



Rating Criteria – Rating of Power Generation Projects

EXECUTIVE SUMMARY

India is one of the largest producers and consumer of electricity in the world. India's power sector is one of the most differentiated sectors in the world, with increasing demand for electricity in the country, massive addition and maintenance of power projects are a pre-requisite. In India the transmission and distribution losses account to nearly 20% of generation with losses reaching 45% in some states and districts. This is mainly due to poor and outdated infrastructure, power theft, poor maintenance and leakages, and excessive unmetered use of electricity which add to issues in quality and type of conductors, transformer capacity and other equipment's. Therefore, assessing the quality of power projects and setting a benchmark will narrow the power supply deficit and increase capacity utilization in turn boosting the financial the financial health of companies and strengthen the cash flows in the entire supply chain leading to significant improvements in creditworthiness.

This document provides Brickwork's methodology and assumptions for rating power projects and assists in understanding the significant credit factors in the power sector.

SCOPE

This criteria document covers a brief analysis of the attributes considered by Brickwork Ratings (BWR), while assessing the overall risks towards rating of power generation projects. It focuses on the credit risk assessment and analyzes various pre- and post-implementation risks in detail. A summary of the effect of these attributes on the overall credit rating is highlighted which helps ascertain the debt servicing capacity and the ability of the developers to undertake large scale power projects.

RISK ASSESSMENT AND RATING CRITERIA AT BRICKWORK RATINGS

Brickwork ratings factors in the various quantitative and qualitative risks that the power projects are exposed to, while assessing the risk in these projects to arrive at the rating. This document provides a risk assessment framework to analyze the qualitative and quantitative risk characteristics that are likely to affect the ratings of power projects. The methodology has many similar attributes as the underlying rating drivers are identical to other infrastructure projects. However, the sector specific criteria, such as payment mechanism and structure of financing vehicle, will determine the indicative rating along with the inherent underlying stresses in the project. As highlighted above, the key risks that developers face in a power project are the project implementation and completion risk, operational risks such as financial risk, criticality risk, counterparty risk and business risk. The risks considered to arrive at the rating of power projects in the rating framework are as follows:

Project Risk

Power projects are exposed to the following risks during its construction phase:

- a. **Planning & Completion Risk:** Brickwork focuses on the risks encountered during the completion of the project. This includes the size of the projects taken up, safety hazards followed, gestation period of the projects and regulatory disruptions. Brickwork analyses the funding employed for the approved and ongoing projects as a key factor in assessing the Company or Project. Details of funding which include proportion of debt including the track record of the developer, involvement of Government and their financial policy. Brickwork evaluates the load size, growth and schedule to perform field ratings, as many of these factors could lead to equipment failure or loss of energy. Brickwork also performs analysis to evaluate the company's ability to meet the debt-servicing obligations.
- b. **Implementation Risk:** Brickwork considers the track record of the sponsors with respect to judiciously completing the project on time, their ability to service debt obligations on time. Many factors such as availability of land for project and clearances from regulatory authorities. Local conditions such as the ground, air, sea, environmental conditions, plot characteristics, water supply, and storage areas are considered crucial by brickwork in assessing associated risks.

Operational Risk

Brickwork considers factors which impact financials of the project to assess the creditworthiness of the project or Company. It takes into various factors related to economic welfare, operational risks and evaluates the Company's ability to handle unexpected risks. Brickwork evaluates below risks in detail while assessing the creditworthiness of a project or Company.

- a. **Financial Risk:** Brickwork factors in operating expenses, interest and principal obligations, tenure of debt, insurance aspects and liquidity efficiently. Major aspects considered by Brickwork while evaluating financial risks include:
 - Debt Service Coverage Ratio
 - Sensitivity of DSCR to Cost Escalation
 - Internal Rate of Return less Cost of Debt
 - Liquidity & Financial Flexibility
 - Level of DSRA
 - Debt / Equity
 - Adequacy of Termination Agreements and/or Insurance
- b. **Criticality Risk:** The power sector is regulated by the CERC at the central level and SERC at the state level. Power Generation projects are exposed to regulatory risks. Further, Brickwork considers the involvement of locals and NGO's towards the project development, political support, national security, geographical and topographic conditions, cybersecurity firewalls and natural threats from force Majeure.
- c. **Counterparty Risk:** The counterparties involved in the project are government entities and Brickwork evaluates timely servicing of debt. Counterparty payment risk especially, for Power generations projects, need to be closely monitored and the payment mechanism and payment track record of counterparty is considered while evaluating the risk. The financial health and the collection mechanism adopted will determine timely debt servicing and avoid counterparty Risk.

d. Business Risk: Brickwork analyses the availability of thermal plants, bidding agreement to analyze the liquidity position and steps undertaken to minimize the major operating and maintenance costs which in turn is a major indicator of the projects profitability which is one of the major criteria influencing the rating of the project. Listed below are few business risks associated with power projects:

- Power Generation risk
- Power purchase Agreement (PPA) and Renewal risk
- Debt tenure and pricing risk
- Demand and Tariff risk
- Operational performance and track record
- Technology risk during upgradation
- Management and corporate governance

CONCLUSION

Brickwork's rating methodology for power projects emphasizes on consistency in cash flows for timely debt servicing, numerous operational parameters which include management efficiency, land availability, technology and infrastructure availability, regulatory framework governing the power sector. Brickwork also evaluates external credit factors including the qualitative and quantitative factors to evaluate the project.

[The previous version can be found in](#)

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