CLEAN DEVELOPMENT MECHANISM
PROJECT DESIGN DOCUMENT FORM (CDM-SSC-PDD)
Version 03 - in effect as of: 22 December 2006

CONTENTS

Revision history of this document

Version Number	Date	Description and reason of revision
01	21 January 2003	Initial adoption
02	8 July 2005	• The Board agreed to revise the CDM SSC PDD to reflect guidance and clarifications provided by the Board since version 01 of this document. • As a consequence, the guidelines for completing CDM SSC PDD have been revised accordingly to version 2. The latest version can be found at <http://cdm.unfccc.int/Reference/Documents>.
03	22 December 2006	• The Board agreed to revise the CDM project design document for small-scale activities (CDM-SSC-PDD), taking into account CDM-PDD and CDM-NM.

SECTION A. General description of small-scale project activity

A.1 Title of the small-scale project activity:

>> Wind Power Project activity by MWP
Version: 01
20/10/2011

A.2. Description of the small-scale project activity:

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The project activity involves installation of one number of 2100 kW Suzlon make Wind Turbine Generators (WTGs) in the state of Karnataka by M/s Malaxmi Wind Power (hereafter referred as MWP or Project Proponent (PP)). The project activity is expected to generate 3826 MWh per annum.

MWP had placed Purchase Order (P.O.) for one number of 2100 kW Suzlon make WTG at the location of SND 101, Konchigere Village, Bellary District on 03/01/2011 and the WTG was commissioned on 31/03/2011.

The objective of the wind power project activity is to generate renewable electricity using wind power resources. The electricity generated by the project activity is being sold/will be sold to Gulbarga Electricity Supply Company Limited (GESCOM) which is connected to the Southern grid.

In the absence of the project activity electricity generated from the WTGs would have been generated by the operation of existing/proposed grid connected fossil fuel based power plants connected to Southern grid. The Project activity thus reduces the anthropogenic emissions of greenhouse gases (GHGs) in to the atmosphere associated with the equivalent amount of electricity generation from the existing/proposed fossil fuel based grid connected to Southern grid.

Contribution of the project activity to sustainable development

Ministry of Environment and Forests, Govt. of India has stipulated the social well being, economic well being, environmental well being and technological well being as the four indicators for sustainable development in the host country approval eligibility criteria for Clean Development Mechanism (CDM) projects[1].

Social well-being:

- The Project activity has created employment opportunities for the local people during the erection and commissioning of the WTG.
- Moreover, the Project activity has partially contributed towards development of infrastructure facilities such as roads etc in the local area which is part of the infrastructure development plan taken up by WTGs manufacturer.

Economic well-being:

[1] http://cdmindia.nic.in/host_approval_criteria.htm

- The project activity results in generation of additional employment opportunities for the local people which helps improving the standard of living of the people who will be employed for the project activity.

Environmental well-being:

- The project activity utilizes wind energy for the electricity generation. In the absence of the project activity, equivalent electricity would have been generated by existing/proposed grid connected fossil fuel based power plants. Hence the project activity reduces the anthropogenic GHG emissions into the atmosphere associated with equivalent electricity generation from the existing/proposed grid connected fossil fuel based power plants. Use of renewable energy source (wind energy) for energy generation helps in conservation of natural resources like coal and petroleum fuels.
- The project activity also displaces the other air pollutants such as SOx, NOx and particulate matter which would have otherwise been emitted by fossil fuel based power plants connected to the grid.

Technological well being

- Wind farm 'marks step towards cleaner and inexhaustible source of energy'

A.3. Project participants:

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Name of Party involved (*) ((host) indicates a host Party)	Private and/or public entity(ies) project participants (*) (as applicable)	Kindly indicate if the Party involved wishes to be considered as project participant (Yes/No)
India (Host)	Malaxmi Wind Power – Private Entity	No

A.4. Technical description of the small-scale project activity:

A.4.1. Location of the small-scale project activity:

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A.4.1.1. Host Party(ies):

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India

A.4.1.2. Region/State/Province etc.:

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Karnataka

A.4.1.3. City/Town/Community etc:

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Bellary District

A.4.1.4. Details of physical location, including information allowing the unique identification of this small-scale project activity :

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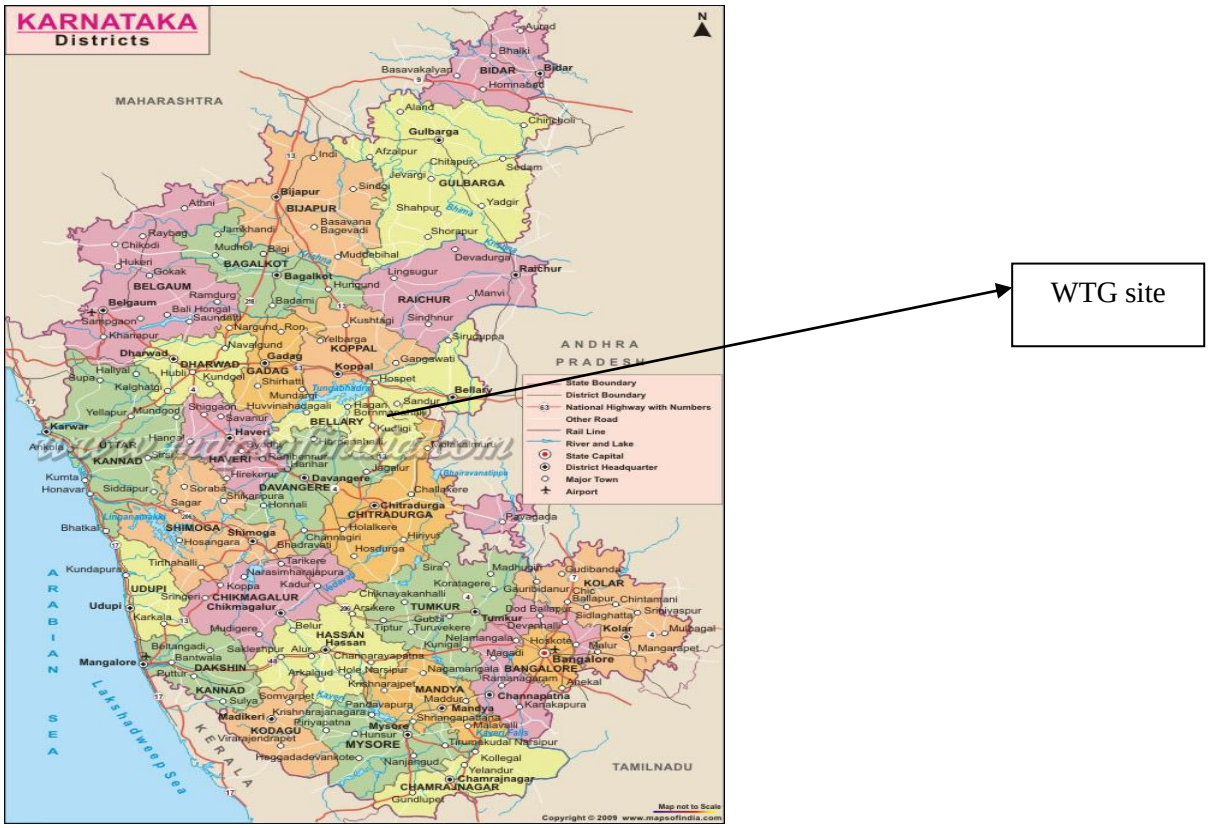
Location No.	Latitude (N)	Longitude (E)	District	Village	Nearest Airport	Nearest Railway Station
SND101	N15^0 23' 54.1"	E76^0 53' 08.9"	Bellary	Konchigere	Bangalore	Bellary



A.4.2. Type and category(ies) and technology/measure of the small-scale project activity:

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Type I: Renewable Energy Projects
Category D: Electricity Generation for a system
Title of methodology: Grid connected renewable electricity generation

Technology /measure of the small-scale project activity

The technical life time for the Wind Turbine Generator is 20 years 0 months. Technical details of 2100 kW Wind Turbine Generator of Suzlon makes machine of S88 installed by Arvind Construction Co. Private Limited is as under:

Sr. no.	Item	Description
1.	Make	Suzlon
2.	Model no.	S88
3.	Rating in KW	2100
4.	Hub Height	80 m
5.	Rotor Type	3 bladed, Upwind/Horizontal axis
6.	Rotor diameter	88m
7.	Rotor Swept area	6082 m^2
8.	Cut-in wind speed	4.0 m/s
9.	Rated wind speed	14 m/s
10.	Cut-out wind speed	25 m/s
11.	Regulation	Active Pitch-Regulated
12.	Pitch System Type	Electrical

Installation and operation of the windmills do not pose any environmental hazards. The technology of harnessing wind power through windmills is environmentally safe and sound. The host Government also agrees to this fact and does not ask for Environmental Impact Assessment for this type of projects. As supplier of wind energy converters (wind mills), Suzlon is well known in the market. They have a strong R&D back up. The project activity also reduces the other air pollutants such as SOx, NOx and particulate matter which would have been emitted by fossil fuel based power plants connected to the grid in the absence of project activity.

The project activity doesn't involve any technology transfer to the host country.

A.4.3 Estimated amount of emission reductions over the chosen crediting period:

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Total Chosen Crediting period is from 01/06/2012 to 31/05/2022

Years	Estimation of Annual Emission reductions in tonnes of CO_2 e
2012	3,505
2013	3,505
2014	3,505
2015	3,505
2016	3,505
2017	3,505
2018	3,505
2109	3.505
2020	3.505
2021	3,505
Total estimated reductions (tonnes of CO_2 e)	35,050

Total number of crediting years	10
Annual average of estimated reductions over the crediting period	3505

A.4.4. Public funding of the small-scale project activity:

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Public funding from Annex I countries and diversion of ODA is not involved in this project.

A.4.5. Confirmation that the small-scale project activity is not a debundled component of a large scale project activity:

As mentioned under *Appendix C of the Simplified Modalities and Procedures for Small-Scale CDM project Activities*, the following results into debundling of large CDM project:

"A proposed small-scale project activity shall be deemed to be a debundled component of a large project activity if there is a registered small-scale CDM project activity or an application to register another small-scale CDM project activity:

- With the same project participants;
- In the same project category and technology/measure; and
- Registered within the previous 2 years; and
- Whose project boundary is within 1 km of the project boundary of the proposed small-scale activity at the closest point."

The proposed project activity is not a debundled component of any larger project activity as there is no other small-scale project activity that fulfils all the above mentioned criteria.

SECTION B. Application of a baseline and monitoring methodology

B.1. Title and reference of the approved baseline and monitoring methodology applied to the small-scale project activity:

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Project has applied approved methodology available for small-scale CDM project at UNFCCC website under Appendix B of the simplified modalities and procedures for small-scale CDM project activities

Type I: Renewable Energy Projects
Category ID: Grid connected renewable electricity generation
Reference:
I.D./Version 17
Scope: 01
EB 61.
Valid from 17th June 2011

Tool to calculate the emission factor for an electricity system', Version 02.2.1, EB 63

B.2 Justification of the choice of the project category:

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The project activity involves generation of electricity by the means of renewable energy, wind. The project activity falls under the category of small scale projects. The methodology chosen for the project activity and its applicability to the project activity is discussed below.

Type I: Renewable Energy Projects
Category D: Electricity Generation for a system
Title of methodology: Grid connected renewable electricity generation

S.No.	Technology /Measure as per AMS I.D/version 17	Measure of project activity
1.	This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass: (a) Supplying electricity to a national or a regional grid. (b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.	The Project activity involves electricity generation using renewable energy which is based on wind power and supply of electricity to regional grid (Southern Grid).
2.	Illustration of respective situations under which each of the methodology (i.e. AMS-I.D, AMS-I.F and AMS-I.A2) applies is included in Table 2.	The project activity falls under point No. 1 of the Project Category as mentioned in the Table 2 of AMS ID Version 17.
3.	This methodology is applicable to project activities that (a) install a new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant); (b) involve a capacity addition[2]; (c) involve a retrofit[3] of (an) existing plant(s); or (d) involve a replacement[4] of (an) existing plant(s).	The project involves installation of one number of new WTG with capacity 2100 kW at site where there was no renewable energy power plant operating prior to the implementation of the project activity.
4.	Hydro power plants with reservoirs[5] that satisfy at least one of the following conditions are eligible to apply this methodology: • The project activity is implemented in an existing	This is not applicable to the project activity as the project activity is not a hydro power

[2] A capacity addition is an increase in the installed power generation capacity of an existing power plant through: (i) the installation of a new power plant besides the existing power plant/units, or (ii) the installation of new power units, additional to the existing power plant/units. The existing power plant/units continue to operate after the implementation of the project activity.

[3] Retrofit (or Rehabilitation or Refurbishment). It involves an investment to repair or modify an existing power plant/unit, with the purpose to increase the efficiency, performance or power generation capacity of the plant, without adding new power plants or units, or to resume the operation of closed (mothballed) power plants. A retrofit restores the installed power generation capacity to or above its original level. Retrofits shall only include measures that involve capital investments and not regular maintenance or housekeeping measures.

[4] Replacement. It involves investment in a new power plant or unit that replaces one or several existing unit(s) at the existing power plant. The installed capacity of the new plant or unit is equal to or higher than the plant or unit that was replaced.

[5] A reservoir is a water body created in valleys to store water generally made by the construction of a dam.

	reservoir with no change in the volume of reservoir; • The project activity is implemented in an existing reservoir[6], where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m2; The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m2.	plant.
5.	If the new unit has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel[7], the capacity of the entire unit shall not exceed the limit of 15MW.	The project activity will generate electricity from wind energy which is renewable source of energy; hence this condition is not applicable.
6.	Combined heat and power (co-generation) systems are not eligible under this category.	The project activity doesn't involve co-generation; hence this condition is not applicable.
7.	In the case of project activities that involve the addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct[8] from the existing units.	The project activity doesn't involve the addition of renewable energy generation units at an existing renewable power generation facility; hence this condition is not applicable.
8.	In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement unit shall not exceed the limit of 15 MW.	The project activity doesn't retrofit or replace an existing facility; hence this condition is not applicable.

The total installed capacity of the project activity is 2.1 MW which is less than the eligibility limit of 15 MW to qualify as a small scale project activity under Type I of the small scale methodologies Also no additional WTGs will be added to the project activity during its lifetime; Hence the project activity will remain under small scale project activity during every year of crediting period.

Table 2: Applicability of AMS-I.D, AMS-I.F and AMS-I.A based on project types

[6] A reservoir is to be considered as an .existing reservoir. if it has been in operation for at least three years before the implementation of the project activity

[7] Co-fired system uses both fossil and renewable fuels.

[8] Physically distinct units are those that are capable of generating electricity without the operation of existing units, and that do not directly affect the mechanical, thermal, or electrical characteristics of the existing facility. For example, the addition of a steam turbine to an existing combustion turbine to create a combined cycle unit would not be considered "physically distinct".

	Project type	AMS-I.A	AMS-I.D	AMS-I.F
1	Project supplies electricity to a national/regional grid		Yes	
2	Project displaces grid electricity consumption (e.g. grid import) and/or captive fossil fuel electricity generation at the user end (excess electricity may be supplied to a grid)			Yes
3	Project supplies electricity to an identified consumer facility via national/regional grid (through a contractual arrangement such as wheeling)		Yes	
4	Project supplies electricity to a mini grid[9] system where in the baseline all generators use exclusively fuel oil and/or diesel fuel			Yes
5	Project supplies electricity to household users (included in the project boundary) located in off grid areas	Yes		

Hence it can be concluded that the selected methodology, AMS I D – Grid Connected Renewable Electricity Generation is applicable to project activity

B.3. Description of the project boundary:

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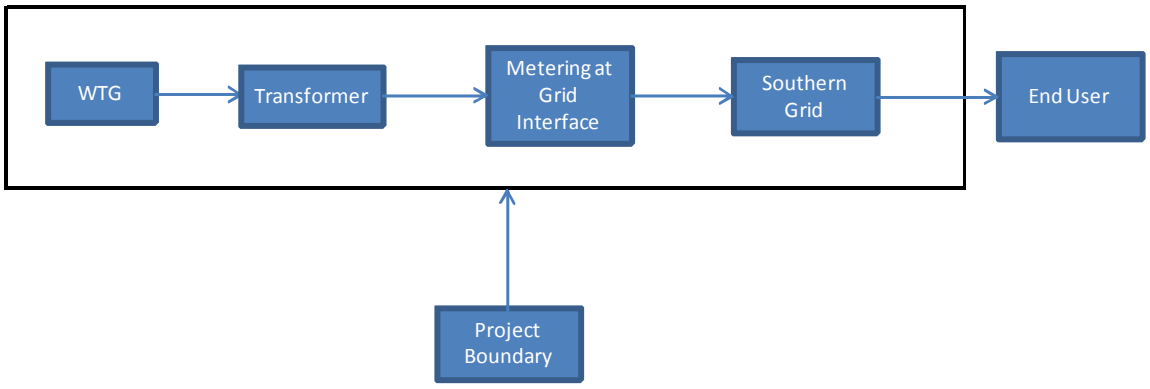
According to the methodology, AMS ID, Version 17, The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to.

The project boundary encompasses the physical, geographical site of the 2.1 MW project activity at the project location as specified in Section A.4.1.4 above.



B.4. Description of baseline and its development:

[9] The sum of installed capacities of all generators connected to the mini-grid is equal to or less than 15 MW.

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The objective of the wind power project activity is to generate renewable electricity using wind power resources. The electricity generated by the project activity is being sold/will be sold to Gulbarga Electricity Supply Company Limited (GESCOM) which is also connected to the Southern grid.

In the absence of the project activity electricity generated from the WTGs would have been generated by the operation of existing/proposed grid connected fossil fuel based power plants connected to Southern grid. The Project activity thus reduces the anthropogenic emissions of greenhouse gases (GHGs) in to the atmosphere associated with the equivalent amount of electricity generation from the existing/proposed fossil fuel based grid connected to Southern grid.

As per AMS I D version 17 :
10. The baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.

11. The baseline emissions are the product of electrical energy baseline $EG_{BL,\ y}$ expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission factor.

$$BE_y = EG_{BL,y} * EF_{CO_2,grid,y}$$

Where:

BE_y	Baseline Emissions in year y; t CO_2
$EG_{BL,y}$	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)
$EF_{CO2,grid,y}$	CO_2 emission factor of the grid in year y (t CO2/MWh)

As per AMS I D version 17 paragraph 12 the Emission Factor has to be calculated in a transparent and conservative manner as follows:

(a) A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the 'Tool to calculate the Emission Factor for an electricity system'.

OR

(b) The weighted average emissions (in kg CO_2e/kWh) of the current generation mix. The data of the year in which project generation occurs must be used.

Calculations must be based on data from an official source (where available)[10] and made publicly available.

[10] Plant Emission Factors used for the calculation of Emission Factors should be obtained in the following priority:

1. *Acquired directly* from the dispatch center or power producers, if available; or
2. *Calculated*, if data on fuel type, fuel Emission Factor, fuel input and power output can be obtained for each plant;

If confidential data available from the relevant host Party authority are used, the calculation carried out by the project participants shall be verified by the DOE and the CDM-PDD may only show the resultant carbon Emission Factor and the corresponding list of plants;

Accordingly, the option (a) of the paragraph 12, version 17, AMS I D has been chosen. The emission coefficient (measured in tCO_2e/MWh) calculated in a transparent and conservative manner as a combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the "Tool to calculate the emission factor for an electricity system (version 02.2.1)" (hereafter referred to as "Tool"). This is being determined in line with paragraph 12 (a) of AMS-I.D version 17. Baseline scenario would be equivalent amount of electricity generation by the prevailing generation mix of the SOUTHERN Grid.

Variable	**Data Source**
$EG_{BL,y}$ – Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)	Records maintained by project proponent
Parameter	**Data Source**
$EF_{grid,OM,\ y}$ - Build Margin Emission Factor (tCO_2e /MWh)	Central Electricity Authority (CEA) CO2 database version 6 dated March 2011. (www.cea.nic.in)
$EF_{grid,BM,\ y}$ = Operating Margin Emission Factor (tCO_2e/MWh)	Central Electricity Authority (CEA) CO2 database version 6 dated March 2011. (www.cea.nic.in)
EF_{CO2} – Grid Emission Factor (tCO_2e/MWh)	Calculated as the weighted average of the operating margin and build margin

B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered small-scale CDM project activity:

In the absence of the project activity the equivalent amount of electricity would have been generated by the operation of grid connected power plants that are predominantly GHG intensive Thermal power plants. The Project activity will thus reduce the anthropogenic emissions of greenhouse gases (GHGs) in to the atmosphere associated with the equivalent amount of electricity generation.

Additionality

3. *Calculated*, as above, but using estimates such as: default IPCC values from the 2006 IPCC Guidelines for National GHG Inventories for net calorific values and carbon Emission Factors for fuels instead of plant-specific values technology provider's name plate power plant efficiency or the anticipated energy efficiency documented in official sources (instead of calculating it from fuel consumption and power output). This is likely to be a conservative estimate, because under actual operating conditions plants usually have lower efficiencies and higher emissions than name plate performance would imply; conservative estimates of power plant efficiencies, based on expert judgments on the basis of the plant's technology, size and commissioning date; or
4. *Calculated*, for the simple OM and the average OM, using aggregated generation and fuel consumption data, in cases where more disaggregated data is not available.

As explained above, the project initiative qualifies under Type I D. The following paragraph has been detailed on project additionality.

In response to decision 1/CMP.2 (paragraph 15(a)), which encouraged the Board to provide non-binding best practice examples on the demonstration of additionality to assist the development of project design documents, in particular for small-scale project activities, after considering public input and an expert assessment, the Board at its thirty-fifth meeting agreed to provide the following examples:

Project participants shall provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers:

- **Investment barrier**:
- **Access-to-finance barrier**:
- **Technological barrier:**
- **Barrier due to prevailing practice**:
- **Other barriers**

The additionality of the project activity is being established using the following barriers:

a) Investment barrier

Investment Barrier:

The investment analysis method recommends three analysis methods: simple cost analysis, investment comparison analysis and benchmark analysis. The proposed project produces economic benefits through the sales of electricity other than CDM related income; therefore, the simple cost analysis can not be taken. The investment comparison analysis is not applicable to the proposed project because the alternative of the proposed project is "Equivalent electricity service provided by the grid", is outside the direct control of the PP.

As per Annex 05 of EB 62, the benchmark approach is suited to circumstances where the baseline does not require investment or is outside the direct control of the project developer, i.e. cases where the choice of the developer is to invest or not to invest. In the project activity the baseline scenario is the generation of equivalent amount of electricity from the grid connected power plants.

The baseline scenario is outside the direct control of the PP. Hence, the benchmark analysis is chosen and the Project IRR is used as the financial indicator to assess the financial viability of the project activity.

The purpose of the project IRR calculation is to determine the viability of the project to service debt. As 70% of the project cost is serviced by Debt, hence Project IRR is considered appropriate financial indicator to assess the financial viability of the project activity.

As per the "guidelines on the Assessment of Investment Analysis" Version 05, Local commercial lending rates or weighted average costs of capital (WACC) are appropriate benchmarks for a project IRR. Hence the benchmark for the project activity is chosen as the Benchmark Prime Lending Rate (PLR) as prescribed by the State Bank of India which is a nationalized bank. At the time of investment decision the

PLR as per the State Bank of India (also know as State Bank Advance Rate) was 12.50%[11]. Hence the PP has chosen the average which is 12.50% as the benchmark for the assessment of the financial viability of the project activity.

Project IRR Calculation:

As per the guidance on assessment of Investment Analysis version 05, "Both project IRR and equity IRR calculations shall as a preference reflect the period of expected operation of the underlying project activity (technical lifetime), or - if a shorter period is chosen - include the fair value of the project activity assets at the end of the assessment period. In general a minimum period of 10 years and a maximum of 20 years will be appropriate." The period considered for Project IRR calculation is 20 years which corresponds to the operational lifetime of the project activity.

Depreciation, and other non-cash items related to the project activity, which have been deducted in estimating gross profits on which tax is calculated, is added back to net profits for the purpose of calculating the financial indicator.

The assumptions for the WTG's are listed as under:

Project Capacity in MW	2.10	Quotation provided to Malaxmi Wind Power by Suzlon Energy Limited
Installed Capacity of machines (MW)	2.10	Quotation provided to Malaxmi Wind Power by Suzlon Energy Limited
Plant Load Factor for 2.10 MW Machine	20.80%	provided to the debt financers while applying the project activity for project financing.
Operation & Maintenance Cost (free for first 2 years from Date of commissioning and 21 Lakhs per annum per WTG from 3 year with 5% escalation every year) for 2.10 machines (INR Million)	2.10	Quotation provided to Malaxmi Wind Power by Suzlon Energy Limited
% of escalation per annum on O & M Charges every year	5.00%	Quotation provided to Malaxmi Wind Power by Suzlon Energy Limited
Administrative and Overheads Expenses (INR Millions)	0.50	Note on the Project submitted for the investment decision to the Proprietor
Escalation on Administrative and Overheads Expenses	5.00%	Note on the Project submitted for the investment decision to the Proprietor
Insurance Premium (INR Million)	0.10	Quotation provided to Malaxmi Wind Power by Suzlon Energy Limited
Service Tax	10.30%	

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http://myiris.com/newsCentre/storyShow.php?fileR=20101020123026707&secID=fromnewsroom&secTitle=From%20the%20News%20Room&dir=2010/10/20

Maximum Amount of GBI Availed (INR Million)	13.02	Scheme for Implementation of Generation Based Incentives (GBI) for Grid Interactive Wind Power Projects.
Tariff for sale to ESCOM - Rs./Kwh	3.70	KERC Order "In the matter of Determination of Tariff in respect of Renewable Sources of Energy" dated 11/12/2009
Revenue per unit under GBI scheme - INR/Kwh	0.50	Scheme for Implementation of Generation Based Incentives (GBI) for Grid Interactive Wind Power Projects.
Project Cost	INR Million	
WTG Cost	112.000	Quotation provided to Malaxmi Wind Power by Suzlon Energy Limited
Land Cost	3.000	Quotation provided to Malaxmi Wind Power by Suzlon Energy Limited
Loan Processing Charges (assumed as 1% of the loan applied)	0.81	Assumed on the basis of Past Loans availed
Total Project Cost	115.81	
Means of Finance	INR Million	
Internal Accruals	35.31	KERC Order "In the matter of Determination of Tariff in respect of Renewable Sources of Energy" dated 11/12/2009
Loan Component	80.50	KERC Order "In the matter of Determination of Tariff in respect of Renewable Sources of Energy" dated 11/12/2009
Total Source	115.81	KERC Order "In the matter of Determination of Tariff in respect of Renewable Sources of Energy" dated 11/12/2009
Interest rate	12.50%	http://in.reuters.com/article/2010/12/13/india-plr-idINSGE6BC06T20101213
Repayment Period	10.00	KERC Order "In the matter of Determination of Tariff in respect of Renewable Sources of Energy" dated 11/12/2009
Moratorium	1.00	KERC Order "In the matter of Determination of Tariff in respect of Renewable Sources of Energy" dated 11/12/2009

Income Tax Depreciation Rate (Written Down Value basis)	15.00%	Income Tax Act
Book Depreciation Rate (Straight Line Method basis)	5.24%	Schedule XIV of Company's Law
Book Depreciation up to (% of asset value)	100.00%	Schedule XIV of Company's Law
Income Tax		
Income Tax rate	30.00%	Income Tax rates as per First Schedule of Income Tax Act 1961 as amended by Finance Act 2010
Surcharge	10.00%	Income Tax rates as per First Schedule of Income Tax Act 1961 as amended by Finance Act 2010
Cess	3.00%	Income Tax rates as per First Schedule of Income Tax Act 1961 as amended by Finance Act 2010

Based on the above assumptions, Project IRR works out to 9.74% only in contrast to the benchmark return of 12.50%. Thus, it is evident that the project is not financially attractive.

The robustness of the conclusion drawn above, namely that the project is not financially attractive, has been tested by subjecting critical assumptions to reasonable variation. As required by Annex 05 of EB 62, only variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues should be subjected to reasonable variation. PP has identified t the total revenue from the project activity is dependent on the Plant Load Factor and Project Cost, O&M Costs constitute more than 20% of the project costs. These three factors have been subjected to a 10% variation on either side and the results of the sensitivity analysis so conducted are given in the following table.

FACTOR	VARIATION		
	-10%	0%	10%
PLF	9.28%	9.74%	10.25%
Project Cost	10.20%	9.74%	9.40%
O&M Costs	9.84%	9.74%	9.65%
Tariff	9.29%	9.74%	10.24%
Benchmark	12.50%		

The above analysis proves that varying the parameters does not lead to a Project IRR without CDM revenue which will cross the benchmark value.

The carbon revenue from the project activity would provide significant amount of returns from the sale of the Emission Reductions accrued from the project activity and in turn increase the financial attractiveness

of the project activity and hence make the project activity more financially viable. The Project IRR after consideration of the carbon revenue alleviates to 10.63%.

In spite of the low returns for the Project activity the Project participants have made the investment only in lieu of the due consideration of the CDM revenue. Hence it is evident that without the GHG emission reduction credits the project activity wouldn't have been taken up.

As per the EB's Guidance on Demonstration and assessment of the prior consideration of the CDM the following table indicates the events taken up by the PP to indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation.

Timeline			
Date	**Project Implementation**	**Actions for acquiring CDM**	**Proof**
03/01/2011	P.O. to Suzlon for the supply of WTG at location SND101		Copy of the P.O.
18/03/2011		The invitation for the Local stakeholder Meeting was advertised in the local News Paper	Copy of the News Paper
22/03/2011		Local Stakeholder Meeting conducted at the WTG site.	Copy of the Local Stakeholder Minutes of Meeting
31/03/2011	Commissioning of the WTG at location SND 101		Commissioning Certificate
12/05/2011		Submission of Prior Consideration of the CDM form for expressing the intention to seek CDM status to Indian DNA and UNFCCC	Copy of the E-mail
05/04/2011		Appointment of Core CarbonX Solutions Pvt Ltd for providing the CDM consultancy services for the project activity	Copy of contract

B.6. Emission reductions:

B.6.1. Explanation of methodological choices:

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As per AMS I D version 17 paragraph 11:
The baseline emissions are the product of electrical energy baseline $EG_{BL,\ y}$ expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission factor.

$$BE_y = EG_{BL,y} * EF_{CO_2,grid,y}$$

Where:

BE_y	Baseline Emissions in year y; t CO_2
$EG_{BL,y}$	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)
$EF_{CO2,grid,y}$	CO2 emission factor of the grid in year y (t CO2/MWh)

Input values and data sources for emission reductions associated with electricity displacement

Parameter	Description	Value	Source
$BE_y = EG_{BL,y} * EF_{CO_2,grid,y}$			
BE_y	Baseline Emissions in year y; t CO_2		Calculated
$EG_{BL,y}$	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)	3826	Calculated as PLF × installed capacity of machines × Number of Hours (8760)
$EF_{CO2,grid,y} = EF_{grid,CM,y}$	CO_2 Emission Factor of grid in year y; t CO_2e/MWh	0.91616	Calculated

As per paragraph 12, AMS ID Version 17, the Emission Factor can be calculated in a transparent and conservative manner as follows:

(a) A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the 'Tool to calculate the Emission Factor for an electricity system', Version 02.2.1.

OR

(b) The weighted average emissions (t CO_2e/MWh) of the current generation mix. The data of the year in which project generation occurs must be used.

Calculations must be based on data from an official source (where available)[12] and made publicly available.

[12] Plant Emission Factors used for the calculation of Emission Factors should be obtained in the following priority:

1. *Acquired directly* from the dispatch center or power producers, if available; or
2. *Calculated*, if data on fuel type, fuel Emission Factor, fuel input and power output can be obtained for each plant;

If confidential data available from the relevant host Party authority are used, the calculation carried out by the project participants shall be verified by the DOE and the CDM-PDD may only show the resultant carbon Emission Factor and the corresponding list of plants;

3. *Calculated*, as above, but using estimates such as: default IPCC values from the 2006 IPCC Guidelines for National GHG Inventories for net calorific values and carbon Emission Factors for fuels instead of plant-specific values technology provider's name plate power plant efficiency or the anticipated energy efficiency documented in official sources (instead of calculating it from fuel consumption and power output). This is likely to be a conservative estimate, because under actual operating conditions plants usually have lower efficiencies and higher emissions than name plate performance would imply;

In the project activity, the option A has been used which prescribes use of 'Tool to calculate the emission factor for an electricity system', Version 02.2.1.

Step 1. Identify the relevant electricity systems

Since the CDM project activity is connected to the Southern regional grid it is also preferred to take the SOUTHERN regional grid as project boundary than the state boundary. It also minimizes the effect of inter state power transactions, which are dynamic and vary widely.

Step 2: **Choose whether to include off-grid power plants in the project electricity system (optional)**
Project participants may choose between the following two options to calculate the operating margin and build margin emission factor:
Option I: Only grid power plants are included in the calculation.
Option II: Both grid power plants and off-grid power plants are included in the calculation.

Only Grid power plants are included in the Combined Margin calculation as published by Central Electricity Authority in "The Central Electricity Authority (CEA): Baseline Carbon Dioxide Emission database version 6 dated March 2011", hence the Option I has been considered for the project activity.

Step 3. Select an operating margin (OM) method

The calculation of the operating margin emission factor ($EF_{grid,OM,y}$) is based on one of the following methods: (a) Simple OM, (b), Simple adjusted OM, (c) Dispatch Data Analysis, or (d) Average OM.
The two variants "Simple adjusted operating margin" and "Dispatch data analysis operating margin" cannot currently be applied in India due to lack of necessary data.

In India, hydro and nuclear stations qualify as low-cost / must-run sources and are excluded. The operating margin, therefore, can be calculated by dividing the region's total CO_2 emissions by the net generation of all thermal stations. Thus, Simple OM has been chosen.

The Central Electricity Authority (CEA): Baseline Carbon Dioxide Emission database version 6.0 dated 6th March 2011 data have been publicised and the simple OM has been referred for the OM calculation.

The ex-ante option has been selected for the Project.

Step 4. Calculate the operating margin emission factor according to the selected method (OM)
The Operating Margin is calculated considering of the generation weighted average of Operating Margin date for the Southern Grid as published by CEA during the years 2007-2008, 2008-2009 and 2009-2010. The weighted average value for the Southern Grid is 0.9670 tCO2/MWh. (Source: Central Electricity Authority (CEA) Baseline Carbon Dioxide Emission database version 6.0 dated March 2011. (www.cea.nic.in))

conservative estimates of power plant efficiencies, based on expert judgments on the basis of the plant's technology, size and commissioning date; or
4. *Calculated*, for the simple OM and the average OM, using aggregated generation and fuel consumption data, in cases where more disaggregated data is not available.

Step 5. Calculate the build margin emission factor

The build margin considered is for the year 2009-2010 for the Southern grid and the value is 0.7634 tCO2/MWh. The data for the build margin and the operating margin is taken from the Central Electricity Authority Baseline Carbon Dioxide Emission database version 6.0 dated March 2011.

Step 6. Calculate the combined margin emission factor

The combined margin emission factor is calculated as follows:

Input values and data sources for the calculation of EF_{CO2} ($EF_{grid,CM,y}$)

Parameter	Description	Unit	Source
$EF_{grid,CM,y} = EF_{grid,OM,y} \times w_{OM} + EF_{grid,BM,y} \times w_{BM}$			"Tool to calculate the emission factor for an electricity system" version 02.2.1, equation 14
$EF_{grid,CM,y} = EF_{CO2,grid,y}$	Combined margin CO2 emission factor in year y. This equals to EF_{CO2}	tCO_2/MWh	Calculated
$EF_{grid,OM,y}$	Simple operating margin CO_2 emission factor in year y.	tCO_2/MWh	Calculated
$EF_{grid,BM,y}$	Build margin CO_2 emission factor in year y	tCO_2/MWh	Calculated
w_{OM}	Weighting of operating margin emission factor	0.75	"Tool to calculate the emission factor for an electricity system" version 02.2.1
w_{BM}	Weighting of build margin emission factor	0.25	"Tool to calculate the emission factor for an electricity system" version 02.2.1

As per "Tool to calculate the emission factor for an electricity system" version 02.2.1,
"The following default values should be used for w_{OM} and w_{BM}:
Wind and solar power generation project activities: w_{OM} = 0.75 and w_{BM} = 0.25 (owing to their intermittent and non-dispatchable nature) for the first crediting period and for subsequent crediting periods"
Hence the values used are w_{OM} = 0.75 and w_{BM} = 0.25

$EF_{grid,CM,y} = EF_{CO2,grid,y}$ = Weighted Average OM & BM = 0.91616 tCO2e/MWh.

Leakage
In accordance with methodology AMS I.D, leakage is to be considered only if the energy generating equipment is transferred from another activity.
This is not applicable here so $L_y = 0$

Project Emissions

As per AMS ID, Version 17, "For most renewable energy project activities, *PEy* = 0. However, for the following categories of project activities, project emissions have to be considered following the procedure described in the most recent version of ACM0002.

- Emissions related to the operation of geothermal power plants (e.g. non-condensable gases, electricity/fossil fuel consumption)
- Emissions from water reservoirs of hydro power plants"

As the project activity is wind power project, hence $PE_y = 0$

Emissions Reductions = Baseline Emissions ($BE_{y,}$) – Project Emissions (PE_y) – Leakage (L_y)

Hence,
$ER_y = BE_y$

B.6.2. Data and parameters that are available at validation:

Data / Parameter:	$EF_{grid,OM\ ,\ y}$
Data unit:	tCO_{2e}/MWh
Description:	The Operating Margin emission factor of Southern Grid
Source of data used:	Central Electricity Authority (CEA) Baseline Carbon Dioxide Emission database version 6.0 dated March 2011
Value applied:	0.96708
Justification of the choice of data or description of measurement methods and procedures actually applied :	The value used is calculated ex-ante as average of the last three years of the Operating margin provided by Central Electricity Authority (CEA) Baseline Carbon Dioxide Emission database version 6.0 dated March 2011
Any comment:	

Data / Parameter:	$EF_{grid,BM\ ,\ y}$
Data unit:	tCO_{2e}/MWh
Description:	The Build Margin emission factor of Southern grid
Source of data used:	Central Electricity Authority (CEA) Baseline Carbon Dioxide Emission database version 6.0 dated March 2011
Value applied:	0.7634
Justification of the choice of data or description of measurement methods and procedures actually applied :	The value used is calculated ex-ante as recent most Build margin provided by Central Electricity Authority (CEA) Baseline Carbon Dioxide Emission database version 6.0 dated March 2011
Any comment:	

Data / Parameter:	$\mathbf{EF_{CO2,grid,y}} = EF_{grid,CM,y}$
Data unit:	tCO_2e/MWh
Description:	The grid CO_2 emission factor in year *y*

Source of data used:	Calculated
Value applied:	0.91616
Justification of the choice of data or description of measurement methods and procedures actually applied :	The value has been calculated as 0.75* $EF_{grid,OM,y}$ + 0.25* $EF_{grid,BM,y}$
Any comment:	Used for emission reduction calculation. The same is fixed ex-ante for the entire crediting period

B.6.3 Ex-ante calculation of emission reductions:

As per AMS I D version 17 paragraph 11:
The baseline emissions are the product of electrical energy baseline $EG_{BL,y}$ expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission factor.

Parameter	Description	Value	Source
$BE_y = EG_{BL,y} * EF_{CO_2,grid,y}$			
BE_y	Baseline Emissions in year y; t CO_2		Calculated
$EG_{BL,y}$	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)	3826	Calculated as PLF × installed capacity × Number of Hours (8760)
$EF_{CO2,grid,y}$ = $EF_{grid,CM,y}$	CO_2 Emission Factor of grid in year y; t CO_2e/MWh	0.91616	Calculated

BE_y = 3826(MWh) * 0.91616 (tCO2/MWh) = 3505 tCO2e

Leakage
In accordance with methodology AMS I.D, leakage is to be considered only if the energy generating equipment is transferred from another activity.
This is not applicable here so $L_y = 0$

Project Emissions

As per AMS ID, Version 17, "For most renewable energy project activities, *PEy* = 0. However, for the following categories of project activities, project emissions have to be considered following the procedure described in the most recent version of ACM0002.

- Emissions related to the operation of geothermal power plants (e.g. non-condensable gases, electricity/fossil fuel consumption)
- Emissions from water reservoirs of hydro power plants"

As the project activity is wind power project, hence $PE_y = 0$

Emissions Reductions = Baseline Emissions (BE_y) – Project Emissions (PE_y) – Leakage (L_y)
Hence,

$ER_y = BE_y$
ER_y = 3505 tCO_2e

B.6.4 Summary of the ex-ante estimation of emission reductions:

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Year	Estimation of project activity emissions (tCO_2e)	Estimation of baseline emissions (tCO_2e)	Estimation of Leakage (tCO_2e)	Estimation of Overall Emission Reduction (tCO_2e)
2012-2013	0	3505	0	3505
2013-2014	0	3505	0	3505
2014-2015	0	3505	0	3505
2015-2016	0	3505	0	3505
2016-2017	0	3505	0	3505
2017-2018	0	3505	0	3505
2018-2019	0	3505	0	3505
2019-2020	0	3505	0	3505
2020-2021	0	3505	0	3505
2021-2022	0	3505	0	3505
Total (tonnes of CO2e)	0	35050	0	35050

B.7 Application of a monitoring methodology and description of the monitoring plan:

B.7.1 Data and parameters monitored:

Data / Parameter:	**$EG_{BL,y}$**
Data unit:	MWh
Description:	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y
Source of data to be used:	Form B/Monthly billing records which is given by ESCOM.
Value of data	3826
Description of measurement methods and procedures to be applied:	The net electricity supplied by the WTG's installed in Karnataka is calculated as the difference between Export and the import readings and the Transmission Losses as follows: **$EG_{BL,y} = (EG_{export,y.Karnataka} - EG_{import,y,,Karnataka} - EG_{T-E,y,,Karnataka})$**
QA/QC procedures to be applied:	The readings of the main meter are cross checked with the readings in the check meters. In case of failure/error in the readings of the main meter, the readings in the check meter will be considered and the main meter will be retested/recalibrated/replaced immediately. The data will be archived

	electronically for a minimum of two years after the end of the crediting period or the last issuance of CERs for this project activity, whichever occurs later The form B and invoice will be under the custody of Project Executor and Controller
Any comment:	

Data / Parameter:	**$EG_{export,y.Karnataka}$**
Data unit:	kWh
Description:	The Electricity exported by the WTG's in Karnataka
Source of data to be used:	Form B/Monthly billing records which is given by ESCOM.
Value of data	3826368
Description of measurement methods and procedures to be applied:	The electricity exported will be measured using energy meter at grid interconnection point which is under the control of ESCOM. For billing purpose, the meter readings (Joint meter readings or JMR's) are taken every month by ESCOM officials in the presence of Suzlon representatives and the readings are jointly certified. The JMR's have the readings of both the main meter as well as the check meter. The readings along with the export units for the month are issued to project proponent as Form B by ESCOM. The sum of the export units as reported in the Form B of all the above meters represent the total electricity exported to the grid by the project activity. Measurement equipment : Energy meters Calibration frequency : Once in a Year Accuracy of the meters : 0.2s Measurement interval : Continuous measurement, monthly recording
QA/QC procedures to be applied:	The readings of the main meter are cross checked with the readings in the check meters. In case of failure/error in the readings of the main meter, the readings in the check meter will be considered and the main meter will be retested/recalibrated/replaced immediately. The data will be archived electronically for a minimum of two years after the end of the crediting period or the last issuance of CERs for this project activity, whichever occurs later The form B and invoice will be under the custody of Project Executor and Controller
Any comment:	

Data / Parameter:	**$EG_{import,y,,Karnataka}$**
Data unit:	kWh
Description:	The Electricity imported by the WTG's in Karnataka
Source of data to be used:	Form B/Monthly billing records which is given by ESCOM.
Value of data	0
Description of	The electricity electricity imported will be measured using energy meter at grid

measurement methods and procedures to be applied:	interconnection point which is under the control of ESCOM. For billing purpose, the meter readings (Joint meter readings or JMR's) are taken every month by ESCOM officials in the presence of Suzlon representatives and the readings are jointly certified. The JMR's have the readings of both the main meter as well as the check meter. The readings along with the import units for the month are issued to project proponent as Form B by ESCOM. The sum of the import units as reported in the Form B of all the above meters represent the total electricity imported from the grid by the project activity. Measurement equipment : Energy meters Calibration frequency : Once in a Year Accuracy of the meters : 0.2s Measurement interval : Continuous measurement, monthly recording
QA/QC procedures to be applied:	The readings of the main meter are cross checked with the readings in the check meters. In case of failure/error in the readings of the main meter, the readings in the check meter will be considered and the main meter will be retested/recalibrated/replaced immediately. The data will be archived electronically for a minimum of two years after the end of the crediting period or the last issuance of CERs for this project activity, whichever occurs later The form B and invoice will be under the custody of Project Executor and Controller
Any comment:	

Data / Parameter:	$\mathbf{EG_{T\text{-}E,y,,Karnataka}}$
Data unit:	kWh
Description:	The total transmission losses for the WTG's in Karnataka
Source of data to be used:	Form B/Monthly billing records which is given by ESCOM.
Value of data	0
Description of measurement methods and procedures to be applied:	There is another meter called the 'Bulk meter' which is installed at each of this sub-station. Bulk meter again contains a main meter and a check meter. This meter is also sealed and is in the custody of respective State Utility officials. Utility officials in the presence of representative/s of project proponent take the readings (Joint Meter Reading) of the meters on a monthly basis. Bulk meters are installed for the purpose of determining transmission loss (or line loss). It also gives the total electricity exported and imported by all the wind turbines connected to the sub-station. The readings for total electricity exported or imported are given by the main and check meters in a manner as explained above. Transmission loss is calculated by using the formula: $Z = (X – Y) / X) \times 100$ Where, Z is the percentage transmission loss which is common for all wind turbines located in the same area and connected to the same sub-station. X is the total electricity supplied/exported by all the wind turbines connected to the sub-station.

	Y is the reading of the bulk meter installed at the sub-station. The above formula gives transmission loss as a percentage. By multiplying the percentage of transmission loss with electricity exported by the project activity, the transmission loss incurred by the project activity can be arrived at. Invoice copy contains this figure. The transmission losses for each of the meters is reported in Form B issued to project proponent by ESCOM. The sum of the transmission losses as reported in the Form B of all the above meters represent the total transmission losses for the project activity.
QA/QC procedures to be applied:	The data will be archived electronically for a minimum of two years after the end of the crediting period or the last issuance of CERs for this project activity, whichever occurs later The form B and invoice will be under the custody of Project Executor and Controller
Any comment:	

B.7.2 Description of the monitoring plan:

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The project activity is operated and managed by the project proponent with the help of site O & M contractor (personnel from the wind turbine manufacturer). For the accurate execution of the Project activity a project team has been constructed. The wind power project abides and will abide by all regulatory and statutory requirements as prescribed under the state and central laws and regulations. The project team is delegated with the responsibility of monitor and document the electricity generated and also safe keeping of the recorded data. The project team is also responsible for calculation of actual creditable emission reduction in the most transparent and relevant manner.

Monitoring Plan for the WTG's

The electricity being generated is monitored at the Project site using an electronic Trivector export and import meter of 0.2 s Class accuracy which is installed and owned by PP. There is also check meter which is an electronic trivector meter of Class 0.2 s which is installed and owned by the Gulbarga Electricity Supply Company Limited (GESCOM). This meter records the electricity generated on a half-hourly basis and monthly basis. The monthly meter readings (both main and check meters) will be taken jointly by the GESCOM and the PP and this reading will comprise of the electricity generation from 12 midnight of the previous month to 12 midnight of the current month. The recorded metering data will be downloaded through the meter recording instrument. Both the main and check meters are jointly inspected and sealed on behalf of the parties and shall not be interfered with by either party except in the presence of the other party or its accredited representatives.

Both the main and check meters will be tested for accuracy every calendar year with reference to a portable standard meter which shall be of an accuracy class of 0.1s. The meters shall be deemed to be working satisfactorily if the errors are within specifications for meters of 0.2s class accuracy. The consumption as recorded by main meter will hold well for the purpose of emission reduction calculation as long as the error in the main meter is within the permissible limits. The error specifications and permissible limits will be as per the Standard IS 14697.
If during the tests, the meter is found to be beyond the permissible limits of error, the meter shall be immediately calibrated and the error percentage shall be applied for all measured values taken during the

period between the date of testing when the meter has not reported errors within the permissible limits and the date of testing where the meter has reported errors beyond the permissible limits

The registration date is the starting date of the crediting period. There will be a timeline on the date on which the project activity will be registered and the date on which the joint meter reading (JMR) will be conducted. To avoid confusion for metering of electricity for this initial period (date of registration to date of joint meter reading), the project proponent proposes to calculate the initial period generation on pro rata basis as follows:

1. as per the generation reading at the controller of the individual turbines for this period / (total generation reading at the controller for the entire month) * Net electricity supplied by the WTG to the grid for the entire month

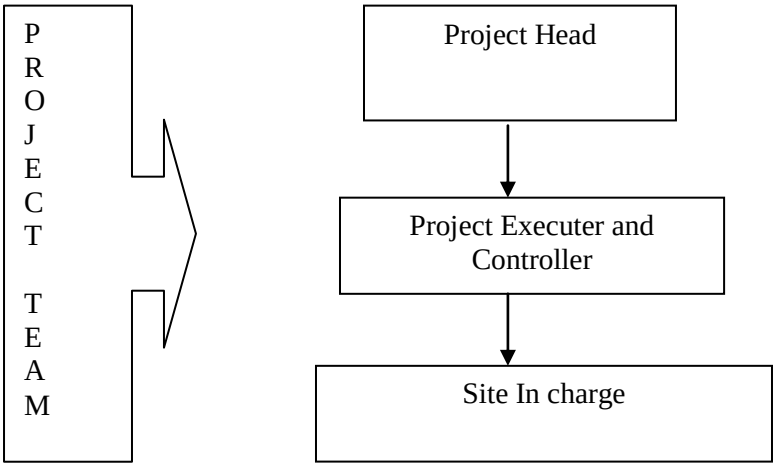
Verification periods would be taken up to a JMR date to avoid confusion.
For the last verification period, the remaining days between the JMR reading date and the end of verification period would be estimated based on n pro rata basis as follows:

1. as per the generation reading at the controller of the individual turbines for this period / (total generation reading at the controller for the entire month) * Net electricity supplied by the WTG to the grid for the entire month

The project team is also responsible for calculation of actual creditable emission reduction in the most transparent and relevant manner.

All the monitoring data is stored /will be recorded and kept under safe custody of the project head. All the monitoring data is stored /will be recorded and kept under safe custody of the project head for a period of a minimum of two years after the end of the crediting period or the last issuance of CERs for this project activity, whichever occurs later.

Designation	Responsibilities
Project Head	Internal Audits and Performance reviews
Project Executor and Controller	• Verification • Storage of Data
Site In charge	• Operation, Monitoring and Verification of Data • Data Recording • Storage of data
Operation and Maintenance Contractor (personnel from third party)	• Operation and Maintenance • Storage of data • Data Recording



B.8 Date of completion of the application of the baseline and monitoring methodology and the name of the responsible person(s)/entity(ies)

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Date of completing the final draft of this baseline section *(DD/MM/YYYY)*: 20/10/2011
Name of the responsible entity: Malaxmi Wind Power

SECTION C. Duration of the project activity / crediting period

C.1 Duration of the project activity:

C.1.1. Starting date of the project activity:

>>

03/01/2011

C.1.2. Expected operational lifetime of the project activity:

>>

20 years 0 months

C.2 Choice of the crediting period and related information:

Fixed Crediting Period

C.2.1. Renewable crediting period

C.2.1.1. Starting date of the first crediting period:

>>

Not Applicable

C.2.1.2. Length of the first crediting period:

>>

Not Applicable

C.2.2. Fixed crediting period:

C.2.2.1. Starting date:

>>

01/01/2012 or a date not earlier than the date of registration

C.2.2.2. Length:

>>

10 years 0 months

SECTION D. Environmental impacts

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D.1. If required by the host Party, documentation on the analysis of the environmental impacts of the project activity:

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As per the Ministry of Environment and Forests (Government of India) notification the project activity does not fall under the purview of the Environmental impact Assessment thus the project activity is exempted from the environmental clearances.[13]

It should be noted here that EIA is not a regulatory requirement in India for wind energy projects.

D.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party:

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Not Applicable.

SECTION E. Stakeholders' comments

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E.1. Brief description how comments by local stakeholders have been invited and compiled:

The local stakeholder consultation meeting for the wind mill installations by MWP was arranged for the local villagers, shareholders, employees MWP, representatives from Suzlon to discuss on the CDM initiatives taken up by MWP on 22/03/2011 at office of Suzlon Infrastructure Services Limited (Site office), Konchigeri Village, Bellary District, Karnataka.

Accordingly the stakeholders were duly informed on 05/03/2011 by means of Personal Invitation letter to local stakeholders and on 18/03/2011 by means of newspaper advertisement.

Comments of stakeholders were recorded during the stakeholder meeting.

The stake holder meeting process is followed in the following sequence

- Welcome Speech by the organizers.
- Introduction to 'Clean Development Mechanism' by Suzlon.

[13] http://moef.nic.in/downloads/rules-and-regulations/3067.pdf

- Speech by Representatives of all participants
- Interactive Sessions with the stake holders.
- Vote of Thanks

Mr. Murali Krishna (representative from Suzlon) started with brief introduction and welcomed all the stakeholders.

Mr. Murali Krishna and Mr. Chetan Mehra (representatives of Suzlon) explained about the concept of CDM to all stakeholders. He explained how emissions from houses, factories, other establishments (important to our day-to-day living) were continuously increasing from countries all over the globe. This in turn was leading to an accumulation of the gases contained in these emissions over the earth's surface, and trapped by atmosphere, were leading to an increase in the temperature of the earth and also creating a erosion in the protective ozone layer provided by the nature. The ozone layer is a protective layer provided to planet earth by nature, which keeps out rays of the sun that cause harmful effects to mankind.

To reduce the greenhouse gas emission various Non-Polluting initiatives have been initiated by the governments of various countries of the world. Amongst these is the Kyoto Protocol's CDM by the UNFCCC.

Mr. G. Rama Chandra Rao, representative of M/s Malaxmi Wind Power chose to speak a few words. He held forth on the benefits of renewable energy – whether generated through sun, wind hydro etc. and also the importance of this form of energy to mankind. He stressed that in the decades to come, energy will be very important to every person irrespective of whichever strata of society they come from; and considering the aspects of Global Warming and Climate Change – which is occurring largely due to anthropogenic emissions; conservation of energy, activities mitigating carbon and other gases inducing global warming and generation of clean renewable energy will bring about a more healthier and safer future for everyone.

Mr. K. Mudduveerappa, President of Konchigere and one of the attendees to the stakeholder's meeting, began his speech with brief background of how the area was before the wind farm commenced and how the development took shape after the wind power industry grew popular in this area. He explained that technology supporting renewable energy is committed to protect the environment and to be part of this process, the Suzlon group has developed this wind farm which generates pollution free power. It adds to national resources and above all it generates employment to the local villagers and helps in increasing the standard of living of the society.

After the presentation was completed, the session was opened for stakeholders to express their queries, comments and suggestions.

Finally, representatives of Suzlon proposed the vote of thanks.

E.2. Summary of the comments received:

A detailed list of points/concerns raised during the stakeholder meeting and their respective replies have been provided below:

1. Question: Do these projects affect the level or quality of groundwater?

Answer: No, Wind project does not affect either the ground level or drinking water quality of nearby area of the project.

2. Question: Do these projects affect the rainfall?
Answer: No, such projects do not affect the rainfall by any chance. The WTG is at a height of approximately 80m and the clouds bearing rainfall are usually at a much higher altitude.

3. Question: Will the project help in improving the electricity supply to the villagers?
Answer: It is expected as power generated from wind is fed to state electricity grid. Once the electricity is supplied to the grid then the state has to decide according to the amount of power that is available with it.

E.3. Report on how due account was taken of any comments received:

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The stakeholders were provided clarifications on the issues raised as above to their satisfaction. None of the concerns expressed by the stakeholders required an action to be taken by the PP during the project operation and at any other stage.

Annex 1

CONTACT INFORMATION ON PARTICIPANTS IN THE PROJECT ACTIVITY

Organization:	M/s Malaxmi Wind Power
Street/P.O.Box:	Flat No: 305, Plot No 59 to 61, Jubilee Gardens, Kothaguda, -
Building:	Udaya Vensar,
City:	Hyderabad
State/Region:	Andhra Pradesh
Postfix/ZIP:	500084
Country:	India
Telephone:	+91 40-4202 0199
FAX:	+91 40-4015 8959
E-Mail:	
URL:	

Represented by:	
Title:	
Salutation:	Mr
Last Name:	Subramanyam
Middle Name:	Kumar
First Name:	Arun
Department:	
Mobile:	
Direct FAX:	+91 40-4202 0199
Direct tel:	+91 40-4015 8959
Personal E-Mail:	arun@malaxmi.in

Annex 2

INFORMATION REGARDING PUBLIC FUNDING

No Public Funding is involved in the Project Activity.

Annex 3

BASELINE INFORMATION

Variable	**Data Source**
$EG_{BL,y}$ – electricity produced by the renewable generating unit(MWh)	Records maintained by project proponent
Parameter	**Data Source**
$EF_{grid,OM\ ,\ y}$ - Build Margin Emission Factor (tCO_2 /MWh)	Central Electricity Authority (CEA) CO2 database version 6 dated March 2011. (www.cea.nic.in)
$EF_{grid,BM\ ,\ y}$ = Operating Margin Emission Factor (tCO_2 /MWh)	Central Electricity Authority (CEA) CO2 database version 6 dated March 2011. (www.cea.nic.in)
EF_{CO2} – Grid Emission Factor	Calculated as the weighted average of the operating margin and build margin

Annex 4

MONITORING INFORMATION

Please Refer Section B7.2

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