




**Verification and certification report form for
CDM project activities
(Version 04.0)**

Complete this form in accordance with the instructions attached at the end of this form.

BASIC INFORMATION

Title and UNFCCC reference number of the project activity	Title: Vaayu India Wind Power Project in Tamilnadu UNFCCC Reference number: 4930		
Scale of the project activity	<input checked="" type="checkbox"/> Large-scale <input type="checkbox"/> Small-scale		
Version number of the verification and certification report	1.1Aa		
Completion date of the verification and certification report	23/11/2021		
Monitoring period number and duration of this monitoring period	Monitoring Period Number: 8 th Monitoring Period Duration: 01/01/2020 to 31/12/2020 (both days inclusive)		
Version number of the monitoring report to which this report applies	03 dated, 09/11/2021		
Crediting period of the project activity corresponding to this monitoring period	19/07/2011 to 18/07/2021 (Fixed Crediting Period)		
Project participants	Vaayu (India) Power Corporation Private Limited ACT Financial Solutions B.V. First Climate Markets A.G.		
Host Party	India		
Applied methodologies and standardized baselines	ACM0002, ver. 12.1.0 - Consolidated baseline methodology for grid-connected electricity generation from renewable sources		
Mandatory sectoral scopes	Sectoral Scope: 1 - Energy industries (renewable - / non-renewable sources)		
Conditional sectoral scopes, if applicable	N/A		
Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD	103,896 tCO ₂ e		
Certified amount of GHG emission reductions or GHG removals for this monitoring period	Amount before 1 January 2013	Amount from 1 January 2013 until 31 December 2020	Amount from 1 January 2021
		94,644 tCO ₂ e	
Name and UNFCCC reference number of the DOE	RINA Services S.p.A. (RINA) E-0037		
Name, position and signature of the approver of the verification and certification report	Laura Severino (Authorized officer signing for the DOE) Head of Sustainability Compliance & New Scheme Development Coordination 		

SECTION A. Executive summary

>>The project activity involves electricity generation by utilizing renewable wind energy. The project activity involves supply, erection, commissioning and operation of 63 machines of rated capacity 800 kW each. The machines are Enercon E-53 make. The project activity is located in Tirunelveli district State of Tamilnadu. The project activity supplies clean and renewable power to the grid. The WECs under the project activity were commissioned between 29/09/2010 and 11/07/2011. The project being a renewable energy generation activity, it leads to removal of fossil fuel dominated electricity generation.

Scope of verification

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

The objective of the verification is to have an independent review ex post determination by a Designated Operational Entity (DOE) of the monitored reductions in GHG emissions that have occurred as a result of the registered CDM project activity during a defined monitoring period. Certification is the written assurance by the DOE that, during a specific time period, a proposed CDM project activity achieved the reductions in anthropogenic emissions by sources of GHGs as verified.

The scope of the verification is to verify that:

- the actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- the reported GHG emission data is sufficiently supported by evidence.

Verification shall ensure that reported emission reductions are complete and accurate in accordance with applicable UNFCCC criteria for CDM in order to be certified.

Verification process:

Verification is conducted using RINA procedures in line with the requirements specified in the latest version of the CDM Validation and Verification Standard, relevant decisions of the CDM EB and applying standard auditing techniques. RINA assesses and determines that the implementation and operation of the project activity, and steps taken to report emission reductions comply with the CDM criteria and relevant guidance provided by the Board. The verification assessment involved a document review of relevant documentation and the remote audit. Verification is not meant to provide any consultancy towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring.

Conclusion:

Vaayu (India) Power Corporation Private Limited has commissioned RINA to carry out the verification and certification of emission reductions reported for the registered “Vaayu India Wind Power Project in Tamilnadu” project in India, CDM Registration Reference No. 4930, for the period 01/01/2020 to 31/12/2020. The project was validated by DNV (validation report No. 2010-0469) issued on 09/07/2010) and it was registered on 19/07/2011 under the CDM registration reference No. 4930. The GHG emission reductions were calculated on the basis of the approved methodology ACM0002 ver. 12.1.0 ‘Consolidated baseline methodology for grid-connected electricity generation from renewable sources’ and the monitoring plan included in the registered Project Design Document, version 10 of 03/10/2018.

In conclusion, it is RINA’s opinion that the project activity “Vaayu India Wind Power Project in Tamilnadu”, in “India”, as described in the Monitoring Report version 3.0 of 09/11/2021, meets all relevant requirements for CDM activities and all relevant host Party criteria and correctly applies the baseline and monitoring methodology ACM0002 ver. 12.1.0 ‘Grid-connected electricity generation from renewable resources’. Hence, RINA is able to certify that the emission reductions from the project during the monitoring period 01/01/2020 to 31/12/2020 amount to 94,644 tCO_{2e}.

SECTION B. Verification team, technical reviewer and approver**B.1. Verification team member**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Verification findings
1.	Team Leader, verifier, technical expert (TA1.2)	IR	Mathew	Vijay	RINA India	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

B.2. Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Amalorpavanathan	Cyril Augustus A	RINA India
2.	Approver	IR	Severino	Laura	RINA Head Office

SECTION C. Application of materiality**C.1. Consideration of materiality in planning the verification**

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	No risk envisaged	NIL	The project has successfully completed seven verifications and the monitoring parameter 'net export of electricity to grid' is monitored in calibrated energy meter duly approved by Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO). Hence, no risk envisaged.	Cross checking all input values in the emission reduction spreadsheet with electricity generation records, invoices and calibration/meter test reports of energy meters.

C.2. Consideration of materiality in conducting the verification

>> In line with Guidelines for Application of materiality in verifications /14/, a reasonable level of assurance is defined for the verification of the project by complete verification of all the values indicated in the emission reduction spreadsheet with source documents such as electricity generation records, invoices at the document review stage and during remote site visit. There are no material errors, omissions or misstatements.

SECTION D. Means of verification**D.1. Desk/document review**

>>The monitoring report, Version 01.0 of 26/02/2021, Version 02.0 of 08/11/2021, Version 03.0 of 09/11/2021 /01/, the emission reduction calculations provided in the form of a spreadsheet (ER Sheet_ver 03_09112021.xls) Version 01.0 of 26/02/2021, Version 02.0 of 08/11/2021, and version 03 of 09/11/2021

/02/, were assessed as part of the verification. In addition, the Project Design Document (PDD) /03/ in particular the baseline estimations and the monitoring plan and the validation reports /05/ /07/ /09/ for the project were reviewed.

The monitoring report version 1.0 of 26/02/2021 /01/ was made publicly available on the CDM UNFCCC website on 02/03/2021. Appendix 3 lists the documentation that was reviewed during the verification.

D.2. On-site inspection

Duration of remote site visit inspection: 15/06/2021 to 15/06/2021				
No.	Activity performed during remote site visit call	Site location	Date	Team member
1.	Implementation and operation of the proposed project activity. Checked the monitoring equipment, interviewed key personnel of the plant to confirm the operational and data collection procedures, cross-checked between information provided in the monitoring report and data plant.	Tirunelveli, Tamilnadu State	15/06/2021	Vijay Mathew
2.	Reviewed the information flows for generating, aggregating and reporting the monitoring parameters.			
3.	Checked calibration performance, reviewed calculations and assumptions made in determining the GHG data and emission reductions.			
4.	Checked the quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.			
5.	Cross-checked between information provided in the monitoring report and data evidence.			

A complete desk review of the submitted MR Version 01.0 of 26/02/2021, Version 02.0 of 08/11/2021, Version 03 of 09/11/2021 /01/ and supportive evidences have been checked by the Verification Team.

In addition, audit team has conducted a remote site inspection via videoconference (Zoom) with PP on different topics as mentioned under section C.3 of this report. Based on the videoconference, MR review, as the review of UNFCCC procedures and guidelines, RINA Verification team has proceeded to skip the presential site visit due to the COVID-19 pandemic /22/. As per para 339 of CDM Validation and Verification Standard for project activities version 03.0 /13/, Verification team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of verification.

- By review of MR;
- By taking follow up actions by conducted interview with PP, to gather information about knowledge of project design, current situation via videoconference. Cross-checked evaluation under the scope of all information and references provided in MD. Details of interviewees, topics covered and additional information presented in the below section "C.3 – Interviews".

Verification team has also checked the site visit requirements mentioned in the VVS for Project Activity version 03.0 /13/. The justification for the remote site visit requirements of VVS PA version 03.0 /13/ have been mentioned below.

VVS PA version 03.0 requirements	Verification team justification
Para 338 (b)	Verification team has done the follow-up actions by:
(b) On-site inspection taking into account	Team has carried out interviews with relevant personals to verify the implementation and operation of the registered CDM project activity as per the

<p>paragraphs 339–341 below, involving:</p> <ul style="list-style-type: none"> (i) An assessment of the implementation and operation of the registered CDM project activity as per the registered PDD or any approved revised PDD; (ii) A review of information flows for generating, aggregating and reporting the monitoring parameters; (iii) Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the registered monitoring plan; (iv) Cross checks between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources; (v) A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the PDD, the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents; (vi) A review of calculations and assumptions made in determining the GHG data and GHG emission reductions or net anthropogenic GHG removals; (vii) An identification of quality control and quality assurance procedures in place to prevent, or identify and correct, any errors or omissions in the reported monitoring parameters. 	<p>registered PDD or any approved revised PDD. For the project 'Vaayu India Wind Power Project in Tamilnadu' this is 8th verification; hence, previous periodic monitoring report and verification reports are assessed. Further, picture of monitoring meters, and other relevant background documents were provided and assessed.</p> <p>The verification team has carried out interviews using Zoom application with video camera function, in order to assess the information on registered monitoring plan in the PDD. Further, to gain information regarding the implementation, data collection procedure and operation of the project activity. PP walk in the project site so that the verification team was able to check the installed equipment. Team has reviewed the information flows for generating, aggregating and reporting the monitoring parameters.</p> <p>The ex post parameters are sourced from monthly generation report, issued by TANGENCO (a public utility company). All the generation reports are provided and verified. Cross checks of net generation data are done against the invoice submitted by the PP to TANGENCO. All the invoices are verified.</p> <p>PP presented during the videoconference all documents related to monitoring and equipment calibration.</p> <p>The calculations and assumptions made in determining the CERs were reviewed and discussed with PP by videoconference.</p>
<p>Para 339</p> <p>It is mandatory for the DOE to conduct an on- site inspection at verification for the registered CDM project activity if:</p> <ul style="list-style-type: none"> (a) It is the first verification for the DOE with regard to this project activity; (b) More than three years have elapsed since the last on-site inspection conducted for verification for the project activity; or (c) The project activity has achieved more than 300,000 tCO₂eq of GHG emission reductions or net anthropogenic GHG removals since the last verification when an on-site inspection was conducted. 	<p>The on-site visit for this project activity was not conducted due to the COVID-19 pandemic. The Executive Board of the Clean Development Mechanism (CDM) agreed on its 110th EB meeting, on an exceptional basis, considering the COVID-19 pandemic, to extend the period in which CDM Designated Operational Entities (DOEs) may apply alternative measures of validation/verification to mandatory on-site inspections until 31 December 2021 /22/. The site visit cannot be postponed since a delay on performing the mandatory on-site visit for the project activity 4930, will impact on a delay in CERs delivery to its ERPA signed on 24/02/2020 and 29/09/2020 with the buyer /23/.</p>

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Bose	Mallika	Assistant General Manager	15/06/2021	Monitoring report preparation, CER calculation, Project description, implementation status of the project, Monitoring plan, and ER calculations. Metering equipment accuracy/calibration, performance frequency (project boundaries processes and equipment, involved-possible leakages). Monitoring practices (against the requirements of the PDD and the selected methodology) Cross-check between information provided in the monitoring report and data from other sources such as JMR, invoice and payment receipts. Operating staff competence and the risks for inappropriate operation and data collection procedures of the project (training needs).	Vijay Mathew
2.	V	Chandrasekar	Senior Manager			

D.4. Sampling approach

>>N/A

D.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form		01	
Compliance of the project implementation and operation with the registered PDD			
Post-registration changes			
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines			
Compliance of monitoring activities with the registered monitoring plan		01	01
Compliance with the calibration frequency requirements for measuring instruments			
Assessment of data and calculation of emission reductions or net removals		01	
Assessment of reported sustainable development co-benefits			
Global stakeholder consultation			
Others (please specify)			
Total		03	01

SECTION E. Verification findings**E.1. Compliance of the monitoring report with the monitoring report form**

Means of verification	Comparing the monitoring report /01/ with the monitoring report form provided by CDM EB listed in UNFCCC website /08/.
Findings	CAR 01 is raised.

	<p>CAR 01</p> <p>1. The latest version of monitoring report template, version 09 dated 08/10/2021 is available at UNFCCC website. PP is requested to revise the monitoring report according to the latest template.</p> <p>CAR 01 is closed. More information on how the CAR 01 was closed, is provided in Appendix-4 of this verification and certification report.</p>
Conclusion	The verification team confirms that the monitoring report used by the PP is compliance with the latest MR form available at UNFCCC website and is in accordance with the applicable instruction; hence complies paragraph 352 & 353 of VVS, version 03.0.

E.2. Remaining forward action requests from validation and/or previous verifications

>>During the last monitoring period one FAR was raised. The same is checked during this monitoring period and found meeting the requirement. Hence, the FAR from pervious verification is closed. The details are mentioned in Appendix 4 of the verification and certification report.

E.3. Compliance of the project implementation and operation with the registered project design document

Means of verification	As part of the remote audit, RINA was able to confirm that the project implementation is in accordance with the project description contained in the PDD /03/. Further, RINA has verified the validation and PRC reports /05/ /07/ /09/. The project capacity involves installation of 63 nos. of Wind Energy Convertors (WECs) of aggregate capacity 50.4MW. Each WEGs is of 800 kW capacity. Type and capacity of individual WECs were confirmed from the previous validation reports /05/ /07/ /09/ and Joint Meter Reports (JMRs) /16/ /17/. It was further assessed through the technical specifications of the WEGs model E-53. The was project capacity further confirmed from the and the details mentioned in previous commissioning certificates, verification report /21/ and validation reports /05/, /07/, /09/. During the remote audit, no changes have been observed or identified which may impact the additionality as there was no change in the installed capacity, no addition of component nor extension of technology, no addition nor removal of project sites; no change has been observed or identified that may impact the scale of the project activity or applicability of baseline and monitoring methodology ACM0002, version 12.1.0 /04/. The net electricity generation by the project from 01/01/2020 to 31/12/2020, is taken into consideration.
Findings	N/A
Conclusion	The project is implemented according to the description presented in the PDD, which is discussed above. The verifier confirms, through remote audit and from the JMRs, Calibration certificates/ Meter test reports, Commissioning certificates, pervious validation and verification reports. All features of the CDM project activity including the equipment, data collecting systems and storage have been implemented in accordance with the registered PDD. The project activity is completely operational and the same has been confirmed.

E.4. Post-registration changes

E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents¹

>> N/A

E.4.2. Corrections

>> There is a permanent change in the project activity as out of the 63 registered WECs, the ownership of 19 WECs had been changed from "Vaayu (India) Power Corporation Pvt. Ltd." to "Vaayu renewable energy

¹ Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

Godavari Pvt. Ltd." w.e.f. March 2016. PP has submitted a request for post registration change to UNFCCC. The changes have been approved by UNFCCC via a Post Registration Change (PRC) request; which was submitted via revised PDD (version 10, dated 03 Oct 2018) /03/ and got approved on 16/01/2019 /07/.

E.4.3. Changes to the start date of the crediting period

>> N/A

E.4.4. Inclusion of a monitoring plan

>> N/A

E.4.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

>> There were two permanent changes made during the previous monitoring periods. PP requested for a permanent change in Monitoring plan as the frequency of energy meter calibration has made in-line with the CEA regulations 2006 issued by the Central Electricity Authority /10/. PP has requested for a permanent change in the calibration frequency from annual to 'once in a five year'. This request was approved by UNFCCC/06/. Further, verified the validation report w.r.t. PRC-4930-001/09/. The other Post Registration Change (PRC) was made related to ownership change of 19 WECs were transferred from VIPCPL to VREGPL; for which PRC request was made via registered PDD version 10, dated 03/10/2018, which was approved by UNFCCC on 16/01/2019/06/. This PRC also includes some associated permanent changes into the registered monitoring plan and parameters. Such changes include representation of line diagram, source of data for monitoring parameters, cross checking mechanism, etc. These changes are included in the respective sections of the monitoring plan/03/. Further, verified the validation report w.r.t. PRC-4930-002/07/.

E.4.6. Changes to the project design

>> N/A

E.4.7. Changes specific to afforestation and reforestation project activities

>> N/A

E.5. Compliance of the registered monitoring plan with applied methodologies, applied standardized baselines, and other applied methodological regulatory documents

Means of verification	During the monitoring period it was noted that the parameters (also discussed in detail in section E.6.2) and the monitoring plan was found as per the applied methodology. There is no deviation observed between monitoring plan of the project activity with the monitoring plan of the applied methodology of the project activity.
Findings	N/A
Conclusion	All monitoring parameters, monitoring and calibration procedures follow the methodology requirements. No recommendation was made during this verification.

E.6. Compliance of monitoring activities with the registered monitoring plan

E.6.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	Data and parameters fixed ex-ante as listed in the monitoring report have been crosschecked and reviewed as applicable against the registered PDD, monitoring plan as well as against the applied methodology and other relevant CDM documentation.			
	DATA/PARAMETER Unit	Source data	of Reported value for the project period	Assessment/Observation

	EF_{grid,OM,y} Operating Margin Emission Factor of Southern Regional Electricity Grid in the year y tCO _{2e} /MWh	UNFCCC registered project No. 4930 /06/	0.98756	The value is ex-ante fixed for the fixed crediting period of 10 years crediting period as per the registered PDD /03/, which has been justified and validated by validation DOE /05/ to follow the applied methodology and tool and already approved by EB.
	EF_{grid,BM,y} Build Margin Emission Factor of Southern Regional Electricity Grid in the year y tCO _{2e} /MWh	UNFCCC registered project No. 4930 /06/	0.81792	The value is ex-ante fixed for the fixed crediting period of 10 years crediting period as per the registered PDD /03/, which has been justified and validated by validation DOE /05/ to follow the applied methodology and tool and already approved by EB.
	EF_y or EF_{grid,CM,y} Combined Margin Emission Factor of Southern Regional Electricity Grid in the year y tCO _{2e} /MWh	UNFCCC registered project No. 4930 /06/	0.94515	The value is ex-ante fixed for the fixed crediting period of 10 years crediting period as per the registered PDD /03/, which has been justified and validated by validation DOE /05/ to follow the applied methodology and tool and already approved by EB.
Findings	N/A			
Conclusion	RINA confirms that the parameters listed above are fixed ex-ante and used for baseline, project emissions and leakage emissions calculation in accordance with the applied methodology and methodological tools and they are the same used at the validation stage.			

E.6.2. Data and parameters monitored

Means of verification	Data/Parameter	Assessment
	Data Unit	MWh (Mega-watt hour)
	Description	Net Electricity Exported to the grid and/or third party by the project (EG _{PJ,y})
	Source of data to be used	Monthly statement provided by TNEB/ TANGEDCO
	Value of monitored parameter for the monitoring period	100,136.83 MWh
	Monitoring equipment	Energy meters are used to monitor Electricity import and export. Joint meter reading are taken; and based on the same net electricity exported is calculated. The details of the meters are mentioned in section E.7 of this report.
	Accuracy of the monitoring equipment	The accuracy class of energy meters are of 0.2S which is as per registered monitoring plan /03/. The same is confirmed from calibration/meter test reports /20/.

	Measuring/Reading/Recording frequency	Continuously measured and monthly recording. This is as per registered monitoring plan /03/. Records of monthly generation report (JMR) for the whole monitoring period is cross checked found the reported values to be correct /16//17/.
	Calculation method (if applicable)	$EG_{PJ,y} = EG_{Export,y} - EG_{Import,y} - T_E$ <p>Where as,</p> <p>$EG_{Export,y}$ is the Electricity Export to the grid</p> <p>$EG_{Import,y}$ is the Electricity Import from the grid</p> <p>T_E is the line Loss between 33 kV metering point and 110 kV metering point at WWIL substation. The source of the above parameters are mentioned in the subsequent table(s). The net electricity exported to the grid by the project activity is calculated by TNEB/ TANGEDCO from the directly measured values as per the procedure as described in section B.7.3 of the revised approved PDD /03/.</p>
	Data/Parameter	Assessment
	Data Unit	MWh (Mega-watt hour)
	Description	Electricity exported by project activity to grid and/or third party recorded at 33kV metering points called Cluster meter ($EG_{Export,y}$)
	Source of data to be used	Monthly statement showing the electricity generated through windmills given by Tamilnadu Electricity Board (TNEB)/ TANGEDCO.
	Value of monitored parameter for the monitoring period	100,411.85 MWh
	Monitoring equipment	Energy meters are used to monitor Electricity export. The details of the meters are mentioned in section E.7 of this report.
	Accuracy of the monitoring equipment	The accuracy class of energy meters are of 0.2S which is as per registered monitoring plan /03/. The same is confirmed from calibration/meter test reports /20/.
	Measuring/Reading/Recording frequency	Continuously measured and monthly recording. This is as per registered monitoring plan /03/. Records of monthly generation report (JMR) for the whole monitoring period is cross checked found the reported values to be correct /16//17/.
Calculation method (if applicable)	Not Applicable	
	Data/Parameter	Assessment
	Data Unit	MWh (Mega-watt hour)
	Description	Electricity imported by project activity to grid and/or third party recorded at 33kV metering points called Cluster meter ($EG_{Import,y}$)
	Source of data to be used	Monthly statement showing the electricity generated through windmills given by Tamilnadu Electricity Board (TNEB)/ TANGEDCO.
	Value of monitored parameter for the monitoring period	275.02 MWh

	Monitoring equipment	Energy meters are used to monitor Electricity import. The details of the meters are mentioned in section E.7 of this report.
	Accuracy of the monitoring equipment	The accuracy class of energy meters are of 0.2S which is as per registered monitoring plan /03/. The same is confirmed from calibration/meter test reports /20/.
	Measuring/Reading/Recording frequency	Continuously measured and monthly recording. This is as per registered monitoring plan /03/. Records of monthly generation report (JMR) for the whole monitoring period is cross checked found the reported values to be correct /16//17/.
	Calculation method (if applicable)	Not Applicable
	Data/Parameter	Assessment
	Data Unit	MWh (Mega-watt hour)
	Description	Line loss between the metering point at 33 kV metering points of project activity and the metering point at 110 kV at the WWIL pooling substation (T _E)
	Source of data to be used	Monthly statement showing the electricity generated through windmills given by Tamilnadu Electricity Board (TNEB)/ TANGEDCO.
	Value of monitored parameter for the monitoring period	0
	Monitoring equipment	Calculated parameter.
	Accuracy of the monitoring equipment	Not applicable; since, it's a calculated parameter.
	Measuring/Reading/Recording frequency	The data is calculated monthly. The line loss calculation is done by TANGEDCO which is a state utility and is directly used for adjusting the net export recorded at 33kV metering clusters. This is as per registered monitoring plan /03/. Records of monthly generation report (JMR) for the whole monitoring period is cross checked found the reported values to be correct /16//17/.
	Calculation method (if applicable)	$T_E = Z \times (EG_{Export,y} - EG_{Import,y})$ <p>Where, Z = Percentage Line loss incurred in Line between the meters located at 33 kV metering point (including the machines of the project activity and other project developers) and the meters located at 110kV metering point (bulk meter: main and check) at high voltage side of receiving sub-station.</p> <p>The Line loss between the metering point at 33 kV metering points of project activity and the metering point at 110 kV at the WWIL pooling substation is calculated by TNEB/ TANGEDCO from the directly measured values as per the procedure as described in section B.7.3 of the revised approved PDD /03/.</p>

Findings	<p>CAR 02 and FAR 01 are raised.</p> <p>CAR 02</p> <p>PP has submitted the Joint Meter Reports, invoices w.r.t. the project activity. However, the values mentioned in section D.2. i.e. the data parameters monitored w.r.t. EG_{Export}, EG_{Import} and T_E and $EG_{P,J,y}$ are not in line with the documents submitted.</p> <p>FAR 01</p> <p>PP has calculated the line losses as per the formula given in the registered PDD. However, the format of monthly generation statement is changed from the period December, 2018 for VPCPL and from April, 2019 for VREGPL. Now the line loss is a percentage of net electricity supplied instead of mentioning in units. Therefore, verifying DOE is requested to cross verify the percentage with the invoice submitted by the PP to TANGENCO to ensure the conservativeness in the ER estimation.</p> <p>CAR 02 and FAR 01 are closed. More information on how the CAR 02 and FAR 01 are closed, is provided in Appendix-4 of this verification and certification report.</p>
Conclusion	RINA is able to confirm that the monitoring has been implemented in full compliance with the registered monitoring plan and all the parameters listed in the registered monitoring plan have been completely monitored.

E.6.3. Implementation of sampling plan

Means of verification	N/A
Findings	N/A
Conclusion	N/A

E.7. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	According to approved monitoring plan in the registered PDD/03/ the meters are to be tested and calibrated once in 5 years. All the old meters have been replaced with new meters. The test report w.r.t. installation are provided and verified /20/. The details of monitoring equipment is involved in the project activity and their calibration dates of old meters and the test reports for new meters installation are summarised in the tables below. All the meters are of accuracy class of 0.2s. The assessment team has checked the energy meter test reports/20/ for accuracy and validity, so as to assure reliability and steadiness of monitoring results.						
	Cluster Meter at 33kV level:						
	HTSC No	New meter make	Energy Meter SL. no	Date of Installation*	Calibration Due date	Accuracy Class	Meter Version
	3376	EDMI	HT2170647	28-11-2017	27-11-2022	0.2s	DLMS
	3461	EDMI	HT2170448	30-10-2017	29-10-2022	0.2s	DLMS
	3462	EDMI	HT2170444	30-10-2017	29-10-2022	0.2s	DLMS
	3463	EDMI	HT2170445	30-10-2017	29-10-2022	0.2s	DLMS
	3464	EDMI	HT2170451	30-10-2017	29-10-2022	0.2s	DLMS
	3465	EDMI	HT2170232	16-06-2017	15-06-2022	0.2s	DLMS
	3466	EDMI	HT2170232	16-06-2017	15-06-2022	0.2s	DLMS
	3467	EDMI	HT2170230	16-06-2017	15-06-2022	0.2s	DLMS
	3470	EDMI	HT2170453	30-10-2017	29-10-2022	0.2s	DLMS
	3500	EDMI	HT2170454	31-10-2017	30-10-2022	0.2s	DLMS
	3501	EDMI	HT2170459	31-10-2017	30-10-2022	0.2s	DLMS
	3502	EDMI	HT2170391	15-07-2017	14-07-2022	0.2s	DLMS
3503	EDMI	HT2170392	15-07-2017	14-07-2022	0.2s	DLMS	

3504	EDMI	HT2170396	15-07-2017	14-07-2022	0.2s	DLMS
3505	EDMI	HT2170394	15-07-2017	14-07-2022	0.2s	DLMS
3506	EDMI	HT2170395	15-07-2017	14-07-2022	0.2s	DLMS
3507	EDMI	HT2170389	15-07-2017	14-07-2022	0.2s	DLMS
3508	EDMI	HT2170228	16-06-2017	15-06-2022	0.2s	DLMS
3509	EDMI	HT2170236	16-06-2017	15-06-2022	0.2s	DLMS
3510	EDMI	HT2170227	16-06-2017	15-06-2022	0.2s	DLMS
3511	EDMI	HT2170226	16-06-2017	15-06-2022	0.2s	DLMS
3512	EDMI	HT2170462	31-10-2017	30-10-2022	0.2s	DLMS
3513	EDMI	HT2170225	16-06-2017	15-06-2022	0.2s	DLMS
3514	EDMI	HT2170229	16-06-2017	15-06-2022	0.2s	DLMS
3515	EDMI	HT2170449	30-10-2017	29-10-2022	0.2s	DLMS
3516	EDMI	HT2170446	30-10-2017	29-10-2022	0.2s	DLMS
3517	EDMI	HT2170456	31-10-2017	30-10-2022	0.2s	DLMS
3518	EDMI	HT2170463	31-10-2017	30-10-2022	0.2s	DLMS
3519	EDMI	HT2170457	31-10-2017	30-10-2022	0.2s	DLMS
3528	EDMI	HT2170460	31-10-2017	30-10-2022	0.2s	DLMS
3768	EDMI	HT2170398	15-07-2017	14-07-2022	0.2s	DLMS
3769	EDMI	HT2170291	28-11-2017	27-11-2022	0.2s	DLMS
3770	EDMI	HT2170619	28-11-2017	27-11-2022	0.2s	DLMS
3771	EDMI	HT2170379	18-07-2017	17-07-2022	0.2s	DLMS
3772	EDMI	HT2170639	28-11-2017	27-11-2022	0.2s	DLMS
3773	EDMI	HT2170292	28-11-2017	27-11-2022	0.2s	DLMS
3774	EDMI	HT2170295	28-11-2017	27-11-2022	0.2s	DLMS
3775	EDMI	HT2170296	28-11-2017	27-11-2022	0.2s	DLMS
3776	EDMI	HT2170638	28-11-2017	27-11-2022	0.2s	DLMS
3777	EDMI	HT2170616	28-11-2017	27-11-2022	0.2s	DLMS
3778	EDMI	HT2170293	28-11-2017	27-11-2022	0.2s	DLMS
3779	EDMI	HT2170469	30-10-2017	29-10-2022	0.2s	DLMS
3780	EDMI	HT2170465	30-10-2017	29-10-2022	0.2s	DLMS
3781	EDMI	HT2170387	18-07-2017	17-07-2022	0.2s	DLMS
3782	EDMI	HT2170429	18-07-2017	17-07-2022	0.2s	DLMS
3783	EDMI	HT2170385	18-07-2017	17-07-2022	0.2s	DLMS
3784	EDMI	HT2170386	18-07-2017	17-07-2022	0.2s	DLMS
3785	EDMI	HT2170382	18-07-2017	17-07-2022	0.2s	DLMS
3789	EDMI	HT2170290	28-11-2017	27-11-2022	0.2s	DLMS
3790	EDMI	HT2170614	28-11-2017	27-11-2022	0.2s	DLMS
3791	EDMI	HT2170297	28-11-2017	27-11-2022	0.2s	DLMS

Calibration details for old Bulk meters at 110kV level installed at sub-station is as follows as per previous verification:-

Meter Serial No.	Make	Accuracy class	Previous dates of calibration		Due date of calibration
			2011	2015	2020
HT1100044	Wallaby	0.2s	09/11/2011	20/04/2015	20/04/2020

	HT1100045	Wallaby	0.2s	12/11/2011	20/04/2015	20/04/2020
	<u>Details of New meters:</u>					
	Meter Serial No.	Make	Accuracy class	Installation test report (2018)	Due date of calibration	
	10-116001, 10-116002, 10-116003	ABT DLMS	0.2s	07/04/2018	07/04/2023	
	10-117003, 10-117001, 10-117002	ABT DLMS	0.2s	07/04/2018	07/04/2023	
	From the above, it is evident that there is no delay in calibration of substation meters identified in the current monitoring period and calibration of meters cover the monitoring period.					
Findings	N/A					
Conclusion	RINA confirms that the calibration confirms the proper functioning of the monitoring equipment and is valid for the whole verification monitoring period. According to clause 338 (b), and 373 of VVS version 03, verification team has checked calibration/meter test reports to confirm that the frequency of calibration is carried out as specified in the registered monitoring plan (clause 358, 361, and 365 of VVS, version 03.0)					

E.8. Assessment of data and calculation of emission reductions or net removals

E.8.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	<p>The baseline emission for the project activity has been calculated as per the PDD version 10 dated 03/10/2018 /03/ and ACM0002, version 12.1.0 /04/ as follows:</p> <p>The baseline emissions are to be calculated as follows:</p> $BE_y = EG_{PJ,y} * EF_{grid, CM, y}$ <p>and</p> $EG_{PJ,y} = EG_{Export,y} - EG_{Import,y} - T_E$ <p>Where,</p> <p>BE_y is the Baseline emissions in year y (tCO_2/yr). $EG_{PJ,y}$ is the Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr). This as calculated as difference of EG_{export}, EG_{import} and T_E as monitored continuously and recorded in monthly generation reports. T_E is the line loss between the metering point at 33 kV metering points of project activity and the metering point at 110 kV at the WWIL pooling substation.</p> <p>As stated in the section E.6.2 above, EG_{export}, EG_{import} and T_E during the monitoring period is 100,411.85 MWh, 275.02 MWh and 0 MWh respectively which results to $EG_{PJ,y}$ as 100,136.83 MWh for the monitoring period and the measurement is in line with the applied methodology and registered monitoring plan. The monthly EG_{export}, EG_{import} and T_E reported values are found consistent with monthly generation records /16/ /17/. Further, the net export of electricity is cross checked from the monthly invoices raised /18/ /19/ to TANGENCO and found both monthly</p>
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	<p>generation report and invoices are consistent. Hence, reported values of monthly electricity export and import is correct.</p> <p>$EF_{grid,CM,y}$ (combined margin grid emission factor) of 0.94515 tCO₂/MWh was fixed ex-ante which is confirmed from the registered PDD//03/ and validation report /05/ /07/. The value found consistent. Accordingly, the resulted Baseline emissions (BE_y) for the monitoring period is 94,644 tCO₂e (rounddown value).</p>
Findings	<p>CAR 03 is raised.</p> <p>CAR 03</p> <p>The amount of GHG emission reductions achieved by the project activity for this monitoring period is not in line with the JMR and Invoice submitted. Further, the amount of GHG emission reductions estimated ex ante for this monitoring period in the PDD estimated is not inline.</p> <p>CAR 03 is closed. More information on how the CAR 03 is closed, is provided in Appendix-4 of this verification and certification report.</p>
Conclusion	RINA confirms that baseline emissions have been appropriately calculated and are consistent with site visit observations, the applied methodology and registered PDD /01/ /02/ /03/ /04/ /05/ /07/ /09/ /16/ /17/ /18/ /19/ .

E.8.2. Calculation of project GHG emissions or actual net anthropogenic GHG removals by sinks

Means of verification	N/A
Findings	N/A
Conclusion	N/A

E.8.3. Calculation of leakage GHG emissions

Means of verification	N/A
Findings	N/A
Conclusion	N/A

E.8.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	<p>Emission Reductions:</p> <p>The emission reductions in this monitoring period are:</p> $ER_y = BE_y - PE_y - L_y$ <p>Where,</p> <p>ER_y is the total emission reductions of the project activity during the year y in tCO₂e;</p> <p>BE_y is the baseline emissions for the project activity during the year y in tCO₂e;</p> <p>PE_y is the emissions for the project activity during the year y in tCO₂e;</p> <p>LE_y is the leakage emissions for the project activity during the year y in tCO₂e.</p> <p>As explained in section E.8.1 above, the resulted Baseline emissions (BE_y) for the monitoring period is 94,644 tCO₂e. Similarly as explained in section E.8.2 and section E.8.3 project emission and leakage emissions are zero for the monitoring period. Hence, resulted emission reduction for the monitoring period is 94,644 tCO₂e.</p>
Findings	<p>CAR 03 is raised.</p> <p>CAR 03</p> <p>The amount of GHG emission reductions achieved by the project activity for this monitoring period is not in line with the JMR and Invoice submitted. Further, the amount of GHG emission reductions estimated ex ante for this monitoring period in the PDD estimated is not inline.</p> <p>CAR 03 is closed. More information on how the CAR 03 is closed, is provided in Appendix-4 of this verification and certification report.</p>
Conclusion	The data presented in the monitoring report /01/ and emission reduction worksheet /02/ were assessed by reviewing in detail project documentation, collection of monitored data, observation of established monitoring and reporting practices and

	assessment of the reliability of monitoring equipment. Sufficient evidences were presented and verified by RINA for the reported emission reductions as listed above. RINA confirms that baseline emissions have been appropriately calculated and are consistent with site visit observations, the applied methodology and registered PDD /01/, /02/, /03/, /04/, /05/, /07/, /09/, /16/, /17/, /18/, /19/.
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E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	The emission reductions from the project for the monitoring period as reported in the monitoring report revision 3 of 09/11/2021 /01/ is 94,644 tCO ₂ e. The reported emission reductions are 8.90% lower than the estimated emission reduction of 103,896 tCO ₂ e for the period as per the registered PDD version 10 of 03/10/2018 /03/.
Findings	N/A
Conclusion	The emission reduction calculations provided in the spreadsheet /02/ have been verified to be correct and in line with the registered PDD /03/.

E.8.6. Remarks on difference from estimated value in registered PDD

Means of verification	N/A
Findings	N/A
Conclusion	N/A

E.8.7. Actual GHG emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards

Means of verification	GHG emission reductions or net GHG removals by sinks reported up to 31 December 2012	GHG emission reductions or net GHG removals by sinks reported from 1 January 2013 onwards
	NA	94,644 tCO ₂
Findings	<p>CAR 03 is raised.</p> <p>CAR 03</p> <p>The amount of GHG emission reductions achieved by the project activity for this monitoring period is not in line with the JMR and Invoice submitted. Further, the amount of GHG emission reductions estimated ex ante for this monitoring period in the PDD estimated is not inline.</p> <p>CAR 03 is closed. More information on how the CAR 03 is closed, is provided in Appendix-4 of this verification and certification report.</p>	
Conclusion	RINA confirms that the actual GHG emission reductions achieved during period starting from 1st January 2013 onwards was verified to be 94,644 tCO ₂ e.	

E.9. Assessment of reported sustainable development co-benefits

Means of verification	N/A
Findings	N/A
Conclusion	N/A

E.10. Global stakeholder consultation

Means of verification	N/A
Findings	N/A
Conclusion	N/A

SECTION F. Internal quality control

>> The final verification report before being submitted to UNFCCC for request of issuance was subjected to an independent internal technical review to confirm that all verification activities had been completed according to the pertinent RINA instructions. The technical review was performed by a technical reviewer(s) qualified in accordance with RINA's qualification scheme for CDM validation and verification.

SECTION G. Verification opinion

>> RINA Services S.p.A. (RINA) has performed verification of the emission reductions reported for the project activity “Vaayu India Wind Power Project in Tamilnadu” in India, CDM Registration Reference No. 4930, for the period 01/01/2020 to 31/12/2020, with regard to the relevant requirements for CDM activities.

The project participants of the “Vaayu India Wind Power Project in Tamilnadu” project are responsible for:

- the preparation of greenhouse gas emissions data and the reported greenhouse gas emission reductions from the project on the basis set out in the monitoring plan contained in the registered project design document version 10, dated 03/10/2018
- the development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of greenhouse gas emission reductions of the project

It is the responsibility of RINA to express an independent verification opinion about the project's conformity with the requirements of paragraph 62 of the CDM modalities and procedures and on the reported greenhouse gas emission reductions from the project.

Based on documented evidence and corroborated by an on-site assessment RINA can confirm that:

- the project has been implemented and operated as per the registered PDD;
- the monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable CDM requirements;
- the monitoring is in place as per the applied baseline and monitoring methodology;
- the monitoring complies with the monitoring plan in the registered PDD;
- the monitoring plan in the registered PDD is as per the applied baseline and monitoring methodology.

SECTION H. Certification statement

>> It is RINA's opinion that the GHG emission reduction stated in the monitoring report version 03 of 09/11/2021 for the “Vaayu India Wind Power Project in Tamilnadu” project in India for the period 01/01/2020 to 31/12/2020 are fairly stated. The GHG emission reductions were calculated correctly on the basis of the approved monitoring methodology “ACM0002”, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 12.1.0 and the monitoring plan contained in the registered PDD.

Hence, RINA is able to certify that the emission reductions from the project during the monitoring period 01/01/2020 to 31/12/2020 amount to 94,644 tCO₂e.

Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CAAT	Computer Assisted Auditing Technique
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER(s)	Certified Emission Reduction(s)
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
ENV	Electricity of Vietnam (Grid)
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
IEC	International Electrotechnical Commission
IPCC	Intergovernmental Panel on Climate Change
JMR	Joint Meter Reading
LoA	Letter of Approval
MoV	Means of Verification
MR	Monitoring Report
PD	Power Density
PDD	Project Design Document
PE	Project Emission
PP(s)	Project Participant(s)
PRC	Post Registration Changes
Ref.	Document Reference
RINA	RINA Services S.p.A.
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
TANGEDCO	Tamil Nadu Generation and Distribution Corporation Limited
TNEB	Tamil Nadu Electricity Board
UNFCCC	United Nations Framework Convention on Climate Change
VREGPL	Vaayu Renewable Energy (Godavari) Private Limited
VIPCPL	Vaayu (India) Power Corporation Private Limited
VVS	Validation and Verification Standard
VVS-PA	Validation and Verification Standard for Project Activities
WEC	Wind Energy Convertors
WWIL	Wind World (India) Limited

Appendix 2. Competence of team members and technical reviewers



CERTIFICATO DI QUALIFICA QUALIFICATION CERTIFICATE

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

Mathew Vijay

è qualificato come¹:
is qualified as:

CDM -TEC, -VAL, -VER, -TL
ITRP

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

1.2

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Renewables	1

in accordo alle istruzioni del Settore Sostenibilità & Cambiamenti Climatici.
in accordance with the instructions of the Sustainability & Climate Change Sector.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	02/08/2012	-
4	18/04/2017	Update qualification as Verifier and ITRP
5	15/11/2019	Update qualification with "Sampling and surveys for CDM PAs and PoAs"

Il Resp. CEINS
Head of CEINS

¹ Legend:

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

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

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

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



CERTIFICATO DI QUALIFICA QUALIFICATION CERTIFICATE

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

Amalorpavanathan Cyril AUGUSTUS AROKIASAMY

è qualificato come:¹
is qualified as:

CDM-TEC, CDM-VAL, CDM-VER, CDM-TL,
ITRP, REG-EXP²

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

1.1, 1.2, 3.1, 4.1, 5.1, 13.1

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.1	Thermal energy generation	1
1.2	Renewables	1
3.1	Energy Demand	3
4.1	Cement and lime production	4
5.1	Chemical industry	5
13.1	Solid Waste and wastewater	13

In accordo alle Istruzioni della Unità Certification Innovation and Sustainability.
In accordance with the Instructions of the Certification Innovation and Sustainability Unit.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	30/05/2010	-
13	31/03/2017	Updated qualification as ITRP
14	20/09/2018	Update qualification as REG-EXP
15	15/11/2019	Update qualification with "Sampling and surveys for CDM PAs and PoAs"
16	15/09/2020	Update

Il Resp. CEINS
Head of CEINS

¹ Legend:
VAL: Validator
VER: Verifier
TEC: Technical Expert
TL: Team Leader
FIN-EXP: Financial Expert
DET: Determiner

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

² Ghana, Azerbaijan, China, Sri Lanka, Bangladesh, Nepal, Thailand, Indonesia, Singapore, Malaysia, Cambodia, Vietnam, Philippines, UAE and Iraq, Brazil, Japan.

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

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

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Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	Vaayu (India) Power Corporation Private Limited	Monitoring report for project activity 'Vaayu India Wind Power Project in Tamilnadu' in India for the period 01/01/2020 – 31/12/2020	Version 01.0 of 26/02/2021, Version 02.0 of 08/11/2021, Version 03 of 09/11/2021	PP
2	Vaayu (India) Power Corporation Private Limited	Emission reduction calculation spreadsheet (ER Sheet_ver 03_09112021.xls)	Version 01.0 of 26/02/2021, Version 02.0 of 08/11/2021 and Version 03 of 09/11/2021,	PP
3	Vaayu (India) Power Corporation Private Limited	CDM-PDD for project activity "Vaayu India Wind Power Project in Tamilnadu" in India	Version 10, dated 03/10/2018	PP
4	UNFCCC	ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources"	Version 12.1.0	Others
5	DNV	CDM validation report of "Vaayu India Wind Power Project in Tamilnadu"	Revision 02 of 9/07/2010	Others
6	UNFCCC	Project 4930 : Vaayu India Wind Power Project in Tamilnadu	https://cdm.unfccc.int/Projects/DB/DNV-CUK1308823376.98/view	Others
7	Applus+ Certification	CDM PRC validation reports of "Vaayu India Wind Power Project in Tamilnadu" (The PRC Reference number is PRC-4930-002)	Version 04 of 14/11/2018	Others
8	CDM Executive Board	Monitoring Report Form	(CDM-MR-FORM), version 09.0 of 08/10/2021	Others
9	Earthood Services Private Limited	CDM PRC validation reports of "Vaayu India Wind Power Project in Tamilnadu" (The PRC Reference number is PRC-4930-001)	Version 01 of 07/03/2016	Others
10	Central Electricity Authority	Ministry of Power, Government of India Notification No. 502/70/CEA/DP&D dated 17/03/2006	dated 17/03/2006	Others
11	CDM Executive Board	Clean Development Mechanism Project Cycle Procedure	Version 03.0 of 09/09/2021	Others
12	CDM Executive Board	Clean Development Mechanism Project Standard	Version 03.0 of 09/09/2021	Others
13	CDM Executive Board	Clean Development Mechanism Validation and Verification Standard for Project activities	Version 03.0 of 09/09/2021	Others
14	UNFCCC	Guideline: Application of materiality in verifications	Version 02 of 20/02/2015	Others
16	VIPCPL	Monthly electricity generation reports (JMRs) from January 2020		PP

		to December 2020		
17	VREGPL	Monthly electricity generation reports (JMRs) from January 2020 to December 2020		PP
18	VIPCPL	Monthly invoices raised to TANGECCO for net electricity export from January 2020 to December 2020		PP
19	VREGPL	Monthly invoices raised to TANGECCO for net electricity export from January 2020 to December 2020		PP
20	VIPCPL and VREGPL	Test reports of all the individual energy meters (51 nos) of the registered project activity for the current monitoring period; and Calibration certificates of the main and check meter [bulk meters] at the substation for the current monitoring period.		PP
21	RINA S.p.A	CDM verification report of “Vaayu India Wind Power Project in Tamilnadu” (7 th Monitoring period)	Version 1.2Aa of 30/07/2020	PP
22	CDM Executive Board	CDM Executive Board agrees to relax mandatory site visits by DOEs upto 31/12/2021, because of COVID-19.		Other
23	Vaayu (India) Power Corporation Private Limited	ERPA Signed with Numerco Ltd dated 24/02/2020 and 29/09/2020.		PP

Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. Remaining FAR from validation and/or previous verifications

FAR ID	01	Section no.	E.6.2	Date: 08/10/2021
Description of FAR				
PP has calculated the line losses as per the formula given in the registered PDD. However, the format of monthly generation statement is changed from the period December, 2018 for VIPCPL and from April, 2019 for VREGPL. Now the line losses are is a percentage of net electricity supplied instead of mentioning in units. Therefore, verifying DOE is requested to cross verify the percentage with the invoice submitted by the PP to TANGENCO to ensure the conservativeness in the ER estimation.				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				Date: 11/11/2021
PP has submitted the Monitoring Report, version 3 dated 09/11/2021, the Emission Reduction (ER) sheet, version 3 dated 09/11/2021, invoices and monthly generation reports. The line losses are calculated conservatively. Found acceptable. Hence, FAR is closed for the current monitoring period.				

Table 2. CL from this verification

CL ID	Xx	Section no.		Date: DD/MM/YYYY
Description of FAR				
/				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				Date: DD/MM/YYYY

Table 3. CAR from this verification

CAR ID	01	Section no.	E.1	Date: 08/10/2021
Description of CAR				
The latest version of monitoring report template, version 09 dated 08/10/2021 is available at UNFCCC website. PP is requested to revise the monitoring report according to the latest template.				
Project participant response				Date: 11/10/2021
The Monitoring Report has been revised as per the current template available.				
Documentation provided by project participant				
Please refer to the revised Monitoring Report, Version 3 dated 09/11/2021.				
DOE assessment				Date: 12/10/2021
PP has revised the Monitoring report. Now the revised MR is in-line with the latest template. Hence, the CAR 01 is closed.				

CAR ID	02	Section no.	E.6.2.	Date: 08/11/2021
Description of CAR				
PP has submitted the Joint Meter Reading Reports, invoices w.r.t. the project activity. However, the values mentioned in section D.2. i.e. the data parameters monitored w.r.t. EG_{Export} , EG_{Import} and T_E and $EG_{P,J,y}$ are not in line with the documents submitted.				
Project participant response				Date: 09/11/2021
The section D.2 has been revised.				
Documentation provided by project participant				
Please refer to the revised section of the Monitoring Report, Version 3 dated 09/11/2021.				
DOE assessment				Date: 11/11/2021

The PP has revised MR and ER sheet. Now, the values of EG_{Export} , EG_{Import} and T_E and $EG_{P,J,y}$ mentioned in the monitoring report, version 03 and ER sheet version 03, are in line with the joint meter reading reports. Hence, the CAR 02 is closed.

CAR ID	03	Section no.	E.8.1	Date: 08/11/2021
Description of CAR				
<i>The amount of GHG emission reductions achieved by the project activity for this monitoring period is not in line with the JMR and Invoice submitted. Further, the amount of GHG emission reductions estimated ex ante for this monitoring period in the PDD estimated is not inline.</i>				
Project participant response				Date: 09/11/2021
The ER value has been corrected in line with the JMRs and the Invoices.				
Accordingly, the GHG emission reductions estimated ex ante for this monitoring period has also been revised in line with the PDD.				
Documentation provided by project participant				
The revised Emission Reduction (ER) sheet, version 3, dated 09/11/2021, Monitoring Report, Version 3 dated 09/11/2021 and the copy of the JMRs and Invoices have been provided.				
DOE assessment				Date: 11/11/2021
The PP has revised MR and ER sheet. Now, the emission reduction value mentioned in the monitoring report version 03 and ER sheet version 03, are in line with the joint meter reading reports and invoices. Hence, the CAR 03 is closed.				

Table 4. FAR from this verification

FAR ID	01	Section No.	E.6.2	Date: 11/11/2021
Description of FAR				
<i>PP has calculated the line losses as per the formula given in the registered PDD. However, the format of monthly generation statement is changed from the period December, 2018 for VIPCPL and from April, 2019 for VREGPL. Now the line losses are is a percentage of net electricity supplied instead of mentioning in units. Therefore, verifying DOE is requested to cross verify the percentage with the invoice submitted by the PP to TANGENCO to ensure the conservativeness in the ER estimation.</i>				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				Date: DD/MM/YYYY

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	31 May 2019	Revision to: <ul style="list-style-type: none"> • Ensure consistency with version 02.0 of the “CDM validation and verification standard for project activities” (CDM-EB93-A05-STAN); • Make structural and editorial improvements.
02.1	11 January 2018	Editorial revision to correct the numbering of appendices in the instructions.
02.0	31 October 2017	Revision to align with the requirements of the “CDM validation and verification standard for project activities” (version 01.0).
01.0	23 March 2015	Initial publication.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: project activities, verifying and certifying		