

# Solar finance in India feels the squeeze

**Finance** | Cutthroat pricing in India's booming solar market is causing headaches for developers. Tom Kenning reports on some of the looming pinch points for solar finance in a country where the cost of capital remains persistently high



Credit: IBC Solar

Solar tenders are flying out rapidly across India and a formidable pipeline of more than 20GW of PV marks a thriving utility-scale sector. However, raising finance for solar projects remains an area of concern as lenders ruminate over low tariffs and tight margins, while developers face up to the high cost of capital from domestic banks.

At the recent Green Infrastructure and Investment Coalition (GIIC) event in London, the first secretary of the High Commission of India, Ajungla Jamir claimed: "India is now the most open economy in the world in terms of foreign direct investment."

It is a strong sentiment, but a question mark remains over whether the country will be able to attract the US\$100 billion necessary to achieve its solar goals by 2022. Even Tarun Kapoor, joint secretary of the Ministry of New and Renewable Energy (MNRE), says that one of the major challenges is getting finance in this sector, not to mention the added expense of a multi-billion dollar upgrade of the country's transmission network. The southern state of Tamil Nadu recently became the first state to experience curtailment of electricity from solar sources due to inadequate grid capacity and comparatively high solar tariffs. Therefore, overlooking the transmission sector would only be to the detriment of the PV industry.

The World Bank's recent announcement of a US\$1 billion loan for Indian solar in the financial year 2017 – the bank's largest

ever solar loan – was a significant boon. However, several major power firms with deep pockets have already entered the Indian market over the last year. It is the equity capital being invested by these global outfits such as Fortum, Energie, EDF EN, Enel, Skypower, Hanwha, Foxconn and Softbank, that will really leverage the World Bank's commitment into the US\$100 billion that India needs, claims Tim Buckley, director of energy finance studies, Australasia, at the Institute of Energy Economics and Financial Analysis (IEEFA).

To date, around half the capital investment has come from Indian firms, adds Buckley, with bulky solar investments from utility NTPC, Coal India, India Railways, Tata Group, Adani Group, Reliance Power and Renew Power among others.

## Sub-5 rupee tariffs

Nonetheless, lenders are still stalling over the continuation of aggressive bidding in the solar auctions, with tariffs often well below the INR5/kWh (US\$0.074) mark.

Consultancy firm Mercom Capital Group's latest quarterly India solar market report said: "Some banks are comfortable lending at INR4.5-5 (~US\$0.066-0.074) tariff levels as long as they are confident in developers' experience, capacity to execute and ability to repay debt."

This would support speculation within the Indian solar industry that an overseas investor has now successfully financed a

## India's highly competitive solar market is putting pressure on developers to finance projects

project won with a sub-5 rupee tariff and is moving forward. This development would have been recent, since consultancy firm Bridge to India reported in April that no project with a tariff under five rupees had yet obtained financing.

Even so, the bidding makes it tough for smaller firms to get a foot in the door, particularly with the aggressive timetable to reach commissioning after PPAs have been signed.

"As long as we are seeing these record drops [in tariffs], it makes it very hard for a new developer to come into the market," says Brian O'Hanlon, director of business development, renewable and clean energy group, Overseas Private Investment Corporation (OPIC). "You really have to back these bids with a large balance sheet or some very deep and low-cost sources of financing, which not everyone is going to be able to have. As a developer you face either a choice of being overly ambitious and not being able to meet those commitments or just not being able to compete."

## Margins

Such low tariffs also means incredibly tight margins, which has led to Mercom reporting that banks are concerned about developers not disclosing actual margins to lenders. In a telling figure, Mercom found a difference of INR5-10 million (~US\$0.07-0.15 million) between project cost estimates from banks and those of developers. Banks clearly feel developers are being too optimistic and they want to witness successful financial closings for these low-bid projects before venturing in. On the other hand, according to Mercom, developers see the banks as out of touch with realities on the ground.

Some commentators are also suspicious over what such low tariffs are driven by. O'Hanlon says: "Pricing is really going to be driven by your cost of EPC and your cost of financing, so I don't know if there is some

secret source that some of these players have found that is going to be able to achieve financing.”

“If you talk about all these low bids, they have come from big players; they have not come from small players. They are rich in equities and have access to different types of capital,” adds Sunil Singh, chief executive of Indian energy firm OPG Power. “I believe in India they must be facing problems but the project timeline is 18 months from time of bid. So there is lot of pushing in terms of price reduction. But yes, being a small player you could run into problems with low bids.”

Many bids are based on an anticipated drop in module prices over time, adds Singh, but if the module prices remain static then the developer is caught out and the banks become more sceptical. However, new technologies such as trackers, which can increase energy output by roughly 20% while only increasing costs by just 10%, may come to aid developers in this respect, adds Singh.

Moreover, expectations of an oversupply of Chinese-made modules in the second half of 2016 will also come as welcome news to aggressive bidders. In a rush to add

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capacity ahead of feed-in tariff changes on 30 June, China added 7GW in the first half of the year, leaving a hole in Chinese demand for the rest of 2016.

As a result, Bridge to India expects tier-one module prices to fall to INR27.50/Wp (US\$0.41) for shipments in Q1 2017, a significant decline of almost 10% in less than a year. It so happens that the first quarter of 2017 is also expected see India’s largest ever capacity additions of roughly 2GW.

But again, some of the bigger firms have access to financing that may reduce the importance of such price fluctuations. For example, recent media reports quoted a director of Finnish company Fortum claiming that the firm will be self-financing the 70MW of solar it won at a price of just INR4.34/kWh in Rajasthan in a move that sidesteps the need to convince domestic banks over adequate project returns.

**Non-performing assets**

The major concerns from an investment perspective can be split into three, says Abid Kazim, UK managing director of investment and asset management firm NextEnergy Capital. The first and largest concern is “the hype” where all players start running in the same direction with ill-thought-out bids. This is directly followed by the second concern, which is the potential poor quality of assets on the back of this hype.

“The third thing is behaviour – the so-called ‘race to the bottom’ to build at the lowest PPA,” adds Kazim. “This then leads to 30% of assets being non-performing and this is where equity has to take a backseat. India is not a unique model. Every country needs international global equity; India is no exception.”

Several commentators agreed that instances of non-performing assets (NPAs) makes banks immediately become more risk averse, so it is in the best interests of the industry to avoid any such instances.

**India’s banks**

Indian banking at large is experiencing certain challenges, which could make borrowing more difficult in the short term,



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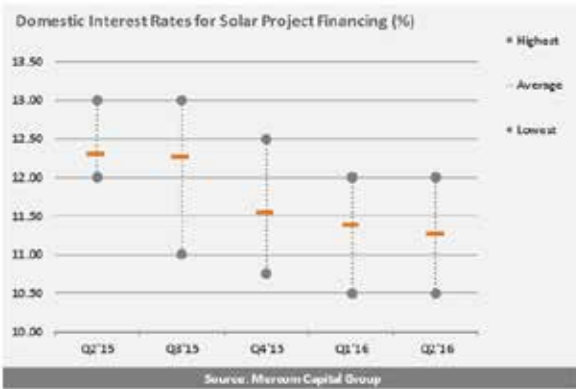


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Source: Mercom Capital



**Table 1. Western PV developers are not used to the high costs of capital seen in the Indian market**

says the Mercom report. Banks are hesitant to take on any debt considered risky, especially with the low solar bids.

A key challenge for the Indian solar sector is that the banking system is not as well developed as in other countries, particularly Europe where many players are used to operating, says Bob Smith, executive vice president and head of asset management at Mytrah Energy. The Indian banking system is often slower and can be risk averse to the point where it won't lend such large chunks of cash to individual projects as perhaps developers are used to in Europe. Thus developers end up with much more syndicated debt, which is more complicated to put together and again takes longer.

Smith says it pays to have spent time in India already and treating solar forays as long-term and local ventures in order to start receiving more innovative financing solutions. It is even possible to get "quite impressive debt structures" if the developer has been in India for some time.

**Cost of capital**

Perhaps the first issue confronting anyone looking to raise finance within India is the cost of capital, which at around the 11-12% mark still remains staggeringly high compared to established European banking systems (see Table 1).

"While getting investment into the country is a challenge, getting it at the right cost is the real challenge because renew-

Year	Solar debt and equity finance, US\$ (billion)
2011	12.5
2012	7.5
2013	6.1
2014	6.8
2015	8.6

Source: BNEF

**Table 2. Renewables investment in India is rising again**

able energy is totally capital intensive," says Tarun Kapoor. "If we are able to reduce the cost of capital we can reduce the tariffs and we can make it close to grid parity."

As part of the MNRE, Kapoor is clearly focusing on offering the best scenario to the consumer, which is the lowest price of electricity possible and grid parity. Whereas developers have to battle with tight margins and these steep interest rates in any scenario so as to generate a sustainable return from their projects.

There has been an increase in asset finance debt and equity coming into India's renewable projects during 2015, according to Bloomberg New Energy Finance (BNEF) figures:

"We are on a positive trajectory, and now dollars yield a much greater capacity of megawatts than five years ago," says Ashish Sethia, regional head, South and Southeast Asia, BNEF. India has one of the lowest capital costs in the world for building solar projects, in fact even slightly lower than China as far as we are concerned and power yield is fairly high, but the issue is our cost of financing still is extremely high."

A second issue, quite unique to India, is the ailing financial health of its distribution companies (Discoms), which can compromise the security of payments coming to solar developers. First instances of minor delays in payments have hit Rajasthan of late and this threat needs to be diminished to attract foreign investment. The government's UDAY scheme is in the process of trying to alleviate the ballooning debts of the Discoms.

"Banks are still waiting to see the impact of UDAY," says the Mercom report. "They recognise that it may solve short-term liquidity issues, but are unsure if Discoms will start accumulating debt again."

Meanwhile O'Hanlon says that if there was one thing to fix that would offer a major boon in financing the whole sector, it would be the Discom's own financial health.

The challenges are many, but reports of certain projects with sub-five rupee tariffs moving ahead will give confidence to bullish developers. Bankrupt SunEdison's Indian projects remain in limbo at the time of writing, although its demise cannot be blamed on its India tactics but rather on its wider global strategy. If the Indian solar sector can ride those particular choppy waters and still deliver most of its other projects won in aggressive auctions in the coming year, then the finance community will surely look favourably upon the region's massive solar endeavours.

The World Bank's largest ever solar loan



The World Bank announced a ground-breaking US\$1 billion loan for Indian solar in June. This includes US\$625 million for solar rooftop and US\$200 million for supporting internal infrastructure in solar parks. Another US\$200 million will be available for large-scale solar projects and innovation with wind and storage hybrids to be implemented by the Solar Energy Corporation of India (SECI). Another loan will be for state-owned transmission and utilities firm Power Grid Corporation to help support transmission from solar parks.

IEEFA's Tim Buckley explains the loan: "In India's case, private corporate capital has been moving rapidly already over the last 18 to 24 months, so this World Bank move is another endorsement and follow-on to help upscale the solar efforts and maintain momentum."

"Renewable investments require significant upfront debt and equity capital, so there is also a role in recycling capital for early movers and solar project developers once a project has been de-risked. By on-selling the finished and operating projects, this not only allows the developer to redeploy their limited capital to new projects, but it also validates the value creation process and encourages the banks who witness the development of a secondary capital market."

GST Bill



One concern hovering over Indian solar developers is the impending Goods and Services Tax Bill (GST). The GST, which has been in discussion in parliament for a protracted period, seeks to address the issue of complex indirect tax discrepancies between central and state government and to stop issues such as tax on tax for all kinds of industries.

However, minister of power, coal, new and renewable energy and mines Piyush Goyal (pictured) reportedly does not want to exempt renewable energy imports from the GST, in a bid to support domestic manufacturers. This comes in spite of an MNRE report, which found that the implementation of the tax would increase the levelised tariff and the cost of setting up and operating grid-connected solar PV projects by between 12-16% and increase costs for off-grid solar by 16-20%.

With some developers waiting for module prices to come down, this will only add to their and the banking community's worries.