



# VALIDATION REPORT

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*SENOK WIND RESOURCE PVT. LTD.*

*MAMPURI WIND POWER PROJECT 3*

REPORT No.  
*CDM.13.VAL.016*



<b>Date of this issue:</b> 17/07/2014	<b>KBS Ref. No.:</b> CDM.13.VAL.016	
<b>Organisational Unit:</b>	<b>Client:</b>	
Climate Change Division, KBS	Senok Wind Resource Pvt. Ltd.	
<b>Project Design Document</b>		
<b>First PDD:</b>	<b>Final PDD:</b>	
Version: 01	Version: 04	
Date: 08/11/2013	Date: 30/06/2014	
<b>Summary of validation:</b>		
Senok Wind Resource Pvt. Ltd. has commissioned KBS to perform the validation of the proposed CDM project activity:		
Project Title:	Mampuri Wind Power Project 3	
Methodology Applied:	AMS.I.D "Grid connected renewable electricity generation" Version-17, EB-61	
Sectoral Scopes:	1	
Validity of methodology/ies (for RfR):	Valid from 17/06/2011	
<p>The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against the version 05.0 of CDM Validation and Verification Standard, Project Cycle Procedure and Project Standard, Kyoto Protocol requirements and UNFCCC rules.</p> <p>The report is based on the assessment of the project design document undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to desk review, follow up actions (e.g., on site visit, electronic (telephone or e-mail) interviews) and also the review of the applicable approved methodological and relevant tools, guidances and CDM decisions.</p> <p>The review of the project design documentation and the subsequent follow-up interviews have provided KBS with sufficient evidence to determine the project's fulfillment of all the stated criteria. In our opinion, the project meets all applicable UNFCCC requirements for the CDM.</p> <ul style="list-style-type: none"> <li>- <input checked="" type="checkbox"/> Will be recommended to the CDM Executive Board with a request for registration</li> <li>- <input type="checkbox"/> Is not recommended for registration</li> </ul>		
<b>Validation Status:</b>		<input type="checkbox"/> Findings not closed
<b>Project type:</b>	Small scale	<input type="checkbox"/> Draft validation report
<b>Subject:</b> CDM Validation		<input checked="" type="checkbox"/> Final validation report
<b>Validation Team:</b>		<b>Document Distribution</b>
Team Leader: Shreya Garg Local Expert: Pathmanatha Poddawala Technical Expert (TA 1.2): Shreya Garg Financial Expert: Megha Lotankar		<input checked="" type="checkbox"/> No Distribution without permission from the Client
<b>Technical Review Team:</b>	<b>Manager T&amp;C</b>	
Technical Reviewer: B.Rampradap Date: 17/07/2014 Technical Expert (TA 1.2): B.Rampradap	Name: Gagandeep Kakkar Date: 18/07/2014	<input type="checkbox"/> Limited Distribution
<b>Authorized by:</b>		
Name: Kaushal Goyal, Managing Director Date: 18/07/2014		<input type="checkbox"/> Unrestricted Distribution
<b>Rev Number:</b>	<b>Date:</b>	
0	28/05/2014	



1	01/07/2014	
2	04/07/2014	
3	17/07/2014	



### Abbreviations

AMS	Approved Methodology for Small-scale
BE	Baseline Emissions
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEB	Ceylon Electricity Board
CM	Combined Margin
CER	Certified Emission Reduction
CL	Clarification request
COP	Conference of Parties
DOE	Designated Operational Entity
DNA	Designated National Authority
DR	Document Review
EB	Executive Board
EF	Emission Factor
ERs	Emission Reductions
FAR	Forward Action Request
FSR	Feasibility Study Report
GHG	Greenhouse gas(es)
GSC	Global Stakeholder Consultation
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
LSC	Local Stakeholder Consultation
LE	Leakage Emissions
LoA	Letter of Approval/Authorization
ISO	International Organization for Standardization
MOP	Meeting of Parties
MoC	Modalities of Communication
MoV	Means of Verification
MP	Monitoring Plan
OM	Operating Margin
PA	Project Activity
PDD	Project Design Document
PE	Project Emissions
PLF	Plant Load Factor
PP	Project Participant
PPA	Power Purchase Agreement
PS	Project Standard
PO	Purchase Order
PCP	Project Cycle Procedure
QA/QC	Quality Assurance/Quality Control
RfR	Request for Registration
SD	Sustainable Development
SPPA	Small Power Purchase Agreement
T&C	Technical & Certification
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation & Verification Standard
WTG	Wind Turbine Generator



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## 1. Validation Opinion

KBS Certification Services Pvt. Ltd. has been contracted by Senok Wind Resource Pvt. Ltd. to perform a validation of the project:

Project title: Mampuri Wind Power Project 3

Host Party: Sri Lanka

The validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism, version 5 of Validation and Verification Standard and related Standards/Guidance and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

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

The project correctly applies methodology AMS.I.D: "Grid connected renewable electricity generation" Version-17. It is demonstrated that the project is not a likely baseline scenario. The emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The total emission reductions from the project are estimated to be 128,268 tCO<sub>2</sub>e over 7 year crediting period during 01/12/2014 to 30/11/2021, averaging 18,324 tCO<sub>2</sub>e annually. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achievable given the underlying assumptions do not change.

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

### Authorized Signatory

Signature

Name: Kaushal Goyal

Place: Faridabad, India

Date: 18/07/2014



## **2. Introduction**

### **2.1 Objective**

Senok Wind Resource Pvt. Ltd. has commissioned KBS to perform the validation of the project: Mampuri Wind Power Project 3 with regard to the relevant requirements for Clean Development Mechanism (CDM) project activities.

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

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

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

### **2.2 Scope**

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

### 3. Methodology

#### 3.1 Review of CDM-PDD and Additional Documentation

The validation is performed primarily as a document review of the publicly available project document version 01 dated 08/11/2013 and the subsequent versions 2, 3 and 4 dated 08/04/2014, 12/05/2014, 30/06/2014 (final version). The assessment is performed by a validation team using a validation protocol attached as Annex 1. The cross checks between information provided in the PDD and information from sources other than those used, if available, the validation team's sectoral or local expertise and, if necessary, independent background investigations.

#### 3.2 Site Visit

The site visit was undertaken by Shreya Garg (Team Leader, Technical Expert) and Pathmanatha Poddimala (Local Expert):

<b>Location:</b>	Village: Mampuri/ Nawakkaduwa Province: North Western District: Puttalam Local Division: Kalpitiya	
<b>Dates:</b>	07/04/2014	
<b>Key points discussed:</b>	<b>Name of person, interviewed</b>	<b>Designation, Organization</b>
Project description, QA/QC procedure	Rozanne Moraes	Project Manager, Senok
Monitoring Plan	K. Prasanth	Employee, Senok
Baseline and additionality	Gagandeep Arya	Director, Erdaillumine Low Carbon Solutions Pvt. Ltd.
Emission Reduction Calculation	Etti Khanna	Director, Erdaillumine Low Carbon Solutions Pvt. Ltd.
Environmental Impact Analysis, LSC process,	Rozanne Moraes	Project Manager, Senok
LSC process	Nevil Fernarde	Fisherman, Mampuri
LSC process	S. S. Patrick	Land owner, Mampuri

#### 3.3 Major Milestones in validation

Validation Contract	19/11/2013
Publication of PDD	21/11/2013
On site verification	07/04/2014
Draft Verification Report	28/05/2014
Final Verification Report	17/07/2014

#### 3.4 Use of the Validation Protocol

The validation protocol used for the assessment is designed in accordance with the version 05.0 of Validation and Verification Standard. It serves the following purposes:

- Reference to available information relating to projects or technologies similar to the proposed project activity under validation;
- Review, based on the approved methodology being applied, of the appropriateness of formulae and accuracy of calculations.
- Organises, details and clarifies the requirements the project is expected to meet; and
- Documents both how a particular requirement has been validated and the result of the validation (reporting).



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

Checklist Question	Ref ID	Means of Verification (MoV)	Validation Assessment	Draft and/or Final Conclusion
The various requirements are linked to checklist questions the project should meet.	Lists any references and sources used in the validation process. Full details are provided in the table at the bottom of the checklist.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (Y), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification Request (CL) is used when the validation team has identified a need for further clarification.

The completed validation protocol for this project is attached as Annex **Error! Reference source not found.** to this report

### 3.5 Findings

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

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

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

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

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

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

### 3.6 Internal Quality Control

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

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

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

## 4. Validation Findings

### 4.1 Approval

#### Discussion:

KBS confirms that it has entered into a contractual agreement with Senok Wind Resource Pvt. Ltd., which is the project participant in the PDD, for performing the CDM validation of proposed project activity. The project activity is a unilateral CDM project.

The host Party of the project activity is Sri Lanka, which has ratified the Kyoto Protocol on 3<sup>rd</sup> September 2002. The Designated National Authority (DNA) is the Ministry of Environment and Renewable Energy.

<b>Project participant</b>	Senok Wind Resource Pvt. Ltd.
Party involved	Sri Lanka (Host)
Project Title	Mampuri Wind Power Project 3
<b>Approval</b>	
LoA received	Yes
Date of LoA	28/01/2014 <sup>/5/</sup>
Reference Number	04/04/05/925 <sup>/5/</sup>
LoA issued by	Ministry of Environment and Renewable Energy (DNA) of Sri Lanka <sup>/5/</sup>
LoA received directly from	Project Participant
Validation of authenticity	The validation team has no doubts about the authenticity of LoA by reviewing the other LoA issued by DNA of host party (Sri Lanka) available on UNFCCC website.

Hence, validation team considered that the host country approval<sup>/5/</sup> issued is for the same project activity.

#### Findings:

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

#### Opinion:

The assessment team confirms that:

- The letter of approval have been received and referenced above
- The letter is received directly from the PP.
- The letter of approval is authentic issued by DNA of Sri Lanka
- The letter of approval confirms that, The Party is a Party to the Kyoto Protocol, Participation is voluntary, the proposed project activity contributes to the sustainable development of the country and it refers the precise proposed project activity title as mentioned in the final PDD being submitted for registration.
- The letter of approval is unconditional to Paragraphs 39 a) to d) of VVS V05.0.
- The letter of approval is issued by DNA of Sri Lanka and is valid (and specific to) for the proposed project activity. The authenticity of the LoA is confirmed by the officials of DNA of the Host Country (Sri Lanka).

### 4.2 Authorization

#### Discussion:

The host Party for the project activity is Sri Lanka and has ratified the Kyoto Protocol on 3<sup>rd</sup> September 2002. This has been confirmed from the link (<http://maindb.unfccc.int/public/country.pl?country=SL>).

The project participant listed in the section A.3 of the final version of the PDD<sup>/2/</sup> is



- Senok Wind Resource Pvt. Ltd.

The PDD of the proposed CDM project activity was webhosted on UNFCCC website for global stakeholder consultation process to invite comments as per CDM requirements from 21/11/2013 to 20/12/2013. The link for PDD on UNFCCC website is as under

<https://cdm.unfccc.int/Projects/Validation/DB/9ZURWT73VNDPED7P5FFF0KIT0XEMTD/view.html>

#### **Opinion:**

The assessment team confirms that:

- a) The participation of project participant has been approved/authorized by the DNA of host Party (Sri Lanka)
- b) The participation has been confirmed in the LoA itself, which contains the name of the PP to which it is issued
- c) The information is consistent within the project documentation viz., PDD<sup>/2/</sup>, LoA<sup>/5/</sup> and signed MoC<sup>/6.1/</sup>.

### **4.3 Sustainable Development**

The PDD<sup>/2/</sup> clearly mentions the contribution of sustainable development in host country by the proposed project activity as generating direct/indirect employment during construction and operation of WTGs. Further the propose project will lead to infrastructure development in the region, the same has been also confirmed by interviewing the stakeholders during onsite validation. Further, as the proposed project activity is second wind power project in host country, the successful operation will build confidence for other promoters to invest in wind power project. The letter of approval<sup>/5/</sup> issued by DNA of Sri Lanka clearly states that the proposed project activity contributes to sustainable development in Sri Lanka.

The validation team has interviewed PP and the local villagers, during the site visit<sup>/31/</sup>, and confirmed that the project activity will generate temporary employment during development of construction and erection of power plant and permanent job opportunity will be created by the Project Activity during operation of WTGs. The Audit Team was introduced that the Project will facilitate the infrastructure development of the area. On the other hand, many local people will be engaged temporarily in the project construction and will increase their income. Also the Project will provide clean energy locally and displace pollutions generated in fossil fuel fired power plants.

#### **Opinion:**

The validation team confirms that proposed project activity contributes to sustainable development in Sri Lanka (host) based on the confirmation the in the letter of approval<sup>/5/</sup>.

### **4.4 Modalities of Communication**

#### **Discussion:**

As required in para 53 of VVS V05.0, the PP has submitted Modalities of Communication (MoC)<sup>/6.1/</sup>, the assessment team has verified that the names of primary authorized signatory is Mrs. Pancherine Dias, Director Finance and alternate authorized signatory as Ms Rozanne Moraes, Project Manager from Senok Wind Resource Pvt. Ltd. for future communication related to the corresponding scope of authority with UNFCCC. The same has also been confirmed during site visit by reviewing the corporate identity of authorized signatory/6.2/ mentioned in MoC<sup>/6.1/</sup>.

The assessment team can confirm that the signatory and contact details on the MoC<sup>/6.1/</sup> are authorized and credible, the MoC is prepared using latest version of F-CDM-MOC form and "para 53 of VVS V05.0". The MoC<sup>/6.1/</sup> is correctly filled including the Modalities of Communication statement (Annex-I).

#### **Findings:**

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

#### **Opinion:**

The assessment team confirms that:

- a) The MoC is correctly filled using the latest F-CDM-MOC form version-02.1
- b) The MoC is directly received from the PP

- c) The specimen signature, designation and name of the authorised personnel is cross checked from the letter issued and provided by PP confirming the specimen signature, name and designation of authorised personnel.
- d) The modalities of communication statement is correctly filled and includes the specimen signature of authorised signatory.

#### 4.5 Project Design Document

The PDD applied the Project Design Document Form (CDM-PDD), version 04.1<sup>/43/</sup>, which is a valid form available on UNFCCC/CDM website. The validation team confirms that the PDD is completed in accordance with the "Guidelines for Completing the Project Design Document", version-01.0 <http://cdm.unfccc.int/Reference/Guidclarif/index.html#pdd><sup>/44</sup>

#### 4.6 Assessment of variation between webhosted PDD and final PDD

Key revisions between the final PDD against the first version published for the international stakeholder consultation		
PDD Section no.	Brief description of the changes	Indicate relevant finding
A.3	<i>The technical specifications of the WTGs have been corrected.</i>	CAR#02
B.4	<i>Source of emission factor has been specified</i>	CAR#04
B.5	<i>Input parameters for the financial analysis have been made consistent with the sources.</i>	CAR#05
C.2.2	<i>Start date has been corrected</i>	CAR#02

#### 4.7 Project Description

##### Discussion:

The proposed project activity is a renewable resource (wind energy) based grid connected power project with an installed capacity of 10.5 MW<sup>/7/</sup>. The project activity comprises the installation of 5 WTGs of Suzlon make (S-88) with an installed capacity of 2.1MW each. The location of the proposed project activity is villages-Mampuri, Local Division-Kalpitiya, district-Puttalam of North-West province, Sri Lanka. The geographical coordinates<sup>/7/10/</sup> of the WTGs are given in table below, the same has been also confirmed during site visit.

WTG	Latitude	Longitude
WTG1	N 7° 59' 23.8"	E 79° 44' 03.7"
WTG2	N 7° 59' 37.9"	E 79° 44' 06.4"
WTG3	N 8° 00' 05.0"	E 79° 44' 05.1"
WTG4	N 8° 00' 18.4"	E 79° 43' 29.4"
WTG5	N 8° 00' 39.6"	E 79° 43' 44.1"

The net generated electricity will be supplied to Ceylon Electricity Board<sup>/9/</sup> of Sri Lanka, through grid substation. The net electricity generated by WTGs will be transmitted through park transmission line by stepping up from 690V to 33KV, which will be further step up to 220KV at grid substation before feeding to grid.

The estimated gross generation of electricity from project activity is 10.5MW (27,364.05 MWh<sup>/7/</sup> annually). However, after taking into account 95% machine/grid availability factor<sup>/7/</sup> and deducting the transmission and transformation losses of 2%<sup>/7/</sup>, the proposed project activity is expected to supply the net electricity (25,475.93 MWh<sup>/7/</sup>) to CEB grid<sup>/9/</sup> through grid substation. The project activity will reduce an estimated annual emission reduction 18,324<sup>/4/</sup> tCO<sub>2</sub>e.

The technical specifications including the installed capacity and the electricity generation of the project activity have been verified from the Feasibility Study Report (FSR)<sup>/7/</sup>, PPA<sup>/9/</sup> and technical specification of the project activity and also confirmed by interviewing with technical representative of the PP during the site visit.

The team has observed during validation that as per host country regulation/31/ the renewable energy permit to carry out renewable energy projects (wind) is being issued for a capacity equal to or less than 10 MW, while the installed capacity of proposed project activity is 10.5MW. In lieu of above the PP has provided the further information on host country requirement, which reveals that for the issuance of renewable energy permit, in addition to installed capacity the host country has also specified a range for electricity generation (24,040MWh to 30,686MWh)/9/ for small scale projects, the same has been confirmed from PPA<sup>/9/</sup> signed between Senok Wind Resource Pvt. Ltd. and Ceylon Electricity Board for the proposed project activity. The gross electricity generation by proposed project activity (27,364.05MW) falls well within range specified. The validation team has further cross checked the proposed technical specification and installed capacity in PPA<sup>/9/</sup> and the PDD submitted to host country DNA for getting letter of approval and confirmed that PP has secured the LoA<sup>/5/</sup> and renewable energy permits to carry out the proposed project activity with installed capacity 10.5MW, which is considered as 10MW<sup>/9/</sup> due to estimated electricity generation by the proposed project activity as per the electricity generation range specified by the host country. Hence the validation team considers the values used on installed capacity in document PPA<sup>/9/</sup>. LoA<sup>/5/</sup> and PDD<sup>/2/</sup> provided are consistent in terms of the information provided therefore accepted by the assessment team.

The proposed technology was approved as part of a feasibility study report, prepared by a third party chartered engineer<sup>/7/</sup> and used for decision making, the project participants has used the final values as an input to the financial analysis for the investment decision purposes.

The PDD mentions the start date as 19 August 2011<sup>/10/</sup> which is the date of placement of purchase order for WTGs to Suzlon Energy Limited and the life time of the project activity will be 20 years confirmed from the FSR<sup>/7/</sup> and technical specification of WTGs<sup>/13/</sup>. The PDD proposes a renewable crediting period of 7 years with maximum of 2 renewals has been chosen by the PP for the project activity. The start date as placement of purchase order for WTGs for the project activity, which in accordance with the definition of start date in glossary of CDM terms<sup>/42/</sup>, which appears to be the first real action and financial commitment by the PP towards implementation of the project activity, the validation team considers the date 19/08/2011<sup>/10/</sup> is the start date of the project activity.

The PP has signed power purchase agreement (PPA)<sup>/9/</sup> with CEB, the parameters mentioned e.g. installed capacity and plant load factor has been confirmed from PPA. The proposed project activity has obtained all necessary local and national statutory clearances/17/ including land clearance and utilization permit.

The validation team has further confirmed that the project activity is a greenfield project and the project description provided in PDD by interviewing the technical personnel involved in development of Mampuri Wind Power Project 3 during the site visit on 07/04/2014.

#### Findings:

CAR#02, please refer Annex2 of this report, where same is discussed completely.

#### Opinion:

The assessment team confirms that

- The project description as mentioned in PDD<sup>/2/</sup> is validated by reviewing the feasibility study report, purchase order, permits obtained, PPA signed and the same has also been confirmed during site visit by interviewing the technical personnel involved in project activity.
- Based on discussion above the assessment team confirms that project description provided in PDD<sup>/2/</sup> is complete and accurate

### 4.8 Baseline and monitoring methodology

#### 4.8.1 General requirement

##### Discussion:

##### Discussion:

The proposed project activity is a renewable resource grid connected power project with installed capacity 10.5MW<sup>/10/</sup>. As the capacity of the project activity is less than 15MW, the project is eligible to as type I small-scale CDM project activity and can apply a simplified baseline methodology. The project activity applies the baseline methodology stipulated for category I.D of the "simplified modalities and procedures for small scale CDM project activity". The project applies the small scale approved methodology for proposed CDM project activity categories, "Grid Connected renewable electricity generation" (AMS I.D) V17.0<sup>/35/</sup>, which also uses the "Tool to calculate the emission factor for electricity an electricity system" version 04<sup>/36/</sup>.

### Findings:

CAR#04, please refer Annex2 of this report, where same is discussed completely.

### Opinion:

- The validation team is of opinion that applied small scale approved baseline and monitoring methodology is approved by UNFCCC and PDD has used the version of the applied baseline and monitoring methodology that is valid at the time of request for registration.
- The PDD has mentioned and correctly applied the tools and guidance relevant as per applied methodology.

### 4.8.2 Applicability of selected methodology to the project activity

#### Discussion:

The project activity is a new grid connected wind energy based power project; and the installed rated capacity of the proposed project will be 10.5MW. The installed capacity of the proposed project activity is well below the threshold of 15MW to apply the small scale approved baseline and monitoring methodology. The validation team has verified the technical parameters from the approved FSR<sup>7/</sup>, PPA<sup>9/</sup> and purchase orders. The applicability condition of the small scale approved methodology AMS I.D, V17.0<sup>35/</sup> and the "Tool to calculate the emission factor for an electricity system" V4<sup>36/</sup> referred to in the approved methodology, in context of project activity is demonstrated in PDD<sup>32/</sup>. The summary of the project compliance with applicability criteria is listed below:

Applicability conditions in V17.0 of AMS I.D	Characteristics of the project activity	Means of Validation
<p><i>This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass<sup>1</sup>:</i></p> <p><i>(a) Supplying electricity to a national or a regional grid or</i></p> <p><i>(b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.</i></p>	<p>The project activity involves generation of power by harnessing wind potential which is a form of renewable energy and exporting this power to the national grid. The power generated by the project activity helps in displacing electricity supplied by grid.</p> <p>Thus, the project activity meets the applicability condition (a) of the mentioned criterion.</p>	<p>The validation team has verified the information from FSR<sup>7/</sup> and PPA<sup>9/</sup> provided by the PP, the same has been further confirmed during site visit and found acceptable.</p>
<p><i>Illustration of respective situation under which, each of the methodology (i.e AMS-I.D, AMS-I.F and AMS-I.A<sup>2</sup>) applies is included in Table 2: <b>Applicability of AMS-I.D, AMS-I.F and AMS-I.A based on the project types</b></i></p>	<p>As per Table 2, the project activity falls under project type I.D i.e "Project supplies electricity to a national/regional grid."</p> <p>Thus, the project activity meets the applicability criterion.</p>	<p>The validation team has verified the information from FSR<sup>7/</sup> and PPA<sup>9/</sup> provided by the PP and confirms that project activity will supply electricity to CEB grid; the same has been further confirmed during site visit and found acceptable.</p>
<p><i>This methodology is applicable to project activities that (a) install a new power plant at a site where</i></p>	<p>The project activity is a 'Greenfield project' and</p>	<p>The project activity is a Greenfield project</p>



<p>there was no renewable energy power plant operating 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).</p>	<p>involves installation of a new wind based power plant. Hence, it complies with the option (a) of the mentioned criterion.</p>	<p>and same has been confirmed by reviewing the purchase order<sup>/10/</sup> provided by the PP, it is further confirmed during site visit.</p>
<p>Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology:</p> <ul style="list-style-type: none"> <li>• The project activity is implemented in an existing reservoir with no change in the volume of reservoir;</li> <li>• The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m<sup>2</sup>;</li> <li>• The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m<sup>2</sup>.</li> </ul> <p>If the new unit has both renewable and non-renewable components (e.g., a wind/diesel unit), the eligibility limit of 15MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel<sup>3</sup>, the capacity of the entire unit shall not exceed the limit of 15MW.</p>	<p>The project activity is a wind based power project. Hence this criterion is not applicable for the project activity.</p> <p>The project activity does not have any non-renewable component. The project activity entails power generation through wind power project of capacity 10.5MW lower than 15MW. Hence, the project activity complies with the mentioned criterion.</p>	<p>This clause is not relevant in project case.</p> <p>The same has been confirmed by document review/17/ and during site visit.</p>
<p>Combined heat and power (co-generation) systems are not eligible under this category.</p>	<p>The project activity is not a co-generation activity. Hence, this condition is not applicable to the given type of project activity.</p>	<p>The project is Greenfield wind energy based power plant and does not involve combined heat and power generation; the same has been also confirmed during site visit.</p> <p>This is not relevant to project activity.</p>
<p>In the case of project activities that involve the addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15MW and should be physically distinct from the existing units.</p>	<p>As the project activity is a Greenfield Project, so this condition is not applicable.</p>	<p>The project is Greenfield wind energy based power plant; the same has been also confirmed during site visit and document review/17/.</p> <p>This is not relevant to project activity.</p>

<i>In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement unit shall not exceed the limit of 15MW.</i>	As the project activity is a Greenfield Project, so this condition is not applicable here.	This is not relevant to project activity.
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The validation team has assessed the applicability requirements and cross-verified with the supporting information and interviewed the PP, in consultation with local expertise and sector expert, and found the applicability conditions of the methodology AMS I.D V17.0<sup>/35/</sup> to the project activity are reasonable and acceptable.

#### Opinion:

- (a) Based on discussion above the validation team confirms that the applicability conditions of the selected approved small scale methodology AMS I.D V17.0<sup>/35/</sup> is appropriately described in PDD, which is reasonable and acceptable.

### 4.8.3 Project boundary

#### Discussion:

The project boundary includes all the WTGs to be employed by the project activity and all the power plants physically connected to the electricity system that the project power plant is connected to the Ceylon Electricity Board with all the power generating stations connected to it, is considered as the national grid. The project boundary has been validated through site visit.

The selection of the grid as CEB national grid of Sri Lanka as system boundary for the project activity is in line with the CDM EB guidance regarding selection of geographical and system boundaries as provided in "Tool to calculate the emission factor for an electricity system"<sup>/36/</sup>.

Further, based on review of the final PDD<sup>/2/</sup> and site visit the validation team considers that the PDD has included all the sources of emission within project boundary and there are no sources of GHG emission left out which will contribute more than 1% of expected annual emission reduction by the project activity, which are not addressed by the applied methodology.

#### Findings:

No findings were raised.

#### Opinion:

- The accuracy and completeness of the project boundary mentioned in PDD<sup>/2/</sup> is validated by the review of Feasibility Study Report, Power Purchase Agreement, interviewing the technical personnel involved in the project activity and on site observation.
- The identified boundary and selected sources and gases are justified for the project activity.
- The validation of the project activity did not reveal other greenhouse gas emissions occurring within the proposed CDM project activity boundary as a result of the implementation of the proposed project activity which is expected to contribute more than 1% of the overall expected average annual emission reduction, which are not addressed by AMS-I.D (version 17)<sup>/35/</sup>.
- The validation team is with opinion that PDD has correctly identified and included all the sources of GHG emission relevant to project activity.

### 4.8.4 Baseline identification

#### Discussion:

The project activity is installation of a new grid connected renewable resource based power plant, the PP has identified the plausible baseline scenario in accordance with applied simplified baseline methodology AMS-I.D, version 17<sup>/35/</sup> as, "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".

For new grid-connected renewable power plant, the baseline emission factor is combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the 'Tool to calculate the emission factor for an electricity system' version-4.0<sup>/36/</sup>. The combined margin CO<sub>2</sub> emission factor has been calculated based on the data published by Sri Lanka Energy



Balance (Sri Lanka Sustainable Energy Authority). This state body has provided the grid emission factors using the 'Tool to calculate the emission factor for an electricity system'.

The emission factors are as follows:

Parameters:	Value	Data Source:
EF <sub>OM,y</sub> – Operating Margin Emission Factor (tCO <sub>2</sub> /MWh)	0.7037 tCO <sub>2</sub> /MWh	Sri Lanka Energy Balance (Sri Lanka Sustainable Energy Authority) <a href="http://www.info.energy.gov.lk/">http://www.info.energy.gov.lk/</a> <a href="http://www.energy.gov.lk/sub_pgs/elibrary_spe_pub.html">http://www.energy.gov.lk/sub_pgs/elibrary_spe_pub.html</a>
EF <sub>BM,y</sub> – Build Margin Emission Factor (tCO <sub>2</sub> /MWh)	0.7664 tCO <sub>2</sub> /MWh	Sri Lanka Energy Balance (Sri Lanka Sustainable Energy Authority) <a href="http://www.info.energy.gov.lk/">http://www.info.energy.gov.lk/</a> <a href="http://www.energy.gov.lk/sub_pgs/elibrary_spe_pub.html">http://www.energy.gov.lk/sub_pgs/elibrary_spe_pub.html</a>
EF <sub>CO2,grid,y</sub> – Grid Emission Factor	0.7193 tCO <sub>2</sub> /MWh	Weighted average of the OM and BM

Since emission factors have been sourced from the data published by government authority it was accepted by the assessment team.

#### Findings:

CAR#04, please refer Annex2 of this report, where same is discussed completely.

#### Opinion:

The assessment team confirms that

- The assumptions, calculations and rationales used for identification of baseline scenario correctly quoted and interpreted in the PDD along with their sources and references.
- The national/sectoral regulations relevant to project activity has been considered, which establishes that no existing regulation impair the baseline scenario identified in PDD.
- The assessment team was also able to check the authenticity of the data/sources used from Sales and Generation Data Book of CEB<sup>26/</sup> and Sri Lanka Energy Balance, emission factors provided by Sri Lanka Sustainable Development authority<sup>25/</sup>.
- The identification (assumptions and data used) of baseline scenario to the project has been correctly applied and is in accordance with applied small scale approved methodology AMS I.D, V17.0<sup>35/</sup> and justified, deemed reasonable and is based on objective evidences in context to the project activity.
- The identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

#### 4.8.5 Algorithms and/or formulae used to determine emission reductions

##### Discussion:

According to the approved methodology AMS I.D (Version 17.0) Emission Reductions are calculated as

$$ER_y = BE_y - PE_y$$

Where:

ER <sub>y</sub>	Emission reductions in year y (t CO <sub>2</sub> e)
BE <sub>y</sub>	Baseline Emissions in year y (t CO <sub>2</sub> )
PE <sub>y</sub>	Project Emissions in year y (t CO <sub>2</sub> e)

#### Baseline Emissions

Baseline emissions only include CO<sub>2</sub> emissions from electricity generation in fossil fuel fired power plants that are displaced by the project activity due to displacement of grid-electricity is calculated as the product of



the Baseline Emissions Factor ( $EF_{CO_2, grid, y}$  in  $tCO_2/MWh$ ) calculated as described below, times the electricity supplied by the SPPL project activity to the grid ( $EG_{BL, y}$  in  $MWh/yr$ ), over the crediting period.

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

Where:

<b>BE<sub>y</sub></b>	Baseline emissions in year y ( $tCO_2$ )
<b>EG<sub>BL, y</sub></b>	Quantity of net electricity generation that is produced and fed into the grid as a result of implementation of the CDM project activity in year y ( $MWh$ )
<b>EF<sub>CO<sub>2</sub>, grid, y</sub></b>	is the $CO_2$ emission factor of the grid in year y ( $tCO_2/MWh$ ) and calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" ( $tCO_2/MWh$ ) <sup>/36/</sup>

It was confirmed by the assessment team that the project activity is grid connected green-field renewable (wind) energy generation project at a site where no renewable power plant was operated prior to implementation of the project activity.

#### Determination of Grid emission factor ( $EF_{CO_2, grid, y}$ )

The baseline grid emission factor is calculated in accordance with the "Tool to calculate the emission factor of an electricity system",<sup>36/</sup>. The calculation has been carried out considering Ceylon Electricity Board (CEB) as the relevant electricity system.

- The calculation has been carried out considering Ceylon Electricity Board (CEB) as the relevant electricity system.
- It was confirmed by the assessment team that only grid power plants have been included in the calculation for the operating margin and build margin emission factor. This is in accordance with the Option I of step 2 of the latest "Tool to calculate the emission factor for an electricity system"
- It has been validated by the assessment team from the grid emission factor excel sheet issued by Sri Lanka Sustainable Energy Authority. that the percentage of total grid generation by low cost/must run plants is less than 50 % of the total generation. Hence, the Simple OM method can be used to calculate the Operating Margin Emission factor for the project activity.
- Sri Lanka Sustainable Energy Authority has published a database of Carbon Dioxide Emission from the power sector in Sri Lanka based on detailed authenticated information obtained from all operating power stations in the country. The Operating Margin and build Margin in the database is calculated using the guidelines provided by the UNFCCC in the "Tool to calculate the emission factor for an electricity system".
- The Operating Margin used in the PDD is a 3-year generation-weighted average Emission Factor. The generation data of the year 2009-10, 2010-11 and 2011-12 were used in the calculation. It was confirmed by the assessment team that it was based on the most recent data available at the time of submission of the CDM-PDD to the DOE for validation. The validated value of OM is  $0.7037 t CO_2/MWh$ <sup>3/</sup>.
- In accordance with the applied tool, the build margin is published by Sri Lanka Sustainable Energy Authority implying a value of  $0.7664 t CO_2/MWh$ <sup>3/</sup>.
- According to the "Tool to calculate the emission factor of an electricity system", the weights for OM and BM for calculating combined margin are 0.75 and 0.25 respectively for wind power generation. The validated value of CM is  $0.7193 tCO_2/MWh$ <sup>/4/</sup>.

The assessment team confirms that the result of the database is based on an older version of the tool to calculate emission factor for an electricity system, however no changes impacting the emission factor calculation have taken place in the subsequent versions.

#### Project Emissions



The PP has identified the project emission as zero, which is in line with per para 20 of applied simplified baseline methodology AMS I.D version-17<sup>/35/</sup>. It was also confirmed that there will be no use of fossil fuel on site.

### Leakage

As the project activity does not involve transfer of energy generating equipment, the leakage is considered as zero, which is in line with per para 22 of applied simplified baseline methodology AMS I.D version-17

$$LE_y = 0$$

**EG**<sub>BL, y</sub> is estimated at 25,476 MWh/year considering 29.75 % CUF, checked and confirmed by the validation team. There would not be any project emissions due to the project activity. Leakage is also not applicable as per the applied methodology AMS I.D, version 17.0. Thus, emission reduction is direct multiplication of quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh) and the grid emission factor.

The emissions reductions due to the project activity were estimated ex-ante to be 18,324 tCO<sub>2</sub>e for the first year in the PDD and calculated as follows:

$$\begin{aligned} ER_y &= BE_y - PE_y - L \\ &= BE_y - 0 - 0 \\ &= 25,476 * 0.7193 \text{ tCO}_2\text{e/MWh} \\ &= 18,324 \text{ tCO}_2\text{e (rounded down value yearly)} \end{aligned}$$

### Findings:

CAR #05, please refer Annex 1 of this report where the same is discussed completely.

### Opinion:

It is confirmed by the validation team by cross-checking the ER<sup>/4/</sup> against all referenced data sources and the requirements of applied methodology and methodological tools that:

- All data sources and assumptions used are listed and referenced in the PDD and are appropriate. Calculations are correct, applicable to the proposed CDM project activity and will result in a conservative estimation of the emission reductions;
- All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD;
- All values used in the PDD are considered reasonable in the context of the proposed CDM project activity;
- The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions.
- All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD and annexure.

## 4.9 Additionality

The PP has demonstrated additionality of the project activity in line with Guidelines on demonstration of additionality of small-scale project activity, V09.0, Annex-27 of EB 68, using "Tool for the demonstration and assessment of additionality" version-07.0.0, annex-08 EB 70<sup>/37/</sup> and "Guidelines on the assessment of investment analysis" version-5, annex-05, EB 62<sup>/38/</sup>.

### 4.9.1 Prior consideration of the clean development mechanism

#### Discussion:

The investment decision for the proposed project activity was made on 11/06/2010<sup>/8/</sup>. The PDD was web-hosted for global stakeholders' comments from 21/11/2013 to 20/12/2013<sup>/43/</sup>. The start date of the project activity mentioned in PDD is 19/08/2011<sup>/10/</sup> as the date of signing, supply, commissioning and warranty

agreement, for WTGs between PP and Suzlon Energy Limited. The start date mentioned is after August 02, 2008. The PP had informed host Party DNA and UNFCCC secretariat in writing of their intention to seek CDM status on 17/01/2012<sup>21/</sup>, which is within 180 days of the start date of the project activity .

It was noted by the assessment team that the prior consideration form indicates a capacity of 5.4 MW however the actual project capacity is 10.5 MW. It was clarified by the PP that Ceylon Electricity Board (CEB) could only absorb 90MW in the Puttalam area (district where the project activity is being developed) at the time of granting Letter of Intent dated 5/10/2010 to the project participant, and CEB had already allotted 84.6MW to other developers, therefore CEB allowed only 5.4MW to the project activity. However later on 10 MW was allotted for the project activity which could be confirmed from the revised SSPA.

Since 10.5 MW capacity was considered at the time of decision making which is clear from the board resolution the argument was accepted by the assessment team.

Based on the document review and site visit the assessment team was able to establish that project activity is a Greenfield project and the start date indicated is the date of signing, supply, commissioning and warranty agreement, for WTGs between PP and Suzlon Energy Limited.

#### **Findings:**

CAR#02(c), please refer Annex2 of this report, where same is discussed completely.

#### **Opinion:**

Based on document review<sup>7/8/9/10/</sup> and site visit, the assessment team establishes that project activity is Greenfield project and the date of signing, supply, commissioning and warranty agreement, for WTGs between SWEPL and Suzlon Energy Limited, i.e., 19/08/2011<sup>10/</sup>, is considered as the earliest financial commitment and real action towards implementation of the project activity, which is in line with the “glossary of CDM terms”<sup>42/</sup> version-07.0, Annex-7, EB 70 Report. The assessment team has checked the CDM events mentioned in section B.5 of the final PDD and considers the starting date of the project is defined in line with the “glossary of CDM terms”.

The assessment team has confirmed the name of the project activity in the list of notification received by the UNFCCC available from the UNFCCC website<sup>41/</sup>. The assessment team considers that the CDM was seriously considered in the decision to implement the project and complies with para 105, and 107 of VVS V05<sup>32/</sup>

### **4.9.2 Identification of alternatives**

#### **Discussion:**

As described above in section 4.6.4 of this report, the project participant has correctly applied baseline and monitoring methodology AMS I D, Version 17.0<sup>35/</sup> to the project activity. The paragraph 10 of the applied methodology prescribes the baseline scenario for a proposed CDM project activity involving installation of a new grid connected renewable power plant/unit.

The baseline for such a project activity is defined as “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 into the grid”. The validation team hereby confirms that no further identification of alternatives is required as per paragraph 115 of VVS V05<sup>32/</sup> in view of the applied methodology itself prescribing the baseline scenario.

Further the validation reveals that project participant is not enforced by any legislation to invest in the proposed project activity and the project activity is in full compliance with host country rule and regulation and has obtained the required clearance from concerned authority<sup>17/22/</sup>.

#### **Opinion:**

The validation team is of opinion that the alternative identified in the PDD is in compliance with applied approved methodology AMS I.D V17.0 (para 117 of VVS V05 indicates no further analysis required in such case) and therefore complies with para 113 of the VVS V05.

### **4.9.3 Investment analysis**

#### **Discussion:**

The PDD<sup>2/</sup> mentions that project activity will generate financial and economic benefits by sale of generated electricity to CEB grid of Sri Lanka, hence Option (I) simple cost analysis is not applicable to the project

activity. The investment comparison analysis method (option II) is applicable to projects whose alternatives are also investment projects, however the alternative baseline scenario of the proposed project is the continuation of the supply of electricity by the regional grid rather than a comparable investment project, therefore option II is also not an appropriate method, hence, the benchmark analysis is chosen for project investment analysis.

As the project activity has only alternative baseline scenario is supply of electricity from CEB grid of Sri Lanka, the benchmark analysis is appropriate option for projects investment analysis as per tool for the demonstration and assessment of additionality.

### Benchmark Selection:

The project activity is electricity generation based on wind energy which could be developed by an entity other than project participant. The benchmark should thus be based on publicly available data sources. The project participant has selected Post-tax project IRR as financial indicator for investment analysis and benchmark analysis to demonstrate the additionality of the project activity.

The project activity has been partly funded by equity (40%)<sup>77/</sup> and partly from long term loan (60%)<sup>77/16/</sup> from the bank, weighted average of cost of capital (WACC) benchmark has been selected as benchmark indicator and has been compared against the project IRR for the project. The validation team was able to verify the appropriateness of debt-equity ratio considered for benchmark computation from the "Purchase of Electricity to the National Grid under Small Power Purchase Agreements (SPPA) Explanatory notes to the Non Conventional Renewable Energy Tariff Announcement dated 24<sup>th</sup> April 2009"<sup>16/</sup>, wherein the debt-equity ratio considered as 60:40.

As indicated in paragraph 12, Annex 5, EB 62: Guidelines on Assessment of Investment Analysis, Version 05<sup>38/</sup>, "Local commercial lending rates or weighted average costs of capital (WACC) are appropriate benchmarks for a project IRR".

The project participant has calculated the WACC as benchmark for this project activity using formula below;  

$$WACC = \text{cost of debt} * \text{debt} * (1 - \text{corporate tax}) + \text{cost of equity} * \text{equity}$$

### Cost of Debt:

The cost of debt used for investment analysis is sourced from FSR 16.89%<sup>77/</sup>, which is Average Weighted Lending Rate (commercial lending rate) for long term loan and the data is published by Central Bank of Sri Lanka quarterly. The value used for investment analysis was published by Central Bank of Sri Lanka dated 31/03/2010, which was available to PP at the time of investment decision i.e. 11/06/2010. The validation team was able to check the authenticity of the value used from the official website of the Central Bank of Sri Lanka<sup>28/</sup> ([http://www.cbsl.gov.lk/htm/english/\\_cei/ir/i\\_4.asp?date=&Mode=2&Page=9](http://www.cbsl.gov.lk/htm/english/_cei/ir/i_4.asp?date=&Mode=2&Page=9)). The value used is found consistent with the information available on official website of the Central Bank of Sri Lanka. It was also confirmed that value used was available at the date of decision making (11/06/2010)<sup>8/</sup>. The validation team confirms that the commercial lending rate is appropriate to calculate cost of debt in accordance with para 16 of Annex-5 of EB62.

### Corporate Tax:

The corporate tax 35% used has been crosschecked from the official website of Government of Sri Lanka <http://www.inlandrevenue.gov.lk>, the value used is found consistent with the information available on official website<sup>29/</sup>. It was also confirmed that value used was available at the date of decision making (11/06/2010)<sup>8/</sup>.

### Cost of Equity:

Cost of equity 13% for the host country has been sourced from the "Appendix" of Annex 05 of EB 62, and thereafter the inflation has been added by adopting the standard accounting principles to convert the real values in to the nominal. As the inflation rate forecast of host country was not available by host country banks (central bank), the PP has sourced 5 years (2011 to 2015) average inflation rate forecasted for host country by International Monetary Fund on its official website (<http://www.imf.org/external/pubs/ft/weo/2010/01/weodata/weorept.aspx?pr.x=63&pr.y=9&sy=2008&ey=2015&scsm=1&ssd=1&sort=country&ds=.&br=1&c=524&s=PCPI%2CPCPIPCH%2CPCPIEPCH&grp=0&a>) i.e. 7.34%, this is in line with para 7 Appendix of Annex-5, EB62. The assessment team has reviewed the website and found the value used as correct and appropriate.

Cost of equity (Nominal) = (Cost of equity in real terms + 1) \* (Inflation Rate + 1) - 1

$$= (1+0.13)*(1+0.0734)-1$$

$$=21.29\%$$

The WACC calculated as:

$$WACC= 16.89\%*60\%*(1-35\%)+21.29\%*40\%$$

$$= 15.10\%$$

The validation team confirms that WACC value i.e. 15.10% derived using the default value as per Appendix of Annex-5 EB62 is conservative and in accordance with the guideline therefore appropriate.

The benchmark is considered as 15.10%<sup>/3/</sup> (WACC) for comparing with project IRR.

### Opinion:

The assessment team confirms

- The benchmark is determined based on the information available on official website<sup>/28/</sup> and using the information published for cost of equity in Appendix of Annex-5 of EB62, the assessment team has validated the values used from the official website and found correct, and considered it to be reasonable to assume that no investment would be made at a rate of return lower than the benchmark.
- The benchmark value using the default value published in Appendix of Annex-5 of EB62, is conservative, hence accepted by the validation team.
- Based on assessment team's local, sectoral and financial expertise, the benchmark (post tax) is considered appropriate for the type of financial indicator of the project activity in Sri Lanka.

### Input Parameter:

The input values used in investment analysis sourced from the Feasibility Study Report (FSR), which was prepared dated 06/05/2010<sup>/7/</sup> (Ref: 01/SENOK/2010) by a third party Y K T ATPUTHANATHAN, Chartered Engineer and also confirmed by Commercial Bank of Ceylon PLC regarding submission of same FSR to bank for loan approval via letter. The FSR was the basis for the board decision dated 11/06/2010<sup>/8/</sup> to proceed with proposed project activity. The gap between preparation of FSR (06/05/2010) and investment decision (11/06/2010) was approximately a month, hence validation team confirms that the input values used would have not changed materially.

The validation team was able to check the authenticity of the values used mentioned in Feasibility Study Report by interviewing the officials of host country and same has also been confirmed by the local expert of the team during site visit.

The validation team has compared the input parameters used for the investment analysis<sup>/3/</sup> in PDD<sup>/2/</sup> with the parameters stated in final FSR<sup>/7/</sup> and was able to confirm that values used applied are consistent with the values stated in FSR<sup>/7/</sup>.

The project cost (excluding IDC) break up is as below (All values in million LKR)

- Infrastructure expenses: 33.963751 (1.26% of project cost)
- Land acquisition: 71.356378 (2.65% of project cost)
- Plant and Machinery: 1792.841033 (66.69% of project cost)
- Crane hire charges: 317.503427 (11.81% of project cost)
- Power line expenses: 198.493829 (7.38% of project cost)
- Other expenses: 273.843337 (10.18% of project cost)

The infrastructure expenses include the capital required for road development and construction of building for central monitoring centre (CMC) & staff quarter. The validation team has verified during site visit that there are no motorable road to access to the project site from main road (about 1.5 km) to transport the heavy plant and machinery at the project site and the PP has to develop the road infrastructure. The appropriateness of value used is confirmed by the local expert and financial expert of the team. Also the total capital under infrastructure expenses is 1.26% of the project cost which is a small part and is well covered under sensitivity analysis. Based on above the validation team considers the value is appropriate and reasonable.

The land acquisition includes the capital expenditure towards purchase of land, land lease and compensation including the legal and valuation fee. The validation team was able to check the cost incurred



towards land acquisition and projected cost for land to be acquired from the consolidated report prepared by the chartered accountant<sup>/53/</sup> and also checked the expenses from the land lease agreements and land purchase documents, the actual cost i.e. 71,064,270 LKR was found to be 0.4% lower than cost estimated in FSR i.e. 71,356,378 LKR<sup>/7/</sup>. The appropriateness of value used is also confirmed by the local expert and financial expert of the team. The total capital under infrastructure expenses is 2.65% of the project cost, which is a small part and is well covered under sensitivity analysis. The validation team confirms that the value used for investment analysis is reasonable and appropriate.

The capital expenditure towards plant and machinery includes the cost of WTGs, transportation and erection. The validation team was able to check that the WTGs will be imported from India. The validation team was able to verify the actual cost 1709 million LKR<sup>/10/</sup> as per purchase orders is 4.67% less than the value used for investment analysis i.e. 1792 million LKR<sup>/7/</sup>. However, the same is covered under sensitivity analysis. Hence, the validation team considers the value used as reasonable and appropriate.

The crane hire charge is the capital expense towards loading and unloading of the plant and machinery at port/project site. As per information provided by the PP and confirmed by the local expert of the team, the required capacity of crane for above mentioned purpose was not available in host country and same will be imported from India specifically for the project activity. The validation team was able to check the crane hire charges from the FSR<sup>/7/</sup>.

Power line expenses estimated in FSR, involves the expenditure towards the development of infrastructure for panel room and internal park line and transformer, the validation team was able check the appropriateness of the same from the actual expenses incurred by Senok Group in another wind power project and the local expert of the team during site visit. Hence, validation team confirms the value used for investment analysis as reasonable and appropriate.

The other expenses include the expenses towards taxes and levies including the stamp duty as per host country regulation, the validation team was able to check the applicable Value Added Tax i.e. 12% (<http://www.ird.gov.lk/vat.html>), Nation Building Tax3% ([http://www.ird.gov.lk/publications/Acts/NBT/NBTActNo.9\(E\)2009.pdf](http://www.ird.gov.lk/publications/Acts/NBT/NBTActNo.9(E)2009.pdf)) and Ports and Airport levy5% (<http://www.customs.gov.lk/news/PALVAT.pdf>) applicable on imports of plant and machinery, based on above applicable taxes the total cost for import of plant and machinery comes out to be 204.23 million LKR, which is much higher than value estimated in FSR i.e. 134.52 million LKR. The other cost under other expenses includes the consultancy charges (3.17%), Legal and stamp duty (0.28%) and project insurance (0.32%). As per opinion of local expert, validation team confirms that the value used for investment analysis is reasonable and appropriate.

It was noted that PP has considered contingency amount under subheads, the validation team was able to check the appropriateness of contingencies cost considered under sub-heads as (infrastructure cost-5%, land acquisition-15%, power line expenses-20% and other expenses-10%) from chartered engineer certificate<sup>/55/</sup> provided by PP, which was estimated in FSR<sup>/7/</sup> based on previous experience of Senok group for similar project.

The validation team has validated the input parameters used in investment analysis of the project activity i.e. equity IRR, as listed in the PDD<sup>/2/</sup> uploaded for global stakeholder consultation process and in further revision of the PDD version 2 and 3 along with input values used in spread sheet. The detailed assessment and means of validation of input parameters used are presented below

Parameter	Value Used	Source of Value	Reference used cross checking
Number of Machines	5	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	The validation team has cross checked the number of machine from purchase order placed to M/s Suzlon Energy limited for supply of 5x2.1 MW WTG (S88) dated 19/08/2011 <sup>/10/</sup> . The same was also confirmed during site visit.

Capacity of individual machine (in kW)	2100	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	The validation team has cross checked the capacity of individual machine from purchase order placed to M/s Suzlon Energy limited for supply of 5x2.1 MW WTG (S88) dated 19/08/2011 <sup>/10/</sup> . The same was also confirmed during site visit
Total Capacity of WTGs	10.5MW	Calculated as the number of machine multiplied by capacity of individual machine	The value is calculated based on capacity of individual machine from purchase order placed to M/s Suzlon Energy limited for supply of 5x2.1 MW WTG (S88) dated 19/08/2011 <sup>/10/</sup> . The same was also confirmed during site visit.
Capacity Utilisation Factor	29.75%	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	<p>The validation team has reviewed the FSR, which is prepared by third party, chartered accountant and also endorsed and acknowledged by Commercial Bank of Ceylon PLC<sup>/11/</sup>, hence validation confirms that the PLF values used is in accordance with paragraph 3 (a) &amp; (b) of Annex 11, EB 48<sup>/40/</sup>.</p> <p>The validation team has further cross check the PLF values from the "Purchase of Electricity to the National Grid under Small Power Purchase Agreements (SPPA) Explanatory notes to the Non Conventional Renewable Energy Tariff Announcement dated 24<sup>th</sup> April 2009<sup>/16/</sup> which mentions the PLF achievable in Sri Lanka is 32%, the variation in the PLF has been covered under the sensitivity</p> <p>Hence validation team considers the value used is appropriate, specific to the project site and reasonable.</p>
Tariff rate	23.07	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	<p>The values used has been cross checked from the "Purchase of Electricity to the National Grid under Small Power Purchase Agreements (SPPA) Explanatory notes to the Non Conventional Renewable Energy Tariff Announcement dated 24<sup>th</sup> April 2009<sup>/16/24/</sup>. The above tariff is published by Sustainable Energy Authority on its official website; the value is being checked and found consistent with the value used. It has been further noted that the above document provides two tariff options</p> <p>Flat tariff rate 23.07 LKR/kWh for 20 years without any escalation and</p> <p>Three tier tariff as: from 1<sup>st</sup> year to 8<sup>th</sup> year, fix tariff 22.53 LKR/kWh (non-escalable) + 2.46 (O&amp;M base rate) + 8.06% escalation on O&amp;M (base rate)</p> <p>From 9<sup>th</sup> year to 15<sup>th</sup> year, fix tariff 8.19 LKR/kWh (non-escalable) + 2.46 (O&amp;M base rate) + 8.06% escalation on O&amp;M (base rate)</p> <p>From year 16<sup>th</sup> to 20<sup>th</sup> Year, escalable tariff 3.55, 3.74, 3.94, 4.15 &amp; 4.38 (LKR/kWh) + 2.46 (O&amp;M base rate) + 8.06% escalation on O&amp;M (base rate)</p> <p>The PP has used flat tariff for investment analysis; which results in higher (IRR 11.78%) than the</p>



			<p>variable tariff (IRR 10.23%) used for investment analysis in webhosted PDD. Hence, it is considered more conservative, thus acceptable, to use the flat tariff in investment analysis.</p> <p>The values used has been further cross checked with Power Purchase Agreement (PPA) signed between PP and Ceylon Electricity Board dated 22/11/2010<sup>9/</sup>, which was made available to the validation team, the tariff agreed between the project owner and state utility company CEB, the Appendix-A of the agreement stipulates that a flat electricity tariff as LKR 19.43 per kWh.</p> <p>The validation team has calculated the project IRR using actual tariff i.e. 19.43 LKR/kWh, which comes out to be 7.88%, which is significantly lower than project IRR 11.78%.</p> <p>Moreover, the flat tariff used in investment analysis i.e. 23.07 LKR per kWh validated from the above documents is higher than the tariff indicated in actual PPA i.e. 19.43 LKR/kWh. Hence, it is considered as a conservative estimate of the input values in the investment analysis. Thus, accepted.</p> <p>The PPA signed between PP and utility company is for 20 years, hence, the probability of revision of tariff to project activity in this period will be unlikely. Hence validation team considers that value used for the investment analysis is conservative and appropriate.</p>
Annual O&M cost (including O&M of transmission line)	60.21 (28.64 + 31.57) million LKR	The value is sourced from the Feasibility Study Report <sup>7/</sup> , the same has verified and found consistent.	<p>The validation team has cross checked the O&amp;M cost of individual machine from O&amp;M contract signed between Suzlon Energy limited and PP for 5x2.1 MW WTG (S88) dated 19/08/2011<sup>12/</sup>. The O&amp;M cost in actual found same as used for investment analysis, moreover, the O&amp;M cost is a very small part of the total project cost (2.24%) and even a decrease of 20% variation in O&amp;M cost does not impact the IRR to breach the benchmark value.</p> <p>Further, the O&amp;M cost has been cross checked from the "Purchase of Electricity to the National Grid under Small Power Purchase Agreements (SPPA) Explanatory notes to the Non Conventional Renewable Energy Tariff Announcement dated 24<sup>th</sup> April 2009"<sup>16/</sup>, which mentions the O&amp;M cost for wind power project as 3% of total project cost, the value used for investment analysis 2.24%, is lower. Hence the validation team considers the value used is reasonable and appropriate.</p>
O & M free for number of years	3	The value is sourced from the Feasibility Study Report <sup>7/</sup> , the same has verified and found consistent.	<p>The value used have been crosschecked from O&amp;M agreement between technology supplier and PP<sup>12/</sup> and found that the number free years in actual is also 3 years.</p> <p>The O&amp;M free number of year in O&amp;M agreement and FSR<sup>7/</sup> is same as 3 years, moreover, the O&amp;M</p>

			cost is a very small part of the total project cost (2.24%) and even 100% variation in O&M cost does not impact the project IRR of the project to breach the benchmark value. Hence validation team considers the value used is reasonable and appropriate.
Escalation in the O&M expenses	6%	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	<p>The value used have been cross checked from the O&amp;M agreement<sup>/12/</sup> and found consistent.</p> <p>The validation team has further cross checked the values from Purchase of Electricity to the National Grid under Small Power Purchase Agreements (SPPA) Explanatory notes to the Non Conventional Renewable Energy Tariff Announcement dated 24<sup>th</sup> April 2009<sup>/16/</sup>, which mentions the escalation in O&amp;M cost in host country as 8.06%, which is higher than value used in investment analysis i.e. 6%, hence the validation team considers value used for investment analysis 6% is appropriate and conservative.</p>
Escalation in LKR/USD exchange rate	2.8%	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	The validation team has cross checked the historical exchange rate values published by Central Bank of Sri Lanka on its official website ( <a href="http://www.cbsl.gov.lk/htm/english/cei/er/e_1.asp">http://www.cbsl.gov.lk/htm/english/cei/er/e_1.asp</a> ) and confirms that the escalation in exchange rate used for investment analysis i.e. 2.8% is appropriate and reasonable.
Total project cost (in million LKR)	2688	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent. The value used is excluding the IDC and margin on working capital.	<p>The validation team has cross checked the values from the purchase orders<sup>/10/</sup>, the actual project cost as per purchase orders placed was found to be slightly lower<sup>/10/53/54/</sup> than the project cost used for investment analysis.</p> <p>The appropriateness of project cost under sub head is validated above.</p> <p>The FSR mentions the final project cost as the estimated cost at the time of preparation of FSR i.e. May 2010 plus one year escalation in exchange rate (LKR to USD) i.e. 2.8%. The review of purchase order reveals that WTGs will be imported from India and all the transportation cost will be borne by the PP..</p> <p>Further, the team has crosschecked the project cost from the "Purchase of Electricity to the National Grid under Small Power Purchase Agreements (SPPA) Explanatory notes to the Non Conventional Renewable Energy Tariff Announcement dated 24<sup>th</sup> April 2009<sup>/16/</sup>", where in per MW project cost mentioned as 230 million LKR, by considering above the project cost (256 million LKR) used for investment analysis was found to be 11.3% higher.</p> <p>The team has observed that WTGs imported by the proposed project activity is an advance technology i.e. 2.1MW WTGs, hence slight increase in cost was observed.</p>

			<p>Based on above discussion, the project cost considered for investment analysis is slightly higher 11.3% higher than the project cost published by Sri Lanka Sustainable Energy Authority.</p> <p>However, the sensitivity analysis carried by decreasing the project cost by 12% does not cross the benchmark value.</p> <p>The project cost was found comparable to a similar CDM registered project (reference number 9074) in the same location. The validation team has confirmed the appropriateness of cost under subheads (Infrastructure expenses, land acquisition, turnkey contract, crane hire charges, power line expenses and other expenses) by interviewing the financial personnel of PP, local expert of the team from Sri Lanka and the government officials.</p> <p>Hence validation team considers the value used is reasonable and appropriate.</p>
Interest during construction (in million LKR)	204.30	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found the value used is slightly lower than IDC (205.26 million LKR) estimated in FSR.	<p>The validation team was able to check offer letter from bank<sup>/51/</sup>, which mentions 1 year as moratorium period. Further, as the WTGs are imported from India and technology supplier do not have office in host country the construction period including transportation (shipping from India and from port to project site) is estimated to be more than a year. The same was also confirmed from the Senok Group's earlier wind power project.</p> <p>Based on above discussion the validation team considers the value used as appropriate and reasonable.</p>
Depreciation rate civil	6.67%	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	The validation team was able to cross check the value used from official website of government of Sri Lanka <sup>/29/</sup> . The value used was found consistent. The validation team was also able to confirm that the value was available to PP at the time of investment decision <sup>/8/</sup> .
Depreciation rate for electro mechanical equipment	12.5%	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	The validation team was able to cross check the value used from official website of government of Sri Lanka <sup>/29/</sup> (page no.53, Article 25 a). III of chapter IV). The value used was found consistent. The validation team was also able to confirm that the value was available to PP at the time of investment decision <sup>/8/</sup> .
Salvage value (% of asset value)	5%	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	The value has been sourced from FSR <sup>/7/</sup> , assessment team has checked the FSR for the same and found it correct. Moreover this was also confirmed by the local expert during on site visit.
Income Tax Rate	35.00%	Income Tax Rule	The value has been verified from the official website <sup>/55/</sup> and found consistent. Further, the validation team was able confirm that the value used was applicable at the time of decision making

			and the information was available to PP.
Debt	60%	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	The debt percentage is sourced from the approved FSR <sup>/7/</sup> , the same was verified by the assessment team and found to be correct. Moreover to confirm the actual debt percentage the assessment team crosschecked the loan sanction letter <sup>/50/</sup> and found the actual debt percentage is 58% (1546 million LKR) <sup>/50/</sup> of the total project cost (2688 million LKR) <sup>/3/</sup> excluding interest during construction.
Equity	40%	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	The equity percentage is sourced from the approved FSR <sup>/7/</sup> , the same was verified by the assessment team and found to be correct. Moreover to confirm the industry practice team was able to crosscheck the debt percentage from the "Purchase of Electricity to the National Grid under Small Power Purchase Agreements (SPPA) Explanatory notes to the Non Conventional Renewable Energy Tariff Announcement dated 24 <sup>th</sup> April 2009" <sup>/16/</sup> , which also mentions the equity percentage of similar projects as 40%. Hence the validation team considers that the value used is appropriate in context of the project activity.
Tax holiday	02 Years	The value used was based on Senok Groups previous experience with wind project activity.	<p>The validation team has interviewed the finance personnel during site visit and noted that the number of years for tax holiday in Sri Lanka is not fixed and varies from project to project and is decided by the Board of Investment in Sri Lanka based on investment amount and type of project activity.</p> <p>The validation team was able to cross check the actual value as 5 years from Agreement between SWEPL and Board of Investment in Sri Lanka dated 02/06/2011<sup>/30/</sup> for project proposed project activity as 5 years, which is found more than value used as 2 years.</p> <p>The validation team has done the stress test considering 5 years tax holiday and found that project IRR changes from 11.78% to 11.97%, which is well below the benchmark value 15.10%.</p> <p>As the actual value was not available at the time of decision making and based on discussion above the validation team considers the value used as reasonable and appropriate.</p>
Project Life Time (years)	20	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	The validation team was able to crosscheck the project life time from the technical specification of WTGs <sup>/13/</sup> to be employed. The value used has been found correct, in additional the same has been confirmed by the technical expert of the team.
Interest rate	16.89%	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	The validation team was able to crosscheck the value used from the official website of the Central Bank of Sri Lanka <sup>/28/</sup> and confirms that value used was published on 31/03/2010 and was the prevailing rate at the time of investment decision i.e. 11/06/2010 <sup>/8/</sup> . Hence value used is considered

			reasonable and appropriate.
Admin expenses (in million LKR)	30	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	<p>The validation team was able to crosscheck the value used from the cost break up provided by the SWEPL<sup>/51/</sup>, the monthly expenses mentioned as (all values in LKR)</p> <ol style="list-style-type: none"> <li>1. Salary : 1,8,624,000</li> <li>2. Security for project site: 3,600,000</li> <li>3. Reactive power charges: 3,000,000</li> <li>4. Utilities :3,000,000</li> <li>5. Vehicle: 1,800,000</li> </ol> <p>Considering above the annual cost comes out to be 30.024 million LKR. The appropriateness of value used has been further confirmed from the existing power plant of the SENOK group and same has been also confirmed by the local expert of the validation team.</p> <p>Considering above the validation team in consultation with the local expert confirms that value used is reasonable and appropriate.</p>
Escalation of admin expenses	8%	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	<p>The validation team has further cross checked the values from Purchase of Electricity to the National Grid under Small Power Purchase Agreements (SPPA) Explanatory notes to the Non Conventional Renewable Energy Tariff Announcement dated 24<sup>th</sup> April 2009<sup>/16/</sup>, which mentions the escalation on expenses as 8.06%, which is higher than value used in investment analysis i.e. 8%, hence the validation team considers value used for investment analysis 8% is appropriate and conservative.</p>
Maintenance and spare cost (in million LKR)	3	The value is sourced from the Feasibility Study Report <sup>/7/</sup> , the same has verified and found consistent.	<p>The validation team has discussed with technical personnel involved in project activity regarding maintenance and spare cost and noted that it includes various miscellaneous items. The appropriateness of value is also confirmed by the local expert of the team considering its very small part of the project cost (0.1%), the 100% decrease in maintenance and spare cost does not breach the benchmark value. The escalation cost 6% is also considered reasonable based on validation of escalation cost of O&amp;M and Admin expenses.</p>

The project IRR is calculated as 11.16%, this is well below the benchmark value i.e. 15.10%.

The project IRR is calculated for the project's operational lifespan, 20 years<sup>/3/</sup>. The validation team was able to cross check the selection of life time from the technical specifications of Technology Supplier<sup>/13/</sup>. The validation team was able to verify that the selected timeframe of 20 years<sup>/13/</sup> is also reasonable in the context of the project activity as the operational lifetime of similar wind power plant is 20 years.

The assessment team was able to verify all the input parameters used and the references used are from the verifiable sources. The assessment team considers the documents used for investment analysis are appropriate and authentic based on local and technical expertise.

As evident from the details given above, the validation had evaluated the parameters used in the financial calculations and the assessment team confirms that the underlying assumptions are appropriate and the financial calculations are correct.

### Finding:

CAR#05, please refer Annex2 of this report, where same is discussed completely.

### Sensitivity Analysis:

The PP has carried out the sensitivity analysis on the parameters which are likely to have material impact on project IRR. To check the robustness of calculation the following parameters have been selected

1. Capacity Utilization Factor
2. Total investment cost
3. Electricity tariff
4. O&M cost

The validation team confirms that the parameters that have been subjected to the sensitivity is in line with para 20 of the guidelines on the assessment of analysis, annex-5, EB62 Report<sup>38/</sup>. The sensitivity analysis covers a reasonable range of +10% and -10%, which is in conformity with para 21 of the guidelines on the assessment of analysis, annex-5, EB62 Report.

The validation team has observed that project cost used for investment analysis was 10.15% higher than the per MW project cost mentioned in the "Purchase of Electricity to the National Grid under Small Power Purchase Agreements (SPPA) Explanatory notes to the Non Conventional Renewable Energy Tariff Announcement dated 24<sup>th</sup> April 2009"<sup>16/</sup>, which was available at the time of investment decision. In order the PP has revised the range of sensitivity analysis on project cost as  $\pm 12\%$ . An decrease of 15% in the project cost is found to be breaching the benchmark value; it is a scenario which is unlikely as the investment is already taken place.

The electricity tariff used in investment analysis i.e. 23.07 LKR per kWh is found to be higher than the actual tariff<sup>9/</sup> i.e. 19.43 LKR per kWh for proposed project activity, moreover, the PPA is signed for 20years with flat tariff 19.43 LKR/kWh, hence validation team considers that any increase in tariff is not a likely scenario.

The PP has entered into an agreement with technology supplier for O&M<sup>12/</sup> of the WTGs to be employed. Based on review of the O&M cost used in investment analysis and the actual cost, the validation team confirms that decrease in O&M cost more than 10% is not a likely scenario.

The capacity utilization factor used for investment analysis 29.75%<sup>7/</sup> is derived based on study of long term wind pattern at the project site. Moreover, the Sustainable Energy Authority of the Sri Lanka has mentioned that the PLF achievable by wind power project in host country is 32%<sup>16/</sup>. Considering above the validation considers that an increase in PLF more than 10% is not a likely scenario.

Based on market trend in and document review, the validation team was able to establish that variation considered is appropriate on identified data/parameter to perform sensitivity analysis.

Input parameter	+10%	Benchmark	-10%	Breaching Value
CUF	14.03%	15.10%	9.37%	16% increase in annual output
Electricity Tariff	14.03%	15.10%	9.37%	20.1% increase in electricity tariff
O&M cost	11.39%	15.10%	12.16%	98 % decrease in O&M cost
Input parameter	+12%	Benchmark	-12%	
Total investment cost	9.63%	15.10%	14.52%	15% decrease in project cost

The benchmark is treated as the reference at which the investment project is considered to be financially attractive. In all the cases, the IRR is lower than the benchmark, which means the project cannot be considered to be financially attractive. Based on discussion above the validation team confirms that the proposed project activity is additional.

### Opinion:

- (a) The input values used in investment analysis were sourced from the FSR<sup>7/</sup>, the FSR was prepared by a third party, Chartered Engineer authorized by Sustainable Energy Authority of Sri Lanka. Further, the validation team was able to check that same FSR was submitted to bank for loan sanction. Hence validation team confirms that all the input values used for investment analysis are authentic, valid and available at the time of investment decision.



- (b) The benchmark is calculated as weighted average of capital cost, the WACC was calculated using the long commercial term lending rate published by Central Bank of Sri Lanka and cost of equity was sourced from the default values published in Appendix of Annex-5 of EB62 by converting the same to nominal terms using long term inflation forecast by International Monetary Fund for host country. The validation team confirms that benchmark calculated is appropriate and conservative.
- (c) The assessment of additionality demonstration and benchmark selection is in conformity to the latest version of the Guidance issued by EB on the assessment of investment analysis, plausibility and appropriateness of parameters used and correctness of financial calculations, Validation Team concludes that the project scenario is not economically feasible without benefits from CER sales in as much as the equity IRR is lower than benchmark value.
- (d) The validation team confirms that proposed project activity is additional in accordance with the requirement stipulated in para 117 of VVS V05.

#### 4.9.4 Barrier analysis

##### Discussion:

The project participant has demonstrated additionality using the Investment Barrier and has not conducted barrier analysis.

#### 4.9.5 Common practice analysis

##### Discussion:

Being a small scale project activity, it is not a requirement for the project participant to demonstrate common practice analysis to support the claim for additionality.

#### 4.10 Application of Monitoring Methodology and Monitoring Plan

##### Discussion:

The project activity has applied approved consolidated monitoring methodology AMS I.D, V17.0<sup>/35/</sup>. The project activity is wind energy based grid connected Greenfield power plant with a total installed capacity of 10.5MW, applied monitoring methodology requires the monitoring of net generation electricity supplied to grid by the project plant to grid. The net generation electricity supplied to grid shall be cross checked with invoice receipt of the seller.

Further, the monitoring methodology requires calibration of monitoring equipment as per national/local standard applicable and monitored data must be archived in electronic format for crediting period plus two years.

The PDD has described the monitoring plan in a clear and transparent manner, which is in compliance with applied approved small scale monitoring methodology AMS I.D, V17.0<sup>/35/</sup>. The validation team has validated the each parameters required to be monitored as per applied monitoring methodology and in opinion the proposed monitoring plan in PDD is feasible to implement and will result credible emission reductions resulted due to the project activity.

##### Parameter determined ex-ante:

The methodology requires identification of the following for grid-connected geothermal power projects:

- a) Data needed to calculate the operating margin emission factor, based on the choice of the method to determine the operating margin (OM), consistent with "Tool to calculate the emission factor for an electricity system"<sup>/36/</sup>;
- b) Data needed to calculate the build margin emission factor consistent with "Tool to calculate the emission factor for an electricity system"<sup>/36/</sup>;

The parameters determined *ex-ante* for calculating the emission factors are listed in the PDD<sup>/2/</sup> and were verified by validation team as follows:-

1. Weighted average Operating Margin (OM) emission factor is 0.7037 tCO<sub>2</sub>/MWh<sup>/4/</sup>
2. Weighted average Build Margin (BM) emission factor (EF<sub>BM</sub>) is 0.7664 tCO<sub>2</sub>/MWh<sup>/4/</sup>
3. Combined Margin (CM) emission factor (EF<sub>grid,CM,y</sub>) of 0.7193 tCO<sub>2</sub>/MWh<sup>/4/</sup>

The OM is calculated as fixed ex-ante for the first renewable crediting period by choosing data vintage (2010, 2011 and 2012) based on ex-ante data available on Sale and Generation Data Book of CEB<sup>/26/</sup>. The BM is

calculated using the set of power capacity additions in the electricity system that comprise 20% of the system generation (in MWh) and that have been built most recently and available on website of Sri Lanka Energy Balance, Sri Lanka Sustainable Development authority<sup>/25/</sup>. The parameters for determining the GHG emissions reductions have been clearly demonstrated in section B.6.1. of the PDD<sup>/2/</sup>.

The validation team has verified the above information from the official website of Ceylon Electricity Board<sup>/26/</sup> and interviewed the officials of CEB and confirms that values used are consistent and reasonable.

#### Parameters monitored ex-post:

The project emission and leakage are considered zero, as the project activity is a new wind energy based power project and does not involve transfer of energy generating equipment, which is in conformity with the applied approved monitoring methodology AMS I.D Version 17<sup>/35/</sup>.

The following parameters will be monitored ex-post:

- 1) Electricity exported to the CEB grid
- 2) Electricity imported from the CEB grid
- 3) Net electricity supplied to the CEB grid

The monitoring plan consists of monitoring of parameters representing electricity metering at the evacuation point to the CEB grid. The electricity exported, and imported will be directly measured by metering equipment. The electricity (export, import) will be measured continuously by digital kilowatt hour (kWh) meters and recorded monthly. The  $EG_{BL,y}$  will be calculated as the electricity exported to grid less the electricity imported from the grid. This data will be cross checked against the sales receipt from the grid. The results from the meter will be supplied by the respective grid company to the developer on a monthly basis.

The metering system includes the main meter of accuracy class 0.1s, which is in compliance with the host country requirement for power meter. The electricity exported and imported will also be monitored by the energy meters installed by the PP, which will be considered as back-up meter and in case of failure of main meter the readings of energy meter installed by PP will be considered for emission reduction calculation. Calibration will be carried out periodically i.e. yearly. The calibration procedure is clearly described in the PDD, which is in conformity with VVS V05.

The validation team considers that the monitoring plan has complied with the requirements in the approved methodology.

#### Data management and QA/QC:

The section B.7.3 of the PDD<sup>/2/</sup> clearly describes the detailed monitoring procedures, monitoring structure, monitoring items, training, calibration procedure and handling of emergency situation, which in conformity with applied methodology. The validation team confirms that the specific uncertainty levels, methods, and associated accuracy level of measurement instruments and calibration procedures used for various parameters and variables are identified in the PDD<sup>/2/</sup>, along with detailed quality assurance and quality control procedures. The accuracy class and the method and frequency of calibration of the electricity meters (conforming to the national standards). Moreover, training plan for the operation and maintenance and CDM monitoring of the project activity has been laid down by the PP, which was verified by validation team.

Based on review of the PDD and interview with relevant stakeholders during site visit, the validation team confirms that the monitoring plan presented in PDD is feasible to implement and will result credible emission reduction calculations.

All data collected will be archived and be kept for at least two years after the end of the last crediting period.

#### Opinion:

- (a) All the values used against sources and the authenticity of sources has been verified and the validation team confirms that all relevant parameters to calculate the GHG emissions reductions of the project have been sufficiently considered and the value of the ex-ante fixed parameter used for emission reduction calculation i.e. grid emission factor has been determined conservatively and the estimation ex-post parameters are reasonable. The validation team considers that the monitoring plan has complied with the requirements in the approved methodology thereby satisfying para 132 (a) of VVS V05<sup>/32/</sup>.
- (b) The monitoring plan is included in the PDD based on the approved monitoring methodology, AMS I.D version 17<sup>/35/</sup> and is correctly applied to the CDM project activity. The monitoring plan has been found to be in compliance with the requirements of the applied methodology. The monitoring plan will give opportunity for real measurements of achieved emission reductions.





The validation team considers that monitoring arrangements described in the monitoring plan and feasible within the project design and the PP is capable to implement the monitoring plan. Hence the requirement of paragraph 131 of VVS V05 is complied

#### **4.11 Environmental Impacts**

##### **Discussion:**

The National Environmental (Amendment) Act No. 56 of 1988 introduced EIA, as a part of the strategy to achieve sustainable development for the entire country and the Central Environmental Authority was assigned regulatory functions.

Part IV C of the amendment act mandated that all "prescribed" development projects are required to be subjected to Environmental Impact Assessment. Only large scale development projects that are likely to have significant impacts on environment are listed as prescribed projects.

As per the Gazettes No. 722/22 dated 24/06/1993, No. 859/14 dated 13/02/1995, No. 978/13 dated 04/06/1997, No. 1104/22 dated 06/11/1999, No. 1108/1 dated 29/11/1999 and No. 1159/22 dated 22/11/2000 of the Democratic Socialist Republic of Sri Lanka, "All renewable energy based electricity generating stations exceeding 50Megawatts"<sup>49/</sup> requires to conduct an EIA. As the installed capacity of proposed project activity 10.5MW less than 50MW, the proposed project activity does not fall under preview of requirement to carry out EIA.

The PP has provided description of environmental impacts in section D.1 of the PDD.

##### **Opinion:**

The validation team has verified the regulation related to environmental impact analysis and confirms that the wind power project with installed capacity less than 50MW in Sri Lanka do not require to carry out the environmental impact analysis. Thus the project activity satisfies the requirement as per para134 and 135 of the VVS V05,

#### **4.12 Local Stakeholder Comments**

##### **Discussion:**

The comments by local stakeholders have been invited in an open and transparent manner. A summary of the comments received has been provided to the DOE including, how due account was taken of the comments received. To express their comments and concerns about the project a stakeholder meeting was conducted on 21/06/2011<sup>19.1/19.2/</sup> i.e. prior to the publication of the PDD on the UNFCCC website at Mampuri Village. The meeting was attended by, Divisional Secretary - Kalpitiya, representatives from the CEB, Coast Conservation Department and the Central Environmental Authority representative, local community leaders, local organizations such as non-governmental, youth and woman participation, and other villagers. The summary of comments, are summarized in Section E.2, and report on how due account was taken of any comments received are provided in Section E.3 of the PDD.

During the site visit conducted on 07/04/2014<sup>31/</sup>, the DOE met a section of the stakeholders. The stakeholders were mainly villagers, government representative and project related personnel. The stakeholders confirmed the stakeholder meet held by the PP and that they had no concerns with respect to the project activity. Stakeholders stated that the project activity helped the village by generating employment opportunities for the local villagers and also improving the infrastructure and transportation modes by making access roads.

The validation team noted that all the relevant stakeholders were identified are in line with the definition of stakeholders as per latest version of CDM Glossary of terms<sup>44/</sup>.

##### **Findings:**

No findings were raised in this context.

##### **Opinion:**

The validation team have verified the related documents<sup>19/</sup> and found acceptable and interviewing some of the attendees of the stakeholder meeting during onsite visit on 07/04/2014<sup>31/</sup>, which concludes that the project participant conducted the stakeholders' consultation process in transparent and unbiased manner. The validation team was able to conclude that the project activity has not received any adverse comment during stakeholders' consultation process.

The validation team confirms that the process for conducting the local stakeholders meeting is adequate and credible and complies with the requirement stipulated in para 138 and 139 of VVS V05.

#### **4.13 Project design of small-scale CDM project activities**

##### **Discussion:**

The proposed project activity is grid connected renewable resource (wind) based power project with installed capacity 10.5MW<sup>/10/</sup>, the net generated electricity will be supplied to CEB grid<sup>/26/</sup>, hence the project is eligible as type I small-scale CDM project activity and can use the simplified baseline methodology.

The validation team has confirmed the capacity of the proposed project activity by reviewing the FSR<sup>/7/</sup>, Supply commissioning and warranty agreement between SWEPL and Suzlon Energy Limited<sup>/10/</sup> and during onsite visit and is of opinion that project activity is eligible as small-scale CDM project activity and can use the simplified baseline methodology.

##### **De-bundling:**

The project activity is an independent activity and not a de-bundled component of a larger project activity as:

- (i) The Validation team has validated that there is no registered small scale CDM project activity or a request for registration made by the investor, in the same project category and technology/measure or one that has been registered in the previous two years; whose project boundary is within 1 kilometre of the project boundary of the proposed small scale project activity at the closest point as checked from the UNFCCC website<sup>/43/</sup> (Project Search Interface) and discussions held during the site visit.
- (ii) The Validation team has validated that there is no registered small scale CDM project activity or a request for registration made by Senok Wind Energy Pvt. Ltd. (project participant from host Party) in the same project category and technology/measure or one that has been registered in the previous two years; whose project boundary is within 1 kilometer of the project boundary of the proposed small scale project activity at the closest point as checked from the UNFCCC website<sup>/43/</sup> (Project Search Interface) and discussions held during the site visit.
- (iii) It has been validated from official website of UNFCCC website (Project Search Interface) that there is no registered wind power project or project under request for registration in Sri Lanka, where Senok Wind Energy Pvt. Ltd. has participated as project participant and this project is registered in last two years.

Based on above discussion, validation team confirms that the proposed project activity is not a de-bundled component of a larger project activity.

##### **Findings:**

CL#03 was raised and successfully closed, please refer Annex-2 for details.

##### **Opinion:**

Based on discussion above the validation team confirms that;

- (a) the project activity is eligible as a small scale project activity and complies with the requirement stipulated in para150 of VVS V05<sup>/32/</sup>.
- (b) The proposed project activity is not a de-bundled component of a larger project activity and complies with the requirement stipulated in para154 of VVS V05



## **5. Global Stakeholder Consultation Process**

In accordance with sub-paragraphs 40 (b) and (c) of the CDM modalities and procedures and section E of VVS V5, the project design document of a proposed CDM project activity shall be made publicly available and the DOE shall invite comments on the validation requirements from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available..

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

The Project Design Document for this project was made available on <https://cdm.unfccc.int/Projects/Validation/DB/9ZURWT73VNDPED7P5FFF0KIT0XEMTD/view.html> and was open for comments from 21/11/2013 until 20/12/2013.

### **5.2 Compilation of all comments received**

No comments were received.

### **5.3 Explanation of how comments have been taken into account**

No comments were received.

## 6. References

S. No.	Name of document (Validation/Registration Process)
/1/	/1.1/ PDD Version 01 dated 08/11/2013 (made publicly available) /1.2/ PDD Version 02 dated 08/04/2014 /1.3/ PDD Version 03 dated 12/05/2014
/2/	PDD Version 04 dated 30/06/2014(final version)
/3/	IRR spreadsheet corresponding to PDD dated 30/06/2014
/4/	ER spreadsheet corresponding to PDD dated 30/06/2014
/5/	Letters of Approval from DNA of Sri Lanka (host party) dated 28/01/2014
/6/	/6.1/Modalities of Communication dated 08/04/2014 /6.2/ Letter confirming the specimen signature and designation of authorized signatory issued by Director, Human Resource-Senok Wind resource Pvt. Ltd.
/7/	Feasibility Study Report (Report No. 01/SENOK/2010) prepared by a Chartered Engineer dated 06/05/2010
/8/	Investment Decision: Extract of minutes of meeting of Board of Directors of Senok Wind Energy Pvt. Ltd. dated 11/06/2010
/9/	Standardized Power Purchase Agreement between Ceylon Electricity Board and Senok Wind Resource Pvt. Ltd. dated 26/07/2011 Addendum for Standardized Power Purchase Agreement between Ceylon Electricity Board and Senok Wind Resource Pvt. Ltd. Dated 31/07/2013
/10/	Purchase order placed by the 5*2.1MW WTG (S88) to Suzlon Energy Limited dated 19/08/2011
/11/	A letter issued by Commercial Bank of Ceylon PLC confirming submission of FSR (Report No. 01/SENOK/2010 prepared by a Chartered Engineer dated 06/05/2010) for loan sanction dated 05/03/2014
/12/	O&M contract for WTG (S88) and for transmission line up to interconnection point of CEB grid dated 19/08/2011
/13/	Technical Specification of Wind Turbine Generator (S88)
/14/	Permit for engaging in & carrying on of an on grid renewable energy project, ready for signing SPAA with CEB issued by Sri Lanka Sustainable Energy Authority dated 29/10/2010
/15/	Letter of declaration by PP for no use of ODA dated 13/12/2013
/16/	Purchase of Electricity to the National Grid under Small Power Purchase Agreements (SPPA) Explanatory notes to the Non Conventional Renewable Energy Tariff Announcement dated 24/04/2009
/17/	/17.1/License to generate electricity under the Sri Lanka Energy Act No 20 of 2009. By Public Utilities Commission of Sri Lanka dated 19/06/2012 /17.2/ Security Clearance by Ministry of Defense and Urban Development dated 05/07/2012 /17.3/ Certificate of site clearance by Provincial Environmental Authority (North West Province) dated 13/02/2013
/18/	In land revenue Act 10 of 2006, Published as a Supplement to Part II of the Gazette of the Democratic Socialist Republic of Sri Lanka dated 31/03/2006
/19/	/19.1/ Stakeholder notice dated 15/06/2011 /19.2/ Minutes of meeting of Local Stakeholder Consultation Process conducted on 21/06/2011
/20/	Land Clearance /20.1/ Issued by Divisional Secretariat of Kalpitiya dated 14/03/2012 /20.2/ Issued by Land Commissioners General Department dated 01/06/2012
/21/	/21.1/ Prior consideration form dated 06/01/2012 /21.2/ Prior intimation to CDM EB by Email dated 17/01/2012 /21.3/ Acknowledgement by CDM EB by Email dated 17/01/2012 /21.4/ Acknowledgement of Prior consideration intimation by Host country DNA dated 17/01/2012
/22/	No objection certificate by Divisional Secretariat of Kalpitiya dated 14/03/2012
/23/	Inflation rate monthly bulletin May 2010 by Central Bank of Sri Lanka
/24/	Non Conventional Renewable Energy Tariff Announcement, Purchase of Electricity to the National Grid under Standardized Power Purchase Agreements (SPPA) dated 20/10/2010
/25/	<a href="http://www.energy.gov.lk">http://www.energy.gov.lk</a>

	Sri Lanka Sustainable Energy Authority
/26/	<a href="http://www.ceb.lk">http://www.ceb.lk</a> Ceylon Electricity Board
/27/	<a href="http://www.environmentmin.gov.lk">http://www.environmentmin.gov.lk</a> Ministry of Environment Sri Lanka
/28/	<a href="http://www.cbsl.gov.lk/htm/english/_cei/ir/i_4.asp?date=&amp;Mode=2&amp;Page=9">http://www.cbsl.gov.lk/htm/english/_cei/ir/i_4.asp?date=&amp;Mode=2&amp;Page=9</a> Central Bank of Sri Lanka
/29/	Rate of Depreciation <a href="http://www.inlandrevenue.gov.lk/publications/Acts/IR/IRActNo.10%28E%292006.pdf">http://www.inlandrevenue.gov.lk/publications/Acts/IR/IRActNo.10%28E%292006.pdf</a>
/30/	Agreement between SWEPL and Board of Investment in Sri Lanka, where the Tax holiday is considered as 5 years for proposed project activity dated 02/06/2011
/31/	Sri Lanka Sustainable Energy Authority ruling for development of renewable energy projects. <a href="http://www.energy.gov.lk/pdf/guideline/Grid_Renewable.pdf">http://www.energy.gov.lk/pdf/guideline/Grid_Renewable.pdf</a>

S. No.	Name of document (Background documents used during validation process)
/32/	CDM VVS Version 5.0 dated 04/10/2013 available during the course of validation CDM VVS Version 7.0
/33/	CDM PS Version 5.0 dated 04/10/2013 available during the course of validation CDM PS Version 7.0
/34/	CDM PCP Version 5.0 dated 04/10/2013 available during the course of validation CDM PCP Version 7.0
/35/	AMS I.D version-17, Grid connected renewable electricity generation
/36/	Tool to calculate the emission factor for an electricity system, version-4.0
/37/	Tool for the demonstration and assessment of additionality, version-7.0.0
/38/	Guidelines on the Assessment of Investment Analysis, version-05 (EB62, A5)
/39/	Guidelines for the reporting and validation of plant load factors, Version-01 dated 17/07/2009 (EB48, A11)
/40/	Guidelines on assessment of de-bundling for SSC project activities, version-03.1 dated 17/11/2011 (EB54, A13)
/41/	UNFCCC website <a href="http://unfccc.int/parties_and_observers/parties/items/2352.php">http://unfccc.int/parties_and_observers/parties/items/2352.php</a> <a href="http://cdm.unfccc.int/Reference/Guidclarif/index.html#meth">http://cdm.unfccc.int/Reference/Guidclarif/index.html#meth</a> <a href="https://cdm.unfccc.int/methodologies/SSCmethodologies/approved">https://cdm.unfccc.int/methodologies/SSCmethodologies/approved</a> <a href="http://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html">http://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html</a> <a href="http://cdm.unfccc.int/EB/022/eb22_repan3.pdf">http://cdm.unfccc.int/EB/022/eb22_repan3.pdf</a>
/42/	Glossary of CDM terms, version-06 dated 02/03/2012 (EB66, A63)
/43/	Project Design Document form for small-scale CDM project activities (F-CDM-SSC-PDD), version 04.1 dated 11/04/2012
/44/	Guidelines for completing the project design document form for small-scale CDM project activities, version-01.0 dated 02/03/2012 (EB66, A9)
/45/	Guidelines On The Demonstration Of Additionality Of Small-Scale Project Activities, version-9.0, dated 20/07/2012 (EB68, A27)
/46/	Guidelines On The Demonstration And Assessment Of Prior Consideration Of The CDM, version-04 dated 15/07/2011 (EB62, A13)

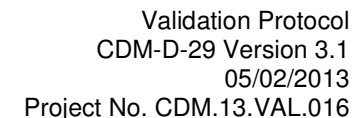


## Annex 1: Validation Protocol

### Annex 1: Validation Protocol (Project Activity – LSC/SSC)

**Table 1 –Validation Requirements for Clean Development Mechanism (CDM) Project Activities (Section E to J, CDM VVS and relevant paragraphs of CDM PCP)**

Requirement(s)	Ref	Validation Assessment	Conclusion	
			Draft	Final
1. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for a minimum of 30 days (45 days for A/R large scale projects), and PDD and comments have been made publicly available	Para 13, 20, 21 of PCP	The PDD has been webhosted and made publicly available from 21/11/2013 – 20/12/2013, as required for GSP comments at the following link:  <a href="https://cdm.unfccc.int/Projects/Validation/DB/9ZURWT73VNDPED7P5FFF0KIT0XEMTD/view.html">https://cdm.unfccc.int/Projects/Validation/DB/9ZURWT73VNDPED7P5FFF0KIT0XEMTD/view.html</a>	Ok	OK
	Para 34, 35, 36 of VVS  (Section E of VVS)	Validation Criteria		
		PDD has been made publicly available from 21/11/2013 – 20/12/2013, as required for GSP comments		
		Comments received		
		Comments made publicly available		
		Is there any doubt with regard to authenticity of comments received		

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		<p>precise details of project activity and project participant, which is consistent with PDD.</p> <p>Hence CAR#01(a) is closed.</p>										
3. Whether each project participant has been authorized by at least one Party involved in a letter of approval.	Para 45 of VVS  (Section G of VVS)	<p>PP to provide the letter of Approval from the Sri Lankan DNA. Hence CAR#01(a) is raised</p> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The PPs are listed in tabular form in the PDD and information is consistent with Appendix 1 of PDD</td><td>Yes</td></tr><tr><td>No entities other than those authorized as PPs are included in A.4 &amp; Appendix 1 of the PDD.</td><td>Yes</td></tr><tr><td>The approval of participation has been issued from the relevant DNA</td><td></td></tr></table> <p>The Host Country Approval from the DNA of Sri Lanka is submitted to the Validation Team. The validation team confirms after reviewing the LoA from respective DNA that it authorizes the project participant, which is consistent with PDD.</p> <p>Hence CAR#01(a) is closed.</p>	Validation Criteria	Yes/No	The PPs are listed in tabular form in the PDD and information is consistent with Appendix 1 of PDD	Yes	No entities other than those authorized as PPs are included in A.4 & Appendix 1 of the PDD.	Yes	The approval of participation has been issued from the relevant DNA		CAR#01(a)	OK
Validation Criteria	Yes/No											
The PPs are listed in tabular form in the PDD and information is consistent with Appendix 1 of PDD	Yes											
No entities other than those authorized as PPs are included in A.4 & Appendix 1 of the PDD.	Yes											
The approval of participation has been issued from the relevant DNA												
4. The DNA has considered whether the proposed CDM project activity assists the host Party in achieving sustainable development	Para 50 of VVS  (Section H of VVS)	<p>PP to provide the letter of Approval from the Sri Lankan DNA. Hence CAR#01(a) is raised</p> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The LoA (host Party) confirms the same</td><td>Yes</td></tr></table> <p>The validation team confirms after reviewing the LoA from respective DNA that it contributes to sustainable development,</p>	Validation Criteria	Yes/No	The LoA (host Party) confirms the same	Yes	CAR#01(a)	OK				
Validation Criteria	Yes/No											
The LoA (host Party) confirms the same	Yes											





		which is consistent with PDD.  Hence CAR#01(a) is closed.		
5. Modalities of communications 5.1 Validation the corporate identity of all project participants and focal points included in the Modalities of Communication (MoC) statement, as well as the personal identities, including specimen signatures and employment status, of their authorized signatories. 5.2 Validation that the MoC statement has been correctly completed and duly authorized.	Para 53 of VVS  (Section I of VVS)          Para 59 of VVS	The modalities of communication (MoC) for the given project activity was not received.	CAR#01(b)	OK
		Validation Criteria	Yes/No	
		Directly checked the evidence for corporate, personal identity and other relevant documentation	NO	
		Notarized documentation; or	NO	
		Written confirmation from PP/CME that submits to it the MoC statement that all corporate and personal details, including specimen signature, are valid and accurate	NO	
		MoC is received from PP/CME (except in the case of Notarized)	NO	
		The authorized capacity(ies) of personnel submitting the MoC or written confirmation is checked	NO	
		Validation Criteria	Yes/No	
		Latest version of the form 'F-CDM-MOC' is used	NO	
		The information required as per F-CDM-MOC, including its Annex 1, is correctly filled	NO	



		<table><tr><td>The signatory in F-CDM-MOC and Annex 1 are same/consistent</td><td>NO</td><td>/DR/</td></tr></table>	The signatory in F-CDM-MOC and Annex 1 are same/consistent	NO	/DR/		
The signatory in F-CDM-MOC and Annex 1 are same/consistent	NO	/DR/					
		The MoC provided conform to the requirements laid out by VVS V05.0.					
6. Whether the PDD was completed using the latest version of the PDD form appropriate to the type of project activity.	Para 62 of VVS  (Section J of VVS)	Yes, the PDD follows the latest version of PDD form “Project Design Document Form For Small-Scale CDM Project Activities: (F-CDM-SSC-PDD) ,version 04.1		OK	OK		
7. State the project participants listed in the PDD and check with which of these project participants does KBS have a contract for the projects validation.	Para 15 of PCP	The name of project participant listed in Appendix-I and section A.4 of the published PDD is Senok Wind Resource Pvt. Ltd.. KBS has the direct contractual agreement with Senok Wind Resource Pvt. Ltd.		OK	OK		
		<table><tr><td>Name of the PPs appears in the PDD (GSP) with which KBS has validation contract</td><td>Yes/No</td></tr></table>	Name of the PPs appears in the PDD (GSP) with which KBS has validation contract			Yes/No	
		Name of the PPs appears in the PDD (GSP) with which KBS has validation contract	Yes/No				
<table><tr><td>Senok Wind Resource Pvt. Ltd.</td><td>Yes</td></tr></table>	Senok Wind Resource Pvt. Ltd.	Yes					
Senok Wind Resource Pvt. Ltd.	Yes						
7.1. If the project participant(s) listed in the PDD published at international stakeholder consultation are not included in the PDD submitted with request for registration, a letter should be obtained from the withdrawn project participant(s) confirming its voluntary withdrawal from the proposed project activity.	Para 15 of PCP	No inclusion or withdrawal of project participant listed in PDD uploaded for global stakeholder consultation process.		OK	OK		
		<table><tr><td>Name of the PPs in the PDD (RFR) with which KBS has validation contract is consistent with the one in PDD (GSP)</td><td>Yes/No</td></tr></table>	Name of the PPs in the PDD (RFR) with which KBS has validation contract is consistent with the one in PDD (GSP)			Yes/No	
		Name of the PPs in the PDD (RFR) with which KBS has validation contract is consistent with the one in PDD (GSP)	Yes/No				
		<table><tr><td>Is there any PP removed between PDD (GSP) and PDD (RFR)</td><td>No</td></tr></table>	Is there any PP removed between PDD (GSP) and PDD (RFR)			No	
Is there any PP removed between PDD (GSP) and PDD (RFR)	No						
<table><tr><td>If yes, has such voluntary withdrawal is confirmed in</td><td>NA</td></tr></table>	If yes, has such voluntary withdrawal is confirmed in	NA					
If yes, has such voluntary withdrawal is confirmed in	NA						



		writing from the PP.			
7.2. Confirm while submitting a request for registration – all of the project participants with a contractual relationship are still listed in the PDD.	Para 15 of PCP	KBS has entered into contractual relationship with Senok Wind Resource Pvt. Ltd., and same is listed in section A.4 and Appendix 1 of the PDD.	Ok	Ok	
7.3. Project participants who are listed in the PDD (submitted for global stakeholder consultation) but who do not have a contractual relationship with KBS for the purposes of the validation activity may be removed from the PDD which is submitted for registration	Para 15 of PCP	No issues in this regard.	OK	OK	
7.4. KBS may restart the validation activity through the new or revised contract with a different set of project participants by; a. Indicating that the first validation contract has been terminated and; b. Republishing the PDD or revised PDD for global stakeholder consultation.	Para 16 of PCP	Not Applicable	OK	OK	

**Table 2 –Validation Requirements for Clean Development Mechanism (CDM) Project Activities (Section K to N (and section VIII) of CDM VVS and relevant paragraphs of CDM PS)**

Checklist Question(s)	Ref	MoV*	Validation Assessment	Conclusion	
				Draft	Final
SECTION A. Description of Project Activity					
A.0. Cover page of PDD					



A.0.1Is the cover page of the PDD is correctly and completely filled?	PDD Page 5	/DR/	<p>The cover page of the PDD is correctly and completely filled in accordance with “Guidelines for Completing the Project Design Document”, version-01.0”.</p> <p>The title of the project activity mentioned is “Mampuri Wind Power Project 3”. The uniqueness of the title was verified by checking the same on UNFCCC website i.e. <a href="http://cdm.unfccc.int/Projects/Validation/index.html">http://cdm.unfccc.int/Projects/Validation/index.html</a></p> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>Title of the project activity</td><td>Yes</td></tr><tr><td>Version number of the PDD</td><td>Yes</td></tr><tr><td>Completion date of the PDD</td><td>Yes</td></tr><tr><td>Project participant(s)</td><td>Yes</td></tr><tr><td>Host Party(ies)</td><td>Yes</td></tr><tr><td>Sectoral scope and selected methodology(ies)</td><td>Yes</td></tr><tr><td>Estimated amount of annual average GHG emission reductions</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	Title of the project activity	Yes	Version number of the PDD	Yes	Completion date of the PDD	Yes	Project participant(s)	Yes	Host Party(ies)	Yes	Sectoral scope and selected methodology(ies)	Yes	Estimated amount of annual average GHG emission reductions	Yes	OK	OK
Validation Criteria	Yes/No																				
Title of the project activity	Yes																				
Version number of the PDD	Yes																				
Completion date of the PDD	Yes																				
Project participant(s)	Yes																				
Host Party(ies)	Yes																				
Sectoral scope and selected methodology(ies)	Yes																				
Estimated amount of annual average GHG emission reductions	Yes																				
A.1. Purpose and general description of the project activity																					
A.1.1 Does the Section A.1 of PDD contains information as required by CDM PS?	Para 31 of PS	/DR/	<p>The proposed project activity is installation and operation of 5X 2.1 MW Wind Turbine Generators (WTGs) with aggregated installed capacity of 10.5 MW in located in Mampuri and Nawakkadu villages, Kalpitiya-Local Division, Province-North of Sri Lanka.</p> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>Describe the purpose of the project activity, including a summary of the scope of activities/measures that are to be implemented within the project activity</td><td>Yes</td></tr><tr><td>Explain how the project activity will reduce GHG emissions or increase GHG removals</td><td>Yes</td></tr><tr><td>Indicate the sectoral scope(s) and type of the project activity</td><td>Yes</td></tr><tr><td>Explain the contribution of the project activity to sustainable development</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	Describe the purpose of the project activity, including a summary of the scope of activities/measures that are to be implemented within the project activity	Yes	Explain how the project activity will reduce GHG emissions or increase GHG removals	Yes	Indicate the sectoral scope(s) and type of the project activity	Yes	Explain the contribution of the project activity to sustainable development	Yes	OK	OK						
Validation Criteria	Yes/No																				
Describe the purpose of the project activity, including a summary of the scope of activities/measures that are to be implemented within the project activity	Yes																				
Explain how the project activity will reduce GHG emissions or increase GHG removals	Yes																				
Indicate the sectoral scope(s) and type of the project activity	Yes																				
Explain the contribution of the project activity to sustainable development	Yes																				



A.1.2 Does the Section A.1 of PDD contains additional information as required and Guidance for completing the PDD Form?	PDD Page 5	/DR/	<div>The PDD mentions that the project activity is a Greenfield power project and in absence of the project activity equivalent amount of electricity would have been generated in the state electricity grid.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>Scenario existing prior to the implementation of the project activity</td><td>Yes</td></tr><tr><td>Baseline scenario as identified in Section B.4 of PDD</td><td>Yes</td></tr><tr><td>Estimate of annual average and total GHG emission reductions for the chosen crediting period</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	Scenario existing prior to the implementation of the project activity	Yes	Baseline scenario as identified in Section B.4 of PDD	Yes	Estimate of annual average and total GHG emission reductions for the chosen crediting period	Yes	OK	OK
Validation Criteria	Yes/No												
Scenario existing prior to the implementation of the project activity	Yes												
Baseline scenario as identified in Section B.4 of PDD	Yes												
Estimate of annual average and total GHG emission reductions for the chosen crediting period	Yes												
A.1.3 Is the description of the proposed project activity in the PDD is accurate, complete, and provides an understanding of the proposed CDM project activity?	Para 64-67 of VVS	/DR/	<div>The description of the proposed project activity in the PDD is accurate, complete, and provides an understanding of the proposed CDM project activity.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>Is the proposed CDM project activity at existing facilities or utilizing existing equipments?</td><td>No</td></tr><tr><td>Is the physical site visit undertaken?</td><td>Yes</td></tr><tr><td>Is the type of project activity correctly indicated, if small scale project activity (else write not applicable)?</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	Is the proposed CDM project activity at existing facilities or utilizing existing equipments?	No	Is the physical site visit undertaken?	Yes	Is the type of project activity correctly indicated, if small scale project activity (else write not applicable)?	Yes	Pending on Site Visit	OK
Validation Criteria	Yes/No												
Is the proposed CDM project activity at existing facilities or utilizing existing equipments?	No												
Is the physical site visit undertaken?	Yes												
Is the type of project activity correctly indicated, if small scale project activity (else write not applicable)?	Yes												
A.1.4 If the project activity involves the alternation of an existing installation or process, does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	Para 68 of VVS	/DR/	<div>Not applicable as PDD claims that project activity is a Greenfield project at site where no power being generated prior to project activity and does not involve any alteration of existing installation or process. However, the same need to be verified during site visit and by document review.</div> <div>The same was verified during the site visit on and by verifying the purchase orders.</div>	Pending on Site Visit	OK								
A.1.5 Is all information provided consistent and in compliance with the actual situation or planning?	Para 69(a) of VVS	/DR/	Based on site visit observation and document review, validation team concludes that all the information with respect to project description deemed accurate and complete.	Pending on Site Visit	OK								
A.1.6 Is all information with respect to project description deemed accurate and complete?	Para 69(b) of	/DR/	Based on site visit observation and document review, validation team concludes that all the information with respect to project description deemed	Pending on Site	OK								



	VVS		accurate and complete.	Visit									
A.1.7 If a physical site visit is not conducted, is it justified appropriately?	Para 69I of VVS	/DR/	The validation team has conducted site visit on 07/04/2014 and 08/04/2014.	Pending on Site Visit	OK								
A.2. Location of project activity													
A.2.1 Is the host Party(ies) correctly indicated in the PDD?	A.2 of PDD	/DR/	The PP has correctly identified host country as Sri Lanka, which is consistent with other sections of the PDD.	OK	OK								
A.2.2 Is the Region/State/Province etc., correctly indicated in the PDD?	A.2 of PDD	/DR/	The PDD has correctly identified and indicated the province as North-Western Province.	OK	OK								
A.2.3 Is the City/Town/Community etc., correctly indicated in the PDD?	A.2 of PDD	/DR/	The PDD has correctly identified and indicated the city/town as District-Puttalam, Local Division-Kalpitiya, Mawapuri and Nawakkadu villages.	OK	OK								
A.2.4 Is the Physical/Geographical location correctly indicated in the PDD?	A.2 of PDD		<div>The information on location of the project activity is being provided appropriately, which includes province, city and sub-district.</div> <div>The geo-coordinates of the project site provided in correct format i.e. degree, minute and second.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>Information allow the unique identification of the proposed project activity i.e., geographical coordinates</td><td>Yes</td></tr><tr><td>Is map included in the PDD?</td><td>Yes</td></tr><tr><td>Is the description of location is limited to one page?</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	Information allow the unique identification of the proposed project activity i.e., geographical coordinates	Yes	Is map included in the PDD?	Yes	Is the description of location is limited to one page?	Yes	OK	OK
Validation Criteria	Yes/No												
Information allow the unique identification of the proposed project activity i.e., geographical coordinates	Yes												
Is map included in the PDD?	Yes												
Is the description of location is limited to one page?	Yes												
A.3. Technologies and/or measures													



A.3.1 Does the PDD defines the technologies and measures to be employed and/or implemented by the project activity,  including a list of the facilities, systems and equipment that will be installed and/or modified by the project activity?	A.3 of PDD	/DR/	<p>The project entails installation of 5 no. of WTG of 2.1 MW capacity. The project will displace the fossil fuel dominated electricity and supply it to the grid. The flow diagram of the project activity and technical description is included and is confirmed from the technology supplier brochure and found to be ok.</p> <p>However, the project details mentioned in the PDD needs to be verified during site visit</p> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The age and average lifetime of the equipment defined based on manufacturer's specifications and industry standards</td><td>Yes</td></tr><tr><td>Existing and forecast installed capacities, load factors and efficiencies defined</td><td>Yes</td></tr><tr><td>Monitoring equipments and locations are defined.</td><td>Yes</td></tr><tr><td>Energy and mass flows and balances of system and equipments included in the project activity</td><td>NA</td></tr><tr><td>Is description complete with regards to as how the same types and levels of services provided by the project activity would have been provided in the baseline scenario</td><td>Yes</td></tr></table> <p>The above information was verified during site visit conducted.</p>	Validation Criteria	Yes/No	The age and average lifetime of the equipment defined based on manufacturer's specifications and industry standards	Yes	Existing and forecast installed capacities, load factors and efficiencies defined	Yes	Monitoring equipments and locations are defined.	Yes	Energy and mass flows and balances of system and equipments included in the project activity	NA	Is description complete with regards to as how the same types and levels of services provided by the project activity would have been provided in the baseline scenario	Yes	Pending on Site visit  CAR-02	OK
Validation Criteria	Yes/No																
The age and average lifetime of the equipment defined based on manufacturer's specifications and industry standards	Yes																
Existing and forecast installed capacities, load factors and efficiencies defined	Yes																
Monitoring equipments and locations are defined.	Yes																
Energy and mass flows and balances of system and equipments included in the project activity	NA																
Is description complete with regards to as how the same types and levels of services provided by the project activity would have been provided in the baseline scenario	Yes																
A.3.2 Does the PDD contains list of equipments in the scenario existing prior the implementation of PA and/or the baseline scenario?	A.3 of PDD	/DR/	<p>The project activity is a greenfield power project activity and thus it does not involve any existing equipment and alteration of existing installation or process.</p> <p>The prior intimation was sent for 5.6 MW however actual installed capacity of the project s 10.5 MW</p> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>Facilities, systems and equipment in operation under the existing scenario prior to the implementation of the project activity</td><td>NA</td></tr><tr><td>Facilities, systems and equipment in the baseline scenario, as established in section B.4 of PDD.</td><td>NA</td></tr></table>	Validation Criteria	Yes/No	Facilities, systems and equipment in operation under the existing scenario prior to the implementation of the project activity	NA	Facilities, systems and equipment in the baseline scenario, as established in section B.4 of PDD.	NA	CAR-02	OK						
Validation Criteria	Yes/No																
Facilities, systems and equipment in operation under the existing scenario prior to the implementation of the project activity	NA																
Facilities, systems and equipment in the baseline scenario, as established in section B.4 of PDD.	NA																





			The capacity of 10.5 MW was confirmed during site visit.													
A.3.3 Is the existing scenario prior to the implementation of the project activity same as baseline scenario identified in Section B.4 of PDD?	A.3 of PDD	/DR/ //	As per baseline scenario identified in section B.4 of the PDD, the scenario existing prior to implementation of the project activity is same as baseline scenario.		OK	OK										
A.3.4 Is the scale and type of the project activity correctly identified?	Para 31 of PS	/DR/	<table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>Sectoral scope(s) correctly indicated</td><td>Yes</td></tr><tr><td>Type of project activity correctly indicated</td><td>Yes</td></tr><tr><td>Description on environmentally safe and sound technology(ies) included</td><td>Yes</td></tr><tr><td>Description on know-how transferred to the host Party, if applicable, included.</td><td>Yes</td></tr></table>		Validation Criteria	Yes/No	Sectoral scope(s) correctly indicated	Yes	Type of project activity correctly indicated	Yes	Description on environmentally safe and sound technology(ies) included	Yes	Description on know-how transferred to the host Party, if applicable, included.	Yes	OK	OK
Validation Criteria	Yes/No															
Sectoral scope(s) correctly indicated	Yes															
Type of project activity correctly indicated	Yes															
Description on environmentally safe and sound technology(ies) included	Yes															
Description on know-how transferred to the host Party, if applicable, included.	Yes															
A.4. Party(ies) and project participant(s)																
A.4.1.Is the table required for the indication of Party(ies) and project participant(s) correctly applied?	Para 33 of PS  A.4 of PDD	/DR/	The table required for indication of project participant is correctly filled as per “Guidelines for Completing the Project Design Document”, version-01.0 EB66, Annex-8 and is consistent with Appendix-1.		OK	OK										
A.4.2.Is all information provided in consistency with details provided by further chapters of the PDD (in particular Appendix 1)?	A.4 of PDD	/DR/	<p>The information regarding the project participants included in section A.4 and appendix-1 of the PDD has been checked by the validation team and the both the sections were found to be consistent with each other and filled in the correct format.</p> <p>However, the project participant’s details to be verified with letter of approval from host country. Please refer to CAR#01(a) raised above.</p>		CAR#01 (a)	OK										
A.5. Public funding of project activity																



A.5.1.Does the information on public funding provided conform to the actual situation or planning as presented by the project participant(s)?	A.5 of PDD	/DR/	<div>The PP has indicated no use of public funding or ODA from Annex-I countries for the project activity, the same has been confirmed with the supportive provided against the inputs used in financial analysis.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>Does project receives any public funding?</td><td>No</td></tr><tr><td>Is the funding from Parties included in Annex I to Kyoto Protocol?</td><td>NA</td></tr><tr><td>If yes, information regarding public funding is provided?</td><td>NA</td></tr></table>	Validation Criteria	Yes/No	Does project receives any public funding?	No	Is the funding from Parties included in Annex I to Kyoto Protocol?	NA	If yes, information regarding public funding is provided?	NA	OK	OK				
Validation Criteria	Yes/No																
Does project receives any public funding?	No																
Is the funding from Parties included in Annex I to Kyoto Protocol?	NA																
If yes, information regarding public funding is provided?	NA																
A.5.2.Is all information provided consistent with details provided by further chapters of the PDD (in particular Appendix 2)?	A.5 of PDD	/DR/	Information provided in section A.5 of the PDD is consistent with Appendix-2.	OK	OK												
A.5.3 In case of public funding from Annex I Parties, is it confirmed that such funding does not result in a diversion of official development assistance?	Para 34 of PS	/DR/	Not Applicable	OK	OK												
A.6. Debundling of project activity (section for SSC PAs)																	
A.6.1. Is it confirmed that proposed project activity is not a debundled component of large scale project activities?	A.6 of PDD	/DR/	<div>The PDD mentions that proposed project activity is not a de-bundled component of a larger scale project activity.</div> <div>However, the web page of Senok shows that the company is planning to install 30MW wind power project at project site.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>Is there any registered CDM, including requested for registration, project activity with the same PPs?</td><td>No</td></tr><tr><td>Is it in the same project category and technology/measure?</td><td>No</td></tr><tr><td>Is it registered, including requested for registration, within previous 2 years</td><td>No</td></tr><tr><td>Is the project boundary within 1 km of the project boundary of proposed small scale activity at the closest point?</td><td>No</td></tr><tr><td>If the answer to above questions is yes but it is confirmed the combined capacity of previous projects is within the SSC thresholds for that type? (else write not applicable)</td><td>NA</td></tr></table>	Validation Criteria	Yes/No	Is there any registered CDM, including requested for registration, project activity with the same PPs?	No	Is it in the same project category and technology/measure?	No	Is it registered, including requested for registration, within previous 2 years	No	Is the project boundary within 1 km of the project boundary of proposed small scale activity at the closest point?	No	If the answer to above questions is yes but it is confirmed the combined capacity of previous projects is within the SSC thresholds for that type? (else write not applicable)	NA	CL-03	OK
Validation Criteria	Yes/No																
Is there any registered CDM, including requested for registration, project activity with the same PPs?	No																
Is it in the same project category and technology/measure?	No																
Is it registered, including requested for registration, within previous 2 years	No																
Is the project boundary within 1 km of the project boundary of proposed small scale activity at the closest point?	No																
If the answer to above questions is yes but it is confirmed the combined capacity of previous projects is within the SSC thresholds for that type? (else write not applicable)	NA																



			Is the assessment complies with the latest version of “Guidelines on assessment of de-bundling for SSC project activities”	CL 03										
A.6.2. Is it confirmed that requirements related to Type I projects have been assessed appropriately?		/DR/	<div>The proposed project activity is 10.5 MW wind power project activity, the project activity will generate electricity by utilizing renewable resource. As the installed capacity of proposed project activity is less than 15MW threshold is eligible to use small scale methodology, and falls under Type-I, renewable energy project. The PDD has correctly identified the type and scale of the project.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>It has been confirmed how Type I projects are not debundled component of large scale project activity in case two or more projects are taking place within 1 km by the same project participants</td><td>CL 03</td></tr></table> <div>Project is not a debundled component of a large scale project.</div>	Validation Criteria	Yes/No	It has been confirmed how Type I projects are not debundled component of large scale project activity in case two or more projects are taking place within 1 km by the same project participants	CL 03		CL-03	OK				
Validation Criteria	Yes/No													
It has been confirmed how Type I projects are not debundled component of large scale project activity in case two or more projects are taking place within 1 km by the same project participants	CL 03													
A.6.3. Is it confirmed that requirements related to transport projects have been assessed appropriately?		/DR/	<div>Not Applicable as the project activity is not a transport project activity</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The assessment is done by excluding the criteria of within 1 km.</td><td>NA</td></tr><tr><td>It is confirmed that project is not a debundled component of large scale project activity.</td><td>NA</td></tr></table>	Validation Criteria	Yes/No	The assessment is done by excluding the criteria of within 1 km.	NA	It is confirmed that project is not a debundled component of large scale project activity.	NA		OK	OK		
Validation Criteria	Yes/No													
The assessment is done by excluding the criteria of within 1 km.	NA													
It is confirmed that project is not a debundled component of large scale project activity.	NA													
A.7. Bundling of project activity (section for SSC PAs)														
A.7.1. Is it confirmed that proposed project activity is a bundled project activity?	Para 9 of PDD	/DR/	<div>The project is not a bundled project as there is only one site and single project participant. Refer CAR above.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The project activity is a bundled project activity.</td><td>No</td></tr><tr><td>The F-CDM-SSC-BUN correctly is provided?</td><td>NA</td></tr><tr><td>The project confirms to the General principles of bundling</td><td>NA</td></tr></table>	Validation Criteria	Yes/No	The project activity is a bundled project activity.	No	The F-CDM-SSC-BUN correctly is provided?	NA	The project confirms to the General principles of bundling	NA		OK	OK
Validation Criteria	Yes/No													
The project activity is a bundled project activity.	No													
The F-CDM-SSC-BUN correctly is provided?	NA													
The project confirms to the General principles of bundling	NA													
SECTION B. Application of selected applied/approved baseline and monitoring methodology														
B.1. Reference of methodology														



B.1.1 Is the reference to the selected methodology consistent with the CDM website?	B.1 of PDD  Para 35 of PS	/DR/	<p>The project activity has applied AMS I.D (grid connected renewable electricity generation), version 17, EB 61.The reference to the selected methodology is consistent with the CDM website which was the latest version of applied methodology available at UNFCCC site. The same has been cross checked using link below</p> <p><a href="http://cdm.unfccc.int/methodologies/SSCmethodologies/approved">http://cdm.unfccc.int/methodologies/SSCmethodologies/approved</a></p> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The number of the selected methodology is correct</td><td>Yes</td></tr><tr><td>The title of the selected methodology is correct</td><td>Yes</td></tr><tr><td>The version of the selected methodology is correct</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	The number of the selected methodology is correct	Yes	The title of the selected methodology is correct	Yes	The version of the selected methodology is correct	Yes	OK	OK
Validation Criteria	Yes/No												
The number of the selected methodology is correct	Yes												
The title of the selected methodology is correct	Yes												
The version of the selected methodology is correct	Yes												
B.1.2 Is the reference to any tools, standards or guidelines as required by the methodology provided?	Para 36 of PS	/DR/	<p>The PDD has applied all the relevant tools and guidelines with consistent versions of tools as prescribed by applied approved methodology AMS I.D version17, mentioned in the PDD.</p> <p>The tools used in PDD at the time of uploading of PDD for global stakeholder comments were:</p> <ol style="list-style-type: none"><li>1. Tool to calculate the emission factor for an electricity system version 3.0.</li><li>2. Guidelines on the Assessment of Investment Analysis Version-05, Annex-5 of EB62 Report</li><li>3. General guidelines for SSC CDM methodologies, Version 19, EB 69, Annex 27.</li></ol> <p>The version and title of tools applied are consistent and latest as available on UNFCCC website.</p> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The title of tools/guidelines/standards is correct</td><td>Yes</td></tr><tr><td>The version of tools/guidelines/standards is correct</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	The title of tools/guidelines/standards is correct	Yes	The version of tools/guidelines/standards is correct	Yes	OK	OK		
Validation Criteria	Yes/No												
The title of tools/guidelines/standards is correct	Yes												
The version of tools/guidelines/standards is correct	Yes												



B.1.3 Is the selected methodology and referenced tools/standards/guidances are valid at the time of request for registration?	Para 70-71, 75 VVS	/DR/	<div>The final PDD has applied the latest version of the applied methodology and tool/guidance referenced in methodology. The same has been checked from UNFCCC website.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The selected methodology is valid at request for registration</td><td>Yes</td></tr><tr><td>The reference tools/guidelines/standards/EB decision are applied correctly</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	The selected methodology is valid at request for registration	Yes	The reference tools/guidelines/standards/EB decision are applied correctly	Yes	OK	OK								
Validation Criteria	Yes/No																		
The selected methodology is valid at request for registration	Yes																		
The reference tools/guidelines/standards/EB decision are applied correctly	Yes																		
B.2. Applicability of methodology and/or Project activity eligibility																			
B.2.1 Does the PDD contains information as why the selected approved methodology applicable to the project activity?	Para 38 of PS  B.2 of PDD	/DR/	<div>The PP has used approved baseline and monitoring methodology AMS I.D version 17 in PDD.</div> <div>The proposed project activity is renewable resource (wind) based power generation project with installed capacity 10.5MW. The net electricity generated from the project activity will be sold to the grid.</div> <div>The PDD has correctly identified and demonstrated the applicability of project activity within the applicable criteria of the methodology.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>All applicability conditions of selected methodology included</td><td>Yes</td></tr><tr><td>Applicability conditions are consistent with the selected methodology(ies)</td><td>Yes</td></tr><tr><td>Justification for each applicability conditions is provided</td><td>Yes</td></tr><tr><td>All applicability conditions of referred tools/standards/guidelines included</td><td>Yes</td></tr><tr><td>Applicability conditions are consistent with the referred tools/standards/guidelines</td><td>Yes</td></tr><tr><td>Justification for each applicability conditions is provided</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	All applicability conditions of selected methodology included	Yes	Applicability conditions are consistent with the selected methodology(ies)	Yes	Justification for each applicability conditions is provided	Yes	All applicability conditions of referred tools/standards/guidelines included	Yes	Applicability conditions are consistent with the referred tools/standards/guidelines	Yes	Justification for each applicability conditions is provided	Yes	OK	OK
Validation Criteria	Yes/No																		
All applicability conditions of selected methodology included	Yes																		
Applicability conditions are consistent with the selected methodology(ies)	Yes																		
Justification for each applicability conditions is provided	Yes																		
All applicability conditions of referred tools/standards/guidelines included	Yes																		
Applicability conditions are consistent with the referred tools/standards/guidelines	Yes																		
Justification for each applicability conditions is provided	Yes																		
B.2.2Is the justification provided in the PDD based correctly quoted and interpreted?	Para 76 of VVS  B.2 of	/DR/	<div>The PDD has described the applicability conditions of the applied small scale methodology AMS I.D, version 17 and the project compliance against the conditions therein.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>Justification against each applicability conditions is critically</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	Justification against each applicability conditions is critically	Yes	OK	OK										
Validation Criteria	Yes/No																		
Justification against each applicability conditions is critically	Yes																		



	PDD		explained/substantiated in B.2 of PDD			
			Is explanation of documentation used consistent with Appendix 3 of PDD, if used	Yes		
			The information in PDD is compared/cross checked with other sources, if available, using local expertise and sectoral expert	Yes		
B.2.3 Is the applicability of the selected methodology satisfied/met?	Para 76 of VVS	/DR/	The project activity satisfies the applicability criteria of applied methodology AMS I.D version 17.		OK	OK
	Para 78, 81 of VVS		Validation Criteria	Yes/No		
			The selected methodology is applicable to project activity	Yes		
			Is there any deviation from methodology found or applied	Yes		
			Is there any clarification that has been sought or applied in the project activity	Yes		
B.2.4 Is it confirmed that the project activity meets the SSC eligibility requirements?	Para 81 of PS	/DR/	The project activity is the installation of a 10.5 MW Wind based power plant and conforms to eligibility of small scale project activity		OK	OK
	B.2 of PDD		Validation Criteria	Yes/No		
			The PDD contains complete and accurate description of project type(s) i.e., Type I, II and/or III	Yes		
			If Type I project activity, the maximum output capacity does not exceed 15 MW(e) and such capacity of generator in case turbine-generator systems are used (more electrical or mechanical systems).	Yes		
	Para 150 of VVS		If Type I project activity, the maximum capacity does not exceed 45 MWth for biomass, biofuels and biogas projects (for thermal systems)	NA		
			If case of thermal application of solar energy projects the maximum output does not exceed 64,000 m2 for flat plate or evacuated tubular collector.	NA		
			If Type II project activity, the maximum output capacity does not exceed 60 GWh (e) per year or an appropriate equivalent e.g. 180 GWh (th) per year	NA		
			If Type III project activity, the GHG emission reductions does not exceed 60,000 tCO2e per year in any year of the crediting period	NA		
			If project activity uses more than one component, it is confirmed	NA		



			<table><tr><td>that each component is within the thresholds for each type</td><td></td></tr><tr><td>The project activity confirms to the requirements of latest version of “General guidelines to SSC CDM methodologies”</td><td>Yes</td></tr></table>	that each component is within the thresholds for each type		The project activity confirms to the requirements of latest version of “General guidelines to SSC CDM methodologies”	Yes										
that each component is within the thresholds for each type																	
The project activity confirms to the requirements of latest version of “General guidelines to SSC CDM methodologies”	Yes																
<b>B.3. Project boundary</b>																	
B.3.1 Does the project boundary include the physical delineation of the proposed CDM project activity?	B.3 of PDD	/DR/	<p>The PDD has identified the project boundary as all the power plants connected to CEB grid and the wind project employed as project activity. The project boundary including physical delineation of the project activity is presented in PDD.</p> <p>The same was confirmed after site visit.</p> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The flow diagram of the project boundary included</td><td>Yes</td></tr><tr><td>The flow diagram consistent with the information in section A.3 of PDD</td><td>Yes</td></tr><tr><td>The flow diagram indicates the GHG sources included in the project boundary</td><td>Yes</td></tr><tr><td>The data and parameters to be monitored are indicated</td><td>Yes</td></tr><tr><td>The project boundary information consistent with situation observed during physical site visit, if conducted</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	The flow diagram of the project boundary included	Yes	The flow diagram consistent with the information in section A.3 of PDD	Yes	The flow diagram indicates the GHG sources included in the project boundary	Yes	The data and parameters to be monitored are indicated	Yes	The project boundary information consistent with situation observed during physical site visit, if conducted	Yes	Pending on Site Visit	OK
Validation Criteria	Yes/No																
The flow diagram of the project boundary included	Yes																
The flow diagram consistent with the information in section A.3 of PDD	Yes																
The flow diagram indicates the GHG sources included in the project boundary	Yes																
The data and parameters to be monitored are indicated	Yes																
The project boundary information consistent with situation observed during physical site visit, if conducted	Yes																
B.3.2 Are all emission sources and gases related to the baseline scenario, project scenario clearly identified and described in project boundary in a complete and transparent manner?	Para 40 of PS  B.2 of PDD	/DR/	<p>The emission sources and gasses and project emissions related to the project boundary have been included in the relevant section of the PDD.</p> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The table included for GHG sources included</td><td>Yes</td></tr><tr><td>The inclusion/exclusion is justified for GHG sources in the PDD</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	The table included for GHG sources included	Yes	The inclusion/exclusion is justified for GHG sources in the PDD	Yes	Ok	OK						
Validation Criteria	Yes/No																
The table included for GHG sources included	Yes																
The inclusion/exclusion is justified for GHG sources in the PDD	Yes																





B.3.3 Is the project boundary consistent with the observations made during site visit.	Para 83, 84 of VVS	/DR/	<div>Yes, the project boundary consistent with the observations made during site visit.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The project boundary is based on objective evidences</td><td>Yes</td></tr><tr><td>The project boundary as defined in the PDD is consistent with the observation made during site visit</td><td>Yes</td></tr><tr><td>The inclusion/exclusion of the GHG sources is based on objective evidences, wherever possible</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	The project boundary is based on objective evidences	Yes	The project boundary as defined in the PDD is consistent with the observation made during site visit	Yes	The inclusion/exclusion of the GHG sources is based on objective evidences, wherever possible	Yes	OK	OK
Validation Criteria	Yes/No												
The project boundary is based on objective evidences	Yes												
The project boundary as defined in the PDD is consistent with the observation made during site visit	Yes												
The inclusion/exclusion of the GHG sources is based on objective evidences, wherever possible	Yes												
B.3.4. Are there emission sources that will be affected by the implementation of the proposed project activity and which are expected to contribute more than 1% of the overall expected average annual emissions reductions, and are not addressed by the selected approved methodology?	Para 87 of VVS	/DR/	<div>As described in PDD there is no source of GHG emissions occurring within the project boundary as a result of the implementation of the proposed project which are expected to contribute more than 1% of the overall expected average annual ERs. All the machineries and equipments used in the project boundary are to be operated with the renewable sources of energy.</div> <div>The same was confirmed during the site visit and based on the local and sectoral expertise of validation team.</div>	OK	OK								
B.4. Establishment and description of baseline scenario													
B.4.1. Does the PDD discuss the identification of the most likely baseline scenario? Does the PDD follow the steps to determine the baseline scenario required by the methodology/tool and has the application of the tools as per methodology been consulted, if the Tool(s) are required by the methodology?	Para 89 of VVS	/DR/	<div>The applied approved small scale methodology AMS I.D version-17.0, the applied methodology itself has prescribed the most likely baseline scenario for the renewable resource based grid connected Greenfield power plant as “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 into the grid”.</div> <div>The PDD has correctly identified the baseline scenario for the project activity, which is in line with applied methodology</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The procedure contained in the methodology to identify the most reasonable baseline scenario has been correctly applied?</td><td>Yes</td></tr><tr><td>If the selected methodology requires the use of tools to establish the baseline scenario, the specific guidance in the methodology supersedes the corresponding requirements of the tool.</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	The procedure contained in the methodology to identify the most reasonable baseline scenario has been correctly applied?	Yes	If the selected methodology requires the use of tools to establish the baseline scenario, the specific guidance in the methodology supersedes the corresponding requirements of the tool.	Yes	OK	OK		
Validation Criteria	Yes/No												
The procedure contained in the methodology to identify the most reasonable baseline scenario has been correctly applied?	Yes												
If the selected methodology requires the use of tools to establish the baseline scenario, the specific guidance in the methodology supersedes the corresponding requirements of the tool.	Yes												



B.4.2. Are all potential realistic and credible alternative scenarios listed in the methodology considered in identification of the most reasonable baseline scenario? Are all scenarios reasonable in the con-text of the proposed CDM project and no reasonable alternative scenario has been excluded?	Para 90 of VVS	/DR/	<div>The PDD has correctly identified the baseline scenario as stipulated in applied approved small scale methodology AMS I.D version-17.0. The scenario identified in section B.4 of the PDD are appropriate and in compliance in context of the project activity.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The alternative scenarios considered by the project participants and any scenarios that are supplementary to those required by the methodology, are realistic and credible in the context of the proposed project activity.</td><td>Yes</td></tr><tr><td>The identified alternative scenarios are appropriate based on financial expertise, local and sectoral knowledge of the assessment team.</td><td>Yes</td></tr><tr><td>No alternative scenario has been excluded.</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	The alternative scenarios considered by the project participants and any scenarios that are supplementary to those required by the methodology, are realistic and credible in the context of the proposed project activity.	Yes	The identified alternative scenarios are appropriate based on financial expertise, local and sectoral knowledge of the assessment team.	Yes	No alternative scenario has been excluded.	Yes	OK	OK
Validation Criteria	Yes/No												
The alternative scenarios considered by the project participants and any scenarios that are supplementary to those required by the methodology, are realistic and credible in the context of the proposed project activity.	Yes												
The identified alternative scenarios are appropriate based on financial expertise, local and sectoral knowledge of the assessment team.	Yes												
No alternative scenario has been excluded.	Yes												
B.4.3 Is there a verifiable description of the baseline scenario? Does this include a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity?	Para 91, 92 of VVS	/DR/	<div>The applied methodology AMS I.D version 17 does not require alternative scenarios to be considered and itself prescribes the baseline scenario for new grid-connected renewable power plant. The identified baseline is in accordance with the requirement stipulated in the applied methodology considering the context of the project activity as Greenfield.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The information (assumptions, calculations, rationales used in the PDD) used to substantiate the most plausible baseline scenario is quoted and interpreted correctly.</td><td>Yes</td></tr><tr><td>The information (as mentioned above) has been crosschecked from other sources and/or with local expert.</td><td>Yes</td></tr><tr><td>The PDD provides a description of the identified baseline scenario, including a description of the technology that would be employed</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	The information (assumptions, calculations, rationales used in the PDD) used to substantiate the most plausible baseline scenario is quoted and interpreted correctly.	Yes	The information (as mentioned above) has been crosschecked from other sources and/or with local expert.	Yes	The PDD provides a description of the identified baseline scenario, including a description of the technology that would be employed	Yes	OK	OK
Validation Criteria	Yes/No												
The information (assumptions, calculations, rationales used in the PDD) used to substantiate the most plausible baseline scenario is quoted and interpreted correctly.	Yes												
The information (as mentioned above) has been crosschecked from other sources and/or with local expert.	Yes												
The PDD provides a description of the identified baseline scenario, including a description of the technology that would be employed	Yes												
B.4.4. Have all applicable CDM requirements been taken into account in the identification of the baseline scenario, including relevant national and/or sectoral policies and circumstances?	Para 93 of VVS	/DR/	<div>The applicable CDM requirements have been taken into account in the identification of the baseline scenario.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>All applicable CDM requirements have been taken into account in the identification of the baseline scenario.</td><td>Yes</td></tr><tr><td>The relevant national and/or sectoral policies</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	All applicable CDM requirements have been taken into account in the identification of the baseline scenario.	Yes	The relevant national and/or sectoral policies	Yes	CAR-04	OK		
Validation Criteria	Yes/No												
All applicable CDM requirements have been taken into account in the identification of the baseline scenario.	Yes												
The relevant national and/or sectoral policies	Yes												



			<div>and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector have been considered appropriately</div> <div>The approach for the emission factor calculation is now clear and transparent in the revised documents.</div>								
B.5. Additionality											
B.5.1.Does the PDD clearly demonstrates the additionality using the approach as specified in the methodology and by following all the required steps?	B.5 of PDD	/DR/	<div>The PP has demonstrated additionality of the project activity using “Guidelines on the demonstration of additionality of small-scale project activities” EB 68, Annex 27, version 09.0 and “Guidelines on the assessment of investment analysis” EB 62, annex 5, version 5.</div> <div><div>a) Investment decision date has not been transparently mentioned in the PDD.</div><div>b) PP has provided 2 PPAs; the initial PPA is of the capacity 5.4 however the revised is for 10 MW. The scale of the project at the time of investment decision is not clear however the prior consideration sent to UNFCCC also indicates a project capacity of 5.6 MW.</div><div>c) Parameters indicated for demonstration of additionality are inconsistent with the FSR.</div><div>d) Expense of the pre-feasibility assessment has been included in the project cost. Kindly clarify.</div><div>e) The tariff rate provided in the PDD is the flat rate tariff however a variable tariff has been used for the calculations. Also tariff rate has not been considered under sensitivity analysis. Reason for the same is not understood.</div></div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The discussion on additionality is included in the PDD as per the applied methodology and/or tools referred therein</td><td>Yes</td></tr><tr><td>The compliance and outcome of each required step in the applied methodology and/or tool is indicated in clear and transparent manner in the PDD</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	The discussion on additionality is included in the PDD as per the applied methodology and/or tools referred therein	Yes	The compliance and outcome of each required step in the applied methodology and/or tool is indicated in clear and transparent manner in the PDD	Yes	CAR#05	OK
Validation Criteria	Yes/No										
The discussion on additionality is included in the PDD as per the applied methodology and/or tools referred therein	Yes										
The compliance and outcome of each required step in the applied methodology and/or tool is indicated in clear and transparent manner in the PDD	Yes										



			<table><tr><td>The method selected to demonstrate additionality (e.g. investment analysis or barrier analysis) is indicated.</td><td>Yes</td></tr><tr><td>All data used (variables, parameters, data sources, etc.), how the additionality of the project activity is demonstrated, is transparently included in the PDD</td><td>Yes</td></tr><tr><td>If investment analysis is used, list all relevant assumptions and parameters used in the analysis is included.</td><td>Yes</td></tr><tr><td>The benchmark applied, wherever applied, is clearly indicated.</td><td>Yes</td></tr><tr><td>The credible scenarios compared described where cost comparison is used.</td><td>NA</td></tr><tr><td>The barriers are substantiated for key facts, assumptions rationale and credibility in demonstrating additionality.</td><td>NA</td></tr><tr><td>The prior consideration of the CDM in accordance with applicable provisions related to the demonstration of prior consideration of the CDM included.</td><td>Yes</td></tr></table> CAR was closed as PP furnished relevant documents which substantiated.	The method selected to demonstrate additionality (e.g. investment analysis or barrier analysis) is indicated.	Yes	All data used (variables, parameters, data sources, etc.), how the additionality of the project activity is demonstrated, is transparently included in the PDD	Yes	If investment analysis is used, list all relevant assumptions and parameters used in the analysis is included.	Yes	The benchmark applied, wherever applied, is clearly indicated.	Yes	The credible scenarios compared described where cost comparison is used.	NA	The barriers are substantiated for key facts, assumptions rationale and credibility in demonstrating additionality.	NA	The prior consideration of the CDM in accordance with applicable provisions related to the demonstration of prior consideration of the CDM included.	Yes		
The method selected to demonstrate additionality (e.g. investment analysis or barrier analysis) is indicated.	Yes																		
All data used (variables, parameters, data sources, etc.), how the additionality of the project activity is demonstrated, is transparently included in the PDD	Yes																		
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The credible scenarios compared described where cost comparison is used.	NA																		
The barriers are substantiated for key facts, assumptions rationale and credibility in demonstrating additionality.	NA																		
The prior consideration of the CDM in accordance with applicable provisions related to the demonstration of prior consideration of the CDM included.	Yes																		
B.5.2. Is the discussion on the prior consideration of CDM consistent with the starting date of the project?	Para 105,106 of VVS	/DR/	<p>The start date of the project activity is mention in PDD as 19/08/2011 and the date of notification to CDM EB and DNA is made on 17/01/2012. The start date i.e. 19/08/2011 is the date of signing of supply, commissioning and warranty agreement between PP and Suzlon Energy Limited for the WTGs, which can be considered as the start date of the project activity as per glossary of CDM term.</p> <p>The project capacity in the prior consideration differs than actual.</p> <p>The PDD made public for global stakeholder comments on 21/11/2013.</p> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The start date of the project activity as indicated in the PDD conforms to the glossary of CDM terms</td><td>Yes</td></tr><tr><td>The date of publication of the PDD is prior to the start date of the project activity</td><td>No</td></tr><tr><td>The start date of the project activity is on or after 2nd August 2008</td><td>Yes</td></tr><tr><td>The start date of the project activity is before 2nd August 2008</td><td>No</td></tr><tr><td>The prior consideration of CDM is demonstrated as per the requirement</td><td>Yes</td></tr></table> From the justifications and supportive provided the intent of the PP for CDM	Validation Criteria	Yes/No	The start date of the project activity as indicated in the PDD conforms to the glossary of CDM terms	Yes	The date of publication of the PDD is prior to the start date of the project activity	No	The start date of the project activity is on or after 2nd August 2008	Yes	The start date of the project activity is before 2nd August 2008	No	The prior consideration of CDM is demonstrated as per the requirement	Yes	<del>CAR-05</del> (b)	OK		
Validation Criteria	Yes/No																		
The start date of the project activity as indicated in the PDD conforms to the glossary of CDM terms	Yes																		
The date of publication of the PDD is prior to the start date of the project activity	No																		
The start date of the project activity is on or after 2nd August 2008	Yes																		
The start date of the project activity is before 2nd August 2008	No																		
The prior consideration of CDM is demonstrated as per the requirement	Yes																		



			revenues had been from the starting is clear.																									
B.5.3. Is the start date of the project activity before 2nd Aug 2008 (the start date is prior to the date of publication of the PDD for global stakeholder consultation and new methodology is not proposed)  How is the prior consideration of CDM demonstrated?	Para 28 of PS  Para 108,109 ,110 of VVS	/DR/	No, the start date is after the 2nd August 2008; hence this step is not applicable.	OK	OK																							
			<table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The evidence of awareness of CDM prior to the project start date is provided</td><td>NA</td></tr><tr><td>The evidence of benefits of CDM were decisive factor to proceed with the project provided</td><td>NA</td></tr><tr><td>The provided evidence confirms the requirements as per para 108(a) of VVS or the latest guidance on this matter</td><td>NA</td></tr><tr><td>The continuing and real actions were taken to secure the CDM status for the project activity</td><td>NA</td></tr><tr><td>The provided evidence confirms the requirements as per para 108(b) and 109 of VVS or the latest guidance on this matter</td><td>NA</td></tr><tr><td>The gap between documented evidence is less than 2 years</td><td>NA</td></tr><tr><td>The gap between documented evidence is between greater than 2 years but less than 3 years but is justified based on the context of evidence and information assessed</td><td>NA</td></tr><tr><td>The gap between documented evidence is greater than 3 years</td><td>NA</td></tr><tr><td>The timelines based on the investment decision, construction work commencement, key purchase order places, commissioning etc., with regard to implementation are included in the PDD.</td><td>NA</td></tr><tr><td>The prior consideration of CDM is demonstrated as per the requirement</td><td>NA</td></tr></table>			Validation Criteria	Yes/No	The evidence of awareness of CDM prior to the project start date is provided	NA	The evidence of benefits of CDM were decisive factor to proceed with the project provided	NA	The provided evidence confirms the requirements as per para 108(a) of VVS or the latest guidance on this matter	NA	The continuing and real actions were taken to secure the CDM status for the project activity	NA	The provided evidence confirms the requirements as per para 108(b) and 109 of VVS or the latest guidance on this matter	NA	The gap between documented evidence is less than 2 years	NA	The gap between documented evidence is between greater than 2 years but less than 3 years but is justified based on the context of evidence and information assessed	NA	The gap between documented evidence is greater than 3 years	NA	The timelines based on the investment decision, construction work commencement, key purchase order places, commissioning etc., with regard to implementation are included in the PDD.	NA	The prior consideration of CDM is demonstrated as per the requirement	NA	
			Validation Criteria			Yes/No																						
			The evidence of awareness of CDM prior to the project start date is provided			NA																						
			The evidence of benefits of CDM were decisive factor to proceed with the project provided			NA																						
			The provided evidence confirms the requirements as per para 108(a) of VVS or the latest guidance on this matter			NA																						
			The continuing and real actions were taken to secure the CDM status for the project activity			NA																						
			The provided evidence confirms the requirements as per para 108(b) and 109 of VVS or the latest guidance on this matter			NA																						
			The gap between documented evidence is less than 2 years			NA																						
			The gap between documented evidence is between greater than 2 years but less than 3 years but is justified based on the context of evidence and information assessed			NA																						
			The gap between documented evidence is greater than 3 years			NA																						
			The timelines based on the investment decision, construction work commencement, key purchase order places, commissioning etc., with regard to implementation are included in the PDD.			NA																						
			The prior consideration of CDM is demonstrated as per the requirement			NA																						
B.5.4. For project activity with a start date on or after 2nd August 2008 (for which the start date is prior to the date of publication of the PDD for global stakeholder consultation and new meth is not proposed)  How is the prior consideration of CDM demonstrated?	Para 27 of PS  Para 107 of VVS	/DR/	The start date of the project activity is 19/08/2011 which is the date of purchase order for installation of 10.5 MW of WTG. The same has been confirmed from the PO raised by PP. PP has intimated the UNFCCC and MOEF about the CDM project activity which is within 6 months as per Guidelines on the demonstration and assessment of prior consideration of the CDM”, Version 04, EB 62.	OK	OK																							
			<table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The prior consideration of CDM was notified to host Party DNA and UNFCCC as per the applicable form and guidance</td><td>Yes</td></tr></table>			Validation Criteria	Yes/No	The prior consideration of CDM was notified to host Party DNA and UNFCCC as per the applicable form and guidance	Yes																			
			Validation Criteria			Yes/No																						
The prior consideration of CDM was notified to host Party DNA and UNFCCC as per the applicable form and guidance	Yes																											



			<table><tr><td>The prior consideration notification has been confirmed from the UNFCCC website</td><td>Yes</td></tr><tr><td>The communication between PP and DNA and/or UNFCCC in this regard were found satisfactory</td><td>Yes</td></tr><tr><td>The prior consideration of CDM is demonstrated as per the requirement</td><td>Yes</td></tr></table>	The prior consideration notification has been confirmed from the UNFCCC website	Yes	The communication between PP and DNA and/or UNFCCC in this regard were found satisfactory	Yes	The prior consideration of CDM is demonstrated as per the requirement	Yes						
The prior consideration notification has been confirmed from the UNFCCC website	Yes														
The communication between PP and DNA and/or UNFCCC in this regard were found satisfactory	Yes														
The prior consideration of CDM is demonstrated as per the requirement	Yes														
B.5.5. If the baseline scenario is not prescribed in the approved methodology, is it confirmed that the list of identified credible alternatives to the project activity in the PDD selected to determine the most realistic baseline scenario is appropriate?	Para 113, 114 of VVS	/DR/	<p>According to Para 10 of AMS.1.D (version17), the baseline scenario is the electricity delivered to the grid by the project activity would have otherwise been generated by operation of grid-connected power plants and by the addition of new generation sources into the grid. The PDD discusses the identification of the baseline scenario and is fully consistent with the requirements of the approved methodology.</p> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The list of alternatives includes (in PDD) as one of the options that the project activity is undertaken without being registered as a proposed project activity</td><td>NA</td></tr><tr><td>The list contains all plausible alternatives based on local and sectoral knowledge of the validation team</td><td>NA</td></tr><tr><td>The list contains viable means of supplying the comparable outputs or services that are to be supplied by the proposed project activity</td><td>NA</td></tr><tr><td>The alternatives comply with all applicable and enforced legislation.</td><td>NA</td></tr></table>	Validation Criteria	Yes/No	The list of alternatives includes (in PDD) as one of the options that the project activity is undertaken without being registered as a proposed project activity	NA	The list contains all plausible alternatives based on local and sectoral knowledge of the validation team	NA	The list contains viable means of supplying the comparable outputs or services that are to be supplied by the proposed project activity	NA	The alternatives comply with all applicable and enforced legislation.	NA	OK	OK
Validation Criteria	Yes/No														
The list of alternatives includes (in PDD) as one of the options that the project activity is undertaken without being registered as a proposed project activity	NA														
The list contains all plausible alternatives based on local and sectoral knowledge of the validation team	NA														
The list contains viable means of supplying the comparable outputs or services that are to be supplied by the proposed project activity	NA														
The alternatives comply with all applicable and enforced legislation.	NA														
B.5.6. If an investment analysis has been used, has it been demonstrated that the proposed project activity is not the most economically or financially attractive alternative, or is not economically or financially feasible, without the revenue from the sale of CERs.	Para 117, 119 of VVS	/DR/	<p>The PP has performed an investment analysis to demonstrate that the project activity is not a financially attractive alternative. The investment analysis follows a Benchmark analysis approach which is in line with the “Tool for the demonstration and assessment of additionality, version-07.0.0”.</p> <p>PDD describes that the project activity is not financially attractive than other alternatives available.</p> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The latest version of “Guidelines on the assessment of investment analysis” (EB62 Annex5 Version 5) is applied</td><td>Yes</td></tr><tr><td>The proposed project activity would produce no financial or</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	The latest version of “Guidelines on the assessment of investment analysis” (EB62 Annex5 Version 5) is applied	Yes	The proposed project activity would produce no financial or	Yes	OK	OK				
Validation Criteria	Yes/No														
The latest version of “Guidelines on the assessment of investment analysis” (EB62 Annex5 Version 5) is applied	Yes														
The proposed project activity would produce no financial or	Yes														



			economic benefits other than CDM-related income.			
			The documented costs associated with the proposed project activity and the alternatives identified demonstrate that there is at least one alternative which is less costly than the proposed project activity (Simple Cost Analysis)	NA		
			The proposed project activity is less economically or financially attractive than at least one other credible and realistic alternative (Investment Comparison Analysis)	NA		
			The financial returns of the proposed project activity would be insufficient to justify the required investment (Benchmark Analysis)	Yes		
			The investment analysis approach is appropriate in the context of the project activity.	Yes		
B.5.7. Is the investment analysis complete and accurate?	Para 120 of VVS  B.2 of PDD	/DR/	The PP has provided investment analysis spread sheet with the details of calculation of benchmark and return from the project activity. However CAR#05 was raised:		CAR#05	OK
			Validation Criteria	Yes/No		
			The project has applied investment analysis	Yes		
			The financial indicator selected by the PP is suitable in the context of the project activity	Yes		
			Thorough assessment of all parameters and assumptions used in calculating the financial indicator is conducted	Yes		
			The parameters have been crosschecked against the third party or publicly available sources	Yes		
			The FSR, public announcement and annual financial report, as appropriate, have been reviewed with regards to the project activity and participants.	Yes		
			The correctness of the computation carried out and documented by PP is ensured.	Yes		
			The sensitivity analysis has been conducted to determine under what conditions variations in result would occur and the likelihood of these conditions.	Yes		
			The financial calculations, parameters, assumptions are as per the relevant and applicable clauses/paragraphs of the latest version of 'Guidelines on the assessment of investment analysis'	Yes		





			Based on responses, final PDD and revised investment analysis spreadsheet, the validation concludes that investment analysis is complete and accurate.														
B.5.8. If a benchmark is used, is it confirmed that it is suitable in the context of the project activity?	Para 121 of VVS  B.5 of PDD  EB51 Annex 59  EB40 Para40	/DR/	<div> The project activity has used investment analysis and benchmark approach which is suitable in the context of project activity. <table> <tr> <th>Validation Criteria</th> <th>Yes/No</th> </tr> <tr> <td>The project has applied benchmark analysis</td> <td>Yes</td> </tr> <tr> <td>The type of benchmark applied is suitable for the type of financial indicator</td> <td>Yes</td> </tr> <tr> <td>The risk premium, as appropriate, applied in determining the benchmark reflects the risk associated with the project type/activity</td> <td>Yes</td> </tr> <tr> <td>It is reasonable to assume that no investment would be made at a rate of return lower than benchmark.</td> <td>Yes</td> </tr> <tr> <td>The applied benchmark is determined as per the relevant and applicable clauses/paragraphs of the latest version of ‘Guidelines on the assessment of investment analysis’</td> <td>Yes</td> </tr> </table> </div>	Validation Criteria	Yes/No	The project has applied benchmark analysis	Yes	The type of benchmark applied is suitable for the type of financial indicator	Yes	The risk premium, as appropriate, applied in determining the benchmark reflects the risk associated with the project type/activity	Yes	It is reasonable to assume that no investment would be made at a rate of return lower than benchmark.	Yes	The applied benchmark is determined as per the relevant and applicable clauses/paragraphs of the latest version of ‘Guidelines on the assessment of investment analysis’	Yes	OK	OK
Validation Criteria	Yes/No																
The project has applied benchmark analysis	Yes																
The type of benchmark applied is suitable for the type of financial indicator	Yes																
The risk premium, as appropriate, applied in determining the benchmark reflects the risk associated with the project type/activity	Yes																
It is reasonable to assume that no investment would be made at a rate of return lower than benchmark.	Yes																
The applied benchmark is determined as per the relevant and applicable clauses/paragraphs of the latest version of ‘Guidelines on the assessment of investment analysis’	Yes																
B.5.9. Does the investment analysis rely on the values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed CDM project activity?	Para 121 of VVS	/DR/	<div> The PDD mentions the sourced input values from FSR and official sources of host country. However they were found inconsistent. <table> <tr> <th>Validation Criteria</th> <th>Yes/No</th> </tr> <tr> <td>The FSR has been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed</td> <td>Yes</td> </tr> <tr> <td>The values used in the PDD and associated annexes are fully consistent with the FSR, and where inconsistencies occur the appropriateness of the values applied is validated as justified</td> <td>No</td> </tr> <tr> <td>The input values from the FSR are valid and applicable at the time of investment decision</td> <td>Yes</td> </tr> </table> </div>	Validation Criteria	Yes/No	The FSR has been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed	Yes	The values used in the PDD and associated annexes are fully consistent with the FSR, and where inconsistencies occur the appropriateness of the values applied is validated as justified	No	The input values from the FSR are valid and applicable at the time of investment decision	Yes	OK	OK				
Validation Criteria	Yes/No																
The FSR has been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed	Yes																
The values used in the PDD and associated annexes are fully consistent with the FSR, and where inconsistencies occur the appropriateness of the values applied is validated as justified	No																
The input values from the FSR are valid and applicable at the time of investment decision	Yes																



			The input values have been cross checked, as appropriate, and confirmed by local and sectoral expertise	Yes		
B.5.10. If a barrier analysis has been used, has it been shown that the proposed project activity faces barriers that prevent the implementation of this type of proposed project activity but would not have prevented the implementation of at least one of the alternatives?	Para 124, 125, 126 of VVS	/DR/	The project activity has used investment analysis to demonstrate additionality.		OK	OK
B.5.11. Is the proposed project type be justified as first-of-its kind?	EB 63 Annex 11	/DR/	Not applicable, as the PDD does not claim about the proposed project activity as first of its kind.		OK	OK
B.5.12. Is the project activity not common practice, unless proposed as first of its kind?	Para 128 of VVS  EB 63 Annex 12	/DR/	The proposed project activity is a small scale project. Hence, Not applicable.		OK	OK



B.5.13. Is it confirmed that the proposed SSC project activity is additional in accordance with CDM requirements?	Para 158 of VVS	/DR/	<div>Yes, additionality of project activity is demonstrated in accordance with Guidelines on the demonstration of additionality of small-scale project activities", version 09.0 (EB 68 annex 27)</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The additionality has been demonstrated as per Attachment A to Appendix B of 4/CMP.1, Annex11</td><td>Yes</td></tr><tr><td>The type of additionality approach is clearly included in the PDD</td><td>Yes</td></tr><tr><td>The approach confirms to the Non-binding best practice examples to demonstrate additionality for SSC project activities</td><td>Yes</td></tr><tr><td>In case of microscale project activities, it is confirmed that PDD complies with the requirements of "Guidelines for demonstrating additionality of microscale project activities"</td><td>NA</td></tr><tr><td>The additionality has been demonstrated in case of microscale projects as per para 160 of VVS and referenced guidance</td><td>NA</td></tr></table>	Validation Criteria	Yes/No	The additionality has been demonstrated as per Attachment A to Appendix B of 4/CMP.1, Annex11	Yes	The type of additionality approach is clearly included in the PDD	Yes	The approach confirms to the Non-binding best practice examples to demonstrate additionality for SSC project activities	Yes	In case of microscale project activities, it is confirmed that PDD complies with the requirements of "Guidelines for demonstrating additionality of microscale project activities"	NA	The additionality has been demonstrated in case of microscale projects as per para 160 of VVS and referenced guidance	NA	OK	OK
Validation Criteria	Yes/No																
The additionality has been demonstrated as per Attachment A to Appendix B of 4/CMP.1, Annex11	Yes																
The type of additionality approach is clearly included in the PDD	Yes																
The approach confirms to the Non-binding best practice examples to demonstrate additionality for SSC project activities	Yes																
In case of microscale project activities, it is confirmed that PDD complies with the requirements of "Guidelines for demonstrating additionality of microscale project activities"	NA																
The additionality has been demonstrated in case of microscale projects as per para 160 of VVS and referenced guidance	NA																
B.6. Emission reductions																	
B.6.1.Are the steps and equations (Explanation of methodological choices) applied to calculate emission reductions in compliance with the requirements of selected baseline and monitoring methodology and referred tools?	Para 96 of VVS  Section B.6.1 of PDD	/DR/	<div>The PDD has followed the steps specified in applied approved methodology the equations as per approved methodology to calculate the baseline emission and project emission as per applied methodology AMS I. D, version-17 and</div> <div>However the emission factor calculation is not in accordance with tool to calculate the emission factor of an electricity system to calculate the baseline emission, version 4.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The methods or methodological steps in the selected methodology(ies), for calculating baseline emissions are explained and justified in the PDD</td><td>Yes</td></tr><tr><td>The methods or methodological steps in the selected methodology(ies), for calculating project emissions are explained and justified in the PDD</td><td>Yes</td></tr><tr><td>The methods or methodological steps in the selected methodology(ies), for calculating leakages are explained and justified in the PDD</td><td>Yes</td></tr><tr><td>The equations that will be used in calculating emission</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	The methods or methodological steps in the selected methodology(ies), for calculating baseline emissions are explained and justified in the PDD	Yes	The methods or methodological steps in the selected methodology(ies), for calculating project emissions are explained and justified in the PDD	Yes	The methods or methodological steps in the selected methodology(ies), for calculating leakages are explained and justified in the PDD	Yes	The equations that will be used in calculating emission	Yes	OK	OK		
Validation Criteria	Yes/No																
The methods or methodological steps in the selected methodology(ies), for calculating baseline emissions are explained and justified in the PDD	Yes																
The methods or methodological steps in the selected methodology(ies), for calculating project emissions are explained and justified in the PDD	Yes																
The methods or methodological steps in the selected methodology(ies), for calculating leakages are explained and justified in the PDD	Yes																
The equations that will be used in calculating emission	Yes																



			<table><tr><td>reductions are included in the PDD</td><td></td></tr><tr><td>The methodological choices are explained and justified where methodology prescribes the baseline scenarios</td><td>Yes</td></tr><tr><td>The methodological choices are explained and justified where methodology provides different options</td><td>Yes</td></tr><tr><td>The methodological choices are explained and justified where methodology allows different default values</td><td>Yes</td></tr><tr><td>The referred tools by the methodology are applied, explained and choices justified, as appropriate</td><td>Yes</td></tr></table>	reductions are included in the PDD		The methodological choices are explained and justified where methodology prescribes the baseline scenarios	Yes	The methodological choices are explained and justified where methodology provides different options	Yes	The methodological choices are explained and justified where methodology allows different default values	Yes	The referred tools by the methodology are applied, explained and choices justified, as appropriate	Yes																
reductions are included in the PDD																													
The methodological choices are explained and justified where methodology prescribes the baseline scenarios	Yes																												
The methodological choices are explained and justified where methodology provides different options	Yes																												
The methodological choices are explained and justified where methodology allows different default values	Yes																												
The referred tools by the methodology are applied, explained and choices justified, as appropriate	Yes																												
B.6.2. Are the data and parameters fixed ex ante applied to calculate emission reductions in compliance with the requirements of selected baseline and monitoring methodology and referred tools?	Para 97, 98 of VVS  Section B.6.2 of PDD	/DR/	<table><tr><td colspan="2">Emission factor calculations are not transparent.</td></tr><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The data and parameters defined ex ante are complete in the context of the project activity</td><td>Yes</td></tr><tr><td>The data that are calculated using equations provided in the methodology are included in this section of PDD</td><td>Yes</td></tr><tr><td>The table for each data and parameter is correctly filled as required by the guidance to fill PDD</td><td>Yes</td></tr><tr><td>The values applied (single or multiple) of each data is included in a single table, as appropriate</td><td>Yes</td></tr><tr><td>The choice of data applied is clearly indicated and justified with reference to the source</td><td>Yes</td></tr><tr><td>The applied value of the data and parameters, as required in some cases e.g. PLF, is as per the applicable guidance issued by CDM EB</td><td>Yes</td></tr><tr><td>If the data is determined based on measurements methods and procedures, if applicable, the reference to standards used, responsible person/entity that took the measurement, date of measurement and measured results are correctly indicated.</td><td>Yes</td></tr><tr><td>The purpose of data is clearly indicated in the table</td><td>Yes</td></tr><tr><td>If sampling is allowed by the methodology, it is confirmed that the application is as per the latest version of "Standard for sampling and surveys for CDM PA and PoA", as appropriate</td><td>Yes</td></tr><tr><td>The additional information is included in Appendix 4 of PDD</td><td>Yes</td></tr></table>	Emission factor calculations are not transparent.		Validation Criteria	Yes/No	The data and parameters defined ex ante are complete in the context of the project activity	Yes	The data that are calculated using equations provided in the methodology are included in this section of PDD	Yes	The table for each data and parameter is correctly filled as required by the guidance to fill PDD	Yes	The values applied (single or multiple) of each data is included in a single table, as appropriate	Yes	The choice of data applied is clearly indicated and justified with reference to the source	Yes	The applied value of the data and parameters, as required in some cases e.g. PLF, is as per the applicable guidance issued by CDM EB	Yes	If the data is determined based on measurements methods and procedures, if applicable, the reference to standards used, responsible person/entity that took the measurement, date of measurement and measured results are correctly indicated.	Yes	The purpose of data is clearly indicated in the table	Yes	If sampling is allowed by the methodology, it is confirmed that the application is as per the latest version of "Standard for sampling and surveys for CDM PA and PoA", as appropriate	Yes	The additional information is included in Appendix 4 of PDD	Yes	CAR 04	OK
Emission factor calculations are not transparent.																													
Validation Criteria	Yes/No																												
The data and parameters defined ex ante are complete in the context of the project activity	Yes																												
The data that are calculated using equations provided in the methodology are included in this section of PDD	Yes																												
The table for each data and parameter is correctly filled as required by the guidance to fill PDD	Yes																												
The values applied (single or multiple) of each data is included in a single table, as appropriate	Yes																												
The choice of data applied is clearly indicated and justified with reference to the source	Yes																												
The applied value of the data and parameters, as required in some cases e.g. PLF, is as per the applicable guidance issued by CDM EB	Yes																												
If the data is determined based on measurements methods and procedures, if applicable, the reference to standards used, responsible person/entity that took the measurement, date of measurement and measured results are correctly indicated.	Yes																												
The purpose of data is clearly indicated in the table	Yes																												
If sampling is allowed by the methodology, it is confirmed that the application is as per the latest version of "Standard for sampling and surveys for CDM PA and PoA", as appropriate	Yes																												
The additional information is included in Appendix 4 of PDD	Yes																												



			<table><tr><td>The assumptions and sources used are appropriate, correct and would result in either accurate or otherwise conservative estimate of emission reductions</td><td>Yes</td></tr><tr><td>The applied values in the ER spread sheet, PDD and the source data are either mutually consistent or otherwise explained and justified. (e.g. decimal points, units, nomenclature etc.)</td><td>Yes</td></tr></table> <p>Based on the corrections in the revised PDD and ER sheet, CAR was closed.</p>	The assumptions and sources used are appropriate, correct and would result in either accurate or otherwise conservative estimate of emission reductions	Yes	The applied values in the ER spread sheet, PDD and the source data are either mutually consistent or otherwise explained and justified. (e.g. decimal points, units, nomenclature etc.)	Yes										
The assumptions and sources used are appropriate, correct and would result in either accurate or otherwise conservative estimate of emission reductions	Yes																
The applied values in the ER spread sheet, PDD and the source data are either mutually consistent or otherwise explained and justified. (e.g. decimal points, units, nomenclature etc.)	Yes																
B.6.3.Are the steps and equations applied to calculate ex ante calculation of emission reductions in compliance with the requirements of selected baseline and monitoring methodology and referred tools?	Para 97, 98 of VVS  Section B.6.3 of PDD	/DR/	<table><tr><td colspan="2">The steps equation applied to calculate baseline emission, project emission and leakage are as per applied approved methodology.</td></tr><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The ex ante calculation of emission reductions (BE, PE and LE) is performed transparently in the PDD</td><td>Yes</td></tr><tr><td>The values applied are consistent with section B.6.2 and B.7.1 for each specific data and/or parameter</td><td>Yes</td></tr><tr><td>The equations in the applied methodology(ies) and referred tools, as appropriate are correctly applied in reproducible manner in section B.6.3 as sample calculation</td><td>Yes</td></tr><tr><td>The ex ante calculations are explained in reproducible manner in Appendix 4 and/or electronics spreadsheet</td><td>Yes</td></tr></table>	The steps equation applied to calculate baseline emission, project emission and leakage are as per applied approved methodology.		Validation Criteria	Yes/No	The ex ante calculation of emission reductions (BE, PE and LE) is performed transparently in the PDD	Yes	The values applied are consistent with section B.6.2 and B.7.1 for each specific data and/or parameter	Yes	The equations in the applied methodology(ies) and referred tools, as appropriate are correctly applied in reproducible manner in section B.6.3 as sample calculation	Yes	The ex ante calculations are explained in reproducible manner in Appendix 4 and/or electronics spreadsheet	Yes	Ok	OK
The steps equation applied to calculate baseline emission, project emission and leakage are as per applied approved methodology.																	
Validation Criteria	Yes/No																
The ex ante calculation of emission reductions (BE, PE and LE) is performed transparently in the PDD	Yes																
The values applied are consistent with section B.6.2 and B.7.1 for each specific data and/or parameter	Yes																
The equations in the applied methodology(ies) and referred tools, as appropriate are correctly applied in reproducible manner in section B.6.3 as sample calculation	Yes																
The ex ante calculations are explained in reproducible manner in Appendix 4 and/or electronics spreadsheet	Yes																
B.6.4. Is the table to indicate the emission reductions over the crediting period included and correct?	Section B.6.4 of PDD	/DR/	<table><tr><td colspan="2">The PDD correctly filled the table to indicate the emission reduction over selected crediting period. The values of annual emission reductions are consistent with other sections of the PDD.</td></tr><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The table is completely and correctly filled</td><td>Yes</td></tr><tr><td>The emission reductions (BE, PE, LE) are consistent with the other places in the PDD (B.6.3, Appendix 4 etc.)</td><td>Yes</td></tr><tr><td>The information in this section is consistent with other sections (e.g. crediting period etc.)</td><td>Yes</td></tr></table>	The PDD correctly filled the table to indicate the emission reduction over selected crediting period. The values of annual emission reductions are consistent with other sections of the PDD.		Validation Criteria	Yes/No	The table is completely and correctly filled	Yes	The emission reductions (BE, PE, LE) are consistent with the other places in the PDD (B.6.3, Appendix 4 etc.)	Yes	The information in this section is consistent with other sections (e.g. crediting period etc.)	Yes	OK	OK		
The PDD correctly filled the table to indicate the emission reduction over selected crediting period. The values of annual emission reductions are consistent with other sections of the PDD.																	
Validation Criteria	Yes/No																
The table is completely and correctly filled	Yes																
The emission reductions (BE, PE, LE) are consistent with the other places in the PDD (B.6.3, Appendix 4 etc.)	Yes																
The information in this section is consistent with other sections (e.g. crediting period etc.)	Yes																



B.6.5. Are all the steps taken and equations applied to calculate project emissions, baseline emissions and leakage and emission reductions correct and appropriate?	Para 99 of VVS	/DR/	<div>The steps equation applied to calculate baseline emission, project emission and leakage are as per applied approved methodology.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>All assumptions and data used by the project participants are listed in the PDD, including their references and sources</td><td>Yes</td></tr><tr><td>All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD</td><td>Yes</td></tr><tr><td>All values used in the PDD are considered reasonable in the context of the proposed CDM project activity</td><td>Yes</td></tr><tr><td>The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions</td><td>Yes</td></tr><tr><td>All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD</td><td>Yes</td></tr><tr><td>The spreadsheet provided is transparent, unprotected and reproducible</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	All assumptions and data used by the project participants are listed in the PDD, including their references and sources	Yes	All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD	Yes	All values used in the PDD are considered reasonable in the context of the proposed CDM project activity	Yes	The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions	Yes	All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD	Yes	The spreadsheet provided is transparent, unprotected and reproducible	Yes	OK	OK
Validation Criteria	Yes/No																		
All assumptions and data used by the project participants are listed in the PDD, including their references and sources	Yes																		
All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD	Yes																		
All values used in the PDD are considered reasonable in the context of the proposed CDM project activity	Yes																		
The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions	Yes																		
All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PDD	Yes																		
The spreadsheet provided is transparent, unprotected and reproducible	Yes																		
B.7. Monitoring plan																			
B.7.1.1. Does the monitoring plan of the PDD comply with the approved methodology (ies) and applicable tool(s)?	Para 132(a) of VVS	/DR/	<div>The monitoring plan in the PDD is in compliance with the applied approved small scale monitoring methodology and it contains the necessary parameter as per applied methodology within project boundary.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The list of parameters included in the section B.7.1 of the PDD is complete in the context of the project activity with respect to the applied methodology(ies) and applicable tool(s)</td><td>Yes</td></tr><tr><td>The description of monitoring plan for each monitored parameter is complies with the requirements of the approved methodology(ies) and applicable tool(s)</td><td>Yes</td></tr><tr><td>The table is filled correctly and completely for each parameter to be monitored specifying source and applied value</td><td>Yes</td></tr><tr><td>The table specifies the measurement methods and procedures.</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	The list of parameters included in the section B.7.1 of the PDD is complete in the context of the project activity with respect to the applied methodology(ies) and applicable tool(s)	Yes	The description of monitoring plan for each monitored parameter is complies with the requirements of the approved methodology(ies) and applicable tool(s)	Yes	The table is filled correctly and completely for each parameter to be monitored specifying source and applied value	Yes	The table specifies the measurement methods and procedures.	Yes	OK	OK				
Validation Criteria	Yes/No																		
The list of parameters included in the section B.7.1 of the PDD is complete in the context of the project activity with respect to the applied methodology(ies) and applicable tool(s)	Yes																		
The description of monitoring plan for each monitored parameter is complies with the requirements of the approved methodology(ies) and applicable tool(s)	Yes																		
The table is filled correctly and completely for each parameter to be monitored specifying source and applied value	Yes																		
The table specifies the measurement methods and procedures.	Yes																		



			standards to be applied, accuracy of the measurements, person/entity responsible for the measurements, and, in case of periodic measurements, the measurement intervals			
			The QA/QC procedures (calibration procedures and frequency) and purpose of data as required by the approved methodology(ies) and applicable tool(s) are correctly indicated	Yes		
			The information in this regard is consistent with Appendix 5 and emission reduction spreadsheet	NA		
B.7.1.2. Is the description of the monitoring plan (implementation) feasible in the context of the project activity?	Para 132(b) of VVS	/DR/	The monitoring plan in the PDD is in compliance with the applied approved baseline and monitoring methodology and does contains all the necessary parameter as per applied methodology and tool to calculate emission factor of an electricity system for estimation of emission reduction within project boundary.	OK		OK
			Validation Criteria	Yes/No		
			The monitoring plan described in the PDD is feasible within the project design	Yes		
			The information in the monitoring plan, in this regard, is confirmed based on the documented procedures, interview, project plan and physical inspection during site visit, as appropriate	Yes		
			The QA/QC procedures as included in the PDD are sufficient to determine the ex post emission reductions and be verified	Yes		
B.7.2 Is there any sampling approach applied for any parameter to be monitored?	Section B.7.2 of PDD	/DR/	All the data/parameters to be mentioned in PDD will be monitored and sampling approach is not applied.	OK		OK
			Validation Criteria	Yes/No		
			The sampling approach is applied for some monitored parameters	No		
			The sampling approach is allowed by the applied methodology(ies) or applicable tool(s)	NA		
			The sampling is clearly defined in Section B.7.2 of the PDD	NA		
			The sampling approach confirms to "Standard for sampling and surveys for CDM project activities and programme of activities"	NA		





B.7.3. Are the other elements of the monitoring plan completely defined?	Para 56 of PS  Section B.7.3 of PDD	/DR/	The parameters, values & calibration details have been incorporated in final PDD and appropriateness and authenticity of value used is verified during site visit.		OK	OK
			Validation Criteria			
			The operational and management structure (authority and responsibility for registration, monitoring, measurement and reporting) to be put in place to implement the monitoring plan is included	Yes		
			The provisions included in PDD to ensure that data monitored required for verification and issuance be kept and archived electronically for 2 years after the end of crediting period or the last issuance of CERs, whichever occur later	Yes		
			The definitions of responsibilities and institutional arrangements for data collection and archiving included in the PDD	Yes		
			QA/QC procedures are defined clearly	Yes		
			The uncertainty levels, methods and the associated accuracy level of measuring instruments to be used for various parameters and variables are included.	Yes		
			The information in this regard is consistent with the other sections of the PDD viz., Appendix 5	NA		
			The project participant will be able to implement the described monitoring plan	Yes		
			SECTION C. Duration and crediting period			
C.1.1. Is the start date of the project activity and operational lifetime clearly defined and reasonable?	Para 57, 58 of PS  C.1 of PDD	/DR/	Yes, the start date of the project activity is 19/08/2011which is the date of Purchase order for WTG.		OK	OK
			Validation Criteria			
			The start date of project activity is correctly included in the PDD in DD/MM/YYYY format	Yes		
			The evidence to support start date of project activity is included in the PDD	Yes		
			The start date of project activity is as per the glossary of CDM and confirms the observations made during site visit	Yes		
			The operational lifetime of the project activity is correctly included in the PDD	Yes		



			The operational lifetime is in accordance with EB50 Annex15 or from other sources as appropriate.	Yes		
C.1.2. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	C.2 of PDD	/DR/	PP has opted the 7 years renewable crediting period for the proposed project activity, the start of the crediting period envisaged for the proposed project activity has been assessed by the validation team to be realistic, taking into consideration the time needed for validation.	OK	OK	
			Validation Criteria	Yes/No		
			The type of crediting period is correctly included in the PDD	Yes		
			The start date of crediting period is correctly included in the PDD in DD/MM/YYYY format based on expected commissioning of the project activity but is not earlier than the expected date of registration	Yes		
			The length of crediting period is correctly included in PDD as per the type of credit period chosen	Yes		
<b>SECTION D. Environmental impacts</b>						
D.1.1. Has an analysis of the environmental impacts of the project activity been sufficiently described?	D.1 of PDD Para 63 of PS	/DR/	The PDD clearly explains the outcome of the Environmental Impact Analysis report.	OK	OK	
			Validation Criteria	Yes/No		
			An analysis of environmental impacts of the project activity carried out by project participant(s)	Yes		
			Analysis of such impacts is included in the PDD, including any transboundary impacts, if applicable	Yes		
			The reference is given to the related documentation in PDD	Yes		
D.1.2. Are there any host Party requirements for an Environmental Impact Assessment (EIA)?	D.2 of PDD Para 64 of PS Para 134,	/DR/	The PP has provided the EIA approval from the Provincial Environment Authority (North-West Province). Based on review of approval letter, the validation team confirms that information provided in PDD is consistent.	OK	OK	
			Validation Criteria	Yes/No		
			The environmental impacts are considered significant	Yes		



	135 of VVS		<table><tr><td>If environmental impacts are considered significant by PP or host Party, has an EIA been conducted</td><td>Yes</td></tr><tr><td>Is there any host Party requirements for EIA for project activity</td><td>Yes</td></tr><tr><td>Is the EIA conducted in accordance with such procedures</td><td>Yes</td></tr><tr><td>The reference is given to the related documentation in PDD</td><td>Yes</td></tr></table>	If environmental impacts are considered significant by PP or host Party, has an EIA been conducted	Yes	Is there any host Party requirements for EIA for project activity	Yes	Is the EIA conducted in accordance with such procedures	Yes	The reference is given to the related documentation in PDD	Yes				
If environmental impacts are considered significant by PP or host Party, has an EIA been conducted	Yes														
Is there any host Party requirements for EIA for project activity	Yes														
Is the EIA conducted in accordance with such procedures	Yes														
The reference is given to the related documentation in PDD	Yes														
SECTION E. Local stakeholder consultation															
E.1.1. Have local stakeholders been invited by the PPs to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC web	Para 69 of PS	/DR/	<table><tr><td colspan="2">The local stakeholder meeting was conducted on 21/06/2011 at project sites, which is prior to web hosting of the PDD.</td></tr><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The local stakeholder consultation process is done prior to webhosting of the PDD for GSP</td><td>Yes</td></tr></table>	The local stakeholder meeting was conducted on 21/06/2011 at project sites, which is prior to web hosting of the PDD.		Validation Criteria	Yes/No	The local stakeholder consultation process is done prior to webhosting of the PDD for GSP	Yes	OK	OK				
The local stakeholder meeting was conducted on 21/06/2011 at project sites, which is prior to web hosting of the PDD.															
Validation Criteria	Yes/No														
The local stakeholder consultation process is done prior to webhosting of the PDD for GSP	Yes														
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	Para 65, 66 of PS	/DR/	<table><tr><td colspan="2">The PDD has clearly explained the details on the proceeding of local stakeholder consultation process. The summary of stakeholders comment is provided in section E.2 of the PDD.</td></tr><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The local stakeholders were identified appropriately</td><td>Yes</td></tr><tr><td>The local stakeholders were invited in reasonable time</td><td>Yes</td></tr><tr><td>The local stakeholders were invited using appropriate medium</td><td>Yes</td></tr></table>	The PDD has clearly explained the details on the proceeding of local stakeholder consultation process. The summary of stakeholders comment is provided in section E.2 of the PDD.		Validation Criteria	Yes/No	The local stakeholders were identified appropriately	Yes	The local stakeholders were invited in reasonable time	Yes	The local stakeholders were invited using appropriate medium	Yes	OK	OK
The PDD has clearly explained the details on the proceeding of local stakeholder consultation process. The summary of stakeholders comment is provided in section E.2 of the PDD.															
Validation Criteria	Yes/No														
The local stakeholders were identified appropriately	Yes														
The local stakeholders were invited in reasonable time	Yes														
The local stakeholders were invited using appropriate medium	Yes														
E.1.3. Is the undertaken stakeholder process described in a complete and transparent manner?	Para 67, 68 of PS  139 of VVS	/DR/	<table><tr><td colspan="2">The PDD describes the local stakeholder process and proceedings in a clear and transparent manner. During the stakeholder consultation process the stakeholders had raised the comments relevant to the proposed CDM activity. A summary of the comments received has been included in section E.2 of the PDD. All the comments raised by the stakeholders were responded and resolved successfully.</td></tr><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The local stakeholders were informed appropriately about the project activity to comment</td><td>Yes</td></tr><tr><td>Summary of comments as included in the PDD is complete</td><td>Yes</td></tr></table>	The PDD describes the local stakeholder process and proceedings in a clear and transparent manner. During the stakeholder consultation process the stakeholders had raised the comments relevant to the proposed CDM activity. A summary of the comments received has been included in section E.2 of the PDD. All the comments raised by the stakeholders were responded and resolved successfully.		Validation Criteria	Yes/No	The local stakeholders were informed appropriately about the project activity to comment	Yes	Summary of comments as included in the PDD is complete	Yes	OK	OK		
The PDD describes the local stakeholder process and proceedings in a clear and transparent manner. During the stakeholder consultation process the stakeholders had raised the comments relevant to the proposed CDM activity. A summary of the comments received has been included in section E.2 of the PDD. All the comments raised by the stakeholders were responded and resolved successfully.															
Validation Criteria	Yes/No														
The local stakeholders were informed appropriately about the project activity to comment	Yes														
Summary of comments as included in the PDD is complete	Yes														



E.1.4. Has due account been taken of any stakeholder comments received?	Para 139, 140 of VVS  E of PDD	/DR/	<div>The revised PDD describes details of management action towards concern raised by stakeholders; the same has been verified from minutes of meetings.</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The comments received from local stakeholders have been considered for due account</td><td>Yes</td></tr><tr><td>The due account taken of all comments is adequate</td><td>Yes</td></tr><tr><td>The information contained in PDD with regard to local stakeholder consultation is adequate.</td><td>Yes</td></tr></table>	Validation Criteria	Yes/No	The comments received from local stakeholders have been considered for due account	Yes	The due account taken of all comments is adequate	Yes	The information contained in PDD with regard to local stakeholder consultation is adequate.	Yes	OK	OK
Validation Criteria	Yes/No												
The comments received from local stakeholders have been considered for due account	Yes												
The due account taken of all comments is adequate	Yes												
The information contained in PDD with regard to local stakeholder consultation is adequate.	Yes												
SECTION F. Approval and authorization													
F.1.1 Has the approval and authorization is indicated correctly?	Para 70, 71 of PS  F of PDD	/DR/	<div>The project proponent has applied for letter of approval from the host country.</div> <div>The letter of approval from the Sri Lankan DNA has not been obtained</div> <table><tr><td>Validation Criteria</td><td>Yes/No</td></tr><tr><td>The letter of approval at GSP of PDD is available</td><td>No</td></tr><tr><td>The information in this regard is included in the PDD</td><td>Yes</td></tr><tr><td>The letter of approval(s) at Request for Registration is available from all identified Parties in the PDD</td><td>Yes</td></tr></table> <div>The approval was received and found conforming.</div>	Validation Criteria	Yes/No	The letter of approval at GSP of PDD is available	No	The information in this regard is included in the PDD	Yes	The letter of approval(s) at Request for Registration is available from all identified Parties in the PDD	Yes	CAR#01 (a)	OK
Validation Criteria	Yes/No												
The letter of approval at GSP of PDD is available	No												
The information in this regard is included in the PDD	Yes												
The letter of approval(s) at Request for Registration is available from all identified Parties in the PDD	Yes												

## Annex 2: Detailed Findings

### Nature of findings:

	CARs	CLs	FARs
Total Number raised	04	01	00

Date	Type & Number	Raised by	Reference
08/04/2014	CAR 01	The Assessment Team	D-29
<b>Non conformities raised</b>			
Please provide following documents			
a) Letter of Approval (LoA) from the Host Party DNA for the proposed CDM project activity to confirm the approval and participation requirements (refer paragraph 38 of VVS V05.0).			
b) Duly signed Modalities of Communication (MoC) consistent with Annex 1 of PDD (refer para 53 of VVS V05)			
<b>Project Participant's response</b>		<b>Date:</b> 16/04/2014	
a) Letter of Approval from Sri Lankan DNA has been attached. Please refer Annexure 20.			
b) Modalities of Communication has been enclosed. Please refer Annexure 21.			
<b>Documentation Provided as Evidence by Project Participant</b>			
a) LoA			
b) MoC			
<b>Information Verified by Team Leader</b>		<b>Date of review:</b> 02/05/2014	
a) LoA			
b) MoC			
<b>Reasoning for not acceptance or close out</b>			
a) The host country approval is in accordance with the latest guidelines and was found appropriate by the assessment team. The project title was identical to the concerned project activity.			
b) The MoC has been filled in the latest template available on UNFCCC. The information provided in the MoC is consistent with the information in the PDD.			
<b>Date of acceptance or non-acceptance</b>		<b>Date:</b> 02/05/2014	Status: <i>Closed</i>

Date	Type & Number	Raised by	Reference
08/04/2014	CAR 02	The Assessment Team	D-29
Non conformities raised			
Please address the following in section A.3 of the PDD:			
a) PP has mentioned that the installed WTGs are being used for the first time in Sri Lanka. Kindly substantiate.			
b) The technical specifications of the WTG are inconsistent with supportive provided.			
c) A project capacity of 10 MW has been mentioned at all the places in the PDD however, based on the physical verification at the time of site visit the assessment team identified that the actual capacity of the project is 10.5 MW (2.1 MW X 5). Please clarify.			
Project Participant's response		Date: 16/04/2014	
a) The project participant wishes to clarify that Senok Group was the first company in Sri Lanka to use the WTG, model S-88 having capacity of 2.1MW manufactured by Suzlon. Senok Wind Energy Pvt Ltd was the first entity to implement followed by Senok Wind Resources Pvt Ltd. Therefore, the above line has been removed from the PDD section A.3.			
b) The technical specifications of the WTG have been revised in section A.3 of the PDD as per the technical specification provided by Suzlon.			
c) As per the Permit issued from Sri Lanka Sustainable Energy Authority to Senok Wind Resources Pvt. Ltd.			

(SWRPL) dated 29/10/2010 the installed electricity generating capacity of the project shall be 10,000 kW (10MW). However, the capacity of individual wind turbine generators available from Suzlon was 2.1MW. Therefore, the total installed capacity of the project activity with 5 wind turbines equals 10.5MW. The government of Sri Lanka was made aware of the same. Hence the title of the Standardized Power Purchase Agreement (SPPA) signed with the Ceylon Electricity Board (CEB) of Sri Lanka dated 31/07/2013 mentions 10MW on the cover page, while the technical specifications mentioned the capacity of each wind turbine as 2100kw (2.1MW) in Appendix B of the SPPA. Further, the SPPA dated 31/07/2013 also specifies that the range of electricity generated by the project activity should be within 24,040MWh to 30,686MWh (refer to page-6 of the SPPA). It may be noted that even for installed capacity of 10.5MW the generation from the project activity falls within the prescribed limits as specified in the SPPA. Please refer annexure 16- SPPA for 10MW dated 31/07/2013 already submitted.

**Documentation Provided as Evidence by Project Participant**

*Revised PDD*

**Information Verified by Team Leader** **Date of review: 02/05/2014**

*Revised PDD*

**Reasoning for not acceptance or close out**

- a) The information about the WTGs being used for the first time has been removed from the revised PDD. Therefore no substantiation is required thus the point is closed.
- b) The technical specifications in the revised PDD conforms the technical specifications provided by Suzlon for model S-88.
- c) PP needs to clarify if the concerned project had been intimated during the prior consideration process. The prior consideration page indicates a capacity of 5.4 MW, the revised SPPA indicates 10 MW and in actual it is 10.5 MW. PP needs to substantiate that the LoA received is for the webhosted PDD.

**Date of acceptance or non- acceptance** **Date: 02/05/2014** Status: Open (CAR 02 (c))

**Project Participant's response** **Date: 13/05/2014**

c) The project participant wishes to clarify that the same PDD which has been submitted for webhosting had been submitted to the host country DNA for the LoA. Please refer Annexure 1- application from the project participant to the Ministry of Environment, Sri Lanka (host country DNA) dated 25/11/2013 wherein the same PDD that was web-hosted is submitted.

**Documentation Provided as Evidence by Project Participant**

Annexure 1- application from the project participant to the Ministry of Environment, Sri Lanka (host country DNA) dated 25/11/2013

**Information Verified by Team Leader** **Date of review: 26/05/2014**

Annexure 1- application from the project participant to the Ministry of Environment, Sri Lanka (host country DNA) dated 25/11/2013

**Reasoning for not acceptance or close out**

The attachment to the application for the host country approval was provided to the assessment team which indicates the PDD which was submitted for the application. It can be concluded that the same PDD was webhosted which was considered for the host country approval.

**Date of acceptance or non- acceptance** **Date: 26/05/2014** Status: *Closed*

Date	Type & Number	Raised by	Reference
08/04/2014	CL 03	The Assessment Team	D-29
<b>Non conformities raised</b>			
As per the information on the webpage of Senok Renewable Energy Pvt. Ltd., setting up 30MW wind power project in the region has been proposed. The information is contradictory to statement provided in the PDD under the de-bundling clause. Please clarify.			

<b>Project Participant's response</b>	<b>Date: 16/04/2014</b>
<p>The project participant wishes to clarify that "Senok Group" has proposed to implement three 10MW wind power projects. Each of the three project are in the same region known as Mampuri. Hence, the three projects have been named as Mampuri wind power project I, Mampuri wind power project II and Mampuri wind power project III. However, it may be noted that the each of the above projects are implemented by different private entities/companies which different balance sheets and profit and loss accounts. The following private entities are the project participants involved for their respective project:</p> <p>Mampuri wind power project I: Senok Wind Power (Pvt) Ltd (SWPPL) Mampuri wind power project II: Senok Wind Energy (Pvt) Ltd (SWEPL) Mampuri wind power project III: Senok Wind Resource (Pvt) Ltd (SWRPL)</p> <p>It may also be noted that all the clearances and approvals from the government of Sri Lanka has been given to individual projects in the name of respective companies and not the Group Company.</p> <p>Senok Group of companies ("Senok" or the "Group") is a privately owned diversified group in Sri Lanka which consists of many companies in various sectors, interlia,</p> <ul style="list-style-type: none"> <li>i) Senok Trade Combine Pvt. Ltd</li> <li>ii) Senok Tea Pvt. Ltd</li> <li>iii) Senok Aviation Pvt. Ltd</li> <li>iv) Senok Windows Pvt. Ltd</li> <li>v) Senok Mining Pvt. Ltd</li> <li>vi) Senok Travel Pvt. Ltd</li> <li>vii) Senok Wind Power Pvt. Ltd</li> <li>viii) Mark Hydro Pvt. Ltd</li> <li>ix) Senok Wind Energy Pvt. Ltd</li> <li>x) Senok Wind Resources Pvt. Ltd</li> <li>xi) Senok Wind Power Pvt. Ltd.</li> </ul> <p>Thus, the project participant would again emphasize that Senok Group has proposed three 10MW wind projects. However, each project of 10MW is being implemented by different private entities under the same group. Please refer the website of IFC , which shall clarify that Senok as a Group has implemented one 10MW wind power project and plans to implement two more 10MW wind power projects. Also attached is annexure 23 - the screen shot of the above website.</p> <p>Link - <a href="http://www.ifc.org/ifcext/spiwebsite1.nsf/0/C834208AAA7BFC7D85257856005FCC5F">http://www.ifc.org/ifcext/spiwebsite1.nsf/0/C834208AAA7BFC7D85257856005FCC5F</a></p> <p>As per clause 2 of the Appendix C of the Simplified Modalities and Procedure for Small-Scale CDM project activities (consolidated in Guidelines on assessment of de-bundling for SSC project activities, Version 03.1, EB54, Annex 13), "A proposed small-scale project activity shall be deemed to be a debundled component of a large project activity if there is a registered small-scale CDM project activity or an application to register another small-scale CDM project activity:</p> <ul style="list-style-type: none"> <li>(a) With the same project participants;</li> <li>(b) In the same project category and technology/measure; and</li> <li>(c) Registered within the previous 2 years; and</li> <li>(d) Whose project boundary is within 1 km of the project boundary of the proposed small scale activity at the closest point."</li> </ul> <p>As per the guidelines, the project participant of the project activity, M/s Senok Wind Resources (Pvt) Ltd (SWEPL) has no other wind power project and hence, the project activity is not a de-bundled component of a larger project activity.</p>	
<b>Documentation Provided as Evidence by Project Participant</b>	
<i>Screen shot from IFC website</i>	
<b>Information Verified by Team Leader</b>	<b>Date of review: 02/05/2014</b>



Screen shot from IFC website		
<b>Reasoning for not acceptance or close out</b>		
The information provided by the PP was reviewed and checked against the information available on the public domain. It was confirmed that the project activity is not a part of a large scale project and there is no other project with the same project participant within 1 km. hence project is not a debundled component of a large scale project.		
<b>Date of acceptance or non-acceptance</b>	<b>Date: 02/05/2014</b>	Status: Closed

Date	Type & Number	Raised by	Reference
08/04/2014	CAR 04	The Assessment Team	D-29
<b>Non conformities raised</b>			
Please address the following in section B.4 of the PDD:			
a) Emission factor of the concerned project is not calculated in accordance with the “ <i>Tool to calculate the emission factor for an electricity system</i> ”			
<b>Project Participant’s response</b>		<b>Date:</b> 16/04/2014	
Grid emission factor for the Sri Lanka is calculated by Sri Lanka Sustainable Energy Authority in accordance with the “tool to calculate emission factor of an electricity system”. The build margin, operating margin and combined margin emission factor for wind based power projects has been sourced for emission reduction calculation for the project activity from the latest computation published by Sri Lanka Sustainable Energy Authority available at the time of PDD webhosting. Please refer the link <a href="http://www.energy.gov.lk/sub_pgs/elibrary_spe_pub.html">http://www.energy.gov.lk/sub_pgs/elibrary_spe_pub.html</a> .			
Enclosed is the Annexure 22 – Grid emission factor computation by Sri Lanka Sustainable Energy Authority available.			
<b>Documentation Provided as Evidence by Project Participant</b>			
Emission factor excel sheet			
<b>Information Verified by Team Leader</b>		<b>Date of review:</b> 02/05/2014	
Emission factor excel sheet			
<b>Reasoning for not acceptance or close out</b>			
The emission factor could be found on the Sri Lanka Sustainable Energy Authority website. The website indicates the use of the “ <i>Tool to calculate the emission factor for an electricity system</i> ”. Since these are data published by the government agency it was accepted by the assessment tem.			
<b>Date of acceptance or non-acceptance</b>		<b>Date:</b> 02/05/2014	Status: Closed

Date	Type & Number	Raised by	Reference
08/04/2014	CAR 05	The Assessment Team	D-29
Non conformities raised			
Please address the following in section B.5 of the PDD:			
a) Investment decision date has not been transparently mentioned in the PDD.			
b) PP has provided 2 PPAs; the initial PPA is of the capacity 5.4 however the revised is for 10 MW. The scale of the project at the time of investment decision is not clear however the prior consideration sent to UNFCCC also indicates a project capacity of 5.6 MW.			
c) Parameters indicated for demonstration of are inconsistent with the FSR.			
d) Expense of the pre-feasibility assessment has been included in the project cost. Kindly clarify.			
e) The tariff rate provided in the PDD is the flat rate tariff however a variable tariff has been used for the calculations. Also tariff rate has not been considered under sensitivity analysis. Reason for the same is not understood.			
Project Participant's response		Date: 16/04/2014	
(a) Investment decision date for the project activity is 11/06/2010. The feasibility study report dated 06/05/2010 was presented to the board for approval of the project activity. Same FSR was also submitted to the bank for bank approval. Please refer annexure 24- Letter from bank acknowledging the receipt of FSR.			

Details on investment decision and parameters considered for investment decision as mentioned in the FSR has been mentioned in section B.5 of the PDD. Annexure 2- Minutes of Board meeting has already been submitted.

(b) At the time of decision making the project participant had conceived a project activity of 10MW. They made applications to the state authorities for approvals for a 10MW wind based power project which is evident from the following:

- i) Provisional approval from Sustainable Energy Authority for 10MW. Please refer Annexure 7- Letter of intent from Ceylon Electricity Board dated 5/10/2010 mentioning the above, which has already been submitted.
- ii) Certificate of site clearance has been received for 10MW wind based power project from Provincial Environmental Authority (North Western Province) dated 7/10/2010. Please refer Annexure 13- Certificate from Provincial Environmental Authority already submitted.

However, since Ceylon Electricity Board (CEB) could only absorb 90MW in the Puttalam area (district where the project activity is being developed) at the time of granting Letter of Intent dated 5/10/2010 to the project participant, and CEB had already allotted 84.6MW to other developers, therefore CEB allowed only 5.4MW to the project activity with a condition that preference shall be given to Senok Wind Resources Pvt Ltd to increase the capacity to 10MW in the event of CEB could absorb more power after a comprehensive study to be done by CEB or due to non-performance of other committed developers.

In light of the above, the project participant gave the purchase order to Suzlon with condition that complete supply of all 5 WTGs of 2.1MW each shall come into effect only after further allotment of additional 4.6MW from CEB, making the total capacity of the project to 10MW.

Therefore, the project participant within six months of giving the purchase order for WTGs submitted the prior CDM consideration on 17/01/2012 referring to capacity of project activity as 5.4MW as they were allotted only 5.4MW from CEB till then.

Further, the project participant received the allotment of remaining 4.6MW on 31/07/2013. Please refer the Annexure 16- SPPA for 10MW dated 31/07/2013 already submitted.

(c) All the parameters have been made consistent with the FSR. Few parameters like project cost, debt and equity and insurance costs have been revised due to exclusion of preliminary expenses from project cost.

(d) & (e) The preliminary expenses and pre-feasibility expenses have been excluded from the IRR computations. The variable tariff was considered as the same has been mentioned in the Feasibility Study Report. However, the flat tariff has now been considered in the IRR calculation as the same more conservative.

#### Documentation Provided as Evidence by Project Participant

Revised IRR sheet

Information Verified by Team Leader

Date of review: 02/05/2014

Revised IRR sheet

#### Reasoning for not acceptance or close out

- a) The investment decision date can be clearly drawn from the PDD and conforms to the CDM glossary.
- b) Refer CAR#2(c) OPEN
- c) The values are consistent with the FSR in the revised PDD and the same values have been used for the calculation of IRR.
- d) PP needs to clarify the nature of "Project Related Consultancy & Services" mentioned in cell C25 of the assumption sheet of the IRR sheet. OPEN
- e) The sensitivity in the tariff rate could not be found in the sensitivity analysis sheet. Kindly clarify. Open

Date of acceptance or non- acceptance

Date: 02/05/2014

Status: Open

Project Participant's response

Date: 13/05/2014

b) The project participant wishes to clarify that the same PDD which has been submitted for webhosting had been submitted to the host country DNA for the LoA. Please refer Annexure 1- application from the project participant to the Ministry of Environment, Sri Lanka (host country DNA) dated 25/11/2013 wherein the same PDD that was web-hosted is submitted.



d) The following services were required by the project participant for implementation of the project activity: i) Consultancy for independent geo technical study to be done ii) Independent party to confirm generation analysis iii) Consultant Electrical Engineer iv) Consultant Project Manager v) Legal counsel for execution of agreements vi) Consultancy for noise contour drawing vii) Study done for equipment selection (WTGs, crane, trailers) It may be noted that each of the above services were required post decision making and also the cost due to CDM registration/carbon credit consulting has not been included. e) Sensitivity in tariff has been now been included as part of the sensitivity analysis in the IRR sheet. Same has also been included in the PDD. However, it may be noted that as per the SPPA dated 31/07/2013 which has been signed with the Ceylon Electricity Board a flat tariff of 19.43 INR/kWh has been awarded to the project activity.		
<b>Documentation Provided as Evidence by Project Participant</b>		
i) Annexure 1- application from the project participant to the Ministry of Environment, Sri Lanka (host country DNA) dated 25/11/2013 ii) Revised IRR version 3. iii) Revised PDD version 3.		
<b>Information Verified by Team Leader</b>	<b>Date of review: 26/05/2014</b>	
Annexure 1- application from the project participant to the Ministry of Environment, Sri Lanka (host country DNA) dated 25/11/2013 Revised IRR version 3.		
<b>Reasoning for not acceptance or close out</b>		
B) the attachment to the application for the host country approval was provided to the assessment team which indicates the PDD which was submitted for the application. It can be concluded that the same PDD was webhosted which was considered for the host country approval. d) it was confirmed from the technical expert that the services mentioned above can only be conducted during and after the project implementation. Therefore the cost can be considered for IRR computation. e) sensitivity on the tariff rate has been included in the revised ER sheet appropriately.		
<b>Date of acceptance or non-acceptance</b>	<b>Date: 26/05/2014</b>	Status: Closed



### Annex 3: Certificate of Competence

<b>Personnel Name:</b>		<b>Shreya Garg</b>	
<b>Qualified to work as:</b>			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input type="checkbox"/>
Technical Reviewer	<input type="checkbox"/>	Local Expert (India)	<input checked="" type="checkbox"/>
<b>Area(s) of Technical Expertise</b>			
<b>Sectoral Scope</b>		<b>Technical Area</b>	
Energy industries (renewable/non-renewable sources)		TA 1.2: Energy generation from renewable energy sources	
Approved by (Manager C & T)		Sanjay Kandari	
Approval date:		26/09/2013	

<b>Personnel Name:</b>		<b>Pathmanatha Poddiala</b>	
<b>Qualified to work as:</b>			
Team Leader	<input type="checkbox"/>	Technical Expert	<input type="checkbox"/>
Validator/Verifier	<input type="checkbox"/>	Financial Expert	<input type="checkbox"/>
Technical Reviewer	<input type="checkbox"/>	Local Expert (Srilanka)	<input checked="" type="checkbox"/>
<b>Area(s) of Technical Expertise</b>			
<b>Sectoral Scope</b>		<b>Technical Area</b>	
N/A		N/A	
Approved by (Manager C & T)		Mayank Kumar Jain	
Approval date:		26/06/2012	

<b>Personnel Name:</b>		<b>Megha Lotankar</b>	
<b>Qualified to work as:</b>			
Team Leader	<input type="checkbox"/>	Team Leader	<input type="checkbox"/>
Validator/Verifier (Trainee)	<input checked="" type="checkbox"/>	Validator/Verifier (Trainee)	<input checked="" type="checkbox"/>
Technical Reviewer	<input type="checkbox"/>	Technical Reviewer	<input type="checkbox"/>
<b>Area(s) of Technical Expertise</b>			
<b>Sectoral Scope</b>		<b>Technical Area</b>	
Not applicable		Not applicable	
Approved by (Manager C & T)		Mayank Kumar Jain	
Approval date:		25/06/2012	



<b>Personnel Name:</b>		<b>B. Rampradap</b>	
<b>Qualified to work as:</b>			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input type="checkbox"/>
Technical Reviewer	<input checked="" type="checkbox"/>	Local Expert (India)	<input checked="" type="checkbox"/>
<b>Area(s) of Technical Expertise</b>			
<b>Sectoral Scope</b>	<b>Technical Area</b>		
Energy industries (renewable/non-renewable sources) Energy Demand Waste handling and disposal	TA 1.2: Energy generation from renewable energy sources TA 3.1 Energy Demand TA 13.1: Waste handling and disposal		
Approved by (Manager C & T)	Mayank Jain		
Approval date:	09/05/2013		



#### History of the document

Version	Date	Nature of revision	Reviewed by	Approved by
4.0	29/07/2013	Revised for VVS 3.0 and 4.6 section added	Manager CDM Quality 04/08/2012	Managing Director 08/08/2013
3.0	05/09/2012	Revised for VVS track	Manager CDM Quality 07/09/2012	Managing Director 10/09/2012
2.0	31/12/2011	Comprehensively revised	Manager CDM Quality 31/12/2011	Managing Director 31/12/2011