

Economic and Financial Impact of CESC Limited on Kolkata's Urban Development and Industrial Growth

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ABSTRACT : This research shows the financial and economic impact of Kolkata's leading electricity provider CESC Limited on the development and growth of the city of Kolkata . The essay also shows the city's urban growth and development , industrial expansion and the economic stability of the metropolitan city . The essay goes into depth about the company's operational tactics , pricing technique and model , capacity growth as the demand for electricity increases and its supply reliability which have boosted residential consumption as well as allowed multiple new industrial sectors to be set up in the region . Companies around the world aim to maximise efficiency which helps them to boost their profitability thus companies like CESC have heavily upgraded their distribution network . The essay blends quantifiable data like the company's power generation capacity along with its consumer base , financial results and qualitative information to show the impact of the firm on Kolkata's evergrowing and everchanging economic landscape

INTRODUCTION

In most places around the world industrial and urban development are directly linked to the accessibility and reliability of electricity and other different types of infrastructure . In regions such as Kolkata which makes up an integral part of India's overall GDP the access and reliability of supply of electricity is not only essential for daily household consumption but for the commercial sector in the city . As times have progressed , Kolkata's electricity supply has become more efficient which has allowed the quantity and quality of urban and industrial development to increase . When looking at this from CESC perspective, who are the primary electricity suppliers in this region where its power generation among other features significantly affect the stability of the economy and urban development in this region .

HISTORICAL EVOLUTION AND GROWTH OF CESC

2.1 Initial days

The start of CESC dates back to the late 19th century when India was colonized by the Britishers . The company started in the year of 1897 where it acted as an authorized and licensed electricity supplier . The company's first ever power plant was its thermal (heat) powered plant near Prinsep street in Kolkata . This launch is considered as the start of commercial supply of electric power in Kolkata

Over the years the company switched their smaller direct current plant with better , powerful ones with alternating current ones which are better at generating power and have more distribution efficiency .

2.2 Growth of infrastructure

From the mid 1920s to the end of the 1960s the company brought constant upgrades to its power generation units as well as increasing its distribution channel of electricity .

- Launch of its "Southern Generating Station" in 1926 . It is located in Metiabruz which is a district on the southern outskirts of the city . At the point of its inception it was started with 22.5 Mega watts (MW) however it was expanded to 70 MW
- The Mulajore Generating Station , located in the suburbs of Kolkata region which was started for use in 1950 with its double 30 mega watts setup which was later upgraded to meet increased urban and residential needs.
- "New Cossipore Generating Station" which also started off as a double 30 MW unit with additions made in 1949 with a 50 MW set and another 50 MW set was added in 1963

As time went on older plants started to become outdated like the closure of its Cossipore generating station thus the company reallocated their budget and focus towards better, more efficient and powerful generating units which help the city to develop with an increase in rising industries and consumer demand .

2.3 Present-Day operations

As of present day, the company has an authorized licensing area of 567 square kilometers, covering the whole of the city of Kolkata and some of its neighbouring districts of Hoogly, Howrah, North and South 24 parganas. Referring to CESC's public disclosures that its aggregate energy generation capabilities are at a massive 2140 MW. Along with this the company has decided to invest further into the expansion into renewable energy.

3. CESC'S OPERATIONAL STRATEGIES AND FINANCIAL MODEL

To fully understand the effect of CESC on Kolkata we need to look at it. To understand CESC's impact, one must examine how it operates: its generation and procurement decisions, power supply distribution, billing and monetary transactions along with its well known financial health.

3.1 Generation and Procurement Strategy

The company has one of the most unique but efficient electricity generating systems where they generate electricity even when the distribution of it is being done. This system is referred to as an integrated electricity generation system. As the company supplies Kolkata and some of its neighbouring districts, they use thermal electricity generation power plants like their Budge Budge and other plants around. The firm also relies on PPAs i.e. power purchase agreement which allows them to control supply of power depending on changes in residential and industrial demand. Along with this, the company is shifting some of its operational activities to the production of renewable (green) energy. Some of their publicly disclosed aims are to add 3.2 GW of hybrid power generation capacity by FY29. Beyond this the company wants to expand this capacity further with increased efficiency.

3.2 Distribution Consumption and Billing Strategies

The company's distribution channel is a large mixture of high voltage power transmission lines, low voltage lines, mid voltage substations along with transformers of electricity which allows for effective reach of electricity to households and firms. CESC has decided to change its focus to improving consumer convenience which allows them to have an improved brand image among its customers. Some of the company's disclosure shows that 82% of its money collected came from online transactions. As a nudge which provides an additional incentive to customers to pay online, the company provides a 1% discount on online transactions. It has been reported that the firm has received over a hundred thousand new connections in the timeframe 2022-23 which reamplifies the fact of booming demand and industrial growth.

With CESC's heavy investment into overall efficiency, they have achieved stable electricity supply with minimal disruptions. As well as this, the company's rapid recovery of supply after major weather events like cyclonic storms which are frequent occurrences in this part of the world. One such example was the severe cyclonic storm "Amphan" which hit the city during the COVID-19 times; the company successfully brought back and restored the power networks within a week of the storm.

3.3 Financial Performance

In terms of finance, CESC has been a strong performer for a long time even though there are constant changes in energy demand along with massive fluctuations in some of the key inputs like coal and fuel. For instance in the 2nd quarter of FY25, CESC earned a net profit of 353 crore rupees whereas during the same timeframe they earned a revenue of 4700 crore rupees. Its EBITDA which stands for earnings before interest, tax, depreciation and amortisation grew by an increase of 38.7% to 896 crore rupees. In FY2022-23, total income earned by the company was 8153 crore rupees. From this amount the PAT (profit after tax) which was left with the company was 830 crore.

4. IMPACT ON RESIDENTIAL CONSUMPTION AND URBAN DEVELOPMENT

For a city like Kolkata with a growing population, the availability of electrical supply is one of the most important luxuries for smooth urban living.

4.1 Expansion of Residential Electrification and Urban Comfort

CESC's large-scale electricity distribution channel has allowed a majority of the urban population to have access to good, reliable electricity. As families around the city have access to such high quality power supply, many of them are able to purchase different types of appliances which allows them to have an improved standard of living.

All in all these developments boost urban growth as people want such conveniences in their lives which could lead to them choosing to relocate their families and businesses to the city, making Kolkata a great place to live and operate out of.

4.2 Enabling Commercial expansion and growth

The commercial sector has been a huge part of the city's rich history since the days of the British. Key business sectors based in Kolkata like the IT sector. Along with such business sectors there are small independent retailers who need electricity for their daily operations. Consistent electricity lowers the operational expenses paid by businesses thus making even small retail shops financially competitive. This maintains Kolkata's rich history of a place with a diverse bunch of businesses in various operating sectors. Another massive but overlooked advantage of stable power supply is that it improves the usage of a person's disposable income as many household had to rely on backup power generators and inverters when there were power outages however with the continuous improvements CESC has made these back ups have become rarer by the day

5. INFLUENCE ON INDUSTRIAL GROWTH AND ECONOMIC STABILITY

Places like Kolkata which have experienced sustained economic growth for a long time will be requiring large amounts of electricity. In this section the essay will be looking at how the company's operations have affected industrial growth in the city and the city's economic stability.

5.1 Reliable Power for industrial usage

A key problem faced by many businesses in the eastern part of the country are constant electricity outages and supply problems. However CESC and its integrated model of supplying where it maintains its own power distribution channels and manages loads allows it to have greater reliability. Moreover PPAs gives the company some freedom in terms of how it can manage its power supply especially during times where there are heavy demands

These technological and reliability advances have allowed Kolkata to become more attractive for firms to invest in due to good infrastructure and high levels of return on investment.

5.2 Lower Transaction Costs and Predictable Energy Costs

As the company has introduced its world class integrated supply system, industries around the city benefit from the predictability of energy where power supply becomes more cost effective with greater consistency. As a very large proportion is generated by the company itself or by longer term contracts with independent PPAs the company is mostly saved from spot market purchases.

5.3 Indirect Economic Benefits - Employment, Real Estate, and Ancillary Industries

As industries step up, the need for employees also drastically moves up. To set up such industries new real estate construction and industrial land needs to be set up. This energy reliability attracts complementary and ancillary industries which further boost the GDP of the area. In Kolkata some of the key industries which require such high level and stable power are jute mills and light engineering along with firms which are heavily reliant on technology

6. CESC'S ROLE IN SUSTAINABLE ENERGY AND FUTURE OUTLOOK

As the demand for energy rises on a daily basis, there are increasing environmental concerns being caused because of such changes. Firms globally and locally in India are facing concerns about how to generate energy which is clean but in a cost effective manner with good reliability which reduces their environmental footprint.

6.1 Renewable and Hybrid Energy Aims

By identifying global trends and demands the company has made commitments to expand its renewable energy generation capacity. Some of these publicly disclosed plans state that the company aims to add 3.2 GW of hybrid renewable power generating capabilities by the financial year FY29. However their functions will be overseen by Purvah Green power private limited

This is a very bold target which the company plans to achieve especially due to it being deeply rooted in the production of electricity via coal. The plans, if successful, will lead to reduced reliance on coal to generate such high levels of electricity and reduce carbon emission which will also make power supply more environmentally sustainable in the long run. This is a bold ambition, especially for a company historically rooted in coal-based thermal generation.

Such drastic shifts would match the realigned goals of the nation as a whole. It may also attract investors from foreign countries as well as put Kolkata on the map for a city with a future focused approach

6.2 Modernization, ESG Initiatives, and Digital Infrastructure

In some of CESC's recent annual reports, the company has adopted new technology with an improved safety standard and a cleaner sustainable approach which is a feature beyond its power distribution and generation aims. The company has invested heavily in

network automations , predictive maintenance times when needed . These help the company improve power distribution services as well as power reliability services thus helping the company cut operational costs in the long term

6.3 Expanding beyond Kolkata

As time progresses , CESC wants to expand to other places in India but keep Kolkata as its primary focus . Through some of its distribution licensees and franchisees , CESC now provides electricity in places like Greater Noida which was heavily inaccessible just a while ago .

While this essay focuses primarily on Kolkata and adjoining districts, it's worth noting that CESC's ambitions extend beyond. The company, through its distribution licensee and franchisee ventures, now serves areas like Greater Noida (via Noida Power Company Ltd.) and several regions in Rajasthan and Maharashtra.

7. REGULATORY ENVIRONMENT , ECONOMIC POLICY INFLUENCE AND CESC'S STRATEGIC POSITION

The model through which the company operates is that it is governed by the rules and regulations set by the central government as well as the state government . Its strategic operations and decisions revolve around such rules and regulations set by the government .

7.1 Regulatory Framework and Licensing

As CESC has control over Kolkata and some of its neighbouring districts , it allows them to function as a near monopoly in this industry thus allowing it to benefit from long term planning benefits and economies of scale , reducing business costs . These monopolistic market structures require huge government oversight into operations to ensure tariffs are fair along with supply being reliable for different usages in different parts of the city .

7.2 Influence on Industrial Policy and Economic Planning in Kolkata Region

A firm like CESC with its reliable power utility indirectly have a large effect on industrial policies like :

- Governments of the city are highly likely to approve plans and projects in areas with high power and electricity facilities
- Investment into the city would be more favourable for investors due to strong power reliability .
- City planning can become more advanced due to the presence of reliable electricity

8. CHALLENGES , RISKS AND CRITICISMS

Like most firms , CESC also faces its fair share of challenges which are essential to understand to get a true understanding of the firm

8.1 Fuel Cost fluctuations and Dependence on Coal

Despite changes there is still a large chunk of the company's power that is still generated through the burning of coal. The supply of this natural resource which affects its price along with government regulations regarding the environment can bring in unnecessary risk and delays to operations which may limit output

8.2 Environmental and Pollution Concerns

Coal powered electricity generators which are located in areas of high population can raise environmental concerns and pollute areas around which may increase health hazards . Some of these pollutants include air pollution , dust pollution and ashes being released into the open air . These environmental concerns are projected to reduce due to modern development in technology and increase awareness about the environment . Some of the older plants which have been shut down still cause environmental damage with the left over residue as well occupied land which becomes inaccessible .

9. DISCUSSION : SYNTHESIS ON ECONOMIC AND FINANCIAL IMPACT

By compiling historical evidences along with future plans , we get to see the true impact of how different segments within CESC like its operational strategies , financial performance and supply network consistency have helped Kolkata in its development over countless years

9.1 As an Enabler of Urbanization and Quality of Life

By offering stable electricity has underwritten expansions of communities in the city as well as provide different features with the best of the best modern amenities , real estate growth and a place which supports migration . These have shaped Kolkata into a place with a rich history and a bright future

9.2 Base for Industrial Growth and Economic Diversification

Industries of all sizes have great needs of electrical energy for their day to day functioning at cost effective rates . The company which has invested heavily into production techniques which boost output and keep costs to a low level has brought fantastic results like :

- Greater overall level of output , boosting value of GDP as well as employment in the country boosting overall purchasing power of individuals
- Lower business operations costs which used to come from storing and maintaining backups for sudden power cuts

9.3 As a Financially Stable Enterprise Supporting Infrastructure Investment

The company's consistent financial performance over a long time where its revenue has seen consistent growth along with its profitability which has allowed it to reinvest heavily into expanding and improving its processes and machines which have allowed it to stay on top of problems in the production of electricity while also integrating newer cleaner processes like the production of green renewable energy .

10. CONCLUSION

Over the company's long and illustrious history it has been a key element in shaping up Kolkata's urban and economic landscape . By constantly updating their technology and resources , the company safeguards itself beforehand so that it can adapt smoothly to changes in consumer demand and other sudden changes which may occur . Its financial robustness and strategic planning for even the most unimaginable situations have meant that the company has data on what to do during different situations .

Looking at it from the perspective of Industries , consistent power supply has allowed firms to lower its cost of production which allows businesses to earn higher profits as well as being incentivised to expand and set up newer operations around Kolkata which boost the local economy with higher levels of employment in the city . Diving into the future CESC has set ambitious goals for its renewable energy aims and expanding operations beyond the Kolkata area . The management and executions of these plans are crucial to achieving success and if done correctly CESC can remain as the backbone of the city even with newer method and progress

However as with anything there are challenges faced by firms , in this case CESC will need to keep costs low which may become difficult with the rising fuel costs along with environmental damage caused by current methods of generating power .

To sum up , CESC's influence both financially and economically to the city is huge where it acts not only as a power supplier but the backbone for infrastructural development , urban expansion and long term growth

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