

VALIDATION REPORT

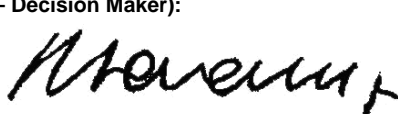
Final

“Wind Power Project at Tadas, Karnataka”
in
India


ReportN°2012-IQ-27-MD

Revision N° 1.2

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Project Title: Wind Power Project at Tadas, Karnataka		Country: India	Estimated CERs (tCO₂e): 102,975 annual average	
Client: ReNew Wind Energy (Karnataka) Private Limited		Client contact: Mr. Kishore Rathod		
Report No.: 2012-IQ-27-MD		Revision: 1.2	Date of this report: 28/12/2012	
Approved by (Final Report – Decision Maker):  Roberto Cavanna			Date of approval: 28/12/2012	
Methodology				
Number: ACM0002	Version: 13.0.0 of 11/05/2012	Title: Consolidated baseline methodology for grid-connected electricity generation from renewable sources	Scale: Large	SS(s): 01
<p>RINA Services S.p.A. (RINA), commissioned by M/s ReNew Wind Power Private Limited, has performed the validation of the project activity “Wind Power Project at Tadas, Karnataka” in India, with regard to the relevant requirements for CDM activities.</p> <p>In conclusion, it is RINA’s opinion that the project activity “Wind Power Project at Tadas, Karnataka” in India, as described in the PDD version 03 of 28/11/2012, meets all relevant requirements for CDM activities and all relevant host Party criteria and correctly applies the baseline and monitoring methodology “ACM0002”, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 13.0.0 of 11/05/2012.</p> <p>Hence RINA requests the registration of the project as a CDM project activity.</p>				

Work carried out by: Rekha Menon Saurabh Mittal Vijay Mathew Karthika Varma	<input checked="" type="checkbox"/> No distribution without permission from the Client or organizational unit responsible <input type="checkbox"/> Strictly confidential <input type="checkbox"/> Unrestricted distribution
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Work verified by (Authorised officer signing for the DOE)  Laura Severino	Keywords: Climate Change, Kyoto Protocol, Clean Development Mechanism, Validation
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Abbreviations

BE	Baseline Emissions
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CDM-PCP	Clean Development Mechanism Project Cycle Procedure
CDM-PS	Clean Development Mechanism Project Standard
CDM-VVS	Clean Development Mechanism Validation and Verification Standard
CER(s)	Certified Emission Reduction(s)
CEA	Central Electricity Authority
CM	Combined Margin
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CPI-IW	Consumer Price Index- Industrial Workers
CRT	Coordination and Technical Control Staff
C-WET	Centre for Wind Energy Technology
DCI	Certification Division of RINA Services Spa
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA	Environmental Impact assessment
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
KERC	Karnataka Electricity Regulatory Commission
LoA	Letter of Approval
MoV	Means of Verification
MOC	Modalities of Communication Statement
MoEF	Ministry of Environment & Forest
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
OM	Operative margin
O&M	Operation & Maintenance
PDD	Project Design Document
PE	Project Emission

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PLF	Plant Load factor
PP(s)	Project Participant(s)
RBI	Reserve Bank of India
Ref.	Document Reference
RINA	RINA Services Spa
RWEKPL	ReNew Wind Energy (Karnataka) Private Limited.
SS(s)	Sectoral Scope(s)
SSC	Small Scale
UNFCCC	United Nations Framework Convention on Climate Change
WEC	Wind Energy Convertor
WPI	Wholesale Price index
WTG	Wind Turbine Generator

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Appendix A: Validation Protocol

VALIDATION REPORT

1 INTRODUCTION

M/s ReNew Wind Energy (Karnataka) Private Limited has commissioned RINA to carry out the validation of the “Wind Power Project at Tadas, Karnataka” project in India.

This report summarizes the findings of the validation of the project, performed on the basis of UNFCCC criteria for CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

The objective of the Validation is to have an independent evaluation of a project activity by a designated operational entity against the requirements of the CDM as set out in decision 3/CMP.1, its annex and relevant decisions of the COP/MOP, on the basis of the project design document. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant UNFCCC requirements and host Party criteria are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

1.2 Scope

The validation scope is to review the PDD against the UNFCCC criteria for CDM.

UNFCCC criteria for CDM refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures, and the subsequent decisions by the CDM Executive Board.

Validation is not meant to provide any consultancy towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design.

2 METHODOLOGY

Validation was conducted using RINA procedures in line with the requirements specified in the CDM M&P, the latest version of the CDM Validation and Verification Standard, and relevant decisions of the COP/MOP and the CDM EB and applying standard auditing techniques.

The validation consisted of the following three phases:

- Document review;
- Follow-up actions;
- The resolution of outstanding issues and the issuance of the final validation report.

The following sections outline each step in more detail.

2.1 Document Review

The PDD, version 03 of 28/11/2012/1(a)/, version 02 of 20/10/2012/1(b)/, version 01 of 13/07/2012 /01(c)/ in particular the applicability of the methodology /07/, the baseline determination, the additionality Spreadsheet & emission reduction spreadsheet (IRR_ER_Tadas_30.11.2012), version 03 of 30/11/2012/2(a)/ of the project activity, the starting date of the project /28/, the monitoring plan, provided in the form of a spreadsheet, were assessed as part of the validation.

The following table lists the documentation that was reviewed during the validation.

/01/	(a) ReNew Wind Energy (Karnataka) Private Limited: CDM-PDD for project activity “Wind Power Project at Tadas, Karnataka” in India, version 03 of 28/11/2012
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	<p>(b) CDM-PDD for project activity “Wind Power Project at Tadas, Karnataka” in India, version 02 of 20/10/2012</p> <p>(c) CDM-PDD for project activity “Wind Power Project at Tadas, Karnataka” in India, version 01 of 13/07/2012</p>
/02/	<p>(a) ReNew Wind Energy (Karnataka) Private Limited: Financial analysis spreadsheet & Emission Reduction Calculation Sheet (IRR_ER_Tadas_30.11.2012) version 03 dated 30/11/2012.</p> <p>(b) Financial analysis spreadsheet & Emission Reduction Calculation Sheet (IRR_ER_Tadas_16.11.2012) version 02 dated 16/11/2012.</p> <p>(c) Financial analysis spreadsheet & Emission Reduction Calculation Sheet (IRR_ER_Tadas) version 01 dated 27/08/2012.</p>
/03/	Central Electricity Authority; Notification for regulating the installation and operation of meters dated 17/03/2006, website http://www.cea.nic.in/reports/regulation/meter_reg.pdf in English language retrieved on 02/11/2012.
/04/	CDM Executive Board: Clean Development Mechanism Project Cycle Procedure, version 03.0, Annex 04, EB 70 of 23/11/2012
/05/	CDM Executive Board: Clean Development Mechanism Project Standard, version 02.0, Annex 02, EB 70 of 23/11/2012.
/06/	CDM Executive Board: Clean Development Mechanism Validation and Verification Standard, version 03.0, Annex 03, EB 70 of 23/11/2012
/07/	CDM Executive Board: Baseline and monitoring methodology “ACM0002”, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 13.0.0 of 11/05/2012
/08/	CDM Executive Board: “Guidelines for completing the project design document form” version 01.0 dated 02/03/2012, Annex 8 of EB 66.
/09/	CDM Executive Board: Methodological “tool for the demonstration and assessment of additionality”, version 06.1.0 dated 13/09/2012, Annex 20 of EB 69
/10/	CDM Executive Board: Methodological “tool to calculate the emission factor for an electricity system”, version 02.2.1 dated 29/09/2011, Annex 19 of EB 63
/11/	CDM Executive Board: Glossary of CDM terms, version 07.0, Annex 07, EB 70 dated 23/11/2012
/12/	UNFCCC: Status of ratification of the Kyoto Protocol, website http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php in English language retrieved on 07/09/2012
/13/	UNFCCC: Website indicating the list of DNAs http://cdm.unfccc.int/DNA/index.html in English language retrieved on 07/09/2012
/14/	CDM-Executive Board: Project Design Document Form for CDM Project Activities (F-CDM-PDD) version 04.0, dated 13/03/2012 and version 04.1 dated 11/04/2012
/15/	Central Electricity Authority (CEA): CO ₂ Baseline Database for the Indian Power Sector User Guide, Version 7.0, January 2012.
/16/	CDM-Executive Board: Modalities of communication statement (F-CDM-MOC), version 02.1 dated 16/03/2012
/17/	CDM Executive Board: “Guidelines on the assessment of investment analysis”, version 05, annex 5, EB 62 dated 15/07/2011
/18/	UNFCCC: Prior consideration of the CDM website http://cdm.unfccc.int/Projects/PriorCDM/notifications/index.html in English language retrieved on 02/07/2012
/19/	CDM Executive Board: “Guidelines for the reporting and validation of plant load factors” version 01 annex 11 of EB 48 dated 17/07/ 2009.
/20/	Ministry of Environment & Forest (MoEF); Notification under Environment (Protection) Rules, 1986, dated 01/12/2009

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/21/	National CDM Authority, Ministry of Environment and Forests (Govt. of India): Host country approval process website " http://www.cdmindia.gov.in/detail_news.php?id=3 " in English language retrieved on 07/09/2012.
/22/	Companies Act 1956: Rates of depreciation under Companies Act, website " www.fastfacts.co.in/resources/DepCoAct.rtf " in English language retrieved on 20/12/2012
/23/	M/s ReNew Wind Energy (Karnataka) Private Limited: Request for validation assessment of a greenhouse gases project activity proposed to RINA dated 14/05/2012
/24/	M/s ReNew Wind Energy (Karnataka) Private Limited : Certified true copy of resolution passed at the meeting of the Board of Directors of M/s ReNew Wind Power Private Limited held on 23/03/2012 at Aurum House , 5 th floor, 25 Dady Seth Road, Mumbai-400007, dated 23/03/2012.
/25/	M/s ReNew Wind Energy (Karnataka) Private Limited: Copy of e-mail sent to UNFCCC and NCDMA for prior CDM consideration dated 16/06/2012
/26/	UNFCCC: Copy of e-mail acknowledgement received from UNFCCC dated 18/06/2012
/27/	Enercon (India) limited: Offer of 50.4 MW Wind power project at Tadas, District Haveri, Karnataka from Enercon (India) limited to M/s ReNew Wind Power Private Limited dated 08/03/2012.
/28/	M/s ReNew Wind Energy (Karnataka) Private Limited: Memorandum of Understanding for establishment of 50.4 MW wind Energy project at Tadas, Karnataka, India between M/s ReNew Wind Power Private Limited & Enercon (India) Limited dated 06/04/2012.
/29/	KERC: KERC tariff order dated 11/12/2009.
/30/	M/s ReNew Wind Energy (Karnataka) Private Limited: Copy of e-mail sent to Mr. SamratSengupta for engagement of CDM consultant for their CDM projects dated 16/04/2012
/31/	M/s ReNew Wind Energy (Karnataka) Private Limited: Sample copies of invitation letters sent to local stakeholders for the stakeholder meeting dated 19/06/2012
/32/	M/s ReNew Wind Energy (Karnataka) Private Limited: Minutes of the local stakeholder meeting, list of attendees and copies of photographs of the stakeholder meeting dated 04/07/2012.
/33/	M/s Garrad Hassan India Private Limited: Assessment of the energy production of the proposed Tadas 88 wind farm by M/s ReNew Wind Power Private Limited dated 10/07/2012
/34/	ReNew Wind Energy (Karnataka) Private Limited: Modalities of Communication statement (F-CDM-MOC) dated 20/09/2012.
/35/	ReNew Wind Energy (Karnataka) Private Limited: WRAP agreement between RWEKPL as first party ,Enercon (India) limited as second party & Enercon Wind Resource Development Private Limited dated 20/07/2012.
/36/	National CDM Authority, Ministry of Environment & Forest, Government of India; Host Country Approval to " Wind Power Project at Tadas, Karnataka" dated 12/12/2012 (Ref. No. 4/15/2012-CCC).
/37/	Income Tax Department, Government of India: Permanent Account Number Card (PAN card number: AOTPR7156R), of Mr. Kishor.S. Rathod.
/38/	Income Tax Department, Government of India: Permanent Account Number Card (PAN card number: AGIPS1223P), of Mr. Parag Sharma
/39/	National CDM Authority, Ministry of Environment and Forests (Govt. of India): Host country approval process website " http://www.cdmindia.gov.in/detail_news.php?id=3 " in English language retrieved on 12/12/2012.
/40/	Ministry of Law and Justice, Govt. of India: The Electricity Act 2003 dated 23/05/2003
/41/	Ministry of Power, Govt. of India: National Electricity Policy dated 12/02/2005
/42/	Ministry of Power, Govt. of India: Tariff Policy dated 06/01/2006
/43/	Reserve Bank of India; Results of 18th Round (Q3:2011-12) of Survey of Professional

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	Forecasters on Macroeconomic Indicators" issued by Reserve Bank of India dated 23/01/2012
/44/	Institute of chartered accountant of India; http://220.227.161.86/26232idtc15702.pdf regarding the service tax retrieved on 12/12/2012.
/45/	Central Electricity Regulatory Commission(CERC): Notification dated 16/09/2009
/46/	Basis of Tandon Committee report. Verified the link provided : (http://www.banknetindia.com/banking/metlend.htm in English language retrieved on 18/12/2012
/47/	Ministry of Environment & Forest (MoEF); Notification under Environment (Protection) Rules, 1986, dated 14/09/2006 and further amendment on 01/12/2009
/48/	Karnataka Renewable Energy Development Limited: Approval for 16MW wind farm to ReNew Wind Energy (Karnataka) Private Limited dated 07/09/2012
/49/	Karnataka Renewable Energy Development Limited: Approval for 18.4MW wind farm to ReNew Wind Energy (Karnataka) Private Limited dated 29/09/2012
/50/	ReNew Power Ventures Private Limited: Declaration from ReNew Power Ventures Private Limited, Human Resource Department that Mr.Parag Sharma &Mr.KishoreRathod For the Project activity by ReNew Wind Energy (Karnataka) Private Limited (Owned Subsidiaries of ReNew Power Ventures Private Limited) dated 06/11/2012
/51/	Web link for Tax Rate: http://www.oifc.in/Uploads/MediaTypes/Documents/Union_Budget_Analysis_2011-2012.pdf
/52/	Centre for Wind Energy Technology (C-WET) Government of India: http://www.cwet.tn.nic.in/html/information_gi.html for the project cost in English language retrieved on 18/12/2012
/53/	ReNew Wind Energy (Karnataka) Private Limited: Declaration from ReNew Wind Energy (Karnataka) Private Limited for no ODAfrom Annex-I countries dated 21/07/2012.

2.2 Follow-up actions

On 06/09/2012, RINA visited Tadas, Karnataka to resolve questions and issues identified during the document review and to perform interviews with relevant stakeholders in the host country

The key personnel interviewed and the main topics of the interviews are summarized in the table below.

	Date	Name and Role	Organization	Topic
/a/	06/09/2012	Mr. KishorRathod (Manager, Carbon Assets and Finance)	M/s ReNew Wind Energy (Karnataka)Private Limited	Project Description, CDM consideration, Baseline identification, Project Boundary. project financing, Additionality, Baseline Calculation, Environmental Impact etc.
/b/	06/09/2012	Mr. Mallikaarjun (Sr. Manager)	Enercon (India) Limited	Regulatory requirements, project status, Monitoring procedures & Calibration of meters, Operation and Maintenance, Data recording, Emergency procedures, etc.
/c/	06/09/2012	Mr. T. Ravi (Site Engineer)	Enercon (India) Limited	Monitoring procedures & Calibration of meters, Operation and Maintenance,

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				Data recording, Emergency
/d/	06/09/2012	Mr. B.Durgaprasad (Site Engineer)	Enercon (India) Limited	Operation and Maintenance, Data recording, Emergency
/e/	06/09/2012	Mr. F.C. Korishetter (Local People)	Local Stakeholder, Hirebudiher village	Mode of Invitation for stakeholders meeting, Stakeholders meeting consultation, advantages and disadvantages of the project, employment generation, etc.
/f/	06/09/2012	Mr. B.B. Nashipudi (Local People)	Local Stakeholder, Hirebudiher village	Mode of Invitation for stakeholders meeting, Stakeholders meeting consultation, advantages and disadvantages of the project, employment generation, etc.
/g/	06/09/2012	Mr. S.P. Arkasali (Local People)	Local Stakeholder, Hirebudiher village	
/h/	06/09/2012	Mr. G.S. Kammar (Local People)	Local Stakeholder, Hirebudiher village	
/i/	06/09/2012	Mr. S.B. Adlesher (Local People)	Local Stakeholder, Hirebudiher village	
/j/	06/09/2012	Mr. A.A. Nadaf (Local People)	Local Stakeholder, Hirebudiher village	
/k/	06/09/2012	Mr. M.Y. Satyapal (Local People)	Local Stakeholder, Ramapur village	
/l/	06/09/2012	Mr. S.F. Talanr (Local People)	Local Stakeholder, Kengapur village	
/m/	06/09/2012	Mr. S.N. Jadar (Local People)	Local Stakeholder, Kengapur village	
/n/	06/09/2012	Mr. M.H. Halemani (Local People)	Local Stakeholder, Thirth village	
/o/	06/09/2012	Mr. G.M. Dundin (Local People)	Local Stakeholder, Thirth village	
/p/	06/09/2012	Mr. I.R. Patil (Local People)	Local Stakeholder, Thirth village	
/q/	06/09/2012	Mr. Mratyunjay (Senior Engineer)	Enercon (India) Limited	Operation and Maintenance
/r/	06/09/2012	Mr. Raghavendra (Engineer)	Enercon (India) Limited	Operation and Maintenance
/s/	06/09/2012	Mr. Manjunath.B (Senior Engineer)	Enercon (India) Limited	Operation and Maintenance
/t/	06/09/2012	Mr. T.Kapil (Engineer)	Enercon (India) Limited	Operation and Maintenance
/u/	06/09/2012	MrMohana.K (Engineer)	Enercon (India) Limited	Operation and Maintenance
/v/	06/09/2012	MrHemachandra (Sr. Engineer)	Enercon (India) Limited	Monitoring procedures & Calibration of meters, Operation and Maintenance, Data recording, Emergency
/w/	06/09/2012	MrJanar.K.S (Deputy Manager)	Enercon (India) Limited	Monitoring procedures & Calibration of meters, Operation and Maintenance, Data recording, Emergency

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2.3 Resolution of outstanding issues

The objective of this phase of the validation is to resolve any outstanding issues which need to be clarified for RINA's positive conclusion on the project design.

To guarantee transparency a validation protocol has been customized for the project. The protocol shows in a transparent manner the requirements, means of validation and the results from validating the identified criteria. The validation protocol consists of four tables; the different columns in these tables are described in the figure below (see Figure 1). The completed validation protocol is enclosed in Appendix A to this report.

A corrective action request (CAR) is raised if one of the following occurs:

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 the emission reductions cannot be monitored or calculate.

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

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. CARs, CLs and FARs identified are included in the validation protocol in Appendix A of this report.

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Figure1 Validation protocol tables

Validation Protocol, Table 1 - Mandatory requirement		
Requirement	Reference	Conclusion
The requirements the project must meet.	Makes reference to the documents where the answer to the requirement is found.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) if a requirement is not met. A request for clarification (CL) is used when the validation team has identified a need for further clarification.

Validation Protocol, Table 2 - Requirement checklist				
Checklist Question	Ref.	MoV	Comments	Conclusion
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organized in five different sections.	Makes reference to documents where the answer to the checklist question or item is found.	Explain how conformance with the checklist question is investigated. Examples are document review (DR), interview or any other follow-up actions (I), cross checking (CC) with available information relating to projects, (N/A) means not applicable.	The discussion on how the conclusion is arrived at and the conclusion on the compliance with checklist question so far.	For CAR, CL and FAR see the definitions above. OK is used if the information and evidence provided is adequate to demonstrate compliance with CDM requirements.

Validation Protocol, Table 3 - Resolution of Corrective Action Requests and Clarification			
Corrective action requests and/or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
The CAR and/or CLs raised in table 2 are repeated here.	Reference to the checklist question number in Table 2 where the CAR or CL is explained.	The responses given by the project participants to address the CARs and/or CLs.	The validation team's assessment and final conclusion of the CARs and/or CLs.

Validation Protocol, Table 4 - Forward Action Requests (if no FAR the table 4 is deleted)		
Forward action request	Reference to Table 2	Response by project participants Validation Conclusion
The FAR raised in table 2 is repeated here.	Reference to the checklist question number in Table 2 where the FAR is explained.	Response by the project participants on how forward action request will be addressed prior to first verification.

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2.4 Internal quality control

All the revisions of the validation report before being submitted to the client were subjected to an independent internal technical review to confirm that all validation activities had been completed according to the pertinent RINA instructions.

The technical review was performed by a technical reviewer(s) qualified in accordance with RINA's qualification scheme for CDM validation and verification.

2.5 Validation team and the technical reviewer(s)

The validation team and the technical reviewers consist of the following personnel:

Role/Qualification	Last Name	First Name	Country
Team Leader & Technical Expert	Menon	Rekha	India
CDM Validator	Mittal	Saurabh	India
Technical Expert in training	Mathew	Vijay	India
Financial Expert	Varma	Karthika	India
Technical Reviewer (Draft)	Raghavan Nair	Reghu Kumar	India
Technical Reviewer	Tong	Wing Yu	Hong Kong (China)

3 VALIDATION FINDINGS

The findings of the validation related to the project, as described in the PDD version 01 of 13/07/2012 and other versions of PDD referred in section 2.1 /01/, are stated in the following sections.

The validation requirements, the means of validation, and the results from validating the identified criteria are documented in more detail in the validation protocol in Appendix A.

3.1 Approval and Participation

The project's host Party is India. The project is a unilateral project and hence the host country (India) is the only party involved in the project activity.

India (Host Country) fulfils the requirements to participate in the CDM and ratified the Kyoto protocol on 26/08/2002 /12/ and established a DNA as National CDM Authority (NCDMA) under Ministry of Environment and Forest, Govt. of India /13/ as per the participating requirements for CDM under the Kyoto Protocol. The project participant is a private entity and correctly listed in table A.4 of the PDD and the information is consistent with the contact details provided in Appendix 1 of the latest PDD/01(a)/.

The DNA of India issued a Letter of Approval on 12/12/2012 /36/, approving participation of ReNew Wind Energy (Karnataka) Private Limited as a project participant and confirming that the project assists in achieving sustainable development in India. The Letter of Approval was received directly by the PP and refers to the precise nature of the project activity as discussed in the PDD /01 (a)/. The Authenticity of the letter of approval /36/ has been confirmed by checking the original LoA issued by Ministry of Environment & Forests, Government of India, the National CDM Authority, and RINA not found any reason to doubt its authenticity. RINA also confirmed that the LoA refers to the proposed CDM project activity and the title is in line with the title mentioned in the PDD i.e. "Wind Power Project at Tadas, Karnataka". The letter of approval does not refer to any specific version of the validation report. By checking the original LoA /36/ RINA considers the LoA in accordance with paragraphs 39 - 42 of the VVS version 03.0 /06/.

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The proposed project does not involve any public funding from any Annex I Party, which has been confirmed from the official declaration from ReNew Wind Energy (Karnataka) Private Limited/53/ and the validation did not reveal any information that indicated that the project could be seen as a diversion of official development assistance (ODA) funding towards the host country

Project participants	M/s ReNew Wind Energy (Karnataka) Private Limited
Parties involved	India
APPROVAL	
LoA received	Yes/36/
Date of LoA	12/12/2012
LoA received from	ReNew Wind Energy (Karnataka) Private Limited
Validation of authenticity	Verified with Original LoA /36/
Validity of LoA	Yes
PARTICIPATION	
Party is party to Kyoto Protocol	Yes
Voluntary participation	Yes
Project contribution to SD	Yes

3.2 Modalities of communication

The MoC dated 20/09/2012 /34/ was provided by ReNew Wind Energy (Karnataka) Private Limited with whom RINA has a contractual relationship confirmed by the request of services signed on 14/05/2012 /23/. The corporate identity of all PPs and focal points included in the MoC statement, which the personal identities have been confirmed through the PAN card copy /37/38/ and the signature also from the PAN card copy /37/38/.

RINA confirms that the MoC statement provided by the PP /34/ is based on the currently valid form "Modalities of Communication Statement" (F-CDM-MOC) /16/, the information required by the form including its Annex 1 is correctly completed, and the PP authorized signatories as per the declaration given by the Project Participant/50/ for signing the MoC correspond to the PP authorized signatories included in Annex 1.

In conclusion, RINA confirms that the MoC statement provided by the PP is in accordance with the requirements in para 53-55 as well it is in accordance with the requirements in para 60 of the CDM-VVS /06/.

3.3 Project design document

The PDD for the project activity " Wind Power Project at Tadas, Karnataka", version 03.0 of 28/11/2012/01(a)/ and previous versions version 02.0 dated 20/10/2012/01(b)/, version version 01 dated 13/07/2012/01(c)/, submitted by ReNew Wind Energy (Karnataka) Private Limited have been the basis for the validation process.

RINA confirms that the above PDD is based on the currently valid PDD template **Error! Reference source not found.** and is completed in accordance with the applicable guidance document "Guidelines for completing the project design document form for small-scale CDM project activities" **Error! Reference source not found.**

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The main changes between the PDD version 01 of 13/07/2012 **Error! Reference source not found.** published for GSC and the PDD ", version 03 of 28/11/2012 /1(a)/ submitted for registration are the following:

Section of the PDD	Description and reason for changing the information in that section
All sections	Updated to new regulatory framework VVS
A.1	Correction of Project Actual Implementation status
B.4	Baseline description in line with para. 113 of VVS
B.5	PP has included the required variations of key parameters to reach the benchmark and justify likelihood of such occurrence in the final PDD.
B.6.3	Emission factor calculations have been corrected in PDD
E.2, E.3	The stakeholder who made the comments have been indentified.

3.4 Project Design

Purpose and general description of the project activity:

The purpose of the project activity is to generate electricity from wind energy and export the same to Southern grid which replaces equivalent amount of electricity from fossil fuel dominated grid, as confirmed with the CEA database /15/. The project is an initiative by ReNew Wind Energy (Karnataka) Private Limited. The proposed project involves the installation of 63 Wind Turbine Generators (WTGs) each with 800 kW of capacity at Tadas of Haveri & Darwada districts in the state of Karnataka, India. The total installed capacity of the proposed project activity is 50.4 MW which is confirmed from the WTG supply agreement /28/, WRAP agreement /35/ and from the interview with technology supplier at the WTG installation site.

Project location:

The project activity is located at Tadas of Haveri & Darwada districts in the state of Karnataka, India, which is confirmed through the site visit & supply agreement /28/. During the site visit, it was checked that the WECs were not commissioned. Thus, the geographical coordinates of the proposed locations of WECs provided in Section A.2.4 of the PDD/01(a)/ were cross checked with the measurements taken by GPS and the same was found to be appropriate. However, RINA has raised FAR 1 to check the actual positioning of the WECs during the first verification.

Scenario existing prior to the implementation of the project activity:

The proposed project is a Green field project activity. In the absence of the project activity the equivalent amount of power would have been generated in the fossil fuel dominated southern grid. This is evident from the electricity generation scenario of the host country that the southern grid is dominated by fossil fuel based power plants /15/. Hence, it is confirmed that electricity equivalent to the project activity would have been generated in southern grid from other power plants added to the southern grid.

Technology(ies) employed:

The technology supplier of the project activity is Enercon (India) Limited which is confirmed from the agreement copy signed between the project proponent and the WTG supplier (Enercon (India) Limited) for supplying 63 WTGs of 800 kW /27/. Technical specifications of 800 kW type E-53 make as specified in the PDD has been confirmed with the technical specification provided by technology supplier in the supply agreement signed with PP /28/. The technology used in the project activity is indigenously available in India and hence there is no transfer of technology /28/. The estimated electricity generation from the project activity is 114,791 MWh per year with an effective PLF of 26.50%. The PLF has been verified by RINA against the KERC tariff order /29/ and, which was available at the time of decision making /24/. To comply with the "guideline for the reporting and validation of plant load factors" /19/, an independent third party report has been prepared by Garrad Hassan India Private

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Limited, wherein the PLF results to 23.90%/33/. PP considered a PLF of 26.50% in additionality, since the same is conservative and this was accepted by RINA. RINA confirms the technology implemented reflects the current good practice in the host country. The implementation of the project activity doesn't involve any technology transfer from an Annex-I country to the host country.

Project implementation:

The starting date of the project activity is 06/04/2012, when project proponent signed the supply agreement with the technology supplier Enercon (India) Limited for supplying 63 numbers of E-53WTGs to wind park at Tadas site in Karnataka /28/. It has been verified by RINA that the starting date represents the real action to start the project activity, as it is the earliest date on which the project participant has committed to expenditures related to the implementation or related to the construction of the project activity as per the Glossary of CDM Terms /11/. During the site visit on 06/09/2012 it was observed by the validation team that the WTGs were not yet commissioned and the project might start operating by December 2012.

Crediting period and estimated Emission Reductions:

The expected operational lifetime of the project activity is 25 years and this has been confirmed from the supply agreement signed between the project proponent and the technology supplier /28/. Renewable crediting period is chosen for the project activity and the length of first crediting period is 7 years starting from 31/12/2012, or the date of registration of the project activity under UNFCCC, whichever is later. The GHG emission reductions are estimated to be average 102,975tCO₂e per year and 720,825 over the 7 years crediting period.

Contribution to sustainable development:

The project activity contributes towards the sustainable development of the host country. The same have been checked with Host Country Approval Letter /36/, which is in line with the host country approval requirements /39/ PP has committed expenditure of 2% of CER revenue in sustainable development activities and the same arrangements are outlined in PDD in annexure 1 /01/.

RINA was able to verify all the documented evidence listed above during the validation process and can confirm that data and considerations are complete and accurate. Moreover RINA confirms that the description of the proposed CDM project activity, as contained in the PDD sufficiently covers all relevant elements, is accurate and complete and that it provides the reader with a clear understanding of the nature of the proposed CDM project activity.

3.5 Application of selected baseline and monitoring methodology

The project correctly applies the approved baseline and monitoring methodology "ACM0002", "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 13.0.0 of 11/05/2012 /07/.

The proposed project activity meets the criteria defined in the baseline methodology as described below:

- The proposed activity is a Greenfield project, which involves the installation of a new grid-connected renewable power generation facility (i.e. 50.4 MW wind farm). RINA confirmed the same from the supply agreement/28/ & WRAP agreement /35/ executed between PP (ReNew Wind Energy (Karnataka) Private Limited)/28/35/ and technology supplier (Enercon (India) Limited) for 63 numbers of E-53 WTGs to wind park at Tadas in Karnataka/28/. Hence the methodology is applicable to the proposed project activity.
- The proposed project activity is the installation of a new 50.4 MW wind farm with 63 Nos. of brand new E-53. 0.8MW WTGs. There is no capacity addition, retrofitting or replacements in

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the proposed project activity. RINA confirmed the same through the supply agreement/28/ & WRAP agreement /35/ executed between PP (ReNew Wind Energy (Karnataka) Private Limited) and technology supplier (Enercon (India) Limited)/28//35/.

- The proposed project activity is not hydro power project. RINA confirmed the same through the supply agreement/28/ & WRAP agreement /35/ agreement executed between PP (ReNew Wind Energy (Karnataka) Private Limited) and technology supplier (Enercon (India) Limited) and the physical inspection of WTGs during the site visit **/28//35/**.
- The proposed project activity is not fuel switch project from fossil fuels to renewable energy sources, biomass fired power plants and the hydro power plant that result in new reservoir or in the increase in existing reservoirs where the density of the power plant is less than 4 W/m². RINA confirmed the same through the supply agreement/28/ & WRAP agreement /35/ executed between PP (ReNew Wind Energy (Karnataka) Private Limited) and technology supplier (Enercon (India) Limited) and the physical inspection of WTGs during the site visit **/28/**.
- The proposed project activity does not involve any retrofit, replacements or capacity addition. RINA confirmed the same through the supply agreement, development agreement and erection and commissioning agreement executed between PP (ReNew Wind Energy (Karnataka) Private Limited) and technology supplier (Enercon (India) Limited) and the physical inspection of WTGs during the site visit **/28//35/**.

The project activity applies the following methodological tools:

Methodological “tool to calculate the emission factor for an electricity system” version 02.2.1 of 29/09/2011 **/10/**.

Methodological “tool for the demonstration and assessment of additionality” version 06.1.0 of 13/09/2012 **/09/**.

RINA hereby confirms that the selected baseline and monitoring methodology has been previously approved by the CDM Executive Board, and is applicable to the Project, which complies with all the applicability conditions therein and the selected version is valid at the time of submission of the proposed project activity for registration. It is also confirmed that the methodology is correctly applied by comparing it with the actual text of the applicable version of the methodology.

3.6 Project boundary

According to the approved baseline and monitoring methodology “ACM0002”, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 13.0.0 of 11/05/2012 **/07/** “the spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to”. The project boundary consists of 63 wind turbines, each with a capacity of 0.800 MW, step up transformer, substation & the Southern Grid. The generated electricity will be delivered to the southern grid through the connected sub-station. In India, the grid is divided into two parts i.e. Southern and Northern Grid by Central Electricity Authority. The project activity falls under Southern grid **/15/** and the baseline for this project activity is a function of generation mix of the Southern grid. The selection of Southern grid as the grid system boundary for the project activity is in line with the methodology.

Emissions sources included in the project boundary are shown in the table below:

	GHGs involved	Description
Baseline emissions	CO ₂	Net electricity delivered to the Southern grid by the project activity that would otherwise

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		have been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.
Project emissions	N/A	The project activity does not have any project emission & As per the guidance provided in the methodology ACM 0002 (Version 13.0.0)/07/, "For most renewable power generation project activities Project emissions are zero.
Leakage	N/A	<p>The project activity does not have any leakage emission since there is no transfer of equipment to or from the project activity. The project activity is a new project activity which is confirmed from the supply agreement /28/.</p> <p>The validation team further confirms As per the methodology ACM 0002 (Version 13.0.0)/07/, the project activity does not have any leakage emissions.</p>

Emission sources which are not addressed by the applied methodology and which are expected to contribute more than 1% of the overall expected average annual emissions reduction have not been identified because the project activity is a Greenfield wind power project and involves mainly assembly and erection of pre fabricated components.

By checking the information and the project site, RINA can confirm that the project boundary and emission sources described in the PDD are accurate and complete, and also that the selected sources and gases are justified for the proposed project activity.

3.7 Baseline scenario identification

According to the approved baseline and monitoring methodology "ACM0002", "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 13.0.0 of 11/05/2012/**07/**, the following is the baseline scenario for a new grid-connected renewable power plant/unitis:

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

Since the approved methodology that is applied prescribes the baseline scenario, no further analysis is required, according to paragraph 115 of the CDM-VVS, version 03.0/**06/**.

The relevant National Acts and regulations pertaining to generation of energy in India are:

- Electricity Act 2003/**40/**
- National Electricity Policy 2005 **/41/**
- Tariff Policy 2006 **/42/**

The above mentioned National Acts and regulations pertaining to the generation of energy in India do not influence the choice of fuel used for power generation. There is no legal requirement on the choice of a particular technology for power generation.

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RINA was able to verify all the documented evidence such as CO₂ Baseline Database for the Indian Power Sector user guide version 07/15/, applied methodology ACM0002 version 13.0.0 of 11/05/2012/07/, latest PDD, version 03 dated 28/11/2012 /01(a)/, and emission reduction calculation spreadsheet /02(a)/ during the validation process and can confirm that:

All the assumptions and data used by the project participants are listed in the latest PDD, version 03 of 28/11/2012/01(a)/, including their references and sources;

The approved baseline methodology "ACM0002", version 13.0.0 of 11/05/2012/07/ has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

3.8 Additionality

According to the approved baseline and monitoring methodology "ACM0002", "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", 13.0.0 of 11/05/2012/07/, the additionality of the project has been established applying the tool "Tool for the demonstration and assessment of additionality", version 06.1.0/09/.

The additionality of the proposed project activity is further explicitly explained in the following steps.

3.9 Prior consideration of the clean development mechanism

Project starting date:

The starting date of the project activity is 06/04/2012, when the PP executed the supply agreement, development agreement and erection and commissioning agreement with the technology supplier (Enercon (india) Limited) supply of 63 numbers of E-53, 800kWWTGs to wind park at Tadas in Karnataka/28/, as it is the earliest date when the PP committed itself to expenditures related to the implementation of the project activity. RINA thus confirms that the starting date of the project activity is in line with the Glossary of CDM terms /11/, and is the first real action taken by PP to implement the project activity.

Prior consideration of CDM:

Since, the project start date is after 02/08/2008 and the identified start date is prior to 20/07/2012 when the PDD was published for global stakeholder consultation, the PP needs to demonstrate that the CDM was seriously considered in the decision to implement the project activity, that the benefits of CDM were a decisive factor in the decision to proceed with the project. To confirm the prior consideration of CDM, RINA noted that PP had duly sent a notification letter of prior CDM consideration to both the DNA of India and the UNFCCC secretariat of the commencement of the project activity and of their intention to seek CDM status, using the standardized form F-CDM-Prior Consideration. The notification letter to Indian DNA and to the UNFCCC secretariat was sent on 16/06/2012/25/ and the acknowledgement e-mail was received from UNFCCC on 18/06/2012 /26/. Further, the notification is available at UNFCCC website indicating the receiving date of prior CDM consideration as 16/06/2012/18. It was checked that the notification was made within six months of the project activity start date/28/.. The starting date of the project activity is 06/04/2012, when project proponent signed the supply agreement with the technology supplier Enercon (India) Limited for supplying 63 numbers of E-53WTGs to wind park at Tadas site in Karnataka /28/. It has been verified by RINA that the starting date represents the real action to start the project activity, as it is the earliest date on which the project participant has committed to expenditures related to the implementation or related to the construction of the project activity as per the Glossary of CDM Terms /11/.

Further it is also noted that the PP has been taking real actions to secure CDM status by way of applying to the DNA for host country approval and engaging the DoE for validation in parallel to the

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implementation of the project. It shall be noted that all WTGs in the project are commissioned only after the validation site visit /28/ & expected to be commissioned by December 2012.

In conclusion, RINA can confirm that the CDM was considered seriously in the decision to implement the project activity according to paragraph 107 of the CDM-VVS, version 03.0 /06/.

3.10 Identification of alternatives

According to the approved baseline methodology ACM0002 /07/ the baseline scenario for a new grid-connected renewable power plant/unit is the “Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources as reflected in the combined margin (CM) calculations described in the “tool to calculate the emission factor for an electricity system”/10/.

Since it is prescribed in the approved methodology no further analysis is required as per para 115 of the CDM-VVS /06/. The project proponent has justified the selection of the baseline scenario in line with the applied methodology and the same is deemed reasonable

3.11 Investment analysis

Choice of approach:

The PP has chosen to apply the benchmark analysis method and has identified post tax equity IRR as the most suitable financial indicator. The project can neither apply simple cost analysis since the project brings revenue from the sale of electricity; nor investment comparison analysis as the alternative to the project activity is the electricity generated by new and existing grid connected power plants. Therefore, referring paragraph 19 of the investment analysis guideline /17/ “if the alternative to the project activity is the supply of electricity from grid this is not to be considered an investment and a benchmark approach is considered appropriate”. Since the project proponent is demonstrating the financial unattractiveness of the project, the equity IRR is appropriate, as the project cost involves both equity and debt which is confirmed from the KERC tariff order/29/. Furthermore The project does not cross the benchmark even at 100% reduction in debt as per the sensitivity analysis/02(a)/.. Hence, equity IRR is considered by the PP is appropriate for the project activity.

Benchmark selection:

In accordance with “guidelines on the assessment of investment analysis” /17/ if the project could be developed by an entity other than the project participant, then the benchmark must be based on the parameters available in the market. The investment analysis guideline recommends country and project specific expected returns on equity in Appendix of the guideline /17/. The appendix also states that in situations when an investment analysis is carried out in nominal terms, the project participants can convert the real term values provided in the table to nominal values by adding the inflation forecast of the central bank of the host country for the duration of the crediting period. Since, in the analysis of equity IRR, PP has considered the levelled electricity tariff (cash inflow) as per the KERC tariff order /29/ which takes into account the rate of inflation and the O & M cost also accounts the rate of inflation; the equity IRR is calculated in nominal terms. Accordingly, PP considered default expected return on equity for energy industries (Group 1) applicable for India as 11.75% and referring the guideline, PP converted the real term interest adding the inflation rate of 5.90%/43/, which is the mean Wholesale Price Index (WPI) available at the time of investment decision /24/as forecasted by Reserve Bank of India for 10 years period /43/. Accordingly, the resulted benchmark is 17.65%. Further, following EB guideline “In situations where an investment analysis is carried out in nominal terms, project participants can convert the real term values provided in the table below to nominal values by adding the inflation rate”, PP converted the real term interest into nominal term interest simply adding the inflation rate and not applying any formula (like fisher equation). The validation team found that the benchmark becomes higher if fisher equation is applied to convert the real term value into nominal term. Hence, the lower benchmark (without fisher equation) is accepted by the validation team.

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Reserve Bank of India (RBI), is the Central Bank of host country (India) which serves as India's monetary authority. The RBI is supervisor of financial system, whom issuing the currency and managing the foreign exchange reserves of the country. Thus the inflation forecast by RBI can be considered as reliable and authentic. RBI gives only two types of inflation forecast, namely Wholesale Price Index (WPI) inflation forecast and Consumer Price Index-Industrial workers (CPI-IW) inflation forecast.

Consumer Price Index for Industrial Workers (CPI-IW) measures the changes over time in terms of prices of a fixed basket of goods and services consumed by Industrial Workers and it is an important indicator of the retail price situation in the country. The CPI-IW is mainly used for the determination of dearness allowance being paid to Central/State Government employees as also to the workers in the industrial sectors besides fixation and revision of minimum wages in scheduled employments. As CPI-IW is an indicator of retail prices of goods and services consumed by households, it is not relevant to the project activity.

WPI inflation forecast is Wholesale Price Index inflation forecast. The Indian government has taken WPI as an indicator of the rate of inflation in the economy. Presently price levels for 435 commodities are being tracked through Wholesale Price Index in India. The commodities are grouped under Primary Articles; Fuel and Power and Manufactured Products. WPI inflation rate is the economic inflation rate for the whole country and there is no sector specific inflation forecast given by RBI in India. Since WPI inflation considers the wholesale price for power which would include power generated from all sources, this inflation forecast rate is most appropriate for the project activity. Thus the validation team considers that WPI inflation forecast as appropriate for the project activity.

RINA verified all the above said documents and confirmed that the benchmark identified to compare the financial attractiveness of the project activity is appropriate.

Input parameters:

RINA has validated the input parameters used in the investment analysis and the following steps have been followed to assess the investment analysis.

Assessment of the sources used for input parameters. All input parameters used in the financial analysis are taken from third-party and/or publicly available sources as described in the following table, and can thus be considered information provided by independent source;

RINA has validated the input parameters used in the investment analysis and the following steps have been followed to assess the investment analysis.

- Assessment of the sources used for input parameters. All input parameters used in the financial analysis are taken from offer letter issued by technology provider/27/, service agreement with the technology supplier/28/ and third-party state electricity regulatory commission tariff order/29/ available at the time of decision making. As described in the following table, and can thus be considered information provided by independent source.
- Confirmation of the values in the PDD and investment analysis is fully consistent with the values provided in offer letter/27/, Supply agreement/28/, tariff order/29/ and PLF assessment report /33/. RINA compared the input parameters for the financial analysis included in the latest PDD/01(a)/ and in the investment analysis spreadsheet/02(a)/ with the parameters stated in the documents used and was able to confirm that the values applied are consistent with the values stated in the offer letter mentioned in the following paragraphs.
- Assessment of the period between the time of the offer from technology supplier and the investment decision. The investment decision to proceed with the project activity was taken on 23/03/2012/24/ which was within 15 days from the date of offer letter received from the technology supplier, dated 08/03/2012/27/; thus the time gap between offer letter and Board

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decision is only fifteen days which is sufficiently short and the value would not have any materially changed.

Cross-check of the input parameters used in the financial analysis. The input parameters used in the financial analysis were cross-checked and all data sources used to cross-check were checked during the validation process. The following is carried out.

Parameters	Unit	Value	Source	Validation Assessment and cross checking
Capacity	No. & kW	63 & 800	/27/,28/	Verified the MOU/28/ and offer letter/27/ which mentions the project size as 50.4 MW (63 nos. X 800 kW) E-53 model WTG with 74 mt concrete towers.
Plant load factor	%	26.50	KERC tariff order /29/	Verified that the PLF has been considered as per the KERC tariff order29/. Moreover, as per the PLF assessment report prepared by Garrad Hassan India Private Limited dated 10/07/2012 indicative PLF in the report is 23.90%.33/. The report is prepared by third party and therefore, the PLF justification is in line with the requirement of "Guidelines for the reporting and validating of Plant Load Factors" version 01 of EB 48 dated 17/07/2009 /17/. However, the report was not available at the time of investment decision on 23/03/2012. At the time of investment decision, the PLF indicated by KERC tariff order PLF for wind zone 1 (for which the tariff has been considered in the IRR analysis) is 26.50% /29/. Hence, considering the conservativeness in the additionality argument PP has considered KERC order PLF value for the investment analysis for the project activity. The validation team is of the opinion that the approach is appropriate.
Auxiliary consumption	%	0.50	KERC tariff order /29/	Verified that the auxiliary consumption has been considered as per the KERC tariff order/29/.
Tariff	INR/kWh	3.70	KERC tariff order /29/	Verified the KERC tariff order dated 11/12/2009/29/, which mentions "the Commission determines the tariff for wind projects at Rs.3.70 per unit without any escalation for the first 10-year period from the date of signing of PPA". The PP has assumed no increase in tariff after the 10th year. This is an acceptable assumption on the basis that the tariff rate adopted by KERC is on a reducing basis. Also, cross checked with various registered projects of Karnataka (ref no. 6521, 3553, and 6794) which have assumed constant tariff for

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Parameters	Unit	Value	Source	Validation Assessment and cross checking
				the whole operating life of the asset.
Life of the asset	Years	25	//45/35/ /	Verified the CERC notification which provides the useful life of wind energy projects as 25years./45/. Also, verified the wrap agreement which mentions the project life as 25/35/ years from the commissioning date.
Operation and Maintenance Cost	INR million/ WEC	0.60	/27/28/	Verified the MOU/28/ and the offer letter/27/ which mentions that O&M would be free for first 2 years from the date of commissioning, from third year the cost is Rs. 6.0 lacs per WEC with 5% escalation and service tax extra. Verified that the O&M cost calculation has been computed as per the MOU.
Service tax on O&M cost	%	12.36	/44/	Ensured that the service tax rate has been considered as per the rate applicable as per service tax law/44/. Also, verified the link (http://220.227.161.86/26232idtc15702.pdf) provided which validates the same.
Project cost	INR Million	2,790.90	/27/ /28/ /52/	Verified the MOU/28/ and the offer letter /27/which mentions the price as Rs. 443 lacs per WEC against issue of 'C' forms by Renew Power, accordingly the PP has computed the project cost for 63 WECs at Rs.2, 790.90 million. Since all WEC's in the project activity is yet to be commissioned,hence the total project cost is not realized fully by PP.However the validation team crosscheck the project cost from C-WET and found that the capital cost ranges between 4.5 Crores to 6.85 Crores per MW, depending on the type of turbine, technology, size and location/52/. In this project activity, the unit project cost comes to 5.537 Crores per MW Hence theProject activity is on conservative side and accepted by validation team.
Book depreciation	%	5.28	/22/	Ensured that book depreciation has been calculated on straight line method as per the rates prescribed in schedule XIV of the Companies Act//22/
Salvage value	%	10.00	/45/	Ensured that the salvage value has been considered as per the CERC notification 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.
Tax depreciation	%	7.69	/22/	Ensured that tax depreciation has been calculated on straight line method as per the rates prescribed in Appendix IA of Income Tax Rules/22/
Debt equity	Ratio	70:30	/29/	Verified the KERC tariff order dated

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Parameters	Unit	Value	Source	Validation Assessment and cross checking
ratio				11/12/2009/29/ which provides the debt equity ratio at 70:30, interest on term loan at 11.75% and normative debt repayment period of 10 years. Ensured that the calculations have been done as per the tariff order.
Interest on loan	%	11.75		
Tenure of loan	Years	10.00		
Working capital	Months	Receivable – 2	/29/	Verified that the working capital has been computed as per KERC tariff order/29/.
Margin money	%	25.00	/46/	The margin money of 25% of the working capital has been considered on the basis of Tandon Committee report. Verified the link provided : http://www.banknetindia.com/banking/metlend.htm
Interest on working capital	%	13.25	/29/	Verified that the interest rate has been considered as per the rate mentioned in the annexure to the KERC tariff order/29.
Taxation	%	Corporate tax – 33.22% Minimum alternate tax – 19.93%	/51/	Ensured that the tax rates have been considered as per the rates applicable for the financial year 2011-12/51/..

RINA thus confirm that all input data, assumptions used in the investment analysis were available at the time of investment decision. The validation team cross checked all data parameters against credible sources (where available public sources and third party reports) as discussed above and confirm that the values used in the PDD and investment analysis are consistent with the sources used for the input parameters.

Calculation and conclusion:

The assessment involves checking the data input taken from quotation/documents, adoption of correct accounting principle and arithmetical accuracy. RINA checked the quotation/ documents and ensured that right input has been taken in the project cost and projections. The accounting principles adopted with respect computation of interest during construction, block of assets, pro rata expenses and tax computation are found to be in order. The arithmetical accuracy is also found to be correct. The principle adopted by the project developer for computing equity IRR is in conformity with the “Guidance on the Assessment of Investment Analysis” issued by EB/17/.. IRR has been computed for 25 years. The residual value 10% of equipment cost and 100% of land cost, which appears reasonable.

The calculation was provided in a revised spreadsheet/2(a) /, were verified and found to be correct by RINA. The Equity IRR without CDM revenue is 11.33% which confirms that the proposed project activity in absence of CDM benefits and compared to the benchmark IRR of 17.65% which is marginally lower than the benchmark. However the PP decided to invest in the project having taken into account factors such as exchange rate fluctuations.

Sensitivity analysis:

The Guidance on assessment of investment analysis /17/ requires that the investment analysis should contain a sensitivity analysis that supports the robustness of the conclusion arrived at by varying the critical assumptions to a reasonable variation ($\pm 10\%$). The project developer has identified the following parameters as the most critical assumptions.

PP has performed the sensitivity analysis on the following parameters:

1. Generation

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2. Project cost
3. O&M
4. Tariff
5. Debt equity ratio

and subjected the above parameters to +10% and –10% variation.

The validation team verified that sensitivity analysis has been conducted on the parameters contributing more than 20% of either total project costs or total project revenue.

Varied by	-10%	0%	+10%
Generation	8.63	11.33	14.04
Project cost	13.97	11.33	9.21
O&M	11.63	11.33	11.02
Tariff	8.63	11.33	14.04
Debt equity ratio	11.20	11.33	11.47

The probability of achieving the benchmark with variations in the parameters is summarized as follows:

Parameter	Changes/variation	Probability of the situation
Generation	+22.92%	The PP has considered PLF of 26.50% as per the KERC tariff order/29/. The third party PLF assessment conducted after the decision making date provides a PLF of 23.90%/33/, hence a further increase in PLF to 22.92% is not reasonable.
Project cost	-20.53%	The project cost has been considered as per the offer letter provided by Enercon (India) Limited/27/. Later, a MOU has been signed between the PP and the supplier/28/ for the project cost as per the offer letter, hence a reduction in project cost is not possible. Moreover since all WEC's in the project activity is yet to be commissioned, hence the total project cost is not realized fully by PP. However the validation team crosscheck the project cost from C-WET and found that the capital cost ranges between 4.5 Crores to 6.85 Crores per MW, depending on the type of turbine, technology, size and location/52/. In this project activity the unit project cost comes to 5.537 Crores/MW Hence the Project activity is on conservative side and accepted by validation team.
O&M	-245.45%	The O&M expenses were estimated in the investment analysis based on the offer letter which amounts to Rs. 0.60 million per WEC with 5% escalation for every subsequent year/2(a)/. Later, a MOU has been signed between the PP and the supplier for the O&M cost as per the offer letter, hence a reduction in O&M cost is not possible/28/. Further, the IRR crosses the benchmark only when the

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Parameter	Changes/variation	Probability of the situation
		O&M cost decrease by 245.45%, which is not possible as it means there is no O&M expenses incurred.
Tariff Rate	+22.92%	The tariff of Rs.3.70/kw has been considered as per the KERC tariff order/29/ which is constant for the first 10 years. Hence an increase of 22.92% is not viable as the KERC follows a reducing tariff policy. Also, it has been crosschecked with various registered projects of Karnataka (ref no. 6521, 3553, and 6794) and found that all of them assumed constant tariff for the whole operating life of the asset.
Debt equity ratio		The debt equity ratio has been considered as per the KERC tariff order/29/. The project does not cross the benchmark even at 100% reduction in debt (i.e. 100% equity finance).

As shown above, the PP has carried out a fairly exhaustive sensitivity analysis which proves that the equity IRR does not cross the benchmark within the possible scenarios.

In conclusion, the result of the investment and sensitivity analysis have shown that the project is highly dependent on the CDM benefits and that without the income from CERs, the project activity is not financially attractive.

3.12 Barrier analysis

The additionality of the project has been demonstrated by applying the investment analysis, thus no barrier analysis is carried out.

3.13 Common practice analysis

The PP has conducted the common practice analysis as per the requirements of "Tool for the demonstration and assessment of additionality Version 06.1.0 /09/. In line with the guidance given in this tool, the PP has selected the India (host country) as the default applicable geographical area for the assessment of common practice. Further, the PP has selected the step-wise approach given in Para 47 of the tool to carry out the common practice analysis.

As per the Step 1 of Para 47, the applicable output range as $\pm 50\%$ of the design output range (50.4 MW) is 25.2 MW- 75.6 MW.

In the step 2, PP has identified the plants that deliver the output in the range of 25.2 MW- 75.6 MW in the host country India. While identifying these projects, the plants that were considered are based on the technologies such as thermal, hydro, nuclear, biomass, wind, solar, tidal and geothermal and have started their commercial operation before the start date of the project activity and which have not applied or registered under CDM. The plants that are based on the thermal, hydro and nuclear technologies have been sourced from the CEA database Version 7.0 /15/ which contains comprehensive list of the projects/power plants across India that are supplying electricity to the national grid of India. This was the latest database available at the start date of the project activity and has been published by the Central Electricity Authority of India who is the sole authority to publish such databases. Hence, the information given in this database has been considered as authentic and reliable. The validation team checked this database and found that the total number of thermal, hydro and nuclear power plants that fall in the applicable output range and commissioned before the start date of the project activity. It was noted by the validation team that these projects are non-CDM projects and hence have been considered further for the analysis. The wind power plants in the applicable output range in India have been selected by PP based on the Directory Indian Wind Power 2011 which was published in September 2011 and available to the PP at the start date of project 28/. This directory

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is widely accepted and used in the wind energy sector. Thus, the team considers this as the credible and reliable source of data which has been used by PP for the analysis.

Excluding projects considered under CDM, the total number of projects within the applicable range came to 57 which is noted as N_{all} .

In the step 3, PP has identified technologies which are different than the wind power technology based on the parameter energy sources as per the guidance given in the Para 9 of tool for the demonstration and assessment of additionality", version 06.1.0 dated 13/09/2012, Annex 20 of EB 69/09/11. This parameter of energy source/fuel to define the technologies different than that applied in the project activity is found to be acceptable in view of the guidance given in the Para 9 of tool for the demonstration and assessment of additionality", version 06.1.0 dated 13/09/2012, Annex 20 of EB 69/09/11. Thus, the projects identified in the step which are using technologies other than wind have been identified as N_{diff} and their count is 53. Which is confirmed from the Government of India CEA database version 7.0/15/.

While performing the step 4, PP has been able to demonstrate the factor F is 0.07 which is less than 0.2 and N_{all} is 4 which is greater than 3. Thus, in view of the guidance given in the Annex 21 of EB 65, the validation team confirms that the analysis has been performed as per the sub-step 4 a and Step 4 of the "Tool for the demonstration and assessment of additionality" Version 06.1.0 /09/. Based on the assessment, the team has been able to confirm that the project activity can be regarded as not a common practice in the host country India.

3.14 Conclusion

RINA can confirm that all data, rationales, assumptions, justifications and documentation provided by the project participants to support demonstration of additionality are credible and reliable.

By assessing the evidences presented and cross-checking the information contained in, RINA considers the reasoning for the proposed project additionality demonstration is credible and reasonable i.e. the proposed project has the ability to reduce anthropogenic emissions of greenhouse gases by sources below those that would have occurred in the absence of the registered CDM project activity.

3.15 Monitoring Plan

3.15.1 Parameters determined ex-ante

The ex-ante parameters that are mentioned in the methodology are included in the PDD and are provided in compliance with the methodology:

	Data/parameter	Unit	Value applied	Assessment
1	Weightage of build margin emissions factor	%	0.25	Default values used as per the "Tool to calculate the emission factor for an electricity system" Version 02.2.1 /10/. Hence, accepted by the validation team.
2	Weightage of operating margin emissions factor	%	0.75	Default values used as per the "Tool to calculate the emission factor for an electricity system" Version 02.2.1 /10/. Hence, accepted by the validation team.
3	Build margin for Southern grid	tCO ₂ e/MWh	0.7339	As per the "tool to calculate the emission factor for an electricity system" Version 02.2.1/10/, the build margin emissions factor is the generation-weighted average emission factor (tCO ₂ /MWh) of all power

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				units <i>m</i> during the most recent year <i>y</i> for which electricity generation data is available. Hence, default value from CO ₂ Baseline Database for the Indian Power Sector User Guide, Version 7.0, January 2012 /15/ for the year 2010-11 has been considered. This was the latest available data at the start of validation of the project activity. Hence, accepted by the validation team.
4	Simple operating margin for Southern grid	tCO ₂ e/MWh	0.9515	The simple OM emission factor have been calculated using the Simple OM method as the low-cost/must run resources constitute less than 50% (for year 2006-07, 2007-08, 2008-09, 2009-10 and 2010-11) /15/ . The ex-ante vintage data has been used for the OM calculation of the project. The PDD, version 01 /01/ was web-hosted for global stakeholder comments from 20/07/2012 to 18/08/2012 and the latest available data vintage is taken for the EF calculations. EF _{OM} for the most recent three years (2008-09, 2009-10 and 2010-11) and the weighted average is calculated to be 0.9515tCO ₂ e/MWh /02/ . Hence, accepted by the validation team.
5	Combined margin emission factor for Southern grid	tCO ₂ e/MWh	0.8971	Calculated considering 75% operating margin and 25% build margin as per the "tool to calculate the emission factor for an electricity system" /10/ .

3.15.2 Parameters monitored ex-post:

The ex-post parameters that are mentioned in the methodology are included in the PDD and are provided in compliance with the methodology, and they will be monitored during the crediting period:

	Parameter	Description/Assessment
1	Quantity of net electricity generation supplied by the project plant/unit to the grid in year <i>y</i> EG_{facility,y}(MWh/year)	The electricity generated and fed into the grid shall be continuously monitored using energy meters. For measuring the net electricity supplied by the project activity, the state electricity board has installed energy meters at the substation of the project activity. Monthly readings are taken jointly by the representative of Karnataka State Utility and site in charge of Project Proponent and a statement is prepared and signed by the representatives of both parties for total electricity exported to grid, total electricity imported from the grid and the net electricity supplied. The net electricity supplied is calculated as the difference of the total electricity exported to grid and total electricity imported from the grid by the project activity, as required by the methodology/07/#
2	The quantity of electricity imported to the project plant/unit from the grid	The electricity imported shall be continuously monitored using energy meters. For measuring the electricity imported by the project activity, the state electricity board has installed energy meters at the substation

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	EG_{import,y} (MWh/year)	<p>of the project activity. Monthly readings are taken jointly by the representative of State Electricity Transmission Co. Ltd. and site in charge of Project Proponent and a statement is prepared and signed by the representatives of both parties.</p> <p>Monitoring: Continuous measurement and monthly recording.</p> <p>Recording: Electronic/ Paper</p> <p>Recording Frequency: Continuous monitoring and monthly recording</p> <p>Responsibility: The plant management shall be responsible for the regular recording of data.</p> <p>Archiving: Crediting Period + 2 years</p> <p>Calibration Frequency¹: Once in 5 year's par CEA notification /03/</p> <p>The accuracy class of the meters is 0.2 S as discussed with PP during site visit and confirmed through CEA notification /03/</p>
3	<p>The quantity of electricity supplied by the project plant/unit to the grid</p> <p>EG_{export,y}(MWh/year)</p>	<p>The electricity generated and fed into the grid shall be continuously monitored using energy meters.</p> <p>For measuring the electricity exported by the project activity, the state electricity board has installed energy meters at the substation of the project activity. Monthly readings are taken jointly by the representative of State Electricity Transmission Co. Ltd. and site in charge of Project Proponent and a statement is prepared and signed by the representatives of both parties.</p> <p>Monitoring: Continuous measurement and monthly recording.</p> <p>Recording: Electronic/ Paper</p> <p>Recording Frequency: Continuous monitoring and monthly recording</p> <p>Responsibility: The plant management shall be responsible for the regular recording of data.</p> <p>Archiving: Crediting Period + 2 years</p> <p>Calibration Frequency²: Once in 5 year's par CEA notification /03/</p> <p>The accuracy class of the meter is 0.2 S as discussed with PP during site visit and confirmed through CEA notification /03/</p>
4	Daily electricity generation at individual WTG controller (MWh/day)	<p>Each WTG is equipped with an inbuilt control panel recording the electricity import and export data on a continuous basis. The data will be recorded daily in Power Generation Reports by the O&M Contractors. This data will be used only for the determination of apportioning ratio, and will be applied only in cases where the monitoring period does not coincide with the initial/final meter reading dates in the Credit Notes.</p>

3.15.3 Management system and quality assurance

Electricity meter of 0.2S class accuracy shall be used. Main electricity meters at Sub-station will be calibrated once in five years. The accuracy class of the energy meter is as per the CEA notification /03/ & meters will be calibrated once in 5 years as per the CEA notification /03/ and hence complies with the National Standards. Calibration records shall be maintained by state utility. The O & M of the project activity will be done by the technology supplier who has dedicated trained personnel to carry out the day to day operation and maintenance of the project activity so as to monitor the quantity of electricity supplied to the grid..,

¹ As per CEA publication in Gazette of India, dated, 17th March 2006; a copy of the same is submitted to the DOE

² As per CEA publication in Gazette of India, dated, 17th March 2006; a copy of the same is submitted to the DOE

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The operational and management structure implemented together by PP and the technology supplier is summarized below:

- The O & M team under the shift in-charge monitors continuously the electricity generation from individual WTGs and compile them to calculate the monthly electricity generation.
- The project manager maintains the data records received from shift in-charge and forward to the head of the PP.
- Final data management and invoicing against net electricity generation will be done by ReNew Wind Energy (Karnataka) Private Limited.
- The data will be archived for 2 years after the end of the crediting period by the PP

RINA confirms that the monitoring plan mentioned in the PDD is in accordance with the requirements mentioned in the monitoring methodology and the local regulatory requirements of the state utility, as well the monitoring arrangements described in the monitoring plan are feasible within the project design. RINA is of the opinion that the monitoring plan will give opportunity for real measurement of achieved emissions reductions for 2 years after the crediting period.

3.16 Estimation of GHG emissions

The emission reduction ER_y by the proposed project activity during the crediting period is the difference between baseline emissions (BE_y), project emission (PE_y) and emissions due to leakage (L_y) as follows:

$$ER_y = BE_y - PE_y - LE_y$$

Baseline emissions:

As per ACM0002 Version 13.0.007/, equation 6, baseline emissions include only CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity and are calculated as follows:

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

Where:

- BE_y = Baseline emissions in year y (tCO_2)
- $EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)
- $EF_{grid,CM,y}$ = Combined margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO_2/MWh)

Calculation of $EG_{PJ,y}$

The project activity being the Greenfield plant, the calculation of $EG_{PJ,y}$ is carried out using the approach (a) as mentioned in ACM0002 Version 13.0.0/07/, equation 7 as below:

$$EG_{PJ,y} = EG_{facility,y}$$

Where:

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

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Determination of $EG_{\text{facility},y}$ For ex-post, the value shall be monitored in calibrated energy meter and as recorded in monthly generation report issued by state utility. The same can be cross checked from the invoice copy raised.

Determination of $EF_{\text{grid,CM},y}$: CM (combined margin) emission factor for Southern grid of India has been calculated on the basis of sum of 75% of OM (operating margin) and 25% of BM (build margin).

$$EF_{\text{grid,CM},y} = 0.75 * EF_{\text{grid,OM},y} + 0.25 * EF_{\text{grid,BM},y}$$

The CM emission factor is calculated as 0.8971tCO₂e/MWh as per the “Tool to calculate the emission factor for an electricity system” (Version 02.2.1, EB 63 Annex 19) /10/ and has been sourced from the Central Electricity Authority (CEA) CO₂ Baseline database /15/.

Consideration about EF_{OM} : The simple OM emission factor have been calculated using the Simple OM method as the low-cost/must run resources constitute less than 50% (for year 2006-07, 2007-08, 2008-09, 2009-10 and 2010-11) /15/. The ex-ante vintage data has been used for the OM calculation of the project. The PDD, version 01 /01/ was web-hosted for global stakeholder comments from 20/07/2012 to 18/08/2012 and the latest available data vintage is taken for the EF calculations. EF_{OM} for the most recent three years (2008-09, 2009-10 and 2010-11) and the weighted average is calculated to be 0.9515tCO₂e/MWh/02/. The calculated EF_{OM} is fixed ex-ante and will not be reviewed in the crediting period of the project activity.

Consideration about EF_{BM} : BM is calculated ex-ante based on the average emission intensity of 20% most recent capacity additions in the grid based on the net generation for the year 2010-2011. Consequently, the Build Margin emission factor is calculated to be 0.7339tCO₂e/MWh. This is as per the “Tool to calculate the emission factor for an electricity system” (Version 02.2.1, EB 63 Annex 19) /10/.

CM (combined margin): The baseline emission factor (CM) is calculated as the average of the operating margin emission factor and the build margin emission factor where the weights W_{OM} and W_{BM} , by default, are 75% W_{OM} and 25% W_{BM} . The combined margin emission factor for SOUTHERN grid of India has been calculated to be 0.8971tCO₂e/MWh, which is fixed ex-ante for the entire crediting period. PP has provided the baseline emission reduction sheet /02/ for the calculation of combined margin emission factor.

The validation team accepted the same as this follows the latest version of the database available to the project participant at the time of submission of PDD for validation. So, RINA is of the opinion that all the assumptions and data used by the PP discussed in the PDD are appropriate and conservative and same has been cross checked with the references and the sources provided by the PP in the PDD /01/.

Project emissions:

As per ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” version 13.0.0 of 11/05/2012/07//, for most renewable power generation project activities, $PE_y = 0$. However, some project activities may involve project emissions that can be significant. These emissions shall be accounted for, by using the following equation:

$$PE_y = PE_{\text{FF},y} + PE_{\text{GP},y} + PE_{\text{HP},y}$$

Where,

$$\begin{aligned} PE_y &= \text{Project emissions in year } y \text{ (tCO}_2\text{e)} \\ PE_{\text{FF},y} &= \text{Project emissions from fossil fuel consumption in year } y \text{ (tCO}_2\text{)} \end{aligned}$$

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$PE_{GP,y}$ = Project emissions from the operation of geothermal power plants due to the release of non-condensable gases in year y (tCO₂e)
 $PE_{HP,y}$ = Project emissions from reservoirs of hydro power plants in year y (tCO₂e)

As the project activity is a wind energy based power generation, the project emissions are not applicable to the project activity. Hence, $PE_y = 0$

Leakage:

As per ACM0002, version 13.0.0/07/ no leakage emissions are considered/. The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, transport). These emissions sources are neglected. Therefore, $LE_y = 0$.

Emission Reductions:

As per equation 11 of ACM0002 Version 13.0.0 /07/, the emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y$$

PP has calculated the emission reductions using the above equation and are estimated to be 102,975 tCO₂e per annum. The calculation of the emission reductions has been ensured by the validation team based on the CER calculation sheet, version 03/02/.

The emission reductions estimation can be replicated using the data and parameter values provided in the PDD and supporting file submitted for registration. The data sources mentioned have been verified by RINA. RINA confirms that the estimates provided in the revised PDD version 03 /01(a)/ are reasonable and the project participant has correctly applied the methodology; the calculations are complete and transparent and the data accuracy has been verified.

3.17 Environmental Impacts

No significant adverse environmental impact is expected due to project activity, since the project is a renewable energy (wind energy) project with no project emissions. Furthermore, there is no mandatory legal requirement for carrying out EIA for wind energy projects in India, which was verified by the EIA notification of MoEF, dated 01/12/2009 /47/.

RINA has verified all the statutory clearances which include permission/48/49/ & the HCA/36/ for the project activity issued by National CDM Authority, Ministry of Environment & Forest, Government of India . The validation team concludes that all the clearances obtained are in accordance with the procedures required by the host party and no significant environmental impacts are expected from the project activity

3.18 Local stakeholders consultation

Prior to the publication of the PDD version 01 /01/ on the UNFCCC website from 20/07/2012 to 18/08/2012, the project proponent invited local stakeholders through personnel invitation letters on 19/06/2012/31/ and organized the local stakeholder consultation process on 04/07/2012 for the project activity. Gram Panchayat Members, local villagers, employees of the technology supplier were present at the meeting. RINA cross checked the attendance list of stakeholders' /32/ and also interviewed some of the local stakeholders during site visit to confirm the consistency of the information provided in the PDD.

A summary of comments has been provided by PP and it is found that no adverse comment was received for the project activity /32/. This has also been verified by RINA validation team during site visit on 06/09/2012 by conducting a random stakeholder's meeting at the WTGs site. Further, the interviewees confirmed that there was no adverse comment about the project and this project will lead

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to employment generation and better environmental conditions. RINA considers the local stakeholder consultation carried out adequately and can confirm that the process is credible.

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4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

The PDD version 01 of 13/07/2012/01/ was made publicly available on the CDM UNFCCC website and Parties, stakeholders and NGOs through the CDM website (<https://cdm.unfccc.int/Projects/Validation/DB/IKLB3D6EI5NS0MNNC8HQFMQ0A2LXK/view.html>) invited to provide comments during a 30 days period from 20/07/2012 to 18/08/2012.

Below comments as presented in **Table A**, were received during this period.

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TABLE A			
Details of the commenter	Comment [unedited]	Response by the project participants	Explanation on how account is taken by the DOE
lasith, llasith@yahoo.com	<p>1. Purpose of the project and how the proposed project activity reduces greenhouse gas emissions are not briefed in the PDD. Refer section A.2.</p> <p>2. How environmentally safe and sound technology is used for the project and details of technology transfer is not demonstrated adequately. Refer A.4.2</p> <p>3. Non- debundling nature of the project activity is not adequately justified as per EB54 Annex 13 (Debundling tool). Refer A.4.5.</p> <p>4. Please check the project boundary of the project activity is not based on the guidance of the applicable project category.</p> <p>5. Why has option A (Combined margin) been chosen for calculating emission factor is not justified. Refer B.6</p> <p>6. The justification of choosing IRR as financial indicator is not adequately justified. Whether it is equity or project IRR, pre-tax or post tax is not mentioned in the PDD.</p> <p>7. The emission factor for the project electricity system can be calculated either for grid power plants only or, as an option, can include off-grid power plants.</p>	<p>1. Please refer to the revised PDD in the applicable sections.</p> <p>2. The project does not create any technology transfer.</p> <p>3. The project is large scale CDM project and so this is not the requirement.</p> <p>4. The Project boundary is as per the applicable methodology only.</p> <p>5. The same has been adequately described in the Section B.6 of PDD.</p> <p>6. The same has been adequately described in the Section B.5 of PDD.</p> <p>7. Please refer to the Section B.6 of the PDD.</p> <p>8. PLR has not been chosen as benchmark.</p> <p>9. The same has been discussed adequately in the Section B.5 of the PDD.</p> <p>10. All the parameters including the referred one has been suitable justified in the Section B.5 of the</p>	<p>1. PDD is revised and purpose project and how the proposed project activity reduces greenhouse gas emissions are briefed in section A.2.</p> <p>2. The project activity is a wind power project and hence considered clean form of energy. Further the technology supplier Enercon (India) Limited is based in the host country. Hence, no technology transfer from Annex-I country is involved.</p> <p>3. The project activity is a large scale project and hence EB 54, Annex 13 is not applicable.</p> <p>4. Project boundary is described as per the methodology ACM0002, version 13.0.0.</p> <p>5. Combined margin is calculated as per provisions of tool to calculate the emission factor for an electricity system", version</p>

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TABLE A

Details of the commenter	Comment [unedited]	Response by the project participants	Explanation on how account is taken by the DOE
	<p>8. Basis of choosing PLR as benchmark is not adequately demonstrated in the PDD</p> <p>9. All the issues of investment analysis guidelines are not discussed in the PDD. Refer B.5.</p> <p>10. Justification of parameters including O&M, insurance, loan, derating, escalation, and tariff are not demonstrated with justification. Refer B.5.</p> <p>11. Please provide a proof for proposed debt to equity taken at the investment decision. Refer B.5</p> <p>12. Proof for PLF is not justified.</p> <p>13. Date of offer is not provided</p> <p>14. Project cost is not as per state norms. Refer B.5.</p> <p>15. O&M charges and its escalation is not as per norms</p> <p>16. IT rate assumed is not as per standard practice.</p> <p>17. The application of MAT which is based on tax holiday while calculating WACC is not appropriate.</p> <p>18. The PP has not explained and justified the key assumptions and rationale.</p> <p>19. The PP and consultant has not illustrate in a transparent manner all data used to determine the baseline</p>	<p>PDD.</p> <p>11. The debt-equity ratio as considered during investment analysis has been justified in the PDD and in the Financial Model.</p> <p>12. The same has justified in the PDD and also in response to CAR 4.2</p> <p>13. The copy of the Offer and date has been provided to the DoE for validation.</p> <p>14. The project cost is in line with state norms and offer as obtained from the technology supplier. The same can be further substantiated from the agreement with technology supplier, which has been provided to the validator.</p> <p>15. The O&M Charges and escalation is as per KERC tariff order only.</p> <p>16. IT rate assumed is not as per any standard but as per Income Tax Rule, Government of India.</p>	<p>02.2.1.</p> <p>6. PP has chosen post-tax equity IRR and the description of choice of equity IRR is described in section B.5 of the PDD as per the investment analysis guidance</p> <p>7. The grid emission factor (CM) is as per the 'tool to calculate the emission factor for an electricity system', version 02.2.1.</p> <p>8. PLR is not considered as benchmark. The benchmark is considered as per EB guideline.</p> <p>9. PDD in section B.5 describes the required issues of investment analysis as per the guideline</p> <p>10. All input values has been provided in the PDD and IRR calculation worksheet. Details justifications are discussed in this report above.</p> <p>11. Debt and equity ratio is as</p>

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TABLE A

Details of the commenter	Comment [unedited]	Response by the project participants	Explanation on how account is taken by the DOE
	<p>emissions.</p> <p>20. Not demonstrated that the proposed project activity is additional as per options provided under attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities.</p> <p>21. National policies and circumstances relevant to the baseline of the proposed project activity are not being summarized clarify.</p> <p>22. Explain and justify all relevant methodological choices for the proposed project activity</p> <p>23. Data that is calculated with equations provided in the approved category or default values specified in the category should not be included in the compilation.</p> <p>24. CER revenue assumed is not consistently applied</p> <p>25. Project cost is not as per norms, DOE has to check and clarify.</p> <p>26. The project cost of the project should be based on offer and not on purchase order or tariff order.</p> <p>27. O&M charges considered are on higher side. Pls. clarify.</p> <p>28. Benchmark calculation is not as per WACC tool (EB53 Annex 8)</p> <p>29. Whether pre-tax or post tax IRR is selected is not demonstrated in</p>	<p>17. The project has not calculated benchmark through WACC route.</p> <p>18. All the key assumption and rationale has been adequately described in the PDD, Financial Model and Validation replies.</p> <p>19. The baseline scenario has been determined with data and information as published by CEA, Government of India.</p> <p>20. The same has been adequately demonstrated in the section B.5 of the PDD.</p> <p>21. Please refer to our replies of the point 19.</p> <p>22. The same has been adequately justified in the relevant sections of the PDD.</p> <p>23. Data required calculating baseline emission and emission reduction are complied in section B.4 and B.6.3 of the revised PDD.</p>	<p>per KERC tariff order available at the time of investment decision.</p> <p>12. PLF is justified as per Guidelines for the reporting and validation of plant load factors, version 01, dated 17/07/ 2009, Annex 11 of EB 48.</p> <p>13. Offer letter dated 08/03/2012 has been submitted to DOE.</p> <p>14. Project cost is as per proposal from technology supplier. The same has been cross checked with the actual purchase order</p> <p>15. O & M charge and its escalation is as per KERC tariff order.</p> <p>16. IT rate is as per income tax rule, Govt. of India</p> <p>17. Benchmark is not calculated through WACC. Hence, not applicable.</p> <p>18. All assumptions used in the IRR calculation has been justified with credible references and publicly</p>

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TABLE A			
Details of the commenter	Comment [unedited]	Response by the project participants	Explanation on how account is taken by the DOE
	<p>the PDD.</p> <p>30. The basis of calculation of benchmark is not documented in the section B.5. PLR is not acceptable benchmark for the project. WACC based on Government bonds, risk premiums should be taken.</p> <p>31. Prior consideration of CDM which is important for the determination of additionality is not documented in the section B.5 of the PDD.</p> <p>32. Date of PPA is not mentioned in the prior consideration of CDM</p> <p>33. The selection of simple OM based on low cost/must run resources is not adequately justified. Refer B.6.1</p> <p>34. PP has not provided for each parameter the chosen value or, where relevant, the qualitative information.</p> <p>35. Please Provide the actual value applied. Where time series of data is used, where several measurements are undertaken or where surveys have been conducted, provide detailed information.</p> <p>36. Explain and justify the choice for the source of data.</p> <p>37. Ex-ante option of calculating OM is not adequately demonstrated. Step 3 of Refer B.6.1</p> <p>38. Power plants registered as</p>	<p>24. CER revenue is consistently applied both in PDD and IRR sheet.</p> <p>25. The project cost has been considered from the Term Sheet as executed between PP and the technology supplier. The Term Sheet copy as a documentary evidence of actual project cost is submitted to DOE.</p> <p>26. The project cost has been considered from the Term Sheet as executed between PP and the technology supplier. The Term Sheet copy as a documentary evidence of actual project cost is submitted to DOE.</p> <p>27. O&M charges are based on KERC Tariff Order and it is not in higher side as compared to other projects in the region.</p> <p>28. ROE (Benchmark) has been calculated as per</p>	<p>available documents.</p> <p>19. Baseline emission calculations are as per ACM0002, version 13.0.0 and described transparently</p> <p>20. Additionality is discussed as per 'tool for demonstration and assessment of additionality' version 6.1.0 /09/. Attachment A to appendix B is not applicable.</p> <p>21. National policies and regulations applicable for the project activity have been discussed in section B.5 of the PDD.</p> <p>22. Section B.1 and B.2 of the PDD describes transparently all methodological choices.</p> <p>23. Data required calculating baseline emission and emission reduction are complied in section B.4 and B.6.3 of the revised PDD</p> <p>24. CER revenue is market linked and therefore impact of CER revenue is not discussed. However</p>

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TABLE A

Details of the commenter	Comment [unedited]	Response by the project participants	Explanation on how account is taken by the DOE
	<p>CDM project activities should be included in the sample group that is used to calculate the operating margin if the criteria for including the power source in the sample group apply. This argument is not demonstrated. B.6.1</p> <p>39. The selection of option (out of two) for calculating OM is not adequately documented with justification. CEA calculation is based on net electricity generation, the average efficiency of each power unit and the fuel types used in each power unit. Step 4 of B.6.1</p> <p>40. The argument that CEA data for build margin is calculated as per Emission factor tool is not documented. B.6.1</p> <p>41. Spread sheet is not provided. The data should be presented in a manner that enables reproducing of the calculation of OM, BM, and CM.</p> <p>42. The justification of negligible project emissions for wind project is not as per AMS. I. D ver 16.0 EB 54).</p> <p>43. The emission factor value (Southern grid) for calculating baseline emission is wrong. Refer B.6.3</p> <p>44. Net electricity should be continuously monitored, hourly measured and at least monthly</p>	<p>EB62, Annex 5.</p> <p>29. The same has been demonstrated in the PDD.</p> <p>30. Since Equity IRR is selected as financial indicator, ROE has been considered as benchmark and ROE has been calculated as per EB62, Annex 5. WACC and PLR are not considered as benchmark.</p> <p>31. Prior consideration of CDM has been demonstrated in section B.5 of the PDD.</p> <p>32. Date of PPA is not required to mention in the prior CDM consideration as per "Guidelines on the Demonstration and Assessment of prior consideration of the CDM", Version 04, Annex 13, EB 62.</p> <p>33. The selection of simple OM based on low cost/must run resources is not required to justify in section B.6.1 as</p>	<p>assumption of CER revenue is applied in the PDD and IRR worksheet consistently</p> <p>25. Project cost is as per proposal from technology supplier. The same has been cross checked with the actual purchase order</p> <p>26. Project cost is as per proposal from technology supplier. The same has been cross checked with the actual purchase order</p> <p>27. O & M charge and its escalation is as per KERC tariff order. This is conservative compared the charges in the offer letter.</p> <p>28. ROE (Benchmark) has been calculated as per EB62, Annex 5.</p> <p>29. Post-tax equity IRR is calculated which is stated in the PDD.</p> <p>30. Since Equity IRR is selected as financial indicator, ROE has been considered as benchmark and ROE has</p>

VALIDATION REPORT

TABLE A

Details of the commenter	Comment [unedited]	Response by the project participants	Explanation on how account is taken by the DOE
	<p>recorded. Refer B.7.1</p> <p>45. Metering regulations as per CEA norms is not adequately followed in monitoring plan. Refer B.7.2.</p> <p>46. Where the values have been measured, include a description of the measurement methods and procedures that comply with the guidance provided under general guidance.</p> <p>47. Provide a detailed description of the monitoring plan, including an identification of the data to be monitored and the procedures that will be applied during monitoring.</p> <p>48. The PP should include sources of data that will be actually used for the proposed project activity (e.g. which exact national statistics, actual measurement etc.).</p> <p>49. Where the parameters are to be measured in accordance with the guidance of the approved project category or the general guidance to the indicative methodologies, specify the measurement methods and procedures including accepted industry standards or national or international standards which will be applied, which measurement equipment is used, how the measurement is undertaken.</p> <p>50. Which calibration procedures</p>	<p>per PDD filling guideline. The same has been justified in section B.4 of the PDD as per PDD filling guideline.</p> <p>34. The parameter, values and sources are detailed in section B.4 and B.5 of the revised PDD.</p> <p>35. Values applied for ER calculation and IRR calculation are detailed in section B.4 of B.5 of the revised PDD.</p> <p>36. Explanation of data source and choice of data has been provided in section B.5 of the PDD.</p> <p>37. As per “Tool to calculate emission factor for an electricity system”, version 02.2.1 /EB – 63, Annex 19, the simple OM can be calculated using either Ex-ante or Ex-post option. Following EB63, Annex 19, the ex-ante option is applied to calculate OM.</p>	<p>been calculated as per EB62, Annex 5. WACC and PLR are not considered as benchmark.</p> <p>31. Prior consideration of CDM is demonstrated in section B.5 of the PDD.</p> <p>32. Date of PPA is not required to mention in the prior CDM consideration as per “Guidelines on the Demonstration and Assessment of prior consideration of the CDM”, Version 04, Annex 13, EB 62.</p> <p>33. The selection of simple OM is justified in the PDD is section B.4 in line with ‘tool to calculate the emission factor for an electricity system’, version 02.2.1.</p> <p>34. All parameters and values used in the PDD are described transparently.</p> <p>35. Actual values where available such as project cost has been checked.</p>

VALIDATION REPORT

TABLE A

Details of the commenter	Comment [unedited]	Response by the project participants	Explanation on how account is taken by the DOE
	<p>are applied, what is the accuracy of the measurement method, who is the responsible person / entity that should undertake the measurements and what is the measurement interval?</p> <p>51. Please provide a detailed description of the monitoring plan. Describe the operational and management structure that the project operator will implement in order to monitor emission reductions.</p> <p>52. Clearly indicate the responsibilities for and institutional arrangements for data collection and archiving.</p> <p>53. The monitoring plan should reflect good monitoring practice appropriate to the type of project activity. Provide any relevant further background information.</p> <p>54. Please describe the process by which comments by local stakeholders have been invited and compiled. An invitation for comments by local stakeholders shall be made in an open and transparent manner, in a way that facilitates comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted.</p> <p>55. Project participants shall describe a project activity in a manner</p>	<p>38. All power plants except low cost/must run plants are considered in the sample group for OM calculation. This is as per EB63, Annex 19. This has been explained in section B.4 of the PDD.</p> <p>39. Option adopted for OM calculation is clearly demonstrated in the revised PDD.</p> <p>40. The argument is provided in section B.4 of the revised PDD.</p> <p>41. ER and EF calculation spreadsheet is provided to DOE.</p> <p>42. The project activity applies methodology ACM 0002, version 13.0.0 and as per applied version of the methodology, the project emission is zero for wind power project.</p> <p>43. The project activity would supply power to NEWNE grid not southern grid. The</p>	<p>Where actual values are not available are cross checked with publicly available credible sources.</p> <p>36. Justification has been discussed in this report.</p> <p>37. Ex-ante option of calculating simple OM is described in the PDD in line with the tool</p> <p>38. Simple OM is calculated as per the tool /10/. Data provided by CEA version 07 has been used. Hence, accepted.</p> <p>39. Selection of simple OM is described in line with the tool /10/.</p> <p>40. The build margin is as per the tool /10/ and taken from CEA database /15/.</p> <p>41. Spreadsheet showing OM, BM and CM has been provided to DOE.</p> <p>42. Project emissions are discussed as per the applied methodology ACM0002, version 13.0.0 which is zero.</p> <p>43. Project activity falls under</p>

VALIDATION REPORT

TABLE A			
Details of the commenter	Comment [unedited]	Response by the project participants	Explanation on how account is taken by the DOE
	which allows the local stakeholders to understand the project activity	<p>emission factor for southern grid is not calculated in the PDD.</p> <p>44. There would be continuous measurement and monthly recording. PDD has been revised accordingly.</p> <p>45. Metering regulations as per CEA norms and CDM norms are being followed.</p> <p>46. Measurement method and procedures are provided in the revised PDD for all parameters.</p> <p>47. The same has been provided in section B.7.1 & B.7.2 of the revised PDD.</p> <p>48. PP has included the data source and justification for all parameters used for ER and IRR calculation in the revised PDD. The appropriateness of the data can be checked by data available in public domain and data published by Govt. authorities.</p> <p>49. The details asked in the</p>	<p>SOUTHREN grid and emission factor has been considered for SOUTHREN grid and not for south grid.</p> <p>44. Monitoring of net electricity is as per the provisions of applied methodology ACM0002, version 13.0.0.</p> <p>45. Metering regulations has been followed as per state electricity norms.</p> <p>46. Measurement method and procedures are provided in the revised PDD for all parameters. The validation team crosschecks the same.</p> <p>47. The monitoring plan has been provided in section B.7.1 & B.7.2 of the revised PDD.</p> <p>48. PP has included the data source and justification for all parameters used for ER and IRR calculation in the revised PDD. The appropriateness of the data can be checked by data available in public domain</p>

VALIDATION REPORT

TABLE A			
Details of the commenter	Comment [unedited]	Response by the project participants	Explanation on how account is taken by the DOE
		<p>query are provided in section B.7.1 and B.7.2 of the revised PDD.</p> <p>50. The necessary details are provided in section B.7.1 and B.7.2 of the revised PDD.</p> <p>51. The necessary details are provided in section B.7.1 and B.7.2 of the revised PDD.</p> <p>52. The necessary details are provided in section B.7.1 and B.7.2 of the revised PDD.</p> <p>53. The monitoring plan is designed as per applied methodology. All requisite information on the monitoring plan are provided in section B.7.1 and B.7.2 of the revised PDD.</p> <p>54. The details are provided in section E.1 of the revised PDD.</p> <p>55. The local stakeholder meeting was held to make</p>	<p>and data published by Govt. authorities.</p> <p>49. The details asked in the query are provided in section B.7.1 and B.7.2 of the revised PDD.</p> <p>50. The calibration details are provided in section B.7.1 and B.7.2 of the revised PDD.</p> <p>51. The necessary details are provided in section B.7.1 and B.7.2 of the revised PDD.</p> <p>52. The necessary details are provided in section B.7.1 and B.7.2 of the revised PDD.</p> <p>53. The monitoring plan is designed as per applied methodology. All requisite information on the monitoring plan are provided in section B.7.1 and B.7.2 of the revised PDD.</p> <p>54. The monitoring plan is designed as per applied methodology. All requisite</p>

VALIDATION REPORT

TABLE A			
Details of the commenter	Comment [unedited]	Response by the project participants	Explanation on how account is taken by the DOE
		<p>the local community aware of the project activity. The stakeholder meeting was attended by local villagers, representatives from Project Proponent as well as representatives from the technology supplier, The stakeholders were presented, in vernacular language, with an overview of the project activity as well as the technological, economic, environmental and social issues associated with it. The meeting discussed about the project, impact on the local community and the environment. The stakeholder minutes of meeting is provided to DOE.</p>	<p>information on the monitoring plan are provided in section B.7.1 and B.7.2 of the revised PDD.</p> <p>55. The local stakeholder meeting is described transparently in the PDD. Furthermore Validation team also Done a stakeholder meeting on 06/09/2012 & Their is no negative comments for the project activity.</p>

VALIDATION REPORT

5 VALIDATION OPINION

RINA Services Spa (RINA) has performed validation of the project activity “Wind Power Project at Tadas, Karnataka” in India, with regard to the relevant requirements for CDM activities.

The review of the project design document and the subsequent follow-up interviews have provided RINA with sufficient evidence to determine the fulfillment of the stated criteria.

The host Party is India. India fulfills the participation criteria and has approved the project and authorized the project participant M/s ReNew Wind Energy (Karnataka) Private Limited. The DNA from India confirmed that the project assists in achieving sustainable development.

The project correctly applies the approved baseline and monitoring methodology “ACM0002”, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 13.0.0 of 11/05/2012.

By generating renewable energy from wind based power plant, the project results in reduction of CO₂ emissions that are real, measurable and give long-term benefits to the mitigation of climate change. 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 “Wind Power Project at Tadas, Karnataka” are estimated to be on an average 102,975 tCO₂e per year over the selected 07 years renewable crediting period. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given that the underlying assumptions do not change.

The monitoring plan provides for the monitoring of the project's emission reductions. The monitoring arrangements described in the monitoring plan are feasible within the project design and it is RINA's opinion that the project participants are able to implement the monitoring plan.

In conclusion, it is RINA's opinion that the project activity “Wind Power Project at Tadas, Karnataka” in India, as described in the PDD, Version 3.0 of 28/11/2012, meets all relevant UNFCCC requirements for the CDM and all relevant host Party criteria and correctly applies the baseline and monitoring methodology “ACM0002”, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, Version 13.0.0 of 11/05/2012.

RINA thus requests registration of the project as a CDM project activity.

APPENDIX A

VALIDATION PROTOCOL

TABLE 1 MANDATORY REQUIREMENTS

Requirement	Reference	Conclusion
1. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reductions commitment under Art. 3.	Kyoto Protocol Art.12.2	OK
2. The project shall assist non Annex I Parties contributing to the ultimate objective of the UNFCCC.	Kyoto Protocol Art.12.2	CAR 1 OK
3. The project shall have the written approval of voluntary participation from the designated national authority of each Party involved	Kyoto Protocol Art.12.5a CDM Modalities and Procedures §40a	CAR 1 OK
4. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof.	Kyoto Protocol Art.12.2 CDM Modalities and Procedure §40	CAR 1 OK
5. In case public funding from Parties included in Annex I is used for the project activity, these Parties shall provide an affirmation that such funding does not result in a diversion of official development assistance (ODA) and is separate from and is not counted towards the financial obligations of these Parties.	Decision 17/CP.7 CDM Modalities and Procedures Appendix B §2	CL 4 ok
6. Parties participating in the CDM shall designate a national authority for the CDM	CDM Modalities and Procedures §29	OK
7. The host Party and the participating Annex I Party shall be a Party to the Kyoto Protocol.	CDM Modalities and Procedures §30/31a	OK. There is no Annex I party involved in this project activity.
8. The participating Annex I Party's assigned amount shall have been calculated and recorded.	CDM Modalities and Procedure §31b	Not Applicable
9. The participating Annex I Party shall have in place a national system for estimating GHG emissions and a national registry in accordance with Kyoto Protocol Article 5 and 7.	CDM Modalities and Procedure §31b	Not Applicable
10. Reduction in GHG emissions shall be additional to any that would occur in the absence of the project activity, i.e. a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity.	CDM Modalities and Procedure §43	CAR 8, CAR 9, CAR 10 CAR 11, CL 4, CL 4 OK
11. The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change.	Kyoto Protocol Art.12.5b	CAR 12, CL 6 OK
12. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out.	CDM Modalities and Procedures §37c	CAR 14 OK

Requirement	Reference	Conclusion
13. Comments by local stakeholders shall be invited, a summary of these provided and how due account was taken of any comments received.	CDM Modalities and Procedures §37b	OK
14. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30/45 days, and the project design document and comments have been made publicly available.	CDM Modalities and Procedures §40	Table AOK
15. Baseline and monitoring methodology shall be previously approved by the CDM Methodology Panel.	CDM Modalities and Procedures §37e	OK
16. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances.	CDM Modalities and Procedures §47	CL-4 OK
17. Provisions for monitoring, verification and reporting shall be in accordance with the modalities described in the Marrakech Accords, and relevant decisions of the COP/MOP.	CDM Modalities and Procedures §37f	CAR-11 OK

TABLE 2 REQUIREMENTS CHECKLIST

Checklist Question		Reference	MoV ³	Comments	Conclusion
A Description of Project Activity					
A.1 Title of the project activity					
A.1.1.	Does the used project title clearly enable the reader to identify the unique CDM activity? Is there an indication of a revision number and the date of the revision.	/01/	DR	Yes; as per the webhosted PDD, the title of the project activity in the PDD is “Wind Power Project at Tadas, Karnataka” version 1.0, dated 13/07/2012. The PDD clearly indicates the revision number, version 01 and the date of revision i.e. 13/07/2012. However, the PP is requested to submit the Letter of Approval from host country DNA	CAR-4 OK
A.1.2	Does the project comply with the applicable requirements for completing the PDDs (latest version available)?	/01/, /08/	DR/ CC	No the PDD does not complies to the latest “Guidelines for completing the project design document form”, version 01.0, Annex 8 of EB 66 dated 02/03/2012. The project boundary is not transparent on the emission sources and GHGs included in the project boundary and the data and parameters to be monitored	CAR-5 OK
A.1.3	Does the PDD comply with the template available (latest version)?	/01/, /22/	DR/ CC	The PDD complies the “Project Design Document Form for CDM Project Activities (F-CDM-PDD)” version 04.1, dated 11/04/2012. This was the latest available template at the time of starting the validation.	OK
A.2 Description of the proposed project activity					
A.2.1	Does the PDD contain an accurate description of the project activity and provide the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation? How was the design of the project assessed?	/01/, /27/, /28/	DR/ CC	As per the PDD, the purpose of the project activity is to generate electricity from Wind Energy and supply the same to Southern grid of India. The project involves 63 WTGs, each of 800 kW capacity totaling 50.4 MW at atTadas inHaveri&Darwada district of Karnataka, India. The proposed project capacity is confirmed from the agreement copy signed between the project proponent and the WTG supplier (Enecon (India) Limited for supplying 63 WTGs of 800 kW make and from the site visit observations. During	GL-4 FAR 1

³ MoV: DR document review, I interview, CC cross checking

Checklist Question		Reference	MoV ³	Comments	Conclusion
				<p>the site visit the validation team found that for all the 63 WTGs the erection process was going . This confirmed that the project activity is a green field project. The PDD has mentions the technical aspects of the project activity; and the validation team has crosschecked the technical parameters as well as the design parameters of the project activity from the manufactures (Enercon) specification. However, PP is requested to submit the following documents:</p> <ol style="list-style-type: none"> 1. Approval from state nodal agency for setting up the wind power project. 2. Land approval/lease agreement executed for the project location 3. Power Purchase Agreement executed for the project activity. 4. Commissioning certificates of WTGs as and when commissioned. 	
A.2.2	Does the project activity involve alteration of existing installations? If yes, have the differences between pre-project and post-project activity been clearly described in the PDD?	/01/, /27/, /28	DR/CC	The project activity is a Greenfield project. During the site visit, it was noted by the validation team that all 63 WTGs are yet to be installed and commissioned. In addition, the offer & agreement copy signed between the project proponent and the WTG supplier Enercon (India) Limited for supplying 63 WTGs of 800 Kw make confirms that the project activity is a new project activity. This was further confirmed also during the site visit.	OK
A.2.3	Is all information provided consistent and in compliance with the actual situation or planning?	/01/, /27/, /28	DR/I	The information regarding the actual implementation status or planning of the project activity is not provided in the PDD transparently.	GL-2 OK
A.3 Project participants					
A.3.1	Have the Parties and project participants participating in the project been listed in tabular form in Section A.4 and are they consistent with the information detailed in Annex 1 of the PDD?	/01/	DR	As per the table provided in section A.4 of the PDD, the host party involved is India and the project participant is M/s ReNew Wind Energy (Karnataka) Private Limited. The project participant name in section A.4 of the PDD is consistent with the information provided in Appendix-1 of the PDD.	OK

Checklist Question	Reference	MoV ³	Comments	Conclusion
A.3.2 Do all participating Parties fulfil the participation requirements as follows: (a) Party has ratified the Kyoto Protocol (b) Party has a Designated National Authority (c) The assigned amount has been determined	/01/ /12/ /13/	DR/ CC	Since it is a unilateral project, the only party involved is India. India ratified the Kyoto Protocol on 26/08/2002 and is allowed to participate. India has a Designated National Authority (DNA) called National Clean Development Mechanism Authority (NCDMA) under Ministry of Environment and Forest, Govt. of India. There is no assigned amount determined for India.	OK
A.3.3 Have the letters of approval have been issued?	/01/	DR	The letter of approval from host country DNA is not yet available. The PP is requested to provide the same.	CAR-1 OK
A.3.4 Do the letters of approval meet the following requirements? (a) LoA(s) is/are issued by the DNA (b) LoA confirms that the Party has ratified the Kyoto Protocol; (c) LoA confirms that participation is voluntary (d) The LoA confirms that the project contributes to the sustainable development of the Host Country? (e) The LoA is valid for the proposed project activity under validation (f) The LoA was received directly by the DNA or by the PP	/01/	DR	Please refer to section A.3.3 of this protocol.	CAR-1 OK
A.3.5 Indicate the means of validation employed to assess the authenticity	/01/	DR	The letter of approval from host country DNA is not yet available. The PP is requested to provide the same.	CAR-1 OK
A.3.6 Have all private/public project participants been authorized by a Party to the Kyoto Protocol?	/01/	DR	Please refer to section A.3.3 of this protocol.	CAR-1 OK
A.3.7 Are the entities included in the PDD those authorized as PPs?	/01/	DR	The letter of approval from host country DNA is not yet available. The PP is requested to provide the same.	CAR-1 OK
A.3.8 Do the PP(s) listed in the PDD have a contract with RINA for the project validation?	/01/	DR	As per the PDD, the PP is M/s ReNew Wind Energy (Karnataka) Private Limited; whereas the validation agreement is executed by M/s ReNew Wind Power Private Limited. Further, all agreements (WTG procurement,	CL-3 OK

Checklist Question		Reference	MoV ³	Comments	Conclusion
				erection & commissioning etc.) related to project activity were executed by M/s ReNew Wind Power Private Limited. Hence, PP is requested to clarify with documentary evidence the project proponent for the project activity.	
A.4 Modalities of communication					
A.4.1	Does the MoC statement comply with the latest version of the Form F-CDM-MOC available?	/01/, /16/	DR	PP is requested to submit the latest version of the Modalities of Communication statement (F-CDM-MOC) and documentary evidence to check the authenticity of the signing authority.	CAR-2 OK
A.4.2	Does the MoC statement is correctly completed including Annex 1?	/01/, /16/	DR	Please refer to section A.4.1 above.	CAR-2 OK
A.4.3	Does the MoC statement identify all PPs and focal points?	/01/, /16/	DR	Please refer to section A.4.1 above.	CAR-2 OK
A.4.4	How the personal identities, the specimen signatures and the employment status is cross-checked?	/01/, /16/	DR	Please refer to section A.4.1 above.	CAR-2 OK
A.4.5	Is the official who submitted the MoC statement and the official who signed the written confirmation duly authorized to do so on behalf of the respective PPs?	/01/, /16/	DR	Please refer to section A.4.1 above.	CAR-2 OK
A.5 Technical description of the project					
A.5.1	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 indicated (decimal points)?	/01/, /28/	DR// CC	The project location is clearly described in the PDD and is also in line with the location described in the agreement copy signed between the project proponent and the WTG supplier (Enercon (India) Limited). During the site visit the location of the WTGs are found to be correct as described in the PDD. Longitude and latitude of WTGs are presented in the PDD under section A.2.4. PP is requested to provide documentary evidence of the geographical coordinates of each WTGs as presented in the PDD.	CAR-3 FAR 1
A.5.2	Is the category(ies) of the project activity correctly identified?	/01/	DR	Yes; the projects falls under Sectoral Scope: 1 (Energy industries (renewable / non renewable sources) and correctly applies the methodology ACM0002 version 13.0.0	OK
A.5.3	Does the project design engineering reflect current good practices? Would the technology result in a significantly better performance than any commonly used technologies in the host Country? Is any transfer	/01/, /28/	DR// CC	The project involves electricity generation from Wind Energy. There is no GHG emissions associated with electricity generation from wind energy and therefore the project technology is a clean form of technology.	OK

Checklist Question		Reference	MoV ³	Comments	Conclusion
	of technology from any Annex I Party involved?			Each WTG included in the project activity is of Enercon E-53 of 800 kW capacity. The same is found consistent during the site visit by the validation team. The technical specifications presented in the PDD are found to be in line with the copy of signed agreement between the project proponent and the WTG supplier (Enercon (India) Limited). There is no technology transfer from Annex I party in the project activity. The same has been confirmed from the technology provider's website.	
A.5.4	What is the expected operational lifetime of the project activity? Is it reasonable?	/01/	DR	As per the web-hosted PDD the operational lifetime of the WTG's are taken as 20 years. PP is requested to provide the supporting documents for the operational lifetime of the project activity.	CL4 OK
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 PPs?	/01/	DR	As per the project PDD, the project activity does not involve any public funding. However, PP is requested to provide documentary evidence for the source of funding of the proposed project activity.	CL5 OK
A.6.2	If public funding from Parties included in Annex I is used for the project activity, have these Parties provided an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of these Parties?	/01/	DR	Please refer to section A.6.1 above.	CL5 OK
B. Baseline and monitoring methodology					
B.1 Methodology applied					
B.1.1	Does the project activity apply an approved methodology and the correct version thereof?	/01/ /07/ /09/ /10/	DR	Yes; the project activity correctly applies the approved methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", version 13.0.0 of EB 67 dated 11/05/2012.	OK
B.1.2	Is there any specific guidance, including the methodological tools provided by EB and has these guidance been applied?	/01/ /07/ /09/ /10/	DR	Yes; the following tools and guidelines are correctly applied in the project activity as referred by the methodology: Tool for the demonstration and assessment of additionality, version 06.0.0, EB 65	OK

Checklist Question		Reference	MoV ³	Comments	Conclusion						
				Tool to calculate the emission factor for an electricity system, version 02.2.1, EB 63 Guidelines on the assessment of investment analysis. Version 05, annex 5, EB 62 dated 15/07/2011							
B.1.3	How was it validated that the project activity complies with the applicability criteria?	/01/ /07/ /09/ /10/	DR	<table><tr><th>Applicability criteria</th><th>Project activity</th><th>Criteria is met?</th></tr><tr><td>This methodology is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).</td><td>The Project activity involves installation of a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield plant).</td><td>Yes; from the agreement copy signed between the project proponent and the WTG supplier (Enercon (India) Limited it is evident that the project activity is a wind power based project. Further, it was seen during the site visit that none of the WTGs are installed at site.</td></tr></table>	Applicability criteria	Project activity	Criteria is met?	This methodology is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).	The Project activity involves installation of a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield plant).	Yes; from the agreement copy signed between the project proponent and the WTG supplier (Enercon (India) Limited it is evident that the project activity is a wind power based project. Further, it was seen during the site visit that none of the WTGs are installed at site.	CAR-4 OK
Applicability criteria	Project activity	Criteria is met?									
This methodology is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).	The Project activity involves installation of a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield plant).	Yes; from the agreement copy signed between the project proponent and the WTG supplier (Enercon (India) Limited it is evident that the project activity is a wind power based project. Further, it was seen during the site visit that none of the WTGs are installed at site.									

Checklist Question		Reference	MoV ³	Comments			Conclusion
						Hence, the project activity is a green field project activity. However the applicability condition is not transparent on whether the new power plant is grid connected .	
				The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit	The project activity involves the installation of a wind power plant. Hence, it meets the requirement.	Yes; from the agreement copy signed between the project proponent and the WTG supplier (Enercon (India)) Limited it is evident that the project activity is	

Checklist Question		Reference	MoV ³	Comments			Conclusion
				or tidal power plant/unit		a wind power based project. Further, it was seen during the site visit that none of the WTGs are installed at site. Hence, the project activity is a green field project activity	
				In the case of capacity additions, retrofits or replacements (except for capacity addition projects for which the electricity generation of the existing power plant(s) or unit(s) is not affected: the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the	Not applicable to the Project activity as the project is a Greenfield setup and does not involve capacity additions, retrofits or replacements.	Not applicable to the project activity.	

Checklist Question		Reference	MoV ³	Comments			Conclusion
				baseline emission section, and no capacity addition or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity			
				<p>In case of hydro power plants, At least one of the following conditions must apply:</p> <ul style="list-style-type: none"> The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or The project activity is implemented in an existing single or multiple reservoirs, where the volume of any of reservoirs is increased and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m 	Not applicable to the Project activity. The Project activity involves installation of a wind power plant.	Not applicable to the project activity.	

Checklist Question		Reference	MoV ³	Comments			Conclusion
				after the implementation of the project activity; or The project activity results in new single or multiple reservoirs and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m ² after the implementation of the project activity.			
				In the case of retrofits, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is “the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance”.	The project is not a retrofit, replacement or capacity addition. Hence this condition is not applicable.	Not applicable to the project activity.	

Checklist Question		Reference	MoV ³	Comments			Conclusion
				xx			
				In addition, the applicability conditions included in the tools referred by the methodology shall apply.	The project activity follows the following tools as referred by the methodology: Tool to calculate the emission factor for an electricity system (Version 02.2.1) Tool for demonstration and assessment of additionality (Version 06.0.0)	The PDD mentions the applicable tools in relevant section of the PDD. However, PP is requested to include the applicability conditions of the tools in the section B.2 of the PDD.	
B.1.4	Is the selected baseline one of the baseline(s) described in the methodology and this hence confirms the applicability of the methodology?	/01/ /07/ /09/ /10/	DR	Yes. The project proponent has chosen baseline scenario as per the approved baseline methodology ACM0002 version 13.0.0. The baseline 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, as reflected in the combined margin (CM) calculations described in the “tool to calculate the emission factor for an electricity system”.			OK
B.2 Project boundary							
B.2.1	Is the project boundary are clearly defined and in accordance with the applied methodology?	/01/07/	DR	As per the methodology, the project boundary includes “the the project power plants and all power plants connected physically to the electricity system that the CDM project power plant is connected to”. Accordingly, PP included the			CAR-5 OK

Checklist Question	Reference	MoV ³	Comments	Conclusion
			green house gases and sources in a tabular format and outlined the flow diagram of the project boundary. However, the exact metering point of net quantity of electricity export to grid is not transparent in the project boundary and the description of project boundary is missing in the PDD	
B.2.2	What are the project's system boundaries (components and facilities used to mitigate GHGs)?	/01/07/	<p>DR// CC</p> <p>The system boundaries for the project activity are the 63 WTGs of 0.8 MW capacity each, the transmission lines and energy meters connected to WTGs for monitoring the quantity of electricity generation before exporting to grid. SOUTHREN regional grid has been considered for the purpose of baseline estimation. However, the exact metering point of net quantity of electricity export to grid is not transparent in the project boundary</p> <p>During the site visit on 06/09/2012 the validation team found that none of the WTG is erected. The technology supplier and project proponent informed that all these 63 WTGs of the PP will be connected along with the other WTGs coming up in that wind farm area at the Tadas substation. However, it was seen that the substation at Tadas is under construction. Further the name of the substation is not transparent in the project boundary.</p>	CAR-5 OK
B.2.3	Which sources are identified for the project? Does the identified project boundary cover all possible sources linked to the project activity?	/01/07/	<p>DR// CC</p> <p>CO₂ emission from the net electricity displaced in the Southern grid (baseline emissions) has been considered and this reflects clearly in the project boundary. The project activity does not have any project or leakage emission. Moreover, the applied methodology ACM0002, version 13.0.0, does not require considering project emissions and leakage emissions from wind power projects.</p>	OK
B.2.4	In case of grid connected electricity project: is the relevant grid correctly identified in accordance with the latest version of tool to calculate emission factor of electricity system and the underlying methodology?	/01/07/	<p>DR// CC</p> <p>Yes; Southern grid is correctly identified as the relevant grid for the project activity in accordance with the latest version of the "tool to calculate the emission factor for an electricity system" version 2.2.1. The approach is also in line with the applied methodology.</p>	OK
B.2.5	Does the project involve other emissions sources not foreseen by the methodologies that may question the applicability of the methodology? Do these sources	/01/07/	<p>DR// CC</p> <p>The validation did not reveal any other emission sources, which may contribute to more than 1% to the estimated emission reductions of the project since this is only a</p>	OK

Checklist Question	Reference	MoV ³	Comments	Conclusion	
contribute by more than 1% to the estimated emission reductions of the project?			windmill project which involves mainly the assembly of components at site and erection.		
B.3 Identification of the Baseline Scenario					
B.3.1	Which baseline scenarios have been identified? Is the list of the baseline scenarios complete? Does the PDD follow the steps to determine the baseline scenario required by the methodology/tool?	/01/07/	DR// CC	PP has selected the baseline scenario as per methodology ACM0002, version 13.0.0 which states “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 would have otherwise generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid”. Since the approved methodology that is applied prescribes the baseline scenario, no further analysis of alternatives is required, according to paragraph 115 of the CDM-VVS, version 02.0. Further, as per the methodology, no step wise approach is required to identify the baseline scenario for new grid connected renewable power plant/unit.	OK
B.3.2	How have the other baseline scenarios been eliminated in order to determine the baseline?	/01/07/	DR// CC	Since the approved methodology that is applied prescribes the baseline scenario, no further analysis is required, according to paragraph 115 of the CDM-VVS, version 02.0	OK
B.3.3	What is the baseline scenario? Is the determination of the baseline scenario in accordance with the guidance in the methodology?	/01/07/	DR// CC	As stated in section B.3.1 above, the baseline scenario is the electricity delivered to the grid by the project activity that would have been generated by the operation of grid-connected power plants and by addition of new generation sources, as reflected in the combined margin calculations described in the “tool to calculate the emission factor for an electricity system”. It has been determined in accordance with the guidance in the applied methodology ACM0002, Version 13.0.0. However, data and parameters used to determine baseline are not mentioned in section B.4 of the PDD.	CAR-6 OK
B.3.4	Has the baseline scenario been determined using conservative assumptions? Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies (E+ / E-), macro-economic trends and political aspirations?	/01/06/07/	DR// CC	Since the approved methodology that is applied prescribes the baseline scenario, no further analysis is required, according to paragraph 115 of the CDM-VVS, version 02.0. However, the PP has considered national and sectoral policies while discussing the baseline scenario in section B.5 of the PDD.	OK

Checklist Question		Reference	MoV ³	Comments	Conclusion
B.4 Additionality					
B.4.1	What tool does the project use to assess additionality? Is this in line with the methodology?	/01/07/	DR	The project additionality is discussed as per “tool for the demonstration and assessment of additionality” version 06.0.0. This is in line with the methodology.	OK
B.4.2	What is the project additionality mainly based on?	/01/07/09/	DR/ CC	The PP has demonstrated the project additionality as per the investment analysis of the “tool for the demonstration and assessment of additionality” version 06.0.0. And in doing so, PP has referred to the “Guidelines on the assessment of investment analysis” version 05, Annex 05 of EB 62 dated 15/07/2011. PP opted for benchmark analysis and has chosen equity IRR as the financial indicator. However the suitability of equity IRR as the financial indicator is not transparently mentioned in the PDD.	CAR-7 OK
B.4.3 Prior consideration of CDM					
B.4.3.1	What is the starting date of the proposed project activity? Is it in accordance with the CDM Glossary of Terms?	/01/11/16/	DR/ CC	As per section C.1.1 of the PDD, the start date of the project activity is 06/04/2012 which is the date of signing the agreement between the project proponent and technology supplier (M/s Enercon (India) Limited) for supplying 63 nos. of E-53 make 800 kW WTGs. The validation team has cross checked the copy of the agreement and found that the start date justification is appropriate as per the “Glossary of CDM terms” version 06 dated 02/03/2012	OK
B.4.3.2	Is the project activity a new project activity or existing project?	/01/11/16/	DR/ CC	The project is a new project activity since the start date is after 2 August 2008. This has been confirmed from the signed agreement between the project proponent and the technology supplier (M/s Enercon (India) Limited) for supplying 63 nos. of E-53 make 1500 kW WTGs.	OK
B.4.3.3	For an existing project activity with a start date is prior the date of the PDD publication for GSC, what is the evidence for serious consideration of CDM prior to the time of decision to proceed with the project activity?	/01/11/16/	DR/ CC	The project activity is a new project activity as discussed above. Further, PP intimated host country DNA and UNFCCC as per the paragraph 27 of “Clean Development Mechanism Project Standard”, version 01.0. This has been cross checked from the copy of e-mail sent to UNFCCC and host country DNA dated 16/06/2012 and copy of acknowledgement e-mail sent by UNFCCC to PP dated 16/05/2012. Therefore, prior consideration of CDM for the project activity is demonstrated. The validation team has	OK

Checklist Question	Reference	MoV ³	Comments	Conclusion
			also checked the prior consideration section on UNFCCC website and observed that the project is listed in prior consideration section on UNFCCC website and date received is shown as 16/06/2012.	
B.4.3.4	Does the timeline of the project confirm that continuous actions in parallel with the implementation were taken to secure CDM status? Please specify the gap between the documented evidences.	/01/11/16/	DR/ CC Prior CDM consideration has been taken by PP in line with the "Clean Development Mechanism Project Standard", version 01.0 and It is not required to show continuous actions in parallel to implementation to secure CDM status.Please refer to section B.4.3.3 above.	OK
B.4.4 Investment analysis				
B.4.4.1	What is the analysis method used to determine whether the proposed project activity is not (a) the most economically or financially attractive; or (b) economically or financially feasible, without the revenue from the sale of certified emission reductions?	/01/,/03/, /09/,/17/, /24/,/27/ /28/	DR// CC The PP has applied benchmark analysis method and calculated the post tax equity IRR for the project activity. As per the "guidance on the assessment of investment analysis" Annex 5 of EB 62, if the alternative to the project activity is the supply of electricity from a grid, this is not to be considered as investment comparison analysis. Further the project generates revenues in the forms of sale of electricity , this simple cost analysis is not applicable and benchmark approach is considered appropriate since the baseline doesn't require investment However, PP is requested to clarify the following: It is noted that the PLF report submitted to the DOE states for 88 WTGs . However the proposed project is for 63 WTGs. PP to clarify the same. It is not clear from the PDD and the investment analysis worksheet how the PLF is considered is in line with the "Guidelines for the reporting and validation of plant load factors" version 01 annex 11 of EB 48 dated 17/07/ 2009. PP has considered preferential tariff as per KERC tariff order dated 11/12/2009 which mentions: "the Commission determines the tariff for wind projects at Rs.3.70 per unit without any escalation for the first 10-year period from the date of signing of PPA". However The tariff has been considered constant for 20 years; kindly explain the basis for the same& PP is requested to clarify whether any GBI or any other incentive are identified for the project activity. In the PDD, the source for project cost has been mentioned	CAR-8, CL-6 OK

Checklist Question		Reference	MoV ³	Comments	Conclusion
				<p>as calculated; kindly provide the source for the same</p> <p>Kindly provide the basis for the service tax rate considered.</p> <p>PP is requested to clarify as the salvage value has been taken at 10% then book depreciation should be written off up to the salvage value of the asset.</p> <p>PP is requested to provide the following documents:</p> <p>PP is requested to clarify why in the calculation of book depreciation, asset cost has been fully written off. Also provide the depreciation policy of the company.</p> <p>Kindly provide the CA certificate for the actual project cost incurred and source for project cost financing.</p> <p>Kindly provide the loan sanction letter and current status of the loan.</p> <p>The basis for considering margin money at 25% of the working capital.</p> <p>The 80IA exemption calculation is not correct as exemption is available in any 10 out of first 15 years. Also PP is requested to explain the basis for MAT credit taken and clarify how net tax payable has been considered in the calculation</p> <p>Kindly explain the basis for considering quarterly repayments in the interest calculation</p> <p>Kindly provide the source of CER price and exchange rate considered.</p> <p>Project cost sensitivity does not affect book depreciation and tax depreciation figures.</p> <p>Kindly provide the exact location in the KERC tariff order on the basis of which salvage value has been considered at 10%</p>	
E B.4.4.2	What the financial indicator is used?	/01/,/03/, /09/,/17/, /24/,/27/ /28/	DR// CC	Equity IRR (post tax) is chosen as financial indicator.. However the suitability of equity IRR as the financial indicator is not transparently mentioned in the PDD.	CAR-7 OK
B.4.4.3	If a benchmark is used, is it ensured that it is selected	/01/,/03/,	DR//	Yes; the benchmark is selected as per EB guideline	CAR-9 OK

Checklist Question	Reference	MoV ³	Comments	Conclusion
<p>in accordance with the requirements of the EB guidelines and it represents standard returns in the market?</p> <p>Is the benchmark suitable for the type of financial indicator presented?</p> <p>Is it ensured the any risk premiums applied in determining the benchmark reflect the risks associated with the project type or activity?</p>	/09/,/17/, /24/,/27/ /28/	CC	<p>“Guidelines on the assessment of the investment analysis” (Version 05, EB 62). In accordance to the guideline if the project could be developed by an entity other than the project participant, then the benchmark must be based on the parameters available in the market. Further, the investment analysis guideline also recommends country and project specific expected returns on equity in Appendix of the guideline. The appendix also states that in situations when an investment analysis is carried out in nominal terms, the project participants can convert the real term values provided in the table to nominal values by adding the inflation forecast of the central bank of the host country for the duration of the crediting period. Accordingly, PP also considered default expected return on equity for energy industries (Group 1) applicable for India as 11.75% and referring the guideline, PP converted the real term interest into nominal interest considering inflation rate as 6%. Accordingly, the resulted benchmark considering this approach arrived at a value of 17.75%. However, PP is requested to clarify the following:</p> <p>The basis for taking the average of the inflation values of 5 years and 10 years and the suitability of the RBI report dated 12/08/2011 in line with the investment decision date.</p> <p>PP is requested to make it transparent in the PDD whether the nominal benchmark has been considered? If so the calculation for equity IRR is also done on nominal basis.</p> <p>.</p> <p>How the inflation rate is directly added to the default value provided in the “Guidelines on the assessment of the investment analysis” (Version 05, EB 62).</p>	
<p>B.4.4.4 Is the investment analysis carried out in accordance with specific guidance from EB?</p> <p>Is the investment analysis complete and accurate?</p> <p>Is the investment analysis provided in a spreadsheet version? Are all the formulas used readable and all relevant cell be viewable and unprotected?</p>	/01/,/03/, /09/,/17/, /24/,/27/ /28/	DR// CC	<p>The investment analysis is carried out in accordance with EB guideline “Guidelines on the assessment of the investment analysis” (Version 05, EB 62). The investment analysis is provided in a spreadsheet. However, please refer to section B.4.4.1 above.</p>	<p>CAR-8, CL-6 OK</p>

Checklist Question	Reference	MoV ³	Comments	Conclusion
			The investment analysis provided in a spreadsheet version and; the validation team has confirmed that all the formulas used are readable and all relevant cells are unprotected and viewable.	
B.4.4.5	Cross-check the parameters used in the financial analysis against third party or publicly available sources (all parameters used as input values shall be cross-checked and assessed).	/01/,/03/, /09/,/17/, /24/,/27/ /28/	DR// CC Input parameters used in the financial analysis are crossed checked against credible sources (third party or publicly available documents). However, please refer to section B.4.4.1 and B.4.4.3 above. PP has considered 26.50% PLF and auxiliary consumption as 0.50% for the estimation of the net generation, which has been sourced from KERC tariff order. The net PLF is calculated as 26%. The validation team has cross checked the KERC tariff order and found consistent.	CAR-9, CL-6 OK
B.4.4.6	Are the input values used in the investment analysis valid and applicable at the time of the investment decision taken by the PP?	/01/,/03/, /09/,/17/, /24/,/27/ /28/	DR// CC Please refer to section B.4.4.1 and B.4.4.3 above.	CAR-10, CL-6 OK
B.4.4.7	Where applicable, the PLF has been defined ex-ante according to the applicable EB guideline?	/01/,/03/, /09/,/17/, /24/,/27/ /28/	DR// CC It is not clear from the PDD and the investment analysis worksheet how the PLF is considered is in line with the "Guidelines for the reporting and validation of plant load factors" version 01 annex 11 of EB 48 dated 17/07/ 2009	CL-6 OK
B.4.4.8	Does the time period of the investment analysis reflect the expected operation of the underlying project activity (technical lifetime)?	/01/,/03/, /09/,/17/, /24/,/27/ /28/	DR// CC Yes; the investment analysis is carried out for 20 years which is also the operational life of the project activity. This is as per the signed agreement between the project proponent and the technology supplier (M/s Enercon (India) Limited) for supplying 63 nos. of E-53 makes 800 kW WTGs. PP is requested to provide the supporting document for Lifetime of the project activity.	CL-4 OK
B.4.4.9	Does the fair value of the project activity assets is included at the end of the assessment period as a cashflow in the final year? Is the fair value calculated in accordance with local accounting regulations where available or	/01/,/03/, /09/,/17/, /24/,/27/ /28/	DR// CC Yes; fair value is included at the end of the assessment period as cash inflow in the final year. However, PP is requested to provide the source of salvage value. Further, PP is requested to clarify the basis for taking salvage value of land at 10% when no depreciation is changed for land.	CL-6 OK

Checklist Question		Reference	MoV ³	Comments	Conclusion
	international best practice?				
B.4.4.10	Does the income tax calculation take depreciation into account? Is the depreciation year in accordance with normal accounting practice in the Host Country	/01/,/03/, /09/,/17/, /24/,/27/ /28/	DR// CC	Please refer to section B.4.4.1 above.	CAR-8, CL 6OK
B.4.4.11	Sensitivity analysis: have the key parameters contributing to more than 20% of the revenue/costs during operating or implementation been identified?	/01/,/03/, /09/,/17/, /24/,/27/ /28/	DR// CC	Yes; the sensitivity analysis considers main parameters such as project cost, PLF (net generation), electricity tariff and O & M cost which either constitute 20% of cost or revenue. This is in line with the “guidelines on the assessment of investment analysis” version 05, annex 5 of EB 62.	OK
B.4.4.11	Sensitivity analysis: is the range of variations is reasonable in the project activity? The main parameters can be changed for the different project category.	/01/,/03/, /09/,/17/, /24/,/27/ /28/	DR// CC	Yes; the range of variation (20%) is reasonable for project activity like wind projects. Hence, acceptable for the validation team.	OK
B.4.4.12	Have the key parameters been varied to reach the benchmark and the likelihood of this happening been justified to be small?	/01/,/03/, /09/,/17/, /24/,/27/ /28/	DR// CC	The PDD does not describe the required variations of key parameters to reach the benchmark and the possibility of happening the same.	CAR-10 OK
B.4.5 Barrier analysis					
B.4.5.1	Are the barriers identified complimentary to a potential investment analysis?	/01/09/	DR/ CC	Since, step 3 (Barrier analysis) of the “tool for the demonstration and assessment of additionality” is optional if step 2 (Investment analysis) is followed. Hence, PP has not discussed barrier analysis in the PDD. This is in line with the applied tool and hence accepted by the validation team.	OK
B.4.5.2	How were the investment barriers assessed to be real?	/01/	DR	Barrier analysis is not carried out in the project activity. Hence, not applicable to discuss in this section.	OK
	How were the technological barriers assessed to be real?	/01/	DR	Barrier analysis is not carried out in the project activity. Hence, not applicable to discuss in this section.	OK
B.4.5.3	How were the other barriers assessed to be real?	/01/	DR	Barrier analysis is not carried out in the project activity. Hence, not applicable to discuss in this section.	OK
B.4.5.4	Barriers due to prevailing practice (First of its kind): does the project apply measures currently covered in the framework (fuel and feedstock switch, switch of technology with or without change of energy source, methane destruction, methane formation avoidance)?	/01/	DR	Barrier analysis is not carried out in the project activity. Hence, not applicable to discuss in this section.	OK

Checklist Question		Reference	MoV ³	Comments	Conclusion
B.4.5.5	Barriers due to prevailing practice (First of its kind): do the technologies deliver the same output and differ by at least of energy source/fuel, feed stock, size of installation?	/01/	DR	Barrier analysis is not carried out in the project activity. Hence, not applicable to discuss in this section.	OK
B.4.5.6	Barriers due to prevailing practice (First of its kind): does the applicable geographical area is in compliance with the definition as per the EB guideline?	/01/	DR	Barrier analysis is not carried out in the project activity. Hence, not applicable to discuss in this section.	OK
B.4.5.7	Is the project activity prevented by the identified barriers and at least one of the possible alternatives to the project activity is feasible under the same circumstances?	/01/	DR	Barrier analysis is not carried out in the project activity. Hence, not applicable to discuss in this section.	OK
B.4.5.8	How the CDM can alleviate the identified barriers?	/01/	DR	Barrier analysis is not carried out in the project activity. Hence, not applicable to discuss in this section.	OK
B.4.6 Common practice analysis					
B.4.6.1	Does the project apply measures currently covered in the framework (fuel and feedstock switch, switch of technology with or without change of energy source, methane destruction, methane formation avoidance)?	/01/09/	DR/ CC	Yes; the project falls under “switch of technology with or without change of energy sources” measures as covered in the framework.	OK
B.4.6.2	Do the technologies deliver the same output and differ by at least of energy source/fuel, feed stock, size of installation, investment climate in the date of the investment decision, other features?	/01/09/	DR/ CC	The PDD is not transparent on the different technologies in the context of common practice as per the “tool for the demonstration and assessment of additionality”. Although, in step 3 under common practice analysis in the PDD, PP has mentioned about different investment climate, the same is not made transparent with credible source. PP is requested to describe the same with credible source in the PDD.	CAR-11 OK
B.4.6.3	Does the applicable geographical area is in compliance with the definition as per the EB guideline?	/01/09/	DR/ CC	PP has considered host country (India) as applicable geographical area which is default applicable geographical area as per the “tool for the demonstration and assessment of additionality”. However, applicable geographical area is contradicting in step 3 with step 1 under common practice analysis in the PDD.	CAR-11 OK
B.4.6.4	How many similar non-CDM-projects exist in the region within the scope?	/01/	DR	PP has discussed the common practice in stepwise as per the “tool for the demonstration and assessment of additionality”. However, PP is requested to provide the	CAR-11 OK

Checklist Question		Reference	MoV ³	Comments	Conclusion
				<p>following:</p> <p>The list of thermal plants, hydro plants and nuclear plants considered in the applicable geographical area and the reason for considering CEA database version 6 instead of version 7.</p> <p>The source based on which the numbers of wind power plants are included in the PDD and the source based on which the CDM and non-CDM projects in Karnataka are presented in the PDD. Page no. 13 of the PDD, the table says 39 projects included in Nall while the foot note states that 139.</p>	
B.4.6.5	What is the data source(s) used for the common practice analysis?	/01/	DR	Please refer to section B.4.6.4 above.	CAR 11 OK
B.4.7 Conclusion					
B.4.7.1	What is the conclusion with regard to the additionality of the project activity?			The project additionality shall be concluded after satisfactory conclusion of CAR 8, CAR 9, CAR 10, CAR 11, CL 4	CAR 8, CAR 9, CAR 10, CAR 11, CL 4 OK
B.5 Algorithms and/or formulae used to determine emission reductions					
B.5.1 Baseline emissions					
B.5.1.1	Are the steps and equations applied to calculate the baseline emissions in compliance with the requirements of selected baseline and monitoring methodology?	/01/07/10/ /15/	DR/ CC	<p>Yes; the baseline emissions are calculated in the PDD as per ACM0002, version 13.0.0 and as follows:</p> $BE_y = EG_{PJ,y} * EF_{grid,CM,y}$ <p>Where,</p> <p>BE_y is the baseline emissions. $EG_{PJ,y}$ is the quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr) and $EF_{grid,CM,y}$ is the Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO₂/MWh).</p> <p>Since, the project activity is a green-field project activity,</p>	OK

Checklist Question		Reference	MoV ³	Comments	Conclusion
				$EG_{PJ,y} = EG_{facility,y}$ The calculation of emission factor is based on the “Tool to calculate the emission factor for an electricity system”, version 02.2.1, annex 19 of EB 63 dated 29/09/2011. Step wise approach as per the tool is followed in the PDD. In addition, “CO ₂ baseline database for Indian power sector” version 07 of January 2012, published by Central Electricity Authority which is the latest available data at the time of PDD submission to the DOE is referred for estimating the grid emission factor.	
B.5.1.2	Have conservative assumptions been used when calculating the baseline emissions and are the uncertainty estimates properly addressed? Are all the values used in the PDD considered reasonable in the context of the proposed project activity?	/01/07/10/ /15/	DR/ CC	The baseline emissions are estimated in line with the approved methodology. The net electricity generation is estimated considering a PLF of 26.50%. Further, “CO ₂ baseline database for Indian power sector” version 07 of January 2012, published by Central Electricity Authority which was the latest available data at the time of PDD submission to the DOE is referred for estimating the grid emission factor. However, it is not clear from the PDD and the investment analysis worksheet how the PLF is considered is in line with the “Guidelines for the reporting and validation of plant load factors” version 01 annex 11 of EB 48 dated 17/07/ 2009. The PDD is not transparent whether, OM is calculated as per ex-ante option or ex-post option. The calculation approach of simple OM is not in line with the tool. The formula of OM calculation presented in the PDD is not provided in the emission reduction worksheet. For the build margin (BM) calculation, the PP is requested to provide the EF spreadsheet.	CAR 12, CL 5 OK
B.5.1.3	Baseline Emissions estimated	/01/07/10/ /15/	DR/ CC	Baseline emissions estimated ex-ante is 102,975 tCO ₂ /year. However, please refer to section B.5.1.2 above.	CAR 12, CL 5 OK
B.5.2 Project emissions					
B.5.2.1	Are the steps and equations applied to calculate the project emissions in compliance with the requirements of selected baseline and monitoring methodology? Are all the values used in the PDD considered	/01/07/10/ /15/	DR/ CC	Yes; project emissions are discussed as per applied methodology ACM0002, version 13.0.0. In line with the methodology the project does not have any project emissions.	OK

Checklist Question		Reference	MoV ³	Comments	Conclusion
	reasonable in the context of the proposed project activity?				
B.5.2.2	Have conservative assumptions been used when calculating the project emissions and are the uncertainty estimates properly addressed?	/01/07/10/ /15/	DR/ CC	Please refer to section B.5.2.1	OK
B.5.2.3	Project emissions estimated	/01/07/10/ /15/	DR/ CC	Project emissions are estimated as zero. Considering the project is a wind power project, this is in line with the methodology.	OK
B.5.3 Leakage					
B.5.3.1	Are the steps and equations applied to calculate the leakage in compliance with the requirements of selected baseline and monitoring methodology? Are all the values used in the PDD considered reasonable in the context of the proposed project activity?	/01/07/10/ /15/	DR/ CC	As per the applied methodology ACM0002, version 13.0.0, no leakage emissions are required to be considered. This is made transparent in the PDD.	OK
B.5.3.2	Have conservative assumptions been used when calculating the leakage and are the uncertainty estimates properly addressed?	/01/07/10/ /15/	DR/ CC	Please refer to section B.5.3.1	OK
B.5.3.3	Leakage estimated	/01/07/10/ /15/	DR/ CC	Leakage emissions are estimated as zero. This is in line with the methodology.	OK
B.5.4 Emission reductions					
B.5.4.1	Has the methodology been correctly applied to calculate the emission reductions and can this be replicated by the data provided in the PDD and supporting files to be submitted for registration?	/01/07/10/ /15/	DR/ CC	The methodology is applied correctly to calculate the emission reductions in the PDD. The baseline emission is estimated multiplying the net electricity supplied to the grid by the project activity with grid emission factor. Net electricity is estimated multiplying the installed capacity (25.5 MW) which is evident from the WTG supply agreement with PLF of the project activity and annual operating hours. The grid emission factor is estimated as per the "tool to calculate the emission factor for an electricity system" version 02.2.1 and publicly available data from the "CO ₂ baseline database for Indian Power Sector" version 7 published by Central Electricity Authority. The project emission and leakage emission is not identified as per the applied methodology. However, PP is requested to refer section B.5.1.2 above.	CAR-12, CL-6 OK

Checklist Question		Reference	MoV ³	Comments	Conclusion
B.5.4.2	Are all the assumptions and data used by the project participants listed in the PDD including their references and sources?	/01/07/10/ /15/	DR/ CC	Please refer to section B.5.4.1 above	CAR 12, CL 6 OK
B.5.4.3	Is all the documentation used by the project participants as the basis for assumptions and source of data quoted and interpreted in the PDD?	/01/07/10/ /15/	DR/ CC	Please refer to section B.5.4.1 above	CAR 12, CL 6 OK
B.5.4.4	Emission Reductions estimated	/01/07/10/ /15/	DR/ CC	Emission reductions estimated is 102,975tCO2/year. However, please refer to section B.5.4.1 above.	CAR 12, CL 6 OK
B.6 Monitoring plan					
B.6.1 Parameters ex-ante					
B.6.1.1	Does the monitoring plan contain the list of all parameters required by the approved methodology and by the applicable methodological tool?	/01/07/	DR/ CC	Yes; the monitoring plan in the PDD contains all parameters required by the approved methodology and the applicable methodological tool. This is further discussed in below sections.	OK
B.6.1.2	How were the parameters available at validation verified?	/01/07/	DR/ CC	The following parameters were available at the time of validation: EF _{grid,OM,y} (Operating Margin emission factor): Operating margin emission factor is estimated as per the “tool to calculate the emission factor for an electricity system” and referring the publicly available data published by Central Electricity Authority in the “CO ₂ Baseline Database for the Indian Power Sector User Guide, Version 7.0, January 2012. This was the latest data available at time of start of validation. EF _{grid, BM, y} (Build Margin emission factor): Build margin emission factor is estimated as per the “tool to calculate the emission factor for an electricity system” and referring the publicly available data published by Central Electricity Authority in the “CO ₂ Baseline Database for the Indian Power Sector User Guide, Version 7.0, January 2012. This was the latest data available at time of start of validation. Accordingly, the Combine margin emission factor (EF _{grid, CM,y}) is calculated in line with the tool. However, please refer to section B.5.1.2 above.	CAR 12, CL 6 OK
B.6.1.3	Which default data have been selected and applied?	/01/10/	DR/ CC	The following default values have been selected and applied:	OK

Checklist Question		Reference	MoV ³	Comments	Conclusion
				Weighting of operating margin emission factor (W_{OM}) as 75% and Weighting of build margin emission factor (W_{BM}) as 25%. This is as per the tool to calculate the emission factor for an electricity system, version 02.2.1.	
B.6.1.4	Are all the values used in the PDD considered reasonable in the context of the proposed project activity?	/01/07/	DR/CC	Yes; the values used in the PDD and considered reasonable in the context of the project activity.	OK
B.6.2 Parameters ex-post					
B.6.2.1	Does the monitoring plan described in the PDD comply with the requirements of the methodology and the applicable methodological tool?	/01/07/	DR/CC	The methodology requires monitoring of net electricity generation supplied by the project plant to the grid in a year. The grid emission factor is estimated ex-ante as per the procedures outlined in "tool to calculate the emission factor for an electricity system" version 02.2.1, of EB 63 dated 29/09/2011. The institutional arrangement for data handling and storage, calibration frequency of energy meter and apportioning procedure to be followed for net electricity export is presented in the PDD.	OK
B.6.2.2	Does the monitoring plan contain all necessary parameters and are they clearly described?	/01/07/	DR/CC	The following parameters are to be monitored as per the PDD: EG_{facility,y} (net electricity generation supplied by the project plant to the grid in a year): However, the description of the parameter is not in line with the methodology. Further, the monitoring and measurement procedures are not transparent in the PDD. PP is requested to provide evidence for the same. Similarly, monitoring and measurement procedures of EG_{import,y} and EG_{export,y} needs further clarity. In addition, accuracy class of energy meters is not mentioned in the PDD.	CAR-13 OK
B.6.2.3	Is the measurement equipment described? Is the accuracy of the measurement equipment addressed and deemed appropriate? Are the requirements for maintenance and calibration of measurement equipment described and deemed appropriate?	/01/07/	DR/CC	Please refer to section B.6.2.2 above.	CAR-13 OK
B.6.2.4	Is the monitoring and recording frequency adequate for all monitoring parameters? Is it in line with the monitoring methodology?	/01/07/	DR/CC	Yes; the net electricity generation supplied to grid shall be measured continuously and recording will be done at least monthly. This is in line with the methodology.	OK
B.6.2.5	How has it been assessed that the monitoring arrangements described in the monitoring plan are	/01/07/	DR/CC	As per PDD the operation and maintenance of the project activity will be done by Enercon (India) Limited. However	OK

Checklist Question	Reference	MoV ³	Comments	Conclusion
feasible within the project design? Please confirm the ability of the project participants to implement the described monitoring plant.			since none of the WTGs are commissioned, the same is yet to be implemented, this could not be verified during site visit. As per discussions with technology supplier at site gross electricity exported to grid and gross electricity imported from grid are to be monitored both in main energy meter and check meter installed at the Tadas substation. However, the meters are connected to a number of WTGs including the project WTGs. Based on the monthly joint meter readings by representatives of state utility and representatives of O & M personnel apportioning will be done by state utility and sharing certificate of net electricity export to grid shall be issued to each WTG owner. The sharing certificate issued by state utility will automatically consider the apportioning procedure. The net electricity export can be cross checked from the invoice raised by PP. In addition, each WTG has inbuilt control panel which provides continuous generation details electronically and this shall be recorded on daily basis. On the event of meter failure the control panel readings can be referred to estimate the electricity generation. Hence, the monitoring procedures described in the PDD are considered feasible.	
B.6.3 Management/Quality Assurance/Quality Control				
B.6.3.1 Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)?	/01/,/07/	DR	Day to day record handling ((including what records to keep, storage area of records and how to process performance documentation) procedures are not included in the PDD.	CAR-13 OK
B.6.3.2 Are the data management and quality assurance and quality control procedures sufficient to ensure that the emission reductions achieved by/resulting from the project can be reported ex post and verified?	/01/,/07/	DR// CC	Gross quantity of electricity exported to grid is continuously monitored in the main and check meter installed at the substation. The main meter remains under the custody of state utility. Monthly joint meter reading is taken by state utility and representatives of O & M personnel from the main meter. Since main meter is connected to number of WTGs including the project WTGs; therefore, the apportioning is done entirely by state utility and share certificate is issued to each WTG owner. The share certificate reflects the net quantity of electricity exported to grid by the project WTGs. The net quantity of electricity export to grid from the share certificate will be used directly to quantify the emission reductions achieved from the	CAR-13 OK

Checklist Question		Reference	MoV ³	Comments	Conclusion
				project activity. From copies of invoices raised by PP to state utility for electricity export can be used to cross check the net electricity export by the project activity. Further, it is stated that the calibration of energy meters are under the provisions of state utility. PP is requested to provide basis for the same. The Apportioning procedures are not transparent in the PDD.	
B.6.3.3	Will all monitored data required for verification and issuance be kept for two years after the end of the crediting period or the last issuance of CERs, for this project activity, whichever occurs later?	/01/,/07/	DR/ CC	Yes; all the data recorded under the monitoring plan will be kept till 2 year after the end of crediting period. This is in line with the methodology.	OK
C.1 Crediting period					
C.1.1	What is the expected crediting starting date of the proposed project activity? Does the crediting period start eight week after the request for registration?	/01/	DR	As per the section C.2.2 of the PDD, the expected starting date of crediting period is 01/12/2012 or date of registration of the project activity with UNFCCC whichever is later. This is acceptable by the validation team.	OK
C.1.2	What is the length of the crediting period? Is it clearly defined and reasonable?	/01/	DR	The PP has considered renewable crediting period and the length of first crediting period is considered as 7 years which is reasonable and appropriate.	OK
D.1 Environmental impacts					
D.1.1	Has an analysis of the environment impacts of the project activity been undertaken? Is it clearly and sufficiently described in the PDD?	/01/,/20	DR/ CC	As per the notification of Ministry of Environment and Forest (MoEF), Govt. Of India, dated 01/12/2009, wind power projects don't fall under the purview of Environmental Impact Assessment notification. However, PP is requested to make it transparent in the PDD on the environmental analysis carried out for the project activity as required by the paragraph 63 of CDM project standard.	CAR-14 OK
D.1.2	Is the analysis of the environmental impacts required by the legislation of the host Country? If yes, has the EIA has been approved by local Government? Does the approval contain any conditions that need monitoring?	/01/,/20	DR/ CC	As per the notification of Ministry of Environment and Forest (MoEF), Govt. of India, dated 01/12/2009, wind power projects don't fall under the purview of Environmental Impact Assessment notification.	OK
D.1.3	Is it the project in line with the current environmental legislation in the host Country?	/01/,/20	DR/ CC	The project is in line with the current environment legislation in the host country (India). Please refer to section D.1.1	CAR-14 OK
D.1.4	Is the monitoring of sustainable development	/01/,/20	DR/	Monitoring of sustainable development indicators are	CAR-14 OK

Checklist Question		Reference	MoV ³	Comments	Conclusion
	indicators/ environmental impacts warranted by legislation in the host country?		CC	required as per the host country approval procedures and needs to outline in the PDD. However, the same is not concluded in the PDD.	
D.1.5	Are the sustainable development indicators in line with stated national priorities in the host country?	/01/,/20	DR/ CC	Yes; the sustainable development indicators stated in the PDD are in line with stated national priorities in the host country.	OK
E.1 Local stakeholder consultation					
E.1.1	Are the local stakeholders be invited by the PP prior to the publication of the PDD to the UNFCCC website?	/01/, /31/, /33/	DR// CC	The publication of PDD to the UNFCCC website for global stakeholder consultation was from 20/07/2012 to 18/08/2012. Local Stakeholder Consultation was conducted on 04/07/2012, prior to the publication of PDD for webhosting. This is evident from the copies of invitation letters sent to various local stakeholders dated 19/06/2012. Thus it is confirmed that sufficient time was given to stakeholders for putting their comments. The validation team interviewed some of the local stakeholders during the site visit and found that the stakeholder meeting was organized by the PP and they participated in the meeting.	OK
E.1.2	Area the stakeholders invited be considered as regards commenting the proposed project activity?	/01/, /31/, /33/	DR// CC	From the list of attendees and copy of invitation letters it is evident that the stakeholders who attended the meeting were from local village, gram panchayat and people who are engaged in operation & maintenance of the WTGs and are relevant to the project activity.	OK
E.1.3	Is the summary of the comments received from the stakeholders, provided in the PDD complete?	/01/, /31/, /33/	DR// CC	The summary of comments received during the stakeholder meeting is presented in section E.2 of the PDD. It is also evident from the minutes of the stakeholder meeting and confirmed that no adverse comments were received. Further, during the site visit by the validation team while interviewing local stakeholders no negative comment was noted.	OK
E.1.4	Has due account been taken by the project participants of any stakeholder comments received?	/01/, /31/, /33/	DR// CC	Please refer to section E.1.3	OK
E.1.5	If a stakeholder consultation process is required by regulations/laws in the host Country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	/01/, /31/, /33/	DR// CC	Stakeholder consultation is not required as per the regulation/law in the host country.	OK

TABLE 3 RESOLUTION OF CORRECTIVE ACTION REQUESTS AND CLARIFICATION REQUESTS

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
<p>CAR 1: PP is requested to submit the Letter of Approval from host country DNA.</p> <p>The project boundary is not transparent on the emission sources and GHGs included in the project boundary and the data and parameters to be monitored</p>	A.1.1, A.3.3, A.3.4, A.3.5, A.3.6, A.3.7	<p>PP has already applied for the Letter of Approval from National CDM Authority, Govt. of India, and submits the same on availability.</p> <p>The same has been revised in the revised PDD as attached with this submission.</p>	<p>1st Review: Host country LoA is not yet submitted by PP. Hence, CAR 1 is open.</p> <hr/> <p>2nd Review: Host country LoA is not yet submitted by PP. Hence, CAR 1 is open.</p> <hr/> <p>3rd review: The project participant has provided the host country approval for the project activity. The HCA refers to precise project activity title as mentioned in PDD. HCA states that project contributes to sustainable development in the country. It is also stated in HCA that it is an approval of voluntary participation in the project activity. Further it is stated in HCA that Govt of India is a party to Kyoto Protocol CAR 1 is closed.</p>
<p>CAR 2: PP is requested to submit the latest version of the Modalities of Communication statement (F-CDM-MOC) and documentary evidence to check the authenticity of the signing authority.</p>	A.4.1, A.4.2, A.4.3, A.4.4, A.4.5	<p>The same has been included with this submission.</p> <p>The documentary evidence of authenticity has been attached for both the signatories along with the submission in attachment 1.</p>	<p>1st Review Latest version of the MoC has been submitted by PP. However, please provide documentary evidence for authenticity check of the signatories. CAR 2 is open.</p> <hr/> <p>2nd Review; The documentary evidence of authenticity has been submitted. PAN card copies & Employment status Declaration has been submitted.</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
			CAR 2 is closed.
<p>CAR 3:</p> <p>During the site visit the location of the WTGs are found to be correct as described in the PDD. Further, WTG wise longitude and latitude is presented in the PDD under section A.2.4.</p> <p>PP is requested to provide documentary evidence for the basis on which geographical coordinates against each WTGs are presented in the PDD since none of the WTGs were found to be erected until the day of the site visit</p>	A.5.1	<p>The same has been included with this submission.</p> <p>Please find attached the approval from State Nodal Agency describing the geographical locations of the turbines, as submitted in attachment 2.</p> <p>As the project is still under development the coordinate certificate of the remaining capacity yet to be obtain by the PP. This may be provided at the time of project commissioning and may be checked during the 1st verification.</p>	<p>1st Review:</p> <p>Since the WTG's are commissioned PP is requested to provide the documentary evidence to support the location of the project activity.</p> <p>Hence CAR 3 is open.</p> <hr/> <p>2nd Review:</p> <p>The Nodal Agency certificates give the location for 18 MW & 16.4 MW transfer from Vish Wind to renew Power. However the remaining capacity the Coordinates are not provided.</p> <p>Hence CAR 3 is open.</p> <hr/> <p>3rd review:</p> <p>As the project is still under development the coordinate certificate of the remaining capacity yet to be obtain by the PP. This may be provided at the time of project commissioning and may be checked during the 1st verification. FAR 1 is raised.</p>
<p>CAR 4:</p> <ol style="list-style-type: none"> 1. The applicability condition mentioned in the section B.2 of the PDD is not transparent on whether the new power plant is grid connected. 2. The PDD mentions the applicable tools in relevant section of the PDD. However, PP is requested to include the applicability conditions of the tools in the section B.2 	B.1.3	<ol style="list-style-type: none"> 1. The same has been incorporated in the revised PDD attached with this submission. 2. The same has been incorporated in the revised PDD attached with this submission. 	<p>1st Review:</p> <ol style="list-style-type: none"> 1) The PDD has been revised the applicability condition mentioned in the section B.2 of the PDD & now made it clear that the new power plant is grid connected. 2) Section B.2 of the PDD is revised and all applicability conditions have been included and justified. Hence, response is accepted and

Corrective action and/ or clarification requests of the PDD.	Reference to Table 2	Response by project participants	Validation Conclusion
			CAR 4 is closed
<p>CAR 5: The project boundary is not transparent on the emission sources and GHGs included in the project boundary</p> <p>The exact metering point of net quantity of electricity export to grid is not transparent in the project boundary and the description of project boundary is missing in the PDD.</p> <p>Name of the sub-station is not transparent in the project boundary.</p>	B.2.1, B.2.2	<p>The same has been incorporated in the revised PDD attached with this submission.</p> <p>The same has been incorporated in the revised PDD attached with this submission.</p> <p>The project is at initial stage of implementation and the name of the substation is not yet finalized.</p>	<p>1st Review: The project boundary is now transparent on the emission sources and GHGs included in project boundary.</p> <p>The exact metering point of net quantity of electricity export to grid is not transparent in the project boundary and the description of project boundary is now provided in the revised PDD.</p> <p>The justification given for the sub-station is acceptable to the validation team.</p> <p>Since all queries are closed, CAR 5 is closed.</p>
<p>CAR 6: Data and parameters used to determine baseline are not mentioned in section B.4 of the PDD.</p>	B.3.3	<p>The same has been incorporated in the revised PDD attached with this submission.</p> <p>The required correction has been incorporated in section B.4 of the revised PDD as attached.</p>	<p>1st Review: Data and parameters used to determine baseline are not mentioned in section B.4 of the PDD. Furthermore for the data & parameters PDD refereed Annex 3, but the same is missing in the revised PDD. Hence CAR 6 is open.</p> <p>2nd Review: The data & parameters are provided in section B.4 of the revised PDD, also The Appendix 4 is provided for the same. Hence CAR 6 is closed.</p>
<p>CAR 7: The suitability of equity IRR as the financial indicator is not transparently mentioned in the PDD.</p>	B.4.2	The same has been referred from Guidelines on the Assessment of Investment Analysis (Version 5.0)	<p>1st Review: The Suitability of equity IRR as the financial indicator is not transparently mentioned in the PDD. Hence CAR 7 is closed.</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
<p>CAR 8:</p> <p>PP is requested to clarify the following:</p> <p>It is noted that the PLF report submitted to the DOE states for 88 WTGs . However the proposed project is for 63 WTGs. PP to clarify the same.</p> <p>It is not clear from the PDD and the investment analysis worksheet how the PLF is considered is in line with the "Guidelines for the reporting and validation of plant load factors" version 01 annex 11 of EB 48 dated 17/07/ 2009.</p> <p>PP has considered preferential tariff as per KERC tariff order dated 11/12/2009 which mentions: "the Commission determines the tariff for wind projects at Rs.3.70 per unit without any escalation for the first 10-year period from the date of signing of PPA". However The tariff has been considered constant for 20 years; kindly explain the basis for the same & PP is requested to clarify whether any GBI or any other incentive are identified for the project activity</p> <p>In the PDD, the source for project cost has been mentioned as calculated; kindly provide the source for the same</p> <p>Kindly provide the basis for the service tax rate considered.</p> <p>PP is requested to clarify as the salvage value has been taken at 10% then book depreciation should be written off up to the salvage value of the asset.</p>	<p>B.4.4.1, B.4.4.4, B.4.4.5, B.4.4.6, B.4.4.9, B.4.4.10</p>	<p>The Wind assessment study has been taken on larger area comprises almost all the turbine sites in the wind field of Enercon. This is further to note that the wind density or available PLF does not really vary with specific wind turbine site in a wind filed. So the study as carried out by the PP has taken 88 turbines to get more error free data at the determination of PLF.</p> <p>PLF during the decision making has been sourced from KERC tariff order, as 26% net PLF. PP has later conducted the PLF assessment by third party, which project a PLF of 19.18%. Considering the assumption taken during decision making as conservative the same has been taken for Investment Analysis by the PP.</p> <p>The levelized tariff as determined by KERC is based on cost plus computation method. Considering the same the year on year tariff if determined from 11th year (after the initial 10 years) onwards yield a lower value, that the levelized tariff as considered for the whole 20 years lifetime. So the assumption as taken during the decision making seem conservative and justified.</p> <p>There is a separate sheet of the project cost where the unit specific project cost along with source has been mentioned. The total project cost has been calculated in the input parameter sheet based on the unit specific project cost.</p>	<p>1st Review:</p> <p>The Justifation given for the PLF is acceptable to the validation team & Validation team also checked from the report that the wind density does not vary & the Power generation is also same in the PLF assessment report. Hence The PLF given is acceptable to the validation team.</p> <p>There is no change in tariff rate in the Sheets, it has been maintained at a constant rate for 25 years, kindly clarify the same.,also, the clarification has not been provided for GBI or other incentives if any are considered for the project activity</p> <p>Kindly update in the PDD the source as offer letter instead of calculated as the offer letter for the project cost is available.</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
		<p>Service tax has not been used as input parameter in the financial model.</p> <p>The service tax on O&M has been sourced from 'Service Tax Budget 2012' update (http://220.227.161.86/26232idtc15702.pdf) . The same has been incorporated in the PDD and financial model.</p> <p>The same has been revised in the revised financial model.</p>	<p>Service tax has been considered in O&M expenses; hence kindly provide the basis for the same in the PDD and the IRR sheet.</p> <p>The salvage value the justification given by the PP has crosschecked by the validation team, hence accepted.</p> <p>Since all the queries are not closed CAR 8 is open</p> <p>2nd Review:</p> <p>Service tax has been considered in O&M expenses and that the web link for service tax has been provided in the revised PDD. Validation team crosschecks the same & found to be correct.</p> <p>The salvage value the justification given by the PP has crosschecked by the validation team, hence accepted</p> <p>However PP has not responded on the following quires;</p> <p>There is no change in tariff rate in the Sheets, it has been maintained at a constant rate for 25 years, kindly clarify the same.,also, the clarification has not been provided for GBI or other incentives if any are considered for the project activity</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
		The PDD has been updated according as attached with this submission.	<p>Kindly update in the PDD the source as offer letter instead of calculated as the offer letter for the project cost is available.</p> <p>Since all the queries are not closed CAR 8 is open</p> <hr/> <p>3rd review:</p> <p>The PDD has been updated for the project cost.</p> <p>The justification given for the tariff is acceptable to the validation team.</p> <p>CAR 8 is closed.</p>
<p>CAR 9:</p> <p>PP is requested to clarify the following:</p> <p>The basis for taking the average of the inflation values of 5 years and 10 years and the suitability of the RBI report dated 12/08/2011 in line with the investment decision date.</p> <p>PP is requested to make it transparent in the PDD whether the nominal benchmark has been considered? If so the calculation for equity IRR is also done on nominal basis.</p> <p>.</p> <p>How the inflation rate is directly added to the default value provided in the "Guidelines on the assessment of the investment analysis" (Version 05, EB 62).</p>	B.4.4.3, B.4.4.6	<p>B.4.4.5,</p> <p>The basis of inflation has been revised from 'annual average percentage change over next ten years' value as sourced from RBI report dated 23rd January 2012, (http://rbi.org.in/scripts/PublicationsView.aspx?id=14022) as per the latest available during the decision making, in the revised PDD.</p> <p>The required correction in the IRR Sheet about benchmark has been incorporated.</p> <p>Please refer to the PDD, Section B.5, Substep 2c, where sensitivity on generation has been included. PP understand that it is the directly implied as PLF sensitivity. PP requesting to review the technical justification of the CAR.</p> <p>The same has been incorporated in the revised PDD</p> <p>As per the para 7 of 'Guidelines on the</p>	<p>1st Review:</p> <p>The basis of inflation has been modified in the revised PDD but the IRR sheet still depicts the benchmark as per the previous calculation in the Input Parameters sheet, PP is requested to clarify the same.</p> <p>The PLF is not included in the sensitivity analysis, PP is requested to Clarify the same.</p> <p>The revised PDD mentions that the nominal benchmark has been considered and accordingly equity IRR has been calculated on a nominal basis .The validation team crosschecked the same & found to be correct.</p> <p>The benchmark has been calculated as per the investment assessment guideline. "Guidelines on the assessment of the investment analysis" (Version 05, EB 62),</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
		assessment of the investment analysis' (Version 05, EB 62), the inflation rate has been added directly to the default value, being conservative in comparison to the classical fisher formula of conversion ⁴ .	<p>validation team accepts the same.</p> <p>Since all the quires are not closed CAR 9 is open.</p> <p>2nd Review:</p> <p>The PLF is not included in the sensitivity analysis as the PP has already included generation variations in the sensitivity analysis hence Query is closed.</p> <p>The benchmark calculation has been rectified in the revised IRR calculation sheet; validation team crosschecks the same & found to be correct.</p> <p>The revised PDD mentions that the nominal benchmark has been considered and accordingly equity IRR has been calculated on a nominal basis .The validation team crosschecked the same & found to be correct.</p> <p>The benchmark has been calculated as per the investment assessment guideline. "Guidelines on the assessment of the investment analysis" (Version 05, EB 62), validation team accepts the same.</p> <p>CAR 9 is closed.</p>
CAR 10: The PDD does not describe the required variations of key parameters to reach the	B.4.4.12	The same has been incorporated in the revised PDD.	<p>1st Review:</p> <p>The revised PDD mentions the justification for the variations of key</p>

⁴http://en.wikipedia.org/wiki/Real_interest_rate

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
benchmark and the possibility of happening the same.			parameters to achieve the benchmark. The validation team crosschecked the same & found to be correct. CAR 10 is closed.
<p>CAR 11:</p> <p>PP has mentioned about different investment climate, the same is not made transparent with credible source. PP is requested to describe the same with credible source in the PDD.</p> <p>PP has considered host country (India) as applicable geographical area which is default applicable geographical area as per the "tool for the demonstration and assessment of additionality". However, applicable geographical area is contradicting in step 3 with step 1 under common practice analysis in the PDD.</p> <p>PP is requested to provide the following In the PDD:</p> <p>The list of thermal plants, hydro plants and nuclear plants considered in the applicable geographical area and the reason for considering CEA database version 6 instead of version 7.</p> <p>The source based on which the numbers of wind power plants are included in the PDD and the source based on which the CDM and non-CDM projects in Karnataka are presented in the PDD. Page no. 13 of the PDD, the table says 39 projects included in Nall while the foot note states that 139.</p>	B.4.6.2, B.4.6.3, B.4.6.4, B.4.6.5	<p>Necessary corrections have been made to reflect how different technologies have been identified as per the definitions of EB65, Annex 21.</p> <p>The table provided in page no 15 of the PDD shows the no of projects within the applicable range and within the applicable geographical area, that deliver same output or capacity. All the relevant sources have also been provided. All the information has been collected from government sites for common practice analysis, all the references have been provided as foot note.</p> <p>The host country India has been considered as the applicable geographical area as mentioned in step 2 of the common practice analysis in the PDD. In step 3, only projects belonging to Ndiff has been identified.</p> <p>The relevant correction has been incorporated in the revised PDD</p> <p>The same has been incorporated in the revised PDD</p> <p>The section has been revised in the attached revised PDD.</p>	<p>1st Review:</p> <p>The PDD is revised about different investment climate & How how different technologies have been identified as per the definitions of EB65, Annex 21.</p> <p>Although India (host country) has been considered as applicable geographical area in line with the tool, PP finally excluded the wind projects outside Karnataka since in India, investment climate for power generation projects is mainly determined by the policies and regulations of respective state electricity regulatory commission (SERCs). In that way the project activity falls under KERC and in line with the tool all wind projects located in other states other than Maharashtra are also considered as different technologies. Hence, response is accepted.</p> <p>The source based on which the numbers of wind power plants are included in the PDD and the source based on which the CDM and non-CDM projects in Karnataka are presented in the revised PDD.</p> <p>Sine all the Quires are closed CAR 11 is closed.</p>
<p>CAR 12:</p> <p>The PDD is not transparent whether, OM is</p>	B.5.4.1, B.5.4.3, B.5.4.2, B.5.4.4,	For calculation of simple OM, equation (7) of EB 63, Annex 19 has been quoted.	<p>1st review:</p> <p>Ex-ante option for OM has been</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
calculated as per ex-ante option or ex-post option. The calculation approach of simple OM is not in line with the tool. The formula of OM calculation presented in the PDD is not applied in the emission reduction worksheet. For the build margin (BM) calculation. the PP is requested to provide the EF spreadsheet.	B.6.1.2	<p>However the value of Simple OM has been taken from the Central Electricity Authority (CEA), Government of India published "Baseline Carbon Dioxide Emission Database Version 7.0" which provides build margin and operating margin emission factors for Indian Power sector, calculated based on "tool to calculate emission factor for an electricity system".</p> <p>The same applies for the build margin (BM) calculation also as it also has been taken from the same data base published by CEA, Government of India.</p> <p>Hence the formula has not been applied directly in the emission reduction work sheet.</p> <p>The required correction has been incorporated in the section B.6 of the PDD.</p>	<p>considered in the project activity as per the "Tool to calculate emission factor for an electricity system". This is made transparent in the revised PDD. However, the OM calculation approach is not correct in the PDD in line with the tool when option A of the tool has been chosen. Equation 7 of the tool is for simple adjusted OM whereas the PDD opts for simple OM. For build margin calculation, the option chosen in line with the tool has not been documented in the PDD. Hence, query is open.</p> <hr/> <p>2nd Review:</p> <p>The OM calculation is corrected now as par "Tool to calculate emission factor for an electricity system". The validation team crosschecks the same & found to be correct. CAR 12 is closed.</p>
<p>CAR 13:</p> <p>EG_{facility,y} (net electricity generation supplied by the project plant to the grid in a year): However, the description of the parameter is not in line with the methodology. Further, the monitoring and measurement procedures are not transparent in the PDD. PP is requested to provide evidence for the same.. Similarly, monitoring and measurement procedures of EG_{import,y} and EG_{export,y} needs further clarity. In addition, accuracy class of energy meter is not mentioned in the PDD.</p> <p>Day to day record handling ((including what records to keep, storage area of records and how to process performance documentation) procedures are not included in the PDD.</p>	B.6.2.2, B.6.2.3, B.6.3.1, B.6.3.2	<p>The required corrections have been made in the PDD. The description of EG_{facility,y} has been revised as mentioned in the methodology.</p> <p>The monitoring measurement procedure of the parameters has also been revised.</p> <p>The reference to the calibration frequency has been revised in the PDD.</p> <p>The monitoring and measurement procedures of EG_{import,y} and EG_{export,y} has also been revised.</p> <p>Accuracy class of the meter has been incorporated.</p> <p>The QA/QC procedure details out how the</p>	<p>1st Review:</p> <p>The description of EG_{facility,y} has been corrected in the revised PDD in line with the methodology. The monitoring and measurement procedures are explained for EG_{facility,y} Accuracy class of energy meters would be 0.2S as per the PDD.</p> <p>The monitoring and measurement procedures of EG_{import,y} and EG_{export,y} has also been revised.</p> <p>The calibration of meters is given as "once in five year" as par As per CEA</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
<p>It is stated that the calibration of energy meters are under the provisions of state utility. PP is requested to provide basis for the same.</p> <p>The Apportioning procedures are not transparent in the PDD.</p>		<p>data uncertainty will be addressed.</p> <p>In India, all the interconnection meter is either with ownership of CTU or STU as per the attached CEA publication in Gazette of India, dated, 17th March 2006; and all the interconnection meters has to comply with the national regulation on calibration, which has been referred.</p> <p>The Apportioning procedure has been described in the Appendix 5 of the PDD. Relevant correction has also been incorporated in the PDD.</p>	<p>publication in Gazette of India, dated, 17th March 2006; which is acceptable to the validation team.</p> <p>The Apportioning procedures are not transparent in the PDD. Furthermore the PDD says the Apportioning procedures are provided in section B.7.2 of the PDD, however no data is provided in the PDD for same. Hence CAR 13 is open.</p> <p>2nd Review;</p> <p>The Apportioning procedure has been described in the Appendix 5 of the PDD. Validation team crosschecks the same & found to be Correct.</p> <p>CAR 13 is closed.</p>
<p>CAR 14:</p> <p>PP is requested to make it transparent in the PDD on the environmental analysis carried out for the project activity as required by the paragraph 63 of CDM project standard.</p>	D.1.1, D.1.3, D.1.4	<p>As per the Schedule 1 of the EIA notification dated 1/12/2009 (http://moef.nic.in/downloads/rules-and-regulations/3067.pdf), given by the Ministry of Environment and Forests under the Environment (Protection) Act 1986, the proposed Project activity does not fall under the list of activities requiring EIA as the environmental impacts for such project are not considered as significant by the host Party or Project Proponent.</p> <p>Also the project being harnessing environmentally biennial wind power through well establish technological option which has no adverse impacts on the local as well as global environment and help in mitigating anthropogenic climate change, environmental impacts for such project are not considered as</p>	<p>1st Review:</p> <p>PP has made the reference of EIA notification applicable for the project activity transparently in the PDD. As per the EIA notification, the project activity does not fall under the purview of EIA and hence no EIA has been carried out for the project activity. Further, it is explained that the project activity being a wind power project do not have any adverse environmental impact. Hence, response is accepted and CAR 14 is closed.</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
		<p>significant by the Host Party or Project Proponent.</p> <p>Which is also in line with the paragraph 64 of the CDM Project Standard.</p>	
<p>CL 1: PP is requested to provide following documents:</p> <ol style="list-style-type: none"> 1. Approval from state nodal agency for setting up the wind power project. 2. Land approval/lease agreement executed for the project location 3. Power Purchase Agreement executed for the project activity. 4. Commissioning certificates of WTGs as and when commissioned. 	A.2.1, B.1.4	<p>1. The same has been attached with this submission.</p> <p>2. The land lease document is not yet ready and will be submitted accordingly.</p> <p>3. PP has not yet signed any Power Purchase Agreement.</p> <p>The Approval from State Nodal Agency has been submitted in the attachment 2. PP is yet to signed any PPA with any buyer.</p> <p>4. The project is still under commissioning, so commissioning certificate will be only available after successful commissioning.</p> <p>The project has applied for the commissioning certificate and yet to get the same.</p> <p>As the commissioning certificate is still under process, it may be provided during the 1st verification of the project.</p>	<p>1st Review:</p> <p>PP is requested to provide available supporting documents (approvals, PPA etc.) for the project activity.</p> <p>Since the project is commissioned PP is requested to provide the land approval/lease agreement executed for the project location.</p> <p>Commissioning certificates of WTGs as and when commissioned</p> <p>Hence CL 1 is open.</p> <p>2nd Review;</p> <p>PP is requested to provide available supporting documents (approvals, PPA etc.) for the project activity.</p> <p>Since the project is commissioned PP is requested to provide the land approval/lease agreement executed for the project location.</p> <p>Commissioning certificates of WTGs as and when commissioned</p> <p>Hence CL 1 is open.</p> <p>3rd review;</p> <p>Since, the project activity is in implementation stage so the commissioning certificates are under process. These documents would be cross verified during the first verification stage. FAR 2</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
			FAR 2 is raised.
<p>CL 2:</p> <p>The information regarding the actual implementation status or planning of the project activity is not provided in the PDD transparently.</p>		<p>The actual implementation status/ planning, is very much prominent from the discussion in section B.5, chronology of events as well as section C.1.1 and C.2.2 of the revised PDD. The guideline for PDD does also not contain any specific direction on the same issue.</p> <p>The final commissioning formalities is still pending, and the PDD is relevant as current situation.</p>	<p>1st Review:</p> <p>As PP is informed during meeting the WTG's are commissioned & this is not transparent in the PDD.</p> <p>Hence CL 2 is open.</p> <p>2nd Review;</p> <p>The justification given is acceptable to the validation team.</p> <p>Hence CL 2 is closed.</p>
<p>CL 3:</p> <p>As per the PDD, the PP is M/s ReNew Wind Energy (Karnataka) Private Limited; whereas the validation agreement is executed by M/s ReNew Wind Power Private Limited. Further, all agreements (WTG procurement, erection & commissioning etc.) related to project activity were executed by M/s ReNew Wind Power Private Limited. Hence, PP is requested to clarify with documentary evidence the project proponent for the project activity.</p>	A.3.8	<p>M/s ReNew Wind Energy (Karnataka) Private Limited is a SPV of M/s ReNew Wind Power Private Limited, who holds decisive share of equity in the company, as evident from the Memorandum of Understanding of the company. So during the initial phase of the operation all the decision and related expenditure has been considered at M/s ReNew Wind Power Private Limited so they have executed the term sheet with the technology supplier.</p>	<p>1st Review:</p> <p>As per the Memorandum of Associations (MoA) under the Companies Act, 1956, it is clear that the M/s ReNew Wind Power Private Limited is the parent company for the project proponent M/s ReNew Wind Energy (Varekarwadi) Private Limited and therefore all major agreements/contracts/purchase orders and even the agreement with RINA (DOE) for validation of the CDM project activity has been executed by its parent company M/s ReNew Wind Power Private Limited. Hence, response is accepted and CL3 is closed</p>
<p>CL 4:</p> <p>As per the web-hosted PDD the operational lifetime of the WTG's are taken as 20 years.</p> <p>PP is requested to provide the supporting documents for the operational lifetime of the project activity.</p>	A.5.4	<p>The operational lifetime is 25 years. Supporting document of the same has been submitted along with this submission. The relevant modification in financial model and PDD has also been incorporated.</p>	<p>1st Review:</p> <p>The Document for the operational lifetime has been submitted & hence the operational lifetime of the project activity is 25 years, which is acceptable to the validation team.</p> <p>Hence CL 4 is closed.</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
CL 5: PP is requested to clarify with documentary evidence the source of funding of the proposed project activity	A.6.1, A.6.2	PP has yet to apply for the debt financing. The debt equity ratio has been sourced from the applicable tariff order. For better clarity PP has included sensitivity analysis on debt component in the revised financial model and revised PDD.	1 st Review: The debt equity ratio is as per the tariff order. Hence validation team accepts the same. CL 5 is closed.
CL 6: PP is requested to provide the following documents: PP is requested to clarify why in the calculation of book depreciation, asset cost has been fully written off. Also provide the depreciation policy of the company. Kindly provide the CA certificate for the actual project cost incurred and source for project cost financing. Kindly provide the loan sanction letter and current status of the loan. The basis for considering margin money at 25% of the working capital. The 80IA exemption calculation is not correct as exemption is available in any 10 out of first 15 years. Also PP is requested to explain the basis for MAT credit taken and clarify how net tax payable has been considered in the calculation Kindly explain the basis for considering quarterly repayments in the interest calculation Kindly provide the source of CER price and exchange rate considered. Project cost sensitivity does not affect book depreciation and tax depreciation figures. Kindly provide the exact location in the KERC tariff order on the basis of which salvage value has been considered at 10%	B.4.4.1, B.4.4.5, B.4.4.10, B.5.1.3, B.5.4.2, B.5.4.4 B.4.4.4, B.4.4.6, B.5.1.2, B.5.4.1, B.5.4.3,	The same has been revised in the financial model. PP has followed the depreciation as per provision of Companies Act and Income Tax Act of India. The same has been included in this submission. PP has yet to get loan sanctioned for the project The basis for margin money @ 25% of the working capital has been considered on the basis of Tandon Committee report (http://www.banknetindia.com/banking/melend.htm). Please refer to the Second method of lending as applicable for this project. The required correction in the IRR sheet has been incorporated. The same has been incorporated in the revised financial model. The 80IA exemption is available not available in any 10 years out of first 15 years, but it is available on any 10 consecutive years out of first 15 years. PP has consider the exemption period as first 10 years of operation which is as per the Act and thus may be considered correct.	1 st Review: The book depreciation and tax depreciation are calculated as per the applicable laws & acceptable to the validation team, Hence accepted. The CA certificate has been received which provides details of part payment of the project cost. Since the loan is yet to be sanctioned, there is no loan sanction letter. The Justification given by the PP is acceptable to the validation team. The Justification given for the basis for considering margin money at 25% of the working capital is acceptable to the validation team however the same is not included in IRR sheet, PP is requested to clarify the same. The tax exemption has been considered only for 4 years but it is available for 10years, kindly explain the reason for not considering the same. The Justification given for the basis for

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
<p>PP is requested to provide the source of salvage value. Further, PP is requested to clarify the basis for taking salvage value of land at 10% when no depreciation is changed for land.</p>		<p>The tax exemption is as per applicable regulation and law. PP request the DoE to consider the validity of the CL.</p> <p>The MAT Calculation has been revised in the revised financial model</p> <p>This is an industry practice as evident from the past experience by PP.</p> <p>The CER price has been assumed by the PP and no definite source has been referred.</p> <p>CER Price assumption and it reference has been removed for simplification.</p> <p>The same has been rectified in the revised financial model</p> <p>The source of salvage value has been revised.</p> <p>The salvage value has been sourced from CERC Notification dated 16th Sept 2009 (http://www.inwea.org/Inwea/cercnotification2009.pdf.pdf).</p> <p>Required correction at IRR Sheet has been incorporated.</p> <p>During the decision making time the exact land cost / development cost component was not available to the PP and the offer by the supplier has been provided on lumpsum. So 105 on total cost including land has been taken for salvage value computation, which may be accepted on conservativeness.</p>	<p>considering quarterly repayments in the interest calculation is acceptable to the validation team.</p> <p>Kindly provide a definite source for the CER price.</p> <p>In the IRR sheet the book depreciation and tax depreciation figures are still not affected by sensitivity on project cost. The PP is requested to clarify the same.</p> <p>The Justification given for the salvage value is acceptable to the validation team, however the IRR sheet still provides the source as KERC tariff order. Pp is requested to clarify the same.</p> <p>Since all the issues are not closed hence CL 6 is open.</p> <p>2nd Review;</p> <p>The source for salvage value has been updated in the IRR sheet. Validation team crosschecks the same & found to be Correct</p> <p>However PP has not provided responses on the following quires:</p> <p>Margin money at 25% of the working capital is acceptable to the validation team however the same is not included in IRR sheet, PP is requested to clarify the same.</p> <p>In the IRR sheet the book depreciation and tax depreciation figures are still not</p>

Corrective action and/ or clarification requests	Reference to Table 2	Response by project participants	Validation Conclusion
		The IRR Sheet has been revised according as submitted along this response.	<p>affected by sensitivity on project cost. The PP is requested to clarify the same.</p> <p>Hence CL 6 is open.</p> <p>3rd review:</p> <p>The has given the Justification for the margin money at 25% of the working capital As per the . Verified the link provided : http://www.banknetindia.com/banking/melend.htm.</p> <p>The validation team crosschecked the same & found to be correct.</p> <p>The IRR sheet has been revised for the book depreciation and tax depreciation figures are affected by sensitivity on project cost. The validation team crosschecks the same & found to be correct.</p> <p>CL 6 is closed.</p>

TABLE 4 FORWARD ACTION REQUEST

Forward action request	Reference to Table 2	Response by project participants Validation Conclusion
<p>FAR 1</p> <p>PP is requested to provide documentary evidence for the basis on which geographical coordinates against each WTGs are presented in the PDD since none of the WTGs were found to be erected until the day of the site visit</p>	A.5.1	<p>Response by project participants</p> <p>As the project is still under development the coordinate certificate of the remaining capacity yet to be obtain by the PP. This may be provided at the time of project commissioning and may be checked during the 1st verification.</p> <p>Validation Conclusion:</p> <p>Validation team accepted the justification provided by the PP. The geographical coordinates of the WTGs would be verified during the first verification of the project activity.</p>
FAR 2	A.2.1, B.1.4	Response by project participants

Forward action request	Reference to Table 2	Response by project participants Validation Conclusion
PP is requested to provide the following documents: 1. Commissioning certificates of WTGs as and when commissioned.		As the commissioning certificate is still under process, it may be provided during the 1st verification of the project. Validation Conclusion: Validation team accepted the justification provided for the PP. Commissioning certificates needs to be checked during the first verification of the project activity.



RINA

CERTIFICATO DI QUALIFICA QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Rekha Menon

è qualificato come¹:
is qualified as:

CDM-TEC, CDM-VAL, CDM-VER, CDM-TL, CDM-FIN-EXP,
VCS-TEC, VCS-VAL, VCS-VER, VCS-TL,
GS-TEC, GS-VAL, GS-VER, GS-TL,
SCS-TEC, SCS-VAL, SCS-VER, SCS-TL
JI-TEC

per le seguenti aree tecniche:
for the following technical areas:

1.2, 13.1

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Energy generation from renewable energy sources	1
13.1	Waste Handling and Disposal	13

in accordo alle istruzioni della Divisione Certificazione.
in accordance with the instructions of the Certification Division.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	06-03-2008	-
7	01-06-2012	Annual revision

Il Resp. QPT
Head of QPT

¹ Legend:

VAL: Validator
VER: Verifier
TEC: Technical Expert
TL: Team Leader
FIN-EXP: Financial Expert
DET: Determiner

CDM: Clean Development Mechanism
VCS: Verified Carbon Standard
GS: Gold Standard
SCS: SocialCarbon Standard
JI: Joint Implementation

RINA Services S.p.A. è accreditato da UNFCCC, quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM, da VCSA per condurre la Validazione e la Verifica di Progetti VCS, da GS Foundation, per condurre la Validazione e la Verifica di Progetti GS, da Ecologica Institute per condurre la Validazione e la Verifica di rapporti SCS

RINA Services S.p.A. is accredited by the UNFCCC, as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects, by the VCSA, to carry out Validation and Verification of VCS Projects, by the GS Foundation, to carry out Validation and Verification of GS Projects and by the Ecologica Institute, to carry out Validation and Verification of SCS Reports



RINA

CERTIFICATO DI QUALIFICA QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Saurabh Mittal

è qualificato come¹:
is qualified as:

CDM-TEC, CDM-VAL, CDM-VER
VCS (-TEC, -VAL, -VER)
GS/JI/SCS - TEC

per le seguenti aree tecniche:
for the following technical areas:

1.1, 2.1, 4.3, 4.10

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.1	Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	1
2.1	Electricity Distribution	2
4.3	Iron and steel	4
4.10	Fuel switching and/or energy efficiency and/or waste heat/gas/pressure recovered and utilization for power generation at manufacturing industries	4

in accordo alle istruzioni della Divisione Certificazione.
in accordance with the instructions of the Certification Division.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	09-12-2010	-
5	01-06-2012	Annual revision

Il Resp. QPT
Head of QPT

¹ Legend:

VAL: Validator
VER: Verifier
TEC: Technical Expert
TL: Team Leader
FIN-EXP: Financial Expert
DET: Determiner

CDM: Clean Development Mechanism
VCS: Verified Carbon Standard
GS: Gold Standard
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RINA Services S.p.A. is accredited by the UNFCCC, as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects, by the VCSA, to carry out Validation and Verification of VCS Projects, by the GS Foundation, to carry out Validation and Verification of GS Projects and by the Ecologica Institute, to carry out Validation and Verification of SCS Reports



RINA

**CERTIFICATO DI QUALIFICA
QUALIFICATION CERTIFICATE**

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Mathew Vijay

è qualificato come¹:
is qualified as:

**CDM-TEC, VCS-TEC, JI-TEC, GS-TEC, SCS-TEC,
CDM-VAL, VCS-VAL**

per le seguenti aree tecniche:
for the following technical areas:

1.2

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Energy generation from renewable Energy sources	1

in accordo alle istruzioni della Divisione Certificazione.
in accordance with the instructions of the Certification Division.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	02/08/2012	-

Il Resp. QPT
Head of QPT

¹ Legend:

VAL: Validator
VER: Verifier
TEC: Technical Expert
TL: Team Leader
FIN-EXP: Financial Expert
DET: Determiner

CDM: Clean Development Mechanism
VCS: Verified Carbon Standard
GS: Gold Standard
SCS: SocialCarbon Standard
JI: Joint Implementation

RINA Services S.p.A. è accreditato da UNFCCC, quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM, da VCSA per condurre la Validazione e la Verifica di Progetti VCS, da GS Foundation, per condurre la Validazione e la Verifica di Progetti GS, da Ecologica Institute per condurre la Validazione e la Verifica di rapporti SCS

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RINA

CERTIFICATO DI QUALIFICA QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Karthika Varma

è qualificato come¹:
is qualified as:

CDM-FIN-EXP

per le seguenti aree tecniche:
for the following technical areas:

-

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
-	-	-

in accordo alle istruzioni della Divisione Certificazione.
in accordance with the instructions of the Certification Division.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	20-10-2010	-
2	01-06-2012	Annual revision

Il Resp. QPT
Head of QPT

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RINA

CERTIFICATO DI QUALIFICA QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Reghu Raghavan Nair Kumar

è qualificato come¹:
is qualified as:

CDM-TEC, CDM-VAL, CDM-VER, CDM-TL, CDM-FIN-EXP
VCS-TEC, VCS-VAL, VCS-VER, VCS-TL
GS-TEC, GS-VAL, GS-VER, GS-TL
SCS-TEC, SCS-VAL, SCS-VER, SCS-TL
JI-TEC

per le seguenti aree tecniche:
for the following technical areas:

1.1, 1.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.1, 6.1, 11.1, 13.1

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.1	Thermal energy generation from fossil fuel and biomass including thermal electricity from solar	1
1.2	Energy generation from renewable energy sources	1
4.3	Iron and steel	4
4.4	Refinery	4
4.5	Rubber and Plastics	4
4.6	Electrical/electro technical products	4
4.7	Coke/coal/char-coal production	4
4.8	Pulp and paper production	4
5.1	Chemical process industries	5
6.1	Construction	6
11.1	Chemical process industries	11
13.1	Waste Handling and Disposal	13

in accordo alle istruzioni della Divisione Certificazione.
in accordance with the instructions of the Certification Division.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	31-08-2009	-
6	01-06-2012	Annual revision

Il Resp. QPT
Head of QPT

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RINA

CERTIFICATO DI QUALIFICA QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Wing Yu Tong

è qualificato come¹:
is qualified as:

CDM-TEC, VCS-TEC, GS-TEC, SCS-TEC, JI-TEC,
VCS-VAL

per le seguenti aree tecniche:
for the following technical areas:

1.2

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Energy generation from renewable Energy sources	1

in accordo alle istruzioni della Divisione Certificazione.
in accordance with the instructions of the Certification Division.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	04-12-2010	-
5	26-07-2012	Annual revision

Il Resp. QPT
Head of QPT

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