



VALIDATION REPORT

VISH WIND INFRASTRUCTURE LLP

WIND POWER PROJECT IN GUJARAT,
INDIA

REPORT NO.
CDM.12.VAL.032



Date of this issue: 13/09/2012		KBS Ref. No.: CDM.12.VAL.032	
Organisational Unit:		Client:	
Climate Change Division, KBS		Vish Wind Infrastructure LLP	
Project Design Document			
First PDD:		Final PDD:	
Version: 01		Version: 05.0	
Date: 20/01/2012		Date: 13/09/2012	
Summary of validation:			
Vish Wind Infrastructure LLP has commissioned KBS to perform the validation of the proposed CDM project activity:			
Project Title:		Wind Power Project in Gujarat, India	
Methodology Applied:		ACM0002, Version 12.3.0.	
Sectoral Scopes:		01 (TA1.2)	
Validity of methodology/ies (for RfR):		Requests for registration can be submitted until 11 Jan 2013	
<p>The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against the latest version of CDM Validation and Verification Manual, Kyoto Protocol requirements and UNFCCC rules.</p> <p>The report is based on the assessment of the project design document undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to desk review, follow up actions (e.g., on site visit, electronic (telephone or e-mail) interviews) and also the review of the applicable approved methodological and relevant tools, guidance and CDM decisions.</p> <p>The review of the project design documentation and the subsequent follow-up interviews have provided KBS with sufficient evidence to determine the project's fulfillment of all the stated criteria. In our opinion, the project meets all applicable UNFCCC requirements for the CDM.</p> <ul style="list-style-type: none"> - <input checked="" type="checkbox"/> Will be recommended to the CDM Executive Board with a request for registration - <input type="checkbox"/> Is not recommended for registration 			
Validation Status:			<input type="checkbox"/> Findings not closed
Project type:	Large scale		<input type="checkbox"/> Draft validation report
Subject: CDM Validation (VVM V1.2)			<input checked="" type="checkbox"/> Final validation report
Validation Team:			Document Distribution
Team Leader & Local Expert :Sanjay Kandari Technical Expert (TA 1.2): Sanjay Kandari Financial Expert: Abhishek Mahawar			<input checked="" type="checkbox"/> No Distribution without permission from the Client
Technical Review Team:		Manager Technical & Certification	
Technical Reviewer: Kaviraj Singh Date: 13/09/2012 Technical Expert: Kaviraj Singh		Name: Ashok Kumar Gautam Date: 19/09/2012	
Authorized by:			
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Abbreviations

ACM	Approved Consolidated Methodology
BM	Build Margin
CAR	Corrective action request
CDM	Clean development mechanism
CDM EB	CDM Executive Board
CEA	Central Electricity Authority
CER	Certified emission reduction
CL	Clarification request
COD	Commercial Operation Date
CO ₂	Carbon dioxide
CO _{2e}	Carbon dioxide equivalent
CM	Combined Margin
CUF	Capacity Utilization Factor
DISCOM	Distribution Company
DNA	Designated national authority
DOE	Designated operational entity
EB	Executive Board
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reductions
FAR	Forward action request
GEDA	Gujarat Energy Development Agency
GERC	Gujarat Energy Regulatory Agency
GHG	Greenhouse gas(es)
GUVNL	Gujarat Urja Vikas Nigam Limited
GETCO	Gujarat Energy Transmission Company Limited
HCA	Host Country Approval
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
ISO	International Organization of Standardization
kWh	Kilo Watt Hour
LoA	Letter of Approval
MoC	Modalities of Communication
MOP	Meeting of Parties
MP	Monitoring Plan
NCDMA	National CDM Authority
NEWNE	Northern, Eastern, Western and North-Eastern
ODA	Official Development Assistance
OM	Operating Margin
PDD	Project Design Document
PLF	Plant Load Factor
PO	Purchase Order
PP	Project Proponent
PPA	Power Purchase agreement
REC	Renewable Energy Certificates
SLDC	State Load Dispatch Centre
QA/QC	Quality Assurance/Quality Control
RfR	Request for Registration
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual
WEG/WTG	Wind Energy Generator/ Wind Turbine Generator



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1. Validation Opinion

KBS Certification Services Pvt. Ltd. has been contracted by “Vish Wind Infrastructure LLP” to perform a validation of the project:

Project title: Wind Power Project in Gujarat, India

Host Party: India

The validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism, latest version of Validation and Verification Manual and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The proposed CDM project activity will result in reductions of greenhouse gas (GHG) emissions that are real, measurable and give long-term benefits to the mitigation of climate change. In our opinion, the project meets all relevant UNFCCC, CDM criteria and all relevant host country criteria.

The project correctly applies methodology ACM0002 version 12.3.0. It is demonstrated that the project is not a likely baseline scenario. The emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The total emission reductions from the project are estimated to be 736,080 tCO₂e over a 10 years of fixed crediting period during 01/10/2012 to 31/09/2022, averaging 73,608 tCO₂e annually. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given the underlying assumptions do not change.

The project will hence be recommended by KBS for request for registration with the UNFCCC.

Authorized Signatory

Signature:

Name: Kaushal Goyal

Date: 19/09/2012



2. Introduction

2.1 Objective

Vish Wind Infrastructure LLP has commissioned KBS to perform the validation of the project, “Wind Power Project in Gujarat, India” with regard to the relevant requirements for Clean Development Mechanism (CDM) project activities.

The purpose of validation is to ensure a thorough, independent assessment of proposed CDM project activities submitted for registration as a proposed CDM project activity against the applicable CDM requirements.

In particular, the project's baseline, the monitoring plan (MP) and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. The validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reduction (CER).

UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

2.2 Scope

The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. KBS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

3. Methodology

3.1 Review of CDM-PDD and Additional Documentation

The validation is performed primarily as a document review of the publicly available project document version 01 dated 20/01/2012^{1.1/} and the subsequent versions, version 02^{1.2/} dated 25/06/2012, version 03 dated 17/07/2012^{1.3/} & Version 04 dated 26/07/2012^{1.4/}, version 05 dated 13/09/2012 (final version). The assessment is performed by a validation team using a validation protocol attached as Annex 1.

The site visit was undertaken by Sanjay Kandari and details are mentioned below;

Location:	Rasaliya Village, Bhuj District, Gujarat India	
Dates:	14/06/2012	
Key points discussed:	Name of person, interviewed	Designation, Organization
Site Inspection, Operation and Maintenance,	Ritesh N Chauhan	Senior Engineer, Enercon India Ltd.
Monitoring and data recording	Visam Ahir	Engineer, Samarth Engineers
Discussion on PDD, Baseline Calculations, Monitoring, Financial Analysis, Corrective Action and Clarification on the PDD	Ms. Poorvi Joshi	CDM Professional, Enercon India Ltd.
Social, economic and environmental impact in the region from the project activity, benefits from the project activity	Jadeja Gabhobha Sankar Rabari	Local Villagers/ local stakeholders
Security and Maintenance at the substation	Parekh Daxesh M	Site In charge, Samarth Engineers
Operation and Maintenance	Ritesh N Chauhan'	Senior Engineer, Enercon India Ltd.

3.2 Use of the Validation Protocol

The validation protocol used for the assessment is designed in accordance with the latest version of Validation and Verification Manual. It serves the following purposes:

- it organises, details and clarifies the requirements the project is expected to meet; and
- it documents both how a particular requirement has been validated and the result of the validation (reporting).

The validation protocol consists of several tables. The different columns in these tables are described below.

Checklist Question	Ref ID	Means of Verification (MoV)	Comment	Draft and/or Final Conclusion
The various requirements are linked to checklist questions the project should meet.	Lists any references and sources used in the validation process. Full details are provided in the table at	Explains how conformance with the checklist question is investigated. Examples of means of verification are	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further	This is either acceptable based on evidence provided (Y), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification Request (CL) is used when the validation team has

	the bottom of the checklist.	document review (DR) or interview (I). N/A means not applicable.	used to explain the conclusions reached.	identified a need for further clarification.
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The completed validation protocol for this project is attached as Annex 1 Findings

As an outcome of the validation process, the validation team can raise different types of findings

A Clarification Request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met

Where a non-conformance arises the validator shall raise a **Corrective Action Request (CAR)**. A CAR is issued, where:

- I. The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- II. The CDM requirements have not been met;
- III. There is a risk that emission reductions cannot be monitored or calculated.

A Forward Action Request (FAR) is raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the CDM requirements for registration.

Corrective Action Requests and Clarification Requests are raised in the draft validation protocol and detailed in a separate form (Annex 2). In this form, the project participant is given the opportunity to “close” outstanding CARs and respond to CLs and FARs.

3.3 Internal Quality Control

Following the completion of the assessment process and a recommendation by the assessment team, the validation opinion prepared by Team Leader is independently reviewed by internal Technical Reviewer. TR reviews if all the KBS procedures have been followed and all conclusions are justified in accordance with applicable standards, procedures, guidance and CDM decisions. The TR either is qualified for the technical area within the CDM sectoral scope applicable to project activity or is supported by qualified independent technical expert at this stage.

The Technical Reviewer will either accept or reject the recommendation made by the assessment team. The findings can be raised at this stage and project participant must address them within agreed timeline.

The opinion recommended by Technical Reviewer will be confirmed by Manager Technical & Certification and finally authorized by the Managing Director on behalf of KBS as final validation opinion.

4. Validation Findings

4.1 Approval

Discussion:

India is the host country for this project and a signatory of the Kyoto Protocol. India, a non-Annex I country has ratified the Kyoto Protocol on 26/08/2002. The same was confirmed from http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php. Host Country approval^{/3/} (reference no: 4/6/2012-CCC) dated 19/04/2012 issued by the DNA of India to “Vish Wind Infrastructure LLP” is submitted to assessment team.

The validation team has confirmed that the project participants are listed in tabular form in section A.3 of the PDD and this information is consistent with the contact details provided in Annex 1 of the PDD. The letter of approval was also found to be unconditional with respect to para 45 (a) to (d) of VVM. Hence, referenced letter(s) are in accordance with paragraphs 44 - 48 of VVM, V1.2.

The HCA^{/3/} clearly states the four major requirements as indicated in paragraph 45-48 of VVM 1.2^{/5/}, which were checked and verified and concluded that India is a Party to Kyoto Protocol, participation in the proposed CDM project activity is voluntary and the project activity leads to sustainable development in India. The project title indicated in the letter of approval is precise as per the CDM PDD^{/1/} submitted along with the validation report and is unconditional. The validation team confirms this as per requirement of paragraph 44-50 of VVM 1.2^{/5/}.

The below table summarizes the project participants and parties involved:

Project Participant	Vish Wind Infrastructure LLP
Parties Involved	India
Project activity title	Wind Power Project in Gujarat, India
Approval	
LoA received	Yes
Date of LoA	19/04/2012
Reference of document	4/6/2012-CCC
LoA received from	Received from PP and issued from Indian DNA
Validation of authenticity	Email communication with DNA ^{/29/}
Validity of LoA	Valid

Opinion:

According to Para.49, 50 and 125 of VVM 01.2^{/5/}, the assessment team confirms that:

- The letters of approval have been received with clearly referencing the letter itself and any supporting documentation
- The letter of approval from host party i.e. India is issued on 19/04/2012
- The letters are received directly from the PP.
- The letters of approval are authentic and the same has been confirmed from respective DNAs via email.
- The letters of approval are in accordance with Paragraphs 45-48 of VVM V1.2^{/5/}
- The Modalities of Communication (MoC) with the EB and UNFCCC secretariat has been issued and signed by authorized person on behalf of PPs. The signed MoC was found to be appropriate as it clearly defined the responsible party for communicating with the EB and UNFCCC regarding the issuance of CER of the proposed CDM project.

4.2 Participation Requirements

Discussion:

The Host party for this project is India and India has ratified the Kyoto Protocol on 26th August 2002, hence allowed to participate in CDM projects. The same has been verified from the Host Country Approval^{3/} (Ref no: 4/6/2012-CCC dated 19/04/2012) issued by DNA of India (Ministry of Environment & Forests, Government of India) to the project participant.

The project's Modalities of Communication (MoC)^{4/}, signed on 02/01/2012, was received from the PP. As required in Procedures for Modalities of Communication between Project Participants and the Executive Board, the validation team has verified that the name of Mr. Yogesh Mehra is the authorized signatory for relevant project activity on behalf of other project participants. The validation team confirmed that the signatory and contact details on the MoC^{4/} are authorized and credible.

Opinion:

The validation team confirms that the participation has been approved by India and it ratified the Kyoto Protocol on 26th August 2002.

4.3 Project Design Document

Discussion:

The final Project Design Document (PDD)^{1.4/} for the project activity was developed on the PDD template version 03 and was found in accordance with the guidance 'Guidelines for Completing the Project Design Document (CDM-PDD)^{1.2/} version 07 dated 14/09/2007, EB 41, Annex 12.

Findings: CAR 01 (a),(b) & (c) were raised and closed successfully, refer Annex 2 of the report where the same has been discussed completely.

Opinion:

Project Design Document is found to be appropriate and in line with the relevant applicable requirements of UNFCCC. The validation team has validated the final PDD^{1.5/} and confirms that it is in line with the requirements of para 55, 56 and 57 of the VVM version 01.2.

Key revisions between the final PDD against the first version published for the international stakeholder consultation	
PDD Section no.	Brief description of the changes
A.4	Total emission reductions during the crediting period changed from 736,640 t CO _{2e} to 736,080 t CO _{2e}
B.5	<ul style="list-style-type: none"> The change in equity IRR from 8.62% to 9.29% Benchmark has been reduced from 18.12% to 17.68% The Common Practice Analysis has been revised in line to EB 65, Annex 21. Explanation for the selection of parameters has been included in the sensitivity analysis in line to para 20 of EB 62, Annex 05.
B.6.1	<ul style="list-style-type: none"> The weighted average of operating margin of last 03 years has been considered instead of simple average for the calculation of "Combined Margin". Changed in combined margin emission factor from 0.95343 (tCO₂/MWh) to 0.9527 (tCO₂/MWh)

4.4 Project Description

Discussion:

The project activity involves installation and operation of a wind power generation facility of an installed capacity of 36 MW in the states of Gujarat, India, the project activity consists of the 45 WTGs of 800 kW each aggregating the total capacity of 36 MW. The purpose of the project activity is to generate electricity and feed it into the regional grid (NEWNE). This was checked from the Power Purchase Agreements^{11/} for 28 WTGs between PP and “Gujarat Urja Vikas Nigam Limited (GUVNL)” commissioned till 16/07/2012. The capacity of the project activity was validated from the offer letter^{7/} submitted by the technology supplier to the PP and further crosschecked with the purchase orders^{13/} placed by the PP to the technology supplier i.e. “Enercon India Ltd.” The technical specification of the WTGs were validated from the offer letter^{7/} issued by the technology supplier “Enercon (India) Ltd” to PP, this was further crosschecked from the Enercon website.¹ The 28 WTGs were commissioned till 16/07/2012 out of proposed 45 WTGs, however the purchase orders^{13/} of all the 45 WTGs were placed.

The geographical coordinates of the site mentioned in the PDD^{1.1/} were crosschecked from google maps for the commissioned WTGs and were also checked using a GPS device during the site visit and the same was found to be consistent.

The project activity will also lead to sustainable development by utilization of wind energy by generation of electricity which would meet the electricity requirement of India. The implementation of the project activity helps in achieving sustainable development in social, economic, environmental and technical aspects. The same has been crosschecked from the Host Country Approval^{3/} issued by DNA of India (Ministry of Environment & Forests) dated 19/04/2012 reference no: 4/6/2012-CCC^{3/}.

As mentioned in section A.4.5 of the PDD^{1.5/}, no public funding since the project is funded by 100% equity. Moreover PP has provided the declaration^{28/} of no ODA funding for the project activity.

In the absence of project activity, the same quantity of electricity would have been generated through grid connected fossil fuel based power plants. Therefore, the proposed CDM project activity will lead to reduction in GHG emissions.

The expected operational lifetime of the project activity is 20 years according to the information provided by the technology supplier^{26/}. The fixed crediting period has been selected, the expected starting date of crediting period is 01/10/2012 or the date of registration, whichever occurs later. The annual GHG emission reduction of the project is thus estimated to be 73,608 tCO₂e per year of crediting period by considering the baseline emission factors of NEWNE regional grid and net electricity generated by the project activity.

Opinion:

In summary, according to VVM, version 1.2^{5/}, by means of review of purchase orders^{13/}, offer letter^{7/} and interviews with the stakeholders, the validation team considers that the project description in PDD is accurate and complete. The validation team confirms that description of the project activity in the PDD sufficiently incorporates all relevant elements accurately and transparently in line with VVM.V1.2 relevant to this section.

4.5 Baseline and monitoring methodology

4.5.1 General requirement

Discussion:

The proposed project activity applies approved methodology ACM0002^{6/} ‘Consolidated baseline methodology for grid-connected electricity generation from renewable sources’ version 12.3.0. The project activity applies ‘Tool to calculate the emission factor for an electricity system’, version 02.2.1. EB 63 Annex 19^{13/}.

Opinion:

The identified and applied methodology & the applied tools are applicable to the project activity and the conformance of project activity with applicability conditions of the applied methodology is discussed in further chapters of the report.

¹<http://www.enercon.de/en-en/59.htm>

4.5.2 Applicability of selected methodology to the project activity

Discussion:

The project activity is a grid connected wind power project; and the installed rated capacity of the proposed project will be 36 MW (45*0.8 MW). The validation team has verified the technical parameters from the Technical specification of WTGs (E53) provided by the equipment manufacturer^{7/}. The applicability condition of the approved methodology ACM0002, version 12.3.0^{6/} and the “Tool to calculate the emission factor for an electricity system” version-2.2.1^{12/} referred to in the approved methodology, in context of project activity is sufficiently demonstrated in PDD^{1.4/}. The summary of the project compliance with applicability criteria is listed below:

Applicability conditions in Version 12.3.0 of ACM0002	Characteristics of the project activity	Means of Validation
<i>This methodology is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (green field plant); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).</i>	The project activity consists in the installation of a new grid connected renewable power plants at a site where no renewable power plant was operated prior to the implementation of the project activity (green field plant)	The validation team has verified the information from Offer Letter ^{7/} , Purchase order ^{13/} , Commissioning Certificate ^{15/} and Power Purchase Agreements ^{11/} of 28 WTGs commissioned till 31/03/2012 provided by the PP, the same has been further confirmed during site visit ^{21/} and found acceptable.
<i>The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;</i>	The project activity is grid connected renewable power generation from wind. Applicability criterion is fulfilled.	The validation team has verified the information from Offer Letter ^{7/} , Purchase order ^{13/} , Commission Certificate ^{11/} and Power Purchase Agreements ^{13/} provided by the PP and confirms that project activity is a grid connected renewable power generation from wind, the same has been further confirmed during site visit ^{8/} and found appropriate.
<i>In the case of capacity additions, retrofits or replacements (except for capacity addition projects for which the electricity generation of the existing power plant(s) or unit(s) is not affected): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project</i>	This condition is not relevant, as the project activity does not involve capacity additions, retrofits or replacements. Applicability criterion is not relevant.	The project activity is a Greenfield project, the same has been confirmed by reviewing the Offer Letter ^{7/} , Purchase order ^{13/} , Commission Certificate ^{15/} and Power Purchase Agreements ^{11/} provided by the PP, it is further confirmed during site visit ^{21/} .

<i>activity;</i>		
<i>In case of hydro power plants: One of following conditions must apply...</i>	This condition is not relevant, as the project activity is not the installation of a hydro power plant. Applicability criterion is not relevant.	This criteria is not applicable to proposed project activity.
<i>In case of hydro power plants using multiple reservoirs where the power density of any of the reservoirs is lower than 4 W/m² after the implementation of the project activity all of the following conditions ...</i>	The project activity is a wind power project and hence the criteria are not applicable for the project.	The validation team has verified the information from Offer Letter ^{7/} , Purchase order ^{13/} , Commission Certificate ^{15/} and Power Purchase Agreements ^{11/} provided by the PP and confirms that project activity is a grid connected renewable power generation from wind, the same has been further confirmed during site visit ^{21/} therefore this criteria is not applicable to proposed project activity.
<p><i>This methodology is not applicable to the following:</i></p> <ul style="list-style-type: none"> • <i>Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site;</i> • <i>Biomass fired power plants;</i> • <i>Hydro power plants that result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m².</i> 	The project activity does not involve any of the given conditions. Applicability criterion fulfilled.	Based on document review and site visit the validation team confirms that the project activity does not involve switching from fossil fuel to renewable energy sources and usage of biomass.

Note: The non relevant (unrelated to wind projects) criteria are only partly reproduced in table.

Opinion:

The assessment team confirms that:

- Based on the discussion above, the project activity fulfills all the requirements of the approved methodology ACM0002, version 12.3.0^{6/} and considered acceptable.
- The project activity is a wind based renewable energy generation therefore it does not include any GHG emissions which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology.

4.5.3 Project boundary

Discussion:



The system boundaries of the project are clearly defined in the PDD. The spatial extent of the project boundary includes the project site and all power plants connected physically to the baseline grid i.e. NEWNE (Northern, Eastern, Western and North-Eastern) regional grid of India. As per the approved methodology ACM0002, Version 12.3.0, project emission from renewable source of energy is zero. There are no other sources which are impacted by the project.

The spatial boundaries and system boundaries of the project activity includes the project power plant and all power plants connected physically to the electricity system that the project activity is connected to. The project boundary includes the WTGs installed, substation and the regional grid (NEWNE); the same was validated by the Validation Team during the site visit.

All the emissions sources and gases related to the baseline scenario, project scenario and leakages have been identified and from the project activity have been transparently included in the description in the webhosted PDD^{1.1/}, which for this project emissions CO₂ in the baseline emissions are considered in line to the applied methodology ACM0002, Version 12.3.0^{6/}.

The validation team has checked the project boundary during site visit and verified the CO₂ database of Central Electricity Authority^{16/} which form a part of the project boundary.

Opinion:

Based on the site visit and the document review the validation team confirms that the project boundary defined in the section B.3 of the PDD complies with the paragraph 79 of VVM. V1.2^{5/}. Since, the proposed project activity is a wind based renewable energy generation therefore no other gases except CO₂ as recommended by the methodology has been included in the project boundary.

4.5.4 Baseline identification

Discussion:

The proposed CDM project activity includes installation and operation of a new grid connected renewable wind power plant, and hence applies the approved small scale methodology ACM0002, Version 12.3.0^{6/}, 'Consolidated baseline methodology for grid-connected electricity generation from renewable sources' to the proposed project activity under consideration. According to ACM0002, Version 12.3.0^{6/}, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following:

"Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".

As mentioned before, the project activity under consideration generates electricity by harnessing wind energy, and the electricity produced is fed into the NEWNE regional grid of India. Thus, displacing electricity produced in the grid by using carbon intensive fossil fuels. In the absence of the project activity, the same amount of electricity would have been produced in the grid, therefore, the baseline of the project activity are the emissions generated by generation of electricity in the NEWNE grid of India.

Operating Margin (OM) and Build margin (BM) emission factors are correctly taken from the CO₂ database version 7.0 published by Central electricity Authority^{16/} and is available on public domain is reliable data source available to PP. The CEA Version 7^{16/} was the latest version available at the time of submission of PDD^{1.1/} for web hosting. The validation team has reviewed the correctness of data used for the baseline determination by reviewing the CEA website^{16/}.

In accordance with "Tool to calculate the emission factor for an electricity system", the emission factor can be calculated by one of the following options:

a) Either by calculating combined margin (CM) consisting of the combination of operating margin (OM) and build margin (BM)

Or

b) By calculating weighted average emissions in the current generation mix.

PP has calculated CM by opting the option (a) i.e. calculating 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' which is further calculate on the basis on operation margin (OM) and build margin (BM)

Findings: CAR 04 (a), (b), (c) & (d) were raised and successfully closed, please refer Annex 2 for further details.

Opinion:

The validation team can confirm that

- a) All the assumptions and data used by the project participants are listed in the PDD, including their references and sources (section B.4, B.6.1 and Annex 3);
- b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD^{1.5/}; (section B.4, B.5, B.6.1 and Annex 3)
- c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable; (section B.4, B.6.1 and Annex 3)
- d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD; (No contravening regulations were found existing which could impair the selection of identified baseline scenario)
- e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity. (section B.5)

4.5.5 Algorithms and/or formulae used to determine emission reductions

Discussion:

The proposed project activity will harness wind energy to generate electricity, which will be fed into the NEWNE grid. The project activity has applied ACM0002, Version 12.3.0^{6/} "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", the emission reductions are carried out in line to the equation (11) of applied methodology i.e.,

$$\text{Emission reductions } ER_y = BE_y - PE_y$$

Where,

ER_y = Emission reductions in year y (tCO₂/y)

BE_y = baseline emissions in year y (tCO₂/y)

PE_y = project emissions in year y (tCO₂/y)

Baseline emissions are calculated as per the, equation (6) of ACM0002, Version 12.3.0^{6/}.

$$BE_y = EG_{PJ, y} * EF_{grid, CM, y}$$

BE_y = is the baseline emissions in year y (tCO₂)

$EG_{PJ, y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)

$EF_{grid, CM, y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO₂/MWh)

The baseline emission factor used for calculation of emission reductions have been referred from Central electricity Authority Database version 07². The same has been applied in the PDD^{1.4/} and accepted by the validation team. The following parameters have been fixed ex-ante for the project activity

$EF_{grid, OM, y}$: Weighted average operating Margin for NEWNE grid (0.9841 tCO₂/MWh)

$EF_{grid, BM, y}$: Build Margin for NEWNE grid (0.8587 tCO₂/MWh)

$EF_{grid, CM, y}$: Combined Margin for NEWNE grid (0.9527 tCO₂/MWh)

²http://cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm.

The value of the emission factor was checked from the CEA Database^{/16/} and was found consistent and accepted. The data sources and assumptions are appropriate and calculations are correct and resulting in a conservative estimates.

The project emissions have been taken as zero as the project activity is a wind power project and would not lead to any emissions. Also leakages for the project activity were not considered as the project is a green field project using new equipment.

Emission Reductions:

The emissions reductions calculation is demonstrated in below table:

Total Capacity of wind power plant (MW) sourced from offer letter/PO=A	PLF Assumed Sourced from third party PLF report EB 48, Annex 11 (Para 3 (b))	Operating Hours (Considering full year operation)=C	Combined Margin Emission Factor (Calculated by demonstrating the tool to calculate emission factor, version 2.2.1)=CM
36 MW	24.5%	8760	0.9527 tCO ₂ /MWh
$EG_{\text{facility, y}} = A * B * C$ $= 36 \text{ MW} * 24.5\% * 8760 \text{ hours}$ $= 73,263 \text{ MWh/ annum}$			
BE	$EG_{\text{facility, y}} * CM = 73,263 \text{ MWh/ annum} * 0.9527 \text{ tCO}_2/\text{MWh}$ $= 73,608 \text{ tCO}_2/\text{annum (Rounded down)}$		
BEy(tCO ₂ /annum)	PEy (tCO ₂ /annum)	Leakage (L) (tCO ₂ /annum)	ERy (tCO ₂ /annum)
73,608	0	0	73,608

Opinion:

The validation team confirms that;

- All assumptions and data used by the project participants are listed in the PDD^{/1.5/}, including their references and sources;
- All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD;
- All values used in the PDD are considered reasonable in the context of the proposed CDM project activity;
- The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;
- All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD and corresponding spreadsheets.

4.6 Additionality

The project is a large scale project; hence, the Additionality Tool, “Tool for demonstration and assessment of additionality (Ver. 06)^{/12/}” applies to the project activity. Therefore, in accordance with ACM0002, the additionality was demonstrated based on the valid version of the “Tool for demonstration and assessment of additionality (Ver. 06.0)^{/12/}”, for the above reasons this approach has been assessed to be appropriate for the assessment of additionality for this project activity. Project participant had chosen investment analysis and to demonstrate the investment analysis selected the benchmark and equity IRR as financial indicator. Since baseline is outside the direct control of the project participant (grid connected power) and hence, the choice of the project participant is restricted to ‘invest or not to invest’, therefore the benchmark approach is most suited as per Guidance 19 of Annex 05 of EB 62^{/12/}.

In the above background validation team concludes that the additionality justification given by the project participant is in accordance with the requirements derived from the approved CDM methodology and the methodological tools referred therein and also conforms to guidance given by EB vide paragraph 110 of VVM (Ver. 1.2)^{5/}.

4.6.1 Prior consideration of the clean development mechanism

Discussion:

The project start date is given as 01/08/2011, the date on which PP issued purchase order^{13/} to M/s. Enercon (India) Ltd. which was verified and found OK. Considering that purchase order signifies the earliest financial commitment of the PP, the chosen start date is in accordance with the CDM glossary of terms^{12/}. During the site visit, it was further confirmed that there was no real action prior to the considered start date.

The project PDD was webhosted for GSC on 27/04/2012 and the validated project start date (01/08/2011) is before the webhosting of PDD^{1.1/} and also later to 02/08/2008. Therefore, the project participant has informed UNFCCC and DNA on 11/01/2012 for the CDM consideration requirements, which is within 6 months from the start date (01/08/2011). The assessment team has reviewed the email communication^{14/} with UNFCCC and DNA to validate the prior consideration of CDM. Also, the UNFCCC website³ was crosschecked to confirm the title of the project activity and location is same. The project was found in conformity with the relevant requirements of Annex 13 of EB 62.

Opinion:

Based on the above discussion the assessment team confirms:

- a) The start date is in accordance with the CDM glossary of terms.
- b) The project falls under 'new project activity' and as required the project participant has informed UNFCCC and DNA on 11/01/2012, which is within 6 months from the start date (01/08/2011). The assessment team has reviewed the email communication with UNFCCC and DNA^{14/} to validate the prior intimation and moreover the UNFCCC website⁴ was crosschecked to confirm the same
- c) The project complies with the Annex 13 of EB 62.

4.6.2 Identification of alternatives

Discussion:

Project participant has identified two alternatives, i.e.

- a) Proposed project activity not undertaken as CDM activity;
- b) No project activity and equivalent amount of energy would have been produced by the grid electricity system through its currently running power plants and by new capacity addition to the grid, i.e., Continuation of current situation.

All the two alternatives are in compliance with all applicable legal and regulatory requirements as:

- The implementation of project activity is a voluntary initiative and is not mandatory or a legal requirement;
- The Electricity Act 2003^{28/} does not restrict or empower any authority to restrict the fuel choice for power generation;
- The applicable environmental regulations do not restrict the use of wind energy and
- There is no legal requirement on the choice of a particular technology.

This project activity is based on the approved Methodology ACM0002 Ver. 12.3.0^{6/}. As per the methodology "If the project activity is the installation of a new grid-connected renewable power plant/unit (which the project is), the baseline scenario is the following:

³<http://cdm.unfccc.int/Projects/PriorCDM/notifications/index.html>

⁴<http://cdm.unfccc.int/Projects/PriorCDM/notifications/index.html>

Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.

Paragraph 105 of VVM states that PDD^{1.5/} is required to identify credible alternatives to the project activity in order to determine the most realistic baseline scenario, unless the approved methodology that is selected by the proposed project activity prescribes the baseline scenario in which case no further analysis is required. Since the approved methodology ACM0002 used by the project activity prescribes the baseline scenario, no further analysis of alternatives is required for the project activity.

Opinion:

Since, the approved consolidated methodology ACM0002 ver.12.3.0^{6/} used by the project activity prescribes the baseline scenario, no further analysis of alternatives is required for the project activity. The validation team, therefore, concludes that the PDD^{1.5/} and the validation report conforms to the guidance given by EB vide paragraph 105 of VVM 1.2^{5/}.

4.6.3 Investment analysis

Discussion:

PDD^{1.5/} demonstrates that the project will not be financially feasible, without the revenue from the sale of certified emission reductions (CERs). The claim of the project participant that the project scenario is not economically feasible without benefits from CER sales has been assessed by the validation team through the following steps:

a) Appropriateness of investment analysis, financial indicator and benchmark:

The project participant has demonstrated that the financial returns of the proposed CDM project activity would be insufficient to justify the required investment. For demonstrating the financial unattractiveness of the project activity, project participant has chosen investment analysis and to demonstrate the investment analysis PP had selected benchmark analysis. The baseline is outside the direct control of the project participant (grid connected power) and hence, the choice of the project participant is restricted to “invest or not to invest”, the benchmark approach is most suited as per the latest version of Guidance 19 of Annex 05 of EB 62^{12/}.

The project participant has chosen post tax equity IRR to demonstrate the additionality of the project in line to the guidance 12 of Annex 05, EB 62^{12/} which indicates that the use of Required/expected returns on equity are appropriate benchmarks for equity IRR.

The project participant has chosen the benchmark in line to the guidance 15 of the Annex 05 of EB 62^{13/}, by selecting the default values (as per option (a)) provided in paragraph 08 of “Appendix A” of Annex 05 of EB 62 for the host country i.e., India and thereafter converting the real values into the nominal values by adding the inflation rate (forecasted for next 10 years, which is consistent with the crediting period date) sourced from the “Reserve Bank of India”⁵.

The default post tax equity return was initially sourced from EB61 Annex 13, which was valid and available at the time of investment decision (15/07/2011). The final PDD now has reference to EB62 Annex 5 as it is the latest version of Guidelines on the assessment of investment analysis. However, the values of post tax default equity return are consistent in both the versions.

The referred sourced for the inflation has been verified by the validation team and was found to be valid (publication date 02/02/2011) and latest at the time of investment decision.

The conversion of real value into the nominal value has been carried out by selecting the “Energy Sector” for the host country (India) from the paragraph 08 of Annex 05 of EB 62 is presented in the “benchmark spreadsheet”^{2.3/} and thereby adding the inflation rate by applying the formula:

$$\text{Nominal Benchmark} = \{(1 + \text{Real Benchmark}) * (1 + \text{Expected Inflation Rate}) - 1\}$$

⁵<http://rbi.org.in/scripts/PublicationsView.aspx?id=13050>

The nominal value of expected return on equity comes out to be as **17.78 %** i.e. the benchmark for the proposed project activity.

The validation team has crosschecked the benchmark spreadsheet^{2.3/} and found the values and calculation approach correct and appropriate. The formulae for converting real terms returns into nominal values has been taken from book 'Corporate Finance, Theory and Practice (2nd Edition, 2009) by Aswath Damodaran. In Chapter 11 of the book titled 'Investment Analysis with Inflation and Exchange Rate Risk on page 320, the same equation is mentioned for converting real into nominal values. Therefore, it is confirmed by the validation team that the approach adopted by the PP was based on the input values available at the time of investment decision and based on standard conversion as prescribed in referred books.

Therefore, the validation team concludes that the benchmark (post tax) selected by the project participant is suitable for the financial indicator (post tax) selected. Therefore, the selected benchmark is appropriate and conforms to paragraph 112 of VVM (1.2).

b) Parameters and assumptions used and their cross checks:

The project involves installation of 45 windmills of 800 kW capacity each of Enercon make E-53, 800 kW model at Nakhatrana Wind Farm Site at the Kutch district of Gujarat (India). All the WTGs of the project activity are selling the electricity to the NEWNE regional grid of India. The three important parameters, which determine the equity IRR of the project, are project cost, financing pattern, and profitability estimates.

Financial indicator calculation is based on the offer letter^{7/} submitted by the technology supplier and tariff orders of GERC^{8/}, which were available at the time of decision making^{16/} to project proponents. Copies of all the documents^{7/8/16/14/} have been submitted to DOE, validation team checked the input values with the documents furnished by PP and also those publicly available. The input parameters used, basis thereof and appropriateness of the input parameters used are given in the below tables for each bundle of the project activity, CARs/CLs have been raised on non-conformities and errors and they have been duly corrected. After closure of all CARs/CLs, validation team arrived at the conclusion that the assumptions and computations in the IRR spreadsheet^{2.3/} are in conformity with guidance 6 of Annex 5, EB 62^{13/} read with paragraphs 95 and 111 of VVM 1.2^{5/}. The detail assessment of each input parameter has been presented in the below table 4.1.

Table: 4.1

Input parameter/assumption	Value, Unit	References Used	Means of Validation & Crosschecks
Plant Capacity	45*0.8 MW	Quotations ^{7/} , Purchase Orders ^{13/}	The value is validated from the Offer letter ^{7/} dated 12/07/2011 and subsequently cross checked by the Purchase Orders ^{13/} dated 01/08/2011 issued to technology supplier i.e. Enercon India Limited. The input values considered at the time of investment decision were valid and applicable.
Project life	20 Years	Letter issued from the "Technology Supplier" ^{7/26/} , Enercon Website ^{30/}	It is based on the information given by the machinery supplier to PP. This information has been further crosschecked with the website of the technology supplier.
	2073.90 Million	Offer Letter ^{7/}	The project cost includes land, WTGs, tower, transformer, electrical, erection and commissioning

Project Cost	INR	& Purchase Orders ^{13/}	<p>cost. The project participant has submitted the offer letters^{7/} dated 12/07/2011 for all the break up considered, and the cost has been verified to be consistent and appropriate. Since, the offer was available with the PPs at the time of decision making, consideration of this cost is in conformity with Guidance 6 of Annex 5, EB 62.</p> <p>However, the actual cost of the project (based on purchase orders issued dated 01/08/2011) is Rs1912.5 million in contrast to the cost given in the offer letter Rs. 2073.90 million, which is Rs. 161.40 million less than the project cost considered for additionality demonstration, validation team considers the cost as correct and appropriate for the project activity. The purchase orders of the project activity are already placed therefore any variation in the project cost is unrealistic now. However, even a consideration of -10% in the project cost raises the equity IRR from 9.29% to 10.67% which is still well below the benchmark.</p> <p>The cost works out to Rs 57.61 million/MW. validation team compared the cost with other registered and under validation projects. It was observed that the cost has been ranging between Rs.60 million /MW to Rs.66 million/MW⁶. The cost of the project is comparable to other CDM projects. Therefore, the project cost is valid and applicable at the time of investment decision.</p>
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⁶Capital cost considered by projects already registered was observed as follows: Allgrow Ventures (Reg. No. 4992) – Rs. 60.01 mn./MW; Gupta Coal Fields (Reg. No. 3494) – Rs. 60.67 mn./MW; Vikram Traders (Reg. No. 3575) – Rs. 62.67 mn./MW; KPR Fertilizers (Reg. No. 3445) – Rs.60.37 mn./MW; Asian Fabricks (Reg. No. 5076) – Rs. 66.10 mn./MW; Sindhya Infrastructure (Reg. No.3046) – Rs.66.33 mn./MW; Terapanth Foods (Reg. No. 4050) – Rs.65.00 mn./MW; Mission Biofuels India Private Limited(Reg. no.2710)-Rs.69.63 mn./MW; VAYU (India) Power Corporation Pvt. Ltd. (Ref. No. 5186)-59.32 mn/MW; Relaxo Footwear Limited (Ref. No. 5228)-Rs. 61.91mn./MW

Plant Load Factor	24.50%	Third party PLF Report ^{/23/} & GERC Tariff Order ^{/8/}	<p>PP estimated the generation based on the PLF recommended an independent PLF assessment study by an engineering consultant^{/23/} in conformity to Annex 11, EB 48. The report was submitted in December 2011, which is later to the investment decision date but conservative, which has estimated the PLF at 24.5 %.</p> <p>The value of PLF was also cross checked by the GERC tariff order 2010, which recommends the PLF of 23% for Gujarat where the project activity is located, which was actually available at the time of investment decision. The PLF considered for the determination of IRR is 1.5 % higher than the PLF recommended by the GERC Tariff Order 2010. Since, the PLF assumed by PP is higher than the PLF recommended by GERC, therefore the same is conservative and accepted to assessment team. Moreover, the PLF is further subjected to ±10% sensitivity analysis.</p>
Financing Pattern	100% Equity	Management Decision ^{/10/} & Chartered Accountant Certificate ^{/9/}	<p>The project is fully funded by equity, this was evidenced from the management decision dated 15/07/2011 and this was further supported by the certificate of chartered accountant dated 16/07/2012^{/9/}.</p> <p>The assessment team had also independently verified the other previous registered projects of the same PP in order to confirm the financing pattern. The assessment team has found three registered project UNFCCC ref no 4964, 4956 and 4846. All the three projects were funded by the similar pattern i.e., 100% equity.</p>
Tariff per kWh	3.56 INR/kWh.	GERC Tariff Orders ^{/8/} & PPA ^{/11/}	<p>The tariff is based on GERC Tariff Order dated 30/01/2010 available to PP at the time of decision making in conformity to the Guidance 6 of Annex 5, EB 62.</p> <p>The value of tariff was also cross checked by the validation team with the actual tariff as per the PPAs^{/11/} available for the 28 WTGs which were commissioned till 16/07/2012 and found the tariff as Rs. 2.64/kWh based on the APPC tariff (Average Pooled Power Purchase Cost) structure are eligible for RECs (Renewable Energy Certificates) instead of the preferential tariff of Rs. 3.56/kWh as assumed in the IRR sheet for the computation of equity IRR.</p> <p>CAR 04 (g) was raised by the assessment team for the same, in response to CAR 04 (g) the project proponent has justified the tariff by referring the paragraph 6 of Annex 3, EB 22, “national and/or sectoral policies or regulations that give comparative advantages to less emissions intensive technologies over more emissions-intensive</p>

			<p>technologies can be termed as E – policies”.</p> <p>The national policy on REC provides comparative advantage to less carbon intensive technologies and it came in existence after 11 November 2001. Therefore, REC is identified as an E - policy. As per paragraph 3 of Annex 32, EB 53, the assessment has to be conducted to gauge the impact of national and sectoral policies for suitability of tariff and to judge whether the policy/policies are E+ policies or E- policies. Considering the fact that REC is an E - policy, PP has not considered the REC impact during the investment analysis and has used the preferential tariff of 3.56 INR/kWh approved by GERC (Gujarat Electricity Regulatory Commission) as per the tariff order no. 1, 2010 which would have otherwise been used for demonstrating additionality in the absence of the E- policy.</p> <p>The assessment team is also like to confirm that the base APPC tariff of Rs. 2.64/kWh signed as per the PPA for 20 years cannot be increased throughout the 20 years tenure of the PPA.</p> <div style="background-color: #e0ffe0; padding: 10px; border: 1px solid #c0ffc0;"> <p>5.2 GUVNL shall pay a fixed rate of Rs. 2.64 per kWh (Average Power Purchase Cost for previous FY i.e. 2010-11) during the term of this agreement for delivered energy certified by Gujarat SLDC in the monthly State Energy Account (SEA).</p> <p>a) In case in any subsequent FY the APPC goes below the APPC of FY 2010-11, the applicable tariff for ensuing FY shall be such lower APPC of the previous year.</p> <p>b) Power Producer and Power Procurer both have option to switch over from REC mechanism to preferential tariff after 10 years from commissioning of the 20.8 MW WTGS. In case either party exercises this option, the tariff shall be Rs. 3.56 per KWh (as determined by GERC through Order No: 1 of 2010 dated 30.1.2010) for balance term of the agreement. Further, Power Producer shall submit documentary evidence to GUVNL for de-registration of wind project from REC mechanism in case either party exercise option to switch over from REC to Preferential tariff.</p> </div> <p>Furthermore, REC is a market based mechanism and the trends of REC prices are not uniform, by reviewing the REC website⁷ the assessment team has found the floor price of non solar REC as Rs. 1500/MWh, but at the same time the base tariff Rs 2.64/kWh can be reduced to any value based on the clause of 5.2 (a) of PPA^{11/} during the tenure of 20 years of operational life of WTGs.</p> <p>Keeping this uncertainty of tariff as per signed PPA and considering the REC mechanism as E- policy and considering the paragraph 3 of Annex 32, EB 53, the assessment team concludes that the preferential tariff considered for the project activity</p>
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⁷<https://www.recregistryindia.in/index.php/general/publics/faqs>

			is appropriate and realistic. Moreover the tariff is subjected to the range of +/-10% variation under sensitivity analysis to present the robustness.
O &M cost per WTG per annum	INR 26.96 Million	Offer Letter ^{/7/} Purchase Orders ^{/13/} & GERC Tariff Order 2010 ^{/8/}	<p>O&M cost is based on the offer letter issued by Enercon (India) Ltd., a copy of which has been submitted to DOE. The offer letters reveals the O&M cost as 1.3% of the project cost which works out to be as 26.96 Million INR. The value has been verified and found to be correct. As this offer was available to PP at the time of decision making therefore this is also in conformity with the guidance 06 of EB 62, Annex 05.</p> <p>The O&M cost is further crosschecked with the purchase orders issued to the “Enercon India Ltd.” The actual O & M cost as per the POs works out to be as 24.86 Million INR in contrast to the O&M cost 26.96 Million INR considered for IRR computation. The actual O&M paid by PP as per the PO keeps the IRR of the project activity well below the benchmark.</p> <p>The GERC tariff order recommends the O &M cost as Rs.0.65 Million/MW for the first year with escalation of 5% per annum on it from the 2nd year onward. The O&M cost considered by the PP comes out to be INR 0.725 Million /MW.</p> <p>O&M cost is not a critical factor, even if the removal of entire O&M cost does not render the project non additional. Therefore the assessment team concludes the O&M cost is appropriate and acceptable.</p>
Free O&M period	1 Year	Offer Letter ^{/7/} , Purchase Order ^{/13/} & GERC Tariff Order 2010 ^{/8/}	<p>A quotation provides the first year free warranty. This has been verified and found correct. Hence, this input parameter is correct and appropriate and available to PP at the time of decision making in line to the Guidance 6 of Annex 5, EB 62.</p> <p>However GERC tariff order doesn't recommend free O&M period, it recommends the O&M cost right from the first year of operation.</p> <p>The assessment team has further crosschecked from the purchase order^{/13/}, the purchase order reveals the free O&M cost for two years. Since the 2 years free O&M cost doesn't render the project non additional therefore the same is accepted by the assessment team.</p>

O&M escalation	6% per annum	Offer Letter ^{7/} , Purchase Order ^{13/} & GERC Tariff Order 2010 ^{8/}	<p>The offer letter issued by Suzlon clearly states that the O&M cost is subject to 6% escalation from third year onwards, the offer letters was available to PP at the time of decision making.</p> <p>The GERC tariff order also recommends the 5% annual escalation on O&M cost from second year onwards.</p> <p>Assessment team also crosschecked the O&M cost from the purchase order, the PO reveals the 5% escalation on O&M from fourth year onwards. Since escalation on O&M cost from fourth year onwards doesn't render the project non additional therefore the same is accepted to assessment team.</p>
Salvage Value	10%	International Accounting Principles.	<p>Since for IT computation, the asset has been fully depreciated in the first 5 years itself, 10% salvage value represents potential profit and therefore it conforms to guidance 4 of Annex 05, EB 62.</p> <p>Therefore, the validation team considers the salvage value as appropriate and conservative as the assessment period is for full technical life time. Based on the local and sectoral expertise validation team is convinced that the value considered by the PP is appropriate and valid at the time of decision making.</p>
Book Depreciation per annum (WDV)	4.5 %	Company Act ^{20/}	<p>PP has provided book depreciation at 4.5% therefore; the book depreciation adopted is in conformity with accepted accounting principles. Book depreciation is based on the rates recommended by Schedule XIV of Companies Act. This value does not affect additionality. The value is considered correct and appropriate.</p> <p>Assessment team also independently verified the rate of book depreciation from the other registered project of PP i.e. UNFCCC ref. no 4956 to ensure the rate.</p>
Depreciation (IT Act)	80%	IT Act	<p>The PP has considered 80% depreciation rate, which is consistent with the referred link in the IRR spreadsheet. However, considering the expected commissioning date (31/03/2012) was on the last day of the financial year with just one day of energy generation, only 50% accelerated depreciated has been considered, which is standard accounting practice and has conservative impact on the IRR calculation. For the remaining years, 80% depreciation has been applied. The calculation conducted by PP is confirmed to be correct by the financial expert in the validation team. The source referred in this regard was found to be valid and applicable at the time of investment decision.</p>

Income Tax 2011-12	30.9%	Income Tax Rules ^{/19/}	The rate is based on the Income tax rate applicable to the financial year 2011-12, i.e., the year in which investment decision was taken. The tax rate is correct and appropriate and in conformity with the guidance 06 of Annex 5, EB 62. The tax rate is the sum of 30% income tax rate and 3% education cess. The assessment have validated the provided data source and found it correct.
Minimum Alternate Tax (MAT)	19.05%	Income Tax Rules ^{/19/}	The rate is based on the Income tax rate applicable to the financial year 2011-12, i.e., the year in which investment decision was taken. The tax rate is correct and appropriate and in conformity with the guidance 06 of Annex 5, EB 62. The tax rate is the sum of 18.5% income tax rate and 3% education cess. The assessment team has validated the provided data source and found it correct.
Tax holiday	10 Years	Income Tax Rules ^{/19/}	As per Sec. 80IA of the Income Tax Act, infrastructure companies (under which the project activity falls) are entitled to claim tax holiday for any 10 consecutive years in the first 15 years of operation. Hence, the assumption and computation of tax liability are correct and appropriate.
Working Capital	1) Receivable of one month. 2) O&M cost for 90 days.	Offer Letter ^{/7/} & GERC tariff Order 2010 ^{/8/}	<p>The working capital has been sourced from the offer letter^{/7/} issued from the technology supplier. The data source has been validated and found to be correct.</p> <p>This assumption was further crosschecked by the assessment team from the GERC tariff order 01 dated 31/01/2010, the tariff order also provide the provision of working capital on the basis of following assumptions:</p> <ul style="list-style-type: none">1) Receivable of one month.2) O&M cost for 30 days. <p>However the O&M cost for the working capital computation considered by the PP is 90 days in contrast to the 30 days provided by the GERC order. The 30 days O&M cost considered for the working capital as provided by GERC order doesn't render the project non additional. Therefore the assumptions considered for the working capital computation are appropriate and accepted to assessment team.</p>
Benchmark	17.78 %	EB 62, Annex 05 ^{/12/} & RBI Website	The project participant has chosen the benchmark in line to the guidance 15 of the Annex 05 of EB 62 ^{/13/} , based on parameters that are standard in the market, by selecting the default values provided in paragraph 08 of "Appendix A" of Annex 05 of EB 62 for the host country i.e. India and thereafter converting the real values into the nominal values

			<p>by adding the inflation rate sourced from the “Reserve Bank of India”⁸. The referred sourced for the inflation has been verified by the validation team. The defaults values of ROE were released in the Annex 13 of EB 61 therefore available to PP at the time of decision making. The conversion of real value into the nominal value has been carried out by selecting the “Energy Sector” for the host country (India) from the paragraph 08 of Annex 05 of EB 62 is presented in the “benchmark spreadsheet”^{/2/} and thereby adding the inflation rate by applying the formula by adopting the formula used in standard accounting principle, the formula for the same was sourced by PP from the book “Corporate Finance, Theory and Practice (2nd Edition, 2009) by Aswath Damodaran^{/31/}.</p> <p>:</p> <p><i>Nominal Benchmark = {(1+ Real Benchmark)*(1+Expected Inflation Rate) – 1}</i></p> <p>The nominal value of expected return on equity comes out to be as 17.78 % i.e. the benchmarks for the proposed project activity.</p> <p>The validation team has crosschecked the benchmark spreadsheet^{/2.3/} and found the values and calculation approach correct and appropriate.</p> <p>Since PP had already three registered projects in CDM pipeline (Ref. No.4964, 4956 and 4846), therefore in line to paragraph 112 of VVM, Version 1.2, the assessment team has crosschecked the type of benchmark of previous project with the current project activity. Assessment team has found the benchmark selected by the PP for all the three registered project was “Return on Equity” similar to the current project activity. Hence the assessment team confirms that the benchmark selected by the PP is in compliance to the para 112 of VVM, version 1.2^{/5/}.</p>
Insurance	0.12% of Project Cost	<p>Quotation Submitted by Insurance Company^{/27/} & Quotation Submitted by Enercon (India) Limited.^{/7/}</p>	<p>The insurance premium is evidenced by the quotation submitted by the third party insurance company; the same rate is also referred in the quotation submitted by the “Enercon (India) Ltd” for insurance, hence available to PP at the time of investment decision making. The validation team observed that this amount ranges from 0.08% to 0.25% of the project cost in most of the cases. Validation team observed that insurance is not a critical factor in that even if the entire insurance premium is removed, the project will remain additional. Hence, the value is considered correct</p>

⁸<http://rbi.org.in/scripts/PublicationsView.aspx?id=13050>

			and appropriate.
Service Tax	10.3%	Income Tax Act (Financial Year 2011-12); Service tax @10% adding a gross education cess of 3%	The rate is based on the tax rate applicable to the financial year 2011-12, i.e., the year in which investment decision was taken. The tax rate is correct and appropriate and in conformity with the guidance 06 of Annex 5, EB 62.

c) Sensitivity analysis:

The Guidance on Assessment of Investment Analysis requires the robustness of the conclusion arrived at to be proved through a sensitivity analysis by varying the critical assumptions to a reasonable variation. The project participant has identified generation, project cost, O&M cost, tariff as critical assumptions. These constitute more than 20% of the project cost/revenue. Guidance 20 of Annex 5 of EB 62 states that as a general point of departure, variations in the sensitivity analysis should at least cover a range of +10% and -10%, unless this is not deemed appropriate in the context of the specific project circumstances. Since project has already been implemented any variation in project cost is hypothetical. Nevertheless, the project cost has also been subjected to 10% variation on either side. The sensitivity analysis on the key parameters and its impact on equity IRR is as under;

Parameters	+10% Variation	Equity IRR	-10% Variations
Project Cost	8.10%	9.29%	10.67%
Tariff	10.78%	9.29%	7.66%
O&M Cost	9.01%	9.29%	9.54%
PLF	10.78%	9.29%	7.66%

The validation team carried out its own an independent assessment, which reveals that the project would become non-additional only if:

Parameters	Variation at which IRR crosses the benchmark.
PLF	+65.70%
O&M	-453.00%
Project Cost	-43.50%
Tariff	+65.70%

The PP has submitted that such a reduction in project cost and O&M cost or increase in PLF or tariff is highly unrealistic and unlikely to happen for the following reasons:

PLF: The PLF has been sourced from the third party PLF report^{/23/} and the value of the PLF 24.5% in conformity with the EB 48, Annex 11 is already higher than the PLF recommended by GERC i.e. 23% hence achieving PLF higher than the base value of 65.5% on a sustained basis is unrealistic in the opinion of technical expert. Based on the local and sectoral expertise; the assessment team rules out the possibility of achieving PLF of 40.59% (65.7% higher than the base value) on a sustained basis.

Project cost: Since purchase orders^{/13/} have already been placed, therefore validation team has crosschecked the impact on equity IRR based on the actual cost paid by PPs sourced from the Purchase Orders^{/14/}, the equity IRR based on the actual cost of project is also well below the benchmark. Therefore

the question of any reduction in the cost that is already incurred by PP is unrealistic. The validation team rules out the possibility of reduction in project cost by -43.50% is not possible now.

O&M cost: It is observed that O&M cost is not a critical factor at all. Moreover, any reduction in O&M is unlikely because the project participants have already entered into O&M agreement (Part of PO) and the O&M cost includes mainly wages, salaries, consumables and stores etc. which are all subject to escalation. Since the O&M cost is the part of purchase order^{13/}, the PO^{13/} are already placed and the cost of the same is within the sensitivity range of $\pm 10\%$ therefore the reduction of 453.00% in the O&M cost is hypothetical and unrealistic.

Tariff: As stated earlier, the actual tariff as per the signed PPA is Rs. 2.64/kWh based on the APPC tariff (Average Pooled Power Purchase Cost) structure are eligible for RECs (Renewable Energy Certificates) instead of the preferential tariff of Rs. 3.56/kWh as assumed in the IRR sheet for the computation of equity IRR.

Furthermore, to any investor as per the applicable Tariff Order, either a preferential rate can be chosen or APPC tariff. The APPC tariff is eligible for REC benefits, which is a market based mechanism and the trends of REC prices are not uniform, by reviewing the REC website⁹ the assessment team has found the floor price of non solar REC as Rs. 1500/MWh, but at the same time the base tariff Rs 02.64/kWh can be reduced to any value based on the clause of 5.2 (a) of PPA^{11/} during the tenure of 20 years of operational life of WTGs. The REC based mechanism is to promote renewable technologies by providing additional incentive but a lower agreed tariff (INR 2.64/kWh) which subject to further reduction, as indicated above. Therefore, in the opinion of the validation team, the tariff considered in the investment analysis is conservative (INR 3.56/kWh), which would have otherwise been available to PP.

Keeping this uncertainty of tariff as per signed PPA and considering the REC mechanism as E- policy and paragraph 3 of Annex 32, EB 53, the assessment team concludes that the preferential tariff considered for the project activity is appropriate and realistic. Since, the PP has entered in to a long term PPA therefore any increase in the tariff in future is unrealistic.

Findings: CAR 3 (a), (b), (c) (d), (f), (i), (j) and CL 02 were raised and closed successfully, refer Annex 2 of the report where the same has been discussed completely.

Opinion:

In accordance with para 114 of VVM V1.2 validation team confirms

- a) The parameters used in the investment analysis has been thoroughly examined and described in detail;
- b) The suitability of benchmark has been appropriately explained and validated;
- c) The underlying assumptions and calculations (investment analysis and benchmark) are correct. Therefore, in the opinion of the validation team, the project has met the requirement of para 109 and 110 of VVM V1.2;
- d) The financial returns of the project activity (IRR, 9.29%) are insufficient to justify the required investment as the benchmark is (ROE, 17.78%) without CDM benefits (VVM V1.2 para 109 (c),
- e) The project complies with the latest version of “Tool for demonstration and assessment of additionality”, “Guidance on the assessment of investment analysis” and “Guidelines for the reporting and validation of plant load factors”.

4.6.4 Barrier analysis

Discussion:

Project participant did not consider barrier analysis. Hence, this is not applicable.

⁹<https://www.recregistryindia.in/index.php/general/publics/faqs>

4.6.5 Common practice analysis

Discussion:

As the proposed CDM project is a large scale project, as per paragraph 118 of VVM (01.2), common practice analysis is required to be carried out as a credibility check of the other available evidence used by the project participants to demonstrate additionality. This is a test to complement the investment analysis to confirm that the project activity is not widely observed and commonly carried out in the region. As required, project participant has analyzed 'similar' projects to demonstrate that setting up wind power projects is not a common practice in the identified geographical region.

These steps wise demonstration of common practice analysis as required by the additionality tool Version 06, is validated as follows:

Step 1: Calculate applicable output range as +/-50% of the design output or capacity of the proposed project activity.

The size of the project activity is 36MW, so the applicable output range as defined in the step is +/-50% of the capacity of the proposed project activity. This will come in a range of 18 MW to 54 MW.

Step 2: In the applicable geographical area, identify all plants that deliver the same output or capacity, within the applicable output range:

As calculated in Step1, as the proposed project activity and have started commercial operation before the start date of the project. The PP has chosen the entire country as the geographical area for the purpose of common practice analysis. This is in conformity with paragraph 1, of the guidelines on common practice, Annex 12 to EB 63 and paragraph 120 (a) of the CDM VVM Version 01.2. The consideration of entire country is reasonable as the proposed CDM project activity is dependent on local resources, in particular wind resource available.

The validation team identified 26 similar projects, excluding the registered project activities and project activities undergoing CDM validation. The validation team confirms similar project from the wind power directory 2011^{25/} (data available before the start date of the project activity) and UNFCCC website for the projects which are under CDM Validation and registered.

The summary of the similar projects identified is given below;

Technology Area	N(all)
Total wind project of capacity range (-50% to +50%)	82
Under Validation& Registered CDM project	56
Total	26

Hence, $N_{all} = 26$.

Step 3: Identify plants that apply technologies different than the technology applied in the proposed project activity

The project proponent analyzed that the project activity that applies different technologies compared to project activity by considering the different wind policies and wind tariffs from state to state. The policies/tariff for each state is regulated by the "State Electricity Regulatory Commission" of respective states therefore the investment climate and operating conditions of wind power projects differ from state to state of India. Since the project activity is located in the "Gujarat" state of India and the policies for the "Wind Projects" are regulated by the "Gujarat Electricity Regulatory Commission", validation team reviewed the "Tariff Orders" of each state of India released by the respective "State Electricity Regulatory Commissions" and found the policies and tariffs are different in different states and hence

projects installed in other states have been considered in N_{diff} . The number of projects identified under N_{diff} is 23.

Thus $N_{diff} = 23$. The confirmation of the N_{diff} has been made through wind power directory 2011^{/25/}.

Step 4: Calculate factor $F = 1 - N_{diff}/N_{all}$ representing the share of plants using technology similar to the technology used in the proposed project activity in all plants that deliver the same output or capacity as the proposed project activity.

As per the approach of the validation team, the factor F is calculated using the following formula:

$$F = 1 - N_{diff}/N_{all}$$

$$\text{i.e. } F = 1 - (23/26) = 0.11$$

$$\text{a) } F = 0.11 < 0.2$$

$$\text{b) } N_{all} - N_{diff} = 03$$

Since, F factor is less than 0.2 and $N_{all} - N_{diff} = 03$; therefore both the conditions are met as set forth in additionality tool ver.6.0 in order to demonstrate that the project is not a common practice.

Findings: CAR 3 (e) was raised and closed successfully, refer Annex 2 of the report where the same has been discussed completely.

Opinion:

The validation team, in accordance with para 121 of VVM V1.2 confirms

- a) The selected geographical area i.e., host Party is appropriate;
- b) The assessment of existing projects is done based on the data provided in the wind directory 2011[/], which is an authentic source;
- c) The essential distinctions have been discussed above and is due to the type of different investment climates in different state of India due to the different regulatory authorities;
- d) The assessment confirms that proposed CDM project is not a common practice as the value of F and $N_{all} - N_{diff}$ both are below the specified value, as described above.

4.7 Application of Monitoring Methodology and Monitoring Plan

Discussion:

The project monitoring plan is in compliance with the monitoring methodology ACM0002, Version 12.3.0^{/6/}. The monitoring plan will give opportunity for real measurement of emission reductions achieved. The project is a wind energy generation activity, no indicators have been defined regarding project emissions. Leakage accounting has not been considered for the project since the renewable energy technology equipment used is new equipment and not transferred from another activity. The monitoring plan for the same has been included in section B.7.1 of the PDD^{/1.1/}. In the opinion of validation team the project participant will be able to implement the monitoring plan.

Data and parameters available at validation:

The combined margin emission coefficient for the north east west north eastern grid of India has been calculated at 0.9527 tCO₂e/MWh (considering OM and BM at a prescribed weight of 75:25 for wind project), and is fixed ex-ante for the entire crediting period. The CM emission factor value has been sourced from data by the Central Electricity Authority (CEA) of the Ministry of Power, Government of India^{/18/}. CEA has published a database of carbon dioxide emission factors for the power sector in India based on detailed authenticated information obtained from all operating power stations in the country^{/18/}. The CO₂baseline database provides information about the OM and BM factors of electricity grids in India, which has been established as per the "Tool to calculate the emission factor for an electricity system". The validation team confirms that the database is an official publication of the Government of India for the purpose of CDM baselines and the OM in the CEA database is calculated ex-ante using the simple OM approach based on the generation-weighted average emissions per electricity unit over a three year period of 2008-09, 2009-10, 2010-11^{/16/}.

BM is calculated ex-ante based on the 20% most recent capacity additions in the grid based on net generation for the year 2010-11^{/16/}. The operating margin has been determined to be 0.



0.9841tCO₂e/MWh and the build margin to be 0.8587tCO₂e/MWh^{16/}. The validation team confirms that the database version 07^{16/} is used to calculate the combined margin emission factor was the latest database available at the time of start of validation and the combined margin emission factor for the north east west north eastern grid of India is fixed ex-ante for the entire crediting period.

Data and parameters monitored:

The project applies monitoring methodology ACM0002, Version 12.3.0^{16/}, as per the methodology, monitoring shall consist of metering the quantity of net electricity generation supplied by the project plant/unit to the grid by the renewable technology installed by the project proponent. All the wind mills are located in Gujarat state of India, and form a part of one wind farm.

The procedure to monitor the electricity export and import is explained in section B.7.1 and B.7.2 of the PDD and assessed to be appropriate. The OM and BM are calculated as fixed for the whole period by choosing data vintage based on ex-ante monitoring published by CEA. Hence data needed to recalculate OM and BM does not apply. According to the monitoring plan of the PDD^{11/} this requirement is fulfilled.

As per section B.7.1 of the PDD^{11/} the data and parameters to be monitored is as follows:

a) Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (EG_{BL,y} in MWh)

The monthly electricity share of certificate/note would be used as the source of Net electricity supplied to the grid by the WTGs. GEDA/SLDC prepares the monthly electricity share certificates based on the monthly joint energy meter readings taken at 33kV transformer yard meter and bulk meter at substation end.

Since energy generated from the all the WTGs in the entire wind firm is fed into a common substation, the electricity (import/export/transmission losses) by each individual WTGs/investor is determined based on pro-rata approach. Detailed monitoring plan as described in section B.7 of the PDD is found to be appropriate in the context of the project activity as witness during the on site visit. The monitored data will be archived electronically for a period of 2 years after the crediting period. Accuracy, calibration, periodical testing and maintenance procedures of monitoring equipment are clearly mentioned in the section B.7.2 of PDD^{1.4/}. The validation team has reviewed the same and is convinced that the same is adequate and will lead to correct measurement of the net electricity exported to the grid.

Operation and maintenance service provider appointed by the PP is responsible for the collection and recording of the monitored data at site and other operation and maintenance activities. Verification of the collected data will be looked after by site in charge and project executor and controller appointed for the project activity by the PP to ensure the proper data collection. Manager – wind project holds the overall responsibility for the monitoring requirements and data collection and other issues related to project activity. Validation team has confirmed the same by conducting interview during site visit.

The roles and responsibilities of the responsible person for monitoring of emission reductions for the verification of measurement, data collection as well as the preparation of monitoring report have been implemented as it is defined in the PDD^{101/}. This was verified during the on site assessment conducted by the verification team. All monitored data are archived partly in physical and partly in electronic form.

After an intensive document review of the PDD^{1.4/} and on-site assessment by interviews with representatives about the monitoring procedures and structure, the validation team confirms that verification of emission reductions would be feasible. Also quality assurance and quality control procedures identified in the PDD^{1.4/} will lead to accuracy and lesser uncertainty.

Findings:

CAR 04 (d) was raised and closed successfully; refer Annex 2 of the report where the same has been discussed completely.

Opinion:

The assessment team confirms that:

(a) The monitoring plan mentioned in section B.7 of PDD^{1.4/} is in compliance with the applied methodology ACM0002, version 12.3.0;

- (b) The assessment team has conducted the site visit and based on the interview with the operation and maintenance personal and based on the local and sectoral expertise; the assessment team confirms that monitoring arrangements described in the monitoring plan are feasible within the project design;
- (c) Based on the interview with the operation and maintenance personal during the site visit the assessment team confirms that the project participant deputed the competent personal to execute the monitoring approach and to follow the monitoring plan.

4.8 Sustainable development

Discussion:

The DNA of India – Ministry Of Environment and Forests, Government of India has confirmed in the Host Country Approval^{/3/} dated 19/04/2012 reference no: 4/6/2012-CCC that the proposed CDM project activity would contribute to sustainable development in India.

Findings: CAR#01 is raised; please refer Annex2 of this report, where same is discussed completely.

Opinion:

In the opinion of the validation team, the current project activity would lead to sustainable development in India (a non Annex I country) and the requirements as laid down in paragraph 125 of VVM 1.2^{/5/} have been fulfilled and are in compliance.

4.9 Local Stakeholder Comments

Discussion:

Local stakeholder consultation meet for the project activity was held on 17th February, 2012 at Rasaliya Village of Bhuj District in the Gujarat state of India. Local stakeholder invitation was sent through the advertisement was published on 01/02/2012 in a local news paper “Kutch Uday”, the copy of the same has been validated by the validation team. The local stakeholder consultation process has occurred prior to the publication of the PDD for the validation purposes.

Various generic questions on climate change were asked during the meeting and were appropriately replied to the local stakeholder by the PP.

The validation team has reviewed the copy of the local stakeholder consultation meeting documents^{/22/} i.e. minutes of meeting, invitation letters etc., to ensure the process of inviting local stakeholder comments and confirm that the process is appropriately carried out. Also during the site visit, validation team has interviewed local residents to ensure the local stakeholder concerns. No negative comments on project activity were noticed.

The details of the local stakeholder consultation procedure have been incorporated in section E of the PDD^{/1.4/}. The relevant local stakeholders were invited to comment on the project. A summary of the comments received during the stakeholder process has been included in section E.2 of the PDD^{/1.4/} and how the comments were resolved are included in section E.3 of the PDD^{/1.4/}. No negative comment was received and all the comments of the stakeholders raised during the consultation process were resolved successfully. Validation team has reviewed the “Minutes of Meeting”^{/22/} of the local stakeholder meeting; moreover the local stakeholders were also interviewed by the validation team during onsite validation site visit; they were found to be overall satisfied with the project.

Findings: CL#05 was raised and closed successfully; please refer Annex2 of this report, where same is discussed completely.

Opinion:

The validation team have verified the related documents and found acceptable^{/20/} and interviewing some of the attendees of the stakeholder meeting during onsite visit, which concludes that the project participant has explained about the project activity on 17/02/2012, in an unbiased manner and project has not received any adverse or significant comments. This also confirms that the negative comments raised during this process as per section E.3 were properly explained and proper actions taken into account by the PP.

The validation team can confirm that the process for conducting the local stakeholders meeting is adequate and credible.



4.10 Environmental Impacts

Discussion:

As per Schedule I of the EIA notification, 2006 and also the amendment notification S.): 3067 (E) dated 1/12/2009 (<http://moef.nic.in/downloads/rules-and-regulations/3067.pdf>) issued by Ministry of Environment and Forests, Government of India, wind based power generation projects do not require an EIA to be conducted (refer page 10 of <http://envfor.nic.in/legis/eia/so1533.pdf>). The implementation of the current project activity would not lead to any adverse environmental impacts and will not lead to any trans-boundary environmental impact as there are no emissions from the project activity.

Opinion:

As per notification number SO 1533 dated 14/09/2006 and the amendment notification S.): 3067 (E) dated 1/12/2009 from Ministry of Environment & Forests, Government of India; establishment of a wind power project does not require any EIA to be conducted. In the opinion of the validation team, the project activity does not require an EIA to be conducted and the validation team confirms this as per requirement of paragraph 131 of VVM 1.2^[5].

4.11 Project design of small-scale CDM project activities

This is a large scale project activity. Therefore, this section is not applicable.

5. Global Stakeholder Consultation Process

In accordance with sub-paragraphs 40 (b) and (c) of the CDM modalities and procedures, the project design document of a proposed CDM project activity shall be made publicly available and the DOE shall invite comments on the validation requirements from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available..

5.1 Description of how and when the PDD was made publicly available

The Project Design Document for this project was made available on <http://cdm.unfccc.int/Projects/Validation/DB/5KR49TDFW6DVCZQPM2FOA9DGI7O902/view.html> and was open for comments from 27/04/2012 until 26/05/2012.

5.2 Compilation of all comments received

Comment Number	Date Received	Submitter	Comment
1		Mahesh Pandya	<ol style="list-style-type: none"> 1. Why this location has been chosen for wind based plant? 2. What would be impact of negative environmental conditions of area upon project? 3. How many skilled/unskilled people from surrounding area will be employed at this project during commissioning and operation? 4. List of stakeholders and minutes of stakeholder meeting is not attached with PDD 5. Please elaborate community welfare activities which would be carried out from 2% CDM revenue fund.
2		Benjamin franklin	<ol style="list-style-type: none"> 1. DOE to write to the party who prepared the DPR/FR which is submitted to the banks and other agencies and the same is verified against the one submitted to the DOE by PP/Consultant. 2. DOE must not entertain this project any more if found the DPR/FR is tampered with at any point in time. PP can not give different DPR's and FR's. They must submit only the one given to Banks and other agencies while obtaining loans and decision making time. 3. DOE to ensure that the PDD values are consistent and ensure that the CDM project is a genuine project. 4. DoE to check the Detailed Project Report and Feasibility Report which is submitted to the other agencies and Banks by Project owner and ensure that the values match with the DPR/FR submitted to DoE also. 5. Careful study must be done so that the DPR/FR is not in different versions made and submitted with different purposes to different agencies, which is



Comment Number	Date Received	Submitter	Comment
			<p>totally unacceptable, illegal and unethical.</p> <p>6. Project owner should show some undertaking letter from bank manager to DoE stating that both DPR's are same. These kinds of letters should not be accepted and entertained by DoE at face value, but must be checked independently. While collecting the DPR/FR from banks and other agencies, all DPR/FR pages should be counter signed by Banks and other agencies so that the real DPR/FR given to other parties by the PP/Consultant is same as the one submitted to DOE.</p> <p>7. DPR/FR values must be probed fully. DOE must take a written undertaking from the PP/Consultant about the list of parties to whom this DPR/FR is submitted and for what purposes. Then DOE should cross check with all the parties and confirm that the same DPR/FR is submitted to all the parties correctly without any changes. DOE must not accept any reports and undertakings from PP/Consultant. DOE must make independent evaluation and use totally different parties without informing the PP or Consultant to cross check the facts.</p> <p>8. Has the PP considered the CDM revenues while envisaging the project? Without CDM the project was not viable, is it right? This project is having a debt component? Then how bankers or lenders gave the loan? Have the bankers or lenders considered the CDM revenues while agreeing to give loan to this project? If not this project should be rejected right away by DOE by terminating the contract forthwith. If yes, where is the proof? What is the date of the evidence document from bank? Is this document printed now a days or earlier. DOE to independently check the same. If the document is available from Bank it must be checked from all angles so that it is genuine and not forged and date changed by putting back dated. This is normally done, DOE to be aware of this please. Please check the communication the PP had during that time with banks, emails and postal receipts and the weights and dates mentioned on the receipts. Do not believe in courier bills and receipts since these can be cooked up easily. Insist on government owned postal service receipts only. If the project is fully equity project then on what basis the PP has invested full equity in to the project while considering the CDM revenue? DOE to check the same in detail and bring out the facts. Is there any past record of this PP to invest or not</p>

Comment Number	Date Received	Submitter	Comment
			<p>to invest at returns what he is talking about in this project? Proper evidences must be reviewed and digged out by the DOE and take decision on the project based on established facts. Do not ask documents from PP, DOE to collect the same from different sources to do independent evaluation.</p> <p>9. How is the base line defined in this project? Is Base line hypothetically defined with no proper evidences and proper justification? In such case, DOE cannot take the base line as suggested by the PDD. Please check that there are real emission reductions beyond the real and factual base line. It may so happen that this project qualifies for no CER's. DOE cannot assume values and things as giving by this PP. Whatever values are considered throughout the project in all documents including the real DPR (not the one prepared for CDM, the one given to the banks and others), they must be validated, verified and double checked. Do not ask PP for DPR. Ask the parties who have been given DPR by the PP. Get directly from the bank and others by each page of the DPR and Feasibility report signed. Such document can be considered as a real DPR or FR. UNFCCC CDM process cannot be degraded by fabricating and misinterpreting the project base line and additionality.</p> <p>10. From DOE side which auditor has done marketing and business development for acquiring this business of validating this project? With whom he or she was co-coordinating at PP or CER buyer? The same person who has done the marketing and business development to acquire the business do validation or participate in any manner what so ever in the validation process? One cannot do like that. It is against the accreditation rules and norms followed since ages. DOE should send auditors from different offices or countries to do this validation audit. DOE must take care of impartiality and accreditation rules. Due to the targets set by the DOE managements auditors are doing marketing and meeting clients and giving promises that the project will be taken care. Is it acceptable and fair? This must be stopped. No auditor should do marketing. Only non-auditing staff should do marketing. DOE to ensure the same please.</p> <p>11. If applicable only: Is these machines, equipment was a part of any bundle of CDM activity envisaged and developed earlier. DOE to check the same through independent sources also. Once some bundles are non-additional and getting</p>

Comment Number	Date Received	Submitter	Comment
			<p>negative validation from a DOE, PP is rolling out the same project as an individual project which is not a CDM project at all. DOE to verify the same from independent sources and also take undertaking in the form of an affidavit from the PP's that any misrepresentation or false statement with respect this would attract strict legal action from UNFCCC and DOE. Furthermore the registered project must be de-registered in case of any future findings contradicting the submissions made by the project owner.</p> <p>12. DOE to be more careful so that this is a genuine CDM project. What is the exact project cost? The project cost is covering what? Each value considered must be validated with proof. The machinery is second hand purchased or fresh and new from an OEM? In either case DOE to check all the quotations, proposals, purchase orders, invoices, way bills, transport bills, proof of payments like bank statements. DOE to check with banks by way of written confirmation the amount transacted, to whom the money is paid, when the money is paid, is the party paid is the correct party as shown in the purchase orders. It may so happen that the values, party names, dates are fabricated and misrepresented in this project. DOE should terminate their contract for this project immediately. This is the only way out to protect the value of CDM process. If the PP is purchasing second hand or second quality equipment and inflating the purchase order values and invoices, this must be probed thoroughly and real values to taken for additionality calculation. Then I'm sure the additionality is not there at all in such a situation.</p> <p>13. Is the project equipment purchased second hand equipment or sourced from cheap foreign sources? If yes, the issue must be probed by DOE since invoices will invariably be inflated and forged. Total project costs mentioned by PP will not be the same as originals. Hence no additionality. These facts must be probed in full by DOE by checking all documents and money transactions along with bank statements and certified accounts by a legally acceptable financial analyst.</p>

5.3 Explanation of how comments have been taken into account

The assessment team has raised a CAR 06 for the queries raised by the global stakeholder "Mahesh Pandya" as these comments were related to the project proponent, the reply provided by the PP were assessed by the assessment team. Please refer to Annex 02 of this report where the #CAR 06 is completely discussed.

The queries raised by the second global stakeholder “Benjamin franklin” were related to the DOE; therefore the assessment team has explained the comments in following table:

GSC Comment	Assessment Team's Reply
1. DOE to write to the party who prepared the DPR/FR which is submitted to the banks and other agencies and the same is verified against the one submitted to the DOE by PP/Consultant.	All the assumptions are sourced for the computation of IRR from the GER Tariff Order ^{8/} and quotation ^{7/} submitted by the technology supplier, no DPR/FSR was used in the financial analysis of project activity.
2. DOE must not entertain this project any more if found the DPR/FR is tampered with at any point in time. PP can not give different DPR's and FR's. They must submit only the one given to Banks and other agencies while obtaining loans and decision making time.	DPR is not used in the demonstration of additionality of the project activity, moreover the project activity is funded by 100% equity, the board resolution was validated by the assessment team to validate this assumption moreover the same was supported by the CA certificate.
3. DOE to ensure that the PDD values are consistent and ensure that the CDM project is a genuine project.	The assessment team has validated all input parameters, please refer section 04 of “validation Report” (table 4.1) for the same.
4. DoE to check the Detailed Project Report and Feasibility Report which is submitted to the other agencies and Banks by Project owner and ensure that the values match with the DPR/FR submitted to DoE also.	Refer the reply 1.
5. Careful study must be done so that the DPR/FR is not in different versions made and submitted with different purposes to different agencies, which is totally unacceptable, illegal and unethical.	Refer the reply 1.
6. Project owner should show some undertaking letter from bank manager to DoE stating that both DPR's are same. These kinds of letters should not be accepted and entertained by DoE at face value, but must be checked independently. While collecting the DPR/FR from banks and other agencies, all DPR/FR pages should be counter signed by Banks and other agencies so that the real DPR/FR given to other parties by the PP/Consultant is same as the one submitted to DOE.	Refer the reply 1.
6. DPR/FR values must be probed fully. DOE must take a written undertaking from the PP/Consultant about the list of parties to whom this DPR/FR is submitted and for what purposes. Then DOE should cross check with all the parties and confirm that the same DPR/FR is submitted to all the parties correctly without any changes.	Refer the reply 1.

<p>DOE must not accept any reports and undertakings from PP/Consultant. DOE must make independent evaluation and use totally different parties without informing the PP or Consultant to cross check the facts.</p>	
<p>7. Considering the CDM revenue? DOE to check the same in detail and bring out the facts. Is there any past record of this PP to invest or not to invest at returns what he is talking about in this project? Proper evidences must be reviewed and digged out by the DOE and take decision on the project based on established facts. Do not ask documents from PP, DOE to collect the same from different sources to do independent evaluation.</p>	<p>The UNFCCC¹⁰ and IGES¹¹ websites were checked by the assessment team to validate the previous CDM registered projects of the PP. The assessment team has found three CDM project registered by PP, the UNFCCC reference nos are 4946, 4956 & 4864. The PP has intimated the UNFCCC and DNA within the 06 months of start date of project activity for the CDM Consideration. The email communications^{14/} with UNFCCC and DNA were validated to confirm the same.</p>
<p>8. Has the PP considered the CDM revenues while envisaging the project? Without CDM the project was not viable, is it right? This project is having a debt component? Then how bankers or lenders gave the loan? Have the bankers or lenders considered the CDM revenues while agreeing to give loan to this project? If not this project should be rejected right away by DOE by terminating the contract forthwith. If yes, where is the proof? What is the date of the evidence document from bank? Is this document printed now a days or earlier. DOE to independently check the same. If the document is available from Bank it must be checked from all angles so that it is genuine and not forged and date changed by putting back dated. This is normally done, DOE to be aware of this please. Please check the communication the PP had during that time with banks, emails and postal receipts and the weights and dates mentioned on the receipts. Do not believe in courier bills and receipts since these can be cooked up easily. Insist on government owned postal service receipts only. If the project is fully equity project then on what basis the PP has invested full equity in to the project while</p>	<p>Please refer to section 4.6 of the report.</p>
<p>9. How is the base line defined in this project? Is Base line hypothetically defined</p>	<p>The baseline has been determined in line to the applied methodology ACM 0002, <i>Version 12.3.0^{6/}</i>, 'Consolidated baseline methodology for grid'</p>

¹⁰<http://cdm.unfccc.int/Projects/registered.html>

¹¹<http://www.iges.or.jp/en/cdm/report.html>

<p>with no proper evidences and proper justification? In such case, DOE cannot take the base line as suggested by the PDD. Please check that there are real emission reductions beyond the real and factual base line. It may so happen that this project qualifies for no CER's. DOE cannot assume values and things as giving by this PP. Whatever values are considered throughout the project in all documents including the real DPR (not the one prepared for CDM, the one given to the banks and others), they must be validated, verified and double checked. Do not ask PP for DPR. Ask the parties who have been given DPR by the PP. Get directly from the bank and others by each page of the DPR and Feasibility report signed. Such document can be considered as a real DPR or FR. UNFCCC CDM process cannot be degraded by fabricating and misinterpreting the project base line and additionality.</p>	<p>connected electricity generation from renewable sources' to the current project activity under consideration. <i>According to ACM0002, Version 12.3.0^{6/}</i>, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following:</p> <p><i>"Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".</i></p> <p>DPR is not applicable to project activity as replied in query 01.</p>
<p>10. From DOE side which auditor has done marketing and business development for acquiring this business of validating this project? With whom he or she was co-coordinating at PP or CER buyer? The same person who has done the marketing and business development to acquire the business do validation or participate in any manner what so ever in the validation process? One cannot do like that. It is against the accreditation rules and norms followed since ages. DOE should send auditors from different offices or countries to do this validation audit. DOE must take care of impartiality and accreditation rules. Due to the targets set by the DOE managements auditors are doing marketing and meeting clients and giving promises that the project will be taken care. Is it acceptable and fair? This must be stopped. No auditor should do marketing. Only non-auditing staff should do marketing. DOE to ensure the same please.</p>	<p>The inquiry for the validation quotation was directly received from PP for the project activity. The assessment team has no conflict of interest with the project proponent, the DOE has followed the accreditation procedures and all the auditors involved in the project have submitted their written declaration that none of them having the "Conflict of Interest" with PP.</p>
<p>11. If applicable only: Is these machines, equipment was a part of any bundle of CDM activity envisaged and developed earlier. DOE to check the same through independent sources also. Once some bundles are non-additional and getting</p>	<p>The project activity is a green field project; the purchase orders^{13/}were validated to confirm the same. Moreover it was also validated during site visit. The project activity is not a part of any bundle; it is a large scale, green project.</p>



<p>negative validation from a DOE, PP is rolling out the same project as an individual project which is not a CDM project at all. DOE to verify the same from independent sources and also take undertaking in the form of an affidavit from the PP's that any misrepresentation or false statement with respect this would attract strict legal action from UNFCCC and DOE. Furthermore the registered project must be de-registered in case of any future findings contradicting the submissions made by the project owner.</p>	
<p>12. DOE to be more careful so that this is a genuine CDM project. What is the exact project cost? The project cost is covering what? Each value considered must be validated with proof. The machinery is second hand purchased or fresh and new from an OEM? In either case DOE to check all the quotations, proposals, purchase orders, invoices, way bills, transport bills, proof of payments like bank statements. DOE to check with banks by way of written confirmation the amount transacted, to whom the money is paid, when the money is paid, is the party paid is the correct party as shown in the purchase orders. It may so happen that the values, party names, dates are fabricated and misrepresented in this project. DOE should terminate their contract for this project immediately. This is the only way out to protect the value of CDM process. If the PP is purchasing second hand or second quality equipment and inflating the purchase order values and invoices, this must be probed thoroughly and real values to taken for additionality calculation. Then I'm sure the additionality is not there at all in such a situation.</p>	<p>The assessment team has validated that the project is a genuine CDM project. The purchase order^{/13/}, commissioning certificates^{/15/} of the WTGs commissioned till date, PPA^{/11/} of commissioned WTGs were validated to confirm the same. The breakup of project cost is validated under section 4.6 of validation report. Please refer to section 04.6 for the details of validation approach of additionality.</p>
<p>13. Is the project equipment purchased second hand equipment or sourced from cheap foreign sources? If yes, the issue must be probed by DOE since invoices will invariably be inflated and forged. Total project costs mentioned by PP will not be the same as originals. Hence no additionality. These facts must be probed in full by DOE by checking all documents and money transactions along with bank statements and certified accounts by a</p>	<p>The project activity is a green field project; the purchase orders^{/13/}were validated to confirm the same. Moreover it was also validated during site visit. The additionality of the project is assessed in section 04 of validation report.</p>

legally acceptable financial analyst.	
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6. References

S. No	Name of document
/1/	<p>/1.1/ PDD for the project, “Wind Power Project in Gujarat, India”, version 01 dated 20/01/2012 (webhosted PDD),</p> <p>/1.2/ PDD for the project, “Wind Power Project in Gujarat, India”, version 02 dated 03/07/2012,</p> <p>/1.3/ PDD for the project, “Wind Power Project in Gujarat, India”, version 03 dated 17/07/2012</p> <p>/1.4/ PDD for the project, “Wind Power Project in Gujarat, India”, version 04 dated 26/07/2012</p> <p>/1.5/ PDD for the project, “Wind Power Project in Gujarat, India”, version 05.0 dated 13/09/2012 (final PDD)</p>
/2/	<p>/2.1/IRR, Benchmark & ER version 01</p> <p>/2.2/ IRR & ER version 02 ,</p> <p>/2.3/ IRR sheet version 03 (final)</p> <p>/2.4/ ER spreadsheet Version 03 (final)</p>
/3/	Letter of Approval/ Host Country Approval issued by National CDM Authority, Ministry of Environment & Forests, Government of India dated 19/04/2012, reference no: 4/6/2012 - CCC
/4/	Modalities of Communication signed on 02/01/2012 by the authorized signatory as described in the Annex 1 of PDD
/5/	Validation and Verification Manual version 01.2, EB 55 Annex 01
/6/	Approved consolidated methodology “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, Version 12.3.0.
/7/	<p>Offer letter provided by the technology supplier “Enercon(India) Ltd.” to “Vish Wind Infrastructure LLP dated 12/07/2011 for the supply of 45 WTGs of 800 kW each having:</p> <ul style="list-style-type: none"> Appendix 01 for cost breakup of WTGs Appendix 02 for cost breakup of financial working Appendix 03 for the “Technical Specifications of E-53 Model”
/8/	<p>GERC Tariff Order No.1 dated: 31/01/2010 available on public domain:</p> <p>http://www.gercin.org/renewablepdf/en_1303211765.pdf</p>
/9/	Chartered Accountant certificate issued from M/s Mehul Vora & Co. for the support of project cost and financing pattern of the project activity dated 26/07/2012.
/10/	Management Decision dated 15/07/2011 for the investment in the project activity taken from the directors of “VISH WIND INFRASTRUCTURE LLP”.
/11/	<ul style="list-style-type: none"> Power Purchase Agreements Ref. No. GUVNL/GM (COM)/WF/768 for 21 WTGs Nos EIL/800/11-12/2592 to 2599, 2586 and 2588, EIL/800/11-12/2643 to 2650, 2653, 2654, 2655, 2657-2659 between “VISH WIND INFRASTRUCTURE LLP” and Gujarat UrjaVikas Nigam Limited dated 30/03/2012. (Location no 127-134, location no 157, 160-164, 172-173, 208, 264, 268, 269 & 273) Power Purchase Agreements Ref. No. GUVNL/GM (COM)/WF/769 for 03 WTGs Nos EIL/800/11-12/2587, 2590, 2591 between “VISH WIND INFRASTRUCTURE LLP” and Gujarat Urja Vikas Nigam Limited dated 30/03/2012. (Location no 111, 125 & 126)
/12/	UNFCCC referred tools and guidelines:

	<ul style="list-style-type: none"> • Tool to calculate the emission factor for an electricity system' version 02.2.1, EB 63 Annex 19 • Guidelines on the Investment analysis, Version 05, EB 62, Annex 5 • Demonstration and assessment of additionality, Version 06 (EB 65, Annex 21) • Guideline for Completing the Project Design Document (CDM-PDD) and the proposed new baseline and monitoring methodologies (CDM-NM), version 07 and the template for the CDM- PDD, version 3.0.dated 14/09/2007, EB 41, Annex 12 • Latest version of Glossary of CDM Terms • Relevant CDM requirements (CDM M & P and decisions by the CMP and documents released by CDM EB) published on the UNFCCC CDM website
/13/	Purchase Orders placed by "VISH WIND INFRASTRUCTURE LLP" to "Enercon(India) Limited", Dated 01/08/2011, reference no: VWILLP/EIL/11-12/33 for 45 WTGs of model E-53.
/14/	<ul style="list-style-type: none"> • Communication emails with UNFCCC and DNA on dated 11/01/2012 regarding the prior intimation of project activity. • Acknowledgement email from UNFCCC dated 11/01/2012 and from DNA 13/01/2012 for the prior intimation.
/15/	<ul style="list-style-type: none"> • Commissioning certificates of the project activity issued by "Gujarat Energy Development Agency" vide Ref. No. GEDA/VWILLP/PWP/Kutch/2011-12/149 dated 13/04/2012 for the WTG Loc No 157,160,162, 163,164 • Commissioning certificates of the project activity issued by "Gujarat Energy Development Agency" vide Ref. No. GEDA/VWILLP/PWP/Kutch/2011-12/148 dated 13/04/2012 for the WTG Location No 86, 111, 135, 136, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134 • Commissioning certificates of the project activity issued by "Gujarat Energy Development Agency" vide Ref. No. GEDA/VWILLP/PWP/Kutch/2011-12/147 dated 13/04/2012 for the WTG Location No 106, • Commissioning certificates of the project activity issued by "Gujarat Energy Development Agency" vide Ref. No. GEDA/VWILLP/PWP/Kutch/2011-12/1615 dated 12/07/2012 for the WTG Location No 173, 208, 209, 264, 268, 269, 273 & 220
/16/	CEA Baseline Carbon Dioxide Emissions From Power Sector, Central Electricity Authority, Government of India version 06 (http://cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm)
/17/	UNFCCC web link for Prior CDM Consideration in the project: http://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html
/18/	UNFCCC web link for Global Stakeholder Consultation: http://cdm.unfccc.int/Projects/Validation/DB/5KR49TDFW6DVCZQPM2FOA9DGI7O902/view.html
/19/	Income Tax rates sourced from http://indiabudget.nic.in/ub2011-12/fb/bill91.pdf (for income tax) http://businessworldindia.com/bw/2011_04_02_Alternate_Minimum_Tax_A_New_Form_Of_MAT_For_LLPs.html (for MAT)
/20/	Schedule XIV of Companies Act, 1956, Point II (b) of http://www.vakilno1.com/bareacts/companiesact/schedule/schedule14.htm
/21/	Attendance Sheet used during the site visit on dated 14/06/2012
/22/	<ul style="list-style-type: none"> • MoM& Attendance Sheet for local stakeholder consultation process dated 17/02/2012 • Copy of Advertisement published in the local news paper dated 01/02/2012 for the invitation of "local Stakeholder Meeting".



/23/	Third party PLF Reports dated 09/12/2011 issued from “True Wind International Certification” in conformity with EB 48, Annex 11
/24/	The list of Location No Vs. WTG ID numbers provided by Enercon (India) Ltd. In order to validate the location numbers of WTGs commissioned till 16/07/2012.
/25/	"Directory on Indian Wind Power 2011" Publisher/ Author: CECL (Consolidated Energy Consultants Ltd.)
/26/	Letter from the technology supplier dated 02/09/2011 from the “Enercon (India) Limited” for the technical lifetime of the project activity.
/27/	Quotation submitted by third party insurance company “United India Insurance Company Ltd” dated 13/07/2011 to PP.
/28/	Declaration dated 02/01/2012 from the “VISH WIND INFRASTRUCTURE LLP” regarding the no ODA funding received for the project activity.
/29/	Email communication with Indian DNA (MoEF) dated 30/07/2012 regarding the authenticity of HCA.
/30/	Enercon website for the crosscheck of operational life time of project activity http://www.enerconindia.net/wind-resource-developement.jsp
/31/	Corporate Finance, Theory and Practice (2nd Edition, 2009) by Aswath Damodaran. In Chapter 11 of the book titled ‘Investment Analysis with Inflation and Exchange Rate Risk on page 320

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Annex 1: Validation Protocol

Table 1 - Participation Requirements for Clean Development Mechanism (CDM) Project Activities (Ref PDD, Letters of Approval and UNFCCC website)

Requirement	Reference Criteria	Assessment	Conclusion
<p>1. All Parties involved have approved the project activity</p> <p>1.1. Has the DNA of each Party involved in the proposed CDM project activity in section A.3 of the PDD provided a written letter of approval which confirms</p> <ul style="list-style-type: none"> a) The country is a Party to the Kyoto Protocol b) Participation is Voluntary c) The Host Party confirming that the proposed CDM project activity contributes to sustainable development of the country d) It refers to the precise proposed CDM project activity title in the PDD being submitted for registration <p>1.2. Whether the LoA is unconditional with respect to (a)-(d) above?</p> <p>1.3. Is the LoA from the project participant or directly from the DNA, indicate the means of validation employed to assess the authenticity with DNA if the team doubt the authentic of LoAs.</p>	<p>Clean Development Mechanism, Validation and Verification Manual, Version 01.2 (from this point forwarded referenced as VVM) - – Para 44-50 and 126-127</p> <p>Paragraph 37 CDM Modalities and procedures</p>	<p>India has ratified the Kyoto protocol on 26th August, 2002; the same was verified from the website http://unfccc.int/parties_and_observers/parties/items/2352.php.</p> <p>Ministry of Environment and Forests, Government of India is the Designated National Authority; and the same has been verified from the below web link. http://cdm.unfccc.int/DNA/index.html</p> <p>The project activity has received Host Country Approval Reference No. 04/06/2012-CCC from the DNA on 19th April 2012. The project proponent has submitted the HCA to the validation team. The HCA letter confirms the voluntary participation of the proposed CDM project activity and contribution of the project towards sustainable development. The validation team has review document and found acceptable. The validation team also confirms that the HCA received for the project is unconditional.</p>	OK



		<p>The contents of the LoA and the signature of the authorized issuer were also compared with those of other approval cases issued by the host country DNA.</p> <p>Therefore, the team has confirmed the authenticity of the letter issued.</p>	
2. Please state the project participants listed in the PDD and check with which of these project participants does KBS have a contract for the projects validation.	<p>Para 37 CDM M & P</p> <p>Para 7 EB 50 Annex 48</p>	<p>The project proponent i.e. Vish Wind Infrastructure LLP, listed in the section A.3 and Annex 1 of the published PDD has the direct contractual agreement with the DOE i.e. KBS Certification Services Pvt. Ltd. The same was verified with the signed agreement No. CDM.12.VAL.032 dated 10/04/2012.</p> <p>Thus it is concluded that the project participant listed in the PDD has direct contractual agreement with KBS.</p>	OK
2.1. If the project participant(s) listed in the PDD published at international stakeholder consultation are not included in the PDD submitted with request for registration, a letter should be obtained from the withdrawn project participant(s) confirming its voluntary withdrawal from the proposed project activity.	<p>EB 30 Para. 41.</p> <p>EB50 Annex 48 Para. 8</p>	<p>Not applicable at this stage of validation, this issue will be addressed prior to the submission of project activity for the “Technical Review.”</p>	OK
2.2. Confirm while submitting a request for registration – all of the project participants with a contractual relationship are still listed in the PDD.	EB50 Annex 48 Para.7-9	<p>Not applicable at this stage of validation, this issue will be addressed prior to the submission of project activity for the “Technical Review.”</p>	OK
2.3. Project participants who are listed in the PDD (submitted for global stakeholder consultation) but who do not have a contractual relationship with KBS for the purposes of the validation	EB50 Annex 48 Para.7-9	<p>Not applicable at this stage of validation, this issue will be addressed prior to the submission of project activity for the “Technical Review.”</p>	OK



activity may be removed from the PDD which is submitted for registration			
2.4. KBS may restart the validation activity through the new or revised contract with a different set of project participants by; a. Indicating that the first validation contract has been terminated and; b. Republishing the PDD or revised PDD for global stakeholder consultation.	EB50 Annex 48 Para.7-9 (If applicable)	Not applicable as this stage of validation as the project participant listed in the published PDD for the Global Stakeholder Consultation process has direct contractual agreement with KBS. Further this is a first Validation Contract and still in existence thus none of the condition listed against section 2.4 of checklist question applies here.	OK
2.5. The letter/s of approval are unconditional with respect to 1.1.a) to 1.1.d) above	VVM Para. 49/54	The project activity has received Host Country Approval Reference No. 04/06/2012-CCC from the DNA on 19th April 2012. The project proponent has submitted the HCA to the validation team. The HCA letter confirms the voluntary participation of the proposed CDM project activity and contribution of the project towards sustainable development. The validation team has review document and found acceptable. The validation team also confirms that the HCA received for the project is unconditional. The contents of the HCA and the signature of the authorized issuer were also compared with those of other approval cases issued by the host country DNA. Therefore, the team has confirmed the authenticity of the letter issued.	OK
3. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily	VVM Para. 54	The project activity supports the sustainable development criteria of the host country. The host Party's DNA confirmed the contribution of the project	OK

	Marrakech Accords, CDM Modalities §29 and §30 Kyoto Protocol Art. 12.2, Marrakech Accords, CDM Modalities §40a	activity to the sustainable development of the host Party by issuing HCA letter no. 04/06/2012-CCC.	
4. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for a minimum of 30 days, and the project design document and comments have been made publicly available	VVM Para. 40-42 Marrakech Accords, CDM Modalities, §40	The PDD is webhosted for the global stakeholder consultation process for the duration 27/04/2012 to 26/05/2012. The same was confirmed by checking the UNFCCC website; http://cdm.unfccc.int/Projects/Validation/DB/5KR49TD/FW6DVCZQPM2FOA9DGI7O902/view.html The comments received were made public. CAR 06 is raised to communicate the comments to PP	CAR 06 OK
5. The project design document is in accordance with the applicable CDM requirements for completing PDDs.	VVM Para. 55 - 57 Marrakech Accords, CDM Modalities, Appendix B, EB Decisions EB 25 Annex 15 EB 41 Annex 12	The PDD has been filled using the latest template available in the UNFCCC website; the UNFCCC website has been checked by the validation team to confirm the same. The PDD is duly filled in line to the “Guidelines for Completing The Project Design Document (CDM-PDD) and The Proposed New Baseline and Monitoring Methodologies (CDM-NM)”, Version 7.	OK
6. Has the MoC been completed as per the latest Procedures for MoC between the project participants and the Executive Board?	EB 48 Annex 60 EB 45 Annex 59	The PP has submitted the signed copy of MoC dated 02/01/2012. The MoC has been completed as per the latest procedures for MoC between the PP and the EB.	OK



Table 2 - PDD

Checklist Question	Reference Criteria	MoV*	KBS Assessment	Conclusion	
				Draft	Final
A. General Description of Project Activity					
A.1.Project Title					
A.1.1. Does the used project title clearly enable the reader to identify the unique CDM activity?	VVM Para.56	/DR/	The title of the project activity mentioned is “Wind power project in Gujarat, India”. The uniqueness of the title was verified by checking the same on the UNFCCC website. The title has been further checked against the LoA from the host country.	OK	OK
A.1.2. Is there an indication of a version number and the date of the version?	VVM Para.56		Yes, the PDD has indicated the version number and date of the version in section A.1 of the PDD, as Version 01 and Date: 20/01/2012.	OK	OK
A.2.Description of the Project Activity					
A.2.1. Does the proposed CDM project activities in existing facilities or utilizing existing equipments? Does a site inspection carried out by the assessment team?	VVM Para 60	/DR/ /I/	Project activity is a green field project and does not involve alteration, modification and retrofit of the existing installations. The project activity is the installation of 36.0 MW wind energy generators in the Nakhatrana Wind Farm Site, District Kutch of the State Gujarat, India. The project activity involves supply, erection, commissioning and operation of 45 machines with rated capacity of 800 KW each. The same is verified by conducting interview during site visit and by document review.	OK	OK

*MoV = Means of Verification, DR= Document Review, I= Interview

A.2.2. Does the description of the proposed CDM project activity as contained in the PDD sufficiently cover all relevant elements accurately and provide the reader with a clear understanding of the nature of the proposed CDM project activity?	VVM Para.58-59 VVM Para. 64(a)	/DR/	The information given in the PDD provides clear understanding of proposed CDM project activity. However, the web-link provided in the footnote 1 under the section A.2 of the PDD is unable to open. CAR 01 (a) is raised in this regard.	CAR 01 (a)	OK
A.2.3. If the project activity involves the alternation of an existing installation or process, does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	VVM Para.63	/DR/ /I/	Project activity is a green field project and does not involve alteration, of the existing installations same is verified by conducting interview during site visit and by document review.	OK	OK
A.2.4. Is all information provided consistent and in compliance with the actual situation or planning?	VVM Para.64	/DR/ /I/	The proposed project activity is a greenfield project involves the installation of 45 WEGs of capacity 800 kW each. The aggregate capacity of the project activity is 36 MW and the electricity generated will be export to NEWNE grid. The information provided in the PDD is consistent and in compliance with the actual planning. The same has been confirmed from document review and by conducting interview during site visit.	OK	OK
A.2.5. Is all information with respect to project description deemed accurate and complete?	VVM Para.64(b)	/DR/	The view of the project activity's contribution towards sustainable development has exceeded more than one page in the PDD. CAR 01 (b) is raised in this context.	CAR 01 (b) CAR 1 ©	OK
A.3.Project Participants					

A.3.1. Is the table required for the indication of project participants correctly applied?	VVM Para. 51-54	/DR/	The section A.3 of the PDD has been completed in accordance with the Guidelines For Completing The Project Design Document (CDM-PDD). The name of the project participant has been check with the LoA and MoC, which is found accurate and consistent. OK	OK	OK
A.3.2. Whether the participation of each project participant has been approved by at least one Party involved, either in a letter of approval or in a separate letter specifically to approve?	VVM Para. 52	/DR/	The validation team has checked the LoA and confirms that the PP has got approval from the host party DNA. The name of the PP mentioned in the PDD is consistent with that of LoA.	OK	OK
A.3.3. Is all information provided in consistency with details provided by further chapters of the PDD (in particular Annex 1)?	VVM Para. 51	/DR/	Consistency of PP details has been verified against the LoA submitted by the PP and found consistent with the PDD.	OK	OK
A.4. Technical Description of the Project Activity					
A.4.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	VVM Para.64	/DR/ /I/	The section A.4.1.3. & A.4.1.4. clearly mentions about the location of the project activity. The information provided regarding the location of the project activity is complete and correct. The same has been verified during the site visit.	OK	OK
A.4.2. Are the latitude and longitude of the site indicated (decimal points)	PDD section A.4	/DR/ /I/	The latitude and longitude of the WTGs are indicated in the PDD. The appropriateness of the geographical coordinates is verified during the site visit.	OK	OK

A.4.3. Does the proposed CDM project activity involve the alteration of existing installations or process?	VVM Para.64	/DR/ /I/	The proposed project activity is the installation of wind energy converters, which does not, involves alteration of any existing installation. The same was confirmed during the site visit and document review.	OK	OK
A.4.4. Is the category(ies) of the project activity correctly identified?	VVM Para.64	/DR/	The PDD mentions that the proposed CDM project activity falls under sectoral scope 1 - Energy industries (renewable sources). This has been correctly identified.	OK	OK
A.4.5 Is the Type of the project activity correct, if applicable?	VVM Para 135	/DR/	Yes the type of project activity is correctly identified in the PDD.	OK	OK
A.4.6 Is the project activity not a debundled component of a large scale project, if applicable?	VVM Para 136 EB 54 Annex 13	/DR/	Not applicable as the project activity is large scale.		
A.4.7. Is all information provided in compliance with actual situation or planning as available by the project participants?	VVM Para.64	/DR/ /I/	Project activity is a green field project. The project is not commissioned yet and it has been verified during site visit and document review of the technical specification of the technology adopted and validation team is convinced that the description provided in PDD is in accordance with the planned implementation of the project activity.	OK	OK
A.4.8. Is the projected emission reductions in consistency with the ex-ante estimation in Section B.6.4?	VVM Para.64	/DR/	The project emission reduction provided under section A.4.3 and section B.6.4 are consistent to each other; However the ER sheet has not been submitted to Validation Team. CAR 04 (b) is raised in this context.	CAR 04 (b)	OK
A.4.9. Is the project bundled CDM project activity, if applicable?	Guidance to fill CDM-SSC-PDD	/DR/	Not applicable as the project activity is large scale wind power project.	OK	OK
A.5.Public Funding					
A.5.1. Does the information on public funding provided conform to the actual situation or planning as presented by the project participants?	PDD section A.4.5		According to the PDD, no public funding or ODA from Annex I countries has been sought for; The same was verified by interviewing the project proponent during the site visit. However the documentary evidence regarding project financing	CL 02 (a)	OK

			pattern needs to be submitted by the project proponent. CL 02 (a) is raised in this context.		
A.5.2. Is all information provided consistent with details provided by further chapters of the PDD (in particular annex 2)?	PDD section A.4.5		Pending closure of CL 02 9 (a)	CL-02	OK
A.5.3. In case of public funding from Annex I Parties is it confirmed that such funding does not result in a diversion of official development assistance	PDD section A.4.5		Refer sections A.5.1 and A.5.2	CL-02	OK
B. Baseline and Monitoring Methodology					
B.1. Title and reference of the approved baseline and monitoring methodology applied of the project activity					
B.1.1. Is the baseline methodology previously approved by the CDM EB?	VVM Para.65 VVM Para 68	/DR/	The PDD refers to the methodology ACM0002, "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", Version 12.3.0. The methodology is approved by CDM EB and is valid from 17 th September, 2010. The projects that use the methodology ACM0002, Version 12.3.0 can submit their Requests for registration until 11 th January, 2013 23:59:59 GMT. The validation team concluded that the project applies the approved and applicable CDM methodology and a valid version thereof.	OK	OK
B.1.2. Is there any specific guidance (including the Tools) provided by EB and has these guidance been applied?	VVM Para.68-69	/DR/	Project activity correctly applies the approved tools; brief description for the same is given in section B.1 of the PDD. The validation team has reviewed approved methodology ACM0002, version 12.3.0 available on UNFCCC web site and the all other required tools to apply this methodology and confirmed	OK	OK

			that the applied methodology and tools are correctly used by the PP. The validation team concluded that the project applies correct tools and guidance as required by the applied methodology ACM0002, version 12.3.0.		
B.2.Choice and Applicability of methodology					
B.2.1. Is the selected approved methodology applicable to the project activity in the PDD?	VVM Para.75/66a/68/73 EB 27 Para 75	/DR/	The selected approved methodology ACM0002, Version 12.3.0 is applicable to the project activity. The same has been demonstrated in the section B.2 of the PDD.	OK	OK
B.2.2. Is the discussion in the PDD in conformance with all applicability criteria of the applied methodology?	VVM Para.70-76	/DR/	This methodology is applicable to greenfield grid connected renewable power generation project activities; and the discussion in the PDD is in conformance with all applicable criteria of the applied methodology.	OK	OK



B.2.3. Is there any GHG emissions occurring within the project boundary as a result of the implementation of the proposed project which are expected to contribute more than 1% of the overall expected average annual ERs, which are not addressed by the applied methodology.	VVM Para 77	/DR/	All emission sources and gases related to the baseline scenario, project scenario and leakage are clearly identified and described in a complete a transparent manner. There is no source of GHG emissions occurring within the project boundary as a result of the implementation of the proposed project which are expected to contribute more than 1% of the overall expected average annual ERs.	OK	OK
B.2.4. Is the applicability of the selected methodology satisfied?	VVM Para.76	/DR/ /I/	All the applicability criteria mentioned in the applied methodology ACM0002, Version 12.3.0 are properly justified in the webhosted PDD, the same was confirmed by the documents review and by conducting the site visit.	OK	OK
B.3. Project Boundary					
B.3.1. Does the project boundary include the physical delineation of the proposed CDM project activity?	VVM Para. 78-80	/DR/ /I/	The project boundary includes the physical delineation of the proposed CDM project activity has been correctly shown in the PDD in line to the applied methodology ACM0002, Version 12.3.0. The same was confirmed by the validation team by the documents review and during the site visit of the project activity.	OK	OK
B.3.2. Are all emission sources and gases related to the baseline scenario, project scenario and leakage clearly identified and described in a complete and transparent manner?	VVM Para.79-80	/DR/ /I/	In line to the applied methodology ACM0002 Version 12.3.0, all emission sources and gases related to the baseline scenario, project scenario and leakage clearly identified and described in a complete and transparent manner in the section B.3 of the webhosted PDD. The validation team has confirmed the correctness of the same during the site visit.	OK	OK

B.3.3. In case of grid connected electricity projects: Is the relevant grid correctly identified in accordance with the latest version of tool to calculate emission factor of electricity system (wherever applicable) and the underlying methodology?	VVM Para.79	/DR/ /I/	The project activity involves generation of electricity using WECS. The electricity generated is exported to the NEWNE grid of India. The grid is identified in accordance with the tool to calculate emission factor version 02.2.0. The same was confirmed by the validation team by the documents review and during the site visit of the project activity.	OK	OK
B.3.4. Are the project's geographical boundaries and the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	VVM Para.76/79	/DR/	The project boundary is clearly defined under section B.3 of the PDD. Validation team has conducted the site visit and confirmed that the project activity has no trans boundary impacts and all the GHG emissions sources are taken into consideration inside the project boundary for the estimation of ex-ante emission reductions. The same was confirmed during the site visit.	OK	OK
B.4. Identification of the Baseline Scenario					
B.4.1. Does the PDD discuss the identification of the most likely baseline scenario? Does the PDD follow the steps to determine the baseline scenario required by the methodology/tool and has the application of the tools as per methodology been consulted, if the Tool(s) are required by the methodology?	VVM Para. 82/86	/DR/	The PDD discuss the identification of most likely baseline scenario correctly as per the approved methodology ACM0002 version 12.3.0.	OK	OK
B.4.2. Have all applicable CDM requirements been taken into account in the identification of the baseline scenario, including relevant national and/or sectoral policies and circumstances?	VVM Para.85/87(d) EB 22 Annex 3 EB 53 Annex 32	/DR/ /I/	The applicable CDM requirements have been taken into account in the identification of the baseline scenario, including relevant national and/or sectoral policies and circumstances.	OK	OK



B.4.3. Are all potential realistic and credible alternative scenarios listed in the methodology are considered in identification of the most reasonable baseline scenario? Are all scenarios are reasonable in the con-text of the proposed CDM project and no reasonable alternative scenario has been excluded?	VVM Para. 81-84	/DR/	The baseline scenario has been identified correctly according to the approved methodology ACM0002 Version 12.3.0. The methodology itself provides the most plausible base line scenario i.e. electricity delivered to the grid by the project activity that otherwise would have been generated by the operation of grid-connected power plants and by the addition of new generation sources. The same has been correctly considered as the baseline for the proposed project activity.	OK	OK
B.4.4. Is conservativeness addressed in the way of identifying the baseline?	VVM Para.90	/DR/	The baseline for the proposed project activity has been identified as per the methodology ACM0002 Version 12.3.0 and mentioned clearly in the PDD. The data used for calculating the baseline has been taken from the CO2 Baseline Database for the Indian Power Sector (Version 07) published by the Ministry of Power, Government of India. The data in this database has been conservatively calculated. Hence the baseline for the project activity has been conservatively identified.	OK	OK
B.4.5. Is there a verifiable description of the baseline scenario? Does this include a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity?	VVM Para.86	/DR/	There is a verifiable description of the baseline scenario in the PDD. The baseline scenario has been determined following the approved methodology ACM0002 Version 12.3.0.	OK	OK

B.4.6. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	VVM Para.87	/DR/	As per ACM0002 Version 12.3.0 the baseline scenario for a new grid connected renewable power plant/unit is the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plant and by the addition of new generation sources, as reflected in the combined margin (CM) calculation described in the “Tool to calculate the emission factor for an electricity system” version 2.2.1.	OK	OK
B.5. Additionality					
B.5.1. Does the PDD clearly demonstrate the additionality using the approach as specified in the methodology and by following all the required steps?	VVM Para. 94-97	/DR/	In section B.5 of the PDD of the description of the additionality is provided using the latest version of the “Tool for the demonstration and assessment of additionality, Version 6.0”. It also follows the steps as described in applied approved methodology.	OK	OK
B.5.2. In case of using the additionality tool: Is the ‘Additionality Tool’ used in the PDD latest version? If an earlier version has been used, please confirm its validity of use? Are all steps followed in a transparent manner?	PDD Section	/DR/	The additionality of the project activity has been demonstrated and assessed using latest version of “Tool for the demonstration and assessment of additionality, Version 6.0” and with the “Guidance on Assessment of Investment Analysis, Version 5.0” which is applicable for the project activity. However the Common practice analysis is not in line with EB 65, Annex 21. Stepwise approach is not followed as required by the tool. (Refer paragraph 47 of EB 65, Annex 21). CAR 03 (e) is raised in this context.	CAR 03 (e)	OK
B.5.3. Has all information been backed up with references, sources and certification? Is the data presented credible and	VVM Para.93/91	/DR/	The information has been backed up with references, sources and certification.	OK	OK



reliable with complete transparency to all available data and documentation?					
B.5.4. Is the discussion on additionality and the evidence provided consistent with the starting date of the project? If the project activity start date is prior to the date of publication of the PDD, is it discussed how the CDM was taken into account in the decision to go ahead with the project activity?	VVM Para.98-99 VVM Para.103-104	/DR/ /I/	The start date of the project activity as per PDD version 01 is 01/08/2011, which is the date of placement of purchase order for the wind energy generators. The PDD has been published for GSP on 27/04/2012, which is after the start date of the project activity. No investment, neither any construction nor infrastructure expenditure was made by the project proponent before this date. The same was confirmed by interviewing the project proponent during site visit. The PP has notified UNFCCC and DNA using standardized prior consideration form within 6 months of the project activity start date.	OK	OK
B.5.5. Is the start date of the project activity prior to 2 nd Aug 2008? How is the early consideration demonstrated?	VVM Para.100-102 PDD Section B.5	/DR/	Not applicable as the start date of the project activity is 01/08/2011.	NA	NA
B.5.6. For project activity with a start date before 2 August 2008, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, is the real documented evidence for an assessment of real and continuing actions available for validation and is this evidence authentic?	EB 62, annex.3	/DR/	Not applicable as the start date of the project activity is 01/08/2011	NA	NA



B.5.7. Are all credible and plausible alternatives correctly identified? Do the identified baseline scenarios include technologies and practices that include outputs or services comparable with the proposed CDM project activity? Do they also abide by the same applicable laws and legislations?	VVM Para.105-107	/DR/	As methodology ACM 0002 prescribes the baseline, as per paragraph 105 of VVM (ver.1.2), no further alternative is required for the project activity.	OK	OK
B.5.8. If an investment analysis has been used, has it been demonstrated that the proposed project activity is not the most economically or financially attractive alternative, or is not economically or financially feasible, without the revenue from the sale of CERs.	VVM Para. 108-109	/DR/	<p>The PP has performed an investment analysis to demonstrate that the project activity is not a financially attractive alternative. The investment analysis follows a Benchmark analysis approach which is in line with the “Tool for the demonstration and assessment of additionality”, Version 06.</p> <p>PDD describes that the project activity is not financially attractive. The submitted PDD and excel calculation sheets are reviewed by the validation team to confirm the same. Project participant has demonstrated that the selected baseline scenario is financially less attractive option than other alternatives available.</p>	OK	OK
B.5.9. Is the investment analysis carried out in accordance with specific guidance from EB?	VVM Para. 110 EB 62 Annex 5 EB 48 Annex 11	/DR/	The investment analysis is carried out in accordance with EB guidance applicable to project activity.	OK	OK



B.5.10. Is the investment analysis complete and accurate?	VVM Para. 111 EB 62 Annex 5 EB 63 Para 23 EB 53 Annex 32	/DR/	<p>The PDD has demonstrated the additionality in clear and transparent manner using latest version of the “tool for demonstration and assessment of analysis” version 6.0, “Guidelines on assessment of the investment analysis” version-5 and applied approved methodology ACM0002, version-12.2.0.</p> <p>However the following inconsistencies has been observed;</p> <ul style="list-style-type: none"> a) The national policies and circumstances related to the baseline described in the sub-step 1a of the additionality tool are not transparently explained. b) The sensitivity analysis present in financial sheet is not linked with the IRR calculation sheet. c) Sensitivity analysis section does not state at what percent variation the chosen parameters will equal/breach the benchmark and the probability of their occurrence. d) Sensitivity analysis section does not explain how the parameters selected for sensitivity analysis and the variation to which they have been subjected to, conform to guidance 20 and 21 of Annex 5, EB 62. 	CAR 03 (a), (b), (c), (d) & (e)	OK
B.5.11. Does the investment analysis rely on the values from Feasibility Study Reports (FSR) that approved by national authorities for proposed CDM project activity?	VVM Para. 113	/DR/	The investment analysis doesn't rely on FSR. However the PP has submitted the supportive documents for all the input values used in the investment analysis.	OK	OK

B.5.12. If a benchmark is used, is it ensured that it is selected in accordance with the requirements of the tool /methodology and it represents standard returns in the market (not linked to the subjective profitability expectation or risk profile of a particular project participant).	VVM Para. 112 EB 62 Annex 5 EB 51 Annex 59 EB40 Para 40	/DR/	As per guidance 16 of Annex 5, EB 62, "Required/expected returns on equity are appropriate benchmarks for equity IRR". The project participant has chosen required rate of return as the benchmark. Required rate of return on equity has been computed based on the default factor provided in the "Appendix A" of Annex 5, EB62, for the host country by adding the inflation rate forecasted by the central bank of the host country.	OK	OK
B.5.13. If a barrier analysis has been used, has it been shown that the proposed project activity faces barriers that prevent the implementation of this type of proposed project activity but would not have prevented the implementation of at least one of the alternatives?	VVM Para.115/118	/DR/	Barrier analysis has not been chosen.		
B.5.14. Is the discussion on additionality consistent with the identification of all plausible and credible baseline scenarios?	VVM Para.105	/DR/	The discussion on additionality is consistent with the identification of all plausible and credible baseline scenarios.	OK	OK
B.5.15. Has the barriers correctly identified and they prevent the implementation of the project activity but not the implementation of at least one of the possible alternatives.	VVM Para. 116-118	/DR/	Barrier analysis has not been chosen.	OK	OK



B.5.16. If a barrier analysis has been used have the 'guidelines for objective demonstration and assessment of barriers' been followed? Have all applicable steps been considered and substantiated with objective evidence?	VVM Para 116-117 EB 50 Annex 13	/DR/	Barrier analysis has not been chosen.		
B.5.17. Do the identified baseline scenarios include technologies and practices that include outputs or services comparable with the proposed CDM project activity? Do they also abide by the same applicable laws and legislations?	VVM Para. 105	/DR/ /I/	The project activity is in line with all the local and national policies. There are no restrictions on establishing wind power plant or importing electricity from the grid. The validation team has confirmed the same.	OK	OK
B.5.18. Is the proposed project type be justified as first-of-its kind?	VVM Para.119 EB 63 Annex 11	/DR/	Not applicable since the PDD does not describes the project activity as first-of-its kind.	OK	OK
B.5.19. Is the project activity not common practice?	VVM Para. 120-121 EB 63 Annex 12	/DR/	Common practice analysis is not in line to EB 63, Annex 12 and the "Tool for the demonstration and assessment of additionality" version 6. CAR 03 (e) is raised.	CAR 03 (e)	OK
B.5.20. What are the key distinctions between the project activity and any similar projects that are widely used as common practice?	VVM Para. 118, 119c/d	/DR/	Refer CAR 03 (e)	CAR 03 (e)	OK
B.5.21. Is the proposed project activity additional?	PDD Section B.5	/DR/	Subject to closure of all CARs and CLs.	OK	OK
B.6.Algorithms and/or formulae used to determine					

emission reductions					
B.6.1. Are the steps and equations applied to calculate baseline emissions in compliance with the requirements of selected baseline and monitoring methodology?	VVM Para. 67c VVM Para. 89-90 VVM Para. 93	/DR/	The PDD has followed the steps specified and correctly applied the equations as per approved baseline and monitoring methodology ACM0002, version-12.3.0 and tool to calculate emission factor of an electricity to calculate the baseline emission. However, The 3rd paragraph mentioned in the step -3 of the section B.6.1 (page no.26) is not clear. CAR 04 (a) is raised in this context.	CAR 04 (a)	OK
B.6.2. Are the steps and equations applied to calculate project emissions in compliance with the requirements of selected baseline and monitoring methodology?	VVM Para. 67c VVM Para. 89-90 VVM Para. 93	/DR/ /I/	The PDD has followed the steps specified and correctly applied the equations as per approved methodology to calculate the project emission. As per applied methodology ACM0002, version-12.3.0, the project emissions are considered zero (0), as project activity is a wind power claims no use of fossil fuel.	OK	OK
B.6.3. Are the steps and equations applied to calculate leakages in compliance with the requirements of selected baseline and monitoring methodology?	VVM Para. 67c VVM Para. 89-90 VVM Para. 93	/DR/	As per applied approved methodology ACM0002, version 12.3.0, the leakage due to project activity is negligible and not required to be considered.	OK	OK
B.6.4. Are the steps and equations applied to calculate emission reductions in compliance with the requirements of selected baseline and monitoring methodology?	VVM Para. 67c VVM Para. 89-90 VVM Para. 93	/DR/	The PDD has correctly applied all the steps and equations as per applied approved methodology ACM0002, version-12.3.0 and tool to calculate emission factor of an electricity system, version-2.2.1. The validation team has reviewed the calculation and equations used and found in conformance to the applied meth and tool. Pending closure of CAR 04 (a)& CAR 04 (d)	CAR 04 (a) CAR 04 (d)	OK

B.6.5. Where there is an option between different equations or parameters, has the methodological choices for the project been explained, have they been properly justified and are they correct?	VVM Para.89/90/91 PDD Section B (B.6.2 -B.7.1)	/DR/	The project activity is renewable resource (wind) based grid connected new power plant, as per applied the methodology for the renewable resource based Greenfield projects there are no choice for calculation of baseline emission. Further, as per latest version of "Tool to calculate emission factor of an electricity system" version-2.2.1, the project proponent has chosen the simple OM to calculate OM emission factor, as the low cost must run resources accounts less than 50% of the total capacity in the host country. The PDD has correctly shown the calculation of emission factor of electricity system identified and baseline emission.	OK	OK
B.6.6. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	PDD Sections B.5	/DR/	The uncertainties in estimation of GHG emission reduction are properly addressed in PDD. However, the closure of CAR 04 (a) & (b) is pending.	CAR 04 (a) & (b)	OK
B.6.7. Are the ex-ante fixed data provided in compliance with the methodology and/or relevant tools (if applicable)?	VVM Para. 67c VVM Para. 91 VVM Para. 93 PDD Section B.6.3B.6.4	/DR/	All the parameters which are ex-ante fixed and will be used during the post registration for the estimations of CERs are correctly mentioned under section B.6.2 of PDD.	OK	OK
B.6.8. Is all the data derived from official data sources or replicable records and have these been correctly quoted?	VVM Para. 91a/b PDD Section B.6.3/B.6.4	/DR/	According to approved methodology, ACM0002, Version 12.3.0, the baseline emissions are the product of electrical energy baseline $EG_{PJ,y}$ expressed in kWh of electricity produced by the renewable generating unit multiplied by an emission factor. Operating Margin (OM) and Build margin (BM) emission factors are correctly taken from the CO ₂ Baseline Database for the Indian Power Sector (Version 07) published by the Ministry of Power, Government of India.	OK	OK

			<p>The referred document is a publicly available document and available on the website: http://www.cea.nic.in/reports/planning/cdm_co2/database_7.zip</p> <p>Validation team has reviewed the above referred document and concluded that the value considered for the ex-ante fixed parameters are correct and appropriate.</p>		
B.6.9. Is the vintage of the baseline data correct?	PDD Section B.6.3/B.6.4	/DR/	The vintage of the baseline data is correct as PP has used the latest version of CO ₂ Baseline Database for the Indian Power Sector (Version 07) published by the Ministry of Power, Government of India; which is available at the time of PDD submission.	OK	OK
B.6.10. Is all the data appropriate and correctly applied to the CDM project activity?	VVM Para. 91c PDD Section B.6.3/B.6.4	/DR/	<p>All the base line data is sourced from the CO₂ Baseline Database for the Indian Power Sector (Version 07) published by the Ministry of Power, Government of India.</p> <p>The referred document is a publicly available document and available on the website: http://www.cea.nic.in/reports/planning/cdm_co2/database_7.zip</p> <p>And correctly applied to the proposed CDM project activity, validation team has reviewed the PDD and found the application of base line to the project activity correct.</p>	OK	OK
B.6.11. Are data and parameters that are not being monitored and remained fixed throughout the crediting period appropriately assessed, correct, and will they result in conservative estimates?	VVM Para. 90 PDD Section B.6.3/B.6.4	/DR/	<p>The data and parameters that are not being monitored and remained fixed throughout the crediting period appropriately assessed, correct and they are conservatively estimated. Operating Margin (OM) and Build margin (BM) emission factors are correctly taken from the Indian Power Sector (Version 07) published by the Ministry of Power, Government of India.</p> <p>The referred document is a publicly available document and available on the website:</p>	OK	OK

			http://www.cea.nic.in/reports/planning/cdm_co2/database_7.zip Validation team has reviewed the above referred document and concluded that the value considered for the ex-ante fixed parameters are correct and appropriate.		
B.6.12. Are the ex-post monitored data estimated appropriated for calculation of ex-ante emission reductions?	VVM Para. 67c VVM Para. 91 VVM Para. 93 PDD Section B.6.3B.6.4	/DR/	The ex-post monitored data i.e. the net electricity supplied to grid has been correctly calculated in the PDD. Validation team has cross checked the calculation and found it correct.	OK	OK
B.6.13. Is sampling approach used for any parameters?	EB 65 Annex 2	/DR/	Not applicable, since sampling approach is not used for any parameters.	OK	OK
B.6.14. Are all the steps taken and equations applied to calculate project emissions, baseline emissions and leakage and emission reductions correct and appropriate?	VVM Para. 67c VVM Para. 92	/DR/	Closure of CAR 04 (a), (b) & (d) is pending.	CAR 04 (a) & (b) & (d)	OK
B.6.15. Where applicable, the plant load factor shall be defined ex-ante in the CDM-PDD according to one of the following three options: (a) The plant load factor provided to banks and/or equity financiers while applying the project activity for project financing, or	EB 48 Annex 11	/DR/	The PLF for the project activity has been sourced from the third party PLF assessment study, which is in line (option (b)) with EB 48 Annex 11.	OK	OK

to the government while applying the project activity for implementation approval; (b) The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company)					
B.7. Monitoring methodology and Monitoring Plan					
B.7.1. Does the monitoring methodology provide a consistent approach in the context of all parameters to be monitored and further information provided by the PDD? Are all parameters and data that are available at validation consistent with the approved methodology. Has this data been interpreted and applied correctly?	VVM Para. 67e PDD Section B.7-B.8 see also Annex 4	/DR/	As per approved methodology, all monitoring parameters are included in the monitoring plan. All the monitoring parameters which need to be monitored as per the applied methodology have been clearly mentioned in the monitoring plan of the PDD. Validation has reviewed approved methodology ACM0002 available on UNFCCC web site and details provided in PDD, to validate the same.	OK	OK
B.7.2. Is the monitoring plan compliant with the approved monitoring methodology and/or relevant tools (if applicable)?	VVM Para. 123(a) PDD Section B.7	/DR/	Validation team has reviewed approved methodology ACM0002, Version 12.3.0, available on UNFCCC web site and details provided in PDD to validate the same. Moreover, the monitoring plan has been confirmed through the interviews with the PP and its project management team during the onsite verification by the validation team and the detail provided in the PDD has been found to be consistent.	OK	OK



B.7.3. Is the implementation of monitoring plan feasible and verifiable.	VVM Para. 123(b) PDD Section B.7	/DR/	The implementation of monitoring plan is feasible and verifiable. However, the type and accuracy class of the meter(s) is not mentioned in the section B.7.1 of published PDD. CAR 04 (c) is raised in this context.	CAR 04 (c)	OK
B.7.4. Is it ensured that data provisions will be free of potential conflicts of interests resulting in a tendency of overestimating emission reductions?	VVM Para. 19	/DR/ /I/	The monitoring equipments have to be calibrated in a defined frequency by a third party as per the requirement of monitoring plan. The detail mechanism of ensuring the maintenance and calibration of monitoring equipments is defined in the section B.7 of the PDD. The same was also confirmed during the site visit by interviewing the concerned persons. Pending closure of CAR 04 (c)	CAR 04 (c)	
B.7.5. Is the proposed monitoring plan compliance with the methodology/tools and feasible for implementation?	VVM Para. 124 EB 27 Para 75	/DR/ /I/	Validation has reviewed approved methodology ACM0002, Version 12.3.0 available on UNFCCC web site and details provided in PDD to validate the same. The validation team observed that all the applicable parameters as per the applied methodology are included in the monitoring plan. The same was also confirmed during the site visit by interviewing the concerned persons.	OK	OK
B.7.6. Does the information contained in Annex 4 in consistency with the information in Section B.7 of PDD?	PDD Annex 4	/DR/	The information provided in section B.7.1 and Annex 4 of PDD is consistent.	OK	OK
B.7.7. Does the monitoring plan in the PDD comply with the approved methodology provided for the collection and archiving of all relevant data necessary for	VVM Para. 91a/91d/121/79 PDD Section B.7- B.7.2 EB 27 Para 75	/DR/	Refer section B.7.5	OK	OK



estimation or measuring the emission reductions within the project boundary during the crediting period?					
B.7.8. Are the choices of project GHG indicators reasonable and in conformance with the requirements set by the approved methodology applied?	PDD Section B.7- B.7.2/B.6.2	/DR/ /I/	<p>Yes, the choices of project GHG indicators reasonable and in conformance with the requirements set by the approved methodology applied. Validation has reviewed approved methodology ACM0002, Version 12.3.0 available on UNFCCC web site and details provided in PDD to validate the same.</p> <p>The validation team observed that all the applicable parameters as per the applied methodology are included in the monitoring plan.</p>	OK	OK
B.7.9. Will it be possible to determine the specified project GHG indicators?	PDD Section B.6.2- B.8	/DR/ /I/	<p>Yes, it is possible to determine the specified project GHG indicators. Validation has reviewed approved methodology ACM0002, Version 12.3.0 available on UNFCCC web site and details provided in PDD to validate the same.</p> <p>The validation team observed that all the applicable parameters as per the applied methodology are included in the monitoring plan. The same was also confirmed during the site visit by interviewing the concerned persons.</p>	OK	OK
B.7.10. Is the information given for each monitoring variable by the presented table sufficient to ensure the verification of a proper implementation of the monitoring plan?	PDD Section B.6.2- B.7.1	/DR/ /I/	<p>The information regarding the each monitoring variable is sufficient to ensure the verification of a proper implementation of the monitoring plan.</p> <p>Pending closure of Pending closure of CAR 04 (c)</p>	CAR 04 (c)	OK



B.7.11. Is the monitoring approach in line with current good practice, i.e. will it deliver data in a reliable and reasonably acceptable accuracy?	PDD Section B.5-B.7.2	/DR/ /I/	The monitoring approach in line with current good practice, the same was confirmed by the local and sectoral expertise of validation team.	OK	OK
B.7.12. Are all formulae used to determine project emission clearly indicated and in compliance with the monitoring methodology.	PDD Section B.6.2-B.7.1	/DR/ /I/	The applied formulas for calculations of the baseline emission and emission reductions are in line with the requirements of the approved methodology ACM0002, Version 12.3.0. Project emission and leakages are considered zero as appropriate for project activity as it is using renewable source of energy.	OK	OK
B.8.Operational and Management Structure					
B.8.1. Is the authority and responsibility of project management clearly described?	PDD Section B.7.2, Annex 4	/DR/ /I/	The information regarding organization responsibilities, what records to keep, storage of records etc are incorporated correctly in the PDD section B.7.2. The same was confirmed by interview with the project proponent. The validation team concluded that the procedure for the data management is consistent with that of PDD.	OK	OK
B.8.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	PDD Section B.7.2, Annex 4	/DR/ /I/	The authority and responsibility for registration, monitoring, measurement and reporting clearly described in the section B.7.2. of PDD. The same was confirmed by interview with the concern person during onsite verification.	OK	OK
B.8.3. Are procedures identified for training of monitoring personnel?	PDD Section B.7.2, Annex 4	/DR/ /I/	The procedures identified for training of monitoring personnel is included under section B.7.2 of PDD. The same was confirmed by interview with the concern person during onsite verification.	OK	OK
B.9.Baseline Information					
B.9.1. Is the information contained in Annex 3 consistent with the Section B.4, B.5 and B.6?	PDD Annex 3	/DR/ /I/	The information contained in Annex 3 is consistent with the Section B.4, B.5 and B.6	OK	OK



B.9.2. Is there any indication of a date when determining the baseline?	PDD Section B.8/Annex 3	/DR/	Yes the date of baseline completion is mentioned in section B.8 of webhosted PDD.	OK	OK
B.9.3. Is this consistent with the time line of the PDD history?	PDD Section B.8	/DR/	The date of baseline completion is consistent with version history of PDD.	OK	OK
B.9.4. Is all data required provided in a complete manner by annex 3 of the PDD?	PDD Annex 3	/DR/	Yes the data required provided in a complete manner by annex 3 of the PDD.	OK	OK
B.9.5. What is the documented crediting period of the project? Is this inline with available data?		/DR/	PP has opted for the 10 years fixed crediting period against the life time of 30 years of project activity.	OK	OK
B.9.6. In cases where the methodology specifies, has the ' <i>Tool to determine the remaining lifetime of equipment</i> ' been correctly applied?	EB 50 Annex 15		Not applicable since the project activity is a Greenfield hydro power development.	NA	NA
B.9.7. In cases where the ' <i>Tool to determine the remaining lifetime of equipment</i> ' has been used the project participants may use one of the following options to determine the remaining lifetime of the equipment: i. Use manufacturer's information on the technical lifetime of equipment and compare to the date of first commissioning; ii. Obtain an expert evaluation; iii. Use default values.	EB 50 Annex 15		Not applicable	NA	NA
C. Duration of the Project / Crediting Period					

C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	VVM Para. 99 PDD Section C.1.1/C.1.2	/DR/	<p>According to the CDM glossary of terms, the starting date of a project activity is the earliest date of either the implementation or construction or real action of a project activity begins.</p> <p>The project starting date is correctly defined as the date of placement of purchase order for the wind energy generators to the equipment supplier, i.e. 01/08/2011. The validation team has confirmed the same from the purchase order.</p> <p>PP has provided the operational life time of the project activity as 40 years. The same has been verified from the manufactures certificate.</p>	OK	OK
C.1.2. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	VVM Para. 102a PDD Section C.2/C.2.1/C.2.2	/DR/	The fixed crediting period of 10 years has been selected for the project activity and it is reasonable. The PP has carried out the investment analysis for the entire life time of the project activity i.e. 20 years.	OK	OK
C.1.3. Does the project's operational lifetime exceed the crediting period	VVM Para. 102a PDD Section C.1.2/C.2.1.1/C.2.1.2	/DR/	Project's operational life time has been considered as 20 years in contrast to the 10 years fixed crediting period. Therefore the operational life time of the project activity doesn't exceed the crediting period.	OK	OK
C.1.4. Does the start date indicate whether this is a new project activity or a pre-existing project activity?	VVM Para. 102a/ 98 PDD Section C.1.1/C.2.1.1	/DR/	The project starting date is correctly defined as the date of placement of purchase order for the wind energy generators to the equipment supplier, i.e. 01/08/2011; which indicates that the project activity is a new project activity. The validation team has confirmed the same from the purchase order.	OK	OK
D. Environmental Impacts					

D.1.1. Has an analysis of the environmental impacts of the project activity been sufficiently described?	VVM Para. 131-133 PDD section D	/DR/	The proposed project activity involves the establishment of a wind energy based power plant and hence there are no adverse environmental impacts. Also, as per the latest applicable EIA notification, an EIA need not to be carried out for the proposed project activity.	OK	OK
D.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	VVM Para. 131-133 PDD section D	/DR/	As per the latest applicable EIA notification by Ministry of Environment and Forests (MoEF), Govt. of India, wind projects are not included in the list of projects that have to get prior Environmental Clearances either from the state or Central government authorities. Hence no EIA study required to be carried out.	OK	OK
D.1.3. Will the project create any adverse environmental effects?	VVM Para. 131-133 PDD section D	/DR/	The project activity involves the establishment of a wind energy based power plant and hence there are no adverse environmental effects.	OK	OK
D.1.4. Are trans-boundary environmental impacts considered in the analysis?	VVM Para. 131-133 PDD section D	/DR/	Not applicable since an EIA is not required to be carried out for the project activity.	OK	OK
D.1.5. Have identified environmental impacts been addressed in the project design?	VVM Para. 131-133 PDD section D	/DR/	Not applicable since an EIA is not required to be carried out for the project activity.	OK	OK
E. Stakeholder Comments					
E.1.1. Have local stakeholders been invited by the PPs to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC web	VVM Para. 128-129 PDD Section E.1	/DR/	The local stakeholder meeting was conducted on dated 17/02/2012 at project site; the same was confirmed during the site visit by interviewing the local stockholders and project proponent, which is prior to web hosting of the PDD (2012-04-27 to 2012-05-26).	OK	OK
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	VVM Para. 128-129 PDD Section E.1	/DR/ /I/	Yes, appropriate media had been used to invite comments by the local stakeholders. The PP has advertised the venue and date of the stakeholder consultation in the local news paper.	CL05	OK

			PP has provided the evidence for the same, however the evidence does not reflect the newspaper's name and date of publication of the advertisement. CL 05 is raised in this context.		
E.1.3. Is the undertaken stakeholder process described in a complete and transparent manner?	VVM Para. 128-129 PDD Section E.1	/DR/ /I/	The PDD describes the stakeholder process and proceedings in a clear and transparent manner. During the stakeholder consultation process the stakeholders had raised the comments relevant to the proposed CDM activity. A summary of the comments received has been included in section E.2 of the PDD. All the comments raised by the stakeholders were responded and resolved successfully. No negative comment has been assessed to the received.	OK	OK
E.1.4. Is a summary of the stakeholder comments received provided?	VVM Para. 128-129 PDD Section E.2	/DR/ /I/	During the stakeholder consultation process the stakeholders had raised the comments relevant to the proposed CDM activity. A summary of the comments received has been included in section E.2 of the PDD.	OK	OK
E.1.5. Has due account been taken of any stakeholder comments received?	VVM Para. 128-129 PDD Section E.3	/DR/ /I/	The PP has taken due account for the stakeholders comments received. The details have been summarized in the section E.2 of the PDD.	OK	OK
E.1.6. How the team validated the adequacy of stakeholder consultation?	VVM Para. 130	/DR/ /I/	The validation team has reviewed the minutes of meeting, invitation notice and relevant documents to confirm the description made in PDD. Further, the validation team has interviewed the personnel involved in the project activity, local villagers etc. during the site visit.	OK	OK



Annex 2: Detailed Findings

Nature of findings:

	CARs	CLs	FARs
Total Number raised	04	02	00

Date	Type & Number	Raised by	Reference
07/06/2012	CAR 01	Assessment Team	Validation Protocol
Non conformities raised			
(a) The CEA web-page referred in the section A.2, A.4.3., B.4 cannot be found.			
(b) The description on the contribution of the project activity towards sustainable development exceeds more than one page, which is not in line with the ‘Guidelines For Completing The Project Design Document (CDM-PDD)’.			
(c) The WTG ID numbers are not included in the appendix of PDD.			
Project Participant’sresponse		Date: 11/06/2012	
a) The CEA web-page referred in the section A.2, A.4.3, B.4 has been corrected in the revised version of PDD.			
b) The description on the contribution of the project activity towards sustainable development has been made in line with the ‘Guidelines For Completing The Project Design Document (CDM-PDD)			
c) All WTGs included in the project has been commissioned yet, hence the WTG ID for all WTG has not been allotted, although the Geographical locations in terms of latitude & longitude for all WTGs have been mentioned in appendix of PDD.			
Documentation Provided as Evidence by Project Participant			
Revised PDD Version 02.			
Information Verified by Team Leader		Date of review: 02/07/2012	
Revised PDD Version 02.			
Reasoning for not acceptance or close out			
a) The CEA website has been correctly incorporated in the revised PDD, version 02.			
b) The revised PDD has been formatted w.r.t. the sought corrections. The same has been verified by the validation team and found to be in line with the ‘Guidelines For Completing The Project Design Document (CDM-PDD)			
c) Since the project activity is not fully commissioned therefore PP doesn’t have the commissioning certificates of WTGs which are not commissioned yet. The location numbers as allotted by “WTG supplier” against the geographical coordinates has been verified by the assessment team during site visit. For the commissioned WTGs the technology supplier has certified the location numbers as mentioned in the Annexure A of PDD with the WTG ID numbers mentioned in the commissioning certificates. A copy of the certificate of the location number Vs. WTG ID no has been submitted to assessment team.			
Date of acceptance or non-acceptance		Date:02/07/2012	Status: closed

Date	Type & Number	Raised by	Reference
07/06/2012	CL 02	Assessment Team	Validation Protocol
Non conformities raised			
The PDD describes that the project activity is 100% financed by means of Equity; however no evidence is submitted for the same.			
Project Participant's response		Date: 11/06/2012	



The Board Resolution has been submitted to the DOE which describes that the project activity is financed by means of Equity.		
Documentation Provided as Evidence by Project Participant		
Board Resolution.		
Information Verified by Team Leader	Date of review: : 02/07/2012	
Board Resolution		
Reasoning for not acceptance or close out		
The board resolution regarding the proof of 100% equity funding of the project activity has been submitted to validation team. The board resolution is further supported by the Chartered Accountant's certificate dated 26/07/2012.		
Date of acceptance or non-acceptance	Date: 30/07/2012	Status: closed

Date	Type & Number	Raised by	Reference
07/06/2012	CAR 03	Assessment Team	Validation Protocol

Non conformities raised

- The national policies and circumstances related to the baseline described in the sub-step 1a of the additionality tool are not transparently explained.
- The sensitivity analysis present in financial sheet is not linked with the IRR calculation sheet.
- Sensitivity analysis section does not state at what percent variation the chosen parameters will equal/breach the benchmark and the probability of their occurrence.
- Sensitivity analysis section does not explain how the parameters selected for sensitivity analysis and the variation to which they have been subjected to, conform to guidance 20 and 21 of Annex 5, EB 62.
- Common practice analysis is not in line with EB 65, Annex 21. Stepwise approach is not followed as required by the tool. (Refer paragraph 47 of EB 65, Annex 21).
- The expected COD of the project activity is 31/03/2012 but the electricity generation and cash flow for the IRR determination has been considered from 01/04/2012, the approach is not inline to the accepted accounting principles.

Project Participant's response

Date: 11/06/2012

- The national policies and circumstances related to the baseline described in the sub-step 1a of the additionality tool are transparently explained in the revised version of PDD.
- The sensitivity analysis present in financial sheet is linked with the IRR calculation sheet.
- Sensitivity analysis section has been amended & description has been added which state at what percent variation the chosen parameters will equal/breach the benchmark and the probability of their occurrence.
- Sensitivity analysis section has been amended & explanation has been added how the parameters selected for sensitivity analysis and the variation to which they have been subjected to, conform to guidance 20 and 21 of Annex 5, EB 62.
- Common practice analysis is in line with EB 65, Annex 21. Stepwise approach is followed as required by the tool in the revised version of PDD.
- The electricity generation and cash flow for the IRR determination has been considered from 31/03/2012 in the revised IRR calculation sheet.

Documentation Provided as Evidence by Project Participant

IRR Calculation Sheet.

Information Verified by Team Leader

Date of review: : 02/07/2012

Revised PDD version 02 and IRR sheet version 02.

Reasoning for not acceptance or close out

<p>a) The baseline scenario of the project activity sub-step 1a has been revised inline to the applied methodology ACM 0002, version 12.3.0.</p> <p>b) The sensitivity analysis has been linked with the source values in the revised IRR sheet.</p> <p>c) The sensitivity analysis section has been revised with conformity to guidance 20 and 21 of Annex 5, EB 62.</p> <p>d) Sensitivity analysis section has been revised to present the percent variation the chosen parameters will equal/breach the benchmark and the probability of their occurrence in the revised PDD.</p> <p>e) The consideration of all power plants while demonstrating common practice analysis is not appropriate in particular with regards to para 7 (definition of output requires it to be comparable quality and properties), para 44 (definition of similar projects), para 45 and 46 (requires discussion on the technologies that are similar to project but can be considered distinct for explained reasons mentioned therein) of the applied additionality tool. CAR is open.</p>		
<p>The following new findings are raised:</p> <p>f) The PPA submitted for the 20.8 MW reveals that the PP has signed the long term PPA with GUVNL based on the APPC tariff (Average Pooled Power Purchase Cost) eligible for REC mechanism @ Rs. 2.64/kWh, contradictory to the preferential tariff of Rs. 03.56/kWh considered for IRR determination.</p> <p>g) The working capital calculations are not appropriate. At the end of operational lifetime, the working capital shall be returned back to the cash flows.</p> <p>h) Inflow Outflow calculations for 1st and 2nd year are not appropriate.</p> <p>i) The source used for the inflation rate for the computation of benchmark is not conformity with the guidance 06 of EB 62, Annex 05.</p> <p>j) The start date of the crediting period of the project activity is not realistic.</p>		
Date of acceptance or non- acceptance	Date: 10/07/2012	Status: Open
Project Participant's response	Date: 16/07/2012	
<p>e) The Excel sheet has been provided to DOE for the data taken for demonstration of tool (the name of power plant selected etc.).</p> <p>f) The projects developed under APPC tariff (Average Pooled Power Purchase Cost) structure are eligible for RECs (Renewable Energy Certificates). The project activity under consideration has been proposed under APPC tariff structure. As per paragraph 6 of Annex 3, EB 22, national and/or sectoral policies or regulations that give comparative advantages to less emissions intensive technologies over more emissions-intensive technologies can be termed as E - policies. The national policy on REC provides comparative advantage to less carbon intensive technologies and it came in existence after 11 November 2001. Therefore, REC is an E - policy. As per paragraph 3 of Annex 32, EB 53, the assessment has to be conducted to gauge the impact of national and sectoral policies for suitability of tariff and to judge whether the policy/policies are E+ policies or E- policies. Considering the fact that REC is an E - policy, PP has not considered the REC impact during the investment analysis and has used tariff of 3.56 INR/kWh approved by GERC (Gujarat Electricity Regulatory Commission) as per the tariff order no. 1 2010 which would have otherwise been used for demonstrating additionality in the absence of the E- policy.</p> <p>g) The working capital calculations have been corrected in the revised IRR calculation sheet. At the end of operational lifetime, the working capital has been returned back to the cash flows.</p> <p>h) Inflow Outflow calculations for 1st and 2nd year has been corrected in the revised IRR calculation sheet.</p> <p>i) The source used for the inflation rate for the computation of benchmark has been corrected in the revised IRR calculation sheet.</p> <p>j) The start date of the crediting period of the project activity is has been corrected in the revised PDD.</p>		



Documentation Provided as Evidence by Project Participant		
Revised PDD and IRR sheet		
Information Verified by Team Leader	Date of review: 28/07/2012	
Revised PDD & IRR spreadsheet.		
Reasoning for not acceptance or close out		
<div>e) The excel sheet for the demonstration of common practice has been submitted to assessment team, the list of wind power project mentioned in the list were validated from the “Wind Power Directory” and found to be correct. The approach to demonstrate the common practice analysis was found to be in line to the “Additionality tool” version 06 and the assessment team confirms that the project is not a common practice in the region.</div> <div>f) The explanation provided by PP for the selection of preferential tariff is accepted.</div> <div>g) The working capital has been added back to cash flow.</div> <div>h) The cash flow for the first and second year has been revised by PP, the same is crosschecked and found to be correct.</div> <div>i) The source of inflation rate has been revised in line to the guidance 06 of EB 62, Annex 05. The same was validated by the assessment team and found it correct.</div> <div>j) The start date of crediting period has been revised by PP.</div>		
Date of acceptance or non-acceptance	Date: 28/07/2012	Status: Closed

Date	Type & Number	Raised by	Reference
07/06/2012	CAR 04	Assessment Team	Validation Protocol

Non conformities raised

- a) The 3rd paragraph mentioned in the step -3 of the section B.6.1 (page no.26) is not clear.
- b) The Emission reduction calculation sheet is not submitted.
- c) The type and accuracy class of the meter(s) is not mentioned in the section B.7.1 of published PDD.
- d) Weighted average of last three years of operation margin emission factor has not been considered for CM calculation. (Refer “Tool to calculate emission factor”).

Project Participant's response **Date:** 02/07/2012

- a) The 3rd paragraph mentioned in the step -3 of the section B.6.1 (page no.26) has been made clear in the revised version of PDD.
- b) The Emission reduction calculation sheet has been submitted to DOE along with revised version of PDD.
- c) The type and accuracy class of the meter has been mentioned in the revised version of PDD.
- d) Weighted average of last three years of operation margin emission factor has been considered for CM calculation in the revised version of PDD.

Documentation Provided as Evidence by Project Participant

Revised PDD.

Information Verified by Team Leader **Date of review:** 10/07/2012

Revised PDD, version 02.

Reasoning for not acceptance or close out

- a) The PDD has been revised for the sought correction.
- b) The ER sheet has been submitted to the Validation Team.
- c) The accuracy of meters has been incorporated in the revised PDD.
- d) Weighted average of last three years of operation margin emission factor has been considered for CM calculation in the revised PDD; the same was validated from the CEA website and found to be correct.

Date of acceptance or non-acceptance **Date:** 10/07/2012 **Status:** Closed

Date	Type & Number	Raised by	Reference
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07/06/2012	CL 05	Assessment Team	Validation Protocol
Non conformities raised			
The PP has advertised the venue and date of the stakeholder consultation in the local news paper and the PP has submitted the evidence for the same, however the evidence does not reflects the newspaper's name and date of publication of the advertisement.			
Project Participant'sresponse		Date02/07/2012	
The newspaper in which the advertisement was published for stakeholder meeting has been submitted to the DOE along with revised version of PDD.			
Documentation Provided as Evidence by Project Participant			
Newspaper Advertisement			
Information Verified by Team Leader		Date of review: 10/07/2012	
Local News Paper for the proof of advertisement of “Local Stakeholder Consultation Process”.			
Reasoning for not acceptance or close out			
The news paper has been reviewed by the “Validation Team” during the site visit and the soft copy of the same has been submitted to “Validation Team”.			
Date of acceptance or non-acceptance		Date: 10/07/2012	Status: closed

Date	Type & Number	Raised by	Reference
03/07/2012	CAR 06	Assessment Team	GSC
Non conformities raised			
The PP has to address the following comments raised during the global stakeholders' consultation;			
<div>1. Why this location has been chosen for wind based plant?</div> <div>2. What would be impact of negative environmental conditions of area upon project?</div> <div>3. How many skilled/unskilled people from surrounding area will be employed at this project during commissioning and operation?</div> <div>4. List of stakeholders and minutes of stakeholder meeting is not attached with PDD</div> <div>5. Please elaborate community welfare activities which would be carried out from 2% CDM revenue fund.</div>			
Project Participant's response		Date:03/07/2012	
<div>1. This location has been chosen based on the manufacturer's assessment of potential wind sites in the region.</div> <div>2. As such, negative environmental conditions won't have any impact on the project activity. However, there might be marginal variation in power generated by the project due to variation in wind availability, which is a normal phenomenon.</div> <div>3. 10-15 Local semi skilled and skilled villagers would be employed during the project implementation stage as well as post project implementation in accordance with their relevant skill levels.</div> <div>4. The list of stakeholders & minutes of stakeholder meeting has been separately submitted to DOE.</div> <div>5. Following specific activities would be initiated for community welfare in the region which would be carried out from 2% CDM revenue fund:</div> <div><div>• Regular free Health Check up Camps for the villagers residing in the nearby villages;</div><div>• Educating the villagers on issues such as child vaccination, family planning through a sustained community development and sensitization programme.</div><div>• Support would be provided to local Panchayats in building better primary education infrastructure in the villages surrounding the project;</div></div>			
Documentation Provided as Evidence by Project Participant			



NA		
Information Verified by Team Leader	Date of review: 10/07/2012	
The responses regarding the GSC comments.		
Reasoning for not acceptance or close out		
The project proponent has responded the global stakeholder's comment; moreover the local stakeholders were interviewed by the assessment team during the site visit to raise the concern the global stakeholder's. Based on the interview with the local stakeholder's during the site visit, the assessment team confirms that the information provided by PP is correct.		
Date of acceptance or non- acceptance	Date: 10/07/2012	Status: Closed



Annex 3: Certificate of Competence

Personnel Name:		Abhishek Mahawar	
Qualified to work as:			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input checked="" type="checkbox"/>
Technical Reviewer	<input checked="" type="checkbox"/>	Local Expert	<input checked="" type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope		Technical Area	
Energy industries (renewable/non-renewable sources)		TA 1.2: Energy generation from renewable energy sources	
Approved by (Manager C& T)		Mayank Kumar Jain	
Approval date:		06/04/2012	

Personnel Name:		Sanjay Kandari	
Qualified to work as:			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input type="checkbox"/>
Technical Reviewer	<input type="checkbox"/>	Local Expert (India)	<input checked="" type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope		Technical Area	
Energy industries (renewable/non-renewable sources)		TA 1.2: Energy generation from renewable energy sources	
Approved by (Manager C& T)		Mayank Kumar Jain	
Approval date:		09/02/2012	



Personnel Name:		Kaviraj Singh	
Qualified to work as:			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input type="checkbox"/>
Technical Reviewer	<input checked="" type="checkbox"/>	Local Expert (India)	<input checked="" type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy Industries (renewable/non-renewable)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar TA 1.2: Energy generation from renewable energy sources		
Waste handling and disposal	TA 13.1: Waste handling and disposal		
Approved by (Manager C & T)	Mayank Kumar Jain		
Approval date:	12 /12/2011		

History of the document

Version	Date	Nature of revision	Reviewed by	Approved by
2.0	31/12/2011	Comprehensively revised	Manager CDM Quality 31/12/2011	Managing Director 31/12/2011