

VALIDATION REPORT

Vish Wind Infrastructure LLP (VWIL)

**Renewable Energy Wind Power
Project in Karnataka**

SGS Climate Change Programme

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Summary:				
<p>Vish Wind Infrastructure LLP (VWIL) has commissioned SGS to perform the validation of the project: Renewable Energy Wind Power Project in Karnataka.</p> <p>Methodology Used: AMS I.D (Sectoral Scope: 1: Energy industries - renewable/non-renewable sources)</p> <p>Version and Date: Version 16 dated 11th June 2010</p> <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 CDM Validation and Verification Manual (Version 01.2), Kyoto Protocol requirements, CDM Executive Board/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 document reviews, follow up actions (e.g. site visit, telephone or e-mail interviews) and also the review of the applicable simplified methodology and underlying formulae and calculations.</p> <p>The report and the annexed validation describes a total of 6 findings which include:</p> <ul style="list-style-type: none"> • 4 Corrective Action Requests (CARs); • 2 Clarification Requests (CLs); • 0 Forward Action Requests (FARs); and <p>All findings have been closed satisfactorily and the project will be recommended to the CDM Executive Board with a request for registration.</p>				
Subject:		Document Distribution		
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Abbreviations

BESCOM	Bangalore Electricity Supply Company Limited
BM	Build Margin
BSE	Bombay Stock Exchange
CAPM	Capital Asset Pricing Model
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEA	Central Electricity Authority
CER	Certified Emission Reduction
CERC	Central Electricity Regulatory Commission
CL	Clarification Request
CM	Combined Margin
COP/MOP	Conference of Parties serving as the Meeting of Parties
CP	Conference of Parties
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA	Environmental Impact Assessment
EIL	Enercon India Limited
FAR	Forward Action Request
HCA	Host Country Approval
HESCOM	Hubli Electricity Supply Company Limited
KERC	Karnataka Electricity Regulatory Commission
INR	Indian Rupee
IRR	Internal Rate of Return
ISHC	International Stakeholder Consultation
JMR	Joint Meter Reading
LoA	Letter of Approval
MoC	Modalities of Communication
MoEF	Ministry of Environment and Forests
MP	Monitoring Plan
NGO	Non Governmental Organization
O&M	Operations & Maintenance
OM	Operating Margin
PDD	Project Design Document
PIN	Project Idea Note
PLF	Plant Load Factor
PP	Project Participant
PPA	Power Purchase Agreement
QA/QC	Quality Assurance/Quality Control
SEA	State Energy Account
SLDC	State Load Despatch Center
SSC	Small Scale
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual
VWIL	Vish Wind Infrastructure LLP
WEC	Wind Energy Converters

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1. Validation Opinion

SGS United Kingdom Ltd has been contracted by Vish Wind Infrastructure LLP (VWIL) to perform a validation of the project: "Renewable Energy Wind Power Project in Karnataka" in India.

The Validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism (CDM), Validation and Verification Manual (Version 1.2) and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

By installing 8 Wind Energy Converters (WECs) in the state of Karnataka with total installed capacity of 6.4 MW and supplying the electricity to the Southern grid, the 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 AMS I.D. Version 16. It is demonstrated that the project is not a likely baseline scenario. 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 122,840 t of CO₂e over a 10 year crediting period, averaging 12,284 t of CO₂e 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 SGS for registration with the UNFCCC.

Signed on Behalf of the Validation Body by Authorized Signatory



Signature:

Name: Siddharth Yadav

Date: 4th July 2011

2. Introduction

2.1 Objective

Vish Wind Infrastructure LLP (VWIL) has commissioned SGS to perform the validation of the project: "Renewable Energy Wind Power Project in Karnataka" with regard to the relevant requirements for Clean Development Mechanism (CDM) project activities. The purpose of a validation is to have an independent third party assess the project design. 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. 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. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

The validation is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

2.3 GHG Project Description

The proposed CDM project activity is a wind power project which involves the installation of 8 WECs of 0.8 MW each with an installed capacity of 6.4 MW in Gadag district of the state of Karnataka. The details of the project activity are as follows:

Project Participant	No. of WECs	Total Capacity (MW)	Commissioning date
Vish Wind Infrastructure LLP	8	6.4	30/09/2010 ^{17/}

The electricity generated by the project activity will be supplied to the Southern grid. Thus, the project aims at reducing GHG emissions by replacing the same amount of electricity from the Southern grid which would otherwise be generated by a fossil fuel based power plant connected to the grid.

2.4 The Names and Roles of the Validation Team Members

Assessment Team	
Name	Role
Ravi Kant Soni	Lead Assessor; Local Assessor and Expert (Scope TA1.2 - Wind)
Sudeep Kodialbail	Assessor
Anshul Sharma	Expert (Finance)

Technical Review	
Name	Role
Ashok Kumar Gautam	Technical Reviewer
Ramkrishna Patil	Sectoral Expert (Scope TA1.2 - Wind)

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 23/12/2010 and the subsequent versions: version 02 (dated 28/02/2011), 03 (dated 31/03/2011) and version 04 (dated 26/05/2011) (final version). The assessment is performed by trained assessors using a validation protocol attached as Annex 2 Table 2

The site visit was performed on 31st January and 1st February 2011 by the Lead Assessor/ Local Assessor/ Sectoral Expert. The results are summarised as Annex 1 in the validation report. The validation team has checked the statements mentioned in the PDD through review of documents and contacts with stakeholders.

3.2 Use of the Validation Protocol

The validation protocol used for the assessment is designed in accordance with the Validation and Verification Manual, Version 01.2 dated 30 July 2010. 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	Conclusion/ CARs/CLs
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 the bottom of the checklist.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	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 identified a need for further clarification.

The completed validation protocol for this project is attached as Annex 2 to this report

3.3 Findings

As an outcome of the validation process, the 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 Assessor shall raise a **Corrective Action Request (CAR)**. A CAR is issued, where:

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

The validation process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a CL may result in a CAR. Information or clarifications provided as a result of an CL may also lead to a CAR.

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 A.3). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to CLs and FARs.

3.4 Internal Quality Control

Following the completion of the assessment process and a recommendation by the Assessment team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team. Findings can be raised at this stage and client must address them within agreed timeline.

4. Validation Findings

4.1 Approval

The PP has submitted to the DOE, the letter of approval^{/5/} issued by the Indian DNA, 'The Ministry of Environment & Forests' bearing No 4/8/2010-CCC dated 26/05/2011. The name of the project activity and Project Proponent in the HCA was verified against that in section A.1 and section A.3 of the PDD and was found to be consistent. Authenticity of HCA is verified through contacting Mr. Rajiv Kumar who is Member Secretary of the National CDM Authority, Ministry of Environment and Forests, Government of India^{/45/}. The validation team confirms that the letter of approval has been issued by Indian DNA is authentic and valid for the proposed CDM project activity under validation (VVM version 1.2 paragraph 47). The letter of approval confirms that:

- (a) The Government of India has ratified the Kyoto Protocol in August 2002 and hence is a Party to the Kyoto Protocol
- (b) The HCA is an approval of voluntary participation in the proposed CDM project activity
- (c) The project contributes to Sustainable Development in India
- (d) The HCA refers to the precise proposed CDM project activity – "Renewable Energy Wind Power Project in Karnataka" – mentioned in the PDD being submitted for registration

The LoA is unconditional with respect to (a) to (d) mentioned above.

Discussion of CARs/CLs

CAR #1 was raised requesting the PP to submit the HCA. In response, the PP provided the HCA dated bearing Letter No 4/8/2010-CCC dated 26/05/2011. It was verified against the PDD as mentioned above and accepted. Hence, CAR #1 was closed.

Opinion

The validation team confirms that the HCA submitted by the PP is in compliance with the requirements of paragraphs 44-50 of the VVM version 01.2 (EB 55 Annex 1).

4.2 Participation Requirements

The host country for this project is India and has ratified the Kyoto Protocol on 26th August 2002. This was checked from the UNFCCC website <http://maindb.unfccc.int/public/country.pl?country=IN>. The PP listed in tabular form in section A.3 of the PDD is Renewable Energy Wind Power Project in Karnataka. The HCA^{/5/} from Indian DNA approves the participation of the PP mentioned above. Therefore, a Party to the Kyoto Protocol approves the PP. In addition, the name of the PP mentioned in the table in section A.3 of the PDD is consistent with the contact details provided in Annex 1 of the PDD. The validation team also confirms that no entities other than those approved as project participants are included in section A.3 of the PDD.

No Annex I Party has been identified in the PDD and therefore no further Letter of Approval was available. It is observed that the CDM EB has agreed that the registration of a CDM project activity can take place without an Annex I Party being involved at the stage of registration although it should be noted that before CER can be transferred to an Annex 1 Party, a Letter of Approval from Annex 1 Party will need to be submitted.

In accordance with paragraph 40 (b) of the CDM Modalities and Procedures, the PDD of the proposed CDM project activity was made publicly available for the stakeholder consultation process on the UNFCCC site at <http://cdm.unfccc.int/Projects/Validation/DB/KI8Y8DNIDZVIRS9CXH1SWAYX7SZTVX/view.html>. The PDD was webhosted from 31/12/2010 to 29/01/2010 and comments were invited on the validation requirements. The comments received have been discussed in section 5 of this report.

The PDD has been correctly applied and completed in accordance with the CDM-SSC-PDD form version 03, which is the latest available version. The tables, headings, logo, format and fonts are in accordance with that used in the template. Thus, the PDD is in accordance with the applicable CDM requirements for completing PDDs.

The PP has submitted the MoC^{/6/} letter, which was verified against the project title and information mentioned in Annex 1 and found to be consistent and hence accepted.

Opinion

As per paragraphs 51 to 54 of the VVM version 01.2 (EB 55 Annex 1), the validation team is of the opinion that, the proposed CDM project activity meets all the relevant participation requirements.

4.3 Project Design Document including Project Description

The Project Participant has used the Small Scale Project Design Document Form (CDM-SSC-PDD) Version 3 (http://cdm.unfccc.int/Reference/PDDs_Forms/PDDs/index.html) and has followed the Guidelines for completing the CDM-SSC-PDD Version 5 (<http://cdm.unfccc.int/Reference/Guidclarif/pdd/index.html>). These are the latest available versions and have been confirmed from the UNFCCC website.

The title of the proposed CDM project activity 'Renewable Energy Wind Power Project in Karnataka', mentioned in section A.1 of the PDD, was checked on the UNFCCC website and was found to be unique. The correctness of the project title has been further verified by checking against the project title mentioned in the HCA.

The proposed CDM project activity is a wind power project, which involves the installation of 8 WECs of 0.8 MW each with an installed capacity of 6.4 MW in Gadag district of the state of Karnataka. The details of the project activity are as follows:

Project Participant	No. of WECs	Total Capacity (MW)
Vish Wind Infrastructure LLP	8	6.4

Details about the WEC ID nos.; specific geographical location and commissioning date (30/09/2010) are as follows:

WEC Sr. No.	Latitude	Longitude
1	15° 22' 22.2" N	75° 38' 21.2" E
2	15° 21' 50.8" N	75° 37' 52.1" E
3	15° 21' 59.8" N	75° 37' 52.4" E
4	15° 21' 43.6" N	75° 38' 31.0" E
5	15° 21' 50.3" N	75° 38' 27.3" E
6	15° 21' 42.6" N	75° 37' 54.4" E
7	15° 21' 59.2" N	75° 38' 31.3" E
8	15° 21' 32.9" N	75° 37' 57.8" E

The WEC location nos., capacity & commissioning dates have been verified through the commissioning certificate^{/17/} provided by the PP. The PPA^{/24/} has been checked to confirm grid connectivity and ownership. The land lease deed^{/22/ /23/} and Government order^{/31/} approving the transfer of 6.4 MW in favor of the PP has been checked to confirm that the PP possesses ownership and has received clearance to implement the project activity at the selected site. The technical details of the project activity were verified from the purchase order^{/15/}, commissioning certificate, and physical inspection during the site visit. The PP has provided the geographical coordinates of the WECs which allows for clear identification of the project activity. The proposed CDM project activity does not involve any alteration of existing installations and processes. The WECs installed as a part of the project activity are new. This has been confirmed from the purchase orders and was cross verified during the site visit.

The project falls under type (i): Renewable Energy Projects, as the project activity involves generation of electricity using wind energy which is a renewable source, and Category D, Grid connected Renewable

Electricity Generation as the generated electricity by the project will be exported to the southern grid. Hence, according to simplified modalities and procedures for small-scale CDM project activities the type and category of the project activity has been correctly identified in the PDD.

The proposed CDM project activity is expected to reduce emissions by supplying zero emission electricity to the southern grid, which is dominated by fossil fuel, based power plants. Therefore, the net electricity generated by the project will displace the same amount of electricity that otherwise would have been generated by fossil fuel based power plants connected to Southern grid. The proposed CDM project activity is estimated to achieve an annual emission reduction of 12,284 tCO₂e over the 10 year crediting period. This is reflected in the table in section A.4.3 of the PDD. The table reflects the estimated amount of emission reductions over the entire crediting period.

The PP has given a written declaration^{/27/} to confirm that the project will remain within the limits of a small scale project activity every year, for the entire crediting period and there is no usage of public funding in the project activity. The IRR calculation also does not show involvement of any public funding in the project.

The description of the project mentioned in the PDD was found to be accurate and complete. It is consistent and in compliance with the actual situation. All details have been consistently mentioned throughout the PDD.

Discussion of CARs/CLs

CL #4 was raised requesting the PP to submit applicable ownership documents / licenses / clearances which allow the implementation of the project activity at the project site. In response the PP has submitted the government clearance; land sale deed; power purchase agreement and commissioning certificates which confirms the ownership of the project and also confirms the clearance which allow the implementation of the project activity at the project site. Thus, CL #4 was closed out. Detailed discussions have been provided in annex 3 under CL #4.

CAR #5 was raised requesting the PP to mention in the PDD the correct references to the latest EB guidance's and the version numbers of the tools used. In response the PP has revised the PDD providing reference to the latest available EB guidelines and tools used; and have mentioned the correct references for the this in the revised PDD. This has been checked and accepted. Thus, CAR #5 was closed out. Detailed discussions have been provided in annex 3 under CAR #5.

Opinion

The PDD satisfies the requirements of paragraphs 55-64 of VVM version 01.2^{/7/} (EB 55 Annex 1). The PDD used as a basis for validation has been prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website. The PDD contains a clear description of the project activity that provides a clear understanding of the precise nature of the project activity. This description was found to be accurate and complete. It is consistent and in compliance with the actual situation. All details have been consistently mentioned throughout the PDD.

4.4 Eligibility as a Small Scale Project

The proposed CDM project activity is a renewable energy project with an installed capacity of 6.4 MW that supplies the generated power to the grid. This has been verified by physical verification of the WEC during the site visit; crosschecked from the technical specification mentioned in the purchase order^{/15/}; commissioning certificates^{/17/} and the PPA^{/24/} signed with the state utility.

Thus, the proposed CDM project activity qualifies within the threshold of 15 MW and meets the eligibility criteria for small-scale CDM project activities mentioned in paragraph 6 (c) of decision 17/CP.7 and the revised definitions of which is provided in paragraph 28 of decision 1/CMP.2. Also, the project activity conforms to type (I) (Renewable Energy Projects) and category D (Grid connected renewable electricity generation). The project activity falls under sectoral scope 1: Energy industries (renewable-/ non-renewable sources).

The PP has used AMS I.D Version 16, which is an approved small-scale methodology and has been verified from the following site <http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html>. The applicability criteria of the methodology are described in section 4.5 below.

Opinion

As per the requirements of paragraphs 134-136 of VVM version 01.2^{7/} (EB 55 Annex 1), the validation team is of the opinion that the proposed project activity is eligible as a small-scale CDM project activity.

4.5 Applicability of selected methodology to the project activity

The proposed CDM project activity uses the small scale methodology AMS I.D Version 16. The following steps have been undertaken for assessing the applicability conditions of the methodology mentioned in paragraphs 1 to 8 of the methodology:

1. Paragraph 1 – The project activity is a grid connected wind power project and therefore is a renewable energy project. The project activity supplies electricity to the Southern Grid. The use of WECs for power generation was confirmed during the site visit and through the purchase orders^{15/}. The grid connectivity of the project was verified through the PPA^{24/} signed with the respective state utilities. The methodology AMS I.F is for 'Renewable electricity generation for captive use and mini-grid' and hence is not applicable to the project activity.
2. Paragraph 2 – The purchase orders^{15/} and clearances^{31/} issued for the project activity indicates that the project activity is a Greenfield plant. It is not a capacity addition or retrofit or replacement as defined in the methodology. This was also verified during the site visit.
3. Paragraph 3 – This criteria is related to hydropower plants and hence not applicable to the project activity.
4. Paragraph 4 – This criteria is related to biomass power plants and hence not applicable to the project activity.
5. Paragraph 5 – The project activity only has a renewable component as confirmed in paragraph 1. The installed capacity of the project is 6.4 MW which is within the threshold of 15 MW for small-scale projects. This was verified from the commissioning certificates^{17/}.
6. Paragraph 6 – The project activity is a grid connected wind power project and thus does not involve combined heat and power generation systems. This was verified during the site visit.
7. Paragraph 7 – This criteria is not applicable since the project is a Greenfield plant as discussed under paragraph 2.
8. Paragraph 8 – This criteria is not applicable since the project is a Greenfield plant as discussed under paragraph 2.

Discussion of CARs/CLs

CL #4 was raised requesting the PP to mention all the applicability criteria as per the applicable methodology in section B.2 of the PDD. The PP has mentioned all the applicability criteria as per the applicable methodology in section B.2 of the revised PDD. This has been checked against the selected methodology and is accepted. Thus CL #4 was closed out.

Opinion

As per the requirements of paragraphs 68-77 of VVM version 01.2^{7/} (EB 55 Annex 1) and based on the above discussion, that validation team confirms that the proposed CDM project activity meets all the applicability conditions and all other stipulations of the selected methodology AMS I.D Version 16.

4.6 Project Boundary

The selected methodology AMS I.D Version 16 paragraph 9 states that "The physical, geographical site of the renewable generation source delineates the project boundary."

The PP has described the project boundary in section B.3 of the PDD and has included the WECs, metering yard, sub-station and the Southern grid, to which the proposed project activity evacuates power, inside the boundary. This was verified through physical inspection during the site visit and through the commissioning certificates^{17/} and PPA^{24/}. The Southern grid has been correctly identified for the calculation of electricity

emission factor, as the project displaces electrical energy from the grid, as per the CEA database version 05^{/11/} which was available at the time of webhosting the PDD for ISHC.

The diagrammatic description of the project boundary, mentioned in section B.3 of the PDD, correctly describes the boundary.

It has also been checked as per the requirements of paragraph 77 of the VVM version 01.2 that there will not be any greenhouse gas emissions occurring within the proposed CDM project activity boundary as a result of the implementation of the proposed CDM project activity which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology.

Opinion

The validation team is of the opinion that the project boundary has been correctly identified in the PDD inline with paragraph 79 of VVM version 01.2^{/7/} (EB 55 Annex 1).

4.7 Baseline Selection and Additionality

The PP has correctly identified the baseline of the proposed CDM project activity as paragraph 10 of the selected methodology AMS I.D Version 16:

“If the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the 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 baseline emissions have been calculated as per paragraph 11 of the methodology:

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

$$BE_y = EG_{BL,y} * EF_{CO2, grid, y}$$

Where:

BE_y Baseline Emissions in year y (t CO2)

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

$EF_{CO2, grid, y}$ CO2 emission factor of the grid in year y (t CO2/MWh)”

The emission factor has been calculated as per paragraph 12(a) of the methodology:

“The Emission Factor can be calculated in a transparent and conservative manner as follows:

(a) A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the ‘Tool to calculate the emission factor for an electricity system’.”

The PP has referred to version 02.1.0 of the tool to calculate emission factor for an electricity system, which is the latest available version.

The demonstration of additionality has been described in detail in sections 4.7.1 and 4.7.4 below.

4.7.1 Additionality

The proposed CDM project activity has demonstrated additionality by applying the Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities and by referring to paragraph 1(a) Investment barrier of EB 35 Annex 34 (Non-binding best practice examples to demonstrate additionality for SSC project activities). The PP has appropriately selected the benchmark analysis to demonstrate additionality. The validation of the input parameters used in the investment analysis and the benchmark analysis has been described in detail in section 4.7.4 below.

The approach used in the PDD was first assessed by verifying the following documents:

1. Proposals^{/13/} issued by the WEC suppliers
2. Purchase orders^{/15/} issued to the WEC suppliers

3. Board resolution extracts^{/14/}
4. CEA database version 5^{/11/}
5. Evidence for PLF as per EB 48 annex 11^{/16/}
6. KERC order dated 11/12/2009^{/21/}
7. Land Lease Deed^{/22/ /23/}
8. Clearance issued by State Government^{/31/}
9. Commissioning Certificates^{/17/}
10. Power purchase agreements^{/24/}

The data, rationales, assumptions and justifications mentioned in the PDD^{/1/}, investment analysis excel sheets^{/2/} and the benchmark excel sheets^{/3/} were crosschecked against the local knowledge, of the validation team, about regulatory and applicable legal requirements in the Host country India. The documents were also verified by a sectoral and financial expert.

The information in the above mentioned documents were also verified against the actual situation on the site and found to be accurate. The staff at the sub-station and the representative of the WEC providers was also interviewed to verify the accuracy in the documents.

Opinion

Based on the responses to the various approaches mentioned above and the requirements of paragraphs 94-97 of the VVM version 01.2^{/7/} (EB 55 Annex 1), the validation team confirms that the documents provided for the project activity are appropriate. Hence, the data, rationales, assumptions and justifications provided in the PDD and IRR excel sheet are reliable and credible.

4.7.2 Prior Consideration of the Clean Development Mechanism

The start date of the proposed CDM project activity has been mentioned in the PDD as 10/07/2010. The evidence for the same submitted by the PP is the purchase orders^{/15/} issued to EIL for the supply of 8 WECs. The purchase orders were checked for the date and were found to be consistent with that mentioned in the PDD. Also, the start date was found to be in line with the definition of start date mentioned in the Glossary of CDM terms version 5 and paragraph 67 of EB 41 meeting report.

The start date of the proposed CDM project activity is 10/07/2010, which is after the date of 02/08/2008 and hence it is a new project activity as per EB 49 annex 22. For new project activities, the PP must inform a Host Party DNA and the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status. Such notification must be made within six months of the project activity start date and shall contain the precise geographical location and a brief description of the proposed project activity, using the standardized form F-CDM-Prior Consideration.

VWIL has sent an email dated 16/10/2010^{/42/} informing the host party DNA about the commencement of the project activity and intention to seek CDM status. Thus, the PP has informed the host party DNA within 6 months of the project activity start date as per the requirements of paragraph 2 of EB 49 Annex 22.

The dates to be taken into account while validating prior consideration of CDM as per EB 49 Annex 22 with respect to intimating the UNFCCC secretariat are as follows:

- **10/07/2010^{/15/}** – Start date of the project activity
- **16/10/2010^{/40/}** –VWIL has sent an email to the UNFCCC secretariat using the standardized form F-CDM-Prior Consideration dated 16/10/2010^{/39/}.
- **26/10/2010^{/41/}** – UNFCCC has acknowledged the receipt of the form
- **16/10/2010** – “Date Received” as mentioned on the UNFCCC website

As per the above chronology, it can be observed that the PP has notified the UNFCCC on 16/10/2010 which is within 6 months of the project activity start date. This notification has been done using the standardized prior consideration form dated 16/10/2010.

This is as per the requirements of EB 49 annex 22 paragraph 3 which states that, “*Such notification must be made within six months of the project activity start date and shall contain the precise geographical location*”

and a brief description of the proposed project activity, using the standardized form F-CDM-Prior Consideration.”

Opinion

The validation team is of the opinion that the CDM was seriously considered in the decision to implement the project activity as per the requirements of EB 49 annex 22.

4.7.3 Identification of alternatives (if applicable)

Not applicable

4.7.4 Investment analysis (if applicable)

The PP has referred to the investment barrier mentioned in EB 35 Annex 34 to demonstrate additionality and carry out the investment analysis. The same has been described in the PDD. The investment analysis has been validated against the requirements of the “Guidance on assessment of Investment Analysis” (EB 51 Annex 58). The PP has selected equity IRR as the financial indicator and Return on equity as the benchmark. In the investment analysis excel sheets, the equity IRR has been appropriately calculated using the XIRR function since it takes into consideration the time of cash inflow and outflow. The function has been correctly applied in the excel sheet.

The following parameters have been used to calculate the Equity IRR:

1. Project Capacity
2. Project Cost and Means of finance
3. Transmission Loss
4. Plant Load Factor (PLF)
5. O&M cost; Escalation and Service tax on O&M expenses
6. Tariff rate
7. Insurance
8. Income tax
9. Depreciation
10. Working Capital
11. Salvage Value

The assessment team has validated the key input parameters from the proposals submitted by the WEC supplier and confirm that the proposal was available with the PP at the time of investment decision. This is in line with paragraph 6 of EB 51 Annex 58.

Some parameters have been checked against the KERC Order dated 11/12/2009. The validation team confirms that this order was the latest authentic and publically official document available at the time of the investment decision and hence appropriately applicable to the project activity.

To verify the accuracy of the financial calculations, the investment analysis presented in IRR and the benchmark spreadsheet has been assessed under the applicable and relevant criteria of latest version of the Guidance on the Assessment of Investment published (EB 51 Annex 58 - Ref: paragraph 110 VVM version 1.2⁽⁷⁾)

Further, in order to determine the likelihood of the occurrence of a scenario other than the scenario presented for proposed project activity, a cross-check on the suitability of the assumptions used in the development of the investment analysis has been carried out. The results of assessment are elaborated under the sensitivity analysis section in this report. The variables, that constitute more than 20% of either total project cost or total project revenue has been subjected to variation of +/- 10% and the results of this variation is presented in the PDD and can be reproduced in the associated IRR spreadsheet. The validation team confirms that this variation (+/-10%) is reasonable and appropriate in the context of the proposed project activity circumstances. Furthermore the same has been confirmed through the purchase orders placed by the PP reflecting the actual values of key input parameters like project cost, O&M and PLF.

Project Capacity: 6.4 MW

The project capacity has been verified from the proposal^{/13/} issued by EIL to the PP for 8 WECs of capacity 0.8 MW each and has been cross-checked against the PPA^{/24/} & the purchase orders for this project activity.

Project Cost and Means of finance: 379.76 Million INR which is 100% equity financed

The total project cost has been considered from the proposals^{/13/} issued by EIL. This cost includes the cost of the WEC; Civil works, foundation and electrical lines; erection, installation and commissioning charges; and processing charges of the state electricity board.

The project cost per MW, of the project activity, has been cross checked against projects in the same region i.e. the state of Karnataka. The following registered projects were referred: 1949; 2265; 3575; 3700 & 3870. The project cost per MW was found to vary from 57.16 to 71.38 million INR. This variation in project cost are due to reasons such as different suppliers; varying capacity of the projects; specific location of the project activity; negotiation capability of the client; etc. The corresponding cost per MW for the project activity in the same region is 59.34 million INR. Hence, the project cost considered for the proposed project activity is acceptable and appropriate. The value of project cost was also checked by the sectoral scope expert and confirmed to be appropriate.

The proposed CDM project activity is 100% equity financed project. The extracts of the board resolutions of both PPs clearly states that the project will be funded by equity alone. The CA certificates^{/25/} also confirms that the PP has not availed any term loan or credit facilities from any banks or financial institutions. This confirms that the project is 100% equity funded.

Transmission Loss: 3%

The value of transmission loss has been verified from the proposal^{/13/} issued by EIL to the PP. This transmission loss has been used to calculate the effective PLF considered for the investment analysis.

Plant Load Factor (PLF): 23.18%

The base case PLF considered in the proposal issued by the WEC supplier is 23.90%. Incorporating the 3% transmission loss the effective PLF considered for the investment analysis is 23.18%, which is reflected in the proposal. This value is appropriate and acceptable since it was available at the time of investment decision, which is as per the requirements of paragraph 6 of EB 51 Annex 58. Further, as per the guidelines in paragraph 3(b) of EB 48 Annex 11, the PP has contracted a third party to determine the PLF at the WEC site. The effective PLF obtained from the third party (M/s Ravi Enteck Limited, Chennai) report is 23.04% which is lower than the PLF considered for the investment analysis. The PLF value was also cross checked against the KERC order dated 11/12/2009, which mentions a value of 26.50%. The difference in the values has been covered under the sensitivity analysis. Thus, the value used for the investment analysis is appropriate.

The validation team has further crosschecked this value against the calculated value of actual PLF achieved in the state during 2006 to 2008. The actual value of PLF has been calculated based in publicly available data published by the Indian Wind Energy Association.

Indian Wind Energy Association – Karnataka State

Installed Capacity – <http://www.inwea.org/installedcapacity.htm>

Generation Details – <http://www.inwea.org/aboutwindenergy.htm>

It is verified that actual maximum PLF achieved was 20.77%. In view of this observation it can be confirmed that PLF considered by the PP is appropriate and conservative.

O&M cost: 1.30% of project cost

Escalation: 6%

Service tax on O&M expenses: 10.30%

The annual O&M cost of each WEC is 0.617 Million INR i.e. 4.936 Million INR for the project activity. (i.e. 1.30% of project cost), which has been considered from the proposals^{/13/} issued by the WEC suppliers. The O&M is free for one year and it has an annual escalation of 6% after the free O&M period as per the proposal issued by EIL.

The service tax on the O&M expenses has been considered as 10.30%, which is as per the Income tax act of the Government of India. The proposal issued by the WEC suppliers also states that "Service tax will be extra at actual".

Tariff rate:

Year 1 to 10: 3.70 INR/kWh

Year 11 to 20: 2 INR/kWh

The applicable tariff rate has been considered as per the KERC tariff order dated 11/12/2009. During the validation it was confirmed that this tariff order was the latest available official document which was valid and applicable for this project at the time of the investment decision. Paragraph 5.1 (a) of Article 5 of the PPA^{24/} signed between the PP and BESCOM states that the applicable tariff rate for the first 10 years, without escalation, will be 3.70 INR/kWh. Hence, the considered tariff rate upto the 10th year is appropriate.

Paragraph 5.2 of the PPA states that the tariff rate from the 11th year onwards shall be decided by the state regulatory commission. The PP has considered a tariff rate of 2 INR/kWh for years 11 to 20 in the investment analysis.

The PP has used the cost plus approach to calculate the tariff of 2 INR/kWh. The same approach has been used by KERC to arrive at the tariff of 3.70 INR/kWh in the order dated 11/12/2009. This tariff is the average tariff as calculated in the KERC order. It can be confirmed through the order that first year tariff is INR 4.40/kWh which would reduce from year to year and the 10th year tariff would be INR 3.04/kWh. The reduction in tariff from year to year is mainly on account of repayment of debts and also that there are no running costs other than O&M costs which increases only marginally from year to year.

The same cost plus approach has also been used in the following projects from the same region, registered with the UNFCCC: Reference nos. 0276; 1259; 1286; 1291 and 1299. The calculated tariff rate in these projects for the period from the 10th year onwards is in the range 1.76 to 1.84 INR/kWh. The tariff rate after the 10th year for the project activity has been calculated to be 1.97 INR/kWh and PP has used a value of 2 INR/kWh to be conservative.

Income tax: 30.90%

The chosen tax rate is as per the Income tax Act (financial year 2010-11), Government of India. The same has been checked at the following link: <http://www.madaan.com/taxrates.htm> The income tax rate for Limited Liability Partnership (LLP) as per the Income Tax Act, Government of India is 30.90%.

Insurance rate: 0.12%

The insurance rate has been considered to be 0.12% of the project cost as per the quotation^{33/} submitted by the insurance provider. The value has been checked against the quotation and is found to be correct.

Depreciation

The PP has considered an income tax depreciation rate of 80% on the WTGs and a book depreciation of 4.5% up to 90% of the asset value, which is as per the Income tax act, Government of India. The book depreciation value has been deducted for calculating the gross profit and has been added back to the net profit for the purpose of calculating the Equity IRR. This has been verified from the IRR calculation spreadsheet. This is in line with paragraph 5 of EB 51 Annex 58. The depreciation as per the income tax rate has been deducted from the gross income in the tax calculations, which is appropriate.

Working Capital

The PP has considered a 30 day billing cycle for the receivables in the working capital calculations which is as per the proposal^{13/} issued by the WTG supplier. The O&M payment schedule has been considered as per the offer letter issued by the WEC supplier which states that - "The O&M charges shall be payable each quarter in advance" i.e. every 90 days. The billing cycle of 30 days and O&M payment schedule of 90 days has been correctly applied in the IRR excel sheet.

Salvage Value

Salvage value has been used in the calculation of Equity IRR. The cost of land has been excluded from the capital cost while calculating the depreciation. As per the CERC notification dated 19th January, 2009

([http://www.cercind.gov.in/2009/Whats-New/tariff-pdf/CERC-\(Terms-and-Conditions-of-Tariff\)-Regulations-2009-14.pdf](http://www.cercind.gov.in/2009/Whats-New/tariff-pdf/CERC-(Terms-and-Conditions-of-Tariff)-Regulations-2009-14.pdf)) which mentions that “The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset”, the PP has considered a salvage value of 10%, which is appropriate.

Based on the above parameters, the equity IRR for the project activity has been calculated to be 5.83%.

The “cash flow” sheet of the investment analysis excels document shows that the total equity was inducted in three steps of 25%; 65% and 10%. This has been considered from the proposal^{13/} submitted by the WTG supplier which mentions the “Terms of payment” as follows:

- 25% of order value as advance along with purchase order
- 65% of order value on dispatch of material
- 10% on commissioning of WTGs against commissioning certificate

The dates considered for the same has been assumed for the sake of calculations.

Suitability of Benchmark

The PP has determined the benchmark using the Capital Asset Pricing Model (CAPM) as described below:

The required return (Ke) as per the CAPM is the return from a risk free return (Rf) plus beta (B) times the difference between the expected market return (Rm) and the risk free return (Rf), i.e.

$$K_e = R_f + B (R_m - R_f)$$

The PP has selected the Return on Equity as the benchmark, which is appropriate, as the financial indicator selected is Equity IRR. Thus, it is in line with the requirements of paragraph 12 of EB 51 Annex 58.

The values of Rf, B and Rm used for the calculation of the benchmarks have been validated against the sources mentioned in table below and have been found to be appropriate.

Particular	VWIL	Source
Rf – Risk free return	8.38%	RBI Monthly Bulletin June 2010 (April 2010)
B – Beta	1.09	Calculated (VWIL Benchmark Sheet Version2)
Rm – Market return	15.77%	Calculated (VWIL Benchmark Sheet Version2)
Benchmark	16.40%	Calculated (VWIL Benchmark Sheet Version2)

Rf – Risk free return: Risk Free Return has been considered as per the information provided by the Reserve Bank of India (RBI). RBI or Reserve Bank of India is the Central Bank of India which regularly publishes these values and hence the source is appropriate. The values considered are for a term to maturity of 20 years considering the lifetime of the WECs. The Rf has been considered for the month of April 2010 as they were the latest available values at the time of the investment decision of June 2010. Hence these values are appropriate.

B – Beta: The measured equity beta for a particular company relates to the unique capital structure of that firm. A change in the capital structure will change the degree of financial risk borne by the equity holders and the corresponding equity beta. Therefore, a common practice to allow equity betas to be compared across firms with different capital structures is to adjust the estimated equity beta into the equivalent unlevered beta i.e. the equity beta that would apply if the assets were financed wholly with equity, using the following formula:

$$\text{Unlevered beta} = \text{Raw beta} / [1 + (1 - \text{Tax}) \times (\text{debt} / \text{equity})]$$

Thus, the PP has calculated the unlevered beta for a set of power generating companies in India and the average value has been considered for calculating the benchmark. The raw beta values have been directly obtained from a third party source (Bloomberg) and the snapshots of the same are available in appendix 1 of the PDD.

VWIL took the investment decision on 09/07/2010^{14/}. The cut off date considered for calculating the beta value is 30/06/2010, which is the last day of the months previous to the investment decision date and hence appropriate.

Accordingly the PP has created a portfolio of all the power generating companies listed on BSE (Tata Power, BF Utilities Ltd, Neyveli Lignite Corporation Ltd, Reliance Infrastructure Ltd and Gujarat Industries Power Co Ltd) with a trading history of at least two years and calculated the Return on Equity. Detailed

calculations have been provided in the benchmark excel sheets. The detailed calculations in the benchmark spreadsheet have been found to be appropriate and hence accepted.

Rm – Market return: The market return can be calculated from the following available indices^{/34/}: (1) BSE-Sensex (2) BSE-100 (3) BSE-200 (4) BSE-500. Hence, the PP has calculated the market return from all the earlier mentioned indices for the period from the date of inception of these indices upto the cut off, i.e. the same as that considered in the beta calculations above. Minimum market return of the available indices is for BSE 200. Hence, to be conservative the PP has used the BSE 200 market return for calculation of the benchmark.

The BSE 200 is made up of the 200 selected companies from the specified and non-specified lists of the BSE. The selection of companies was primarily been done based on current market capitalization. The selection also takes into account a balanced sectoral representation of the listed companies in the universe of BSE. Hence, the BSE 200 index can be considered as a well-diversified market portfolio and hence is appropriate.

Using the above mentioned values, the benchmark has been determined as **16.40%**.

Thus, the equity IRR of the project activity is below the benchmark. The analysis indicates that the project activity is not financially viable. Further, a sensitivity analysis has been carried out subjecting critical parameters to variations of 10% and this has been discussed below.

The data in the revised excel spreadsheet^{/2/3/} submitted by the PP have been validated against the references provided and was found to be correct. The references provided are publicly available data sources. Thus, it satisfies the requirements of paragraph 13 of EB 51 Annex 58.

The PP has submitted all versions of the excel spreadsheets used for the investment analysis. The financial expert has checked the sheets. All the assumptions, links and formulae used in the sheet are readable and all cells are viewable and unprotected. The analysis has been presented in a transparent manner in the excel spreadsheet and is reproducible. Thus, it satisfies the requirements of paragraph 8 of EB 51 Annex 58.

The lifetime of the project activity is 20 years. The financial analysis has been carried out in the excel spreadsheet considering the entire period of 20 years in spite of the project having a fixed crediting period of only 10 years. Thus, the assessment period has been appropriately considered as per paragraph 3 of EB 51 Annex 58.

Opinion on suitability of Benchmark:

The validation team is of the opinion that the above benchmark, which is based on the parameters that are standard in the market, is suitable in the context of underlying project activity. Since the benchmark is based on parameters that are standard in market, the cost of equity is calculated by using best financial practices and data sources have been clearly validated by validation team. The project activity involves 100% equity; hence benchmark cost of equity is calculated based on parameters that are standard in market.

Sensitivity Analysis

The PP has appropriately selected the following variables to conduct the sensitivity analysis:

1. Project cost
2. Plant Load Factor (PLF)
3. O&M cost
4. Tariff rate

The results of the sensitivity analysis have been presented in the PDD^{/1/}. The results have also been presented in the excel spreadsheet^{/2/} in a reproducible manner. Thus, it satisfies the requirements of paragraph 17 of EB 51 Annex 58.

The sensitivity analysis for the variables covers a range from +10% to -10% which is appropriate in context of the project requirements. Thus, it satisfies the requirements of paragraph 18 of EB 51 Annex 58.

The outcome of the sensitivity analysis for each of the variable along with the selected benchmark is summarized in the tables below.

Project Cost

Since the project cost has considered from proposals provided by WECs supplier, hence anticipating the variation that may take place sensitivity analysis has been conducted to an extent of $\pm 10\%$ in line with the "Guidelines on the assessment of investment analysis" version 03 (EB 51 Annex 58). The outcome of sensitivity analysis for project cost summarized below:

+10%	Base IRR	-10%	Benchmark
8.27%	5.83%	3.80%	16.40%

As per the above table, it is confirmed that even after 10% reduction in project cost the project IRR does not crosses the benchmark.

It can be noted that equity IRR touches the benchmark (i.e. 16.40%) if project cost for the project activity reduces by 32.31%. However, the actual reduction in project cost is only 7.9%. Reduction of the project cost by more than that verified from purchase order is not expected since the project cost has been fixed in the firm purchase orders on their placement and the project has already been executed and commissioned.

Plant Load Factor

In the below table, it is observed that the equity IRR is below the selected benchmark even after a 10% increase in PLF.

+10%	Base IRR	-10%	Benchmark
3.74%	5.83%	7.78%	16.40%

The project IRR touches the benchmark (i.e. 16.40%) if the PLF for the project activity increases by 60.6% (i.e. an effective PLF of 37.23%). The PLF considered for the project activity is 23.18%, which is more than the actual PLF achieved i.e. 20.77% (evidence for the same has been mentioned above with the parameter description under the heading of Plant Load Factor). Thus, an increase in the PLF above that already considered is an unlikely scenario. This further implies that the IRR will not cross the benchmark since the actual PLF values are lesser than the values considered.

The PLF obtained from the third party report is 23.04%, which is marginally lower than the PLF considered for the investment analysis and is much lower than the PLF at which the IRR touches the benchmark. The PLF considered in the KERCO order dated 11/12/2009 is 26.50%, is higher than the PLF considered for the investment analysis, but is much lower than the PLF at which the IRR touches the benchmark. Hence, the project is additional even at these values of PLF.

O&M

Anticipating the expected variation in O&M cost the PP has also conducted sensitivity analysis for O&M cost to an extent of $\pm 10\%$ in line with the Guidelines on the assessment of investment analysis (EB51, annex 58). It is noticeable from the analysis that equity IRR does not cross the benchmark if O&M cost decreases by 10%.

+10%	Base IRR	-10%	Benchmark
6.24%	5.83%	5.40%	16.40%

It is also noted that even with a 100% decrease in O&M cost, the IRR does not cross the benchmark. Hence, the IRR crossing the benchmark for the O&M cost is highly unlikely.

Tariff Rate

The tariff rate for the project activity is fixed for the first 10 years. From the 11th year onwards the PP has considered a tariff rate of 2 INR/kWh using the cost plus approach as discussed above. Hence, a sensitivity analysis has been carried out for the tariff rate from the 11th year onwards. In the below table, it is observed that the equity IRR is below the selected benchmark even after a 10% decrease in tariff.

+10%	Base IRR	-10%	Benchmark
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5.33%	5.83%	6.29%	16.40%
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In the above table, it is observed that the equity IRR is below the selected benchmark. The equity IRR just crosses the benchmark of 16.40% if the tariff rate increases by 517% which is not a realistic scenario.

Based on the above discussions, it can be established that the project activity is financially not viable without the benefits of CDM.

Discussion of CARs/CLs

CAR#2 and CAR #3 were raised to address the issues related to the investment analysis. The issues raised and their discussions are as follows:

- a. The PP was requested to confirm that the PLF and Effective PLF considered is as per EB 48 Annex 11 and as per paragraph 6 of EB 51 annex 58. In response, the PP has used the PLF from the WEC supplier offer letter (23.18%) for the investment analysis, since it was available at the time of investment decision. This is appropriate as per paragraph 6 of EB 51 Annex 58. Further, as per the UN guidelines in paragraph 3(b) of EB 48 Annex 11, the PP has contracted a third party (23.04%) to determine the PLF at the WEC site. The difference in the values of PLF has been addressed in the sensitivity analysis in the PDD. Thus the PLF considered for the project activity satisfies the requirements of EB 48 Annex 11 (paragraph 3b) and EB 51 annex 58 (paragraph 6).
- b. The PP was requested to justify the conservativeness in tariff rate considered from the 10th year onwards for the investment analysis. The PP has used the cost plus approach to calculate the tariff of 2 INR/kWh. The same approach has been used by KERC to arrive at the tariff of 3.70 INR/kWh in the order dated 11/12/2009. This tariff is the average tariff as calculated in the KERC order. It can be confirmed through the order that first year tariff is INR 4.40/kWh which would reduce from year to year and the 10th year tariff would be INR 3.04/kWh. The reduction in tariff from year to year is mainly on account of repayment of debts and also that there are no running costs other than O&M costs which increases only marginally from year to year. The same cost plus approach has also been used in the following projects from the same region, registered with the UNFCCC: Reference nos. 0276; 1259; 1286; 1291 and 1299. The calculated tariff rate in these projects for the period from the 10th year onwards is in the range 1.76 to 1.84 INR/kWh. The tariff rate after the 10th year for the project activity has been calculated to be 1.97 INR/kWh and PP has used a value of 2 INR/kWh to be conservative.
- c. The PP was requested to provide documentary evidence for consideration of 100% equity in the project. In response, the PP has submitted declarations from the CA and has given a reference to the board resolutions of both the PPs. The extracts of the board resolutions of both PPs clearly states that the project will be funded by equity alone. The CA certificate also certifies that the PP has not availed any term loan or credit facilities from any banks or financial institutions. This confirms that the project is 100% equity funded.
- d. The PP was requested to include the threshold limit i.e. the scenario in which the calculated IRR crosses the benchmark and explain the likelihood of that scenario in the PDD. PP has included the threshold limit, i.e. the scenario in which the IRR crosses the benchmark, for the parameters included in the sensitivity analysis, in section B.5 of the PDD. The IRR does not cross the benchmark under any scenario.
- e. As in wind project gestation period is normally less than 1 year. Initial cash outflow can be matched against cash inflow in year 1. In response PP has used the XIRR function instead of the IRR function in the excel sheet since it takes into consideration the time of cash inflow and outflow. The same has been correctly applied in the investment analysis excel sheet for the calculation of return on equity. This has been checked and is accepted.
- f. The PP was requested to provide the screen shots of beta value used from Bloomberg. In response, the PP has submitted the screenshots from Bloomberg used for the beta value. The value of raw beta mentioned in the snap shots have been checked against that used in the benchmark excel sheet and is found to be consistent.
- g. The PP was requested to explain the calculation of the benchmark in section B.5 of the PDD. The PP has explained in detail the calculation of the benchmark in appendix 1 of the PDD. This has

been checked against the calculation carried out in the excel sheet and is found to be consistent, hence accepted.

- h. The PP was requested to mention appropriate references/sources for all values in the investment analysis and the benchmark excel sheets. The references/sources for all values in the investment analysis and the benchmark excel sheets have been checked and found to be appropriate and hence is accepted.
- i. The PP was requested to report the cost incurred in land and Infrastructure, Generator & Electrical Equipments, pre operative expenses, etc. In response the PP has included the breakup of investment cost in the revised spreadsheet. The PP has provided a break up of the investment cost in the investment analysis excel sheet. This has been checked against the offer letter and found to be correct, hence accepted.

The PP has submitted all the necessary documents and satisfactory responses for the issues raised above. Thus, CAR #2 and CAR #3 was closed out. Detailed discussions have been provided in annex 3 under CAR #2 and CAR #3.

Opinion

The above mentioned validation of the investment analysis has been carried out as per the requirements of requirements of paragraphs 111 and 112 of the VVM version 01.2^{7/} (EB 55 Annex 1). The validation team is of the opinion that the investment analysis satisfies all the relevant requirements of EB 51 Annex 58:

- The period of assessment considered for the project activity is 20 years, thus satisfying the requirements of paragraph 3 of EB 51 Annex 58.
- All input values used in the analysis have been checked against the documentary evidences mentioned in section 4.7.1 above. The values have been found to be valid and applicable at the time of the investment decision taken by the PP. In addition, the values mentioned in the excel spreadsheet and the PDD have been consistently applied in all calculations. Thus, it satisfies the requirements of paragraph 6 of EB 51 Annex 58.
- PP has submitted all versions of the excel spreadsheets; and all assumptions, links and formulae used in the sheet are readable; calculations are transparent and reproducible; all cells are viewable and unprotected. Thus, it satisfies the requirements of paragraph 8 of EB 51 Annex 58.
- PP has selected the return on equity calculated using CAPM as the benchmark, which is appropriate, as the financial indicator selected is Equity IRR. Thus, it satisfies the requirements of paragraph 12 of EB 51 Annex 58.
- The data used in the financial calculations sheet submitted by the PP were validated against publicly available data. Thus, it satisfies the requirements of paragraph 13 of EB 51 Annex 58.
- PP has presented the results of the sensitivity analysis in the PDD and the excel spreadsheet. The analysis is reproducible in the spreadsheet. Thus, it satisfies the requirements of paragraph 17 of EB 51 Annex 58.
- The sensitivity analysis appropriately covers a range from +10% to -10% and hence satisfies the requirements of paragraph 18 of EB 51 Annex 58.

4.7.5 Barrier analysis (if applicable)

Not applicable.

4.7.6 Common practice analysis

Not applicable.

4.8 Application of Baseline Methodology and Calculation of Emission Factors

The project activity uses the simplified baseline and monitoring methodology AMS I.D Version 16. The applicability conditions of the methodology have been discussed in section 4.5 above. The PP has correctly identified the baseline as per paragraph 10 of AMS I.D Version 16. This has been described in section 4.7 above.

Baseline emissions (**BE_y**) – The combined margin emission factor, baseline emissions and emission reductions calculations have been mentioned in the emission reduction excel sheet^{4/} and the PDD. The baseline emissions equivalent to tCO₂ due to the project have been calculated as the product of the net electricity supplied to the grid and the grid emission factor as per the combined margin approach described in the 'Tool to calculate the emission factor for an electricity system' (version 02.1.0) which is the latest available tool. The power produced will be exported to the Southern grid. Hence, the grid emission factor and the corresponding baseline emissions have been calculated for the Southern grid.

The grid emission factor has been arrived at as per paragraph 12(a) of AMS I.D Version 16 (as mentioned in section 4.7 above) in the following manner. The values of OM and BM have been determined ex-ante as per the CEA database version 5^{11/}, which is published by the Ministry of Power, Government of India. The CEA is the sole authority for publication of such data in India. The version of the database referred to is the one that was available at the time of webhosting the PDD for the ISHC. Thus, the selection of the values of OM and BM is appropriate. The values OM, BM, and CM have been identified as follows:

	OM (tCO ₂ /MWh)	BM (tCO ₂ /MWh)	CM (tCO ₂ /MWh)
Southern grid	0.98755	0.81792	0.94515

The OM has been determined as the average of the previous 3 years values mentioned in the CEA database. The value of BM has been identified directly from the CEA database. The combined margin emission factor has been arrived at by applying weights of 75% for OM and 25% for BM, as specified in the tool. The combined margin emission factor has been determined ex-ante and is fixed for the entire crediting period.

The baseline emissions for the project activity have been calculated as the product of the net electricity supplied to the grid and the grid emission factor as per paragraph 11 of AMS I.D Version 16. The PP has rounded down the value of total baseline emissions in order to be conservative. The baseline emissions for the project activity have been calculated to be 12,284 tCO₂.

Project emissions (**PE_y**) – The project activity involves the generation of electricity using wind energy. Hence, there are no project emissions associated with this project activity as per paragraph 19 of AMS I.D Version 16.

Leakage (**LE_y**) – Leakage has not been considered for the project activity. According to paragraph 20 of AMS I.D Version 16, if the energy generating equipment is transferred from another activity or if the existing equipment is transferred to another activity, leakage is to be considered. The proposed project activity uses new energy generating equipment which has been verified from the purchase order^{15/}. Thus, not considering leakage for the project activity is appropriate.

Emission Reductions (**ER_y**) – The emission reductions for the project activity have been calculated as per paragraph 21 of AMS I.D Version 16 as follows: **ER_y = BE_y – PE_y – LE_y**

Based on the values of baseline emissions, project emissions and leakage the annual emission reductions have been calculated as 12,284 tCO₂/year.

Opinion

Based on the above discussion and the requirements of paragraphs 89-93 of the VVM version 01.2^{7/} (EB 55 Annex 1), the validation team confirms that:

1. All assumptions and data used by the PP are listed in the PDD, including their references and sources
2. All documentation used by the PP as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD
3. All values used in the PDD are reasonable in the context of the proposed CDM project activity
4. The baseline methodology AMS I.D Version 16 has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions
5. All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD.

4.9 Application of Monitoring Methodology and Monitoring Plan

The project activity applies the simplified baseline and monitoring methodology AMS I.D Version 16. The applicability conditions of the methodology have been discussed in section 4.5 above.

The PP has defined the monitoring parameters as per the requirements of paragraph 22 of the methodology AMS I.D Version 16 and taking into consideration the actual procedure followed on the site. In line with this, the PP has defined the monitoring parameter, in section B.7.1 of the PDD.

1. EGy – (MWh): Net electricity supplied to the grid by the Project

This value which will be used for the emission reduction calculations. This parameter will be calculated on a monthly basis and is obtained from the form B^{/36/} issued by HESCOM. This value is calculated using the below mentioned measured parameters as defined by the state electricity board as: $EGy = Gpe - 115\% * Gpi - Li$.

The additional 15% in the calculation of “115%*Gpi” represents the start-up energy or the import loss. This has been verified through a clarification^{/43//44/} issued by the state utility for another wind power project. Section 5.5 of the PPA states that - “105% of such energy provided by BESCO for startup purposes shall be deducted from the energy pumped into the grid by the company for determining the amount to be paid by BESCO to the company”. The state utility has issued a clarification stating that the amount of startup energy deducted is 115% and not 105% as mentioned in section 5.5 of the PPA. It has further clarified that the startup energy refers to the loss accounted during the import of energy drawn from the grid. This startup energy is the energy required to rotate the turbine, in this case wind fans from standstill state to required RPM for generation of electrical energy. The clarification issued by the state utility is for another wind power project in the same region.

2. Gpe – (MWh): Electricity Export is recorded at the meter(s) connecting 08 machines of the project activity.

This parameter is continuously measured through the main meter and check meter at the metering point and recorded monthly in the Form B. For billing purpose the meter reading will be taken monthly by HESCOM in the presence of representative of the project proponent and will be jointly certified as per the PPA.

3. Gpi – (MWh): Electricity Imported recorded at the meter(s) connecting 08 machines of the project activity

This parameter is continuously measured through the main meter and check meter at the metering point and recorded monthly in the Form B. For billing purpose the meter reading will be taken monthly by HESCOM in the presence of representative of the project proponent and will be jointly certified as per the PPA.

4. Li – (MWh): Transmission loss between the metering point for the project activity and the metering point at Substation where bulk metering is done.

This parameter is recorded monthly in a statement^{/38/} signed jointly by the state utility and the O&M contractor. The calculation of transmission loss is the responsibility of BESCO and it is in line with Article 6, paragraph 6.1 of the PPA^{/24/}.

In the state of Karnataka there are a number of WECs connected to a single feeder. Hence, to calculate the net electricity exported by the WECs of the project activity alone, the state electricity utility uses an apportioning procedure which has been described in detail in section B.7.2 of the PDD. The apportioning is carried out by the state utility and the PP has no role in this calculation. This procedure was verified by checking the same with the personnel in the sub-station during the site visit and was found to be correct.

The type of metering equipment, procedure of meter reading, meter testing, and calibration has been described in section B.7.2 of the PDD and is consistent with the PPA signed specifically for this project activity. The PPA mentions that the meters will be calibrated annually and maintained as per national electricity standards.

The PP has mentioned the operational and management structure for data monitoring in the PDD, along with the responsibilities at each level. The PP has mentioned that all the monitored data would be archived electronically and on paper regularly throughout the crediting period. Also, data will be archived for 2 years after the end of the crediting period. This is stated in section B.7.1 of the PDD.

The validation team confirms that the description in the PDD correctly represents the metering system available at the project activity site and that the defined monitoring plan can be implemented in the context of the project activity.

EIL, the O&M contractor for the WECs has experience in monitoring and managing the O&M of numerous other wind farm projects. The validation team therefore is of the opinion that the project participant through the O&M agency is capable of implementing the monitoring plan in the context of the project activity.

Discussion of CARs/CLs

CL #6 was raised requesting the PP to address the following issues:

- a. The PP was requested to clarify the value of 115% import mentioned in Annex 4 of the PDD. In response the PP mentioned that the 115% value has been taken from the standard Form B approved by HESCOM (Electricity Supply Company of the state utility which is responsible for power distribution in the district of Gadag) which is used to record the power generation and has submitted a sample copy for the month of Dec-2010. This has been checked and accepted.
- b. The PP was requested to submit documentary evidence (Eg: Form B/JMR; calculation sheet for transmission loss; invoice, etc) to support the monitoring procedure mentioned in the PDD. PP has submitted the form B; invoice & the calculation sheet for transmission loss to support the monitoring plan. This has been checked against the details mentioned in section B.7 and annex 4 of the PD and is found to be appropriate.
- c. The PP was requested to clarify the definition of the parameter Gp in annex 4 of the PDD. The definition mentions 'recorded' as well as there is a formula mentioned to 'calculate' the parameter. PP has removed the reference to the parameter Gp in annex 4 of the PDD. This has been found to be appropriate and hence accepted.
- d. According to section B.7.1 for parameter EGy in row "Any Comments" it is mentioned that "values will be taken from JMR". The PP was requested to clarify if this parameter is calculated as mentioned in annex 4 how will it be taken from the JMR? In response the PP mentioned that Net electricity exported to the grid (EGy) by the Project is mentioned in Form B as "Energy to be billed" after carrying out all the calculations considering energy exported, energy imported and transmission losses and therefore can be directly referred from Form B. This has been checked from the form B and the invoices and is accepted.

Thus, CL #6 has been closed out. Detailed discussions have been provided in annex 3 under CL #6.

Opinion

Based on the above discussion and the requirements of paragraphs 122-124 of the VVM version 01.2^{7/} (EB 55 Annex 1), the validation team confirms that:

1. The monitoring plan included in the PDD is based on the approved methodology AMS I.D version 16 which has been applied to the proposed CDM project activity
2. The monitoring plan is in compliance with the applied methodology AMS I.D version 16

3. The monitoring arrangements described in the monitoring plan are feasible within the project design
4. The PP has the ability to implement the monitoring plan as per the PDD

4.10 Environmental Impacts

The PP has not carried out an EIA for the proposed wind power project. The schedule of the notification S.O. 1533^{/32/} published by the Ministry of Environment and Forests (MoEF), Government of India gives a list of the project activities that require a prior environmental clearance. According to this schedule wind power projects do not require a prior environmental clearance and hence an EIA need not be carried out.

Opinion

The Validation team is of the opinion that the project complies with environmental regulations in India.

4.11 Local Stakeholder Comments

The local stakeholder consultation process has been described in detail, by the PP, in section E of the PDD.

The PP has identified all individuals that may be affected by the project as the stakeholders. Based on the observations of the validation team during the site visit and as per the definition of 'stakeholder' in the Glossary of CDM terms version 5, the identification of stakeholders for consultation was found to be appropriate. Thus, the validation team is of the opinion that the relevant stakeholders have been consulted.

The PP has conducted the stakeholder consultation meeting for the project activity in the city of Hubli, which is the largest city close to the site. The date of the invitation, meeting; and mode of invitation have been summarized in the table below:

Date of meeting	Date of invitation	Mode of invitation
10/11/2010 ^{/29/}	25/10/2010 ^{/28/}	Public Notice – Newspaper Advertisement ^{/28/}

The PP has clearly detailed the stakeholder consultation process in the PDD.

After sharing information with the local stakeholders about the company, and the purpose of proposed activity, the stakeholders were briefed about global warming and its impacts, Kyoto Protocol, CDM and role of wind power in mitigating the global warming. The benefits of the project activity to the stakeholders were discussed and their comments were invited. The questions raised by the stakeholders and the responses provided have been mentioned in section E of the PDD. The Minutes of the meeting^{/29/} and the attendance sheet^{/30/} of the stakeholder meeting have been submitted by the PP.

During the site visit the validation team interviewed some of the local villagers. Based on the replies of the villagers, the validation team was convinced that the process of stakeholder consultation was carried out as described in the PDD. The villagers also confirmed that they were invited for the meeting through invitation letters. This was found to be consistent with the invitation process mentioned in the PDD.

Overall, there was agreement among the stakeholders that the proposed project activity would lead to the overall development of the area, mainly by generating employment opportunities and improving the infrastructure leading to an improved life for the villagers. The local stakeholders interviewed during the site visit endorsed this view.

It is also confirmed that local stakeholders were invited by the PPs to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC website.

Opinion

According to the requirements of the paragraphs 128-130 of the VVM version 01.2^{/7/} (EB 55 Annex 1), the validation team is of the opinion that the local stakeholder consultation process has been satisfactorily carried out.

5. Comments by Parties, Stakeholders and NGOs

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. This chapter describes this process for this project.

5.1 Description of How and When the PDD was Made Publicly Available

The Project Design Document for this project was made available on the UNFCCC website at <http://cdm.unfccc.int/Projects/Validation/DB/KI8Y8DNIDZVIRS9CXH1SWAYX7SZTVX/view.html> and was open for comments from 31st December 2010 until 29th January 2011. Comments were invited through the UNFCCC CDM homepage.

5.2 Compilation of all Comments Received

Comment Number	Date Received	Submitter	Comment
1	29/01/2011	Babloo	<p>1. There are no details on the construction of the benchmark and its components. How can a DOE webhost such an incomplete PDD for global stakeholder consultation? How can the stakeholder comment on such case?</p> <p>2. The logic of considering a tariff rate of INR2/kWh after 10 years is absurd. Everyone is well aware that there cannot be a decrease in the tariff rather an increase year on year even after the defined tariff period in the tariff order. Can you support with past cases where one has got a tariff rate of INR 2/kWh or near to this figure??</p> <p>3. The PP states that they have considered 80% accelerated depreciation. However the PDD is silent on the tax shielding as a result from accelerated depreciation.</p> <p>PPs cleverly do not consider the accounting tax offsetting in their companies while calculating the IRR. This is evident from the recently registered projects and those requesting registration.</p> <p>The DOE is therefore requested to critically analyze how the accelerated depreciation benefit has been taken into account and confirm the accounting of the cash inflows as a result of the negative tax liability in the initial years. DOE should not be misguided by the financial presented by the PP or consultant which are custom made for CDM purposes and not the actual financial considered at the investment decision. Note that considering cash inflows results in an increase in the IRR making wind projects a profitable venture.</p> <p>4. Please also check the offer from the WTG supplier and the purchase order while validating the PLF. It may be so that the third party report may indicate a lower PLF.</p> <p>5. Stakeholder Consultation: The project WTGs are located</p>

Comment Number	Date Received	Submitter	Comment
			<p>at the Village: Kalasapur, District: Gadag, State: Karnataka. However the stakeholder consultation was conducted at Hubli city which is more than 70 kms from the WTG site. The most important stakeholders are the farmers and the nearby residents. How did the PP ensure that these low income people (farmers, villagers and nearby residents) also participated in the meeting?? Though the panchayat members were present they can afford to travel to Hubli to attend. As such they are regular travellers to Hubli for administrative purposes. However, the low income farmers and villagers and nearby residents cannot travel so far. Was the meeting deliberately conducted at a far off place so that presence of these stakeholders could have been avoided??</p> <p>How could a nearby farmer leave his daily work and travel for more than 5 hours to attend the meeting? Interestingly the PP was not present at the meeting. How did the PP ensure that the right message was given to the stakeholders in the PPs absence? PP is requested to re schedule the stakeholder meeting nearby the project site and re-webhost the PDD.</p>

5.3 Explanation of How Comments Have Been Taken into Account

Comment 1

1. The procedure to arrive at the benchmark has been described in Appendix 1 of the PDD. The benchmark excel sheet shows the detailed calculations of the benchmark. These have been checked and are accepted.
2. PP has used the cost plus approach to calculate the tariff of 2 INR/kWh. The same approach has been used by KERC to arrive at the tariff of 3.70 INR/kWh in the order dated 11/12/2009. This tariff is the average tariff as calculated in the KERC order. It can be confirmed through the order that first year tariff is INR 4.40/kWh which would reduce from year to year and the 10th year tariff would be INR 3.04/kWh. The reduction in tariff from year to year is mainly on account of repayment of debts and also that there are no running costs other than O&M costs which increases only marginally from year to year. The same cost plus approach has also been used in the following projects from the same region, registered with the UNFCCC: Reference nos. 0276; 1259; 1286; 1291 and 1299. The calculated tariff rate in these projects for the period from the 10th year onwards is in the range 1.76 to 1.84 INR/kWh. The tariff rate after the 10th year for the project activity has been calculated to be 1.97 INR/kWh and PP has used a value of 2 INR/kWh to be appropriate..
3. The tax shielding as a result of the accelerated depreciation has been adjusted against the cash inflow in the 'cash flow' sheet of the investment analysis excel document. This has been verified by the financial expert and found to be appropriate.
4. The PP has used the PLF from the WEC supplier offer letter (23.18%) for the investment analysis, since it was available at the time of investment decision. This is appropriate as per paragraph 6 of EB 51 Annex 58. Further, as per the UN guidelines in paragraph 3(b) of EB 48 Annex 11, the PP has contracted a third party (23.04%) to determine the PLF at the WEC site. The difference in the values of PLF has been addressed in the sensitivity analysis in the PDD. Thus the PLF considered for the project activity satisfies the requirements of EB 48 Annex 11 (paragraph 3b) & EB 51 annex 58 (paragraph 6). In both the cases the project is additional. The PLF was also cross checked against the PLF of 26.5% that is used by KERC for the determination of tariff in its order dated 11th December 2009. Even in this case the project is additional. Section B.5 of the PDD has described the threshold limits, i.e. the

scenario in which the calculated IRR crosses the benchmark. The IRR cross the benchmark if the PLF increases to 36.68% which is not likely.

5. The PP has authorized Enercon (India) Limited to carry out all CDM related activities on its behalf and this has been verified from the authorization letter issued by the PP. Hence, Enercon has carried out the local stakeholder consultation meeting on behalf of the PP.

The PP has issued an advertisement in the local newspaper in the local language on 25/10/2010 informing the local people about the meeting. Also, due to the distance between the project site (Gadag) and the meeting location (Hubli), the PP had organized a vehicle to bring the people to Hubli. This was verified by talking to the local people during the site visit. The local stakeholders confirmed that a vehicle was arranged to bring them to Hubli. Thus, it was ensured that the low income local people could attend the meeting.

Thus the Stakeholder comments have been taken into account.

6. List of Persons Interviewed

Date	Name	Position	Short Description of Subject Discussed
31/01/2011	Bhupendra Verma	Asst. Manager (EIL / CDM)	Project Design, Baseline, Emission Reduction Calculation, Monitoring Procedure, Financial additionality, IRR calculations
31/01/2011	Ashok P Shintre	Manager (EIL)	Monitoring procedure, monitoring parameters, operation maintenance, calibration, data recording and invoicing.
31/01/2011	B S Metri	EIL	
31/01/2011	S V Kulkarni	Local Villagers	Local stakeholder consultation process, Mode of invitation, points discussed during the meeting
31/01/2011	R H Chavan	Local Villagers	
31/01/2011	M B Patil	Local Villagers	

7. Document References

Category 1 Documents (documents provided by the Client that relate directly to the GHG components of the project, (i.e. the CDM Project Design Document, confirmation by the host Party on contribution to sustainable development and written approval of voluntary participation from the designated national authority):

- /1/ PDD
- /1.1/ PDD Version 01, dated 23/12/2010 (Published for international stakeholder consultation)
<http://cdm.unfccc.int/Projects/Validation/DB/KI8Y8DNIDZVIRS9CXH1SWAYX7SZTVX>
- /1.2/ PDD Version 02, dated 28/02/2011
- /1.3/ PDD Version 03, dated 31/03/2011
- /1.4/ PDD Version 04, dated 26/05/2011
- /2/ Investment Analysis Spreadsheets Version 04
- /3/ Benchmark Calculation Spreadsheets Version 03
- /4/ Emission Reductions Calculation Spreadsheet Version 03
- /5/ Host Country Approval No. 4/8/2010-CCC dated 26/05/2011
- /6/ Modalities of Communication dated 20/04/2011

Discuss the key changes in the final PDD against the version published for the international stakeholder consultation

PDD Version	Date of Revision	Main changes reason for Revision
4 (Final Version)	26/05/2011	<p>Section B.5: To include the threshold limit i.e. the scenario in which the calculated IRR crosses the benchmark and explanation on the likelihood of that scenario</p> <p>Section B.5: To describe the calculation of the benchmark</p> <p>Section B.2: To mention all the applicability criteria as per the applicable methodology in section B.2</p> <p>Section B.4: To mention the correct references to the latest EB guidance's and the version numbers of the tools used</p> <p>Section B.7.1</p> <p>To define the required and appropriate monitoring parameters</p>

Category 2 Documents (background documents used to check project assumptions and confirm the validity of information given in the Category 1 documents and in validation interviews):

- /7/ Clean Development Mechanism Validation and Verification Manual Version 1.2
- /8/ Approved methodology - AMS I.D Version 16
- /9/ Tool to calculate the emission factor for an electricity system (Version 02.1.0)
- /10/ Tool for the demonstration and assessment of additionality (Version 05.2)
- /11/ CEA database Version 5 (Ministry of Power, Government of India)
- /12/ Project UNFCCC web page with date of webhosting of the PDD
- /13/ Proposal dated 25/06/2010 issued by EIL
- /14/ Extract of Board Resolution (with CDM consideration) of the board meeting held on 09/07/2010
- /15/ Purchase orders dated 10/07/2010 issued to EIL (Ref. No. VWILLP/EIL/10-11/01; VWILLP/EIL/10-11/1-2; VWILLP/EIL/10-11/1-3 and VWILLP/EIL/10-11/1-4)
- /16/ PLF evidence as per EB 48 Annex 11 – PLF report issued by M/s Ravi Enteck Limited, Chennai dated 24/11/2010
- /17/ Commissioning certificate dated 01/10/2010 issued by HESCOM with commissioning date of 30/09/2010 (8 WECs) (Ref No. GDG/EEEI/AEE(O)/TA-210160-72)
- /19/ Offer from EIL to VWIL dated 20/07/2010 for managing the CDM process activities for the project activity
- /20/ Authorisation from VWIL to EIL dated 26/07/2010 to manage the CDM process activities for

the project activity

- /21/ Tariff Order – KERC order dated 11/12/2009
- /22/ Land sale deed dated 26/02/2011 (Certificate No. IN-KA58026770416600J)
- /23/ Land sale deed dated 26/02/2011 (Certificate No. IN-KA58024280378522J)
- /24/ Power Purchase Agreement dated 29/09/2010 (No. 57486) signed with BESCOM
- /25/ Certificate dated 21/02/2010 issued by M/s Mehul Vora & Co. (Chartered Accountants) stating that the PP has not availed of any term loans
- /26/ Letter of undertaking dated 27/01/2011 issued by VWIL confirming no use of ODA for the project activity
- /27/ Letter of undertaking dated 27/01/2011 issued by VWIL confirming that the technology will not be substituted and that the project activity will remain within the limits of a small scale project activity for the entire crediting period
- /28/ Local Stakeholder Consultation – Invitation: Advertisement in local newspaper dated 25/10/2010
- /29/ Local Stakeholder Consultation – Minutes of the meeting held on 10/11/2010
- /30/ Local Stakeholder Consultation – Attendance sheet
- /31/ Clearance – Government Order N.: EN 400 NCE 2010 (2), Bangalore, date 27/09/2010
- /32/ MoEF notification for EIA - <http://envfor.nic.in/legis/eia/so1533.pdf> dated 14th September 2006
- /33/ Insurance quotation issued by United India Insurance Co. Ltd. dated 03/03/2010
- /34/ Sensex; BSE 100; BSE 200 and BSE-500 (<http://www.bseindia.com/stockinfo/indices.aspx>)
- /35/ Declaration issued by WEC supplier (EIL) mentioning the WEC lifetime of 20 years

Documents to verify the Monitoring Plan

- /36/ Form B for December 2001 jointly signed by HESCOM & EIL representative
- /37/ Invoice for December 2010
- /38/ Transmission loss calculation sheet

Prior Consideration of CDM

- /39/ Prior CDM consideration form dated 16/10/2010
- /40/ Email dated 16/10/2010 addressed to UNFCCC with the prior consideration form
- /41/ Email response dated 26/10/2010 from UNFCCC confirming the receipt of the email
- /42/ Email dated 16/10/2010 address to host Party DNA (MoEF) with the prior consideration form

Clarification for 115%

- /43/ Clarification letter issued by HESCOM dated 23/08/2010
(Ref. HESCOM/GM(T)/EEE(PTC)/Windmill/VRL Logistics/2010-11/7713)
- /44/ Clarification letter issued by HESCOM dated 08/10/2010
(Ref. HESCOM/GM(T)/EE(PTC)/VRL/10-11/8084)

Authenticity of HCA

- /45/ Email Communication with The National CDM Authority (Designated National Authority (DNA), dated 28/06/2011

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A.1 Annex 1: Local Assessment

This checklist is designed to provide confirmation of in-country data and information provided in the Project Design Document for “Renewable Energy Wind Power Project in Karnataka”.

It serves as a “reality check” on the project that is completed by a local assessor from SGS India.

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
1. Host Country Approval	Host Country Approval submitted	Host Country Approval ^{/5/}	Appropriate and accepted
2. Enercon Offer letter	Offer letters have been submitted	Offer letters ^{/13/}	Appropriate and accepted
3. Purchase Orders	Purchase order for project activity has been checked	Purchase order ^{/15/}	Appropriate and accepted
4. Commissioning Certificates	Commissioning certificates have been submitted	Commissioning certificates ^{/17/}	Appropriate and accepted
5. Power Purchase Agreement	PPA for the project activity has been submitted by PP	PPA ^{/17/}	Appropriate and accepted
6. Prior intimation as per EB 49 Annex 22	Email trail of the communication with the UNFCCC and the Indian DNA has been submitted	Prior consideration documents ^{/39/ to /42/}	Appropriate and accepted
7. Emission Reduction Excel sheet	Emission reduction calculation sheet submitted by PP	Emission reduction calculation sheet ^{/4/}	Appropriate and accepted
8. Modalities of Communication	MoC provided by project participant	MoC ^{/6/}	Appropriate and accepted
9. Third party PLF report	PP has submitted the third party PLF report	PLF report ^{/16/}	Appropriate and accepted
10. Evidence for no use of ODA	Undertaking is provided by project participant	Undertaking for No ODA ^{/26/}	Appropriate and accepted
11. Proof of media used to invite local stakeholders and date of stakeholder meeting	Public notice and MoM provided by project participant	Public Notice ^{/28/} MoM ^{/29/}	Appropriate and accepted

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
12. MoM and attendance sheet of local stakeholder consultation. Discussion with the local stakeholders is required during the site visit	Discussions with stakeholders were carried out during the site visit to confirm the local stakeholder consultation process. PP has submitted the MoM and attendance sheet of the meeting.	MoM ^{/29/} Attendance sheet ^{/30/}	Appropriate and accepted
13. Ownership documents, Licenses, clearances for each wind mill. Land purchase or land lease agreements.	Land lease deed, commissioning certificates, Government clearance have been submitted by PP	Land lease deed ^{/22/ /23/} Commissioning certificate ^{/17/} Government clearance ^{/32/}	Appropriate and accepted
14. Evidence that the technology used would not be changed during the crediting period	Undertaking is provided by project participant	Undertaking for No technology change ^{/27/}	Appropriate and accepted
15. Evidence for start date of the project activity	Date on which purchase order was placed for the project activity has been considered as project start date	Purchase order ^{/15/}	Appropriate and accepted
16. Debundling criteria will be checked during site visit	The debundling criteria have been checked during the site visit	Checked during site visit	Appropriate and accepted
17. Location of all monitoring meters for each wind mill should be checked during site visit.	The locations of the monitoring meters have been checked during the site visit.	Checked during site visit	Appropriate and accepted

A.2 Annex 2: Validation Checklist

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

Requirement	Means of Validation Reference	Comments	Conclusion/C ARs/ CLs
<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> <p>1.1.1. The country is a Party to the Kyoto Protocol</p> <p>1.1.2. Participation is Voluntary</p> <p>1.1.3. The Host Party confirming that the proposed CDM project activity contributes to sustainable development of the country Non-Annex 1 Party shall submit a letter of approval</p> <p>1.1.4. It refers to the precise proposed CDM project activity title in the PDD being submitted for registration</p>	<p>Annex 3, Clean Development Mechanism, Validation and Verification Manual, Version 01.2 (from this point forwarded referenced as VVM) – 45/49a-d /54a-b/127</p> <p>Paragraph 37 CDM Modalities and procedures</p>	<p>India has ratified the Kyoto protocol on 26th August 2002 and is allowed to participate. http://maindb.unfccc.int/public/country.pl?country=IN</p> <p>PP is requested to submit the HCA for the project activity. CAR #1 raised</p>	<p>HCA is submitted</p> <p>CAR #1 closed</p>
<p>1.2. If the project participant(s) listed in the PDD published at international stakeholder¹ consultation are not included in the PDD</p>	<p>EB 30 Para. 41.</p> <p>EB50 Annex 48 para. 8</p>	<p>Not Applicable</p>	<p>Y</p>

¹ Stakeholders mean the public, including individuals, groups or communities affected, or likely to be affected, by the proposed CDM project activity or actions leading to the implementation of such an activity

Requirement	Means of Validation Reference	Comments	Conclusion/C ARs/ CLs
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.			
1.3. The letter/s of approval are unconditional with respect to 1.1.1 to 1.1.4 above	VVM Para. 49/ 53,54	Pending closure of CAR #1	Y CAR #1 Closed
2. 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. 128 Marrakech Accords, CDM Modalities, §40	The project was webhosted on UNFCCC site from 31/12/2010 to 29/01/2011 at http://cdm.unfccc.int/Projects/Validation/DB/KI8Y8DNIDZVIRS9CXH1SWAYX7SZTVX/view.html ↓ Number of comments received: 1 The comments received have been addressed in section 5 of the validation report.	ISHC comments closed out Y
3. The project design document is in accordance with the applicable CDM requirements for completing PDDs.	VVM Para. 57 Marrakech Accords, CDM Modalities, Appendix B, EB Decisions	PP is requested to mention in the PDD the correct references to the latest EB guidance's and the version numbers of the tools used CAR #5 was raised The PDD has been completed in accordance with the CDM-SSC-PDD form version 03, which is the latest available version. The tables, headings, logo, format and fonts are in accordance with that used in the template.	CAR #5 closed out Y
4. The project participants shall submit a completed modalities of communication (MoC) Form	F_CDM_MOC form available on UNFCCC website	PP has submitted a completed MoC form for the project activity in the format prescribed in EB 45 annex 60.	Y

Table 2 PDD

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
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 Guidelines for completing a CDM-PDD (PDD) section A.1	DR	The title of the project activity mentioned is “Renewable Energy Wind Power Project in Karnataka”. 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. Pending closure of CAR #1.	Y CAR #1 closed
A.1.2. Is there an indication of a revision number and the date of the revision?	VVM Para.56 PDD section A.1	DR	The version number and date of version has been mentioned in section A.1 of the PDD as Version: 01 and Date: 23/12/2010	Y
A.2. Description of the Project Activity				
A.2.1. Does the description of the proposed CDM project activity as contained in the PDD sufficiently cover all relevant elements accurately?	VVM Para.59 PDD section A.2 see also A.4, A.4.3 and B.3	DR	The project activity entails installation of WECs for power generation and supplying the same to the Southern grid. Information regarding the purpose, type of technology used and contribution of the project activity to sustainable development has been described in the PDD.	Y
A.2.2. Is all information provided consistent and in compliance with the actual situation or	VVM Para.64 PDD section A.2 see also A.4,	DR SV	The proposed CDM project activity, which has already been commissioned, involves the installation of 8 WECs of total capacity 6.4 MW which will generate electricity and export it to the Southern grid. The information provided by the PP in the PDD was	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
planning?	A.4.2 and B.3		found to be consistent and in compliance with the actual situation on the ground. This was verified during the site visit.	
A.2.3. Is all information provided consistent with details provided in further chapters of the PDD?	VVM Para.64 PDD section A.2	DR	Information regarding the purpose of the project activity, type of technology used and contribution of the project activity to sustainable development has been described in section A.2 of the PDD. These details were verified against those mentioned in further sections of the PDD and was found to be accurate and consistent.	Y
A.3. Project Participants				
A.3.1. Is the table required for the indication of project participants correctly applied?	VVM Para. 51 PDD section A.3	DR	Section A.3 has been completed in accordance with the guidelines for completing the CDM-SSC-PDD. The LoA and the PDD will be checked for consistency in the name of the PP. Pending closure of CAR #1	Y CAR #1 closed
A.3.2. Is all information provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	VVM Para. 51 PDD section A.3	DR	Consistency of PP details will be verified against the LoA to be submitted by the PP. Pending closure of CAR #1	Y CAR #1 closed
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)? Are the latitude and longitude of the site	VVM Para.64 PDD section A.4	DR	PP has mentioned the geographical coordinates of each of the WECs in section A.4.1.4 of the PDD, thus allowing for the unique identification of the project activity.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
indicated (decimal points)				
A.4.2. Does the proposed CDM project activity involve the alteration of existing installations or process?	VVM Para.64 PDD section A.4	DR SV	The proposed CDM project activity is a green field project. PP has submitted the purchase orders of the equipments used. The project does not involve the alteration of existing installations or processes. This was also verified during the site visit.	Y
A.4.3. Do the project participants possess ownership or licenses which will allow the implementation of the project at that site / those sites?	VVM Para.64 PDD section A.4	DR	PP is requested to submit applicable ownership documents / licenses / clearances which allow the implementation of the project activity at the project site. CL #4 raised PP has submitted the KERDL & government clearance; and the land lease deed which, which allow the implementation of the project activity at the project site.	CL #4 closed out Y
A.4.4. Is the category(ies) of the project activity correctly identified?	VVM Para.64 PDD section A.4	DR	The PDD mentions that the proposed CDM project activity falls under type – I, and project category is ‘D ‘- Grid connected renewable electricity generation. This has been correctly identified.	Y
A.4.5. Is all information provided in compliance with actual situation or planning as available by the project participants?	VVM Para.64 PDD section A.4 EB 52 Para. 13	DR SV	The proposed CDM project activity, which has already been commissioned, involves the installation of 8 WECs of total capacity 6.4 MW which will generate electricity and export the same to the southern grid. The information provided by the PP in the PDD was found to be consistent and in compliance with the actual situation.	Y
A.4.6. Is the table required for the indication of projected emission reductions correctly applied?	VVM Para.64 PDD section A.4	DR	The table for the projected emission reductions has been correctly applied in section A.4.3 of the PDD in accordance with the guidelines for completing the CDM-SSC-PDD.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
A.5. Debundling				
A.5.1. Is the small-scale project activity a debundled component of a large scale project activity	VVM Para. 136c EB54 para 35 & Annex 13	DR	The PDD mentions that the project proponent does not have any other registered or applied for registration CDM project activity in the 1 km area from the present project activity by same project participant within 2 years in same project category and technology. The same was checked during the site visit.	Y
A.5.2. If the project is a debundled component of a larger project, does the larger project fall within the limits for small-scale CDM project activities	VVM Para. 134c	DR	The project activity is not a de-bundled project activity as mentioned in the PDD. The same was checked during the site visit.	Y
A.6. Public Funding				
A.6.1. Does the information on public funding provided conform to the actual situation or planning as presented by the project participants?	PDD section A.4.4	DR SV	The PDD mentions that there is no public funding for the project activity. PP has provided a declaration regarding the same. No signs of donor funding was visible on the site. The information provided by the PP conforms to the actual situation.	Y
A.6.2. Is all information provided consistent with details provided by further chapters of the PDD (in particular annex 2)?	PDD section A.4.4	DR	The information provided by the PP in section A.4.4 of the PDD is consistent with that mentioned in Annex 2 of the PDD.	Y
A.6.3. In case of public funding from Annex I	PDD section A.4.4	DR	Not applicable, as there is no public funding for the proposed CDM project activity.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
Parties is it confirmed that such funding does not result in a diversion of official development assistance				
B. Baseline and Monitoring Methodology				
B.1. Choice and Applicability				
B.1.1. Is the baseline methodology previously approved by the CDM Methodology Panel?	VVM Para.68 PDD section B.1	DR	Section B.1 of the PDD contains a reference to the methodology used i.e. AMS I D version 16 which is an approved methodology and is valid.	Y
B.1.2. Has the methodology (incl. the tools) been altered from the original version as referenced in the PDD?	VVM Para.69 PDD section B (B.1-B.2)	DR	The methodology AMS I.D version 16 and relevant tools used for the project activity have been correctly quoted and applied without any alteration. This has been verified by comparing it against the version available on the UNFCCC website.	Y
B.1.3. Does the project activity qualify as small scale project?	VVM Para. 134a	DR SV	The project uses the methodology AMS I D version 16; the total rated capacity of project activity is 6.4 MW, which is less than the specified limit of 15 MW for a small-scale project activity. The same was cross-checked during the site visit. Hence the project qualifies as a small scale project.	Y
B.1.4. Is the category(ies) of the project activity correctly identified in accordance with Appendix B to the simplified modalities and procedures for small-scale CDM project activities?		DR	The project type and category identified in section B.1 of the PDD is I.D – grid connected renewable electricity generation. The project activity involves electricity generation using WECs and supplying the same to Southern grid. Hence, the project type and category have been correctly identified in accordance with Appendix B of the simplified modalities and procedures for small-scale CDM project activities.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
B.1.5. Is the selected simplified methodology applicable to the project activity in the PDD?	VVM Para.75/66a/68/73 PDD section B (B.1-B.2)	DR	<p>Section B.2 of the PDD discusses the applicability of the methodology AMS I.D./Version 16 to the proposed project activity. The proposed CDM project activity will supply electricity to the Southern grid from a renewable source (i.e. wind) and the capacity of the project activity (6.4 MW) is below the 15 MW limit for small scale projects. Hence, AMS I.D/version 16 is applicable to the project activity.</p> <p>PP is requested to mention all the applicability criteria as per the applicable methodology in section B.2 of the PDD Hence CL #4 raised PP has mentioned all the applicability criteria as per the applicable methodology in section B.2 of the PDD. This has been checked against the selected methodology and is accepted.</p>	<p>CL #4 closed out</p> <p>Y</p>
B.1.6. Does the project activity conform to one of the approved small-scale categories?	VVM Para. 136b EB55 Annex 35	DR	The proposed project activity confirms to AMS I.D./Version 16 under sectoral scope – 01 (Energy industries renewable - Non-renewable sources) and justification for the applicability criteria has been mentioned in section B.2 of the PDD.	Y
B.1.7. Is the project activity a bundle of several small scale activities and if so does it contain any sub-bundles?		DR	The project activity is not a bundled project activity.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
B.1.8. If the project activity is a bundle of several small scale activities, does the sum of the total bundle (including any subbundles) fall within the limits for small scale projects		DR	Not applicable since the project activity is not a bundled project activity.	Y
B.1.9. If the project activity is a bundle of several small scale activities, has the form with information related to the bundle been submitted and is it correctly used		DR	Not applicable since the project activity is not a bundled project activity.	Y
B.1.10. Is the discussion in the PDD in conformance with all applicability criteria of the applied methodology?	VVM Para.75/66b/68 PDD section B (B.1-B.2)	DR	Section B.2 of the PDD discusses the applicability of the methodology AMS I.D./Version 16 to the proposed project activity. The proposed CDM project activity will supply electricity to the Southern grid from a renewable source (i.e. wind) and the capacity of the project activity (6.4 MW) is below the 15 MW limit for small scale projects. Hence, AMS I.D./version 16 is applicable to the project activity.	Y
B.2. Project Boundary				
B.2.1. Are all emission sources and gases related to the baseline scenario, project scenario and leakage clearly identified and described in a complete and transparent	VVM Para.79/77 /67a PDD section B.3	DR	The PDD correctly describes the project boundary, including the physical delineation of the proposed CDM project activity.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
manner? Is there information on GHG emissions in proposed CDM project activity boundary as a result of the implementation of the proposed CDM project activity which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology.				
B.2.2. In case of grid connected electricity projects: Is the relevant grid correctly identified in accordance with the tool to calculate emission factor of electricity system (wherever applicable) and the underlying methodology?	VVM Para.79 PDD section B.3	DR	The project activity involves generation of electricity using WECs. The electricity generated is exported to the southern grid of India. This grid is identified in accordance with the tool to calculate emission factor version 02.1.0	Y
B.2.3. Does the project boundary include the physical delineation of the proposed CDM	VVM Para.78/79 PDD section B.3 also see section A.4.2	DR	The project boundary of the proposed CDM project activity has been delineated in section B.3 of the PDD. The delineation is correct and meets the requirements of the selected baseline methodology AMS I.D./Version 16	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
project activity?				
B.2.4. 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 PDD section B.3 also see section A.4.2	DR	The project boundary has been described clearly as per the selected methodology AMS I D version 16.	Y
B.3. Identification of the Baseline Scenario				
B.3.1. 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 and is the application of the methodology and the discussion and determination of the chosen baseline transparent?	VVM Para.67b.80/82/86 PDD Section B.4/B.5	DR	The baseline for the proposed CDM project activity has been identified in accordance with the methodology AMS I D version 16 and mentioned clearly in the PDD.	Y
B.3.2. Are all tools/procedures in the methodology correctly applied to identify the most reasonable baseline	VVM Para.81/82/86a- d/83/84 PDD Section	DR	The discussion and determination of the chosen baseline is transparent and supported by the available data which is the present southern grid. The data are available from CO2 Baseline Database for the Indian Power Sector, Version 05.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
scenario? This includes all potential realistic and credible baseline scenarios in the discussion taking into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	B.4/B.5			
B.3.3. Is the choice of the baseline compatible with the available data?	VVM Para.86b-c/95 PDD Section B.4/B.5	DR	The baseline has been identified for proposed project activity as per the methodology AMS I D version 16 and mentioned clearly in the PDD.	Y
B.3.4. Is conservativeness addressed in the way of identifying the baseline?	VVM Para.90 PDD Section B.4/B.5	DR	The baseline for the proposed project activity has been identified as per the methodology AMS I D version 16 and mentioned clearly in the PDD. The data used for calculating the baseline has been taken from the CO ₂ Baseline Database for the Indian Power Sector (Version 05) 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.	Y
B.3.5. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	VVM Para.90/91 PDD Section B.4/B.5	DR	The methodology AMS I.D. Version 16 does not requires the identification of alternative baseline scenarios.	Y
B.3.6. Is there a verifiable description of the baseline scenario? Does this include a description of the	VVM Para.86e/85 PDD Section B.4/B.5	DR	Not required as per methodology AMS I.D. Version 16	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity?				
B.4. Additionality				
B.4.1. Does the PDD clearly demonstrate the additionality using the approach as specified in the methodology and by following all the required steps?	VVM Para 137 EB 54 report, annex 15 VVM Para.67d/95 PDD Section B.1/B.4/B.5	DR	PP is requested to provide documentary evidence for consideration of 100% equity in the project As in wind project gestation period is normally less than 1 year. Initial cash outflow can be matched against cash inflow in year 1 PP is requested to mention appropriate references/sources for all values in the investment analysis and the benchmark excel sheets. PP is requested to include the threshold limit i.e. the scenario in which the calculated IRR crosses the benchmark and explain the likelihood of that scenario in the PDD Please justify the conservativeness of tariff rate considered after 10 th year in financial analysis. CAR #2 and CAR #3 raised Responses to CAR #2 and CAR #3 have been provided and accepted.	CAR #2 and CAR #3 closed out Y
B.4.2. In case of using the additionality tool: Is the 'Additionality Tool' used in the PDD latest version? If an earlier version has been used, do the changes	PDD Section B.1/B.4/B.5	DR	Pending closure of CAR #2 and CAR #3 PP has not used the additionality tool. However 'Tool for the demonstration and assessment of additionality (Version 05.2)', has been referred for the benchmark analysis only.	CAR #2 and CAR #3 closed out Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
impact the discussion in the PDD? Are all steps followed in a transparent manner?				
B.4.3. Has all information been backed up with references, sources and certification? Is the data presented credible and reliable with complete transparency to all available data and documentation?	VVM Para.93/91 PDD Section B	DR SV	Pending closure of CAR #2 and CAR #3. Also, this needs to be discussed during the site visit. Responses to CAR #2 and CAR #3 was provided and accepted. PP has provided sources /references for all values used in the investment analysis. All sources/references have been checked and found to be appropriate.	CAR #2 and CAR #3 closed out Y
B.4.4. 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 validation is it discussed how the CDM was taken into account in the decision to go ahead with the project activity	VVM Para.102b PDD Section B.5	DR	The start date of the proposed CDM project activity is 10/07/2010, which is after the date of 02/08/2008 and hence it is a new project activity as per EB 49 annex 22. PP has notified the UNFCCC on 16/10/2010 which is within 6 months of the project activity start date. This notification has been done using the standardized prior consideration form dated 16/10/2010. This is as per the requirements of EB 49 annex 22.	Y
B.4.5. If an investment analysis has been	VVM Para. 106, 107, 108,	DR	Pending closure of CAR #2 and CAR #3 Investment analysis has been demonstrated for the project activity and the same has	CAR #2 and CAR

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
used, has it been demonstrated that the proposed project activity is economically or financially less attractive than at least one other alternative without the revenue from the sale of CERs?	109 112a-c PDD Section B.5		been described in section B.5 of the PDD. Response to CAR #2 and CAR #3 was provided and accepted.	#3 closed out Y
B.4.6. 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 developer).	VVM Para. 110 PDD Section B.5	DR	PP is requested to provide the screen shots of beta value used from Bloomberg PP is requested to explain the calculation of the benchmark in section B.5 of the PDD Pending closure of CAR #2 and CAR #3 Equity IRR has been selected as the financial indicator and the return on equity has been selected as the benchmark and has been calculated based on the CAPM model.	CAR #2 and CAR #3 closed out Y
B.4.7. 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	VVM Para. 114 116a-b/117 PDD Section B.5 EB50, Annex 13	DR	Not applicable since barrier analysis has not been demonstrated	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
would not have prevented the implementation of at least one of the alternatives?				
B.4.8. Is the discussion on additionality consistent with the identification of all plausible and credible baseline scenarios?	VVM Para. 105 PDD Section B.5	DR	The methodology AMS I.D. Version 16 does not requires the identification of alternative baseline scenarios.	Y
B.4.9. 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 113 EB 50 Annex 13	DR	Not applicable since barrier analysis has not been used	Y
B.4.10. 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	VVM Para. 105 PDD Section A.4.2/B.5	DR	The methodology AMS I.D. Version 16 does not requires the identification of alternative baseline scenarios.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
legislations?				
B.4.11. Has it been shown that the project is not common practice?	VVM Para. 119a/b PDD Section B.5	DR	Common practice analysis is not required by the methodology AMS I.D./Version 16.	Y
B.4.12. What are they key distinctions between the project activity and any similar projects that are widely used as common practice?	VVM Para. 118, 119c/d PDD Section B.5	DR	Common practice analysis is not required by the methodology AMS I.D./Version 16.	Y
B.5. Application of the Simplified Methodology				
B.5.1. Has the simplified methodology been applied correctly for determining baseline emissions ?	VVM Para. 91d PDD Section B (B.6.1 -B.71)	DR	The methodology AMS I.D version 16 has been correctly applied for determining the baseline emissions in section B.6.1 and B.6.3 of the PDD and the ER excel sheet.	Y
B.5.2. Has the simplified methodology been applied correctly for determining project emissions ?	VVM Para. 90/91d PDD Section B (B.6.2-B.71)	DR	The methodology AMS I.D version 16 has been correctly applied for determining the project emissions in section B.6.1 and B.6.3 of the PDD and the ER excel sheet.	Y
B.5.3. Has the simplified methodology been applied correctly for	VVM Para. 91d	DR	The methodology AMS I.D version 16 has been correctly applied for determining the leakage in section B.6.1 and B.6.3 of the PDD and the ER excel sheet.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
determining leakage ?	PDD Section B (B.6.2 -B.71)			
B.5.4. Where applicable, has the simplified methodology been applied correctly for the direct calculation of emission reductions ?	VVM Para 88/91d PDD Section B (B.6.2 -B.71)	DR	The methodology AMS I.D version 16 has been correctly applied for the calculation of emission reductions in section B.6.1 and B.6.3 of the PDD and the ER excel sheet.	Y
B.5.5. 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.71)	DR	The methodology has been correctly applied for the calculation of emission reductions.	Y
B.5.6. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	PDD Sections B.5-C	DR	The project activity involves the generation of electricity using wind energy and hence not applicable	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
B.6. Ex-ante Data and Parameters Used				
B.6.1. Are the data provided in compliance with the methodology?	VVM Para. 91/67c PDD Section B.6.3B.6.4	DR	The data provided in the excel spreadsheet are in compliance with the approved methodology AMS I.D./Version 16.	Y
B.6.2. 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	All data in the excel spreadsheet have been quoted from official data sources or from replicable records like the CEA database and have been correctly quoted.	Y
B.6.3. 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 CO2 Baseline Database for the Indian Power Sector, Version 05 which was available at the time of PDD submission	Y
B.6.4. 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	PP has applied all the data appropriately and correctly to the CDM project activity.	Y
B.6.5. 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	The data from the CEA database version 5 - OM, BM and CO ₂ emission factor which have been fixed by the PP are appropriate and will result in conservative estimates throughout the crediting period.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
B.6.6. If the project activity uses the PLF does it follow the guidance provided in EB48 annex 11?	EB48 Annex 11.	DR	PP is requested to confirm that the PLF and Effective PLF considered is as per EB 48 Annex 11 CAR #2 raised. The PP has used the PLF from the WEC supplier offer letter (23.90%) for the investment analysis, since it was available at the time of investment decision. This is appropriate as per paragraph 6 of EB 51 Annex 58. Further, as per the UN guidelines in paragraph 3(b) of EB 48 Annex 11, the PP has contracted a third party (23.04%) to determine the PLF at the WEC site. The difference in the values of PLF have been addressed in the sensitivity analysis in the PDD. Thus guidance has been followed for the determination of the PLF.	CAR #2 closed out Y
B.7. Calculation of Emissions Reductions				
B.7.1. Has the simplified methodology been applied correctly for determining emission reductions ?	VVM Para. 91d PDD Section A.4.3/B.6	DR	The methodology has been applied exactly as defined for determining the emission reductions. Section B.6.1 of the PDD clearly states the equations to be used and follows all required steps as per the methodology. The same has been reflected in the ER excel sheet.	Y
B.7.2. Are the emission reduction calculations documented in a complete and transparent manner?	VVM Para. 91e PDD Section B.6	DR	Section B.6.3 of the PDD documents indicates how each equation has been applied to calculate the emission reductions. It has been indicated in a reproducible manner. The same has been reflected in the ER excel sheet.	Y
B.7.3. Is the projection based on same procedures as used for later monitoring or acceptable alternative models?	PDD Section B.6	DR	Project participant has provided a transparent <i>ex ante</i> calculation of baseline emissions expected during the crediting period, applying all relevant equations provided in the approved methodology AMS I.D./Version 16	Y
B.7.4. Is the calculation of the	VVM Para.	DR	The application of formulae to calculate emission reductions were found to be correct and reproducible in the PDD as well as the excel sheet. All estimates can be replicated	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
emission reduction correct?	91e PDD Section B.6		using the parameters mentioned in the PDD.	
B.8. Emission Reductions				
B.8.1. Is the form/table required for the indication of projected emission reductions correctly applied?	PDD Section A.4.3/ Section B.6	DR	The tables in section A.4.3 and B.6 of the PDD have been correctly applied.	Y
B.8.2. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	PDD Section A.4.3/ Section B.6	DR	PP has mentioned the start date of the crediting period as "01/05/2011 or the date of registration with the UNFCCC, whichever is later", which is appropriate.	Y
B.9. Monitoring Methodology				
B.9.1. 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	VVM Para. 67e PDD Section B.7- B.8 see also Annex 4	DR SV	PP is requested to clarify the value of 115% import mentioned in Annex 4 of the PDD PP is requested to submit documentary evidence (Eg: Form B/JMR; calculation sheet for transmission loss; invoice, etc) to support the monitoring procedure mentioned in the PDD PP is requested to clarify the definition of the parameter Gp in annex 4 of the PDD. The definition mentions 'recorded' as well as there is a formula mentioned to 'calculate' the parameter. According to section B.7.1 for parameter EGy in row "Any Comments" it is mentioned that "values will be taken from JMR". PP is requested to clarify if this parameter is calculated as mentioned in annex 4 how will it be taken from the JMR?	CL #6 closed out Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
with the simplified methodology. Has this data been interpreted and applied correctly?			CL #6 raised. Responses to CL #6 have been provided and accepted. The monitoring methodology has been applied correctly in representing all the parameters to be monitored.	
B.9.2. Does the monitoring methodology apply consistently the choice of the option selected for monitoring both of project and baseline emissions?	PDD Sections B and C	DR SV	Pending closure of CL #6 The monitoring plan has been applied correctly for monitoring of both project and baseline emission.	CL #6 closed out Y
B.10. Data and Parameters Monitored				
B.10.1. Does the monitoring plan in the PDD comply with the simplified methodology? Provide for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the crediting period?	VVM Para. 91a/91d/121/79 PDD Section B.7-B.7.2	DR	Pending closure of CL #6 The Monitoring plan contains all necessary parameters and means of monitoring described in the plan complies with the requirements of the methodology AMS I.D Version 16.	CL #6 closed out Y
B.10.2. Are the choices of project GHG indicators reasonable and in conformance with the requirements set by the	PDD Section B.7-B.7.2/B.6.2	DR	Choices of project GHG indicators are not required as per methodology AMS I.D Version 16	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
simplified methodology applied?				
B.10.3. Will it be possible to determine the specified project GHG indicators?	PDD Section B.6.2-B.8	DR	Project GHG indicators are not required as per methodology AMS I.D Version 16	Y
B.10.4. 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 EB 55, annex 35	DR	Pending closure of CL #6 The information given for each monitoring variable by the presented table is sufficient to ensure the verification of a proper implementation of the monitoring plan	CL #6 closed out Y
B.10.5. Is the information given for each monitoring variable by the presented table sufficient to ensure the delivery of high quality data free of potential for biases or intended or unintended changes in data records?	PDD Section B.6.2-B.7.1	DR	Pending closure of CL #6 The information given for each monitoring variable by the presented table is sufficient to ensure the delivery of high quality data free of potential for biases or intended or unintended changes in data records.	CL #6 closed out Y
B.10.6. 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	The monitoring approach will deliver data in a reliable and reasonably acceptable accuracy.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
B.10.7. 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	The proposed project activity is the generation of electricity using wind energy, so project emission has not been taken into account that is inline with methodology AMS I.D Version 16	Y
B.11. Quality Control (QC) and Quality Assurance (QA) Procedures				
B.11.1. Is the selection of data undergoing quality control and quality assurance procedures complete?	VVM Para. 121 Refer to all data within the PDD Inc. B.6.2-B.7.1	DR	The WEC supplier is ISO certified and followed the QA/QC procedure for the monitoring data. QA/QC procedures have been described for all the parameters in the PDD.	Y
B.11.2. Is the belonging determination of uncertainty levels done correctly for each ID in a correct and reliable manner?	Refer to all data within the PDD Inc. B.4/B.7.2/Annex 4	DR	The uncertainty levels for each parameter have been addressed for each sub-bundle in section B.7.2 of the PDD.	Y
B.11.3. Are quality control procedures and quality assurance procedures sufficiently described to ensure the delivery of high quality data?	VVM Para 121	DR	The WEC supplier is ISO certified and followed the QA/QC procedure for the monitoring data. QA/QC procedures have been described for all the parameters in the PDD.	Y
B.11.4. Is it ensured that data will be bound to national or internal reference standards?	VVM Para. 86d	DR SV	The data provided will be bound by national references and this was cross-checked during the site visit.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
B.11.5. 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	The WEC supplier is ISO certified and followed the QA/QC procedure for the monitoring data. QA/QC procedures have been described for all the parameters in the PDD through which data manipulation can be avoided.	Y
B.12. Operational and Management Structure				
B.12.1. Is the authority and responsibility of project management clearly described?	PDD Section B.8/Annex 1	DR SV	Management and operational structure for the project activity has been correctly described in the PDD. It is consistent with that observed during the site visit.	Y
B.12.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	PDD Section B.8/Annex 1	DR	The same has been correctly described in the PDD and was cross-checked during the site visit.	Y
B.12.3. Are procedures identified for training of monitoring personnel?	PDD Section B.8/Annex 1	DR	The Enercon Training Academy provides need-based training to meet the training requirements. The same has been mentioned in section B.7.2 of the PDD	Y
B.13. Monitoring Plan (Annex 4)				
B.13.1. Is the monitoring plan developed in a project specific manner clearly addressing the unique features of the CDM activity?	VVM Para. 122a	DR	The monitoring plan has been developed specifically for this project activity and is mentioned in Section B.7.2 and annex 4 of the PDD.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
B.13.2. Does the monitoring plan completely describe all measures to be implemented for monitoring all parameter required, including measures to be implemented for ensuring data quality?	VVM Para. 122b EB55 Annex 35	DR	Section B.7.2 and annex 4 of the PDD describes all measures to be implemented for monitoring all parameters, including measures to be implemented for ensuring data quality.	Y
B.13.3. Does the monitoring plan provide information on monitoring equipment and respective positioning in order to safeguard a proper installation?	VVM Para. 122b	DR	Section B.7.2 and annex 4 of the PDD provides information about the meters to be used for the monitoring.	Y
B.13.4. Are procedures identified for calibration of monitoring equipment?	VVM Para. 123a-b EB55 Annex 35	DR	The PDD has described the calibration procedure, frequency of calibration and has identified the entity responsible for the same.	Y
B.13.5. Are procedures identified for maintenance of monitoring equipment and installations?	VVM Para. 123a-b	DR	The maintenance of monitoring equipment and installations will be carried out by the EPC contractor.	Y
B.13.6. Are procedures identified for day-to-day records handling (including what records to keep, storage area of	VVM Para. 123a-b EB55 Annex 35	DR SV	PP has mentioned procedure for day to day records and storage of records. The same was checked during site visit.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
records and how to process performance documentation)				
B.13.7. Are procedures identified for dealing with possible monitoring data adjustments and missing data allowing reconstruction of data in case of monitoring problems?	VVM Para. 124a-c	DR	The procedures for dealing with monitoring problems have been covered in section B.7.2 and annex 4 of the PDD.	Y
B.13.8. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	VVM Para.124a-c	DR SV	Management structure for the project activity has been correctly described in the PDD. It is consistent with that observed during the site visit.	Y
B.13.9. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	VVM Para. 124a-c	DR	Reviewing the data is a part of the O&M service of the EPC contractor and is covered under the management structure mentioned in section B.7.2 of the PDD.	Y
B.13.10. Describe the ability of the project participants to implement the monitoring plan.	VVM Para. 124c	DR SV	The project activity is already commissioned and the PP can implement the monitoring plan since the O&M contractor is experienced in the same.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
B.14. Baseline Details				
B.14.1. Is there any indication of a date when determining the baseline?	PDD Section B.8/Annex 3	DR	The baseline has been determined on 23/12/2010, as mentioned in the PDD.	Y
B.14.2. Is this consistent with the time line of the PDD history?	Also see revision history of the PDD	DR	The date of the webhosted PDD is 31/12/2010. The baseline has been determined on 23/12/2010 which is before PDD publication	Y
B.14.3. Is all data required provided in a complete manner by annex 3 of the PDD?	PDD Annex 3	DR	All the data required for baseline determination is mentioned in section B.6.2 of PDD.	Y
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. 102a-c PDD Section C.1.1/C.1.2	DR	The operation lifetime is 20 years as described in the PDD which is same as that of other wind power projects. PP has provided purchase orders as evidence to support the start date of the project activity which is as per para 67 of EB 41 meeting report. Hence the start date is appropriate.	Y
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	Fixed crediting period of 10 years has been selected for the project activity and it is reasonable. PP has carried out the investment analysis for the entire lifetime of the project activity i.e. 20 years. PP has mentioned 01/05/2011 or date not earlier than the date of registration as the start date of the crediting period, which is appropriate.	Y
C.1.3. Does the project's	VVM Para.	DR	The project operational life is expected to be 20 years, which exceeds the crediting period of 10 years.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
operational lifetime exceed the crediting period	102a PDD Section C.1.2/C.2.1.1/C.2.1.2			
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 start date of the project activity 10/07/2010 which is after 2nd August 2008 and thus it is a new project activity.	Y
D. Environmental Impacts				
D.1.1. Does the project comply with environmental legislation in the host country?	VVM Para. 131/134d PDD section D	DR	PP has provided the latest applicable EIA notification. The project complies with the environmental legislation in the host country.	Y
D.1.2. Has an analysis of the environmental impacts of the project activity been sufficiently described?	VVM Para. 131 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 be carried out for the proposed project activity.	Y
D.1.3. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	VVM Para. 131 PDD section D	DR	As per the notification dated 14th September 2006 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 Clearance either from State or Central Govt. authorities and hence no EIA study required to be carried out.	Y
D.1.4. Will the project create any adverse environmental effects?	VVM Para. 131	DR	The proposed project activity involves the establishment of a wind energy based power plant and hence there are no adverse environmental effects.	Y

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
	PDD section D			
D.1.5. Are trans-boundary environmental impacts considered in the analysis?	VVM Para. 131 PDD section D	DR	Not applicable since an EIA is not required to be carried out for the project activity.	Y
D.1.6. Have identified environmental impacts been addressed in the project design?	VVM Para. 131 PDD section D	DR	Not applicable since an EIA is not required to be carried out for the project activity.	Y
E. Stakeholder Comments				
E.1.1. Have relevant stakeholders been consulted?	VVM Para. 128a PDD Section E.1	DR SV I	The PP has identified the farmers, gram panchayat members, etc as the local stakeholders. The relevance of the stakeholders identified will be verified during the site visit. The stakeholders identified are relevant to the proposed project activity.	Y
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	VVM Para. 128a PDD Section E.1	DR SV I	The stakeholders have been invited through individual invitation letters and a public notice. PP has submitted evidence for the same and it was cross verified during the site visit.	Y
E.1.3. Is the undertaken stakeholder process described in a complete and transparent manner?	VVM Para. 128b PDD Section E.1	DR SV I	The stakeholder process has been completely described in section E.1 of the PDD. It was cross verified during the site visit.	Y
E.1.4. Is a summary of the stakeholder comments	VVM Para. 128b	DR SV	The summary of stakeholder comments has been provided in section E.2 of the PDD. It was cross verified during the site visit.	Y



Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
received provided?	PDD Section E.2	I		
E.1.5. Has due account been taken of any stakeholder comments received?	VVM Para. 128b PDD Section E.3	DR SV I	The comments received from the stakeholder are positive in nature and hence no action needs to be taken. This is reflected in section E.3 of the PDD and was cross verified during the site visit.	Y

A.3 Annex 3: Overview of Findings

Findings Overview Summary

	CARs	CLs	FARs
Total Number raised	4	2	-

Date:	21/02/2011		Raised by:	Assessment Team	
Type:	CAR	Number:	#1	Reference:	Table 1
Lead Assessor Comment:					
PP is requested to submit the Host Country Approval for the project activity.					
Project Participant Response:				Date: 28/02/2011	
PP (Project Participant) will submit the Host Country Approval once received from MOEF. PP has applied for the same					
Documentation Provided by Project Participant:					
Not applicable					
Information Verified by Lead Assessor:					
PP needs to submit HCA					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 04/03/2011	
PP is requested to submit the Host Country Approval for the project activity.					
Project Participant Response:				Date: 06/06/2011	
Host country Approval is enclosed					
Documentation Provided by Project Participant:					
Host Country approval dated 27/05/2011					
Information Verified by Lead Assessor:					
HCA is submitted, title of project activity and name of project participant has been cross checked with PDD					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 06/06/2011	
PP has submitted the letter no 4/8/2010-CCC dated 26/05/2010 from the Indian DNA, Ministry of Forests and Environment, Gol for Host Country Approval. The title of the project in the letter is checked with the submitted PDD and found appropriate. The letter has also mentioned that India is a party to the Kyoto protocol, the participation in the CDM project is voluntary and the project activity contributes to the Sustainable Development of the Host Country. Same is acceptable.					
Acceptance and Close out by Lead Assessor:				Date: 06/06/2011	

Date:	21/02/2011		Raised by:	Assessment Team	
Type:	CAR	Number:	#2	Reference:	B.4

Lead Assessor Comment:	
INVESTMENT ANALYSIS RELATED COMMENTS (Part 1 of 2)	
<ol style="list-style-type: none"> 1. PP is requested to justify how the PLF and Effective PLF considered for the investment analysis is as per EB 48 Annex 11 and as per paragraph 6 of EB 51 annex 58. 2. Please justify the conservativeness of tariff rate considered after 10th year in financial analysis. 3. PP is requested to provide documentary evidence for consideration of 100% equity in the project 4. It is noted that especially for wind project gestation period is normally less than 1 year. Please clarify why initial cash outflow and initial cash inflow has been considered in different years. 5. PP is requested to include the threshold limit i.e. the scenario in which the calculated IRR crosses the benchmark and explain the likelihood of that scenario in the PDD 6. PP is requested to provide the screen shots of beta value used from Bloomberg 	
Project Participant Response:	Date: 28/02/2011

1. There were two sources for PLF available with PP :

- a) PLF provided by supplier in its offer dated 25th June 2010
 - a. PLF WEC controller- 23.9%
 - b. Transmission Loss- 3%
 - c. Effective PLF- 23.18%
- b) PLF estimated by independent third party dated 24th November 2010 (applicable as per EB 48, Annex 11)
 - a. PLF WEC controller- 24%
 - b. Transmission Loss- 4%
 - c. Effective PLF- 23.04%

The effective PLF provided under Enercon offer is conservative and was available at the time of investment decision making hence used for purpose of substantiating additionality.

hence used for purpose of substantiating additionality.

Furthermore, the sensitivity on PLF is conducted at +/- 10%.

2. Karnataka state electricity commission has fixed the tariff of Rs. 3.70 per unit for the period of 10 years from the date of signing of PPA. This tariff rate has been derived by considering various factors as project cost, PLF, Auxiliary consumption; O&M cost, debt to equity ratio, loan interest rate and tenure of loan, interest on working capital, and return on equity. These factors have been fixed by KERC in their order dated as 11th December 2009. KERC has computed tariff rate for 10 years. The tariff computed by the KERC order for the first year is INR 4.40 per unit and it decreases progressively to INR 3.04 per unit in the 10th year. The reduction in tariff year on year is on the account of repayment of debt and also there is no running cost other than O&M which increases only marginally.

Therefore from 11th year to the 20th year (when loan tenure is over), the tariff number cannot contain the element of debt service (after principal repayment and interest payment) and even with the increased operating costs; the overall tariff number is lower in the 11th year. Following same logic the tariff rate has been derived for 11th year to 20th year. The average tariff from 1th to 20th year works out to be Rs. 2.00 per unit using the input values from the KERC order.

Detail calculation based on the KERC order under consideration, which was available at the time of decision making, has been provided in attached excel file.

3. PP has provided Board Resolution & CA declaration to DOE wherein PP has mentioned that the project is 100% equity based project.

4. For accounting the cash flow; XIRR is more appropriate function compared to IRR as XIRR takes to consideration the time of cash inflow and cash outflow from the project. We have included the capital cash outflow as per offer received from the supplier and applied the XIRR function to compute the equity returns. The revised spreadsheet has been provided to DOE for verification.

5. PDD has been revised accordingly to include the threshold limit i.e. the scenario in which the calculated IRR crosses the benchmark and the explanations of likely hood of occurrence of such scenario have also been included.

6. Beta Snapshots have been provided in the PDD in Appendix 2.

Documentation Provided by Project Participant:

1. Independent third party PLF report
2. KERC order, dated 11th December 2009, source: <http://www.kerc.org/nce%20tariff%202009/Order%20on%20NCE%20Tariff%20final%20dt11.12.2009.doc> Page no:31
3. Board resolution LLP 9-7-10, CA Declaration letter
4. Investment Analysis
5. PDD Version 2.0

Information Verified by Lead Assessor:

Enercon offer letter and the third party PLF report issued by M/s Ravi Enteck Limited dated 24/11/2010 have been checked for the values of PLF.

The board resolution and CA certificates for both PPs were checked to confirm 100% equity in the project.

The investment analysis excel sheet was checked for the usage of the XIRR function

Section B.5 of the PDD was checked for the sensitivity analysis and the threshold limit of the parameters undergoing sensitivity analysis.

Reasoning for not Acceptance or Acceptance and Close Out:

Date: 04/03/2011

1. The PP has used the PLF from the WEC supplier offer letter (23.18%) for the investment analysis, since it was available at the time of investment decision. This is appropriate as per paragraph 6 of EB 51 Annex 58. Further, as per the UN guidelines in paragraph 3(b) of EB 48 Annex 11, the PP has contracted a third party (23.04%) to determine the PLF at the WEC site. The difference in the values of PLF have been addressed in the sensitivity analysis in the PDD. Thus the PLF considered for the project activity satisfies the requirements of EB 48 Annex 11 (paragraph 3b) & EB 51 annex 58 (paragraph 6).
2. PP is requested to justify the conservativeness of the tariff rate of Rs. 2 per kWh considered after 10th year in the financial analysis
3. The extracts of the board resolutions of both PPs clearly states that the project will be funded by equity alone. The CA certificates also certifies that the PP has not availed any term loan or credit facilities from any banks or financial institutions. This confirms that the project is 100% equity funded.
4. PP has used the XIRR function in the excel sheet to compute the equity IRR which is a more appropriate function since it takes into consideration the time of cash inflow and cash outflow from the project. (This issue will be closed on confirmation from the financial expert)
5. PP has included the threshold limit, i.e. the scenario in which the IRR crosses the benchmark, for the parameters included in the sensitivity analysis, in section B.5 of the PDD. The justification for the likelihood of those scenarios has been appropriately explained. PP is requested to verify the threshold limit after addressing issue 6, as it may lead to a change in the benchmark.
6. PP has provided the beta snapshots for the beta value in appendix 2 of the PDD. The value of beta mentioned in the snapshot is inconsistent with the beat value in the excel sheet. PP is requested to correct the same.

CAR #2 is open

Project Participant Response:

Date: 31/03/2011

- Please find the detail explanation in the attachment File titled 'Tariff beyond the term of PPA'
- The revised threshold limits for all the relevant parameters have been updated in sensitivity analysis
- Benchmark sheet has been modified accordingly

Documentation Provided by Project Participant:

<ul style="list-style-type: none"> File titled 'Tariff beyond the term of PPA' Revised PDD Revised benchmark sheet 	
Information Verified by Lead Assessor:	
<p>The file titled 'Tariff beyond'</p> <p>The raw beta values mentioned in the benchmark excel sheet have been verified for consistency against the beta snapshots.</p> <p>The threshold limit mentioned in section B.5 of the has been checked.</p>	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 01/04/2011
<ol style="list-style-type: none"> 1. – 2. PP has used the cost plus approach to calculate the tariff of 2 INR/kWh. The same approach has been used by KERC to arrive at the tariff of 3.70 INR/kWh in the order dated 11/12/2009. This tariff is the average tariff as calculated in the KERC order. It can be confirmed through the order that first year tariff is INR 4.40/kWh which would reduce from year to year and the 10th year tariff would be INR 3.04/kWh. The reduction in tariff from year to year is mainly on account of repayment of debts and also that there are no running costs other than O&M costs which increases only marginally from year to year. The same cost plus approach has also been used in the following projects from the same region, registered with the UNFCCC: Reference nos. 0276; 1259; 1286; 1291 and 1299. The calculated tariff rate in these projects for the period from the 10th year onwards is in the range 1.76 to 1.84 INR/kWh. The tariff rate after the 10th year for the project activity has been calculated to be 1.97 INR/kWh and PP has used a value of 2 INR/kWh to be appropriate. 3. – 4. – 5. The threshold limits for the parameters considered for the sensitivity analysis mentioned in section B.5 of the PDD have been checked and are found to be correct. 6. The value of raw beta mentioned in the snap shots have been checked against that used in the benchmark excel sheet and is found to be consistent. This has been checked and is accepted. <p>CAR #2 closed out</p>	
Acceptance and Close out by Lead Assessor:	Date: 01/04/2011

Date:	21/02/2011		Raised by:	Assessment Team	
Type:	CAR	Number:	#3	Reference:	B.4
Lead Assessor Comment:					
INVESTMENT ANALYSIS RELATED COMMENTS (Part 2 of 2)					
<ol style="list-style-type: none"> 1. PP is requested to mention appropriate references/sources for all values in the investment analysis and the benchmark excel sheets. 2. Please report the cost incurred in land and Infrastructure, Generator & Electrical Equipmentspre operative expenses, ect. (p.13) 3. PP is requested to explain the calculation of the benchmark in section B.5 of the PDD 					
Project Participant Response:				Date: 28/02/2011	

1. Appropriate references/sources for all values in the investment analysis and the benchmark calculation have been provided in revised documents.

2. The breakup of investment cost has been incorporated in the revised spreadsheet.

	Cost/Machine (Rs. Million)	Project Cost (Rs. Million)
WECs	32.90	263.20
Concrete Tower	5.93	47.44
Distribution Transformer	2.48	19.84
Civil works	1.62	12.96
Erection & commissioning	1.62	12.96
Land and Transportation charges	1.19	9.52
Transfer of Development right charges	1.73	13.84
	47.47	379.76

3. The detailed procedure including references to arrive at benchmark is described in Appendix-1 of PDD and detail calculation of benchmark is presented in benchmark excel sheet.

Documentation Provided by Project Participant:

1. Investment Analysis
2. PDD version 2.0
3. Benchmark excel sheet

Information Verified by Lead Assessor:

The revised PDD, benchmark excel sheet and investment analysis excels sheet were checked for correctness of the benchmark calculations, appropriateness of values and references.

Reasoning for not Acceptance or Acceptance and Close Out:

Date: 04/03/2011

1. The references/sources for all values in the investment analysis and the benchmark excel sheets have been checked and found to be appropriate and hence is accepted.
2. PP has provided a break up of the investment cost in the investment analysis excel sheet. This has been checked against the offer letter and found to be correct, hence accepted.
3. PP has explained in detail the calculation of the benchmark in appendix 1 of the PDD. This has been checked and is accepted.

CAR #3 closed out

Acceptance and Close out by Lead Assessor:

Date: 04/03/2011

Date:	21/02/2011	Raised by:	Assessment Team
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Type:	CL	Number:	#4	Reference:	A.4.3; B.1
Lead Assessor Comment:					
<ol style="list-style-type: none"> 1. PP is requested to mention all the applicability criteria as per the applicable methodology in section B.2 of the PDD. 2. PP is requested to submit applicable ownership documents / licenses / clearances which allow the implementation of the project activity at the project site. 					
Project Participant Response:				Date: 28/02/2011	
<ol style="list-style-type: none"> 1. Section B.2 of the PDD has been revised to include all the applicability criteria as per the methodology. 2. The documents on Land clearance and clearance from Government of Karnataka for the project have been provided to DOE for verification. 					
Documentation Provided by Project Participant:					
<ol style="list-style-type: none"> 1. PDD version 2.0 2. Clearance from Government of Karnataka 3. Land clearance 					
Information Verified by Lead Assessor:					
<p>Section B.2 of the PDD was checked for the applicability criteria</p> <p>Clearance from the Government of Karnataka; land sale deed; PPA and commissioning certificates were checked for confirming ownership and clearance to implement the project activity at the project site.</p>					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 04/03/2011	
<ol style="list-style-type: none"> 1. PP has mentioned all the applicability criteria as per the applicable methodology in section B.2 of the PDD. This has been checked against the selected methodology and is accepted. 2. The government clearance; land sale deed; power purchase agreement & commissioning certificates provided by the PP confirms the ownership of the project and also confirms the clearance which allow the implementation of the project activity at the project site <p>CL #4 closed out</p>					
Acceptance and Close out by Lead Assessor:				Date: 04/03/2011	

Date:	21/02/2011		Raised by:	Assessment Team	
Type:	CAR	Number:	#5	Reference:	Table 1
Lead Assessor Comment:					
PP is requested to mention in the PDD the correct references to the latest EB guidance's and the version numbers of the tools used. (Eg. EB 51 Annex 58 – Guidelines on assessment of investment analysis)					
Project Participant Response:				Date: 28/02/2011	
Guidelines on assessment of investment analysis have been updated to EB 51 Annex 58 in revised PDD. Further the version number of the tools have also been updated i.e. "Tool to calculate the emission factor for an electricity system", version 2 and "tool for demonstration and assessment of additionality" version 5.2.					
Documentation Provided by Project Participant:					
PDD version 2.0					
Information Verified by Lead Assessor:					

PDD version 2 was checked for the usage of the latest versions of the applicable tools and guidances	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 04/03/2011
PP has referred to the latest available EB guidelines & tools used and has mentioned the correct references for the same in the revised PDD. This has been checked and accepted. CAR #5 is closed out	
Acceptance and Close out by Lead Assessor:	Date: 04/03/2011

Date:	11/02/2011	Raised by:	Assessment Team		
Type:	CL	Number:	#6	Reference:	B.9; B.13
Lead Assessor Comment:					
MONITORING					
1. PP is requested to clarify the value of 115% import mentioned in Annex 4 of the PDD					
2. PP is requested to submit documentary evidence (Eg: Form B/JMR; calculation sheet for transmission loss; invoice, etc) to support the monitoring procedure mentioned in the PDD					
3. PP is requested to clarify the definition of the parameter Gp in annex 4 of the PDD. The definition mentions 'recorded' as well as there is a formula mentioned to 'calculate' the parameter.					
4. According to section B.7.1 for parameter EGy in row "Any Comments" it is mentioned that "values will be taken from JMR". PP is requested to clarify if this parameter is calculated as mentioned in annex 4 how will it be taken from the JMR?					
Project Participant Response:				Date: 28/02/2011	
1. The 115% value has been taken from the standard Form B approved by Hubli Electricity Supply Company Limited (HESCOM) and used to record the power generation. The sample copy for the month of Dec-2010 has been provided to DOE for verification.					
2. A copy of JMR/Form B of Dec-2010 and the calculation of transmission losses for month of Dec-2010 have been provided to the DOE for verification.					
3. We have removed the reference of Gp from the monitoring information. The only parameters used are electricity export (Gpe), electricity import (Gpi) and transmission loss (Li) for computation of net electricity exported to the grid (EGy).					
4. Net electricity exported to the grid (EGy) by the Project is mentioned in Form B as "Energy to be billed" after carrying out all the calculations considering energy exported, energy imported and transmission losses and therefore can be directly referred from Form B.					
Documentation Provided by Project Participant:					
1. PDD version 2.0					
2. Copy of Form B					
3. Copy of transmission losses calculation					
Information Verified by Lead Assessor:					
Form B/JMR; Invoice; Calculation of transmission loss sheet & the PDD were checked for correctness of monitoring					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 04/03/2011	

1. The value of 115% of import is reflected in the form B issued by HESCOM (Electricity Supply Company of the state utility which is responsible for power distribution in the district of Gadag). This has been checked and accepted.	
2. PP has submitted the form B/JMR; invoice & the calculation sheet for transmission loss to support the monitoring plan. This has been checked against the details mentioned in section B.7 and annex 4 of the PD and is found to be appropriate.	
3. PP has removed the reference to the parameter Gp in annex 4 of the PDD. This has been found to be appropriate and hence accepted.	
4. The value of E _G will be directly taken from the form B/JMR. Annex 4 of the PDD shows the calculations applied in the form B/JMR to arrive at that value. This has been checked from the form B and the invoices and is accepted.	
CL #6 is closed out	
Acceptance and Close out by Lead Assessor:	Date: 04/03/2011

Date:	25/05/2011	Raised by:	TR team		
Type:	CAR	Number:	#7	Reference:	Table 1
TR Comment:					
1. PP is requested to clarify the appropriateness of the formula used to calculate salvage value in the “Cash Flow” sheet of the IRR excel document					
2. PP is requested to clarify how the nature of the companies selected for the beta calculations is similar to company investing in the project activity, in particular for BF utilities and Reliance Infra					
3. PP is requested to updated the version no. of the tool to calculate emission factor					
4. PP is requested to clarify why a parameter of 115% is used in the equation					
Project Participant Response:				Date: 26/05/2011	
1. The salvage value doesn't consider the value of land and other asset has been depreciated up to 90% as per CERC notification dated as 19th January, 2009					
2. Referring to Appendix-1: Calculation of financial benchmark (Cost of Equity) of PDD, the description of Beta clearly states that”. <i>For companies that are not publicly listed, the beta is determined by referring beta values of publicly listed companies that are engaged in similar types of business. The project activity type is wind power generation; the approach therefore should be to base the beta for the project on the beta values of listed wind power generation companies in India. Therefore, in the absence of adequate data on companies which are exclusively into the exactly same type of business (i.e wind power projects), the next best option for assessing the risk of these projects is to consider the data available on companies which are involved in similar businesses.”</i> This justifies the companies chosen for the analysis.					
3. The version number has been modified as'Tool to calculate the Emission Factor for an electricity system' (version 02.1.0)					
4. The 115% value has been taken from the standard Form B approved by Hubli Electricity Supply Company Limited (HESCOM). This factor is multiplied with electricity imported by meter. The footnote mentioning the same has been added in section B.7.2 of PDD.					
Documentation Provided by Project Participant:					
Revised PDD version 04 dated 26/05/2011					
Revised Investment analysis excel sheet					
Information Verified by Lead Assessor:					

Revised PDD and investment analysis sheet have been checked for the amendments made as per the queries raised above.	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 27/05/2011
<ol style="list-style-type: none"> 1. Salvage value doesn't consider the value of land and other asset has been depreciated up to 90% the same has been verified from CERC notification dated as 19th January, 2009, hence accepted. 2. In absence adequate data on companies which are exclusively into the exactly same type of business (i.e. wind power projects), PP has chosen option for assessing the risk of these projects is to consider the data available on companies which are involved in similar businesses. This is accepted. 3. PP has updated the PDD considering "Tool to calculate the Emission Factor for an electricity system" (version 02.1.0). This issue is closed. 4. The 115% value is verified with the standard Form B approved by Hubli Electricity Supply Company Limited (HESCOM). This factor is multiplied with electricity imported by meter. This issue is closed <p>CAR #7 is closed.</p>	
Acceptance and Close out by Lead Assessor:	Date: 27/05/2011

Date:	29/01/2011		Raised by:	Babloo (babloosinghindia@yahoo.com)	
Type:	ISHC	Number:	#1	Reference:	
Lead Assessor Comment:					

<p>1. There are no details on the construction of the benchmark and its components. How can a DOE webhost such an incomplete PDD for global stakeholder consultation? How can the stakeholder comment on such case?</p> <p>2. The logic of considering a tariff rate of INR2/kWh after 10 years is absurd. Everyone is well aware that there cannot be a decrease in the tariff rather an increase year on year even after the defined tariff period in the tariff order. Can you support with past cases where one has got a tariff rate of INR 2/kWh or near to this figure??</p> <p>3. The PP states that they have considered 80% accelerated depreciation. However the PDD is silent on the tax shielding as a result from accelerated depreciation.</p> <p>PPs cleverly do not consider the accounting tax offsetting in their companies while calculating the IRR. This is evident from the recently registered projects and those requesting registration.</p> <p>The DOE is therefore requested to critically analyze how the accelerated depreciation benefit has been taken into account and confirm the accounting of the cash inflows as a result of the negative tax liability in the initial years. DOE should not be misguided by the financial presented by the PP or consultant which are custom made for CDM purposes and not the actual financial considered at the investment decision. Note that considering cash inflows results in an increase in the IRR making wind projects a profitable venture.</p> <p>4. Please also check the offer from the WEC supplier and the purchase order while validating the PLF. It may be so that the third party report may indicate a lower PLF.</p> <p>5. Stakeholder Consultation: The project WECs are located at the Village: Kalasapur, District: Gadag, State: Karnataka. However the stakeholder consultation was conducted at Hubli city which is more than 70 kms from the WEC site. The most important stakeholders are the farmers and the nearby residents. How did the PP ensure that these low income people (farmers, villagers and nearby residents) also participated in the meeting?? Though the panchayat members were present they can afford to travel to Hubli to attend. As such they are regular travellers to Hubli for administrative purposes. However, the low income farmers and villagers and nearby residents cannot travel so far. Was the meeting deliberately conducted at a far off place so that presence of these stakeholders could have been avoided??</p> <p>How could a nearby farmer leave his daily work and travel for more than 5 hours to attend the meeting? Interestingly the PP was not present at the meeting. How did the PP ensure that the right message was given to the stakeholders in the PPs absence? PP is requested to re schedule the stakeholder meeting nearby the project site and re-webhost the PDD.</p>	<p>Project Participant Response:</p> <p>Date: 28/02/2011</p>
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1. The procedure to arrive at benchmark is described in Appendix-1 of PDD and detail calculation of benchmark is presented in benchmark excel sheet.

2. The logic of considering a tariff rate of INR 2/kWh after 10 years has been based on KERC order dated as 11th December 2009. Karnataka state electricity commission has fixed the tariff of Rs. 3.70 per unit for the period of 10 years from the date of signing of PPA. This tariff rate has been derived by considering various factors as project cost, PLF, Auxiliary consumption; O&M cost, debt to equity ratio, loan interest rate and tenure of loan, interest on working capital, and return on equity. These factors have been fixed by KERC in their order dated as 11th December 2009. KERC has computed tariff rate for 10 years. The tariff computed by the KERC order for the first year is INR 4.40 per unit and it decreases progressively to INR 3.04 per unit in the 10th year. The reduction in tariff year on year is on the account of repayment of debt and also there is no running cost other than O&M which increases only marginally.

Therefore from 11th year to the 20th year (when loan tenure is over), the tariff number cannot contain the element of debt service (after principal repayment and interest payment) and even with the increased operating costs; the overall tariff number is lower in the 11th year. Following same logic the tariff rate has been derived for 11th year to 20th year. Therefore the tariff rate has been taken as Rs. 2.00 per unit for the period beyond the term of PPA using the input values from the KERC order.

Also, the PP has considered the conservative estimate in sensitivity analysis assuming the tariff of Rs. 3.70 per unit for 10th year onwards. This way PP has considered all the scenario in sensitivity analysis and still project activity remains financially unviable at the time of decision making.

Detail calculation based on the KERC order under consideration, which was available at the time of decision making, has been provided in last page of attached excel file named as Investment analysis.

3. PP has considered the tax shield in calculation of equity IRR. The same can be cross verified from Financial Model Excel sheet.

4. There were two sources for PLF available with PP :

c) PLF provided by supplier in its offer dated 25th June 2010

- a. PLF WEC controller- 23.9%
- b. Transmission Loss- 3%
- c. Effective PLF- 23.18%

d) PLF estimated by independent third party dated 24th November 2010 (applicable as per EB 48, Annex 11)

- a. PLF WEC controller- 24%
- b. Transmission Loss- 4%
- c. Effective PLF- 23.04%

The effective PLF provided by Enercon offer is conservative and was available at the time of investment decision hence used for purpose of substantiating additionality. We will like to submit that PLF provided independent third party is in accordance with Annex 11, EB 48.

Furthermore, the sensitivity on PLF is conducted at +/- 10%.

5. Stakeholder Consultation: Vish Wind Infrastructure LLP has authorised Enercon (India) Limited (EIL) to manage all the activities pertaining to CDM project under consideration. Please find a copy of this document as attachment.

For stakeholder consultation, an advertisement was published in local newspaper in local language on 25/10/2010 and the meeting was conducted on 10/11/2010 in Hubli by EIL on behalf of PP. The distance by road between Gadag (the nearest town near the project site) and Hubli is about 65 kilometers. To ensure the presence of all the stakeholders, a vehicle was arranged by EIL under the leadership of panchayat members. This has been confirmed to DOE during site validation and personal meeting with the attendee who were present in the stakeholder consultation.

Documentation Provided by Project Participant:	
<ol style="list-style-type: none"> 1. Benchmark excel sheet 2. Investment analysis (sheet: Tariff beyond 10th year), KEREC order dated as 11th December 2009 3. Independent third party PLF report 4. CDM authorization letter 	
Information Verified by Lead Assessor:	
<p>Appendix 1 of the PDD and the benchmark excel sheet were checked for the procedure to arrive at the benchmark and the calculations</p> <p>Financial calculations in the excels sheet were checked for tax shielding as a result of the accelerated depreciation</p> <p>Stakeholder consultation process was verified for its adequacy</p>	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 04/03/2011
<ol style="list-style-type: none"> 6. The procedure to arrive at the benchmark has been described in Appendix 1 of the PDD. The benchmark excel sheet shows the detailed calculations of the benchmark. These have been checked and are accepted. 7. This issue is covered under CAR #2 point 2 and hence closed here. 8. The tax shielding as a result of the accelerated depreciation has been adjusted against the cash inflow in the 'cash flow' sheet of the investment analysis excel document. This has been verified by the financial expert and found to be appropriate. 9. The PP has used the PLF from the WEC supplier offer letter (23.18%) for the investment analysis, since it was available at the time of investment decision. This is appropriate as per paragraph 6 of EB 51 Annex 58. Further, as per the UN guidelines in paragraph 3(b) of EB 48 Annex 11, the PP has contracted a third party (23.04%) to determine the PLF at the WEC site. The difference in the values of PLF have been addressed in the sensitivity analysis in the PDD. Thus the PLF considered for the project activity satisfies the requirements of EB 48 Annex 11 (paragraph 3b) & EB 51 annex 58 (paragraph 6). In both the cases the project is additional. The PLF was also cross checked against the PLF of 26.5% that is used by KEREC for the determination of tariff in its order dated 11th December 2009. Even in this case the project is additional. Section B.5 of the PDD has described the threshold limits, i.e. the scenario in which the calculated IRR crosses the benchmark. The IRR cross the benchmark if the PLF increases to 36.68% which is not likely. 10. The PP has authorized Enercon (India) Limited to carry out all CDM related activities on its behalf and this has been verified from the authorization letter issued by the PP. Hence, Enercon has carried out the local stakeholder consultation meeting on behalf of the PP. <p>The PP has issued an advertisement in the local newspaper in the local language on 25/10/2010 informing the local people about the meeting. Also, due to the distance between the project site (Gadag) and the meeting location (Hubli), the PP had organized a vehicle to bring the people to Hubli. This was verified by talking to the local people during the site visit. The local stakeholders confirmed that a vehicle was arranged to bring them to Hubli. Thus, it was ensured that the low income local people could attend the meeting.</p> <p>ISHC comments closed out</p>	
Acceptance and Close out by Lead Assessor:	Date: 04/03/2011

A.4 Annex 4: Team Members Statements of Competency

Name: Ravikant Soni

Status

- Lead Assessor	<input checked="" type="checkbox"/>	- Expert	<input checked="" type="checkbox"/>
- Assessor	<input checked="" type="checkbox"/>	- Financial Expert	<input type="checkbox"/>
- Local Assessor	<input type="checkbox"/>	- Technical Reviewer	<input type="checkbox"/>

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	<input checked="" type="checkbox"/>
Technical Area(s): TA 1.2 Energy generation from renewable energy sources	
2. Energy Distribution	<input type="checkbox"/>
Technical Area(s):	
3. Energy Demand	<input type="checkbox"/>
Technical Area(s):	
4. Manufacturing	<input type="checkbox"/>
Technical Area(s):	
5. Chemical Industry	<input type="checkbox"/>
Technical Area(s):	
6. Construction	<input type="checkbox"/>
Technical Area(s):	
7. Transport	<input type="checkbox"/>
Technical Area(s):	
8. Mining/Mineral Production	<input type="checkbox"/>
Technical Area(s):	
9. Metal Production	<input type="checkbox"/>
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	<input type="checkbox"/>
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	<input type="checkbox"/>
Technical Area(s):	
12. Solvent Use	<input type="checkbox"/>
Technical Area(s):	
13. Waste Handling and Disposal	<input type="checkbox"/>
Technical Area(s):	
14. Afforestation and Reforestation	<input type="checkbox"/>
Technical Area(s):	
15. Agriculture	<input type="checkbox"/>
Technical Area(s):	
Approved Member of Staff by: Siddharth Yadav	Date: 05/01/2011

Name: Sudeep
Kodialbail

Status

- Lead Assessor	x	- Expert	
- Assessor	x	- Financial Expert	
- Local Assessor	Indi a	- Technical Reviewer	

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	
Technical Area(s):	
2. Energy Distribution	
Technical Area(s):	
3. Energy Demand	
Technical Area(s):	
4. Manufacturing	
Technical Area(s):	
16. Chemical Industry	
Technical Area(s):	
17. Construction	
Technical Area(s):	
18. Transport	
Technical Area(s):	
19. Mining/Mineral Production	
Technical Area(s):	
20. Metal Production	
Technical Area(s):	
21. Fugitive Emissions from Fuels (solid, oil and gas)	
Technical Area(s):	
22. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	
Technical Area(s):	
23. Solvent Use	
Technical Area(s):	
24. Waste Handling and Disposal	
Technical Area(s):	
25. Afforestation and Reforestation	
Technical Area(s):	
26. Agriculture	
Technical Area(s):	

Approved Member of Staff by: Siddharth Yadav Date: 07/06/2011

Name: Anshul
Sharma

Status

- Lead Assessor		- Expert	
- Assessor	x	- Financial Expert	x
- Local Assessor	Indi a	- Technical Reviewer	

Scopes of Expertise

5. Energy Industries (renewable / non-renewable)

Technical Area(s):

6. Energy Distribution

Technical Area(s):

7. Energy Demand

Technical Area(s):

8. Manufacturing

Technical Area(s):

27. Chemical Industry

Technical Area(s):

28. Construction

Technical Area(s):

29. Transport

Technical Area(s):

30. Mining/Mineral Production

Technical Area(s):

31. Metal Production

Technical Area(s):

32. Fugitive Emissions from Fuels (solid, oil and gas)

Technical Area(s):

33. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride

Technical Area(s):

34. Solvent Use

Technical Area(s):

35. Waste Handling and Disposal

Technical Area(s):

36. Afforestation and Reforestation

Technical Area(s):

37. Agriculture

Technical Area(s):

Approved Member of Staff by: Siddharth
Yadav

Date: 19/05/2011

Name: Gautam, Ashok

Status

- Lead Assessor	x	- Expert	x
- Assessor	x	- Financial Expert	
- Local Assessor	Indi a	- Technical Reviewer	x

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	x
Technical Area(s): TA 1.1 Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	
2. Energy Distribution	
Technical Area(s):	
3. Energy Demand	
Technical Area(s):	
4. Manufacturing	
Technical Area(s):	
5. Chemical Industry	
Technical Area(s):	
6. Construction	
Technical Area(s):	
7. Transport	
Technical Area(s):	
8. Mining/Mineral Production	
Technical Area(s):	
9. Metal Production	
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	
Technical Area(s):	
12. Solvent Use	
Technical Area(s):	
13. Waste Handling and Disposal	x
Technical Area(s): TA 13.1: Waste handling and disposal	
14. Afforestation and Reforestation	
Technical Area(s):	
15. Agriculture	
Technical Area(s):	

Approved Member of Staff by: Siddharth Yadav Date: 28/03/2011

Name: Ramkrishna Patil

Status

- Lead Assessor	<input checked="" type="checkbox"/>	- Expert	<input checked="" type="checkbox"/>
- Assessor	<input checked="" type="checkbox"/>	- Financial Expert	<input type="checkbox"/>
- Local Assessor	<input checked="" type="checkbox"/>	- Technical Reviewer	<input checked="" type="checkbox"/>

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	<input checked="" type="checkbox"/>
Technical Area(s): TA 1.2 Energy generation from renewable energy sources	
2. Energy Distribution	<input checked="" type="checkbox"/>
Technical Area(s): TA 2.1 Electricity distribution TA 2.2 Heat distribution	
3. Energy Demand	<input checked="" type="checkbox"/>
Technical Area(s): TA 3.1 Energy Demand	
4. Manufacturing	<input type="checkbox"/>
Technical Area(s):	
5. Chemical Industry	<input type="checkbox"/>
Technical Area(s):	
6. Construction	<input type="checkbox"/>
Technical Area(s):	
7. Transport	<input type="checkbox"/>
Technical Area(s):	
8. Mining/Mineral Production	<input type="checkbox"/>
Technical Area(s):	
9. Metal Production	<input type="checkbox"/>
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	<input type="checkbox"/>
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	<input type="checkbox"/>
Technical Area(s):	
12. Solvent Use	<input type="checkbox"/>
Technical Area(s):	
13. Waste Handling and Disposal	<input type="checkbox"/>
Technical Area(s):	
14. Afforestation and Reforestation	<input type="checkbox"/>
Technical Area(s):	
15. Agriculture	<input type="checkbox"/>
Technical Area(s):	

Approved Member of Staff by: Siddharth Yadav Date: 20/01/2011

History of the Document

Version	EB	Nature of revision	Validity
1.4 ²	EB 59, para 34 and 35	Definition of installed/rated capacity of renewable electricity generation projects.	Active from 24 February 2011
1.3	NA	Guidelines added under heading " <i>Document References</i> "	Active from 07 January 2011

² Start of document history table inserted.