# POSITIVE CLIMATE CARE
# 2.5 MW WIND POWER PROJECT ACTIVITY IN CHITRADURGA, KARNATAKA, INDIA

Monitoring Period:
April 1st, 2006 - July 1st, 2009

Total Available Volume : **21,027 VCUs**


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**VER PORTFOLIO DESCRIPTION**

## Positive Climate Care 2.5 MW Wind Power Project Activity in Chitradurga, Karnataka, India

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| **Project Type** | Type 1: Renewable Energy Projects |
| **Project Locations** | The project is located at village *Kurumaradikere* in *Chitradurga* district of *Karnataka* state in *India*. |
| **Description of Project** | Grid connected wind based power generation, by two state-of-the-art wind electricity generators (WEGs) of individual capacity 1.25 MW each, is operational at the project site. The generated electricity is fed to the Karnataka State Electricity Distribution grid, i.e. Bangalore Electricity Supply Company (BESCOM). The Karnataka state grid forms part of the Southern Regional Grid of India, which depends mainly on fossil fuels, therefore, this project contributes to reduced greenhouse gas emissions caused by reliance on fossil fuels. |
| **Methodology** | AMS I D - Grid Connected Renewable Electricity Generation<br>Methodological Tool: "Tool to calculate the emission factor for an electricity system"; EB 35, Annex 12, version 01.1; Valid from: July 29th, 2008 |
| **Volume / Vintage** | 6009/ Year 2006<br>6531/ Year 2007<br>6193/ Year 2008<br>2294/ Year 2009<br>Total Volume Available **21027**/ (April 1st, 2006 - July 1st, 2009) |
| **Transaction Type / Availability for Delivery** | The above shown total volume (**21027**) is readily available for sale. |
| **Unit Price** | Quotes are welcome. |
| **Costs & Taxes** | Seller has borne all costs associated with the production, validation and verification of the project activities. |
| **Verification Standard** | Voluntary Carbon Standard (VCS) 2007.1 |
| **Monitoring Standard / Methodology** | Title: "Grid connected renewable electricity generation"<br>AMS I D, version 14; valid from 31st July 2009<br>Reference: Clause 31 of Appendix B - the simplified modalities and procedures for small-scale CDM project activities. .<br>The first monitoring report for the period from April 1st, 2006 through July 1st, 2009 was submitted to VCS. Some salient features from this report are as follows:<br>o As per AMS I D - version 14, "monitoring must consist of metering the electricity generated by the renewable technology." In line with this requirement, - *the electricity generated by wind turbines is measured using* |

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| | *tri-vector electronic meters*.<br>o Electricity supplied to the grid by the project is measured through national standard electricity metering instruments. The delivered energy is metered at high voltage side of the step up transformers installed at the project site.<br>o To record the electricity generation from the two WEGs in control panel, digital meters (main and check) are equipped. These meters measure both export and import of electricity. One set of main and check meter is also available at the BESCOM switchyard/substation.<br>o Joint Meter Reading of both main and check meters are taken in the presence of KPTCL/BESCOM officials on the first day of each following month. The grid meter readings are compared with the individual WEG meters and the export meter readings recorded at the site. Based on these meter readings taken at WEG end, 'Form B' is generated, which shows export, import units and transmission losses from WEGs to the grid.<br>o The main and check energy meters and all associated instruments, transformers installed at the BESCOM substation are of 0.2% accuracy class. The meters installed at the BESCOM substation are jointly inspected and sealed by the representatives on behalf of investor and BESCOM.<br>o All main and check meters are tested for accuracy every calendar year with reference to a portable standard meter of 0.1% accuracy class.<br>o Calibration of all meters used for measuring the generated and transported power is done periodically. |
| **Status of Verification** | Verified on April 29, 2010 |
| **Additionality** | The project activity is a voluntary initiative by the investor, and it is not mandatory by law. In line with VCS 2007.1 requirements, the investor or project proponent demonstrated, (through Attachment A of Appendix B for simplified modalities and procedures for small scale CDM project activities), that the project activity was additional and not a baseline scenario.<br><br>In addition of being a financially unattractive investment, the referenced project activity faced regulatory barrier, and barriers due to prevailing practices. There was a 6-7 months delay in the commissioning of the project, and a 2-years delay in getting the power purchase agreement (PPA) with Karnataka state power utility/BESCOM; due to which Project proponent suffered from huge financial loss. As it is evident that when an investor invests into a project activity, he is dependent on the revenue generated from the project activity to meet out the project's working capital requirement and repay the investment incurred in the project activity but this factor (delay in PPA) has been led to time and cost over-run for the project activity. Therefore, the incentive through sale of the emission reductions would improve the returns from the project activity. |
| **Registry** | APX VCS Registry System – Project ID 302 |
| **Co-Benefits** | The project activity is an energy diversification measure where renewable energy is harnessed for generation of power in order to meet the increasing energy demand of Karnataka state. This technology for power generation does not have any associated GHG emission. In fact, several co-benefits are coupled with the ongoing project activity, such as:<br>• Project activity helps in rural and infrastructural development in the surrounding areas through various ways. The plant site is an isolated rural area where unemployment, poverty and other economic backwardness were prevailing. The project led to development of the region by providing direct and indirect employment to local skilled and unskilled workers, increasing industrial and economic activities in the area with availability of electricity, and |

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| | benefiting natives by involving them in ongoing allied project activitie s as well as in society welfare attempts.<br>• The demonstration of the project activity at a commercial level is encouraging future investments to capture the wind energy potential of the state and utilize the same to generate power. Addition of carbon benefits makes such projects more attractive.<br>• Since wind generated electricity is fed into a thermal power dominated grid, the gap between electricity demand and supply is being reduced by improving the grid frequency and availability of electricity to the local consumers (villagers & sub-urban habitants).<br>• Contribution towards reduction in demand and use of finite natural resources, e.g. coal, oil, gas and other fossil fuels, thereby minimizing their depletion or increasing their availability for other important processes.<br>• Wind power projects produce no end products in the form of solid waste, thereby addressing the problem of solid waste disposal encountered by most other sources of power. Neither such projects use any fuel for electricity generation, hence no effluents discharged into the water. |

## Photographs Taken During Stakeholder Consultation Meeting

# Wind Mill Photographs