

Ajay K. Goel, Chief Executive Officer, Tata Power Solar.

Rebuilding export channels

Interview: What are the perspectives for Tata Power Solar? What are the challenges for Indian PV manufacturers? **pv magazine** talked to the company's CEO Ajay Goel.



Photos: Tata Power Solar Systems Limited

pv magazine: The current climate in the solar industry is not always considered a bright one. How is your business doing?

Ajay Goel: Tata Power Solar has been around for over 23 years. For the most part, we were known as Tata BP Solar, a joint venture between Tata Power and British Petroleum Solar. Our primary focus then was manufacturing of solar modules and cells, which were sold under the brand name of BP Solar worldwide. BP was largely a go-to-market channel for international markets for modules manufactured in India. The partnership ended with BP exiting the solar power business globally and we became a 100% owned subsidiary of Tata Power in 2012. Since then, we have increased our focus on building expertise across various functions – manufacturing, EPC, and products, to become a world-class integrated solar solutions provider.

The period 2013–14 will end as a good year for us. We are expecting our revenues to double compared to last year, driven by our growing exports and our EPC business. We are a leading solar company in India, and we will execute close to 100 MW of projects in India this year.

What is the revenue mix of your business?

The revenue mix is highly dynamic and changes from year to year depending on the policy environment in India and abroad. In 2013–14, around 50% of our total revenue will be coming from the project business, approximately 35% from the products business, and the rest from manufacturing.

Did you reduce your own production in 2013?

Yes, our manufacturing capacity was not fully utilized this year. On the cell manufacturing side, we are currently in the process of upgrading our existing lines and are equipping them with modern equipment. On the module manufacturing side, we are expanding our capacities in response to the high demand we are experiencing.

How large is your module manufacturing capacity?

Our current module manufacturing capacity is 125 MW. We are currently operating at full capacity and looking to expand to 175 MW by the end of the year.

Do you offer high efficiency modules besides standard modules?

We currently offer standard 240 to 260 watt modules with cell efficiencies of 17.2 to 17.6%, but we don't as yet offer any special, high efficiency modules. We are actively exploring partnerships to introduce high efficiency modules in the market.

And what about your cell production?

Our cell manufacturing capacity is at 180 MW, although the utilization rate is low, at around 15 to 20%. We are in the process of upgrading our equipment so that we can produce cells at higher efficiencies, comparable to those available in China and Taiwan.

Does your cell production still pay off?

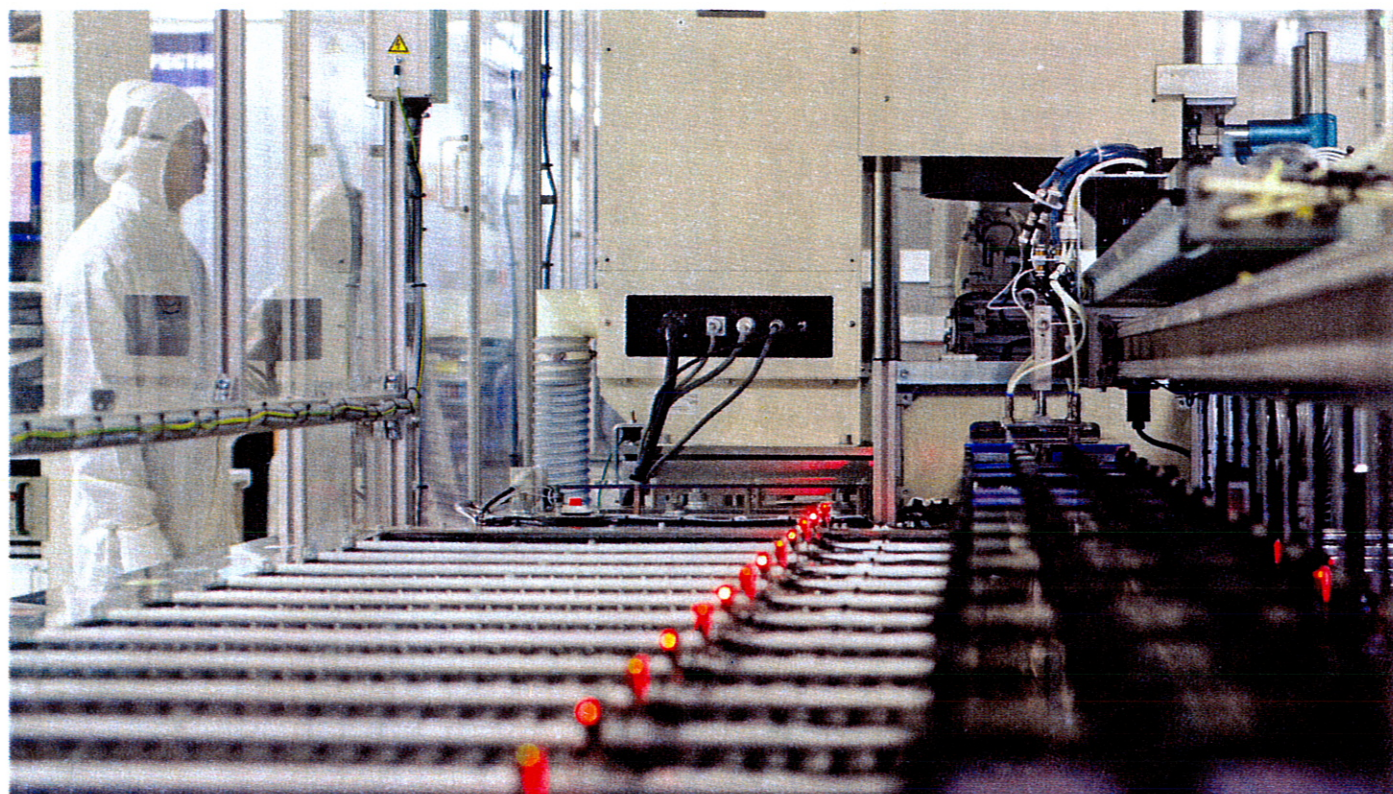
That remains to be seen. But we hope to be able to increase our utilization rate soon, at least if stricter domestic content rulings are released or if the Indian government takes other measures to improve the competitiveness of the domestic solar industry. If we fail to boost our utilization rate, we will probably scale down our cell production because we can source cheaper from China and Taiwan. In that scenario, it just doesn't make sense to expand our cell manufacturing capacity. But at the end of the day, it will depend on the demand.

What does your cost structure look like?

Our conversion costs for both cell and module manufacturing is highly competitive versus the Chinese. This is easily seen by the fact that we are exporting to Europe at Chinese minimum import prices for modules at €0.56/W and for cells at €0.29/W.

So do you see a growing demand for your products in Europe?

Yes, we see a growing interest! In the face of the trade sanctions, more and more companies are willing to look at non-Chinese suppliers. We see growing demand, in fact we are in active discussions with several European customers. We are hoping to ramp up our exports to Europe and develop stronger partnerships.



Tata Power Solar Systems encourages the Indian government to do more for domestic PV manufacturing, says Ajay Goel, to strengthen solar research and development in the country.

Why is it that demand for your products in Europe hasn't picked up more? Are you fully bankable?

We have been in the solar business for more than two decades through our former partnership with BP Solar and have been exporting to Europe through them. Since the exit of BP Solar, we have been actively building the brand in Europe and are extremely happy with the progress to date.

As part of the \$100 billion Tata group – one of the largest industrial conglomerates – the industry sees us as a tier-1 bankable manufacturer.

What do you still have to optimize in order to create more demand for your products in Europe?

Until 2012, BP Solar was our export channel and we were not directly selling our cells and modules in Europe. Post BP's exit, we are actively working to increase our brand presence and expand our distribution channels in Europe. To service these channels, we are in the process of increasing our module capacities in-house and through partnerships to meet the growth in demand.

Couldn't OEM module production help out, if your own capacity is too small to meet the demand?

We are actively pursuing partners to help meet demand beyond our in-house capacities. These partners will be using our time-tested bill of materials and follow the same stringent criteria for quality that we follow in our own factory.

Is Tata financing the expansion of module production by itself?

Yes, we have financed the expansion through internal cash flows without raising any additional debt.

Which other components and materials are you sourcing?

We import a variety of components like wafers, solar glass and junction boxes from the best suppliers worldwide.

Is there a growing demand for solar PV modules made in India?

We are expecting a growing demand, several leading edge developers are specifically asking for modules made in India. For example, in the 50 MW project for NTPC, they have requested for Indian modules.

Given the low tariffs, are you making enough profit with those bidding projects?

The solar industry is highly competitive with thin profit margins and we are able to execute profitably under the circumstances.

Are you mainly participating in state projects or do you also have a role in the second phase of the Jawaharlal Nehru National Solar Mission (JNNSM)?

We are actively participating in both the state projects as well as in the second phase of the JNNSM. Also, since phase II of the JNNSM now specifies that 50% of the projects (375 MW) need to be built with domestically manufactured cells and modules, we are in active discussions with multiple customers to help them put together a winning bid.

What about the current financing conditions in India?

Installations in India are among the most inexpensive ones in the world, however financing is among the most expensive. The country suffers from high inflation rates and high interest rates and most Indian banks are skeptical about the value of PV and solar PPA projects, often adding a risk premium for these proj-

ects. However, given the success of the JNNSM phase I, these concerns are easing and financing is starting to become available at reasonably attractive rates to credible developers.

Is the weak Indian rupee a problem?

We see the weak Indian rupee as a significant risk to our business. It not only increases the price of our U.S. dollar-based imports but it also drives inflation, which means that we will have to – at some point – increase the salaries of our employees in order to stay competitive. This then makes our domestic production more expensive. So, while the short-term effects of the weak rupee may seem beneficial, we think it's a significant long-term risk nevertheless.

How high is the share of your module exports?

For most of our 24 year history, our module manufacturing business has been 100% export oriented delivering over 500 MW of modules primarily to the USA and Europe. However, in 2011 when industry started facing overcapacity and BP Solar decided to exit the business, exports hit rock bottom. Starting 2012, we have rebuilt our export channels in earnest and volumes are picking up as per our expectations. We hope to continue this momentum into the next year as well.

You mentioned the importance of Europe for your exports.

How important are other regions like the U.S. or new emerging markets?

We believe both U.S. and Europe are key export markets for us given our 24 year history exporting modules to those regions under the BP Solar name. Since 2012, we are actively rebuilding our export channels in both these regions via strategic partnerships. In addition to these two geographies we are also actively working in key markets like Japan and SAARC, e.g. Bangladesh.

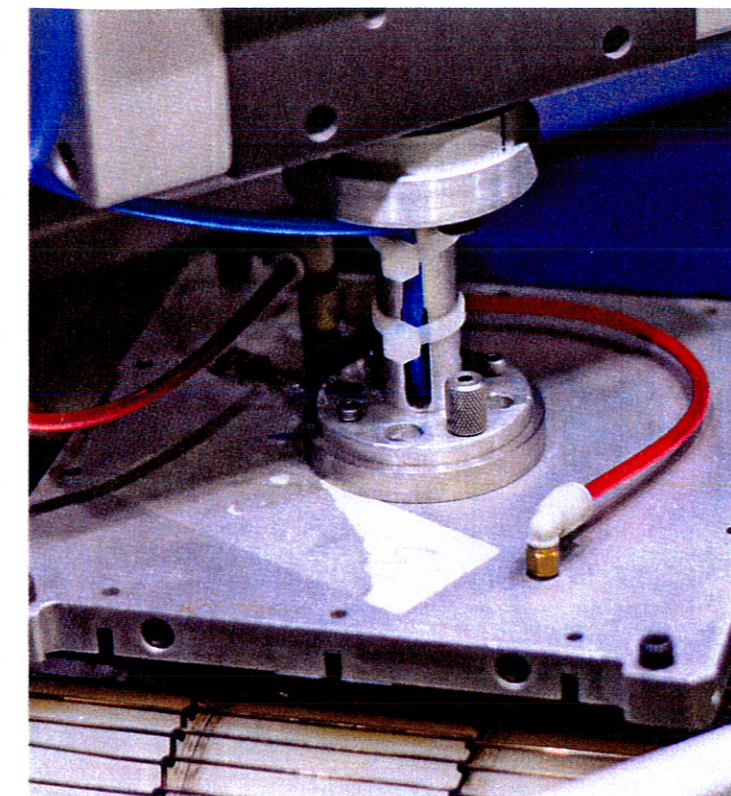
Are you also doing EPC business outside of India?

We are interested and are in active discussions regarding various projects outside India in key markets of strategic interest. We'll provide more details as these relationships mature over time.

Are you thinking about manufacturing outside of India?

Maybe in the future, but we are yet to make a firm decision on that.

You mentioned the importance of stricter domestic content rules and other measures the Indian government should



Tata Power Solar is currently upgrading its cell manufacturing lines and expanding its module manufacturing capacities.

take to improve the competitiveness of the domestic industry. What might they look like? Would trade sanctions against Chinese imports be a good strategy?

Several Chinese companies continue to sell product in India well below their costs, which is a problem for fair competition. But still, we are not for blanket trade sanctions against China because this also brings negative effects, for example, on our own project business.

Instead we encourage the Indian government to do more for domestic PV manufacturing – for example, a stricter domestic content ruling would be useful to have stronger R&D programs to boost new technologies and build up a national Indian solar research lab.

Any trade sanctions, if levied, should be implemented in a thoughtful and constructive manner to support and protect the industry and not hurt it. We also believe that the domestic industry must increase its share and actively innovate and optimize to stay competitive. ♦

Interview by Hans-Christoph Neidlein

▲ AJAY K. GOEL, CHIEF EXECUTIVE OFFICER, TATA POWER SOLAR

Ajay Goel is responsible for driving the overall growth and development of Tata Power Solar after the company acquired a 50% stake from BP Solar in 2012. He holds a Bachelor of Technology degree in Electrical Engineering from the Indian Institute of Technology (IIT), Delhi, and an MBA degree in finance and marketing from the University of Chicago.

Prior to joining Tata Power Solar, he spent 20 years in the USA, where he first led business development for Brightsource Energy and then was Vice President of MEMC/SunEdison.

In his first year at Tata Power Solar, Goel brought the company back on a growth path by driving change, innovation and cost reductions across almost all areas. In manufacturing, he has brought down the conversion cost of modules and cells to match Chinese imports. In large EPC projects, he has driven the team to innovate design and engineering to bring projects costs down below \$1 per watt. In the segment of off-grid products, his team is working on innovative low-cost solutions that could be delivered subsidy free to bring heat, light and power to the remotest areas of the world.