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9B21M056

COASTAL GUJARAT POWER LIMITED: PUBLIC GAINS, PRIVATE LOSSES

Swapnil Garg wrote this case solely to provide material for class discussion. The author does not intend to illustrate either effective or ineffective handling of a managerial situation. The author may have disguised certain names and other identifying information to protect confidentiality.

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CGPL [Coastal Gujarat Power Limited]/Tata Power [Tata Power Limited] considers it very unfortunate that neither Regulatory Powers of CERC [Central Electricity Regulatory Commission] nor Forced Majeure as adjudicated by Aptel [Appellate Tribunal for Electricity], have been accepted by Hon’ble Supreme Court. . . . However, CGPL would continue to work towards alternatives, including sourcing of competitive and alternative coals to best contain the onslaught of under recovery.

Tata Power, email statement, April 12, 2017[[1]](#endnote-2)

An email statement from Tata Power on April 12, 2017, failed to communicate the financial challenges being faced by the CGPL power plant. A later news headline, however, clearly encapsulated the plant’s survival risks and its commercial viability when it stated “Tata Power Offers to Sell 51% of Mundra Plant for ₹1.”[[2]](#endnote-3)

The judgement by the Supreme Court of India [Supreme Court] dated April 11, 2017, brought closure to a long-standing demand for an increase in the electricity tariff on account of the increase in the price of Indonesian coal. The Indonesian Minister of Energy and Mineral Resources (MEMR) Regulation No. 17, 2010, had hiked the royalty and tax on coal mined from Indonesia to bring the price of coal mined from Indonesian mines at par with the international market.[[3]](#endnote-4) This had resulted in the price of Indonesian coal rising from US$70.70[[4]](#endnote-5) per metric ton in 2009 to $118.40 per metric ton in 2011,[[5]](#endnote-6) affecting the commercial viability of electricity-generation plants in India that were based on Indonesian coal. These plants constituted 7.5 per cent of the national generation capacity, contributing a significant 15 gigawatts (GW) of electricity in an electricity-deficient country (see Exhibit 1).[[6]](#endnote-7)

Tata Power, India’s largest integrated private-sector power company, owned and operated the 4,000-megawatt (MW) CGPL, India’s second-largest coal-based generation plant. Using superior boiler technology, the plant was one of the most efficient in the country, using 1.7 million metric tons of coal less per year compared to plants of similar capacity.[[7]](#endnote-8) In 2007, Tata Power had bid an electricity tariff of ₹2.264 per kilowatt-hour (kWh), which was one of the lowest-ever bids in the country. On account of the high price of input coal (i.e., imported coal from Indonesia), CGPL was making continuous losses since its commissioning in 2013, eroding Tata Power’s equity in CGPL.[[8]](#endnote-9)

Indonesian coal-based private power plants had arisen in India in response to a change in government policy brought about by the *Electricity Act*, 2003. To reduce the national electricity deficit, the act aimed to deregulate the electricity sector, unbundle the electricity value chain (generation, transmission, and distribution [GTD]), allow private investments in generation, encourage efficient use of electricity, upgrade transmission and distribution infrastructure, reduce transmission and distribution losses, and emphasize renewable energy options.[[9]](#endnote-10) CGPL was the first of the 12 4,000 MW Ultra Mega Power Projects (UMPPs)[[10]](#endnote-11) to be set up in the country as part of the new act. A greenfield plant, CGPL attempted to (a) address the problem of poor-quality domestic coal by importing coal from Indonesia,[[11]](#endnote-12) (b) leverage private-sector finances for public infrastructure, and (c) bring in private-sector management to address public-sector inefficiencies.

Paradoxically, the policy-makers, regulators, tribunals, and courts appreciated that the change in the price of Indonesian price had made it commercially unviable for the power plants to generate and supply electricity at the contracted rates.[[12]](#endnote-13) However, the stakeholders disagreed on the interpretation of contractual clauses, which would allow a tariff increase. Primarily, the dispute was about either adhering to the letter of the contract, which would lead to a significant private and public loss, or following the spirit of the contract, which would result in a public gain on account of survival of the private plants. Those in favour of following the spirit of the contract (some public distribution organizations, and consumer organizations such as Energy Watchdog and Prayas) argued against any tariff increase, as the tariff was competitively determined and contractually agreed upon. The private power plants, however, sought an increase in the tariff to survive, arguing that their survival was in the public interest. The power plants further argued that as they were the most efficient producers in an energy-deficit country, their shutdown would be a national loss.[[13]](#endnote-14)

While the courts, regulators, and policy-makers concluded that no relief was possible under the contract, their interpretation did not solve the problem faced by Tata Power—the management and owner of CGPL.[[14]](#endnote-15) Tata Power had to decide what to do with the cash-bleeding power plant, which, having eroded its equity, required an immediate infusion of cash. It was estimated that the plant would incur losses 10 times the invested equity over the power plant’s lifetime (i.e., a loss of ₹475 billion over the 25-year concession period).[[15]](#endnote-16) It remained to be determined whether Tata Power should—or, more importantly, *could*—close down the plant.

The INDIAN ELECTRICITY SECTOR

Electricity was introduced in India in 1879 by the private firm P. W. Fleury & Co. *The Indian Electricity Act*, 1910, allowed private companies to generate and supply electricity. By 1950, a significant 630 MW of the nation’s total 1,731 MW generation capacity was in private hands. However, post-independence, in 1947, the *Electricity (Supply) Act* (1948) paved the way for increased investment in the sector, and the government started to dominate, making substantial investments.[[16]](#endnote-17) However, as the twenty-first century approached, the electricity infrastructure in the country failed to keep pace with the demand growth, and the energy deficit in the country was pervasive (see Exhibit 2). This was often attributed to insufficient public investments, with less than 10 per cent of the electricity generation in the country stemming from the private sector in 2003.

ELECTRICITY REGULATION IN INDIA

Before 2003, the electricity sector was dominated by central and state governments, and its regulation was aimed at efficient coordination among the multiple government agencies through government rules and procedures.[[17]](#endnote-18) For instance, the power plants sought fair compensation for changes in input costs that were not in their control—typically, these were changes in the price of coal. As coal was supplied by another government agency, a procedure for passing through the impact of changes in the price of coal from generators to distributors was developed (i.e., a coal-cost pass-through mechanism).

The *Electricity Act*, 2003, sought to address the sectoral problems of complicated governance and the national energy deficit. As a consolidation act, it replaced the older statutes and laws, brought the different rules under a single regulation, and established a structure (see Exhibit 3).[[18]](#endnote-19) Simultaneously, the act endeavoured to unbundle GTD, put in place a competition policy to enable the addition of electricity generation capacity, reduce the high electricity tariffs, improve efficiency in GTD, and develop a more reliable distribution system.[[19]](#endnote-20) The opening paragraph of this important legislation highlighted its multiple objectives:

An Act to consolidate the laws relating to the generation, transmission, distribution, trading and use of electricity and generally for taking measures conducive to the development of electricity industry, promoting competition therein, protecting the interest of consumers and supply of electricity to all areas, rationalization 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.[[20]](#endnote-21)

The *Electricity Ac*t, 2003, stipulated that the government could adopt[[21]](#endnote-22) an electricity tariff “if such tariff has been determined through transparent process of bidding in accordance with the guidelines issued by the Central Government.”[[22]](#endnote-23) Private-sector participation in electricity generation was encouraged by allowing an electricity tariff to be determined through a competitive bidding process (section 63 of the act). Detailed guidelines for procurement of electricity through two alternate open bidding modes were issued,[[23]](#endnote-24) and the supply of electricity was operationalized through power purchase agreements (PPAs) and power supply agreements signed between the power producer and the state-owned distribution organizations.

TATA POWER

For over 100 years, Tata Power had played an important part in the Indian power sector. Jamsetji Nusserwanji Tata, the founder of the Tata Group (Tata), was a pioneer and had been quick to recognize that “Clean, cheap and abundant power is one the basic ingredients for the economic progress of a city, state or country.”[[24]](#endnote-25) This recognition had guided Tata’s investments in the power sector since then, starting with the establishment of the Tata Hydro-Electric Power Supply Company in 1910. Tata commissioned India’s second hydroelectric project of 72 MW in 1915, later amalgamated with the Andhra Valley Power Supply Co. Ltd., in 1916. Tata Power was registered as a subsidiary in 1917, and in 2016, the government of India issued a postage stamp to recognize Tata’s century-long contributions to national development. For Tata Power, it had been a century of invisible goodness and 100 years of pride in caring for customers, employees, community, and environment while playing an important role in nation building.[[25]](#endnote-26)

In 2017, Tata Power was India’s largest integrated private power company with a considerable international presence. It had an installed generation capacity of 10,857 MW, with a significant presence across electricity transmission, distribution, and trading.[[26]](#endnote-27)

The DEVELOPMENT OF COASTAL GUJARAT POWER Limited

With the *Electricity Act*, 2003, in place and the objective of supplying “Power to all by 2012,” the Indian government announced its intentions to set up 12 4 GW UMPPs through a public–private partnership model.[[27]](#endnote-28) The first plant was to be set up near Mundra Port in the state of Gujarat. Power Finance Corporation Ltd. (PFC), a government organization, conceptualized the project as a build, own, and operate project, and significantly de-risked the project before inviting private bids for setting up and operating the plant. The power plant was conceptualized as a coal-fired port-based power plant using coal imported from Indonesia.[[28]](#endnote-29) As part of project re-risking, land, water, and coal blocks were identified, environmental clearances were sought, and PPAs were signed with different state governments for electricity sale.[[29]](#endnote-30) A special purpose vehicle—CGPL—was incorporated on February 10, 2006, for this purpose. The project aimed to provide electricity to five states, with Gujarat Urja Vikas Nigam Limited being the lead procurer for 1,850 MW of generated electricity. After significantly de-risking the project, PFC invited bids for CGPL ownership. For this project, contractual documents had to be drafted afresh, as they involved imported coal, and coal had thus far not been imported for power plants. The bid was to be decided based on the lowest-quoted levelized tariff, with an annual coal price escalation of 3.46 per cent allowed for inflation. The allowed cost escalation in coal prices was based on 12 years of historical price trends, reported by an expert study.[[30]](#endnote-31)

Tata Power participated in the bidding for CGPL. It quoted a tariff of ₹2.264 per kWh, with 55 per cent of the fuel cost fixed and not to be inflation adjusted.[[31]](#endnote-32) As Tata Power’s quoted tariff came out to be the lowest, a letter of intent was issued to the power-generation company. This was one of the lowest tariffs competitively discovered in the Indian electricity sector. Tata Power purchased the entire shareholding of CGPL from PFC to make it a wholly owned subsidiary, and Tata Power was now responsible for the financing, construction, operation, and maintenance of the project. The project envisaged a consumption of approximately 12 million metric tons of coal imported from Indonesia per annum. In 2007, Tata Power acquired a 30 per cent stake in two Indonesian thermal coal companies owned by PT Bumi Resources, PT Kaltim Prima Coal, and PT Arutmin Indonesia, and, in 2012, it signed a long-term coal-supply agreement with Indonesian firm PT Antang Gunung Meratus.[[32]](#endnote-33)

Of the 12 UMPPs conceived by the government of India, CGPL was the only one that progressed on schedule. More than half of the UMPPs were not bid out, and the bids that were floated could not be finalized.[[33]](#endnote-34) However, the five 800 MW generating units of CGPL were commissioned between March 2012 and March 2013—well before their scheduled commissioning dates.[[34]](#endnote-35) The early commissioning was attributed to in-house tendering and coordination by CGPL and Tata Power. The plant created 5,000 construction jobs and 700 operational jobs. The project was constructed at the cost of ₹175 billion, which included equity of ₹42.5 billion, a loan of ₹58.5 billion, and external commercial borrowings of $1.7 billion.[[35]](#endnote-36) The plant used supercritical technology, which saved fuel and cut down on greenhouse gas emissions. In comparison to subcritical power plants, the project avoided burning 1.7 million metric tons of coal per year, thus averting carbon emissions of 3.6 million metric tons per year. The greenhouse gas emissions from the plant were 750 grams (g) of carbon dioxide (CO2) per kWh, compared to India’s national average of 1,259 g of CO2 per kWh for coal-based power plants.[[36]](#endnote-37)

The IMPACT OF CHANGE IN INDONESIAN MINING LAW

On September 23, 2010, the government of Indonesia promulgated a new regulation—MEMR Regulation No. 17, 2010. The law aimed to align the export price of Indonesian coal with the spot prices of coal in the international market while prohibiting sale below this price.[[37]](#endnote-38) This new regulation significantly affected the spot price of Indonesian coal, and the MEMR’s thermal coal reference price (known as Harga Batubara Acuan [HBA]) rose from $70.7 per metric ton in 2009 to $118.4 per metric ton in 2011 (see Exhibit 4).

As per PPAs signed by CGPL, a maximum increase of 17 per cent over five years (i.e., 3.4 per cent × five years = 17 per cent) in the electricity tariff was allowed on inflation. However, the rise in coal prices was 150 per cent (from $50 at the time of the bid to $116 in 2012). Further, for CGPL, 55 per cent of the tariff change on account of the coal price change was fixed. The abnormal increase in the price of Indonesian coal made CGPL commercially unviable at the low quoted electricity tariff rates. It was estimated that the plant would incur a loss of ₹475 billion over the 25-year concession period (see Exhibit 5).[[38]](#endnote-39) Seeking relief, CGPL approached both the electricity purchaser (the state government of Gujarat) and the central government (the government of India’s Ministry of Power). The ministry responded that “PPA is a legally binding document exclusively between the procurers and the developer. Therefore, any issue arising therein is to be settled within the provisions of PPA by the contracting parties for which Gujarat being the Lead Procurer may take necessary action.”[[39]](#endnote-40)

National electricity generation capacity of 15 GW was similarly affected, as it was also based on imported Indonesian coal. Seeking relief, many other private power plants also went knocking at the different government doors. One of the most important of these was the request made by Adani Power Limited (Adani Power) to CERC, the primary regulatory body, on July 5, 2012.[[40]](#endnote-41) Adani Power made a plea to CERC to either discharge Adani Power from the performance of the PPA on account of frustration or to evolve a mechanism to restore the petitioners to the same economic condition prior to the occurrence of the change in law.[[41]](#endnote-42) It was further suggested that relief could be provided to Adani Power (and other power plants based upon Indonesian coal, like CGPL) through three possible routes—change of law (that the “change of law” clause of the PPA be read to include foreign laws), force majeure (that the new law by the Indonesian government be viewed as a force majeure event), or public interest (that, failing the first two possible routes, relief may be provided under section 79 of the *Electricity Act*, 2003). CERC, in the capacity of the regulator, was mandated to protect the interests of both consumers and producers, and it needed to exercise its authority and provide appropriate relief.[[42]](#endnote-43) CGPL requested CERC to allow an increase of ₹3 per unit in the tariff.[[43]](#endnote-44)

The mission of CERC, a statutory body, functioning under the purview of the *Electricity Act*, 2003, was to (a) promote competition, efficiency, and economy in bulk power markets; (b) improve the quality of supply; (c) promote investments; and (d) advise the government on the removal of institutional barriers to bridge the demand–supply gap and thus foster the interests of consumers.[[44]](#endnote-45) CERC deliberated on the numerous requests of the power plants and gave a decision that became applicable to all power plants impacted by the Indonesian coal price increase. In an interim order dated April 2, 2013, it did not admit compensation claims under the provisions of change of law or force majeure; however, considering the larger public interest, it provided relief under section 79 of the *Electricity Act*, 2003. It constituted a committee[[45]](#endnote-46) to compute the applicable tariff increase. Based on the committee report, which was supported by a detailed study by KPMG, CERC passed its final order on August 16, 2013, wherein a formula for the compensatory tariff was proposed. It was estimated that for 2013–14, the affected power plants would obtain a relief of ₹0.5240 per kWh. Before the order could be implemented, it was restrained, as there was an appeal pending in the case before the Supreme Court.[[46]](#endnote-47)

In parallel, Energy Watchdog (a non-government agency), Prayas (an authorized consumer representative before CERC), and several state electricity utilities filed appeals with APTEL, a quasi-judicial multidisciplinary expert appellate body. APTEL clubbed all similar cases, which had grown to more than 30. The full bench of APTEL passed an interim order on April 7, 2016, wherein it firstly recognized and vetted CERC’s jurisdiction to treat the case under section 79 and secondly re-examined CERC’s arguments negating claims under force majeure and change of law.[[47]](#endnote-48)

APTEL reversed CERC’s decision that proposed that relief be provided under section 79. It argued that the public interest clause could not be invoked once the tariff had been competitively determined.[[48]](#endnote-49) However, agreeing with CERC, APTEL did not view the change of law provisions to include changes in foreign law, and dismissed compensation under its purview. APTEL considered the change in Indonesian law as a case of force majeure, interpreting the force majeure clauses broadly to argue that force majeure included all aspects that frustrated the execution of the contract. APTEL remanded the case to CERC to determine the impact and the extent of the compensatory tariff to be provided, considering this new interpretation.[[49]](#endnote-50) CERC finalized its analysis in December 2016, providing relief to the extent of the difference between the coal price based on the coal sales agreements and the free-on-board price of coal ex-Indonesia (i.e., the benchmark price as per the Indonesian index or the actual price paid for the purchase of similar quality coal, whichever was lower).[[50]](#endnote-51) Experts were of the view that this compensation amount would be far less than what was provided earlier by CERC.[[51]](#endnote-52) This judgment was put before the Supreme Court for ratification, with other similar cases awaiting a decision.

The Judgment OF THE Supreme Court

The Supreme Court explicitly looked into each of the aspects of public interest, force majeure, and change of law. In a departure from normal practice, the attorney general of India *suo moto* appeared before the court on behalf of the Union of India and conveyed that the electricity sector, having been privatized, had largely fulfilled the object sought to be achieved by the 2003 act, which was that electricity generation, being delicensed, should result in the production of far greater electricity than was earlier produced. He urged the court not to disturb the delicate balance that the act sought to achieve and has been able to successfully bring private investments into energy generation (see Exhibit 6).[[52]](#endnote-53)

The final judgment in the case was passed on April 11, 2017. The court argued that the Indonesian policy change did not alter the fundamental basis of the contract to warrant invoking of force majeure provisions. Alternative modes of performance were available to the power plants to fulfill their contractual obligations. As the contract, on the whole, did not get frustrated, the pleas for compensation on account of force majeure were disposed of, stating, “changes in the cost of fuel, or the agreement becoming onerous to perform, are not treated as force majeure events under the PPA itself.”[[53]](#endnote-54)

In regard to compensation on account of change of law, the court argued that “though change in Indonesian law would not qualify as a change in law under the guidelines read with the PPA, change in Indian law certainly would.” And it remarked that “in so far as the applicability of clause 13 to a change in Indian law is concerned, the respondents are on firm ground.”[[54]](#endnote-55) It went on to interpret a July 2013 change in Indian energy policy and another change in January 2016 to be valid grounds for providing compensatory tariff under change of law.

In conclusion, the court set aside the APTEL judgment and CERC orders for the compensatory tariff and directed CERC to “go into the matter afresh and determine what relief should be granted to those power generators who fall within clause 13 of the PPA.”[[55]](#endnote-56) As the relief would now be applicable from 2013 and 2016, and not from 2011 (when the Indonesian policy change took place), this relief would be much lower than initially computed.

The Supreme Court judgment was viewed as a victory by many.[[56]](#endnote-57)

OPTIONS BEFORE TATA POWER

It was a desperate situation for Tata Power’s Mundra power plant and for the other Indonesian coal-based power plants. Their request for a compensatory tariff had been heard and dismissed at the highest level. The decision of what to do next had to be made.

A difficult option was to do nothing. A strategic decision had to be made to account for the huge accumulated losses (see Exhibit 5). With continued losses anticipated over the project’s life cycle, long-term sustenance was doubtful. Operationally, the plant was fast exhausting its coal reserves and would soon run out of cash. Reducing plant output would bring normative plant availability below 80 per cent and attract penalties from the power procurers. This would also attract the ire of the government, as the governments of five states would have to purchase power at rates that were 50 to 60 per cent higher to meet their industrial, commercial, and domestic power needs.

Another difficult option was to temporarily or permanently shut down the plant. Any kind of shutting down would again displease the governments. Further, with no revenue stream, debt servicing would become problematic. Moreover, a plant that was temporarily shut down would still require expenses in wages and plant upkeep, with the plant’s generation capacity lost forever. Even in the future, if the plant were recommissioned, it would involve extra costs. The upsides of shutting down the plant in reducing operational losses were unlikely to be large due to the annuity nature of the concessions. Permanently shutting down the plant would imply declaring bankruptcy, in which case, the losses incurred thus far would become permanent, and lenders would be required to take a cut. With most of the lenders being public-sector banks, the outstanding debt would be added to the list of non-performing assets, and public money would be at risk. The problems were most serious for the state of Gujarat, which had become power surplus with the commissioning of Indonesian coal-based power plants. These plants were supplying 48 per cent of the state’s electricity requirement.[[57]](#endnote-58) On becoming power surplus, the state had stopped planning, and setting up new power plants had become a low priority. No new plants were expected to get commissioned in the near future.

The senior management of Tata Power also had to account for the opportunities unfolding due to the opening of the Indian electricity sector and growth in the renewables sector (see Exhibit 7). Private power-generation capacity was continuously increasing, and new opportunities were emerging in renewables and in the transmission and distribution of power. All were seeking active private investments. These sectors provided huge growth opportunities for private players like Tata Power, for whom the electricity sector (i.e., generation, transmission, and distribution) was the core sector.[[58]](#endnote-59) In this case, coercive or rash action taken by Tata Power would hurt its relationships with the government and likely compromise both existing business lines and future opportunities.

The management of Tata Power was left with a decision to take on CGPL, a bleeding asset. While it had offered 50 per cent of the plant to the government for ₹1, the government was unlikely to respond, as it would not take on a bleeding asset. Further, the offer did little more than signal the severity of the problems faced by Tata Power.

The management had to decide whether to continue making losses or shut down the plant, with few other options in sight.

Exhibit 1: ELECTRICITY Deficit IN INDIA, HISTORICAL TRENDS

Source: Central Electricity Authority, Ministry of Power, Government of India, *Growth of Electricity Sector in India from 1947–2020*, October 2020, accessed February 8, 2021, https://cea.nic.in/wp-content/uploads/pdm/2020/12/growth\_2020.pdf.

Exhibit 2: SECTORAL ELECTRICITY DEMAND IN INDIA, HISTORICAL TRENDS

Note: MWh = megawatt-hour.

Source: Central Electricity Authority, Ministry of Power, Government of India, *Growth of Electricity Sector in India from 1947–2020*, October 2020, accessed February 8, 2021, https://cea.nic.in/wp-content/uploads/pdm/2020/12/growth\_2020.pdf.

Exhibit 3: THE STRUCTURE OF THE ELECTRICITY SECTOR IN INDIA

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Concurrent Policy-Making** | **Central Government** | | **State Government** | | **Market Mechanisms** |
| **Regulations** | Central Electricity Regulatory Commission Central Electricity Authority | | State Electricity Regulatory Commission | | -- |
| **System Operations** | National Load Dispatch Centre | Regional Load  Dispatch Centres | | State Load Dispatch Centres | -- |
| **Generation** | Central Power Plant  (NTPC etc.) | | State Generating Stations | | Independent Power Plant |
| **Transmission** | Central Transmission Utility | | State Transmission Utilities | | Independent Power Transmission Companies |
| **Distribution** | Public Sector Distribution Companies | | | | Private Distribution Companies |
| **Markets and Trading** | Power Exchanges | | -- | | Trading Licence |
| Bilateral Market |
|  | | | | | |
| **Appeal** | Supreme Court of India | | APTEL | | High Court  (Consumer Disputes) |

Note: NTPC = National Thermal Power Corporation; APTEL = Appellate Tribunal for Electricity.

Source: Based on the author’s understanding of the Indian electricity sector and discussions with industry practitioners.

Exhibit 4: CHANGE IN the Price of INDONESIAN COAL Over Time

Note: HBA: Harga Batubara Acuan.

Source: Summarized by the author from “Yearly Maximum and Minimum Indonesian Coal Prices,” COALspot.com, accessed February 8, 2021, [www.coalspot.com](http://www.coalspot.com).

EXHIBIT 5: Coastal Gujarat Power Limited PERFORMANCE Over Time

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **IGAAP/ IND AS** | **Gross Power Generation (Million Units)** | **Plant Availability (%)** | **Plant Load Factor (%)** | **Revenue, Net Sales**  **(₹ Billions)\*** | **Operating Expenditure**  **(₹ Billions)†** | **Operating Profit/Loss**  **(₹ Billions)**‡ | **Net Profit/Loss**  **(₹ Billions)** | **Indonesian Coal (%)** | **HBA Price Reference (US$ per Metric Ton)**§ |
| **FY 2012** |  |  |  |  |  |  |  |  |  | 116.00 |
| **FY 2013** | IGAAP | 12,440 | 84 | 74 | 28.0 | 29.5 | −1.5 | −16.0 | 90 | 89.84 |
| **FY 2014** | IGAAP | 23,928 | 83 | 66 | 56.47 | 59.3 | −2.9 | −14.9 | 99 | 80.70 |
| **FY 2015** | IGAAP | 26,578 | 83 | 73 | 59.8 | 55.5 | 4.3 | −9.0 | 99 | 68.88 |
| **FY 2016** | IGAAP | 25,680 | 80 | 70 | 60.0 | 53.0 | 7.1 | 20.1 | 91 | 56.89 |
| Restated FY 2015–16 | Ind AS | 25,680 | 80 | 70 | 58.8 | 51.2 | 8.6 | 14.4 | 91 |  |
| **FY 2017** | Ind AS | 27,460 | 80 | 76 | 60.6 | 60.2 | 0.4 | −8.5 | 91 | 69.81 |
| **FY 2018** | Ind AS | 26,686 | 79 | 73 | 63.6 | 69.8 | −6.2 | −17.2 | 88 | 89.80 |
| Restated FY 2017–18 | Ind AS | 26,686 | 79 | 73 | 62.7 | 69.25 | −6.5 | −17.8 | 88 |  |

\* Revenue includes net sales (revenue from operations) and excludes other income.

† Operating expenditure = total expenditure – finance cost.

‡ Operating profit/loss = revenue (net sales) – operating expenditure.

§ Indonesian Ministry of Energy and Mineral Resources thermal coal reference price.

Note: All five units operational since April 2013. Operational losses for FY 2019 stood at ₹7.14 billion and net loss for FY 2019 stood at ₹16.54 billion, for FY 2020, ₹8.91 billion. IGAAP = Indian Generally Accepted Accounting Principles; Ind AS = Indian Accounting Standard; FY = fiscal year; HBA = Harga Batubara Acuan; ₹ = INR = Indian rupee; US$1 = ₹64.7052 on April 11, 2017

Source: Created by the author based on the following annual reports: CGPL Coastal Gujarat Power Limited (A Tata Power Company), *12th Annual Report 2017–18*, accessed April 2, 2021, www.tatapower.com/pdf/cgpl-mundra/fy-2017-18.pdf; Tata Power, *Annual Report 2016–17: Renewing Growth through Renewables*, accessed April 2, 2021, www.tatapower.com/pdf/investor-relations/98Annual-Report-2016-17.pdf; Tata Power, *Annual Report 2015–16: Raising the Bar in Centenary Year*, accessed April 2, 2021, www.tatapower.com/pdf/investor-relations/97Annual-Report-2015-16.pdf; Tata Power, *96th Annual Report 2014–15: 100 Years of Invisible Goodness*, accessed April 2, 2021, www.tatapower.com/pdf/investor-relations/96Annual-Report-2014-15.pdf; Tata Power, *95th Annual Report 2013–14*, accessed April 2, 2021, www.tatapower.com/pdf/investor-relations/95Annual-Report-2013-14.pdf; Tata Power, *94th Annual Report 2012–13: Lighting Up Lives with Care*, accessed April 2, 2021, www.tatapower.com/pdf/investor-relations/94Annual-report-2012-13.pdf.

Exhibit 6: GROWTH IN INSTALLED CAPACITY BY INVESTMENT MODE

Note: MW = megawatt.

Source: Central Electricity Authority, Ministry of Power, Government of India, *Growth of Electricity Sector in India from 1947–2020*, October 2020, accessed February 8, 2021, https://cea.nic.in/wp-content/uploads/pdm/2020/12/growth\_2020.pdf.

Exhibit 7: Electricity-Generation MODE, GROWTH over time

Note: MW = megawatt.

Source: Central Electricity Authority, Ministry of Power, Government of India, *Growth of Electricity Sector in India from 1947–2020*, October 2020, accessed February 8, 2021, https://cea.nic.in/wp-content/uploads/pdm/2020/12/growth\_2020.pdf.

ENDNOTES

1. Apurva Vishwanath, “Blow to Tata Power, Adani as Supreme Court Sets Aside Ruling on Tariff,” *Livemint*, April 12, 2017, accessed November 24, 2020, www.livemint.com/Industry/rRYlaktVS3si7JK5FBtjiM/SC-sets-aside-ruling-allowing-compensatory-tariff-to-Tata-Po.html. [↑](#endnote-ref-2)
2. ₹ = INR = Indian rupee; US$1 = ₹64.7052 on April 11, 2017. [↑](#endnote-ref-3)
3. The Indonesian Ministry of Energy and Mineral Resources notified the regulation benchmarking coal export price to the international market prices, making it illegal to sell Indonesian coal at prices less than those prevailing internationally. “Coal,” Indonesian Investments, April 5, 2018, accessed February 8, 2021, www.indonesia-investments.com/business/commodities/coal/item236. [↑](#endnote-ref-4)
4. All dollar amounts are in US dollars unless otherwise specifed. [↑](#endnote-ref-5)
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6. Notably, the largest coal-based power plant in India was also based in Mundra (the Adani power plant with a 4,620-megawatt capacity). This plant was also using Indonesian coal and suffered from the same issues. Other power plants in the country that were based on Indonesian coal were the Kalisindh plant in Jhalawar, Rajasthan (1,220 megawatts); the GMR plant in Raipur, Raikheda, Chhattisgarh (1,370 megawatts); the Sikka plant in Jamnagar, Gujarat (500 megawatts); the Painampuram plant in Nellore, Andra Pradesh (1,320 megawatts); and the Essar plant in Salaya, Gujarat (1,320 megawatts). Central Electricity Authority, Ministry of Power, Government of India, *Growth of Electricity Sector in India from 1947–2020*, October 2020, accessed February 8, 2021, https://cea.nic.in/wp-content/uploads/pdm/2020/12/growth\_2020.pdf. [↑](#endnote-ref-7)
7. PTI, “Tata Power Synchronises Third 800 MW Unit at Mundra Project,” *Economic Times*, October 8, 2012, accessed November 24, 2020, https://economictimes.indiatimes.com/industry/energy/power/tata-power-synchronises-third-800-mw-unit-at-mundra-project/articleshow/16721996.cms?from=mdr. [↑](#endnote-ref-8)
8. PTI “Tata Power Sees Rs 3,000 Crore Equity Erosion in Mundra UMPP Project: Sources,” *Economic Times*, October 7, 2012, accessed February 8, 2021, https://economictimes.indiatimes.com/markets/stocks/news/tata-power-sees-rs-3000-crore-equity-erosion-in-mundra-umpp-project-sources/articleshow/16708353.cms?from=mdr. [↑](#endnote-ref-9)
9. Central Electricity Authority, Ministry of Power, Government of India, *Growth of Electricity Sector in India from 1947–2020*, October 2020, accessed February 8, 2021, https://cea.nic.in/wp-content/uploads/pdm/2020/12/growth\_2020.pdf. [↑](#endnote-ref-10)
10. In pursuit of economies of scale, Indian Government was encouraging setting up of extremely large power plants i.e., 4000 MW or more, as contrast to existing power plants which were up to 2,000 MW. Such ultra large power plants, employ superior technology to be more efficient, be less polluting, and can be effectively managed by specialized players. [↑](#endnote-ref-11)
11. Indian coal had a gross calorific value (GCV) of 4,500 kilocalories (kcal) per kilogram (kg), in comparison to a GCV of 6,500 kcal per kg of Australian coal. As such, power plants using India’s coal consumed about 0.7 kg of coal per kWh of power generation, whereas US power plants consumed about 0.45 kg of coal per kWh. In 2017, India imported nearly 130 megatons of oil equivalent (nearly 200 million metric tons) of steam coal and coking coal—29 per cent of its total consumption—to meet the demands of electricity, cement, and steel production. Coastal Power Generation Limited, *Tata Power Mundra Ultra Mega Power Project: Towards a Cleaner and Greener Future*, accessed February 6, 2021, www.tatapower.com/plants-projects/thermal-generation-projects/cgpl/pdf/umpp-greener-future121015.pdf. [↑](#endnote-ref-12)
12. Aditi Roy Ghatak and Abir Dasgupta, “Raising the ‘Bar’ for India’s Power Sector,” *Economic & Political Weekly* 52, no. 20 (May 2017), accessed April 2, 2021, www.epw.in/journal/2017/20/insight/raising-‘bar’-indias-power-sector.html-0. [↑](#endnote-ref-13)
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14. Vishwanath, op. cit. [↑](#endnote-ref-15)
15. Ghatak and Dasgupta, op. cit. [↑](#endnote-ref-16)
16. Sandhya Madan, Swetha Manimuthu, and S. Thiruvengadam, “History of Electric Power in India (1890 – 1990)” (paper, 2007 IEEE Conference on the History of Electric Power, Newark, NJ, 2007), 152–165, accessed February 6, 2021, https://ieeexplore.ieee.org/document/4510263. [↑](#endnote-ref-17)
17. Electricity was a concurrent subject as per the Constitution of India (Schedule 7), giving both central and state governments the rights to participate in generation, transmission, and distribution. [↑](#endnote-ref-18)
18. “The Electricity Act, 2003,” Ministry of Power, Government of India, June 10, 2003, accessed April 2, 2021 https://powermin.gov.in/en/content/electricity-act-2003. [↑](#endnote-ref-19)
19. In 2017, modifications to the act were brought about, further easing regulations and unbundling the sector while also easing the entry of private firms into generation and transmission. “Power Sector at a Glance All India,” Ministry of Power, Government of India, accessed February 9, 2021, https://powermin.gov.in/en/content/power-sector-glance-all-india. [↑](#endnote-ref-20)
20. “The Electricity Act, 2003,” op. cit. [↑](#endnote-ref-21)
21. The usage of the term “adopt” was important. CERC, on behalf of the government adopted a tariff, which had been decided through transparent and competitive bidding done by the procurer (i.e., state electricity utilities). “Guidelines for Determination of Tariff by Bidding Process for Procurement of Power by Distribution Licensees,” *The Gazette of India*, January 19, 2005, accessed February 9, 2021, www.cserc.gov.in/asset/doc/Bidding\_Guidelines.pdf. [↑](#endnote-ref-22)
22. “The Electricity Act, 2003,” op. cit. [↑](#endnote-ref-23)
23. *The Electricity Act*, 2003, stipulated two kinds of bidding—Case 1 and Case 2. In Case 1 bidding, almost all project risks (i.e., location, technology, fuel, approvals, clearances, and land acquisition) laid with the private developer. The developer had an obligation to supply power to State Electricity Boards (SEBs), for which it signed power supply agreements with electricity procurers, at rates that were determined after a competitive bid. In Case 2 bidding, the government de-risked the project before inviting bids for development. Government organizations like Power Finance Corporation Ltd. would identify an attractive location for the power plant, identify land requirements, take possession of land, obtain environmental and forest clearances, identify sources of raw material (i.e., coal and water), and make preliminary tie-ups with distributions companies and SEBs for power purchase. Subsequently, an auction for the construction, management, and operation of the de-risked plant proposal would be held. In both alternatives, Case 1 and Case 2, the L-1 the best bid that quoted the lowest levelized electricity tariff was chosen. This tariff comprised two distinct components: fixed capacity charge and fuel charge. The fixed capacity charge aimed to compensate the developer for the costs of setting up the power plant and was payable for making the plant operationally available to the purchaser (typically 90 per cent normative availability). Contractual clauses sought to incentivize the developer to exceed normative availability (to the extent of actual electricity dispatched) and to penalize the developer if it failed to maintain the promised normative availability. The second component, fuel charge, compensated for the cost of fuel to the extent that power was requisitioned from the plant by the purchaser. To accommodate macroeconomic changes over time, both the charges were revised annually to reflect variations in the wholesale price index (WPI). During the competitive bidding, the bidders were provided the flexibility to bid the extent to which they would like the tariff components to be adjusted for WPI changes—that is, the tariff could be indexed to WPI to the full extent permitted (escalable), partly indexed (partly non-escalable), or not indexed at all (non-escalable tariff). As the bids were decided based on levelized tariffs over the full life cycle of the plant (as per a pre-disclosed criterion), reducing the extent of escalability of the tariff gave the bidders better chances of becoming the lowest bidder. Central Electricity Regulatory Commission, *Request for Qualification for Tariff Based Bidding Process for Procurement of Power on Long Term Basis by Setting Up Power Stations at Where Location or Fuel Is Not Specified*, accessed February 9, 2021, www.cercind.gov.in/030206/case1.pdf; Central Electricity Regulatory Commission, *Standard Bid Documents for Tariff Based Bidding Process for Procurement of Power on Long Term Basis by Setting Up of Power Stations at Specified Location and/or Fuel*, accessed February 9, 2021, www.cercind.gov.in/030206/case2.pdf. [↑](#endnote-ref-24)
24. “Overview,” Tata Power, accessed February 8, 2021, www.tatapower.com/corporate/overview.aspx. [↑](#endnote-ref-25)
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26. The power generation capacity of Tata Power as of 2017 was estimated from the installed power generation capacity of 2017. “Overview,” op. cit. [↑](#endnote-ref-27)
27. PTI, “Government Yet to Award Four Ultra Mega Power Plants to Developers,” Economic Times, December 8, 2014, accessed February 6, 2021, https://economictimes.indiatimes.com/industry/energy/power/government-yet-to-award-four-ultra-mega-power-plants-to-developers/articleshow/45412631.cms. [↑](#endnote-ref-28)
28. Coastal Power Generation Limited, op. cit. [↑](#endnote-ref-29)
29. Power purchase agreements were planned and agreed with five states—namely, Gujarat (1,805 MW), Maharashtra (760 MW), Punjab (475 MW), Rajasthan (380 MW), and Haryana (380 MW)—that would purchase electricity from the power plant. PTI, “PFC Transfers CGPL to Tata Power,” *Economic Times*, April 23, 2007, accessed November 24, 2020, https://economictimes.indiatimes.com/industry/energy/power/pfc-transfers-cgpl-to-tata-power/articleshow/1942616.cms?from=mdr. [↑](#endnote-ref-30)
30. Central Electricity Regulatory Commission, *Petition No. 159/MP/2012*, accessed February 6, 2021, www.cercind.gov.in/2013/orders/159\_mp\_2012.pdf. [↑](#endnote-ref-31)
31. As per the bidding conditions, power tariffs could be quoted requesting for different levels of coal price adjustments. Tata Power had bid a 55 per cent non-escalable tariff, which implied that power tariffs would be adjusted to a 45 per cent extent only for changes in coal prices. [↑](#endnote-ref-32)
32. PTI, “Tata Power Signs Coal Supply Agreement with Indonesian Firm PT Antang Gunung Meratus,” *Economic Times*, July 20, 2012, accessed February 6, 2021, https://economictimes.indiatimes.com/industry/energy/power/tata-power-signs-coal-supply-agreement-with-indonesian-firm-pt-antang-gunung-meratus/articleshow/15057938.cms?utm\_source=contentofinterest&utm\_medium=text&utm\_campaign=cppst; Coastal Power Generation Limited, op. cit. [↑](#endnote-ref-33)
33. PTI, “Government Yet to Award Four Ultra Mega Power Plants to Developers,” op. cit. [↑](#endnote-ref-34)
34. “CGPL—4150 MW,” Tata Power, accessed February 8, 2021, www.tatapower.com/plants-projects/thermal-generation-projects/cgpl-4150mw.aspx. [↑](#endnote-ref-35)
35. Coastal Power Generation Limited, op. cit. [↑](#endnote-ref-36)
36. In 2005, the world average was 919 grams of CO2 per kWh, and the average for member countries of the Organisation for Economic Co-operation and Development was 888 grams of CO2 per kWh; Ibid. [↑](#endnote-ref-37)
37. Ibid. [↑](#endnote-ref-38)
38. Central Electricity Regulatory Authority, “Order on Petition 159/MP,” February 21, 2014, accessed November 24, 2020, www.cercind.gov.in/2014/orders/SO159.pdf]. [↑](#endnote-ref-39)
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42. Central Electricity Regulatory Commission, *Petition No. 155/MP/2012*, op. cit. [↑](#endnote-ref-43)
43. Press Trust of India, “Tata Power Seeks Higher Tariff for Mundra UMPP,” *Business Standard*, January 14, 2013, accessed November 24, 2020, www.business-standard.com/article/companies/tata-power-seeks-higher-tariff-for-mundra-umpp-112071700149\_1.html. [↑](#endnote-ref-44)
44. “Mission,” Central Electricity Regulatory Commission of India, accessed April 2, 2021, www.cercind.gov.in/Mission.html. [↑](#endnote-ref-45)
45. Committee members were leading experts of the country: Deepak Parekh, chairman, Housing Development Finance Corporation Limited; Arundhati Bhattacharya, managing director and chief executive officer, SBI Capital Markets; Devi Singh, director, Indian Institute of Management-Lucknow; the managing director and chief executive officer of Tata Power; three officers from the Haryana government; two officers each from the Gujarat, Maharashtra, and Rajasthan governments; and one officer from the Punjab government. [↑](#endnote-ref-46)
46. This issue was finalized on December 31, 2013. Central Electricity Regulatory Commission, *Petition No. 159/MP/2012*, op. cit. [↑](#endnote-ref-47)
47. By the time the case was taken up before APTEL, many of the parties had already approached the Supreme Court and sought its intervention. APTEL took this view when it was specifically asked by the Supreme Court to look into all aspects (change of law, force majeure, and public interest) and pass a final judgment. However, APTEL’s judgment would only get implemented after it had been ratified by the Supreme Court. [↑](#endnote-ref-48)
48. PTO, “APTEL Sets Aside CERC Compensatory Tariff Order,” *Times of India*, April 7, 2016, accessed, February 6, 2021, https://timesofindia.indiatimes.com/city/delhi/APTEL-sets-aside-CERC-compensatory-tariff-order/articleshow/51730679.cms. [↑](#endnote-ref-49)
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50. Central Electricity Regulatory Authority, *Petition No. 159/MP/2012*, op. cit., 169. [↑](#endnote-ref-51)
51. Ghatak and Dasgupta, op. cit. [↑](#endnote-ref-52)
52. Supreme Court of India, op. cit., 49. [↑](#endnote-ref-53)
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