



Voluntary Carbon Credits

2.5 MW Wind power project activity by
Ms. Aishwarya Rai
Maharashtra, India

Vintage Period:

April 1st, 2006 through July 1st, 2009

Volume : 11296 VCUs

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TITLE

“Positive Climate Care 2.5 MW Grid connected wind power project activity by Ms. Aishwarya Rai in the state of Maharashtra, India”

Project Commissioning Date: March 23rd, 2006

Project Monitoring Period: April 1st, 2006 through July 1st, 2009



PROJECT DESCRIPTION: Energy planners and policy makers in India have generally supported conventional sources of energy for a variety of social and political reasons. Despite the fact that coal-based thermal power generation has been the mainstay of electricity generation in the country, a global personality Ms. Aishwarya Rai, Miss World 1994 and universally acknowledged film actress, took this voluntary decision to invest in renewable energy sector for sustainable development of an underdeveloped region in Maharashtra, India. This is an exemplary step taken by Ms. Rai towards clean energy generation. Her current initiative confirms that besides being a beauty queen and a legendary film star, she is a social activist too. This project of renewable energy involved installation of two state-of-art Wind Electricity Generators (WEGs) of individual capacity 1.25 MW each, by the single investor Ms. Aishwarya Rai, in the state of Maharashtra, India. The project is located at village *Dhandane* approximately 15 Km from the nearest railway station and the district *Nandurbar* (N21° 20' 02.5", E74° 20' 39.9" and N21° 20' 15.4", E74° 21' 19.5"); the nearest airport is at *Surat*, approximately 160 Km while the nearest National Highway (NH) is Dhule - Agra (NH 3), approximately 50 Km from the site. The purpose of the project activity is to harness the green power through tapping of wind energy in the existing energy deficit area of Maharashtra, where, in the

absence of the project activity, equivalent amount of electricity would have been generated by the operation of fossil fuels dominated power plants. The project proponent signed a power purchase agreement with the state power utility, MSEDCL-Maharashtra State Electricity Distribution Company Limited. The project leads to reduced greenhouse gas emission, which is the root cause of the blazing topic global warming.

METHODOLOGY REFERENCE: The project applied an approved methodology for small scale CDM projects in line with VCS 2007.1 standard requirements. Also, the project activity is a voluntary initiative by project proponent and is not mandatory by law. Following is the summary of VCS methodological references used in this project.

- **Type I: Renewable Energy Projects**
- **Category ID: Grid Connected Renewable Electricity Generation**
Reference: Version 14
Scope: 1, EB48
Valid from: July 31st, 2009
- **Methodological Tool: “Tool to calculate the emission factor for an electricity system”**
EB 35, Annex 12, version 01.1
Valid from: July 29th, 2008

TECHNICAL SPECIFICATION OF WEGs : Two WEGs have their installed capacities of 1.25 MW each (model no. S70). The supplier was Suzlon.



STAKEHOLDER’S COMMENTS: A meeting of stakeholders was held on June 10th, 2009 in Dhule, Maharashtra. In the introductory note, Chief Managing Director of Positive Climate Care Pvt. Ltd. (the project consultant), Ms. Meenakshi Jain said, “Everybody talks about polluting environment, global warming and endangered natural resources, but how many of us are concerned and take any action against these for the well being of our society?” She added that “the initiative by Ms. Aishwarya Rai for the protection of environment and generating renewable power for the villagers is emblematic.”



Common as well as specific questions of the stakeholders were addressed by the representatives of the project proponent and Suzlon group. Some of them are listed below:

- “How other source of power generation leads to pollution?” In answering this question, a representative of Suzlon group said that fos sil fuels dominated power plants emit CO₂, NO_x and SO₂ which are responsible for environmental pollution.
- “Whether the project would help in improving the electricity supply to the villagers or the neighbourhood areas?” It was answered

positively by stating that the generated power from wind turbines is fed to state electricity grid, hence the villagers and neighbourhood areas would be benefitted.



■ In addition, representative of the project proponent, Ms. Jain asked few questions to the stakeholders including whether this project has had any significant effect on the local employment conditions as well as on the local economy. The stakeholders responded that many villagers and people from surrounding areas had started getting direct or indirect employment due to the wind farm in their area. This had prevented them from migrating to big cities. Also, the livelihood of the local people improved significantly and many more positive comments by the eye witnesses were added to this discussion.

SUSTAINABLE DEVELOPMENT: The Designated National Authority (DNA) in India is the Ministry of Environment and Forest of Government of India, which stipulates four indicators for sustainable development, i.e. social well being, economic well being, environmental well being and technological well being. The current project is achieving its original aim of invariable generation of electricity from a renewable source, i.e., wind energy. This project not only intends to replace electricity from fossil fuels thus reducing GHG emissions, but it also serves the human society in many ways covering

the above four criteria as well. The specific goals of the project include:

- Sustainable development through generation of eco-friendly power;
- Increasing the share of renewable energy power generation in the regional and national grids;
- Demonstrate and help in stimulating and commercializing the growth of grid connected renewable energy technologies in India;
- To bridge India's energy deficit in the business-as-usual scenario;
- Providing national energy security, especially when global fossil fuels reserves threaten the long term sustainability of the Indian economy;
- Conserving natural resources including land, forests, minerals, water and ecosystems;
- Strengthening India's rural electrification coverage;
- Essentially reducing GHG emissions compared to a business-as-usual scenario;
- Reducing other pollutants (SO_x, NO_x, PM, etc.) resulting from power generation industry;
- Enhancing local employment through increased availability of power that leads to industrial activity and it also helps in eliminating poverty in the rural areas;
- Capacity building and empowerment of vulnerable sections of the rural communities dwelling in the project area.

As far as the technological well being is concerned, wind farms provide site-specific reliability and transmission and distribution benefits including:

- Improved power quality;
- Reactive power control;
- Mitigation of transmission and distribution congestion.

As mentioned before, the two state-of-the-art WEGs have total installed capacity of 2.5 MW, while until the recent past WEG industry in India was using KW class turbines, hence the project has an up to date technology to match the

international standards and to provide improved efficiency, i.e. higher electricity generation in the same amount of space taken. For all of these reasons listed above, the wind power project initiated by Ms. Aishwarya Rai is fully in line with the overall goals for sustainable development of the Government of India and the requirements of Maharashtra state.

MONITORING: The project participant signed an operation and maintenance agreement with the supplier of the wind turbines or WEGs, i.e. Suzlon. The agreement is for a period of 10 years. The performance of the turbines, safety in operation and scheduled /breakdown maintenances are responsibility of Suzlon and is organized and monitored by them. So the authority and responsibility of project management lies with the O & M contractor. The monitoring methodology is based on “AMS I.D. - Grid connected renewable electricity generation; version 14” with reference to Appendix B given at UNFCCC website as simplified modalities and procedures for small-scale CDM project activities. It is valid from July 31st, 2009.

The first monitoring period was from April 1st, 2006 through July 1st, 2009. The monitoring report revealed that each WEG is equipped with an integrated electronic controller meter. These meters are connected to the central monitoring station (CMS) of the entire wind farm through a wireless radio frequency (RF) network; it is based on supervisory control and data acquisition (SCADA) system. The generation data of individual machine can be monitored as a real-time entity at CMS. A snapshot of generation on the last day of every calendar month is kept as a record both in electronic as well as in a printed (paper) form. The electricity from these WEGs is fed to the state utility grid. The joint measurement is carried out at the incoming feeder of the state power utility - MSEDCL once a month in the presence of both

parties (the investor’s representatives, i.e. Suzlon and officials of the state power utility).

VALIDATION AND VERIFICATION: The project was successfully validated and verified by *Perry Johnson Registrars Clean Development Mechanism, Inc (PJRCDM- CDM DoE)*.

Validation report: V-3-I-01-S-0029/01 (PJRCDM) dated November 10th, 2009

Verification Report: V-3-I-01-S-0029-Ve/02 dated April 29th, 2010. In APX VCS Registry System, the project is identified with **VCS Project ID- 300**.

EMISSION REDUCTION/ AVAILABILITY OF CARBON CREDITS WITH VINTAGES:

Period of Measurement	Net Emission Reductions (tCO ₂ e) (vintage)
April 1 st , 2006 – December 31 st , 2006	3469 (2006)
January 1 st , 2007 – December 31 st , 2007	1464 (2007)
January 1 st , 2008 – December 31 st , 2008	3707(2008)
January 1 st , 2009 – July 1 st , 2009	2656 (2009)
Total Volume of VCUs Available →	11296 (April 1st, 2006 - July 1st, 2009)

CONTACT DETAIL: Quotes are welcome in US Dollar. Please contact us for any question related to the project and carbon credit purchase. We have all relevant documents readily available and can be provided on request.

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