Captive Power Plants in India 2016-17: Opportunity Tracker for Value Chain Players

Enincon Consulting has come out with a research report focused on captive power plants in India. Energetica India brings, for the readers, the highlights of the report. We also speak to Mr. Ravi Shekhar, Partner & Head - Research and Consulting on the research conclusions.

Need for Captive Power Plants

India, identified as one of the major growth economy of not only South Asia but across the globe in the current dynamics for which global agencies have earmarked an economic bloom at the rate of if not more than certainly not less than 7-8% annually. Given the fillip to the economy underline to be witnessed the power demand of the country is certain to increase. From the current levels of installed capacity of 315 GW it is quite obvious that India is bound to grow in terms of installed capacity on the same rate as observed in the growth of economy. Also, the rate of industrialization shall be embellished courtesy the ease of business drive of Government of India. In conjunction, what follows for India as a country overall is the need of lower cost of variable power to support the base load requirements. This shall happen only once the contribution of thermal power retains its supremacy in the generation mix of the country, which arguably is challenged due to the impetus witnessed in renewable sector growth coupled with lowered capacity utilization of thermal power units courtesy, crippled finances of power distribution companies cost and regime.

To further elaborate upon the understanding of likely power demand supply dynamics of the country it is an imperative to demystify the consumer mix of the country at large. If we analyze the power consumer matrix for the distribution utilities, the chunk of revenue flows from the industrial and commercial users with no aberration noticed at pan India levels. This suggests that the need for power for industrial and commercial consumers shall grow analogous to the growth rate compounded for the economy i.e. India. It also means that the base load requirements of such consumers shall increase in analogy to the demand. This scenario shall clearly invite for the power distribution utilities to effect more power procurement agreements on long term basis (LT) to negate any potential hike in variable cost associated with fuel price and acts as a pass through controller for especially the industrial and commercial consumers. The business case for inking such long term agreements shall be an uphill task for power distribution utilities which already are plagued by in surmountable losses for which government already has announced multitude of bail out schemes at different junctures with UDAY being the latest.

Ironically, due to the flow of reforms from distribution sector in India we still lack homogeneity under the subsequent sectors of transmission and generation. To exemplify, apart from the commercial losses witnessed by the discoms the amount of cross subsidy surcharge being levied on the commercial and industrial consumers also makes the case of open market transactions unviable for them. This scenario projects that the power demand is on rise but availability is of serious concern for such consumers. The factor of availability brings captive power generation into foray. The fact that effectively power being available nearly in the range of INR 8-15/unit to the industrial and commercial consumers (depending upon their consumption levels) impacts the 24x7 of their operations and may harm their respective business cause. This leaves such consumers to expedite establishing the captive power units to relentlessly support their business need and at the same time draw a ceiling upon the cost

incurred in terms of power sourcing coupled with giving them luxury of flexibility as well.

The report supports the gambit of all value chain players equally to scale the tune of opportunities involved in the business case of captive power generation in India. An in-depth primary and secondary research was carried out to unearth the tune of opportunities and project a path finding guide for the value chain players such as captive power plant developers, OEM manufacturers, equipment suppliers/vendors, EPC service providers, fuel suppliers, power traders and contractors etc.

Key Findings of the Report

Northern Region Snapshot of Cumulative Upcoming Captive Power Capacity in India:

The state of Rajasthan boasts the highest upcoming capacity of CPP units in the northern region followed by Uttar Pradesh and Punjab respectively. The other states do not have significant capacities.

With close to 78% capacities stacked in Rajasthan for which main and balance of plant orders are to be placed state offers highest potential for equipment suppliers and vendors in the region.

Opportunity for Equipment Suppliers & Vendors in Northern Region States for Captive Power Segment:

The northern region states cumulatively hold a market size of close to USD 600 million for the equipment suppliers and vendors to the captive power plants. Of the total market size about 32% of the business case exists in Uttar Pradesh and Punjab.

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SPEAKING TO...

to get some more details on the captive power plants in India.

Mr. Ravi Shekhar

Partner & Head - Research and Consulting, Enincon Consulting LLP

ENERGETICA INDIA: **What is the market size potential of captive power plants in India, as per your research?**

RAVI SHEKHAR: In the present case scenario, captive power plant segment in India has an upcoming market size potential of close to 7 GWs. The CPP business is witnessing a consistent northbound trend from almost a decade now, given the fact that tariff of power has been on steady rise coupled with the supply reliability issues (which always is considered a driver for industries setting up of CPPs in India. Also, the case of fuel availability specifically of coal has improved considerably in the country thus felicitating better operations of the CPPs. Given the underutilization at the utility scale coal based thermal power plants the potential of CPPs arguably looks robust in the country as the power demand from industrial consumer is slated to rise on a consistent basis for coming years too.

ENERGETICA INDIA: **Will we also see renewable energy technologies also as captive power plants?**

RAVI SHEKHAR: Yes, we can definitely see renewable energy technologies as a captive mode of power supply in India. However, the extent might not be that aggressive as of now. It is pertinent to

Also, the gas based power generations are likely to drive business prospects for the equipment suppliers in the northern region.

Northern Region - Highest Fuel Contributor:

The region offers maximum upcoming capacities surprisingly of gas based units followed by Waste Heat Recovery Boilers (WHRB) and multi fuel set ups. Coal constitutes of 197 MW of the upcoming capacity, while bagasse contributes to 49 MW only. The opportunity tune for WHRB is best as far as the region is considered for the equipment suppliers followed by multi fuel set ups.

Western Region Snapshot of Cumulative Upcoming Captive Power Capacity in India:

The state of Maharashtra boasts the highest upcoming capacity of CPP units in the Western region followed by Gujarat and Chhattisgarh respectively. While the state of Madhya Pradesh has close to 256 MW of Captive Power Capacities coming up. With close to 66% capacities stacked in Maharashtra for which main and balance of plant orders are to be placed state offers highest potential for equipment suppliers and vendors in the region followed by Gujarat.

Western Region - Highest Fuel Contributor:

The region offers maximum upcoming capacities of Coal based units followed by Gas and WHRB set ups. Bagasse constitutes of 354.7 MW of the upcoming capacity closely followed by Multi fuel with 310.5 MW capacity. The opportunity tune for coal is best as far as the region is considered for the equipment suppliers followed by Gas based set ups.

Opportunity for Equipment Suppliers & Vendors in Western Region States for Captive Power Segment:

The northern region states cumulatively hold a market size of close to USD 2467.74 million for the equipment suppliers and vendors to the captive power plants. Of the total market size Maharashtra holds about 45% of the of the business case for OEMs.

Southern Region Snapshot of Cumulative Upcoming Captive Power Capacity in India:

The state of Karnataka boasts the highest upcoming capacity of CPP units in the Southern region followed by Andhra Pradesh. The other states do not have significant capacities. With close to 84% capacities stacked in Karnataka for which main and balance of plant orders are to be placed state offers highest potential for equipment suppliers and vendors in the region.

Southern Region - Highest Fuel Contributor:

The region offers maximum upcoming capacities coal based units followed by WHRB and multi fuel set ups. Bagasse constitutes of 112.7 MW of the upcoming capacity, while Gas contributes to 80.5 MW only. The opportunity tune for Coal is best as far as the region is considered for the equipment suppliers followed by multi fuel set ups.

take note of the impetus country is observing in terms of capacity additions of renewable power in the especially in the solar roof top segment. Essentially, this segment is touted as disruptive for discoms and likely to give boost to the group captive mode operated in the range of 50-100 MW scale. However, the cost economics being supportive enough for the project life cycle needs better assessment for the renewable technologies (like solar) completely being adaptive under the CPP space. Also, the capacity utilisation factor (CUF) and availability across all seasonal variance may affect the business case of complete adaptation of renewable technologies under captive space in future.

ENERGETICA INDIA: **Which of the regions in India has the most captive power plants? Why is it so?**

RAVI SHEKHAR: Both Western & southern region states presents a good market case for captive power value chain players. Due to the high industrial set up maximum captive power plants find their home in these two regions. Also, cost of power available in these regions is higher as the discoms impose heavy cross subsidy burden upon the industrial consumers. However, in coming years Southern region states are projected to take significant leap with a total of 69 captive power projects projected to be upcoming.

ENERGETICA INDIA: **Are captive power plants more beneficial for industries?**

RAVI SHEKHAR: Yes. The rationale for any industrial set up choosing to establish CPP units can broadly be classified primarily under two faceted aspects, with first being the cost of power available in the region, the industry operates coupled with degree of subsidy burden upon them and second being the cycle time for which the power is available to them across a day on hourly basis. Factoring these two reasons apart from the size and scale of operations of the industry typically the landed cost of power from the power distribution utility across any state in the country turns out less feasible for the industrial users, provided constraints like fuel availability is negated at their end for captive usage.