

# **Analyzing The Need To Privatize The Power Sector**

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## **Introduction**

Do you know that India is the world's third-largest electricity producer? India has come a long way from producing mere 1,362 megawatts at the time of Independence in 1947 to an installed power capacity of over 408.71 GW as of October 31, 2022. The government declared the issuing of sovereign green bonds in the Union Budget 2022-23, as well as the designation of energy storage technologies, including grid-scale battery systems, as infrastructure. A PLI plan to stimulate the manufacture of high-efficiency solar modules was granted Rs. 19,500 crores (US\$ 2.57 billion) in the same budget. The provision of 100% FDI in the electricity industry has increased FDI inflows.

Power is a critical component of national well-being and economic success. To sustainably build the Indian economy, enough electrical infrastructure must exist and be created. India's power-generating sources span from coal, lignite, natural gas, oil, hydro, and nuclear power to feasible non-conventional sources such as wind, solar, and agricultural and residential waste. India's power consumption is still being driven by sustained economic expansion. The Government's emphasis on achieving "Power for All" has hastened capacity addition in the country. Although electricity output has increased more than 100-fold since independence, consumption has increased even faster due to rising economic activity. Today, practically every resident has access to grid electricity, power shortages have significantly diminished, and installed renewable energy capacity has surpassed one-fourth of total capacity. However, the power sector, majorly driven by the public sector continues to make heavy losses. This leads to a rise in the need of the private sector to boost this industry with efficiency and profitability.

## Electricity Act-2003

The Electricity Act of 2003 oversees the generation, transmission, distribution, trade, and consumption of electricity in India. Electricity generating (excluding hydro) is a non-licensed activity. The distribution, transmission, and trading of electricity are all licensed operations under the Electricity Act. Before the implementation of the Electricity Act, generating and distribution were state-owned.

Even though the electricity industry receives 15% or more of federal money, India is perpetual energy poor. Experts blame bankrupt state-run energy boards, severe scarcity of coal, unbalanced subsidies that favour wealthy farmers, power theft, and underperforming private distribution firms. There is no scarcity of funds, and the issue, as admitted by the Planning Commission, is more in the delivery method than in the system. A large amount of energy is lost while transmission due to lack of appropriate means of tackling the same.

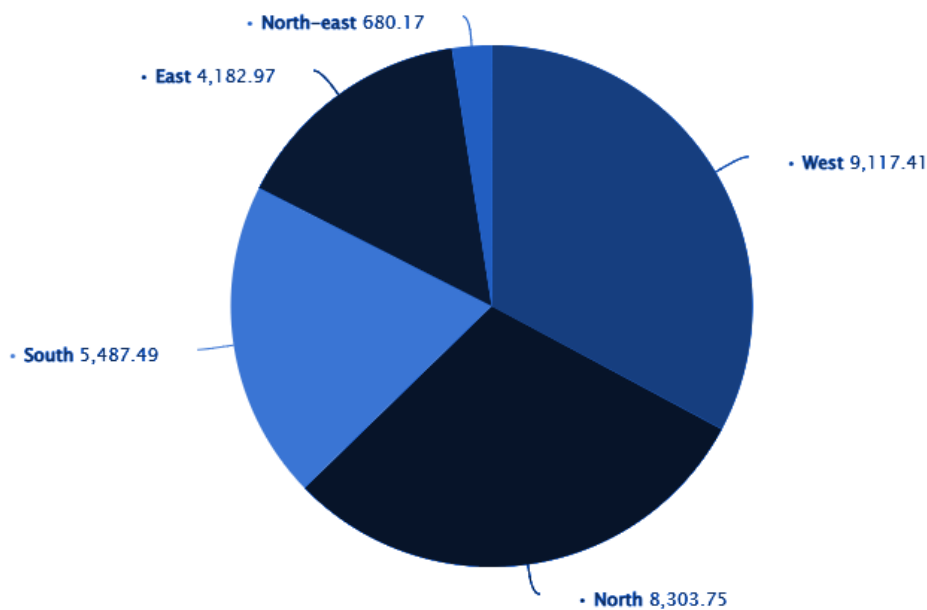


Fig. Region-wise Electricity transmission losses in India in the fiscal year 2020 (in Gigawatt hours)

In the fiscal year 2020, the western region of India experienced the biggest amount of energy transmission losses, totaling around 9.1 thousand gigatonne hours. Approximately 20% of India's electrical generation is lost during transmission.

The Electricity Act of 2003 introduced various policy provisions to accommodate the power sector's irregularities and drawbacks, including the introduction of competition through open access, multi-year pricing frameworks, distribution franchisees, de-licensing generation, the

implementation of renewable purchasing obligations, and the formation of independent regulatory agencies. However, the distribution industry counters various problems. Each year, most discoms face massive losses, and the situation is only growing worse.

Companies have accrued massive debts due to their inability to pay generators on time, and they are unable to provide reliable and high-quality electricity to their clients. The Discoms' financial and operational turnaround is critical. Although Discoms as a whole is performing poorly, certain specific ones outperform the rest. Various states and Discoms have chosen distinct reform approaches over the last few decades, resulting in these disparate outcomes.

### **Role of the Public Sector in the Power Sector**

In the Indian political system, electricity is a regulated industry and a concurrent issue. This indicates that both the federal and state governments have important responsibilities to play in regulating and operating the power market. Companies in the electricity industry contribute significantly to the state's economy. Apart from providing crucial infrastructure for the growth of the state's economy, the sector also contributes considerably to the state's GDP.

Changes in the energy production, transmission, and distribution processes have opened the power generation industry to private firms, propelling it on a rapid development trajectory. However, the industry's fault lines are in the distribution sector. Thus, it was a matter of misdirected priorities over the previous decade and a half, with the government focusing on the capacity increase rather than upgrading the distribution sector or last-mile connection when it came to electrification. The government recognizes that strengthening distribution is the key to eliminating all inefficiencies in the industry. It is the weakest link in the overall power value chain since even with extra electricity and transmission interconnection, it is the weakest link. This is essentially why the government prioritizes the resurrection of DISCOMs, commitment to renewables, and rural electrification as crucial sectors.

Further, the government emphasizes the availability and accessibility of electricity and is the only source for providing free electricity for the poor and needy. However, it struggles with the inability to cover its costs and resorts to short-term gimmicks as a solution. To fulfill this desire for accessibility, the government provides electricity at cheaper rates for the poor and in many cases eliminates it altogether. Providing subsidies to DISCOMs at lower rates further adds to the financial strain. Though the initiative is good, the financial burden on the government treasury is certainly not appealing. The public sector-run power generation companies find it difficult to cover their costs and thus, the areas of their operation receive frequent power cuts and blackouts. While

this can be a short-term solution, it certainly induces the need for an effective and long-term solution to the problem.

### **Privatization of the Power Sector**

Privatization of the power sector refers to the transfer of ownership, property, or a company from the government to the private sector. This means that the corporation or business is no longer owned by the government. In other words, it refers to the process by which a publicly listed corporation is taken control by a small group of individuals or any private body. Privatization of the power sector in the modern world may take various forms.

When private power generation was permitted in 2003, and green energy generation in the form of solar and wind energy was offered, state governments rushed to sign up. Power Purchase Agreements (PPAs) were signed left, right, and center as a result. Various kinds of concessions were permitted. As a result, under numerous PPAs, state DISCOMs are required to pay high rates to generators or pay fixed expenses even if they do not utilise a single unit of power. Madhya Pradesh, for example, pays out over Rs 5,000 crore every year even though it does not consume a single unit. The Andhra government was not given the opportunity to assess the high-cost solar energy PPAs.

To privatise DISCOMS, accounts must be unbundled specific to the region that will be given over to the successor business, and the asset registry and accounts must be reviewed prior to the sale. While the State Electricity Board has been unbundled into production, transmission, and distribution, and then further unbundled into distribution into particular areas, the accounts and assets have not been unbundled. It is worth noting that the Delhi Vidyut Board was one such privatised entity that lacked an asset record and audited accounting.

Discoms must furnish assets that are free of any accumulated losses and unserviceable liabilities. What legal laws allow governments to deduct such significant sums in favor of private entities? And why should the burden of the transaction be borne by the taxpayer, a third party? The amounts to be written off are enormous. Power Finance Corporation and ICRA estimate that the losses will exceed Rs 30,000 crore. Because there are no official aggregate estimates, the total losses across the country might be larger, possibly in the billions.

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### **Role of the private players in power generation**

The requirement for a low-carbon, climate-resilient future necessitates that the Indian electrical distribution industry attains operational efficiency, profitability, and preparation for rising and future demand, as well as technology developments. Discoms may begin their route to profitability with lessons learned from the last two decades of reforms, ideas from worldwide best practices, and continuing government commitment to transforming the electricity sector. For this, there must be significant involvement of both public and private players in the generation industry to promote healthy competition, growth, survival, and efficiency in the sector.

The private Calcutta Electric Supply Corporation (CESC), founded in 1899, was India's first electricity-producing firm. In 1905, the first diesel power plant was built in Delhi. In 1902, the first hydroelectric power station was built in Mysore. Approximately 60% of India's electricity industry was privately held at the time of independence.

The Electricity Act's partial success is that the industry has been vertically unbundled, with a significant degree of competition and private participation in generating. As of March 2021, 47 percent of the generating was done privately. It is still difficult to channel private investment into distribution. This has become the primary reason for the low participation of private players in this industry. Passing the government norms and standards adds to this. There is a sense of loss—loss of jobs for Discom employees, loss of the welfare nature of state-owned Discoms that support the residential and agricultural sectors through subsidized tariffs, loss of ability to serve the poor and vulnerable, and loss of jurisdictional authority for states if the Centre implements this decision without adequate state buy-in. These have lately come to light in the aftermath of the announcement of the privatization of all Union Territories' Discoms as well as those of several states, including Uttar Pradesh. In the second case, employee demonstrations against the privatization of Purvanchal Vidyut Vitran Nigam Ltd (PVVNL) were fueled mostly by the prospect of job losses.

The political economics of electricity, with its diverse players and interests, the stark disparity in demand, requirements, and capacity to pay off rural and urban users, as well as the imperative of state welfare, are what make distribution privatization so difficult. Privatization in urban areas can be managed through heavy investments and maintenance. The problem increases in rural areas. When a discom's service region is more rural, privatisation becomes more challenging and leads to difficulty in operation. The expense of supplying rural and agricultural users becomes financially

tough because of the tariff disparity and the difficulties of billing, collection, and, in some circumstances, metering. When the wires and supplies company is separated from the billing and collection industry in some way, private money can be recruited through models such as franchisees. However, to achieve commercial viability, the customer mix and geography must be considered.

The government in power has proclaimed its intention to delicense power distribution and boost competition among the distributing companies. Thirty-four Multiple corporations can compete to deliver electricity using the same grid infrastructure, and consumers can pick the supplier that offers the greatest quality-cost combination. This change can be difficult to implement and should be complemented by proper market design.

According to World Bank research, most utility boards continue to be controlled by the state and lack appropriate decision-making authority. Most of the electricity is still state-owned in India. Some state-owned utilities, on the other hand, have seen a successful comeback as a result of deliberate restructuring and empowered governance, which has enhanced long-term decision-making. Improved public administration, with strong leadership and long tenures, is a significant feature of these Discoms. According to the World Bank report, Discoms with more autonomy and better corporate governance are more lucrative. Discoms' success is also influenced by regulators' proactive involvement in issuing timely tariff changes to ensure the sector's financial viability.

### **Direct Benefit Transfer- A new Initiative in the Power Sector**

DBT is part of the Indian government's attempt to restructure subsidy supply and distribution in order to enhance transparency and decrease leakages. Instead of affecting market pricing for commodities or services, subsidies are delivered directly to a citizen's account. Power subsidy redesign using DBT is a testable strategy that can meet welfare goals while being less distortive.

Subsidies are transferred directly to citizens' bank accounts under DBT. The electricity bill is calculated using the real cost rationalised tariff or within the specified maximum of 15% cross-subsidy. Transitioning to DBT will boost revenue realisation and allow discoms to deploy customer engagement best practises. The DBT system has tremendous benefits for discoms, but its successful implementation requires tighter collaboration among the state government, the SERCs, and the discoms .

## **Installation Pre-Paid Electricity meters**

Smart meters are being implemented through different government programmes as well as by state utilities. It is a gadget that measures the quantity of electricity consumed by a building, electrically powered equipment, or any tenant space. This energy meter measures power until the amount of the prepaid electricity payment is depleted. In the case of a prepaid electricity meter, an alert is delivered to the consumer if their account has a low balance. This warning notifies users that the meter must be recharged. It can be performed either manually or mechanically. It can be compared to a mobile phone recharge, where you can obtain a recharge card and some energy units in exchange for the balance sum. The recharge quantities drop as you continue to use energy, exactly as prepaid mobile phone recharge.

Under the National Smart Grid Mission (NSGM) and the Integrated Power Development Scheme(IPDS), the Government of India provides funds to states for the deployment of smart metering. EESL is also implementing smart metering projects started by DISCOMs on their own independent initiative in the states of Uttar Pradesh, Haryana, Bihar, and Rajasthan, Delhi to name a few on an OPEX basis, where Energy Efficiency Services Limited (EESL) makes the initial capital investment and DISCOMs pay back to EESL on a monthly rental basis. According to the information provided by the Union Minister of Power in February 2022, approximately 37.33 lakh smart meters have been reported to have been placed in various States under the aforementioned programs of the Government of India and the aforementioned initiatives of the DISCOMs.

Prepaid metering reduces data collection inefficiencies, while the smart feature in prepaid smart metering allows for near real-time identification of loss areas while also allowing consumers to manage their power consumption based on their requirements and resources. This contributes to a reduction in Aggregate Technical & Commercial losses. This also addresses consumers' concerns about incorrect invoicing, being reconnected after being disconnected for nonpayment of bills, and claimed unlawful usage of energy in cases of solely on-paper disconnection by field workers. The government of India also aims to provide financial assistance to the Discoms opting for the pre-paid metering system through various government schemes and programs.

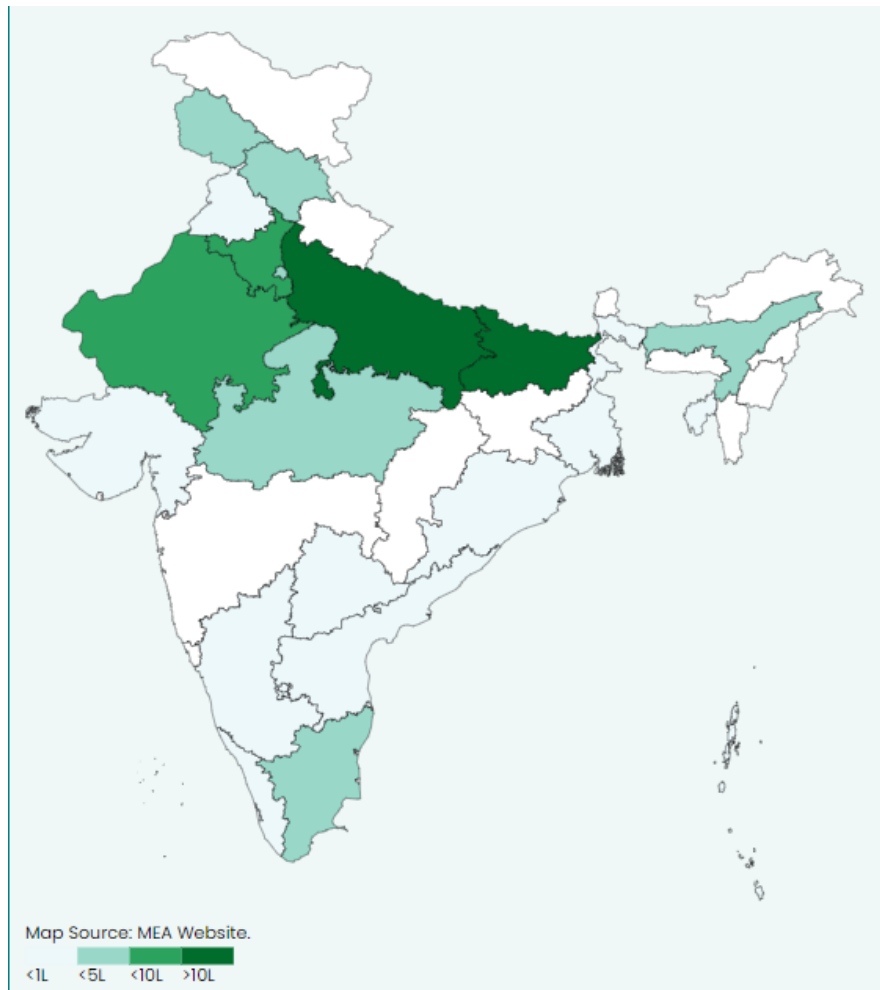


Fig. Statewise Installation status of Smart Meters (Source-National Smart Grid Mission, Ministry of Power)

### **Installation of Pre-paid electricity meters in Bihar**

On October 11, 2021, the Energy Department's request to install prepaid meters in all Bihar homes was approved, making the state the first in the country to deploy pre-paid energy meters on a broad scale. Energy Efficiency Services Ltd (EESL), a joint venture of power sector PSUs, said that it had installed over 10 lakh smart prepaid energy meters.

With the installation of 10 lakh smart prepaid meters, DISCOMs in Bihar have been able to make more than Rs. 3 crores in revenue daily. The total money received by smart meters in Bihar has already surpassed Rs.1000 crores. The smart prepaid meters are linked via a web-based monitoring system, which will assist utilities to reduce commercial losses, increasing revenues, and acting as a significant element in power sector reforms. Other significant advantages include lower peak power purchase costs, near-real-time power quality measurement, and a significant reduction in carbon footprint.



Last year, EESL entered into an agreement with South Bihar Power Distribution Company Ltd and North Bihar Power Distribution Company to install 23.4 lakh smart prepaid meters across the state, with the project set to be completed by February 2023.

### **Privatization- as a Global Phenomenon**

Privatization is inextricably linked to the evolution of the multinational energy corporation, a company whose emphasis is growing more global and multi-purpose. Until recently, only a few energy corporations were deemed international, except the world's few big integrated oil giants. Currently, numerous coal firms, petroleum pipeline companies, electric utilities, and power generating equipment and construction companies, in addition to the hundreds of petroleum corporations that may already be categorized as international, have expanded their reach to become increasingly worldwide. The world's energy corporations have also grown increasingly interconnected through consolidations, mergers, acquisitions, and strategic partnerships.

Various areas, governments, and businesses across the world are attempting to privatize. Although certain distinct patterns have arisen, privatization takes many various shapes and variants. When a government entirely divests itself of all state-owned firms and removes itself from ownership and management of these enterprises, this is an example of an aggressive privatization approach. There are also other less serious kinds of privatization. At the opposite end of the spectrum, a government may enact a deregulatory policy that grants a business only a minimal degree of increased autonomy, or it may simply contract out a function that was formerly provided by government employees, such as garbage collection. Privatization can also be accomplished without doing much.

Although privatization attempts varied significantly from nation to country, there is a solid economic reason driving the various decisions to sell public energy resources. In general, nations have privatised state-owned energy companies to fulfill one or more of numerous goals. These objectives include:

- 1) To raise the overall revenue generated in the State
- 2) Reduction in government participation ;
- 3) Induce heavy capital investment in the sector by private bodies;
- 4) Enhance efficiency and effectiveness of the sector;
- 6) Enhance competition in the industry

Foreign investors have played a key role in the privatization process. Foreign investors face little, if any, limitations in several political jurisdictions. When the Australian state of Victoria auctioned off five of its electric distribution firms, all were acquired, at least in part, by American companies. Countries such as the United Kingdom and Argentina have also been at the forefront of allowing

foreign investors to be treated fairly. Foreign investment limitations have been a deterrent in other circumstances. Several former Communist countries, including China, have taken very modest and frequently erratic moves toward opening their energy sectors to outside investment.

Prior to transferring control to the public, governments have frequently conducted an extensive reorganization of energy businesses. In Russia, for example, privatization has resulted in the formation of eleven vertically integrated petroleum firms, as well as a huge natural gas-producing business and a large transmission company. In other nations, a reorganization has occurred mostly as a result of the transfer of control from the state to private hands. Following the recent privatization of the electricity generating, transmission, and distribution businesses, as well as the natural gas transmission and distribution industries, a merger and acquisition frenzy erupted in the United Kingdom.

It should be highlighted that privatization does not imply that governments give up their ability to control these businesses. In many areas, the politically delicate subject of what allowances may be granted to privatized electric companies in their ability to change household power tariffs has hampered the privatization process.

### **Techniques of Privatization of the Power Sector**

National governments have undertaken numerous privatization approaches, with motives as diverse as the methods themselves. The following are some of the most popular methods for increasing private control over energy resources.

#### **Public Offering of the Company**

In rare cases, nations have opted to quickly transfer control of sectors or corporations. Argentina, the United Kingdom, Chile, and New Zealand have traditionally undertaken some of the most ambitious privatization projects by auctioning off firms directly to the public, allowing the market to determine their worth through the bidding process. In certain circumstances (for example, see the discussion on British Energy's privatization), the auctioning off of a corporation has revealed a huge disparity between newly-discovered market value and the company's previous book value as recognized by the government.

#### **Company Partially Sold to the Public-A Case**

The majority of privatizations have been gradual. In the instance of British Petroleum, for example, partly government control stretches back to 1914. The government lowered its ownership stake from 66 percent to 51 percent in 1977, to 46 percent in 1979, 31 percent in 1983, to 2 percent in 1987, and nil in 1995. Furthermore, governments have frequently sold shares of a state-owned

enterprise while retaining a piece of the company (a "golden share"), allowing them to retain a small degree of influence over the company. This approach is common in both OECD and non-OECD nations.

### **Sale of a State-Owned Enterprise to a Third Party or a Consortium**

Governments have frequently decided to sell state-owned utilities directly to private firms, both domestic and international. For instance, when Bolivia privatized the national power monopoly, Ende, it was divided into three electrical production businesses and immediately sold to foreign utility corporations, notably those based in the United States.

### **Deregulation**

Deregulation is yet another kind of privatization. In the United States, deregulation has been the most common type of energy privatization, most notably in natural gas transportation and electric power generation and transportation. The generation, transmission, and distribution of electricity have long been held up as an example of the "natural monopoly." However, as the definition of a natural monopoly has evolved, so has the basis for keeping government-controlled utilities.

### **Elimination of subsidies**

The elimination of a subsidy is also a kind of privatization. Subsidies for European coal operations, for example, were removed, causing Europe's coal mining sector to contract and encouraging a significant shift in coal investment away from European mines and toward miners in the United States, Australia, and Latin America.

### **Venture Collaborations**

The majority of foreign investment promises in several former Communist countries, as well as several Latin American countries, have been confined to a joint venture with a local firm. In some nations, such as Russia, the government has allowed foreign entities to possess a minority stake in domestic oil companies.

### **Independent Power Generators**

Independent power producers are playing an increasingly crucial role in meeting the world's future power-generating demands. Independent power producers are electricity producers who are not affiliated with franchised electric utilities. In some situations, U.S. utilities have incorporated independent power-producing companies as a vehicle for entrance into non-utility energy production activities, both domestically and internationally. Other businesses, such as oil and gas transmission firms, have established separate power-producing subsidiaries. Independent power producers have been among the most active US corporations in pursuing international energy project investments.

## **Effect of Privatisation in other countries**

### **African Countries**

For almost a century, state-owned power firms have regularly supplied energy across Africa. Except in a few exceptions, electricity distribution is typically handled by huge vertically integrated government-controlled utilities. The operators of distribution systems in Nigeria and Uganda have been privatised. Tanzania's government has established a program of reorganizing the power market and unbundling Tanesco under its Electricity Act to boost competitiveness, attract private investment capital, and promote regional trade.

South Africa failed to execute its intended regional power distributors. Electricity distribution was shifted away from Eskom and municipal distributors and toward centralized Regional Electrical Distributors (REDs) in order to accelerate electrification.

Umeme, Uganda's wholly privatised electrical distributor, was established. Umeme has a 20-year power distribution concession given by the Government of Uganda, which began in March 2005. Their mandate is to run, maintain, update, and extend the distribution network, and retail power to consumers, and increase system efficiency. The Electricity Regulatory Authority must assess and establish performance objectives for Umeme once every seven years, according to the license. Umeme leased the existing infrastructure from its predecessor, which was controlled by the government, and paid for its expenditures throughout the transition.

Under-investment in the sector for a long time has resulted in deteriorating infrastructure before the concession was given. To turn the network into an asset capable of serving Uganda's aims and accommodating its expanding energy demand, a thorough redesign was required. In terms of finances, the corporation had two additional challenges: connecting more users to the grid and ensuring that the power produced was reasonable. Despite the poor state of the economy, Umeme continues to increase income while reducing theft and enhancing safety. The rising industrial sector in Uganda is linked to increased demand. However, the utility is confronted with higher financial and operational expenditures.

Privately managed power distribution concessions might assist a further 11 African countries in recovering 100% of their electrical supply's operational and construction expenditures. This extra income flow might help them enhance their electrical infrastructure and boost economic development by roughly 2% every year.

### **Latin America**

In 1990, private utilities supplied fewer than 3% of users, but by 2003, they served more than 60%. According to the findings of World Bank research on the performance of these utilities, changes in ownership result in considerable gains in labour productivity, efficiency, and product/service quality, with the majority of these benefits occurring during the transition phase.

### **Advantages of Privatisation**

Privatization improves the efficiency and quality of energy delivery, both of which are essential elements in enhancing the financial viability of electrical distribution companies. Management performs best when there are strong incentives and governance structures in place.

Privatization improves the efficiency and quality of energy delivery, both of which are essential elements in enhancing the financial viability of electrical distribution companies. Management performs best when there are strong incentives and governance structures in place.

Regardless of the challenges in privatisation of India's electricity sector, the benefits significantly exceed the drawbacks. To avoid an out-of-control monopoly, the central government should consider options such as quasi-privatization or the franchisee model. Power is a significant component of India's entire energy industry, although it is plagued by difficulties of poor performance, lack of innovation, and low investment. Some of these issues can be minimised by the commercial and governmental sectors cooperating to achieve the shared aim of maintaining an uninterrupted and streamlined electricity supply. Following are some of the benefits of privatization of the empowered sector.

1. Successfully tackling problems of delays in implementation - Public-sector power projects experience delays in implementation due to complicated, time-consuming documentation. The involvement of the business sector would speed up the entire process.
2. Additional involvement - Because there are so few enterprises in the industry, there is a significant power supply shortfall across areas that might be successfully alleviated with more participants.
3. Technological developments - To establish the finest procedures, private-sector enterprises will invest in technology. This may result in excellent solutions and cost-effective approaches.
4. Increased investment - With the addition of international investors, the economy stands to profit significantly from foreign direct investment (FDI).
5. Increased Efficiency and competitiveness in the sector. Private firms have undoubtedly proved their efficiency in various industries and continue to churn more revenue in

comparison to the public sector units. Thus, such players bring efficiency and competitiveness to the industry.

### **Electricity (Amendment) Bill 2022**

On August 8, the Union Power Ministry tabled the Electricity (Amendment) Bill, 2022 in Lok Sabha by Mr. R.K Singh. This bill is expected to bring significant changes to the power sector in India and help in the development of the sector while ensuring consumer protection and promoting the use of renewable energy. However, the Bill was sent to Parliament's Energy Standing Committee under the chairpersonship of MP Jagdambika Pal for examination.

The primary goals of the bill are as stated:

1. Enhance consumer protection: The bill proposes to enhance consumer protection by establishing independent regulatory bodies, strengthening consumer rights, and providing compensation in case of power cuts.
2. Promote competition and efficiency in the power sector: The bill aims to promote competition, efficiency, and investment in the power sector by creating a level playing field for all participants and removing barriers to entry for new players.
3. Encourage renewable energy: The bill aims to encourage the development and use of renewable energy sources by providing incentives and subsidies, and promoting investment in the sector.
4. Streamline the permit and licensing process: The bill aims to streamline the permit and licensing process for setting up power projects, thereby reducing the time and cost involved.
5. Increase transparency and accountability: The bill proposes to increase transparency and accountability in the power sector by requiring regular reporting by power companies and empowering regulatory bodies to enforce compliance.

The opposition has questioned Bill's introduction, claiming that the Government has breached a promise made to farmers that this Bill would not be introduced in Parliament. Opposition MPs have also claimed that the Bill is not just anti-farmer, but also anti-constitutional and anti-federalist in spirit. There are also fears that the Bill would result in the elimination of subsidies for farmers and low-income customers.

While the new Bill proposes 35 revisions to the huge 84-page Electricity Act of 2003, Section 5 of the Bill stands out for permitting more than one distribution licensee (or discom) in one region to distribute power to consumers. Although the potential for more than one discom in the same region was referenced in the 2003 Act, the prior legislation required the new discom to have its own cable and distribution infrastructure. The new Bill, on the other hand, envisions a system in which

the new entrant can use the incumbent discom's distribution infrastructure in exchange for fees such as wheeling costs and others. Opposition parties and others regard this clause as a purported ploy to encourage privatisation in the electricity distribution business.

Another argument for rejecting the Bill by the opposition parties is that it indicates that the central government may direct the SERCs directly, bypassing the states. Further, it requires discoms to comply with Renewable Purchase Obligations (RPOs) or face financial penalties. RPOs are mandates granted to utilities to purchase a part of their total electricity from renewable sources. According to energy experts, this might lead to higher usage of renewable energy, although there are still various hurdles in this road. To address the larger and more basic issues surrounding electricity distribution, the Bill requires more engagement.

The Bill allows many discoms to serve energy in a particular area without each having a separate network. Where multiple discoms operate in the same area, the Bill provides for:

- (i) Non-discriminatory open access to the distribution network
- (ii) Sharing of existing power purchase agreements (PPAs) between discoms
- (iii) Determination of only ceiling and floor tariffs for retail supply
- (iv) Establishment of a cross-subsidy balancing fund.

The government, on the other hand, stated that privatising the electricity industry will provide customers with the choice of selecting power distributors. The measures intended to grant distribution licences to commercial actors, in addition to state-owned power distributors or power distribution firms, in order to make the power industry more sustainable. The Act must also be amended in light of the relevance of green energy to our environment in the context of global climate change concerns and our international pledges to enhance the percentage of renewable energy. Furthermore, it has become necessary to enhance the Act's regulatory and adjudicatory mechanisms, as well as to implement administrative changes through better corporate governance of distribution licensees. This modification will be a critical step in recouping the power generation sector's losses. Furthermore, R.K Singh claims that there will be no change in subsidy provisions in 2022 and that the state can provide any amount of subsidy, including free power, to any category of consumers. There are no provisions that impact farmers.

### **Recommendations for the power sector for enhancing efficiency**

1. Suggestions for enhancing the competence of electric distributors
  - (i) Be locally focused, small enough to compete yet large enough to generate economies of scale.
  - (ii) Have competent managerial talent who is incentivized to assure efficiency, quality, and public service.

- (iii) Work within a regulatory framework that governs new connections and pricing.
  - (iv) Be discreet inasmuch as consequences are effective if they violate the terms of their contracts.
  - (v) Make long-term compromises in order to fit the capital and commercial time horizons.
2. Delicensing: Currently, the state DISCOMS holds a monopoly on the energy distribution industry, with just 10% of the population supplied by private distribution licensees. However, such a monopoly does not make the sector lucrative for the state DISCOMS, and they end up incurring losses year after year. Despite this, their monopoly is so strong that, while the loss-making DISCOMS owe the producing businesses Rs. 67,917 crores as of March 2021, it is the latter who are at the whim of DISCOMS and are unable to shift to another player due to a lack of competition.
  3. Power sector reform initiatives should be devised to fit into a larger framework for providing modern energy services in order to alleviate poverty and promote economic progress. Meeting these two goals necessitates the supply of dependable electric power services in sufficient quantity to fulfil affordable demand at the lowest possible cost, taking into account the resources and environmental implications involved in their production and transmission.
  4. Usage of advanced control systems: Advanced control systems can aid in the optimization of power generation and distribution, resulting in increased efficiency. These systems can detect changes in load and alter generator output appropriately, assisting in keeping the generator running at top efficiency.

In conclusion, private power generators may enhance their efficiency by routinely repairing and servicing equipment, upgrading to more efficient models, monitoring fuel quality, optimising load, efficient energy distribution, and employing modern control systems. It is high time for the government to reduce the dependence of power generation on the public sector and aim towards profitability and efficiency of the industry through positive inclusion of the private players in the same. Private sector enterprises may assist enhance power generation and electricity generation by implementing these measures, so contributing to a more sustainable energy future.



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