



WIND: For Energy & Environment Security

WIND INDIA AWARDS 2006



Instituted by



World Institute of Sustainable Energy



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Government of India

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ABOUT WIND INDIA AWARDS 2006

While the wind industry continues to make significant contributions in providing clean and green energy, their efforts are seldom given due recognition. The same applies to wind industry's major allies, without whom wind power development is impossible. These include investors, financiers, and service providers. Due recognition also needs to be given to researchers and the media. In appreciation of the efforts of all these significant contributors in shaping a 'Green India', WISE has instituted the 'Wind India Awards' in eleven different categories.

The Awardees have been selected by an eminent Awards Jury consisting of academics, wind power professionals and researchers, administrators and others, all technically qualified to arrive at impartial judgements based on rigorous scrutiny of performance data and information gleaned from a wide variety of sources.

The Awards Jury has been chaired by Dr Pramod Deo, Chairman, Maharashtra Electricity Regulatory Commission. The Director General, WISE, and Shri Balawant Joshi of ABPS Infrastructure Advisory, a knowledge Partner of WISE have attended the meetings of the Awards Jury as Observers. The Secretariat support to the Awards Jury was provided by a team from Centre for Policy and Sustainability Research, WISE.

We take this opportunity to place on record our sincere appreciation of the efforts undertaken by the Chairman and Members of the Awards Jury in arriving at their decision within the short time available to them.

The eleven different categories of awards are:

1. Best Manufacturer (1st and 2nd prize)
2. Best Service Provider Among Manufacturers (1st and 2nd Prize)
3. Best Wind Power Financier (1st and 2nd prize)
4. Best Wind Power Developer State (Total Installation – 1st prize only)
5. Best Wind Power Developer State (Percentage Increase – 1st prize only)
6. Best Public Sector Entrant (1st prize only)
7. Best Research Publication (1st prize only)
8. Best Media Report on Wind Power (1st prize only)
9. Best Company in Corporate Social Responsibility (1st prize only)
10. Best Wind Turbine (> 1 MW – 1st prize only)
11. Best Wind Turbine (500 kW to 1 MW – 1st prize only)

A brief description of each Award Category and the Profiles of Awardees follows herewith.



CATEGORY 1

Best Manufacturer 2005-06 : First and Second Prize

DESCRIPTION AND METHODOLOGY

This category awards the wind power manufacturing company with the highest and second highest installation in MW of wind turbine based generation capacity in the financial year 1 April 2005 to 31 March 2006. The Awards are based on information of installed capacity on State-wise basis provided by each manufacturing company. The verification procedure included information received from the State Nodal Agencies of different States as well as information available with the Ministry of Non-Conventional Energy Sources, Govt of India.

AWARDEES

First Prize

Suzlon Energy Ltd: 862 MW

Second Prize

Enercon (India) Ltd: 307.8 MW



PROFILE OF AWARDEES

Suzlon Energy Ltd

Suzlon Energy is Asia's strongest growing fully integrated wind power company and ranks fifth amongst the wind turbine manufacturing companies in the world. Suzlon integrates consultancy, design, manufacturing, operation and maintenance services to provide customers with total wind power solutions. Suzlon is one of the fastest growing Wind Energy companies in the world whose meteoric growth has been powered by a vision of creating world-class products by adopting the best from around the globe. It has a subsidiary in Germany for technology development, an R&D facility in the Netherlands for rotor blade molding and tooling, and Wind Turbine and rotor blade manufacturing facilities in India. All this is backed up by stringent international quality control and assurance systems like ISO 9001:2000 and Type certification. It has the distinction of introducing the concept of large wind parks in Asia and has gone on to build some of the largest wind parks in Asia including the world's largest wind park of its kind, of 250 MW capacity. Suzlon won the World Wind Energy Association's award for the year 2003, recognizing its contribution in disseminating wind energy worldwide. Suzlon is today the largest wind power company in Asia.

Enercon (India) Ltd

Dr. Aloys Woben, Chairman Enercon GmbH and Mr. Yogesh Mehra, Managing Director Enercon (India) Limited joined hands in 1994 and have in ten years created an organisation which is one of the strong pillars of the Wind Energy Sector in India today. Certified with ISO 9001-2000, Enercon's cutting edge gearless technology is translated into state-of-the-art Wind Energy Converters by Enercon India at its manufacturing locations in Daman. It is this technology which enables Enercon to confidently claim an achievement of highest average Plant Load Factor in India today. Enercon Group is a global player with presence in 27 countries and has successfully installed and operated the largest single Wind Energy Converter in the world, with a capacity of 4.5 MW. Enercon Group has a total installed capacity of 9954.470 MW (9829 Machines) worldwide as on 1st August 2006. Some of the achievements of Enercon India are:

It is a completely integrated company providing a 'one stop shop' service for setting up Wind Energy Projects.

It is the only manufacturer of Wind Energy Converters to be engaged in generation of power with around 118 MW commissioned IPPs, including India's single largest IPP of 24 MW.

It is one of the first companies in wind energy to have successfully completed installation of SAP across all its functions.

It is the first company to provide an online monitoring of generation of all Wind Energy Converters installed in the country through VSAT connectivity.

It is the first company to introduce concrete towers for installing Wind Energy Converters in India.

It is the only manufacturer which manufactures all the key components for its Wind Energy Converters in-house at its plants in Daman and Jamnagar.



CATEGORY 2

Best Service Provider Among Manufacturers 2005-06: First and Second Prize

DESCRIPTION AND METHODOLOGY

This category awards the wind power manufacturing company which has provided the best service to its customers after installation, during the financial year 1 April 2005 to 31 March 2006. In order to have a clear service record of at least one year, this necessitates the turbines to have been commissioned prior to the above period. Since the industry has witnessed the entry of new models of larger capacity machines (in general larger than 500 kW) after 2004, we have collected data from corporate customers in different parts of the country. The corporate customers identified had installed capacities in excess of 5 MW each. Customer responses were elicited from customers using both e-mail and physical administration of questionnaires in different parts of the country. The service categories assessed for performance included cost of service, performance guarantees, quality of service, legal services, invoicing, documentation, communication, competence levels and behaviour of service staff as well as overall satisfaction of the customer. Each customer awarded marks in each category or sub-category of service to each service provider. The companies receiving the highest marks were respectively adjudged the first and second best in this category. Customer responses have been treated as confidential.

AWARDEES

First Prize

Enercon (India) Ltd

Second Prize

Suzlon Energy Ltd



PROFILE OF AWARDEES

Enercon (India) Ltd

The Company Profile has been provided on Pg. No.3

Suzlon Energy Ltd

The Company Profile has been provided on Pg. No.3





CATEGORY 3

Best Wind Power Financier 2005-06: First and Second Prize

DESCRIPTION AND METHODOLOGY

This category awards the Banks and Financial Institutions in both public and private sectors who have provided finance and financial services to the wind power sector. A total of seven banks and FIs forwarded applications for this Award. The applications were compared for total disbursement during the year, percentage of portfolio allocated to wind power financing, average time taken for disbursement, interest rate(s) offered, total money sanctioned, capacity financed in MW, number of wind projects financed and rate of increase in funding of wind power projects over the previous year. The bank/FI with the most professional approaches to financing and provision of financial services to the wind power sector have been adjudged for the first and second place in this category.

AWARDEES

First Prize

Indian Renewable Energy Development Agency Ltd: Disbursement of Rs. 135.57 crore

Second Prize

Corporation Bank: Disbursement of Rs. 132.56 crore



PROFILE OF AWARDEES

IREDA LTD

Historically speaking, IREDA is the giant amongst wind power financiers in India. It was established by the Government of India in 1987. It is notified as a Public Financial Institution and is registered as a Non-Banking Financial Company (NBFC) with the Reserve Bank of India. It operates a revolving fund for the development and deployment of new and renewable sources of energy and provides financial support for generating electricity/ energy from renewable sources. A part of its charter is to bring down the cost of renewable power as well as to finance projects for improving energy efficiency and energy conservation. Its profile of cumulative accomplishments is impressive :

No. of projects approved	:	1783
Power Generation Capacity	:	2707 MW
Loan commitment	:	Rs. 7450 crore
Loan disbursements	:	Rs. 4018 crore

IREDA has borne a major burden of responsibility in the establishment of the wind power sector in India on a firm footing.

CORPORATION BANK

Corporation Bank is a Public Sector Bank with a majority shareholding by the Govt of India. It completes a century of banking operations this year and occupies a place of pride in the banking community amongst both public and private sector banks in India. Its aggregate business this year is a little short of Rs. 60,000 crore comprising approx Rs. 34,000 crore as deposits and Rs. 26,000 crore as advances. It has achieved this level of aggregate business with an employee strength of about 11,000, showing a consistently higher level of productivity per employee as compared to its banking peers in the public sector as well as the banking industry average. It has achieved 100% computerisation of its banking operations and is the first Indian public sector bank to publish results in conformance with US GAAP. It has used technology to achieve a competitive edge in niche banking and is now poised for ambitious growth.



CATEGORY 4

Best Wind Power Developer State 2005-06: (Total Installation) – First Prize Only

DESCRIPTION AND METHODOLOGY

This category awards the State which has achieved the maximum installed and commissioned capacity in MW in the financial year 1 April 2005 to 31 March 2006. The State Nodal Agencies from the nine states with operational wind generation capacities were approached for installation data for the year. The State which had the highest installation was awarded the first prize in this category.

AWARDEE

First Prize

Tamil Nadu State: 858 MW



PROFILE OF AWARDEE

TAMIL NADU STATE

Tamil Nadu State has generally been recognized as the state which is best endowed with wind power potential. It has been the leading state in terms of wind power installation. Wind power has contributed 2426.3 GWh of electricity in 2004-05 out of a total of 32229.72 GWh of electricity generated in the state in the same year. Thus wind power contributed 7.53% of the total power generated in the state during the year 2004-05. The minimum purchase obligation of renewable power has recently been increased from 3.5% to 10%. The state has recently increased the awarded tariff for purchase of wind power. The state has also allowed banking of wind power produced within a particular year, which earlier used to lapse at the end of the year. The period of the Power Purchase Agreement has been fixed at twenty years with a tariff review period of three years.





CATEGORY 5

Best Wind Power Developer State 2005-06: (Percentage Increase) – First Prize Only

DESCRIPTION AND METHODOLOGY

This category awards the State which has shown the maximum percentage growth of wind power installed capacity in the said year. As in the previous category, the State Nodal Agencies were approached for installation data and the State showing the largest percentage growth over the previous base was awarded the first prize in the category.

AWARDEE

First Prize

Maharashtra State: 119.17% increase



PROFILE OF AWARDEE

MAHARASHTRA STATE

Maharashtra State has been amongst the pioneers in wind power generation in India. Maharashtra has one of the most conducive wind power policies in the country with support measures inclusive of high awarded tariff, infrastructure support and Renewable Purchase Obligation. Wind Power has contributed 790.07 GWh of electricity in 2005-06, which is roughly 1.2% of the total generation in the state in the same year. The recent increase of installed wind power capacity by Maharashtra will significantly increase the ratio of clean electricity in the overall mix of electricity generated.

It has been the first state to develop a full fledged framework for green energy with appropriate policy support measures. The state has pioneered the development of a "Clean Energy Fund" (*Urja Ankur Nidhi*) by levying a green cess on sale of electricity to industrial and commercial consumers in the state. The size of the fund is expected to reach Rs 3000 crores in the near future. This fund will be utilised to support investments in renewable energy sources.





CATEGORY 6

Best Public Sector Entrant: First Prize Only

DESCRIPTION AND METHODOLOGY

This category awards the PSU from Central or State sector that has achieved the maximum installation of wind power capacity to date. India has 237 PSUs in the Central sector and 1071 PSUs in the State sector, being independent corporate bodies capable of investment in the wind power sector. The PSU with the highest installed capacity has been awarded the first prize.

AWARDEE

First Prize

Rajasthan Renewable Energy Corporation Ltd (RRECL): 36.75 MW



PROFILE OF AWARDEE

RRECL

RRECL is both a PSU as well as the State Nodal Agency for Rajasthan. Its mission is to lay the foundation for the generation of clean electrical power in the state of Rajasthan. It also works towards the promotion and development of renewable energy sources, co-ordination of various programmes related to renewable energy sources, energy conservation and protection of the environment. It has done considerable work in rural electrification for remote villages in Rajasthan through installation of Solar PV systems for street lighting, community use, as well as home lighting systems (about 36000 systems in 1650 villages). RRECL has identified 8 potential wind sites in Rajasthan and contributed wind data to the IITM wind data book. It is conducting wind assessment studies in another 10 locations. It has installed and commissioned 6.35 MW capacity at 3 demonstration wind farms, with MNES support between 2000-2001, pre-paying the entire loan amount to IREDA. Currently, it has received applications for 200-250 MW of wind based generation.



CATEGORY 7

Best Research Publication 2004-06: First Prize Only

DESCRIPTION AND METHODOLOGY

This category awards the research contribution – either research article or book which would be considered the weightiest contribution, in the said period – by any researcher in the wind power / wind energy sector. The Award was open to any researcher based in India. In the case of research articles, in order to encourage publication in Indian wind power / wind energy journals, the eligibility was restricted to articles published in any Indian research journal. In the case of books with research content, the eligibility criteria were relaxed to include books published by authors based in India but published by any foreign publisher, all other criteria being the same. Announcement of the Award was widely publicized in all IITs, Energy Research Institutes, Regional Engineering Colleges, turbine manufacturing companies and RE journals. A total of seven eligible entries were received, including several from the IITs. The sub-committee screened the entries for quality of research content and effort. The publication adjudged the best entry has been awarded the first prize in this category.

AWARDEE

First Prize

Dr. Sathyajith Mathew

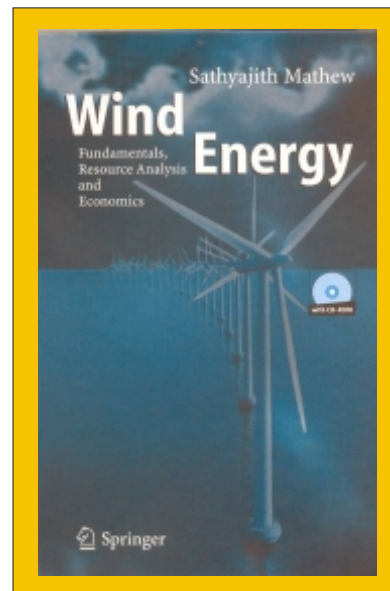
Book Title : Wind Energy : "Fundamentals, Resource Analysis and Economics",
published by Springer, 2006, pp 246; with CD-ROM



PROFILE OF AWARDEE

Dr. Sathyajith Mathew

Dr Sathyajith Mathew has more than 15 years of teaching and research experience on Wind Energy Conversion Systems in different parts of the world. He has been honoured with several prestigious awards and fellowships including the Young Scientist Award and the Energy Conservation Research Award. He is a consultant and resource person to several international training programmes on Wind Energy and has published extensively in the area. Currently, he is Assistant Professor, KCAET, KAU, Tavanur, Kerala.





CATEGORY 8

Best Media Report on Wind Power 2005-06: First Prize Only

DESCRIPTION AND METHODOLOGY

This category awards the media report from either print or audio-visual media that has had significant impact in the generation of awareness about the activities of the wind energy sector. The Award was open to entries in English as well as major Indian languages. Announcement of the Award was communicated to all major newspapers in English as well as most Indian languages as well as to Doordarshan and commercial TV channels all over India. The Awards Jury considered six eligible entries, all from the print media, in arriving at their decision. The entries received in the Hindi language by an accredited journalist were adjudged the best contribution in this category.

AWARDEE

First Prize

Shri Neelmegh Chaturvedi



PROFILE OF AWARDEE

Shri Neelmegh Chaturvedi

Shri Neelmegh Chaturvedi is a senior working journalist of the Nai Duniya group of publications. He has a Master's degrees in Ecology as well as in Journalism and Communication. His media reports and editorials on Renewables have appeared in Nai Duniya, Bhavtav, Tathya Bharati and IREDA News. He is the author of two books on Co-operatives and is currently working on a book on Renewables. He has written over ten articles in the Hindi Press on Wind Energy. He lives and works in Indore, M.P.





CATEGORY 9

Best Company in Corporate Social Responsibility 2005-06: First Prize Only

DESCRIPTION AND METHODOLOGY

This category awards the company with the best record of performance in terms of corporate social responsibility for the last two years. A detailed format eliciting information on activities related to corporate philanthropy, building community assets, commercial sponsorship of activities at local levels and benefiting the surrounding society, protection of the natural environment and support for local cultural development was requested from the companies. The financial information had to be certified by the auditors for authenticity. Since wind energy is generally considered the most eco-friendly form of electricity generation, it was felt that wind energy companies must demonstrate their commitment to both the environment and to social development through various forms of activities undertaken or supported by them. This marks a new relationship between advanced technology with its surrounding environment, society and culture.

AWARDEE

First Prize

Suzlon Energy Ltd.



PROFILE OF AWARDEE

Suzlon Energy Ltd

The Company Profile has been provided on Pg. No.3





CATEGORY 10

Best Wind Turbine (> 1MW) 2005-06: First Prize Only

DESCRIPTION AND METHODOLOGY

This category awards the most efficient wind turbine in the Megawatt range i.e. rated generation greater than 1 MW. By definition, efficiency is the capture and conversion energy of the kinetic energy carried by the flowing wind, at any site. Hence, the turbine model had to prove its performance under both high and low wind speed conditions. Moreover, all the competing turbines had to prove their performance under identical conditions to eliminate site dependent factors. The methodology adopted consisted of the following procedure :

Annual Energy Generation for the WEG under consideration was calculated by using certified power curve and the certified Wind Resource Data published by C-WET.

This calculation was performed for four different sites representing different wind regimes (Vankusawade in Maharashtra, Jaisalmer in Rajasthan, Muppandal in Tami Nadu, and Jogimatti in Karnataka). The estimated energy generation was corrected for local air density.

The total number of units generated by each WEG (as per the calculation) were then converted to indices :

(a) Units generated per unit swept area (kWh / m²)

(b) Units generated per MW rating (kWh / MW)

These indices represent performance and innovation respectively and were awarded equal weightage by the technical sub-committee.

For each WEG at each site, the highest performance was awarded a mark of 100 and other competing WEGs were awarded proportionate marks as per their respective performance. This gave eight figures per WEG (4 sites x 2 Indices)

The average value of these eight figures gave a single index of performance for each WEG.

The WEG with the highest average value was adjudged the best turbine in this class.

In addition, the manufacturers were requested to submit wind speed and power generation data recorded by an operational turbine at any location in India. This data was tested for fidelity with respect to the certified power curve of the turbine. Based on the above methodology, the turbine with the highest index rating was adjudged the best turbine across the entire range of representative wind regimes in India.

AWARDEE

First Prize

NEG Micon (India) Pvt Ltd – NM82/1650 kW



PROFILE OF AWARDEE

NEG Micon (India) Pvt Ltd

NEG Micon (India) Private Ltd is a wholly owned subsidiary of NEG Micon A/S, Denmark, a global leader in Wind power. NEG Micon is an international company operating in over 42 countries and has achieved the landmark of installing around 17,000-wind electric generators world-wide and over 2000 wind turbines of NEG-Micon design are successfully operating in India. Today NEG Micon India has an installation base of over 810 MW (as on June 2006) comprising of higher capacity turbines of 750 kW, 950 kW and 1650 kW turbines.

NEG Micon were the first to introduce 750 kW stall regulated machines in India in the year 1999 and the turbines are performing consistently year after year as estimated. They have then created the Power Trim™ technology and have integrated it into one of the market's latest wind turbines, the 950 kW machines in India. They have also recently introduced a 1650 kW turbine, the NM82/1650. This turbine comes with a rotor diameter of 82 mts and hub height of 78 mts and this is the largest commercial turbine installed in India both in terms of capacity and hub height. This turbine with large rotor and a more powerful generator has out performed the existing turbines in India. This turbine is suitable for low and medium wind regimes, and has recorded a plant load factor of 38% in the state of Tamil Nadu.

NEG Micon India offers complete customised solutions for wind power projects, right from preliminary wind studies, site selection and liaisoning with government agencies to installation and lifetime service support. NEG Micon have a presence in all wind rich states in India like Tamil Nadu, Karnataka, Andhra Pradesh, Maharashtra, and Rajasthan.

NEG Micon operate from their new state-of the art manufacturing facility in Chennai. They have the capacity to manufacture about 600 WEGs in a year on a single shift basis.



CATEGORY 11

Best Wind Turbine (500 kW-1MW) 2005-06: First Prize Only

DESCRIPTION AND METHODOLOGY

This category awards the most efficient wind turbine in the sub-megawatt range i.e. 500 kW–1 MW. The generalized methodology developed for the previous Award was similarly applied to the machines in this range. The turbine with the highest index rating was adjudged the best turbine in this class.

AWARDEE

First Prize

Enercon (India) Ltd – E-40/600 kW



PROFILE OF AWARDEE

Enercon (India) Ltd

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The Enercon E-40 model is a gearless horizontal axis wind turbine with variable rotor speed and has a power rating of 600 kW. It has a rotor diameter of 44 metres and hub height of 46/56.85 metres. While its cut-in speed is 3.0 m/s, its rated wind speed is 11.6 m/s.

LOOKING TO THE FUTURE

The institutionalization of these Awards for the various categories of performance marks an ongoing process of striving for excellence by the entire wind energy sector. In several categories, the performance of the companies has been very close to each other. On our part, we have ensured fairness and impartiality throughout the process of arriving at the final judgements. We hope these Awards will inspire the Awardees and others in the wind industry to continue their search for excellence and performance in the future.

Once more, we thank all those who have contributed generously of their time, effort and knowledge in helping us through the process of arriving at these judgements.