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

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Revision history of this document

Version Number	Date	Description and reason of revision
01	21 January 2003	Initial adoption
02	8 July 2005	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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.

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SECTION A. General description of small-scale project activity**A.1 Title of the small-scale project activity:**

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“1.5 MW Wind Power Plant of Zenith Silk Mills at Kosha Village, in Kutch district of Gujarat state, India”

Document Version: 03

Date of completion of document: 05/11/2012

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

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Zenith Silk Mills Pvt. Ltd (hereafter referred as Zenith Silk Mills) is implementing a 1.5 MW wind based power project (hereafter referred as the proposed project activity) at Kosha village of Kutch district in Gujarat state of India. The proposed project activity comprises of installation and operation of 1 number of Wind Turbine Generator (WTG), having a capacity of 1500 kW. The annual estimated power generation for 1500 kW WTG is 31.22 Lakh units. WTG would be connected to the NEWNE (Northern Eastern Western & North-Eastern) grid and generated electricity will be wheeled using the state transmission system for captive consumption. A long term wheeling agreement has been made with Gujarat Energy Transmission Corporation Limited (‘GETCO’). GETCO will transmit the electricity generated from WTG to the boundary of the electricity distribution company, Torrent Power Limited (TPL), which will supply the said electricity generated to Zenith Silk Mills at its electricity receiving station located at Surat City of Gujarat state. Details of WTG installed under the proposed project activity are provided in Table 1:

Table 1: Details of WTG installed under Proposed CDM Project Activity

Company	WTG capacity (kW)	WTG Unique identification Number	WTG Location
Suzlon	1500	SEL/1500/11/1953	Village: Kosha Taluka: Abdasa District: Kutch

Under the project activity, the renewable electricity generated by Wind Turbine Generator will be used for the captive consumption. The particulars of said captive unit are provided below:

Zenith Silk Mills Pvt. Ltd.
SY No 412/1, Vasta Devdi Road, Surat,
Customer No. 98000

This Renewable Electricity will replace the grid electricity and will lead to overall GHG emission reduction.

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Pre-Project Scenario

This is the first renewable energy project of project participant. Therefore, in the absence of the proposed CDM project activity, the equivalent amount of electricity would have been generated from the connected / new power plants in the NEWNE grid, while proposed project activity is a green field project. Therein, the main emission source in the pre-project scenario is the power plants connected to the NEWNE grid and main GHG involved is CO₂.

Contribution to Sustainable Development

National CDM Authority (NCDMA), Ministry of Environment and Forests (MoEF) which is the Designated National Authority (DNA) for the Government of India (GoI) has stipulated four indicators for sustainable development in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India¹. The contribution of proposed project activity towards in terms of these four indicators is provided below:

1. Social well-being:

- The proposed project activity leads to alleviation of poverty by establishing direct and indirect benefits through employment generation and improved economic activities by strengthening of local grid of the state electricity utility.
- The proposed CDM project activity leads to development of supporting infrastructure such as road network etc., in the wind park location, which also provides access to the local population.

2. Environmental well-being:

Being a renewable energy resource, using wind energy to generate electricity contributes to resource conservation. Thus the proposed CDM project will causes no negative impact on the surrounding environment contributing to environmental well-being.

3. Economic well-being:

The proposed project activity requires temporary and permanent, skilled and semi-skilled manpower at the wind park; this will create additional employment opportunities that will lead to economic well-being.

4. Technological well-being:

The technology is environmentally safe and sound as it does not produce greenhouse gases.

¹ http://cdmindia.in/approval_process.php

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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)
Government of India	Zenith Silk Mills Pvt. Ltd. (A private limited company)	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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Government of India

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

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Western Region / Gujarat State

A.4.1.3. City/Town/Community etc:

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Village: Kosha

Taluka: Abdasa

District: Kutch

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

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The proposed project activity is located at Kosha village of Kutch district in Gujarat state of India. The nearest city to the project site is Kutch. The nearest railway station and airport is Bhuj railway station and Bhuj airport respectively. Details of physical location are tabulated below:

Sr. No	WTG Capacity (kW)	WTG Location No.	WTG Unique Identification No.	Latitude	Longitude
1	1500	71/P	SEL/1500/ 10-11/1953	23 ⁰ .18'46"	68 ⁰ 42'36.2"

The location map is given below:

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Figure 1: Location of the proposed project activity at Kosha village, Kutch district, Gujarat state

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

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The proposed project activity utilizes the wind energy- a renewable energy source for power generation and exports the generated electricity to NEWNE grid. The proposed project activity falls in the category of small scale CDM projects as per the “Simplified modalities and procedures for small scale CDM project activities”, since the electricity generation capacity of proposed wind power project is 1.5 MW, which is less than the maximum qualifying capacity of 15 MW.

The scope and type of the proposed project activity as per Appendix B to the simplified modalities and procedures for the small-scale CDM project activities is as under:

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Sectoral Scope 1: Energy Industries (Renewable/Non-Renewable sources)²
 Type 1: Renewable Energy Projects
 Methodology: AMS- I.D, Version 17³, Sectoral Scope: 01, EB 61 (Annex 17)

Technology/measures of the small-scale project activity are as follows:

Under the project activity, a 1.5 MW Suzlon make (Model - S 82) Wind Turbine Generator machine is proposed to be installed. The key technical specifications of the 1.5 MW WTG are mentioned in table below.

Key Technical Specification of installed WTG in the proposed CDM project activity

PARAMETER	VALUE
Model S 82-1.5 MW, Suzlon	
Operating data	
Rated power	1500 kW
Wind speed-start	4 m/s
Re-start point after high win stop	17m.sec
Wind speed-stop	20 m/s
Survival Wind Speed	52.5 m/s
Rotor	
Type	3 blades
Rotor Orientation/ axis tilt angle/	Upwind/ 5 ⁰ Horizontal Axis
Diameter	82 m
Rotor speed at rated power	16.30 rpm
Rotor Blade Material	Epoxy bonded fibre glass
Swept Area	5281 m ²
Power Regulation	Independent Electromechanical pitch system for each blade and Suzlon Flexi Slip System
Gear Box	
Type	1 planetary stage and 2 helical stages
Ratio	1:95.09 & 1:95. 24
Power	1650 kW
Material for gear box housing	Cast Iron-GGG 40.3
Generator	
Make	Suzlon Generators
Type	Single Speed induction generator with slip rings, variable rotor resistance via Suzlon Flexi Slip System
Speed at rated power and shortcut	1511 rpm

² <http://cdm.unfccc.int/DOE/scopes.html>

³ <http://cdm.unfccc.int/UserManagement/FileStorage/V9LRSXKP24Q7YT6HZDUBO3C0ING8AJ>

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rotor	
Rated Power	1500 kW
Rated Voltage	690 V AC
Frequency	50 Hz
Speed range for constant power with Suzlon-FLEXISLIP	1500-1750 rpm
Speed range for operation with Suzlon-FLEXISLIP	1545 rpm
Full load power factor	0.92
Full load current	1365 A
Pole	4
Insulation	Class H
Enclosure (Generator)	IP 54
Enclosure (slip ring unit)	IP 23
Tower	
Type	Tubular Tower made of welded steel plates
Tower shell plate material	High Tensile steel – S355 JRG2 as per IS-2602 Gr. B
Corrosion Protection	Double corrosion proof painting inside triple corrosion proof painting outside
Hub Height(Including foundation)	78.5 m
Top most diameter of shell	2.82 m
Bottom most diameter of shell	4.03 m
Braking System	
Brake Type	Hydraulic disc brake activated by hydraulic pressure + mechanical rotor lock activated by hydraulic pressure
Brake disc	Steel disc mounted on high speed shaft
Brake Caliper	1
Yaw System	
Yaw motor and gear type	Active electric yaw drive having electric motor with brake gearbox and pinion
Bearing	Slide bearing with gear ring and automatic greasing system
Number of units/motor	4
Rated motor capacity	3 kW each
Yaw speed (angular)	27.8 ⁰ /min
Voltage	3 phase-690 V AC
Pitch System	
Type and Drive	Electrical, 1 electric motor with gearbox & electrically operated brake for each blade
Pitch angle full range	-5 degree to +90 degree
Pitch speed (angular)	0.1 to 10 degree per second

There is no technology transfer involved in the project activity under consideration.

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

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The estimated amount of emission reduction due to the project activity for ten (10) years under fixed crediting period option would be 29770 tCO₂e as per details on annual emission reductions provided below:

Years	Estimation of annual emission reductions in tonnes of tCO ₂ e
Year 1	2977
Year 2	2977
Year 3	2977
Year 4	2977
Year 5	2977
Year 6	2977
Year 7	2977
Year 8	2977
Year 9	2977
Year 10	2977
Total estimated reductions (tonnes of CO₂e)	29770
Total number of crediting years	10 (Fixed)
Annual average of the estimated reductions over the crediting period (tCO₂e)	2977

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

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There is no public funding involved in project activity under consideration and no ODA has been used for the proposed project activity.

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

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In accordance with paragraph 2 of Annex 13 “Guidelines on Assessment of Debundling for SSC Project Activities (Version 03)⁴”

“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:

⁴ http://cdm.unfccc.int/Reference/Guidclarif/ssc/methSSC_guid17.pdf

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- (a) *With the same project participants;*
- (b) *In the same project category and technology/measure; and*
- (c) *Registered within the previous 2 years; and*
- (d) *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 first CDM Project activity undertaken by the Project participant. There is no another small-scale project activity of Zenith Silk Mills (i.e. same project participant) Private Limited with the same project category, technology, and with project boundary within 1 km of the project boundary of the proposed small scale project activity which is registered with CDM EB within the previous two years. Additionally, no application is submitted by Zenith Silk Mills to register another small-scale project activity with the same project category & technology and whose project boundary is within 1 km of the project boundary of the proposed small scale project activity.

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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The Title and reference of methodology applicable to project activity under consideration is given below:

Title: “Grid connected Renewable Electricity Generation – AMS-I.D”, Version 17, Sectoral Scope: 01, EB 61

Reference: The reference can be assessed through web link provided below:

<http://cdm.unfccc.int/UserManagement/FileStorage/V9LRSXKP24Q7YT6HZDUBO3C0ING8AJ>.

The approved applicable methodology AMS I.D refers the use of following tools:

- “Tool to calculate project or leakage CO2 emissions from fossil fuel combustion”.
- “Tool to calculate the emission factor for an electricity system”.

With reference to the proposed project activity, the applicability of above mentioned tool is explained as under:

- “Tool to calculate project or leakage CO2 emissions from fossil fuel combustion”- In accordance with applicable approved methodology AMS I. D. version 17, the proposed project activity does not involve the project emissions, thus the said tool has not been used for the project activity under consideration.
- “Tool to calculate the emission factor for an electricity system”, (Version 02.2.1), EB 63 Report, Annex 19: The proposed project activity replaces fossil fuel dominated grid electricity by renewable electricity. Accordingly, this tool has been used to determine the grid emission factor which is used to estimate the amount of baseline emissions. The Central Electricity Authority⁵ compiled CO₂ baseline database for the Indian Power Sector. CO₂ baseline database

⁵ <http://www.cea.nic.in/>

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Version 7.0 has been used as reference for the emission factor. This CO₂ database has been compiled in conjunction with the “Tool to calculate the emission factor for an electricity system”.

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

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In accordance with Appendix B of the simplified modalities and procedures for small-scale CDM project activities, the project category falls in Type I and Category D. - “Grid connected renewable electricity generation”.

The applicability of the said methodology to the proposed project activity is justified below:

S. No.	Methodology Criteria	Project Parameters	Activity	Comments
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; or (b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.	The proposed project activity is a Renewable electricity generation unit which uses wind as the source of energy. The project activity under consideration supplies electricity to an identified consumer facility (i.e. Zenith Silk Mills Pvt. Ltd.) using NEWNE grid (i.e. a regional grid) through a long term contractual wheeling arrangement with GETCO.		Methodology Applicable
2.	Illustration of respective situations under which each of the methodology (i.e. AMS-I.D, AMS-I.F and AMS-I.A) applies is included in Table 2.	Table 2 of AMS-I.D, Version 17 further substantiates that the project which generates and supplies electricity to an identified consumer facility via national/regional grid (through a contractual wheeling arrangement) falls under AMS-I.D.		Methodology Applicable
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; (c)	The proposed project activity is the installation of a new wind power plant at project site where there was no wind power plant operating prior to the implementation of this project activity. Thus the project activity under		Methodology Applicable

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	involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).	consideration is a Greenfield plant.	
4.	<p>Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology:</p> <ul style="list-style-type: none"> • The project activity is implemented in an existing reservoir with no change in the volume of reservoir; • The project activity is implemented in an existing reservoir, 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. 	The proposed project activity is wind power plant, not a Hydro power plant, therein; measure is not applicable to project activity under consideration.	Methodology Applicable
5.	If the new unit has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	There is no non-renewable component added to the proposed project activity. However, the capacity of the said project activity itself shall not exceed 15 MW.	Methodology Applicable
6.	Combined heat and power (co-generation) systems are not eligible under this category.	Such systems are not present within proposed project activity.	Methodology 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	The proposed project activity is a greenfield plant that does not involve any addition of renewable energy generation unit.	Methodology Applicable

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	distinct from the existing units.		
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 proposed project activity is not a retrofit or replacement unit of an existing facility.	Methodology Applicable

In line with General guidelines to SSC CDM methodologies, the capacity of the project activity shall not exceed 15 MW throughout the crediting period. Therein, the proposed project activity thus meets out all the applicability criteria as set under the approved small scale methodology AMS-I.D, Version 17 and hence the project category is applicable to project activity under consideration.

B.3. Description of the project boundary:

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As per paragraph 9 of applicable approved methodology AMS- I.D, 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’. Thus, the project boundary for the proposed CDM project activity consists of WTGs installation, connected substations, metering equipments and NEWNE grid.

The project boundary is diagrammatically represented in the figure below:

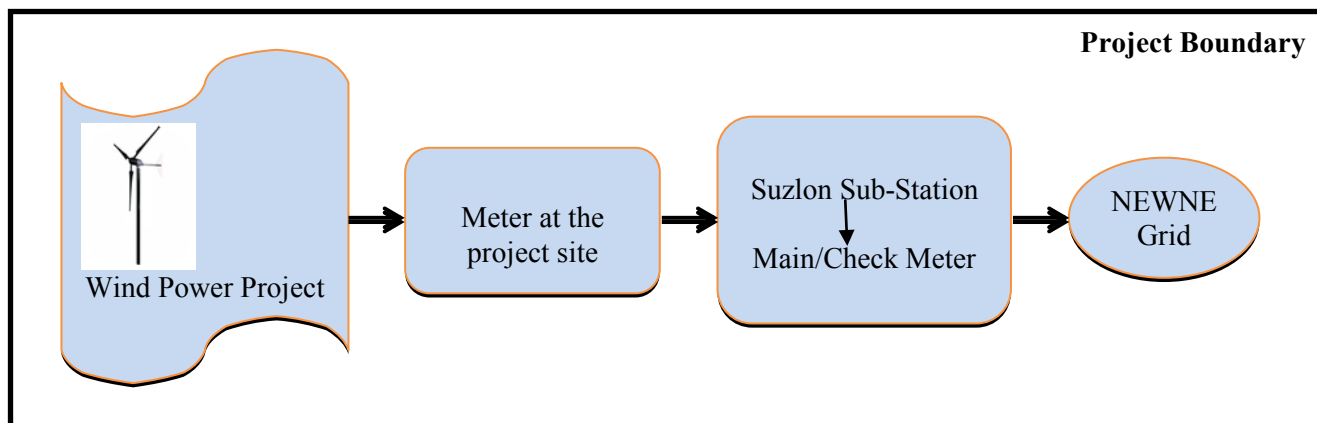


Fig 2: Diagrammatic Representation of Project Boundary

B.4. Description of baseline and its development:

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Project activity under consideration involves the installation of new wind power project of capacity 1.5 MW at Kosha Village, district Kutch Gujarat state of India. As per the paragraph 10 of applicable

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approved methodology AMS- I.D Version 17, “The Baseline scenario is that the electricity delivered to the grid by the project activity that would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid”. The project activity is located in Gujarat, Western region of India and is connected to NEWNE grid. The baseline to the proposed project activity is the electricity that would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.

As per paragraph 11 of AMS- I.D, Version 17, ‘the baseline emissions (BE_y) 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 ($EF_{CO_2,grid,y}$).

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

Where:

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

The input parameter used to estimate baseline emissions are as follows:

Parameter	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 <ul style="list-style-type: none"> • Installed capacity of WTG • Plant Load Factor • Transmission and Wheeling losses 	<ul style="list-style-type: none"> • Wind power project developer- Suzlon Budgetary offer • Bank declaration • GERC Tariff regulation 2010⁶
$EF_{CO_2,grid,y}$ - CO ₂ emission factor of the grid in year y	CO ₂ Baseline Database for the Indian Power Sector” (Version 7.0) ⁷

As per paragraph 12 of the AMS- I.D Version 17, the emission factor ($EF_{CO_2,grid,y}$) 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”.

OR

⁶ Kindly refer section B.6.3 for detailed calculations of $EG_{BL,y}$ and references

⁷ Kindly refer subsequent part of section B.4 and B.6.1 for detailed calculations of CO₂ emission factor

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- (b) The weighted average emissions (in t CO₂/MWh) of the current generation mix. The data of the year in which project generation occurs must be used.

The applicable approved methodology also states that, calculations must be based on data from an official source (where available) and made publicly available. With the purpose of providing a ready reference for the emission coefficients to be used in CDM projects, Central Electricity Authority (CEA), Government of India, has published, “CO₂ Baseline Database for the Indian Power Sector”, Version 7.0. The said database is an official publication of CEA, Government of India for the purpose of CDM baselines and is based on the most recent data available with the Central Electricity Authority (CEA), Government of India.

Accordingly, the project participant has been chosen **Combined Margin (CM)** *ex ante* approach to calculate emission coefficient (measured in t CO₂/MWh) based on “CO₂ Baseline Database for the Indian Power Sector” (Version 7.0)⁸. The combined margin has been determined in the CEA “CO₂ Baseline Database for the Indian Power Sector” (Version 7.0).

According to “Tool to calculate the emission factor for an electricity system - Version 02.2.1, EB 63 Report, Annex 19⁹”, the emission factor (EFCO_{2,grid,y}) is calculated as a Combined Margin (CM), based on the following six steps.

- STEP 1: Identify the relevant electricity systems;
- STEP 2: Choose whether to include off-grid power plants in the project electricity system;
- STEP 3: Select a method to determine the operating margin (OM);
- STEP 4: Calculate the operating margin emission factor according to the selected method;
- STEP 5: Calculate the build margin (BM) emission factor;
- STEP 6: Calculate the combined margin (CM) emission factor

STEP 1: Identify the relevant electric systems

Historically, the Indian power system was divided into five independent regional grids, namely Northern, Eastern, Western, Southern, and North-Eastern. Each grid covered several states (see Table below). Since August 2006, however, all regional grids except the Southern Grid have been integrated and are operating in synchronous mode, i.e. at same frequency. Consequently, the Northern, Eastern, Western and North-Eastern grids are treated as a single grid named as NEWNE grid in this document from FY 2007-08 onwards for the purpose of this CO₂ Baseline Database. The Southern grid has also been planned to be synchronously operated with rest of all Indian Grid by early 12th Plan (2012-2017). Presently Southern grid is connected with Western and Eastern grid through HVDC link and HVDC back to back systems.

Power generation and supply within the regional grid is managed by Regional Load Dispatch Centre (RLDC). The Regional Power Committees (RPCs) provide a common platform for discussion and solution to the regional problems relating to the grid. Each state meets their demand with their own generation facilities and also with allocation from power plants owned by the central sector such as

⁸ http://www.cea.nic.in/reports/planning/cdm_co2/user_guide_ver7.pdf

⁹ <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-07-v2.2.1.pdf>

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NTPC and NHPC etc. Specific quotas are allocated to each state from the central sector power plants. Depending on the demand and generation, there are electricity exports and imports between states in the regional grid. Moreover, there are also electricity transfers between regional grids, and small exchanges in the form of cross-border imports and exports (e.g. from Bhutan).

NEWNE Grid				Southern Grid
Northern	Eastern	Western	North-Eastern	Southern
Chandigarh	Bihar	Chhattisgarh	Arunachal Pradesh	Andhra Pradesh
Delhi	Jharkhand	Gujarat	Assam	<u>Karnataka</u>
Haryana	Orissa	Daman & Diu	Manipur	Kerala
Himachal Pradesh	West Bengal	Dadar and Nagar Haveli	Meghalaya	Tamil Nadu
Jammu & Kashmir	Sikkim	Madhya Pradesh	Mizoram	Pondicherry
Punjab	Andaman-Nicobar	Maharashtra	Nagaland	Lakshadweep
Rajasthan		Goa	Tripura	
Uttar Pradesh				
Uttarakhand				

As per Table mentioned above, showing the Geographical scope of the five regional electricity grids, the state of Gujarat falls under the NEWNE Regional Grid of India. Thus, the proposed project activity is connected by transmission lines to the NEWNE grid.

STEP 2: Choose whether to include off-grid power plants in the project electricity system

Under the step 2, the said methodological tool refers the two options as follows:

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.

As the CEA database is based upon the information collected from all grid connected power projects in India, option 1 has been selected and is used for the purpose of determination of emission factor for the project activity.

STEP 3: Select a method to determine the operating margin (OM);

The calculation of the operating margin emission factor ($EF_{grid,OM,y}$) is based on one of the following methods:

- (a) Simple OM; or
- (b) Simple adjusted OM; or
- (c) Dispatch data analysis OM; or
- (d) Average OM.

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As per the tool, the simple OM method (option a) can only be used if low-cost/must-run resources constitute less than 50% of total grid generation in: 1) average of the five most recent years, or 2) based on long-term averages for hydroelectricity production.

The percentage shares of generation from low cost/must run power plants for the 5 most recent years in the NEWNE grid is as follows¹⁰:

2006-07	2007-08	2008-09	2009-10	2010-11
18.5%	19.0%	17.4%	15.9%	17.6%

Therein, the percentage share of low-cost/must-run resources on the basis of average of five most recent resources is 17.68.

Thus the simple OM method can be used to calculate the operating margin emission factor, as low cost/must run resources constitute less than 50% of total grid generation.

Moreover, in accordance with “Tool to calculate the emission factor for an electricity system - Version 02.2.1, EB 63 Report, Annex 19”, the ex-ante option has been chosen with a 3-year generation-weighted average, based on the most recent data available at the time of submission of the PDD to the DOE for validation, without requirement to monitor and recalculate the emissions factor during the crediting period.

Step 4: Calculate the operating margin emission factor according to Simple OM

The simple OM emission factor is calculated as the generation-weighted average CO₂ emissions per unit net electricity generation (tCO₂/MWh) of all generating power plants serving the system, not including low-cost/must-run power plants/units. For the purpose to calculate operating margin emission factor as per selected approach, the said methodological tool refers the following option:

Option A: Based on the net electricity generation and a CO₂ emission factor of each power unit; or

Option B: Based on the total net electricity generation of all power plants serving the system and the fuel types and total fuel consumption of the project electricity system.

Accordingly, Option A is used to calculate simple OM emission factor based on the electricity generation of each power unit and an emission factor for each power unit, as follows:

The CO₂ emission factor data for simple OM, available under the CEA database (Version 7.0) for the last three years is as follows:

	2008-09	2009-10	2010-11
Simple Operating Margin for NEWNE grid (tCO ₂ /MWh)	1.00655298205735	0.977736240156863	0.970663186377968

¹⁰ http://www.cea.nic.in/reports/planning/cdm_co2/user_guide_ver7.pdf

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The average of CO₂ emission factor data for simple OM, available under the “CO₂ Baseline Database for the Indian Power Sector” (Version 7.0) for the most recent three years- 2008-09, 2009-10 and 2010-11 for NEWNE grid is

$$= ((1.00655298205735+0.977736240156863+0.970663186377968)/3) \\ = 0.9850 \text{ tCO}_2 / \text{MWh}$$

Step 5: Calculate the build margin emission factor

In accordance with referred methodological tool to calculate emission factor for electricity system and CO₂ Baseline Database for the Indian Power Sector” (Version 7.0), the build margin emission factor ($EF_{grid,BM,y}$) for the most recent year-2010-11 is **0.8587** tCO₂/MWh.

Step 7: Calculate the combined margin (CM) emission factor

The combined margin emission factor is calculated as follows:

$$EF_{grid,CM,y} = EF_{grid,OM,y} * w_{OM} + EF_{grid,BM,y} * w_{BM}$$

Where:

$EF_{grid,CM,y}$ = Combined margin emission factor in year y (tCO₂/MWh)

$EF_{grid,OM,y}$ = Operating margin emission factor in year y (tCO₂/MWh)

$EF_{grid,BM,y}$ = Build margin emission factor in year y (tCO₂/MWh)

w_{OM} = Weighting of operating margin emission factor (%)

w_{BM} = Weighting of build margin emission factor (%)

“Tool to calculate the emission factor for an electricity system - Version 02.2.1, EB 63 Report, Annex 19” requires that for intermittent sources for power generation like wind as in case of proposed project activity the following weights to be used for calculating the Combined Margin emission factor for.

$$w_{OM} = 0.75$$

$$w_{BM} = 0.25$$

Therein, the combined margin emission factor ($EF_{CO_2,grid,y}$) is calculated as follows:

$$= 0.9850 \times 0.75 + 0.8587 \times 0.25$$

$$= 0.9534 \text{ tCO}_2 / \text{MWh}$$

In order to determine the emission in a baseline scenario, the emission factor is multiplied by the net power generated by the wind energy generators. The project emission due to proposed project activity has been considered zero tCO₂e/MWh, as wind is a zero GHG emitting renewable form of energy.

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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:

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As per “Guidelines for demonstrating additionality of Microscale Project activities, Version 03, Annex 23, EB 63,

“The project activities up to 5 MW that employs renewable energy technology are additional if any one of the conditions below are satisfied. The said conditions and pose of project activity for the same is mentioned below:

(a) The geographic location of the project activity is in one of the least developed countries or the small island developing states (LDCs/SIDs) or in a special underdeveloped zone of the host country identified by the Government before 28 May 2010;- The proposed project activity is located in Kutch district of Gujarat state of India that does not fall under any category of geographical locations mentioned above.

(b) The project activity is an off grid activity supplying energy to households/communities (less than 12 hrs. grid availability per 24 hrs. day is also considered off grid for this assessment);- The proposed project activity is an grid connected wind power plant.

(c) The project activity is designed for distributed energy generation (not connected to a national or regional grid) with both conditions (i) and (ii) satisfied;

(i) Each of the independent subsystems/measures in the project activity is smaller than or equal to 1500kW electrical installed capacity;

(ii) End users of the subsystems or measures are households/communities/small and medium enterprises (SMEs).

Proposed project activity is 1.5 MW wind power project connected to NEWNE grid and the end users of subsystems or measures is the grid and not households/communities/SMEs.

(d) The project activity employs specific renewable energy technologies/measures recommended by the host country designated national authority (DNA) and approved by the Board to be additional in the host country. The following conditions shall apply for DNA recommendations:

(i) Specific renewable energy technologies/measures refers to grid connected renewable energy technologies of installed capacity equal to or smaller than 5 MW;

(ii) The ratio of installed capacity of the specific grid connected renewable energy technology in the total installed grid connected power generation capacity in the host country shall be equal to or less than 3 per cent

(iii) Most recent available data on the percentage of contributions of specific renewable energy technologies shall be provided to demonstrate compliance with the 3 per cent threshold. In no case shall data older than three years from the date of submission be used;

(iv) Technologies/ measures recommended by DNAs and approved by the Board to be additional in the host country remain valid for three years from the date of approval. However, additionality of eligible project activities applying the guidelines remains valid for the entire crediting period;

(v) DNA submissions shall include the specific grid connected renewable electricity generation technologies that are being recommended and provide the required data as indicated above (e.g. wind power, biomass power, geothermal power, hydropower).

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National CDM Authority, Ministry of Environment and Forest, Government of India has not recommended any renewable energy technologies/measures yet, towards additionality of the same.

None of the above specified conditions are applicable to the project activity and hence “Attachment A of Appendix B of the Simplified Modalities and Procedures for Small Scale CDM project activities, Version 08, EB 63, Annex 24¹¹ has been used to demonstrate additionality of the project activity.

National policies and circumstances relevant to the baseline of the project activity:

The Electricity Act (EA), 2003¹² arrange for an enabling framework towards accelerated and more efficient development of the power sector. With the help of Electricity Act, Central Government tries to put appropriate regulatory interventions that are able to yield efficiency gains and in turn result in availability of quality supply of electricity to consumers at competitive rates.

The Section 3 (1) of the Electricity Act 2003 describes the need to formulate National Electricity Policy, the provision is mentioned below:

"The Central Government shall, from time to time, prepare the National Electricity Policy and tariff policy, in consultation with the State Governments and the Authority for development of the power system based on optimal utilization of resources such as coal, natural gas, nuclear substances or materials, hydro and renewable sources of energy".

Moreover, the National Electricity Policy¹³ anticipates the coal as primary fuel even in near future as below:

“Even with full development of the feasible hydro potential in the country, coal would necessarily continue to remain the primary fuel for meeting future electricity demand”.

The National Electricity Plan also emphasizes the use of other fossil fuels e.g. gas, LNG, Lignite etc in meeting the future electricity demand. The policy further lay emphasis on the Renovation and Modernization (R&M) of the low performing thermal power stations in the country that may helpful to improve the performance of thermal power plants in order to improve PLF of such plants.

As per Installed generation Data of CEA¹⁴ the installed capacity (in MW) of NEWNE Grid region as on 30/04/2012 is as follows:

Power Sources	Installed capacity (MW)	Percentage contribution of fuel- mix
Thermal	133363.18	66.14

¹¹ http://cdm.unfccc.int/Reference/Guidelarif/ssc/methSSC_guid05.pdf

¹² http://www.powermin.nic.in/acts_notification/electricity_act2003/pdf/The%20Electricity%20Act_2003.pdf

¹³ http://www.powermin.nic.in/indian_electricity_scenario/national_electricity_policy.htm

¹⁴ http://www.cea.nic.in/reports/monthly/executive_rep/apr12/7.pdf

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Nuclear	4780.00	2.37
Hydro	38990.40	19.34
Renewable Energy Sources (RES)	24503.45	12.15
Total	201637.03	100

It is very much conclusive from the above mentioned statistics that all India Power Generation is primarily dependent on fossil fuel only as the share of thermal based power generation is 66.14% to the contribution of Renewable Energy Sources of only 12.15 %.

Therein, there are no national policies or circumstances that mandate the project proponent to put up a wind power project. The project proponent has decided to install the wind power project on account of the environmental benefits and is fully aware of the associated risks. The new wind turbine generator of capacity 1.5 MW installed under the proposed project activity substitute the fossil fuel based power plants connected to NEWNE grid, with cleaner and greener wind power plant. Thus, more carbon intensive fossil fuels are substituted with zero carbon intensive sources of energy under the project activity under consideration.

Considering the financial non-viability involved with the installation of Wind Power Project **Investment barrier** has been selected to demonstrate the additionality of project activity under consideration.

Investment Barrier

Investment Analysis has been carried out for the proposed project activity in line with EB 62, Annex 5¹⁵ “Guidelines on the Assessment of Investment Analysis”, Version 05.

One of the most suitable indicators to analyze the financial attractiveness of the Project is Internal Rate of Return of the Project. Accordingly, post tax return on equity or equity IRR has been chosen as financial parameter to carry out the investment analysis for the project activity under consideration.

Considering the project proponent- a private Silk mills manufacturer, he has a choice to invest or to continue with the current practice of using fossil fuel dominated grid electricity. Moreover, there are no national or local laws or regulations in Gujarat that mandate the investment in Wind Power Project. Under the applicability of said option to the proposed project activity, the benchmark approach is suited to carry out the investment analysis of project activity under consideration. The project participant therefore proposes to use post-tax return on equity or **equity IRR** as a financial indicator under the **Benchmark Approach**.

As per paragraph 12 of “Guidance on the Assessment of Investment Analysis-Version 05” of EB 62, Annex 5, the required return on equity can be considered as appropriate benchmark for Equity IRR. Further, the Appendix of said guideline provides the real term default values for return on equity for each Host Country as per the pertinent Group based on the applicability of Sectoral scope. Appendix suggests converting the real term default values of return on equity to nominal value by adding the

¹⁵ http://cdm.unfccc.int/Reference/Guidclarif/reg/reg_guid03.pdf

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inflation rate forecasted by central bank of host country for the duration of crediting period. The calculated value of nominal return on equity is provided below:

The real term value of return on equity (Sectoral Scope 1: Energy Industries, Group 1) = 11.75%¹⁶

The inflation rate forecasted by reserve Bank of India for Q1: 2010-11 for next 10 years= 5.0%¹⁷

The nominal value of return on equity= 16.75%

Therein, the benchmark return on equity works out to 16.75% for the project activity under consideration

Key Assumption for Financial Analysis

In line with investment analysis guideline of EB, the assumptions used for the determination of *post-tax* Equity IRR for the proposed project activity at the time of project decision are given below:

Assumptions/Considerations	Input Value	Unit	Reference
Installed Capacity	1.5	MW	Suzlon Budgetary Offer dated 21/10/2010
Number of 1.5 MW units	1	No.	
Annual Net Electricity Generation (to be fed into grid)	3122581	kWh	Bank Declaration
Transmission and wheeling losses	7%	%	GERC Tariff Regulation 2010
Plant Load Factor (PLF)	23.76	%	Computed
Project Capital Cost	103.003	Million Rs.	Derived from quoted price of WTG supplier- Suzlon
Term Loan @ 70% of Capital Cost	72.10	Million Rs.	GERC Tariff Regulation 2010
Interest on Term Loan	11.50%	%	Prime Lending Rate of RBI ¹⁸
Loan Repayment Period	40	Quarters	GERC Tariff Regulation 2010
Power Tariff	5.25	Rs./ kWh	Average tariff calculated out with the help of last one year electricity

¹⁶ http://cdm.unfccc.int/Reference/Guidclarif/reg/reg_guid03.pdf

¹⁷ <http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/PRE12T050810.pdf>

¹⁸ <http://www.rbi.org.in/scripts/WSSView.aspx?Id=14965>

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			bill of project proponent
O & M Expenses for 1 st Year	0	Million Rs.	Suzlon Budgetary Offer dated 21/10/2010
O & M Expenses for 2 nd Year	1.7	Million Rs.	
Annual Escalation in O & M Expenses from 2 nd Year onwards	5%		
Transmission charges	1.4892	Million Rs.	Suzlon Budgetary Offer dated 21/10/2010
Insurance Expenses as % of Capital Cost	0.193	Million Rs.	Suzlon Budgetary Offer dated 21/10/2010
Income Tax Rate	33.90%	%	As per Indian Finance Act-2009
Minimum Alternate Tax	19.931%	of Book Profits	As per Indian Income Tax Act
Depreciation Rate as per IT act (WDV)	80%	On WTG	As per Indian Income Tax Rule. (Rule 5 and New Appendix I)
Book Depreciation Rate	4.50%	%	GERC Tariff Regulation 2010
Life of the project	20	Years	Life of WEC
CER Price (Euro)	14	Euro	As per World Bank Report
Exchange Rate	61.501	INR	Prevailing Rate as on 20/10/2010 (web-link: http://www.x-rates.com/cgi-bin/hlookup.cgi)
Emission Factor	0.9534	tCO ₂ /MWh	CO ₂ baseline database from CEA, Version 7.0

The following financial incentives are considered for the project activity:

- Tax rebate of 10 consecutive years: As per Section 80IA of Income Tax (IT) Act of India, the project proponent is exempted from taxation for any 10 consecutive years out of first 15 years in respect to the income from renewable electricity generation projects. During this period the project proponent needs to pay only MAT (minimum alternative tax). Section 80IA of IT Act is not applicable in the years when income after deducting carry forward losses showing losses. The income after adjusting carry forward losses is given only for the computing tax under Section 80IA of IT Act. To avail these deductions, income has to be computed by taxing wind turbines on standalone basis and considering that this tax depreciation are absorbed against the income from wind turbines.
- Accelerated Depreciation of 80% (WDV): As per Section 32 of Income Tax Act of India, the WEC machines commissioned during 1st April to 30th September of the financial year, are liable to avail accelerated depreciation of 80% (WDV) for the first year. The WEC machines associated to the project activity is proposed to be commissioned on 27/03/2010. Therefore the accelerated depreciation of only half of the 80% (WDV) i.e. 40% has been considered for the project activity in first year of operation. However the additional depreciation of 20% in the first year, as allowed under Section 32 (1) (ii a) of IT Act, has not been claimed by the project

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proponent for the project activity. IT Act allows, these benefits to be absorbed in wind power project and other business of the project proponent. Accordingly, the project proponent has absorbed these depreciation benefits in its wind power project and other businesses. Tax savings due to these benefits are added in the cash flows. Once depreciation benefits have been absorbed, losses cannot be carried forward into subsequent years and hence income becomes taxable.

Equity IRR (post tax) without CDM revenues:

The estimated *post-tax* Equity IRR without CDM benefits comes out to be as 10.67%, which is much lesser than the benchmark Return on equity 16.75%. This clearly shows that the proposed project activity is not attractive enough without CDM benefits..

Sensitivity Analysis

In accordance with paragraph 20 of “Guidance on the Assessment of Investment Analysis-Version 05” of EB 62, Annex 5, the sensitivity analysis has been done for the parameters that contributes more than 20% of total project cost or project revenues. Accordingly chosen parameters are as follows:

- Capital Cost of the project,
- O & M cost of the project
- Electricity Tariff and
- Plant Load Factor

The results of the sensitivity analysis carried out in the range of +10% to -10% for the proposed project activity are provided in the table below:

Consideration	Range of Sensitivity	Results of Equity IRR (without CDM revenue)
	(%)	(%)
Project Scenario	Base Case	10.67 %
Variation in Project Capital Cost	+11.5%	6.69%
	-11.5 ¹⁹ %	14.59%
Variation in O&M Cost	+20%	9.27%
	-20% ²⁰	11.88%
Variation in Electricity Tariff	+10%	14.64%
	-10%	5.41%
Variation in Plant Load Factor	+10%	14.64%
	-10%	5.41%

¹⁹ The purchase order for the project activity has been placed with 11.5% decrease to the cost offered by Suzlon, therein, the actual reduction in project cost has been addressed in sensitivity analysis.

²⁰ In present day scenario, the O & M agreement has been signed with 17.65% decrease by amount of offer letter , therein, the sensitivity has been adjusted for a round off value of 20% accordingly.

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It is observed from the analysis given above that even 10% increase in electricity Tariff and Plant Load Factor, 11.5% decrease in Project cost, and 20% decrease in O& M Cost does not boost up the IRR as much as benchmark return on equity.

However, the 20% decrease in capital cost, 20% increase in electricity Tariff and 20% increase in Plant Load Factor may boost up the IRR to benchmark return of equity. Though, such huge variation in capital cost, tariff and Plant Load Factor is an unrealistic scenario.

Prior Consideration of CDM

The start date of the proposed project activity is after 02 August 2008, as such the corresponding authorities Host Party DNA and UNFCCC Secretariat were intimated in writing, using the standardized form 'F-CDM-Prior Consideration', about the commencement of the project activity and its development under CDM. The said intimation to both the authorities was made within the stipulated time of six (6) month from the start date of the project activity. This is in line with paragraph 2 of "Guidelines on the Demonstration and Assessment of Prior Consideration of the CDM" Version 04, EB 62 report, Annex 13.

Project Timeline

The chronological timeline featuring the main activities to establish and commission the proposed CDM project activity are detailed in table below:

Activity/Event	Date	Documents/Emails
Initial proposal from WEC Supplier (Suzlon) for development of this wind power project	21/10/2010	Copy of the Proposal from Suzlon Energy Limited
Decision to invest in the project activity and considering it as a CDM initiative	25/10/2010	Certified true copy of the Board Resolution
Purchase order for supply of 1 no. of 1500 kW Suzlon wind energy convertors (WECs)	26/10/2010	Copy of Purchase Order
Letter for intimating UNFCCC (CDM-EB) of the project activity in line with the guideline suggested in Paragraph B- New Project Activity, Point No.2 of Annex 22 of EB-49	04/03/2011	Copy of Letter to UNFCCC
Letters for intimating DNA of the project activity in line with the guideline suggested in Paragraph B- New Project Activity, Point No.2 of Annex 22 of EB-49	04/03/2011	Copy of Letter to DNA
Wheeling Agreement with Gujarat Energy Transmission Corporation Limited (GETCO)- transmission and supplying of electricity upto Torrent Power Limited's (TPL) network	09/03/2011	Copy of Wheeling Agreement

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Contract Agreement with TPL for wheel the electricity generated by proposed project activity from TPL's receiving point to zenith's premises	26/03/2011	Copy of Contract Agreement
Commissioning of the project activity	31/03/2011	Copy of commissioning certificate
Initial Proposal from Deloitte for CDM consultancy to the project	04/04/2011	Copy of Proposal
Revised Proposal/Contract from Deloitte for CDM consultancy to the project	01/06/2011	Copy of Proposal
Invitation for Local Stakeholder Consultation through a personal invitation to respective personnel	24/10/2011	Copy of Invitation Letters
Local Stakeholder Consultation at project site	08/11/2011	Documents related to Local Stakeholders Consultation
Receipt of Host Country Approval (HCA) for the proposed project activity	13/06/2012	Copy of Host country Approval (HCA)

The above chronology of events clearly shows that the real and continued actions to secure CDM status for the project are being taken right from the time of project start.

B.6. Emission reductions:

B.6.1. Explanation of methodological choices:

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As explained earlier in previous sections, the proposed project activity meets the eligibility criteria to use the small scale approved methodology AMS I.D, Version 17. Accordingly the emission reductions for the project activity under consideration are estimated as follows:

Baseline Emissions

The baseline to the project activity is the electricity that would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid. Accordingly, in line with paragraph 11 of applicable approved methodology AMS- I. D Version 17, the formulation to estimate baseline emissions for the proposed project activity is as under:

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

Where:

BE_y Baseline Emissions in year y; t CO₂

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$EG_{BL,y}$ Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y ; MWh

$EF_{CO_2,grid,y}$ CO₂ emission factor of the grid in year y ; t CO₂/MWh

Further, as per paragraph 12 of the AMS- I.D Version 17, the emission factor ($EF_{CO_2,grid,y}$) 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".

OR

- (b) The weighted average emissions (in t CO₂/MWh) of the current generation mix. The data of the year in which project generation occurs must be used.

The proposed project activity would lead to reduction in greenhouse gas emissions because it replaces the fossil fuel dominated grid based electricity. This replaced electricity is likely to affect both operating margins in the short run and build margins in the long run; electricity baseline should reflect a combination of these effects. Therefore an ideal baseline approach is envisaged as the one that combines both Operating and Build Margin as prescribed in first alternative (a) given in applicable approved methodology.

As mentioned earlier in section B.4, the applicable approved methodology also states that, the calculations must be based on data from an official source (where available) and made publicly available. With the purpose of providing a ready reference for the emission coefficients to be used in CDM projects, Central Electricity Authority (CEA), Government of India, has published, "CO₂ Baseline Database for the Indian Power Sector". The said database is an official publication of CEA, Government of India for the purpose of CDM baselines and is based on the most recent data available with the Central Electricity Authority (CEA), Government of India.

Accordingly, the project participant has been chosen **Combined Margin (CM)** ex-ante approach to calculate emission coefficient (measured in t CO₂/MWh) based on "CO₂ Baseline Database for the Indian Power Sector" (Version 7.0)²¹.

Historically, the Indian power system was divided into five independent regional grids, namely Northern, Eastern, Western, Southern, and North-Eastern. Each grid covered several states (refer Table below). Since August 2006, however, all regional grids except the Southern Grid have been integrated and are operating in synchronous mode, i.e. at same frequency. Consequently, the Northern, Eastern, Western and North-Eastern grids are treated as a single grid named as NEWNE grid from FY 2007-08 onwards for the purpose of this CO₂ Baseline Database of CEA. The Southern grid has also been planned to be synchronously operated with rest of all Indian Grid by early 12th Plan (2012-2017). Presently Southern grid is connected with Western and Eastern grid through HVDC link and HVDC back to back systems.

²¹ http://www.cea.nic.in/reports/planning/cdm_co2/user_guide_ver7.pdf

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NEWNE Grid				Southern Grid
Northern	Eastern	Western	North-Eastern	Southern
Chandigarh	Bihar	Chhattisgarh	Arunachal Pradesh	Andhra Pradesh
Delhi	Jharkhand	Gujarat	Assam	Karnataka
Haryana	Orissa	Daman & Diu	Manipur	Kerala
Himachal Pradesh	West Bengal	Dadar and Nagar Haveli	Meghalaya	Tamil Nadu
Jammu & Kashmir	Sikkim	Madhya Pradesh	Mizoram	Pondicherry
Punjab	Andaman-Nicobar	Maharashtra	Nagaland	Lakshadweep
Rajasthan		Goa	Tripura	
Uttar Pradesh				
Uttarakhand				

The project activity is located in Gujarat state of India, the western region of the country, thus falls under NEWNE grid.

Therein, in accordance with said database of CEA, the combined margin emission factor for NEWNE grid calculated out as of 0.9534 tCO₂/MWh.

Project emissions

The proposed project activity involves harnessing of wind energy and its conversion to electricity. Hence as per paragraph 20 of applicable methodology AMS-I.D Version 17, there will be no project emissions due to proposed project activity.

$$PE_y = 0$$

Wind power is a zero GHG emission technology; accordingly, there will be no project emissions due to project activity. Nevertheless, during lean phases (when the WTG is not generating power) some power gets drawn from the grid for maintenance of the common facilities. This aspect has been taken into account by estimating the baseline emissions on basis of net power supplied to the grid. For the purpose of accounting the net power generated by WTG, tri-vector meters are installed at the point of power transmission from WTG to the grid, the readings of which shall be regularly monitored and recorded by plant personnel as well as personnel of the state electricity utility.

Leakage

Since no equipment is transferred from another project activity or that any existing equipment is transferred to another activity, in line with paragraph 22 of applicable approved methodology AMS-I.D. version 17, leakage is considered as zero.

$$LE_y = 0$$

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Emission Reductions

In line with paragraph 23 of applicable methodology AMS I.D, Version 17, the emission reductions due to proposed project activity are computed by using the following formulation:

$$ER_y = BE_y - PE_y - LE_y$$

Considering the expected Plant Load Factor (PLF) of 23.76 % and combined margin emission factor as of 0.9534 tCO₂/MWh for the generation mix (derived using the data from the Central Electricity Authority “CO₂ Baseline Database for the Indian Power Sector” Version 7.0, and procedure detailed in the ‘Tool to calculate the emission factor for an electricity system’), the project activity is expected to reduce 2977 tCO_{2e} annually.

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

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Data / Parameter:	W_{OM}
Data unit:	Fraction
Description:	Weight of Operating Margin Emission Factor in the emission factor used for the proposed project activity
Source of data used:	Tool to calculate the emission factor for an electricity system, Version 02.2.1, as per Annex 19 of EB 63.
Value applied:	0.75
Justification of the choice of data or description of measurement methods and procedures actually applied :	This is in accordance with the applicable approved methodology AMS-I.D. version 17 – “Grid Connected Renewable Electricity Generation”
Any comment:	-

Data / Parameter:	W_{BM}
Data unit:	Fraction
Description:	Weight of Built Margin Emission Factor in the emission factor used for the proposed project activity
Source of data used:	Tool to calculate the emission factor for an electricity system, Version 02.2.1, as per Annex 19 of EB 63.
Value applied:	0.25
Justification of the choice of data or description of measurement methods and procedures actually applied :	This is in accordance with the latest version of the applicable methodology, AMS-I.D. version 17 – “Grid Connected Renewable Electricity Generation”
Any comment:	-

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Data / Parameter:	$EF_{OM,y}$
Data unit:	tCO ₂ /MWh
Description:	Operating Margin Emission Factor for NEWNE grid in year y
Source of data used:	“CO ₂ Baseline Database for the Indian Power Sector”, User Guide, Version 7.0 dated January 2012, released by the Central Electricity Authority, Ministry of Power, Government of India
Value applied:	0.9850
justification of the choice of data or description of measurement methods and procedures actually applied :	The “CO ₂ Baseline Database for the Indian Power Sector”, User Guide, Version 7.0 dated January 2012, released by the Central Electricity Authority, Ministry of Power, Government of India, is the official database for statistics on the power sector in India in the various grids. It has been specially created to meet the data requirements for emission factors for the CDM project activities in the country. The database is used in accordance with the requirements in the applicable methodology stated as, “Calculations must be based on data from an official source and made publicly available”
Any comment:	The data is used as per ex ante option of the ‘Tool to calculate the emission factor for an electricity system – Version 02.2.1, as per Annex 19 of EB 63.

Data / Parameter:	$EF_{BM,y}$
Data unit:	tCO ₂ /MWh
Description:	Build Margin Emission Factor for NEWNE grid in year y
Source of data used:	“CO ₂ Baseline Database for the Indian Power Sector”, User Guide, Version 7.0 dated January 2012, released by the Central Electricity Authority, Ministry of Power, Government of India
Value applied:	0.8587
Justification of the choice of data or description of measurement methods and procedures actually applied :	The “CO ₂ Baseline Database for the Indian Power Sector”, User Guide, Version 7.0 dated January 2012, released by the Central Electricity Authority, Ministry of Power, Government of India, is the official database for statistics on the power sector in India in the various grids. It has been specially created to meet the data requirements for emission factors for the CDM project activities in the country. The database is used in accordance with the requirements in the applicable methodology stated as, “Calculations must be based on data from an official source and made publicly available”
Any comment:	The data is used as per ex ante option of the ‘Tool to calculate the emission factor for an electricity system – Version 02.2.1, as per Annex 19 of EB 63.

Data / Parameter:	$EF_{CO_2,grid,y}$
Data unit:	tCO ₂ /MWh
Description:	Combined Margin Emission factor for the proposed project activity
Source of data used:	<p>Combined margin CO₂ emission factor for grid connected power generation in year y has calculated using the “Tool to calculate the emission factor for an electricity system – Version 02.2.1” as follows:</p> $EF_{CO_2,grid,y} = W_{OM} * EF_{OM,y} + W_{BM} * EF_{BM,y}$ $EF_{CO_2,grid,y} = 0.75 * 0.9850 + 0.25 * 0.8587 = 0.9534$

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Value applied:	0.9534
Justification of the choice of data or description of measurement methods and procedures actually applied :	This is in accordance with the applicable approved methodology, AMS-I.D, Version 17 – “Grid Connected Renewable Electricity Generation”, and the ‘Tool to calculate the Emission Factor for an Electricity System - Version 02.2.1.
Any comment:	The data is used as per ex ante option of the ‘Tool to calculate the emission factor for an electricity system – Version 02.2.1, as per Annex 19 of EB 63

B.6.3 Ex-ante calculation of emission reductions:
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Baseline Emissions (BE_y)

The input parameters used to calculate the baseline emissions are as follows:

Parameter	Value	Unit
Installed capacity of WTG	1.5	MW
Number of WTGs	1	Number
Plant Load Factor	23.76	%
Annual Operating hours	8760	hour

The quantity of total electricity generated by project activity in a year =

Installed capacity of WTG* Number of WTG*Plant Load Factor*Annual Operating hours

$$= 1.5 * 1 * 23.76\% * 8760$$

$$= 3122.576 \text{ MWh}$$

Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y = 3122.576 MWh

Based on the above mentioned parameters and calculations, the calculated baseline emissions are as follows:

Parameter	Description	Value	Unit
$EG_{BL,y}$	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y	3122.576	MWh
$EF_{CO_2,grid,y}$	CO ₂ emission factor of the grid in year y	0.9534	tCO ₂ /MWh
BE_y	Baseline Emissions in year y	2977	t CO ₂

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Project Emissions (PE_y)

As mentioned earlier in section B.6.1, project emissions due to project activity are considered to be zero. Therefore

$$PE_y = 0$$

Leakage Emissions (LE_y)

As mentioned earlier in section B.6.1, leakage emissions due to proposed project activity are considered as zero. Therefore

$$LE_y = 0$$

Emission Reductions (ER_y)

$$ER_y = BE_y - PE_y - LE_y$$

$$ER_y = 2977 - 0 - 0$$

$$ER_y = 2977$$

Thus, the annual emission reductions from the proposed project activity have been estimated as **2977** tCO₂e.

B.6.4 Summary of the ex-ante estimation of emission reductions:
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Year of crediting Period	Baseline Emissions (tCO ₂ e)	Project Emissions (tCO ₂ e)	Leakage Emissions (tCO ₂ e)	Emission Reductions (tCO ₂ e)
Year 1	2977	0	0	2977
Year 2	2977	0	0	2977
Year 3	2977	0	0	2977
Year 4	2977	0	0	2977
Year 5	2977	0	0	2977
Year 6	2977	0	0	2977
Year 7	2977	0	0	2977
Year 8	2977	0	0	2977
Year 9	2977	0	0	2977
Year 10	2977	0	0	2977
Total (tonnes of CO₂e)	29770	0	0	29770

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

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B.7.1 Data and parameters monitored:

>>

Data / Parameter:	EGBL_y
Data unit:	kWh
Description:	Net electricity supplied to the grid by the project activity during the year y
Source of data to be used:	“Certificate for Share of Electricity Generated by Wind Farm”
Value of data	3122576 kWh/year
Description of measurement methods and procedures to be applied:	<ul style="list-style-type: none"> • There is a tri-vector energy meter located adjacent to the project activity WTG at the project site. • This energy meter is capable of recording both, export as well as import of electricity from the project WTG and have a accuracy class of 0.2s • The electricity exported and imported by this energy meter at the project site are monitored continuously and recorded on monthly basis by the PP representative. • Apart from the above mentioned energy meter, there is a main and check meter of accuracy class of 0.2 s located at Suzlon substation to which project as well as non-project WTGs are connected. This meter is also capable of continuous monitoring. • The representatives of GETCO/GEDA and the Project Participant (PP) record the monthly reading of the electricity supplied by the connected WTGs at the substation. • Based on the above recordings i.e. one at the energy meters at the project site and the other at the main /check meter located at Suzlon substation, the apportioning procedures is carried out by GETCO/GEDA representatives to deduce the net electricity supplied by the individual WTGs connected to the feeder. The PP would like to clarify that this procedures of apportioning is carried out and controlled by the GETCO/GEDA representatives and PP has no role to play in the same. • Finally, State Load Dispatch centre (SLDC)/GETCO provides the “Certificate for Share of Electricity Generated by Wind Farm” (hereinafter referred as share certificate), which indicates the net electricity supplied by the project activity WTG. The value indicated in the share certificate will be used for the emission reduction calculations. • The electricity supplied value as indicated in share certificate is then adjusted in the electricity bill of the captive unit to which the electricity wheeled to, after deducting wheeling and transmission charges of 7%.
QA/QC procedures to be applied:	<p>The main and check meters are to be calibrated annually by (GETCO/GEDA) and the energy meter at the project activity site will also be calibrated once in a year.</p> <p>The net electricity supplied value as indicated in share certificate can be cross checked with the electricity bills of the captive unit of PP where the electricity</p>

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	will be wheeled to, after deducting the wheeling and transmission losses.
Any comment:	Monitored data will be archived electronically for the crediting period + 2 years by the project proponent.

Data / Parameter:	$EG_{WTG,y}$
Data unit:	kWh
Description:	Quantity of net electricity generated by the project activity WTG, as recorded at the energy meter at project site
Source of data to be used:	Monthly generation records maintained by PP/its representative
Value of data	-
Description of measurement methods and procedures to be applied:	<ul style="list-style-type: none"> • There is a tri-vector energy meter located adjacent to the project activity WTG at the project site. • This energy meter is capable of recording both, export as well as import of electricity from the project WTG and have a accuracy class of 0.2s • The electricity exported and imported by this energy meter at the project site are monitored continuously and recorded on monthly basis by the PP representative.
QA/QC procedures to be applied:	<p>The energy meter at the project activity site will be calibrated once in a year.</p> <p>This parameter would be used to cross check the electricity supplied values as indicated in SLDC/GETCO share certificate ($EG_{BL,y}$) and the conservative approach would be taken to deduce the electricity supplied values in the calculation of emission reductions.</p>
Any comment:	Monitored data will be archived electronically for the crediting period + 2 years by the project proponent.

B.7.2 Description of the monitoring plan:

>>

The monitoring plan for the proposed project activity has been developed in accordance with applicable approved methodology AMS I.D. Version 17. The methodology requires monitoring of the quantity of net electricity generation from the proposed project activity supplied to the grid.

Monitoring Procedures

The electricity from the project activity WTG is generated at 690 volt and then step up at 11/66 KV and goes to internal grid (i.e. Substation). Finally, the substation output at 220 KV connects to grid. Presently, another 21 WTGs are connected to the substation feeder meter to which project activity WTG is connected. Therein, the wind power projects of cumulative capacity of 40.8 MW (including the proposed project activity and non-project activities) are connected to the substation feeder, at which proposed project activity is connected to.

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There is a tri-vector energy meter located adjacent to the project activity WTG at the project site. This energy meter is capable of recording both, export as well as import of electricity from the project WTG and have an accuracy class of 0.2s. The electricity exported and imported by this energy meter at the project site are monitored continuously and recorded on monthly basis by the PP representative. Apart from the above mentioned energy meter, there is a main and check meter of accuracy class of 0.2 s located at Suzlon substation to which project as well as non-project WTGs are connected. This meter is also capable of continuous monitoring. The representatives of GETCO/GEDA and the PP record the monthly reading of the electricity supplied by the connected WTGs at the substation. Based on the above recordings i.e. one at the energy meters at the project site and the other at the main /check meter located at Suzlon substation, the apportioning procedures is carried out by GETCO/GEDA representatives to deduce the net electricity supplied by the individual WTGs connected to the feeder.

The PP would like to clarify that this procedures of apportioning is carried out and controlled by the GETCO/GEDA representatives and PP has no role to play in the same. Finally, State Load Dispatch Centre (SLDC)/GETCO provides the “Certificate for Share of Electricity Generated by Wind Farm”, which indicates the net electricity supplied by the project activity WTG. The value indicated in the share certificate will be used for the emission reduction calculations. The electricity supplied value as indicated in share certificate is then adjusted in the electricity bill of the captive unit to which the electricity wheeled to, after deducting wheeling and transmission charges of 7%.

The apportioning formula used by GETCO/GEDA representatives to calculate the net electricity supplied by the project activity WTG to the grid is as follows:

$$D = (A/B) * C,$$

Where

A= Net electricity generated by the project activity WTG and recorded by energy meter at the project site

B= Sum of the net electricity supplied by all the WTGs (project as well as non-project WTGs) and recorded by energy meters adjacent to these WTGs at the project site

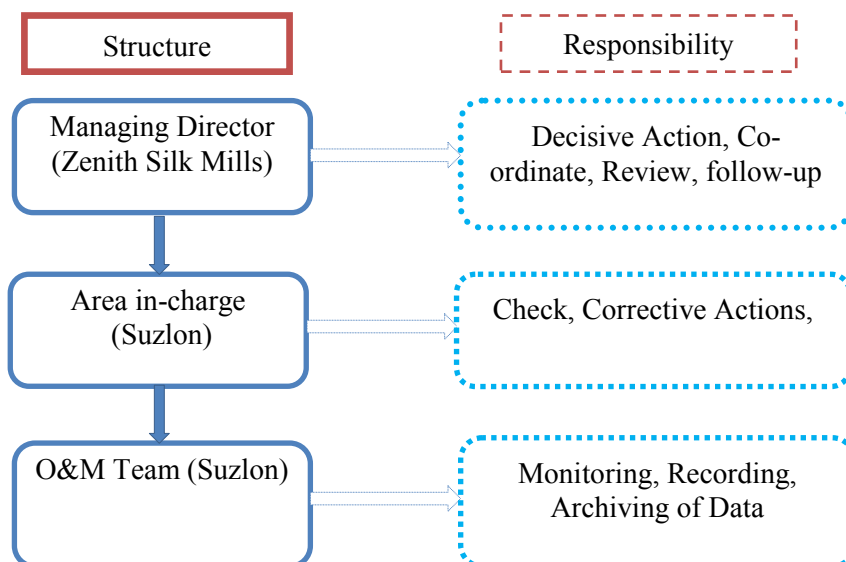
C= Net electricity supplied to the grid by all the WTGs (project as well as non-project WTGs) connected to the sub-station and recorded at the main/check meter at the substation

The PP would like to clarify that this procedures of apportioning is carried out and controlled by the GETCO/GEDA representatives and PP has no role to play in the same.

The proposed project activity has been implemented by Zenith Silk Mills Private Limited. The WTG installed in the proposed project activity is supplied by Suzlon Energy Limited; accordingly, the proposed project activity is being operated and managed by Suzlon only. Suzlon-5th largest wind turbine supplier in the world follows the documentation practices to ensure the reliability and availability of the data for all the activities as required from the identification of the site, wind resource assessment, logistics, finance, construction, commissioning and operation of the wind power project. To ensure trouble free operations and efficient generation through the wind turbine implemented under project activity, the project proponent- Zenith Silk Mills has entered into a comprehensive Operation and Maintenance agreement with the Wind Turbine supplier –Suzlon.

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The operational and management structure implemented by Zenith Silk Mills Private Limited and Suzlon is as follows:



Managing Director (MD) – Zenith Silk Mills

He would be responsible for overall co-ordination towards the project development under CDM, including communication with CDM Consultants and Validation/Verification agencies etc. He would also ensure that the relevant monitoring and data up-keep is carried out for the project activity properly and regularly. Thus, the MD-Zenith Silk Mills would solely responsible for timely execution of all the related activities in CDM project development as well as operation of the proposed project activity and would take decisive actions in this regard.

Area In-charge – Suzlon

He would responsible for trouble free day to day operation of the wind energy turbine (WTG) in support with O&M Team - Suzlon. He would ensure that the monitoring plan is adhered and operations are carried out as per standard procedures. He will collect all the relevant monitored data from O&M Team - Suzlon, and submit them to the GM (Comm.) – Zenith Silk Mills through the channel for his perusal. For the CDM aspects, he would co-ordinate for the site visits under validation/verification process of the project activity.

O&M Team – Suzlon

The monitoring data related to the project activity would be collected, reported, maintained and archived by O&M Team of Suzlon. The corrective actions (if required) would be taken by O&M Team of Suzlon to maintain the quality of data. The team would further submit the monitoring data to Area in-charge–Suzlon for perusal and further will be submitted to MD, Zenith Silk Mills in the form of a daily as well as a monthly report.

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Procedures for Data Adjustments/Uncertainties:

The procedures to adjust the data uncertainty are as follows:

1. During the monthly joint meter reading at connected substations: The reading of the main and check meter would cross check to ensure that the meters are working within the permissible limit. In case reading is found to be outside the permissible limit of accuracy during the process of cross checking, calibration will be done to identify the meter with the error and the faulty meter would replace immediately. The meter reading for that month will be taken from the correct meter.
2. During the monthly joint meter reading at the connected substations: If there is any display defect in the main meter, in that case, the check meter reading would considered for the purpose of preparation of the break-up sheet. Defective main meter will be replaced immediately.
3. During the annual calibration of the meters at the connected substations: If the main meter is found to be outside the permissible limit of accuracy and the reading from same source have been used to prepare Joint Meter Reading (JMR) sheet, then the identified error would be applied to all the measured value since the date of last calibration. Further the main meter would be replaced immediately.

There is a possibility that the date of CDM registration of the project activity may not coincide with the start date of the billing cycle or the date of joint meter reading sheet. In such a case, the electricity generation would be considered from the billing cycle that follows the CDM registration date of the project activity. For the intervening period, i.e. from the date of CDM registration till the start of the next billing cycle, the electricity generation will be apportioned based on the total monthly generation and number of days during the intervening period.

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

>>

Date of completion of the application of the baseline and monitoring methodology: 22/02/2012

Name of responsible person (s)/ entity (ies) for application of the above:

Swati Sharma (not a project participant)
 Deloitte Touche Tohmatsu India Private Limited
 7th Floor, Building 10, B, DLF Cyber City Complex, DLF City Phase-II,
 Gurgaon – 122 002, India
 Tel/Direct: +91 (124) 679 2000 |2730Fax: +91 (124) 679 2012
 Email: swatis@deloitte.com

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SECTION C. Duration of the project activity / crediting period

C.1 Duration of the project activity:

The duration of the proposed project activity is 20 years 00 months.

C.1.1. Starting date of the project activity:

>>

Starting date of the proposed project activity is 26/10/2010, being date of placement of Purchase Order for this project activity.

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

>>

20 years and 00 months

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

Fixed crediting period has been chosen for the proposed CDM project activity.

C.2.1. Renewable crediting period

Not opted for.

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:

Fixed crediting period has been chosen.

C.2.2.1. Starting date:

>>

The crediting period of project activity will start from the date of registration of project activity with CDM EB, the expected start date of crediting period is 14/11/2012

C.2.2.2. Length:

>>

10 years and 0 months

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SECTION D. Environmental impacts

>>

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

>>

Wind power is one of the cleanest sources of renewable energy, with no associated emissions and waste products. In India, Environmental Impact Assessment (EIA) of wind power project is not an essential regulatory requirement. The Schedule 1 of Environment Impact Assessment (EIA) Notification 1994²² and 2006²³ have covered 30 and 8 sectors respectively which are required to conduct EIA. However wind power projects (wind energy sector) are not covered under the Schedule 1. Thus EIA is not required for wind power 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:

>>

There is no major impact on the environment due to the installation and operation of the wind turbine generator machines. However, the project activity affects the environment in favourable manner by generating a clean energy. Therein, no EIA is required for the project activity under consideration.

SECTION E. Stakeholders' comments

>>

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

>>

The stakeholders for the proposed CDM project activity have defined as the parties and individuals who are either affected or are perceived to be affected by the proposed project activity. Zenith Silk Mills identified local communities, farmers, officials of Gram Panchyat, official of state utility, Suzlon and Suzlon Infrastructure as the most important stakeholders with an interest in the CDM activities.

The comments from local stakeholders were invited through a local stakeholder meeting conducted at on 8th November 2011 at CMS – Nanisindhodi, the nearest Monitoring station of Suzlon from project site. The local stakeholders were invited through written invitation dated 24th October 2011.

At the start of the meeting, the agenda of the meeting and the purpose was explained to the participants. A detailed presentation regarding climate change, Kyoto Protocol and CDM was made to the stakeholders in order to familiarise them regarding the concept. Information regarding global environmental issues was also provided during the meeting. This was followed by a presentation on the proposed project activity. The presentations were made in Hindi to facilitate best understanding. The representatives of Zenith Silk Mills and Suzlon explained the corporate sustainable and social activities that had been undertaken at the project site for the villagers. Suzlon officials explained the corporate sustainable and social activities that had been undertaken at the project site for the villagers like setting up of medical services in the village, distributing the stationery for children to encourage them to go

²² [http://www.envfor.nic.in/legis/eia/so-60\(e\).html](http://www.envfor.nic.in/legis/eia/so-60(e).html)
²³ <http://envfor.nic.in/legis/eia/so1533.doc> (please refer page 10 of this literature)

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school etc. After the briefing / presentations, the stake holders were asked to provide their comments / suggestions for the proposed project.

E.2. Summary of the comments received:

>>

Some of the comments and queries raised by the participants are as follows:

Name of stakeholder	Comments received from stakeholder	Response given by project proponent
Dilavar Singh	What the consultant is doing and what each person could do at the individual level to contribute towards protecting the planet from climate change.	It was explained that as individuals, if we commit to saving electricity in all its forms, by using energy efficient lamps, or by changing over to non-conventional forms of energy from using fossil fuels, then we all could make an impact to reduce our global footprint.
Kirit Singh	Mr. Singh raised concerns regarding the quality of the road going to the village and enquired why the wind farm developer could not repair the road as they also use and required the road for taking machinery, etc.	The Wind farm developer – Suzlon replied that they are also facing the same problem; the road situation has become worsen due to rain also. In general, road construction is the responsibility of government, however Suzlon is considering to take initiative to construct road itself.

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

>>

The stakeholders present during the meeting appreciated the initiatives taken by Zenith Silk Mills Private Limited to address the local and global environmental issues. They welcomed the project activity as environmentally clean option to generate electricity and development of the nearby rural areas. They also appreciated the fact that establishment of proposed wind project has provided local employment opportunities and made a cost of land on which project activity is implemented as that land is unfertile and salty otherwise.

Therein, only positive comments were received during the local stakeholder meeting and hence no corrective actions were recorded due to in absence of negative comments established. Invitation Letter, Attendance sheet and photos of stakeholder meet are provided as attachment I of PDD.

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Annex 1

CONTACT INFORMATION ON PARTICIPANTS IN THE PROJECT ACTIVITY.

Organization:	Zenith Silk Mills Pvt. Ltd.
Street/P.O.Box:	Vasta Devdi Road
Building:	
City:	Surat
State/Region:	Gujarat
Postfix/ZIP:	395 008
Country:	India
Telephone:	+91-9825054909
FAX:	+91-261-2532369
E-Mail:	pareshzenith@yahoo.in
URL:	
Represented by:	
Title:	Director
Salutation:	Mr
Last Name:	Jariwala
Middle Name:	Vasantlal
First Name:	Paresh
Department:	
Mobile:	+91-9825054909
Direct FAX:	91-261-2532369
Direct tel:	
Personal E-Mail:	

Annex 2

INFORMATION REGARDING PUBLIC FUNDING

The entire cost of the project has been borne by Zenith Silk Mills Private Limited. Therein, No public funding is involved in the project activity under consideration.

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Annex 3

BASELINE INFORMATION

As discussed in Section B.4 of PDD.

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Annex 4

MONITORING INFORMATION

Please see Section B.7 of the PDD for the detailed information on monitoring plan for the project activity.

Attachment I

Photos of stakeholder meet



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Attendance Sheet of Stakeholder Meet

CDM Local Stakeholders Consultation
“1.5 MW Wind Power Project at Kosha village in Kutch district of Gujarat state, India
of
Zenith Silk Mills Private Limited”

Venue: CMS – Nanisindhodi

Date: 8th November 2011

Time: 11.30 AM-1.30 PM


Agenda:

- To discuss general environmental and social concerns
- To discuss initiatives being undertaken by **Zenith Silk Mills Private Limited**
- To address the well-being of the environment and community
- To discuss proposed CDM project to address the issue of climate change/ global warming

Meeting Schedule:

- Welcome & Introduction – by Zenith and Suzlon Energy Limited (Wind Turbine Supplier)
- Introduction to Climate Change/ CDM – by Deloitte (CDM Consultant)
- Introduction to the proposed CDM project – by Deloitte (CDM Consultant)
- Discussion Forum:
 - ✓ Questions/ Comments/ Suggestions/ Issues
 - ✓ Response to Questions/ Comments/ Suggestions/ Issues


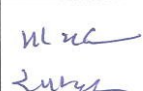
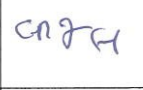


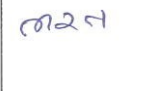
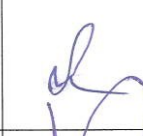

Attendance Sheet:

S.No.	Name	Organization	Address	Phone Number	Signature
1.	સુચિત્રા રાજેશ		૦૧૨૧૫૬૨ ૨૨૦૧૫૨૧	૯૭૨૫૩૧૫ ૭૦	
2.	૨૧ વસંતી રાજેશ		૦૨૫૧ ૦૧ ૨૨૦૧૫૨૧ ૦૧ - ૧૨૦	૯૫૩૭૩૯ ૩૯૬૬	૨૧ વસંતી રાજેશ

CDM Stakeholder Meet for 1.5 MW wind Power Project of Zenith Silk Mills Pvt. Ltd.

Page 1

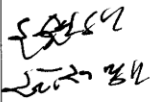
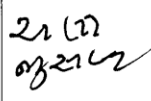
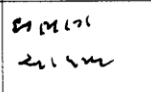
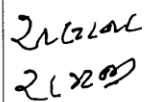
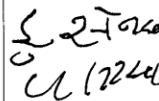
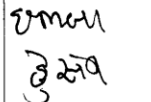
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S.No.	Name	Organization	Address	Phone Number	Signature
3.	පීටර් ඒ Zyommon		මාලිගම මාලිගම මාලිගම	94280 33367	
4.	නිශා Nisha		නිශා නිශා නිශා	66249 37254	
5.	නිශා Nisha		නිශා නිශා	69390 48034	
6.	නිශා Nisha		නිශා නිශා නිශා	99097. 93007.	
7.	නිශා Nisha		නිශා නිශා	99136 35025	
8.	නිශා Nisha		නිශා නිශා (නිශා)	97124. 24556.	
9.	Rajesh Nain	Seyton	Rannala	99798 94992	
10.	Shankhal Jorival	Zenith	205, Nilup Apur Penda	99788 40616	

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S.No.	Name	Organization	Address	Phone Number	Signature
11.	Vinod K Tailor	Zenith	A-4.201, Shardada's Plot Near P.d. stand	94278 33877	
12.	Swati Sharma	Deloitte	DLF, Cyber City, Gurgaon	9711976154	
13.	Bhaskar patel	Suzlon	Naliga.	98799 96670	
14.	Nuresh Dadiga	Suzlon	Naliga	97277 59271	
15.	B.h. Jindal	Suzlon	Naliga	96380 37055	
16.	Puneet Sethi	Deloitte	DLF, Cyber City Gurgaon	9818681168	
17.	Abdulla Nasim		Kosha Village	997874 1052	
18.	Arvind Sagaria		Village Kosha	971243 8952	

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S.No.	Name	Organization	Address	Phone Number	Signature
19	Hassan Osman		Mirange Katha	-	
20	Ali youth		Katha	997940 7781	
21	Abul Adnan		Katha	991311 4902	
22	Allana Ramji		Katha	-	
23	Hussan Shah Ali Shah		Katha	-	
24	Abul Hassan		Katha	-	
25	Ramzan Abdul		Katha	-	