

# It's Getting Windy: Wind Energy Gains Importance in India

India not only is one of the leading countries in the wind energy sector in terms of the capacities installed but is also emerging as a major wind turbine manufacturing hub. In this context, we take a look at why it is a preferred destination for wind turbine manufacturers and present an outlook for the coming years.

Man<sup>M</sup>ankind has been using wind as a source of energy for centuries. In other words, wind power has been used as long as humans have put wind into the sails. Today, wind energy has gained

importance once again due to the increasing need of energy generation from alternative resources and is one of the fast growing sectors in India. As per the Ministry of New and Renewable Energy (MNRE), India ranks fifth in terms of installed capacity from wind energy projects globally as on 31 January 2013. The present wind power installed capacity in the country is 19,051 MW whereas the nuclear power installed capacity is 4780 MW. As per information available with Central Electricity Agency, nuclear

power projects have generated 13.72 billion units of electricity during April-August 2012, whereas wind power projects have generated 18.91 billion units of electricity during the corresponding period.

However, the year 2012 was a challenging one for the wind energy sector. According to Vice President, Global Sales and Marketing, WinWinD Power Energy Pvt Ltd, Himanshu Khare, "Wind energy sector in India grew at a slower pace in 2012 as compared to the preceding year. Close to 2.3



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**President and CEO, Wind Stream Technologies, Inc, Dan Bates**

GW of capacity was added in 2012 and it is still the most promising among the renewable energy sources, contributing to nearly 70 per cent of the total renewable energy capacity in the country.”

### Emerging manufacturing hub

Giving a boost to the sector is the Government of India with its varied schemes. “Sales tax, excise duty reliefs, concessional import duty on specified parts and components and easy loan facility for commercial wind power projects from Indian Renewable Energy Development Agency Ltd (IREDA) and nationalized banks are some of the factors that strengthens the growth of the wind turbine manufacturing sector in India,” said General Manager – Commercial, Premier Ltd, Nagaraj Kuntoji.

Due to such encouraging incentives, the sector has seen a number of investments. In fact, today, India is known as an international wind turbines manufacturing hub. “As an emerging manufacturing hub, India provides infrastructure facilities, financial support for innovative technology implementation and transfer. By the end of year 2012 there were total 19 manufacturers in India. Put together, these manufacturers have a combined annual capacity of 9.5 GW, which speaks volumes of the turbine manufacturing potential of the country,” Khare added.

Besides infrastructural support, there are other factors that have contributed to the growth. According to Technical Lead, Vestas Turbines R&D, Deepak Krishnan S, “India has the right blend of factors which are useful for the wind turbine manufacturing industry. The major advantages are manufacturing expertise, low cost manufacturing, IT and communication.”

With recent developments and the advent of automated systems in turbines and close data monitoring, automation, communication and IT play a major role in improving energy efficiency. Seconding the same, Krishnan added, “Today, turbines can be monitored and controlled remotely with devices such as laptops and mobile phones. Hence, manufacturing has become collaborative in its approach.”

### Advantage India

The growth of this sector has resulted in an increase in exports. Majority of the leading players in this sector have set up manufacturing centers in India and they are not only serving internal needs but also



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**Vice President, Global Sales and Marketing, WinWinD Power Energy Pvt Ltd, Himanshu Khare**

exporting to Europe, America, Australia and other countries. Another advantage of having a manufacturing base in India is that it directly encourages other component manufacturers to establish their units. As a result, we see manufacturers of gear, valves and hydraulic systems such as cylinders, flourishing in the country.

### Growth drivers

“The government mandates for the adoption and use of clean renewable energy will drive growth in all sectors of the wind energy market. Residential customers are being incentivized to deploy wind and solar solutions by means of feed-in tariffs, tax credits and rebates on the cost of the products. Manufacturers that derive their energy from coal-fire plants are now required to replace five per cent of their draw from renewables. Telcos are being encouraged to replace diesel powered generators with hybrid renewable energy solutions. All of these are and will continue to be major contributing drivers for the use of wind energy devices in India,” asserted President and CEO, Wind Stream Technologies Inc, Dan Bates.

Though the overall cost of wind energy is currently at par with coal and oil, the initial cost of wind turbines is greater than conventional fossil fuel’s initial CAPEX per MW of power. This creates a bottleneck for rapid progress of the industry. “There are a few challenges obstructing the development of wind energy in India. Apart from regulatory policy implementations and strengthening of transmission infrastructure, funding is another aspect that creates a



**SolarMill, the Hybrid (wind and solar) energy solution developed by Wind Stream Technologies**

Source: WindStream Technologies

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hurdle. Till very recently, it was balance sheet funding for the sector but with the advent of Independent Power Producers (IPP), project financing is becoming an acceptable norm. Poor financial health of state utilities like Tamil Nadu results in wind farm operators getting delayed payments,” Khare stated. Apart from government policies, the need of the hour is to have more companies entering this sector. Agreeing Krishnan said, “There is a need for emergence of more small companies that can bring new innovations to the market or later collaborate with bigger players. To make this possible, awareness and opportunities have to be provided to lure young talent.”

**Innovative solutions**

For any industry to prosper, coming up with innovative solutions is a must. Doing just that is Wind Stream Technologies Inc. Throwing some light on the same, Bates explained, “We developed the ‘Hybrid’ (wind and solar) energy solution for a new category of power generation, distributed energy, or point of use generation. This allows end-users to generate their own energy to be used onsite, off-setting and supplementing the need for utility provided energy. Distributed energy solutions harness clean renewable energy and will have a positive impact for consumers in lowering their energy costs. It also provides useable energy when the grid is unavailable and in rural areas where there is no infrastructure to deliver power to a user or community.”

**Optimistic future**

With the mix of right initiatives and technology, investment in this sector is

expected to grow in the near future. “With more innovation and mass production, the initial cost is expected to level with the fossil fuels in the next three to five years. Wind energy will be available at the competitive cost once CAPEX is reduced,” anticipated Krishnan. As per Kuntoji, large projects by independent power producer are already in the pipeline. “With the support and response that the wind energy producers are getting, wind power will sure be able to compete with conventional power in future,” he forecasted.

It’s also interesting to know that as of today, it is the IPP that contributes more towards the growth of wind energy in India. Seconding the same, Khare added that favorable tariff regimes give an incentive to investors to invest in wind energy. A perfect example of this would be of the government policies, which were once withdrawn but then reinstated. Elucidating on the same, Kuntoji averred, “The additional capacity in the wind energy sector fell significantly due to two crucial incentives viz. Generation Based incentive (GBI) and accelerated depreciation benefit being withdrawn by the government in April 2012.” In 2013, however, the government reintroduced both the incentive schemes and it is predicted that investment in the sector will rise again in 2013-14.

Giving his final take on the subject, Khare stated, “In the 12th Five Year Plan, €4.7 billion has been allocated for the wind energy. This amount is three times higher than the 11th Five Year Plan. There was also an accompanying announcement for low interest funds to be transferred via IREDA. With such encouraging initiatives, the sector can be expected to show a slight recovery in 2013 and a full recovery by 2014.” **MMI**