

## Background

The Infrastructure Sector Ratings (ISRs) of CARE Ratings Limited (CARE Ratings) encompass ratings assigned to the debt programmes of issuers in power (generation, transmission and distribution), roads (toll, annuity and hybrid annuity), telecommunications, airports, ports, and other such infrastructure-related sectors. CARE Ratings adopts a separate methodology for evaluation and assignment of ISR, distinct from corporate sector debt ratings, as the rating drivers for ISR are quite different from that of the corporate sector. For example, the revenues are driven by tariffs determined by the regulator or the government and any changes in government policies will impact the ratings of entities in the infrastructure segment significantly. Also, the demand-related risks are minimal because of traditionally high demand-supply gap in the infrastructure segments, whereas the demand growth is one of the key drivers for the corporate sector.

## Scope

Infrastructure projects are capital intensive and have a long gestation period. The projects are usually undertaken under distinct entities (special purpose vehicles – SPVs), which have contractual life/asset life and revenue model. The risks are assessed separately for project phase (funding risk, completion risk) and operational phase (revenue risk, regulatory policy framework) of the entities. While CARE Ratings has separate rating methodologies for each of the sub-sectors of infrastructure (refer to our website [www.careedge.in](http://www.careedge.in)), this criteria paper explains broader aspects considered while rating the infrastructure sector entities. The rating methodology also includes a rating of debt which has access to pooling of cashflows of SPVs; e.g., rating of SPV debt of an infrastructure investment trusts (InvITs) in conjunction with rating methodology for InvITs.

The rating methodologies for the project implementation phase and operational infrastructure entities are explained below.

## Rating methodology for project implementation phase:

The various risks which are assessed when the entity is under project implementation phase are as under:

### I. Sponsor's evaluation

- Ownership structure: SPVs are typically owned by a single owner/multiple owners or joint ventures. Hence, the ability of majority owner as well as other minority owners to complete the project, the potential for change in ownership, and undertakings or guarantees provided by each of these owners are assessed.
- Demonstrated track record: The track record of the sponsor entities in completing the infrastructure sector projects, particularly in the same segment, and the track record of supporting distressed projects in the past is evaluated.
- Rationale for setting up the project by the sponsor: The rationale for setting up the specific project is evaluated. It is generally assumed that the sponsor would extend support to the project if the same is strategically important to the sponsor. The same can also be assessed based on the management articulation and stated position by the sponsor on the project by way of shared brand, management, majority shareholding and strategic importance of the project in operations of other businesses, etc.

- **Current financial position:** The sponsor's current financial position is assessed to judge the ability to provide need-based support for timely completion of the project. The credit rating of sponsor, if any, is considered. The stated position of the sponsor on support as well as its track record of support is considered.
- **Technical strength:** The sponsor's past experience with the technology and similar projects that have been developed successfully are evaluated. In case of multiple sponsors, the role of each sponsor is examined. Some of the sponsors may be collaborating solely on the basis of technical capabilities rather than their financial strength. The underlying agreement/clauses on transfer of technology, exclusivity about technology, etc., are examined to understand likely operational and financial implications on the project.

## **II. Permitting and completion risk**

- **Geographical location of project:** Difficult geographical terrain may impose challenges in physical progress of the project. The same may also impact the cost of the project. Hence, CARE Ratings evaluates the location of project and its access to resources and mobilisation of resources.
- **Availability of land, water, construction equipment, skilled manpower:** For a greenfield project, it is important to ensure availability of all resources for smooth implementation, current status of land acquisition and likely obstacles in acquiring pending land for completing the project. For example, deforestation and environmental permits or rehabilitation issues could take a longer time. While greenfield project comes with cheaper access to land, it may require additional infrastructure for setting up the project. CARE Ratings evaluates whether resources like water and power are already available nearby or need to be obtained by way of setting up another linked project.
- **Permits and statutory clearances:** The availability of all permits, licenses, approvals and statutory clearances, including their status is evaluated. The main clearances which impact execution include, inter alia, land acquisition, water allocation, mining rights, pollution, environmental, etc.
- **Risk of time and cost overrun:** Infrastructure projects, especially the green field projects, face the risk of time and cost overrun mainly due to issues at any of the above two stages, i.e., statutory clearances and availability of resources. The same can impact viability and credit profile of the project significantly. CARE Ratings evaluates the mitigating factors built in to minimise the impact of such overrun. For example, inflation-linked cost escalations in a contract or sub-contracting to reputed entity at fixed price mitigates cost overrun risk to a larger extent.
- **Third-party risk assessment (Lender's Engineer, design consultants, etc.):** CARE Ratings relies on reports from third-party experts such as lenders' independent engineers (LE/ LIE), design consultants, traffic consultants etc., to judge technical viability of the project as well as status of project implementation during construction.
- **Extent of financial closure, tie-up of funds, proposed funding mix:** Cost of project and break-up, means of financing and break-up, adequacy of each of these, whether comparable to similar kinds of projects are evaluated.
- **Track record and reputation of contractor:** For construction of the infrastructure projects, contractors are engaged. CARE Ratings evaluates the experience of contractor in executing similar kind of projects. In addition, the credit quality of contractors is also generally assessed.
- **Physical status of project implementation, any pending issues:** The timely progress on construction based on envisaged milestones provides comfort. Any pending issues that may hamper the construction are analysed, and impact thereof is taken into consideration.

**III. Contractual risk assessment:**

CARE Ratings undertakes identification of various risks and mitigants in place through contractual arrangements. The extent of adequacy of risk allocation framework provides comfort to the overall credit profile of the project.

For certain sectors, viz., road, transmission, irrigation, etc., the project details are worked out by the Ministry sponsoring the project and the terms of concession are put forth by way of model concession agreements. These terms of concession broadly determine the allocation of key risks associated with the project. In its first step of evaluation, CARE Ratings examines these terms for the clarity of their definitions, their inherent risks, which are irrespective of the project developer and the rewards thereon. A concession agreement with well-defined terms and conditions, optimum risk allocation and suitable rewards for the risks allocated is considered as adequate/complete. For instance, in power projects, it is pertinent that the risks related to environmental clearances, forest clearances, resettlement and rehabilitation and off-take arrangements are well documented. In this context, the regulatory and legal environment and track record of various entities are taken into consideration.

For other aspects related to the infrastructure projects, various contracts are put in place, e.g., engineering procurement and construction (EPC) contract, operation & maintenance contract, etc., which are also examined in detail from the point of view of clarity and completeness. Furthermore, the credentials of equipment supplier are also evaluated. The presence of contracts in clear, comprehensive and enforceable terms provides comfort to the overall credit profile.

**IV. Revenue risk:**

CARE Ratings' analysis of revenue risk involves assessment of demand and price risk. Availability-based projects, such as annuity roads, transmission projects derive their revenue streams through contractual agreements with counterparties and are therefore less exposed to the demand and price risks, whereas projects with no contractual agreements (e.g., a power project which sells power on merchant basis) are exposed to the demand and price risks. In case of projects with high demand and price risks, CARE Ratings evaluates third-party reports such as traffic studies for transportation projects, resource assessment study for renewable energy projects, etc, to determine the adequacy of revenues/cashflows for servicing debt.

**V. Debt maturity and structural features:**

Shorter tenor loans may get exposed to the refinancing risks while longer tenor debt for similar kinds of leverage ratio may result in better debt service coverage ratios (DSCRs). For projects wherein ramp-up in operations takes time, a ballooning structure is preferable. Structural features, such as major maintenance reserve, inverter reserve and other liquidity support mechanisms, such as debt service reserve account (DSRA), etc, provide liquidity support. The presence of an escrow mechanism and/or Trust retention account (TRA), ring-fencing of cashflows and presence of trustee/signatory who effectively controls payments in a timely manner and monitors the structure related to payments provide support to the rating.

**VI. Financial risk:**

Cash flow analysis is given significant emphasis while rating the entities in the infrastructure segment. CARE Ratings evaluates stability of cashflows, profitability of project, leverage, including top-up loan, liquidity, debt service protection metrics and financial flexibility while rating projects in the infrastructure segment. In debt protection metrics, one of the key ratios to determine repayment capacity, i.e., debt

service coverage ratio (DSCR) is calculated under base case scenarios as well as under stress scenarios. The project report prepared by independent engineers provides other financial indicators like IRR and Payback period of the project, which reflect project's financial viability. For projects exposed to the refinancing risk, CARE Ratings examines the availability of tail period to take a view on the refinancing ability of the projects. CARE Ratings also factors in the financial flexibility of a project, which is determined by the availability of surplus cash flows over the tenor of the concession/PPA, which influences the bankability of the asset. Between two regulated assets having similar DSCRs, the asset having a materially longer tail period will have a relatively superior financial flexibility.

### Rating methodology for operational phase projects:

The various risks assessed when the entity is under operational phase are as under:

- I. **Contractual arrangement, risk allocation:** The regulatory environment and the legal factors impacting the operations of the project are identified and analysed. The identification of risks involved over project life and mitigation thereof through various contractual arrangements are analysed. The risk allocations through penalty payments, retentions and liquidated damages if the project is not completed within the budgeted cost, time and performance guarantees to adhere to performance standards are evaluated. The comprehensiveness and enforceability of the relevant project-related contracts are examined; e.g., concession agreement, O&M, raw material and utilities supply, off-take arrangement, etc. The provisions in respect of force majeure, provisions in respect of financial implications of liquidated damages, whether the same are balanced/ proportionate for various parties to the project are evaluated.
  
- II. **Business risk:** While analysing business risk, the following aspects are covered.
  - **Pricing risk:** Due to contractual or regulator-driven pricing, infrastructure projects may have very low pricing flexibility. The mechanism for arriving at pricing is evaluated.
  - **Demand risk:** Usually the demand risk is also low for availability-based infrastructure projects. For projects which are exposed to the demand risk, CARE Ratings examines data pertaining to consumption to understand any major deviations from the original assumptions considered during construction stage, which are based on third-party studies; e.g., number of units supplied to off-taker of power, actual traffic on the toll road, etc.
  - **Counterparty risk:** The long-term contracts ensure offtake; however, the ability to make timely payments assumes paramount importance.
  - **Raw material/fuel supply:** The arrangement of procurement of raw material, its pricing and its impact on realisations are examined. Cost structures, the ability to pass on increase in the input costs are evaluated.
  - **O&M arrangements:** CARE Ratings views fixed-price contracts for O&M favourably. The profile of O&M contractor is also kept in view and its credit rating if available is considered.
  
- III. **Financial risk:** For operational projects, cash flow adequacy and financial flexibility are important financial parameters, which are being evaluated. Any refinance risk is analysed in relation to the overall debt profile and the future earning capacity of the asset at the time of refinancing. Some key financial aspects considered include cash flow, DSCR/ cash coverage ratio, waterfall arrangements, etc. The financial and operational covenants stipulated in financing agreements are evaluated. The analysis of financial risk also covers forex and interest rate risk. Generally, the cash inflows of a project are denominated in the domestic currency, whereas if the repayment obligations are in a foreign currency and are unhedged either fully or partly, it exposes the project to forex-related risks. CARE Ratings views the entities more favourably

wherein the hedging is adequate. Furthermore, sensitivity of the project cash flows to change in interest rate is also evaluated.

- IV. **Management risk:** CARE Ratings evaluates management's risk appetite, competence, their active involvement in managing operations of the project and integrity of the promoters. Especially for such sectors, where performance can be affected due to disruptions in factors beyond management control like fuel supply, wind pattern, non-availability of transmission network, etc., the cash flows may require support from the promoters. The various aspects considered are financial position of the sponsors, continued strategic importance of project for the group, management experience in handling similar kinds of projects, etc.

**Analysis of environmental, social and governance risk factors:**

Over the last few years, environmental, social and governance (ESG) risks have started gaining importance across the globe and are increasingly influencing investment decisions. The companies may have to incur operational or capital costs towards mitigating these risks. CARE Ratings analyses the impact of ESG risks on the credit profile of an entity by assessing the expected impact of these costs on the future earnings/revenue/cash flows of the entities.

The considerations with respect to ESG aspects are an integral part of assessing credit risk and get addressed under various parameters wherever relevant. For example, the environmental risk is factored in credit risk assessment of polluting sectors wherein the expected cost to be incurred towards mitigants in the form of pollution control certifications, effluent treatment measures, etc., and the impact of those on future cash flows is evaluated. This apart other environment issues specific to infrastructure project, viz., tree felling, dredging, etc., are also considered. Furthermore, CARE Ratings also analyses the various aspects related to environmental and forest clearance including issues faced in getting such clearances or delays in receipt of such clearances.

In terms of social risk, infrastructure companies require large tract of land along with Right of Way (RoW) and Right of Use (RoU) approvals to lay necessary infrastructure, thus exposing them to social risk. The issues would be around resettlement and rehabilitation (R&R) or compensation on land acquisition between the infrastructure companies and affected parties/land owners. Effective management of social risk through the smooth settlement of issues with locals during land acquisition, and RoW / RoU approvals are factored in the analysis. Further, some of the subsegments of infrastructure sector are labour intensive, and hence, evaluation of the social risk also involves the analysis of various measures adopted by the entity to manage labour relationships.

Governance risk in a corporate is determined by a host of factors, which includes and is not limited to the following, viz., financial reporting, corporate practices, adherence to code of conduct, board composition, whistle-blower policies, investor relations, etc. CARE Ratings tries to develop a thorough assessment about the governance standards of the company being evaluated based on the information that is available. From the standpoint of corporate governance, CARE Ratings also generally analyses the board composition and degree of compliance with various regulations. The quality of financial reporting and adequacy of disclosures among others are also evaluated.

CARE Ratings' adoption of a distinctive rating methodology for ISR enables the investors/ issuers/ regulators to gather a better perspective on the attributes of the rated entity. The rating determination is a matter of experience and holistic judgement of the Rating Committee, based on the relevant quantitative and qualitative factors affecting the credit quality of the issuer.

**[For the previous version, please refer to "Rating Methodology - Infrastructure Sector Ratings (ISR)" issued in [March 2021](#)]**

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### About:

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