (purchased) shutting down the cheaper options.
- d) Solar energy, by its very nature, is intermittent depending on the availability of the sun. Since the demand does not vary, some other source has to provide the energy, when the sun does not oblige. It is the coal power stations that have to meet the fluctuations. For this coal power stations have to back down and ramp up. This is a costly exercise. And they have to not only bear this additional cost, but also take a risk on their equipment. So far it's the public sector that is bearing the brunt.

There are hardly any serious studies regarding grid management and grid stability This is particularly serious if and when renewables constitute 50 % of the generation. A target to be achieved in eight years and one month.

Similarly, there are no serious studies or plans regarding waste disposal of solar panels or batteries after the expiry of their life. Solar energy related products have heavy metals that cannot be eliminated even the present water purification systems.

Clamour is for privatizing distribution systems.

The fact that Electrical Power is a concurrent subject in the Constitution has become a major hurdle. Several attempts, since 2014, have been made to introduce change in the legislation. But they have failed. In the current winter session of Parliament, Government is trying to put through the bill.

Simultaneously, the Govt. of India, thorough conditionalities and caveats for obtaining loans, is using the cash rich Power Finance Corporation (Rural Electrification Corporation being made a subsidiary of PFC) to coerce the State Governments to fall in line.

The current emphasis is on privatizing the distribution system on the promise of ushering an era of better efficiency and competition right down to down retail sales.

First, some basic facts:

- a) Eighty percent of the cost of electricity is on account of generation and in some even more. That leaves only 20 % left to reduce cost due to efficiency.
- b) States are compelled not to revise very unfavorable Power Purchase Agreements. Under conditions put in several Power Purchase agreements, DISCOMS continue to pay fixed costs even if they do not consume a single unit of electricity.
- c) A large section of the consumers do not pay the cost to serve and this increases with every election and political one-upmanship. De-regulation and open access have made it increasingly difficult to cross subsidize.
- d) Due to lack of investment and huge increase in demand technical losses have increased.

- e) Borrowings, particularly from PFC and REC have increased exponentially during the last few years

Bypassing these realities, Government of India perception is:

- That the financial crisis faced by the DISCOMS are not systemic, but entirely due to delinquency of the management and their consumers.
- Systematically, cross subsidy and subsidy should be eliminated. Elimination or reduction of cross subsidy is considered essential to enable ease of doing business. (Most Multinational Corporations use cross subsidization to open and or differentiate markets. There's nothing in economics that suggests that the elimination or reduction of cross subsidy creates ease of business)
- That privatisation needs to be done on most favourable terms so that the new owners can start with almost a clean slate. The Standard Bidding Document (SBD proposes that assets will be transferred at Net Asset Value and that land shall be provided at nominal charges. Another provision is that the successor entity shall be provided with a clean balance sheet free of accumulated losses/ unserviceable liability. If these terms are extended to the existing DISCOMS they will become profitable overnight.
- State Governments are incapable of managing the DISCOMS. Central Government intervention, regulation and oversight is essential.

Similar to generation, experience with privatisation has so far been a total failure. In almost all the cities where privatisation was attempted - Gaya, Samastipur and Bhagalpur in Bihar, Kanpur in Uttar Pradesh, Gwalior, Sagar and Ujjain in Madhya Pradesh, Aurangabad and Jalgaon In Maharashtra, Ranchi and Jamshedpur in Jharkhand to name a few - the regulatory commissions were compelled to cancel the franchise. In the case of Odisha, the State Government is now in charge of the sector once again after not one, but three failed attempts at privatisation. In Mumbai where TATA and/or Reliance (now Adani) have licences, there have been increases in tariff, protests by consumers, and a string of litigations. Mumbai has the highest tariffs amongst all the Metropolitan cities. Delhi has low tariffs but very sizable regulatory assets - this means that since it was not possible to enforce the increase in the tariff, the effect of the increase will be made into an asset that will have to be paid when it is possible to pay).

World Bank study of reforms in England and Wales has concluded, *“The ultimate aims of the U.K. reforms were to remove the sector from government funding and to reduce prices for consumers through the increased efficiency of private sector operation and the pressure of competition. Broadly speaking, the first objective has been accomplished, but the second objective has yet to be convincingly achieved”*

To sum up, privatisation of distribution should not be allowed unless the following caveats are addressed, otherwise it would only result in privatised profits and nationalised losses:

- Resolve the problems of consumers not being able to pay the cost to serve. Particularly the most difficult of what to charge farmers. Until there is parity between cost of canal irrigation and farmer owned bore-well, this problem cannot be resolved.
- Privatisation based on a bogus, unscientific index Aggregate Technical & Commercial losses (AT&C) should be stopped. (Technical losses are governed by laws of physics and Commercial losses by criminal law. Putting them together is only to enable the

private entity to show improvement without improving the system by merely improving money collection by investment in metering and recovery of arrears that too from Government agencies)

- Analysis should be done and made public with regard to the following issues:
 - a) why in several cities the regulator had to remove franchisees and restore the system to the DISCOMS (A study of Franchisees would show that these agencies have defaulted in paying the DISCOMS while collecting money from the consumer)
 - b) what is the assurance that Odhisa would be successful this third time when it has failed twice, once an US MNC and the next time an Indian company.

Retail competition – who benefits?

Let us first examine competition in bulk supply. Open access enables a large consumer to move back and forth between different DISCOM. That means that a large consumer can purchase the cheapest available power from any DISCOM, by bearing the additional cost of transmission. This was supposed to encourage competition and encourage investment by private players in electricity supply.

For a given period, the tariff is regulated and fixed, but in order retain the large consumer the DISCOM has to offer counter-offer to retain the consumer. These additional costs would have to be borne by non-open-access consumers, many of whom are small consumers. In spite of numerous attempts, the success of open access has been very limited.

Unlike mobile service, that is often quoted as an example of benefits of competition, electricity is a wired system. That means, if say, in a multi-storied residents get electricity from four suppliers, there would not be four separate wires. Power will flow through the single wire, that would be used by all the suppliers. It is through different meters that power flow from different suppliers would flow.

The Ministry of Power has decided that extensive metering is necessary to resolve the crisis in distribution and pave the way for privatisation. The target set by the Ministry of Power is installation of 250 million smart meters by 2026. The cost of a smart meter would be about Rs. 6000 per meter and the investment 1.5 lakh crores. Assuming a reduction of 1 % to 2 % losses breakeven would be in 18.6 years. During this time the technology of smart meters would change requiring re-metering. The experience of United Kingdom is that below 75 kw competition is not cost effective.

The most critical question is can there be competition when a sizable section of consumers have to be served below the cost to serve? Take for example, power supply to the farm sector. Providing free electricity to farms is not a political compulsion, but is based on economic logic. Farmer's requirement is water, not electricity. There are two ways a farmer gets water – from an irrigation canal or from ground water. Is it possible to sustain differential cost of water under the two systems? In 1965, Dr. K.L. Rao, former Union Minister for Irrigation & Power wrote "It is impractical to expect the farmer to pay the full cost of electricity. In any case, how is the cost of electricity supplied to the tube wells be computed? There is no understandable reason, for not subsidizing irrigation from underground water. Surface water is being highly

subsidised. What is recovered, as water charges, amounts only to half or less of interest on investment”

Conclusion

Should the Government of India not convince the nation that privatisation will solve all problems and competition will benefit the domestic consumer. There should be a demand for a white paper on how and why a) The Electricity Bill 2020 will resolve the financial status of the DISCOMS? b) Privatisation would bring efficiency when it has so far failed both in India and in advanced countries? c) Cost of power would d) Private monopoly would be more accountable than public monopoly.

Like agriculture, electricity is also too critical and fundamental. Even if the Government of India, using its majority in Parliament, pushes legislation, there will be sustained resistance as the nation has witnessed recently with the four farm laws.

(2728 words)