CARE Ratings
Professional Risk Opinion

Ratings Perspective

March 2015

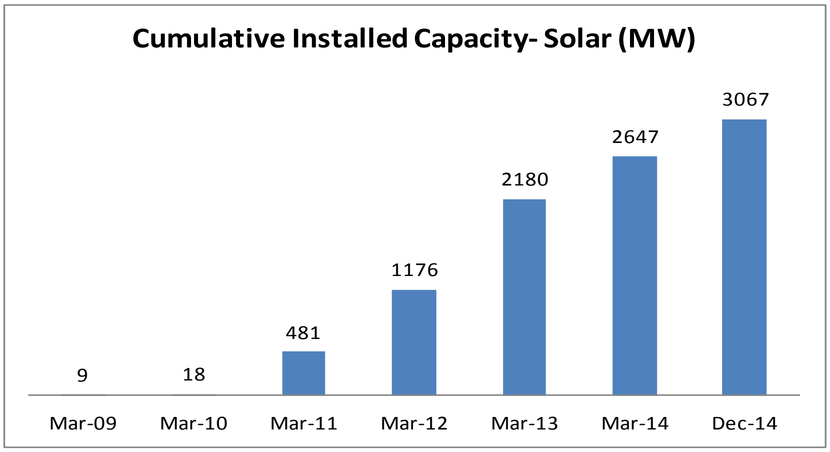
Sunny outlook for solar generators; counterparty risk a dark cloud: CARE Ratings

CARE Ratings expects its ratings on grid connected solar players to remain stable on back of conducive policy framework, satisfactory operating levels and reducing gap in tariff compared with conventional sources. Counterparty risk remains a key rating challenge. Going forward, CARE Ratings believes, by 2017-2018 solar tariffs will converge with grid tariffs leading to proliferation of solar-based capacity across various states. This shall bring off-taker-related risks much sharply into play.

While arriving at the ratings for the solar players, key factors that drive the rating decision are regulatory framework, operating performance, counterparty risk and adequacy of cash flows in relation to the borrowings. CARE has ratings outstanding on 27 solar players as on December 31, 2014. This paper delineates CARE's experience on each of these issues.

Abundance of solar irradiation; India a blessed topography

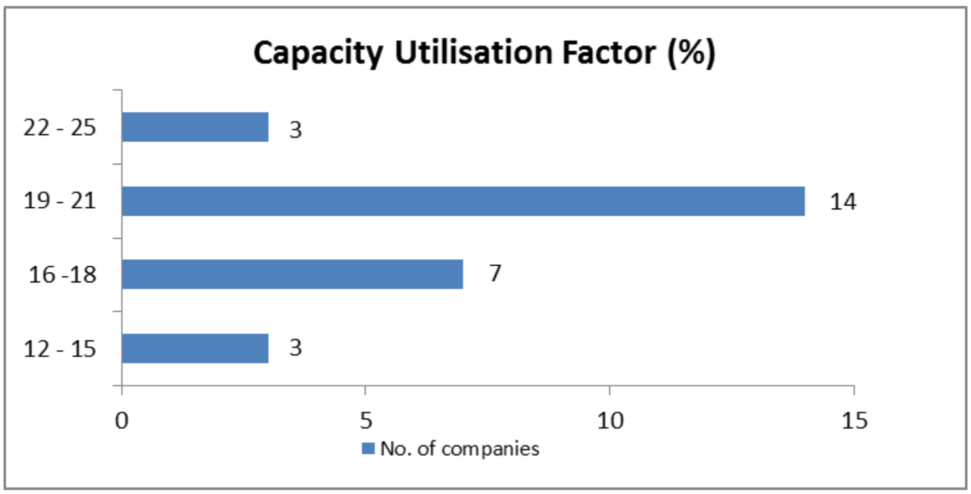
India is an attractive geography for harnessing solar energy. Solar radiation is around 5,000 trillion kWh per annum and most parts of the country enjoy 300 clear sunny days a year. The power generation capacity based on solar has witnessed a significant jump in the last few years and crossed the 3,067 mega-watt (MW) mark as on December 31, 2014, due to policy push by both central and state governments such as National Solar Mission (NSM) and various state initiatives. Of the total installed renewable capacity of 33,792 MW as on December 31, 2014, solar-based capacity contributes about 9%, which few years back was less than 1%, clearly demonstrating the increased focus for this widely available source of power. Ministry of New and Renewable Energy (MNRE) has unveiled an ambitious plan for increasing the country's solar capacity, setting a target of 10,000 MW by 2017 and 100,000 MW by 2022.



Source: MNRE

Satisfactory operating parameters; track record relatively short

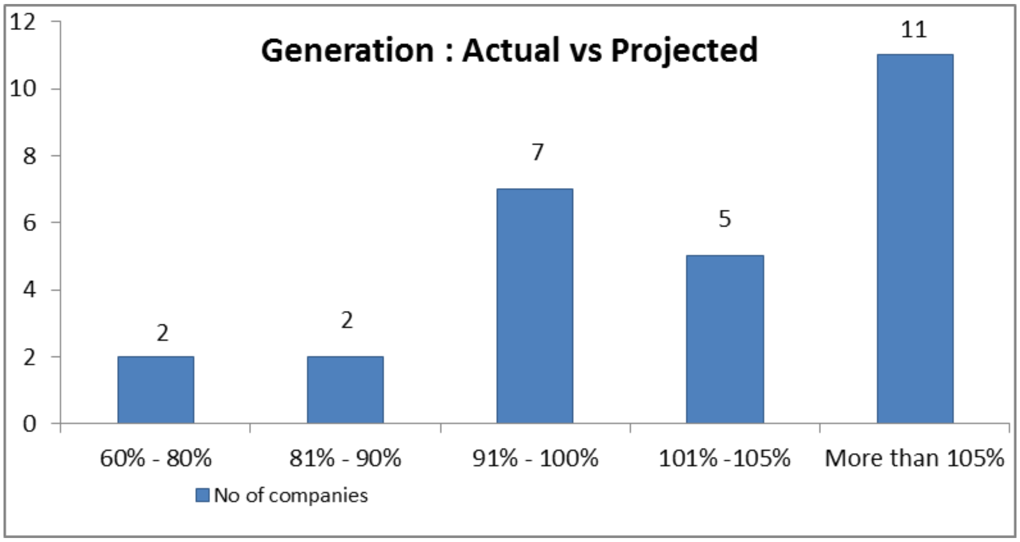
Majority of the CARE-rated entities have registered satisfactory operating levels with median capacity utilisation factor (CUF) level of 18.92%, based on the operational data for FY14 (refers to the period April 1 to March 31) and a sample of 27 projects. Detailed irradiation analysis along with careful selection of technology and optimisation of system design has played a critical role in achieving the envisaged operating levels. The track record of utility scale solar projects in the country still remains short (of about 36 months), and going forward, the ability of the projects to maintain the operating performance remains critical for achieving the expected debt coverage indicators.



Source: CARE Ratings

As the concessions entered into are for long term (in excess of 15 years), the projects are required to sustain the operating performance over a long period of time. This necessitates the sourcing of equipment from reputed (tier-1) suppliers and performance warranties backed by adequate security mechanism in the form of bank guarantees or insurance policy for major components such as modules and invertors. Entities who have addressed these issues are considered favourably from the rating perspective.

The actual generation vis-à-vis the projected generation levels for few of the rated entities remained on the lower side due to project site-specific issues and stabilisation-related issues.



Source: CARE Ratings

Credit worthiness of counter-party remains a key credit consideration

Currently, a large proportion of CARE-rated solar projects have relatively stronger counter-parties, viz, Gujarat Urja Vikas Nigam Ltd. (GUVNL, rated 'CARE A / CARE A1'), NTPC Vidyut Vyapar Nigam Ltd. (NVVN), and the same is also reflected in timely receipt of payments. In case of relatively weak counter-parties, their credit rating is a tempering factor.

Counterparty	**No. of companies**	**Highest and lowest rating**
Gujarat Urja Vikas Nigam Ltd. (GUVNL)	12	CARE A-/CARE BB+
NTPC Vidyut Vyapar Nigam Ltd.	7	CARE A-/CARE BB+
Others	8	CARE BBB/CARE BB-
Total	**27**	

As solar power generation capacity spreads out to other states, where the off-taker credit quality could be significantly low on the rating spectrum, ratings will remain muted.

Cash flow adequacy and debt coverage parameters

Over the last few years, overall capital cost for grid scale power projects based on photovoltaic (PV) technology has reduced from Rs.15 crore per MW (USD 2.5 million) to Rs.7-8 crore per MW (USD 1.2-1.3 million) and similar reduction has been witnessed in tariff rates. Due to dynamic situation, it is difficult to benchmark the project cost and rather more important parameter to observe is the debt service coverage indicators across the rated entities.

To take advantage of the lower interest rates, many a projects have relied upon medium-term funding arrangement in the form of buyers credit denominated in US dollars. However, the rupee-dollar exchange rate moved adversely and the rupee depreciated by about 35% from INR 45 to a US dollar in September 2010 to INR 61 to a US dollar in December 2014. As this exposure was not fully hedged, it is likely to adversely impact the project returns. Furthermore, these projects would continue to be exposed to interest rate risk as about 70% of project cost is funded with debt which has interest cost which is floating in nature. While majority of the projects achieved a Debt Service Coverage Ratio (DSCR) of more than 1.15 times in FY14, for few of the projects the DSCR was low (<1.15) due to lower generation and also due to forex loss on buyer's credit.

DSCR (for FY14)	**No. of companies**	**Rating band**
Above 1.2 times	18	BBB+ and above
1 to 1.15 times	7	BBB- to BBB
Below 1 times	2	Sub Investment grade
Total	**27**	

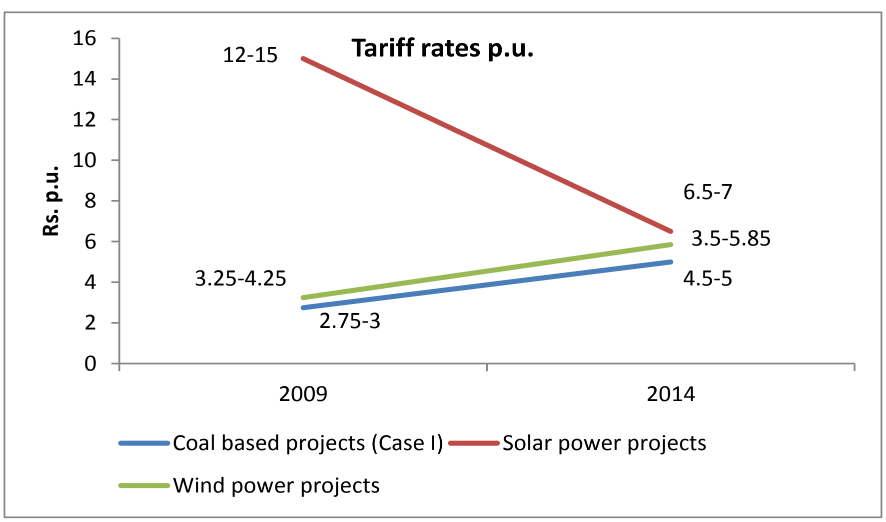
Majority of project SPVs rated by CARE are funded on a project finance basis. As a result, such ratings are primarily driven by adequacy and stability of cash flows vis-à-vis the debt servicing obligations. Nonetheless, strong promoter group with an established track record and financial resourcefulness are some of the parameters that are given due consideration.

Continued regulatory certainty a necessity for stable ratings

Considering the relatively high tariff levels needed for viabilty of solar projects, the regulatory framework and stable policies are key parameters for protecting the interest of various stakeholders. The policies under national solar mission and various state policies have tried to address some of the key risks faced by developers such as availability of approvals in a timely manner, land acquisition-related issues allocation of funds to meet the VGF requirments and mechanism to address the counter-party-related risks.

Considering that the tariff is relatively high due to high capital cost; these projects necessarily have to sell power to distribution entities and as such the regulatory framework and implementation of renewable purchase obligations (RPO) remains a crucial parameter. While majority of state electricity regulators have announced RPO levels that varies from 0.25-1.5% of total energy procurement; the track record of implementation and compliance with these guidelines is weak.

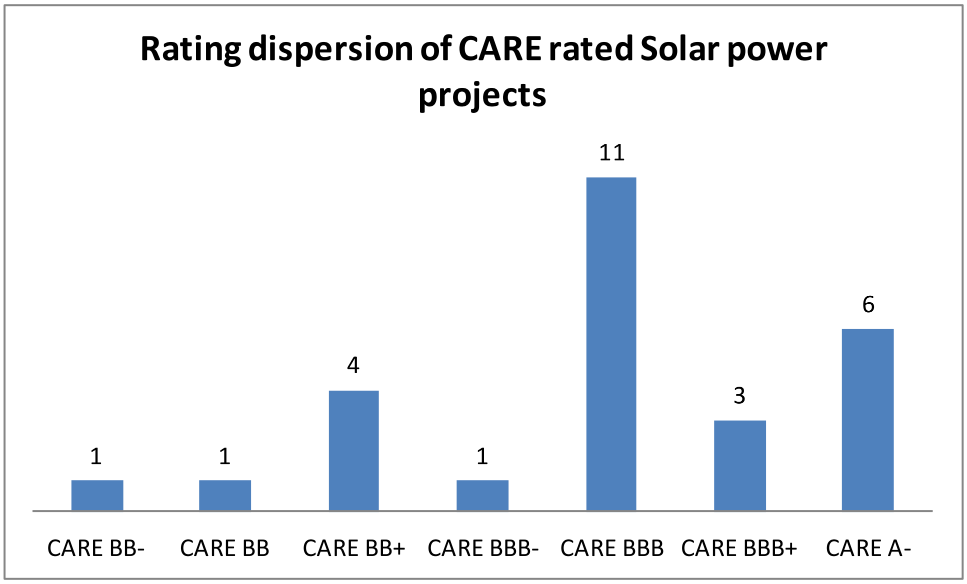
The gap between the tariff quoted by solar project and conventional thermal power project has over a period of time reduced and in CARE's opinion the same would result into less reliance on favourable regulations in future.



Source: CARE Ratings

Rating dispersion

CARE has outstanding ratings (as on Dec 31^{st}, 2014) on 27 grid connected solar power projects with aggregate installed capacity of 536 MW which represents about 18% of total installed capacity in the country. Rating dispersion is indicated below:



Source: CARE Ratings

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