India Wind Energy Profile Link

India

India had a record year for new wind energy installations in 2010, with 2,139 MW of new capacity added to reach a total of 13,065 MW at the end of the year. Renewable energy is now 10.9% of installed capacity, contributing about 4.13% to the electricity generation mix, and wind power accounts for 70% of this installed capacity. Currently the wind power potential estimated by the Centre for Wind Energy Technology (C-WET) is 49.1 GW, but the estimations of various industry associations and the World Institute for Sustainable Energy (WISE) and wind power producers are more optimistic, citing a potential in the range of 65- 100 GW.
Historically, actual power generation capacity additions in the conventional power sector in India been fallen significantly short of government targets. For the renewable energy sector, the opposite has been true, and it has shown a tendency towards exceeding the targets set in the five-year plans. This is largely due to the booming wind power sector. Given that renewable energy was about 2% of the energy mix in 1995, this growth is a significant achievement even in comparison with most developed countries. This was mainly spurred by a range of regulatory and policy support measures for renewable energy development that were introduced through legislation and market based instruments over the past decade.
The states with highest wind power concentration are Tamil Nadu, Maharashtra, Gujarat, Rajasthan, Karnataka, Madhya Pradesh and Andhra Pradesh.

Main market developments in 2010
Today the Indian market is emerging as one of the major manufacturing hubs for wind turbines in Asia. Currently, seventeen manufacturers have an annual production capacity of 7,500 MW. According to the WISE, the annual wind turbine manufacturing capacity in India is likely to exceed 17,000 MW by 2013.
The Indian market is expanding with the leading wind companies like Suzlon, Vestas, Enercon, RRB Energy and GE now being joined by new entrants like Gamesa, Siemens, and WinWinD, all vying for a greater market share. Suzlon, however, is still the market leader with a market share of over 50%.
The Indian wind industry has not been significantly affected by the financial and economic crises. Even in the face of a global slowdown, the Indian annual wind power market has grown by almost 68%. However, it needs to be pointed out that the strong growth in 2010 might have been stimulated by developers taking advantage of the accelerated depreciation before this option is phased out.

TOTAL INSTALLED CAPACITY

year	2000	2001	2002	2003	2004	2005	2006	2007	20
MW	220	1,456	1,702	2,125	3,000	4,430	6,270	7,845	9,6



Total Installed Capacity for India

Policy support for wind power in India
Since the 2003 Electricity Act, the wind sector has registered a compound annual growth rate of about 29.5%. The central government policies have provided policy support for both foreign and local investment in renewable energy technologies. The key financial incentives for spurring wind power development have been the possibility to claim accelerated depreciation of up to 80% of the project cost within the first year of operation and the income tax holiday on all earnings generated from the project for ten consecutive assessment years.
In December 2009 the Ministry for New and Renewable Energy (MNRE) approved a Generation Based Incentive (GBI) scheme for wind power projects, which stipulated that an incentive tariff of Rs 0.50/kWh (EUR 0.8 cents/USD 1.1 cents) would be given to eligible projects for a (maximum) period of ten years. This scheme is currently valid for wind farms installed before 31 March 2012. However, the GBI and the accelerated depreciation are mutually exclusive and a developer can only claim concessions under one of them for the same project. Although the projected financial outlay for this scheme under the 11th Plan Period (2007-2012) is Rs 3.8 billion (EUR 61 million/USD 84 million), the uptake of the GBI has been slow due to the fact that at the current rate it is still less financially attractive than accelerated depreciation.
Currently 18 of the 25 State Electricity Regulatory Commissions (SERCs) have issued feed-in tariffs for wind power. Around 17 SERCs have also specified state-wide Renewable Purchase Obligations (RPOs). Both of these measures have helped to create long-term policy certainty and investor confidence, which have had a positive impact on the wind energy capacity additions in those states.

Support framework for wind energy
There has been a noticeable shift in Indian politics since the adoption of the Electricity Act in 2003 towards supporting research, development and innovation in the country?s renewable energy sector. In 2010, the Indian government clearly recognised the role that renewable energy can play in reducing dependence on fossil fuels and combating climate change, and introduced a tax (?cess?) of Rs.50 (~USD1.0) on every metric ton of coal produced or imported into India. This money will be used to contribute to a new Clean Energy Fund. In addition, the MNRE announced its intention to establish a Green Bank by leveraging the Rs 25 billion (EUR 400 million / USD 500 million) expected to be raised through the national Clean Energy Fund annually. The new entity would likely work in tandem with the Indian Renewable Energy Development Agency (IREDA), a government-owned non-banking financial company.
In keeping with the recommendations of the National Action Plan on Climate Change (NAPCC) the MNRE and the Central Electricity Regulatory Commission (CERC) have evolved a framework for implementation of the Renewable Energy Certificate (REC) Mechanism for India.1 This is likely to give renewable energy development a further push in the coming years, as it will enable those states that do not meet their RPOs through renewable energy installations to fill the gap through purchasing RECs.

Obstacles for wind energy development
With the introduction of the Direct Tax Code2, the government aims to modernize existing income tax laws. Starting from the fiscal year 2011-12, accelerated depreciation, the key instrument for boosting wind power development in India, may no longer be available. Another limitation to wind power growth in India is inadequate grid infrastructure, especially in those states with significant wind potential, which are already struggling to integrate the large amounts of wind electricity produced. As a result, the distribution utilities are hesitant to accept more wind power. This makes it imperative for CERC and SERCs to take immediate steps toward improved power evacuation system planning and providing better interface between regional grids. The announcement of India?s Smart Grid Task Force by the Ministry of Power is a welcome first step in this direction.