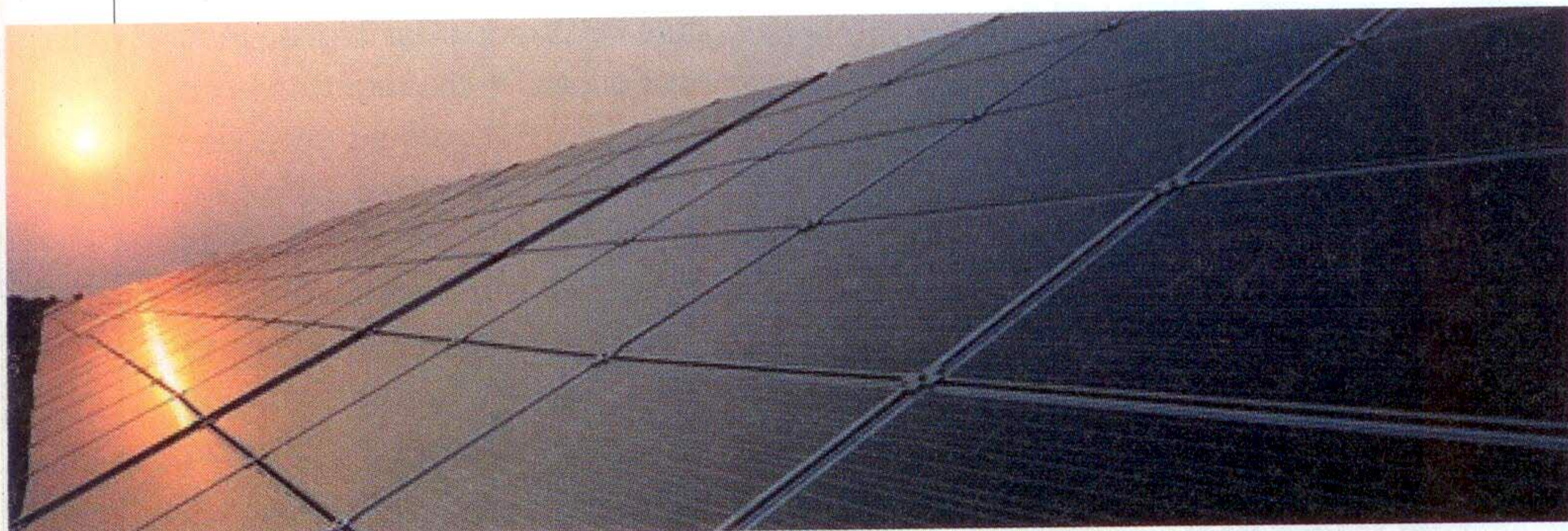


Lanco Solar

Integrated business development strategy

By Dolly Khattar



Lanco Solar marked its entry into the solar power market with the commissioning of a 5 MW solar photovoltaic (PV) project in Gujarat in December 2010. The company is set for a strong run with 140 MW of solar power projects at various stages of execution.

A spin-off from the \$3.3 billion Lanco Group, which is known for its integrated business development strategy, the solar power developer has decided to follow in the footsteps of its parent company. As part of its Sand to Power strategy, the company intends to "integrate the entire solar value chain in India with a presence from polysilicon to wafer to module manufacturing and by undertaking project development, engineering, procurement and construction (EPC), and operation and maintenance services," says V. Saibaba, chief executive officer, Lanco Solar.

Solar foray

With 2,092 MW of power projects under operation, 7,153 MW under construction, and 11,070 MW of projects under development, Lanco Infratech is today amongst the top three private power developers in the country.

Lanco began to focus on the solar busi-

ness about two and a half years ago. "We realised that the solar power space offers a great opportunity and decided to plunge into this industry," recalls Saibaba. The company went on to study the global markets in terms of the key trends and potential, the various technologies available for solar power development, and the cost structure for these technologies. "While the cost of implementing solar projects seemed very high at that time, our belief was that with technological advancements and economies of scale, there is no reason why these expenses would not come down," he points out.

With that belief, Lanco Solar was incorporated in 2008 as a separate company. In line with its integrated approach, five business units have been set up under Lanco Solar. One of these is core project develop-

ment, under which it has already tapped several project development opportunities through various central and state-level schemes. The other four business units are EPC, global services, manufacturing and other products (rooftops, etc.).

Project pipeline

Lanco Solar has lined up an impressive number of solar projects across the solar value chain. The company has signed power purchase agreements (PPAs) with Gujarat Urja Vikas Nigam Limited (GUVNL) for 35 MW of solar PV projects under the state policy. Of this, 5 MW has already been commissioned while the remaining 30 MW is likely to be commissioned by September 2011.

Further, the company has signed PPAs for 100 MW of solar thermal and 5 MW of solar PV under the Phase I bidding process of the Jawaharlal Nehru National Solar Mission (JNNSM) in Rajasthan. The company expects to fund its entire future project pipeline through the project financing route.

Lanco Solar also seems set to take rapid strides in small-scale solar project development. The developer has signed a PPA for 1 MW capacity under the Rooftop PV and Small Solar Power Generation Programme of the JNNSM and has been selected as a turnkey EPC contractor for rooftop PV projects such as the 80 kWp project on the Parliament premises and the 100 kWp project at Science City, Punjab.

Another area which has substantial solar power potential, according to Saibaba, is the telecom sector. "There is 3 GW to 3.5

5 MW solar farm in Gujarat

Spread across 27 acres of land in Bhadrada, Lanco's 5 MW solar PV farm has been set up using crystalline silicon technology. The company has used fixed tilt mounting structures to install the panels. The multi-crystalline modules, which have a rated capacity of 230 Wp and an efficiency of 14.1 per cent, generate DC output. DC current is then fed into four containerised inverters spread across the solar panel field. This AC output is fed to a 11/66 kV switchyard, which, in turn, is connected to Getco's Bhadrada 66/11 kV substation. The entire power offtake is carried out by GUVNL as per tariff rates approved by the Gujarat Electricity Regulatory Commission.

Projects signed under various policies

Policy	Technology	Capacity (MW)	Tariff (Rs per unit)	Project cost (Rs million)	PPA duration (years)	Location	Status
Gujarat Policy	PV (crystalline)	35	15 for 12 years; 5 for the next 13 years	5,600	25	Gujarat	5 MW commissioned; 30 MW expected to be commissioned by September 2011
JNNSM	PV (crystalline)	5	11.50	823	25	Rajasthan	To be commissioned in 2011
JNNSM	Thermal (parabolic trough)	100	10.50	18,000	25	Rajasthan	Land, power evacuation clearance and water allotment in place; expected to be commissioned in May 2013
RPSSGP	PV (crystalline)	1	16.50	170	25	Rajasthan	To be commissioned in 2011
Total	-	141	-	6,590	-		

GW potential for solar power in the Indian telecom space. There are many regions in India where solar can completely replace diesel-based power generation," he says.

Tapping the EPC potential

Assuming that solar power will be a 1 GW market, the company believes that a huge EPC market opportunity exists in the solar power space. "Today, solar is a very fragmented market, with more than 130 developers having signed PPAs for 1,150 MW. More than 90 per cent of these developers do not have in-house EPC capability," points out Saibaba. With only a handful of qualified EPC players currently in the market, the space is clearly favourable to competition. Lanco expects that this segment will generate revenues worth Rs 25 billion-Rs 30 billion in 2011-12.

Manufacturing plans

As part of its integrated approach, Lanco has recently declared plans of investing Rs 30 billion to set up a solar PV manufacturing special economic zone (SEZ) in over 250 acres at Rajnandgaon, Raipur, in Chhattisgarh. To be developed in two phases, it will have integrated facilities for manufacturing polysilicon, ingots, wafers, PV cells and PV modules with capacities of about 250 MW per year. Lanco aims to meet 15 per cent of the domestic demand for solar energy equipment from the SEZ.

Phase I of the project, which is estimated to be set up at a capex of Rs 13.7 billion, will be fully operational by 2012. "Due to the promising domestic demand and mandatory local content requirement under Phase

I of the JNNSM, module-line plans have been advanced," says Saibaba. Its module manufacturing unit of 50 MW capacity will be commissioned in April 2011 while the polysilicon (1,250 million tonne [mt] capacity) and wafer (80 MW capacity) manufacturing facilities are expected to be operational in the second half of 2012. The company expects the domestic polysilicon market demand to cross 7,500 mt over the next three to four years.

As far as financing is concerned, the first phase is being funded through a 70:30 debt-equity ratio. Financial closure has been achieved with Axis Bank as the lead banker for funding the project. The second phase of the manufacturing unit is likely to be commissioned by 2014.

Global arena

The company has commenced project development activities in the international arena from its corporate office based in London. It has also set up offices across Germany, France, Italy, Spain, the US and Canada. Lanco Solar is developing solar power plants and providing turnkey EPC services in these countries. The first few projects in Europe are expected to be commissioned by April 2011.

Concerns

According to Saibaba, the key challenges faced by any major solar project proponent in the country include the lack of adequate ground-mounted insolation measurement systems in the country (which affects generation assessment), lack of availability of solar power equipment com-

ponents in the domestic market, as well as the high cost of procuring finance.

Backed by a business conglomerate like Lanco Infratech, financing does not seem to be a major concern for Lanco Solar. However, Saibaba believes that a key cause of concern for solar power developers is the high interest rates currently prevailing in the country. "The short debt tenor, ranging from eight to 10 years, also puts considerable strain on project cash flows during the initial years, in maintaining the debt service coverage required under the project financing route," he adds.

Another cause of concern is that unlike the prevailing tariffs for conventional power projects and those based on non-solar renewable energy, the tariff of solar projects is considerably higher at this nascent stage of development. "This leaves little room for developers to opt for third-party sale of power from these projects in the event of utility payment default," points out Saibaba. A key bottleneck in setting up grid-connected solar plants is the availability of suitable land and evacuation infrastructure in a timely manner.

Conclusion

With an end-to-end business model spanning solar power generation, project execution and development, EPC services and equipment manufacturing, Lanco seems to be paving the way to deliver robust growth in the future. Given Lanco's expertise in the power space and strong financial backing, the company seems set to achieve its aggressive targets. ■

Views of Lanco Solar's V. Saibaba

"There is a massive opportunity in the solar space"

What are some of the key trends in the solar power development space?

The cost of developing solar projects has come down considerably over the past few years. Moreover, global trends indicate that solar tariffs are also coming on par with grid power tariffs. So, it will not be very long before solar power is at parity with the grid.

Many countries like Italy and the US (California) have already reached grid parity. In another one and a half years, solar power generation in these countries may be cheaper than its purchase price through the grid. When that happens, it is going to create new dynamics altogether.

For India to reach that level, action needs to be taken on the manufacturing front, which needs a substantial boost. The potential for solar power development itself needs to be enhanced. Every house could have its own individual plant. Constraints like grid infrastructure can be overcome if solar is taken to the level where its cost becomes reasonable.

What are the key challenges faced by solar developers in India?

The challenges are twofold. The first is the high cost of solar power generation, compared to other renewable sources of energy. The second challenge lies in the lack of adequate domestic manufacturing. In order to attract manufacturing companies, the cost structure has to be globally competitive. Interstate levies are also very high in India (ranging from 11.5 per cent to 13 per cent).

What technology has Lanco chosen for its photovoltaic (PV) and thermal projects?

For its currently lined-up projects, Lanco Solar has chosen to go with crystalline silicon technology. However, being technolo-

gy agnostic, we continue to look at thin film technology as well. On the thermal side, we are building a 100 MW solar plant under the National Solar Mission, using parabolic trough technology.

What is the opportunity for solar thermal in India?

With the advancements in solar technology, solar thermal power generation presents huge potential. Using solar thermal technology, one can capture solar energy, store it, use the heat to continue running turbines even during non-solar hours, and be a baseload plant. With the kind of land and opportunities that states like Rajasthan and Gujarat offer, a large amount of power needs can be met through solar thermal energy. The opportunity for cost reduction in solar thermal is also large.

What are the company's plans and targets?

Lanco Solar plans to set up 500 MW solar power plants over the next four years under its own project portfolio and turnkey EPC services to other developers; and emerge as a leading developer and EPC contractor in the country and globally.

To facilitate its growth strategy, Lanco has opened offices in eight states across India. It has also commenced project development activities in the international arena from its London office. The company is currently working on installing two projects, one each in Italy and Spain, and a development pipeline of about 20 MW.

How is the global foray panning out?

We are almost at the final stage of tying up with the technology vendor in Spain. We think there is a massive opportunity in the solar space globally, for both project



V. Saibaba, CEO,
Lanco Solar

developers and EPC players. Lanco is focusing on different markets like the UK, US, France, Italy, Germany and Canada. We are in the process of building operating teams there for projects in those countries. Our strategy is to undertake the entire project

development gamut, that is, acquiring land, getting requisite permits, financial closure, etc. Globally, there are very few EPC companies; most of them are regional. We see an immense potential there.

How would you compare project development in India vis-à-vis other global economies?

The grass is always greener on the other side of the fence. While some things appear easy there, the challenges are completely different. The policy framework is clearer in most European countries, the primary reason for which is that these countries ventured into the solar space three-four years before India. The global solar industry has grown 55 times from 300 MW in 2003 to about 17,000 MW today. India has not been a part of this growth so far.

What is your wish list on the regulatory front?

The policy and regulatory agencies are doing an excellent job. The way the national solar mission has been brought out is an achievement in itself and the way it is being implemented is also phenomenal. I am very optimistic about the first phase of projects awarded under JNNSM Phase I and we will be seeing the results soon.

Another interesting policy that is in the making is the cess the government wants to impose on carbon generation. If that can be made operational, renewable energy development will get a tremendous push. ■