



## Status of Electricity Act, 2003: A systematic review of literature



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### ABSTRACT

The Electricity Act 2003 was a landmark Act which promised to remove the maladies which afflict the Indian Power Sector and that too at a time when the sector was ridden with problems. With concepts such as open access, multiple distribution licensees, wheeling of electricity etc, the said Act intended to encourage competition which in turn was meant bring a paradigm shift in the sector. The paper undertakes a systematic literature review to find the status of review of the promising Act. More than a decade has passed since its enactment and amendments are due with the legislative body of India but none of the literature reviewed gives a comprehensive view encompassing all the objectives of the Act. Moreover, these documents study either the probable impact or the impact on a particular segment only. It has important implications for the Power sector which highlights a significant gap in literature and provides a basis on which future research can be built upon.

### 1. Introduction

*“One of the great mistakes is to judge policies and programmes by their intentions rather than their results.”*

- Milton Friedman

The Electricity Act 2003 (EA 2003 or the Act) was the ray of hope for the ailing electricity sector of India. It intended to change the fundamentals of the sector, bringing in competition and making it viable. There were huge expectations from the Act, whose number and reach was unprecedented in the history of Indian power sector development (Ranganathan and Rao, 2004; Singh, 2006). The Act aimed at restructuring the complete industry, making it technically and financially viable. However, reforms did not yield successful results every time (Sioshansi, 2006). The intention of the Act was welcomed but with a concern (Singh, 2010).

Availability of electrical energy is one of the accelerating factors for improving the quality of life & the economic growth of the country. But the operational and financial inefficiencies of the State Electricity Boards (SEBs), which were constituted for the development of the electricity industry, had plagued the economic growth of the country. These vertically integrated monopolies, which were responsible for providing electricity to the people, were in a precarious financial condition with payment dues exceeding Rs 41,000 crores (Ministry of Power, 2003). This is in spite of the substantial share of 13–18% of the

national plan outlay (Sharma et al., 2005). With energy deficit of 8.8% and peak deficit of 12.2%, the power supply position in the country was no better than 1991 when the reform and restructuring started. The lack of investment was further deteriorating the operational inefficiencies and hindered capacity addition. Initiatives like delicensing of generation and IPP (Independent Power Producers) amendment, to encourage private investment, had done little to improve the scenario. The foreign investors were apprehensive after the Enron debacle. But a massive 1,00,000 MW was required within a decade to meet the demand which amounted to doubling the installed capacity added in the last half century, requiring an investment of Rs 8,00,000 crores (Reineberg, 2006).

It was against the backdrop of such dire conditions that the EA 2003 was enacted. Many like Bhattacharyya (2005) questioned its capacity to transform the Indian Power Sector while others like Godbole (2003) questioned the wisdom and highlighted a number of issues that were likely to pose problems. Reineberg (2006) quoted it as “The most important piece of legislation to become law.... to meet the challenges of 21st century”. He explicitly says that the Act is aimed at rectifying the financial conditions of the SEBs which were hindering the growth of the electricity sector.

But even after a decade of its enactment, the energy deficit is 2.1% with peak deficit at 3.2% and AT&C (Aggregate Technical & Commercial) losses of 25.38% every year (CEA, 2015, 2013; CERC, 2016). With blackouts and brownouts a common occurrence in many parts of India, quality power a distant dream and 75 million house-

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holds without access to electricity, per capita consumption far below the world average, we need to assess whether EA 2003 has been successful in its endeavour or not. The progress of the Act, if any, also needs to be ascertained before planning further.

We, thus, need to know the present status of the landmark Act and the milestones achieved in order to plan further improvements for the sector because planned reforms may not produce their intended results in developing countries (Zhang and Parker, 2006).

This paper, thus, proposes the following research questions:

RQ: What is the status of review of the Electricity Act 2003?

'Status' can be defined as 'the situation at a particular time during a process'. The authors investigate the reviews of the EA 2003 carried out by other researchers and any other authority or agency in order to ascertain the progress made in attaining the objectives of the Act, i.e., the "Status" of the Act through all published documents inclusive of research papers and grey literature. A systematic review of literature will help us to synthesize the existing knowledge on review of the EA 2003.

Section 2 describes the evolution of Indian Power Sector. Section 3 elaborates the methodology followed in this paper while Section 4 discusses the results obtained. The authors discuss the Research Question in Section 5, in view of the results obtained. Section 6 gives a glimpse of the present scenario of the sector. The authors present the concluding remarks in Section 7.

## 2. Evolution of Indian Power Sector

India has come a long way since its first commercial hydro power station in 1897. The journey has been shown in Fig 1.

Pre- independence, i.e., before 1947, electricity generation and supply was concentrated in the hands of private electricity suppliers and largely in urban areas. In order to regulate the generation, supply and use of electricity, the first legislation enacted was the Electricity Act of 1887, which was subsequently replaced by Indian Electricity Act 1903 (IEA 1903). The IEA 1903 was clearly recognized to be a somewhat tentative measure and many practical, electro-technical & commercial difficulties were realized during the period 1903–1909. The IEA 1903 was repealed & re-enacted with necessary modifications as the Indian Electricity Act, 1910 (IEA 1910) (Indian Electricity Act, 1910) (IEA 1910 (with Short Notes), 1910).

The IEA 1910 provided the basic framework for supply and use of electrical energy. The sector, being at a nascent stage, required huge investments which were envisaged to be fulfilled by private licensees. Generating plants were built near metropolitan cities like Calcutta (renamed Kolkata) and Bombay (renamed Mumbai).

With Independence, the priorities changed and electrification was planned to be extended across the length and breadth of the country. The Electricity Supply Act 1948, based on the UK Electricity Supply Act 1926, mandated the creation of SEBs in every state and Central Electricity Authority (CEA) at the central level (Regulatory and Policy Environment, n.d.).

There was substantial growth in the power sector, in terms of

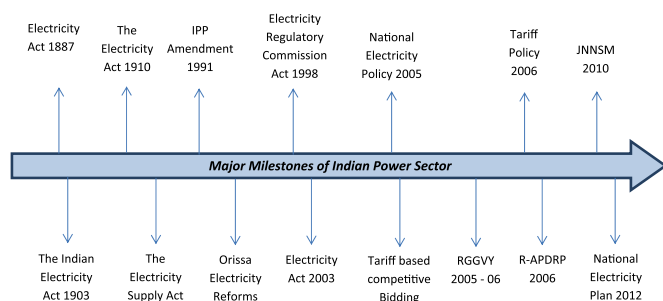


Fig. 1. Evolution of Indian Power Sector (not to scale).

installed capacity, transmission network and distribution to various areas across the length & breadth of the country. But over a period time, a number of problems surfaced. The SEBs became financially sick and ridden with huge debts. The cumulative amount due to the various agencies, from SEBs, exceeded Rs 41,000 crores, seriously impacting the borrowing capacities of these SEBs (Ministry of Power, 2014; Ministry of Power, 2003). The demand supply gap was huge. The quality as well as quantity of power was poor. The vote bank politics compelled the tariff to be kept artificially low for the agricultural sector which prevented the rationalisation of tariff (Joseph, 2010). The power sector of India was crying for reforms. Reforms and restructuring became the need of the hour.

The foundation for reforms was created in the 1990s with Private Sector Participation being encouraged in Generation (Historical Background, n.d.), PTC (Power Trading Corporation) being created for Power Trading and various other initiatives. The last foundation stone was the Electricity Regulatory Commission Act 1998 (ERC Act 1998), the sole purpose of which was to distance the Government from Tariff Determination. According to the ERC Act, Central Electricity Regulatory Commission (CERC) was set up at the central level and State Electricity Regulatory Commission (SERC) at the state level to determine the tariff and formulate regulations for the power sector.

The first attempt for a comprehensive Act was made in the year 2000. But it was only in the year 2003, after lots of discussions, debates and modifications, that the Electricity Act received President's ascent on May 26, 2003, published in the official gazette on 2nd June 2003 and became effective from 10th June 2003, i.e., (Electricity Act, 2003; Chatterjee, 2012; Bhattacharyya, 2005; Thakur et al., 2005).

All previous Acts, i.e., IEA 1910, ESA 1948 and ERC Act 1998 were repealed. The EA 2003 was a consolidated Act – it consolidates the Laws relating to generation, transmission, distribution, trading and use of electricity. The preamble of EA 2003 explicitly says:

“An Act to consolidate the laws relating to generation, transmission, distribution, trading and use of electricity and generally for taking measures conducive to development of electricity industry, promoting competition therein, protecting interest of consumers and supply of electricity to all areas, rationalisation of electricity tariff, ensuring transparent policies regarding subsidies, promotion of efficient and environmentally benign policies, constitution of Central Electricity Authority, Regulatory Commissions and establishment of Appellate Tribunal and for matters connected therewith or incidental thereto.”

The objectives of the EA 2003 may, thus, be segregated as follows:

- i. To consolidate the laws relating to generation, transmission, distribution, trading and use of electricity
- ii. For taking measures conducive to development of electricity industry,
- iii. For promoting competition
- iv. Protecting interest of consumers
- v. Supply of electricity to all areas,
- vi. Rationalisation of electricity tariff
- vii. Ensuring transparent policies regarding subsidies
- viii. Promotion of efficient and environmentally benign policies
- ix. Constitution of Central Electricity Authority, Regulatory Commissions and establishment of Appellate Tribunal

The EA 2003 resulted in a complete overhaul of the power sector of India. The results expected were revolutionary. With unbundling of SEBs, privatisation of generation & distribution companies, corporatisation, open access, multiple licensees etc., there was a complete restructuring of the Indian power sector. There was a provision of choice of suppliers for consumers. The Act attempted to create a multi buyer, multi seller model. Power trading was given a distinct identity and power exchanges were established. Appellate Tribunal was set up

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