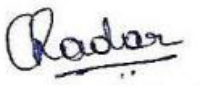
Verification and certification report form for GS project activities

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

BASIC INFORMATION	
Title and reference number of the project activity	**Title:** Thai Hoa Wind Power Project **GS reference number:** GS 11251
Scale of the project activity	☒ Large-scale ☐ Small-scale
GS Version applicable	GS4GG
Version number of the verification and certification report	03
Completion date of the verification and certification report	03/01/2024
Monitoring period number and duration of this monitoring period	01 (Under 1st crediting period) Monitoring period: 31/10/2021 - 30/06/2023 (Including both dates)
Version number of the GS monitoring report to which this report applies	Version 2.1, dated 28/12/2023
Crediting period of the project activity corresponding to this monitoring period	Renewable crediting period; 31/10/2021 - 30/10/2026 (first and last day included)
Project participants	Swiss Carbon Value Ltd.
Host Party	Viet Nam
Applied methodologies and standardized baselines	Methodology: ACM0002: "Grid-connected electricity generation from renewable resources" (Version 20.0) Standardized baseline: N/A
Mandatory sectoral scopes	Sectoral Scope 1: Energy industries (Renewable - / non-renewable sources)
Conditional sectoral scopes, if applicable	NA
Estimated amount of annual average SDG impact (as per registered PDD)	□ SDG 7 – 413,939.726 MWh □ SDG 8 – 35 employees, 0 Trainings, 0 Million VND/month □ SDG 13 – 357,684 tCO_2e
Total amount of certified SDG impact (as per approved methodology) achieved in this monitoring period	□ SDG 7 – 321,791.613 MWh □ SDG 8 – 24 (including 19 men and 05 women) Employees, 10 Trainings, 21.8 Million VND/month □ SDG 13 – 278,059 tCO_2e
Name and UNFCCC reference number of the VVB	4K Earth Science Private Limited UNFCCC Ref No. CDM-E-0069

Name, position and signature of the approver of the verification and certification report	 Chandrakala R. Managing Director

SECTION A. Executive summary

>>

4K Earth Science Private Limited has been commissioned by "Swiss Carbon Value Ltd." to perform an independent verification of its registered GS project, "Thai Hoa Wind Power Project", (GS Ref. No. GS 11251) for the reported GHG emission reductions for the given 1st monitoring period 31/10/2021 - 30/06/2023 (both dates included) under 1st crediting period. The GS projects must undergo independent third-party verification and certification of emission reductions as the basis for issuance of Emission Reductions (GS VERs).

The objectives of this verification exercise are, by review of objective evidence, to establish that:

- The project activity has been implemented and operated as per the registered PDD and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- Monitoring report and other supporting documents are complete;
- The actual monitoring systems & procedures and monitoring report conforms with the requirements of the registered monitoring plan and the approved monitoring methodology;
- The data is recorded and stored as per the monitoring methodology and registered monitoring plan.

Scope:

The scope of the verification is the independent and objective review and ex post determination of the monitored reductions in GHG emission by the project activity. The verification is based on review of monitoring report, supporting information and

a) The registered PDD, including the monitoring plan and the corresponding validation opinion(s);
b) Monitoring report for the monitoring period under verification including ER calculations sheets and all supporting documents;
c) The applied monitoring methodology;
d) Relevant decisions, clarifications and guidance from the CMP and the GS;
e) All information and references relevant to the project activity's resulting in emission reductions
f) The project is assessed against the requirements of the Kyoto Protocol, the GS Modalities and Procedures and related rules and guidance and GS4GG requirements.

4K EARTH SCIENCE PRIVATE LIMITED has, based on the recommendations in the latest version of CDM Validation and Verification Standard for project activity /27/, GS Validation and Verification Standard /37/, employed a rule-based approach in the verification, focusing on the identification of significant reporting risks and the reliability of project monitoring.

Description of project

The Thai Hoa Wind Power Project activity involves the construction of an on-shore wind power plant in Hoa Thang commune, Bac Binh district, Binh Thuan province, Viet Nam with a total capacity of 90 MW. The project involves the installation of 18 wind turbines – generators at 5 MW, 22kV underground cable line, 2x50 MVA transformer station and 220 kV transmission line.

The purpose of the project activity is to generate power using renewable energy source and export to the national grid by utilizing wind energy. The electricity generated supplied to the national grid via a newly constructed transmission line from the plant to the 2x50 MVA transformer station.

Project activity started commissioning and supplying electricity to the national grid on 31/10/2021 as verified from commissioning document /05/, site visit interview, name plate photos /11/.

The project activity generates renewable power with negligible Greenhouse Gas (GHG) emissions, which displaces part of the electricity otherwise supplied by mainly fossil fuel fired power plants. The project's purpose is to generate and supply renewable electricity to the national grid via the Power Purchase Agreement (PPA) /07/ signed with the Electricity Corporation of Vietnam (EVN).

The baseline scenario of the project activity is the same as the scenario existing prior to the start of implementation of the project activity.

The wind power plant is located in Hoa Thang commune, Bac Binh district, Binh Thuan province of Viet Nam.

The geo-coordinates of the project's site are as follow:

Northern latitude: 11^0 04' 16"

Eastern longitude: 108^0 21' 52"

Project location is verified during the site visit and also from the web /28/ and found consistent with registered PDD /36/ and MR /02/.

Methodology:

4K Earth Science Private Limited follows a rule based verification approach, wherein, as a first step, the contract review is undertaken as per latest version of CDM Accreditation Standard/ GS PRINCIPLES & REQUIREMENTS. A desk review of the project documentation is undertaken, which is followed by site visit by the members of verification team in accordance with the latest version of CDM AS/ GS PRINCIPLES & REQUIREMENTS/GS Validation and Verification Standard. The verification protocol is filled by the verification team that is based on standard auditing practices and version 03 of CDM VVS for project activity, to capture the assessment of applicable CDM requirements viz., version 03 of CDM Project Standard for project activity, GS Validation and Verification Standard /37/, registered PDD, applied methodology, applied standardized baseline and/or tools and recent decisions. The verification protocol provides transparent means to record the observations and compliances by the verification team members and the nonconformities, if any. The verification protocol is an internal document, and is available on request. Following are the major milestones for the verification under consideration.

Verification contract	24/08/2023
Site visit	19/10/2023
Draft Verification Report	03/11/2023
Final Verification Report	03/01/2024

4K Earth Science Private Limited confirms that the monitoring system is in place and the emission reductions are calculated without material misstatements.

Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 278,059 tCO_2e (round down) emission reductions during period 31/10/2021 - 30/06/2023 (Including both the days).

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 VVB or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Verification findings
1.	Team Leader, Technical Expert (TA 1.2) and Local Expert	IR	Sharma	Chetan Swaroop	Central office	✓	✓	✓	✓

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 VVB or outsourced entity)
1.	Technical reviewer (TA 1.2)	IR	Puratchikkanal	Ma Paa	Central Office
2.	Approver	IR	R.	Chandrakala	Central 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.	The data monitoring is done through electronic meters and errors can be perceived during the information transfer from the source to the emission reduction sheet.	High	There are total 3 monitoring parameters. However only one parameter i.e. $EG_{facility,y}$ is monitored/calculated through energy meters and is used for baseline emission calculation. $EG_{facility,y}$ is monitored through the electronic meters and errors can be perceived during the information transfer from the source to the emission reduction sheet. Full data set for this monitoring parameter has been checked and found OK.	The complete dataset for the monitoring parameter was checked and it can be confirmed that the values are consistent with their sources.

			There is no leakage emission during this monitoring period as discussed under section E.8.3 of this report.	

C.2. Consideration of materiality in conducting the verification

>> The prescribed thresholds for materiality, as per §326 of "CDM validation and verification standard for project activities" Version 03.0 /27/.

Prescribed range of ERs/annum	500,000+	300,000+ to 500,000	300,000	SSC Pas	MSC PAs
Prescribed Threshold	0.5%	1.0%	2.0%	5.0%	10.0%

The identified/selected materiality threshold for the project activity under current monitoring period is 2% as project activity is large scale project activity lower than 300,000 ERs/annum.

	MR Version (Draft) /01/	**MR Version (Final) /02/**
Emission reductions	278,059 tCO2e	278,059 tCO2e
Identified Threshold	2%	2%

There is no change in the emission reduction during this monitoring period. The complete dataset for the project activity was checked and it can be confirmed that the values are consistent with their sources. The assessment team confirms that the reported emission reductions are free from material errors, omissions or misstatements.

SECTION D. Means of verification

D.1. Desk/document review

>> A desk review is undertaken, involving but not limited to,

- A review of the data and information presented to verify their completeness;
- A review of the monitoring plan and monitoring methodology, paying attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures;
- An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

The list of documents reviewed is included in the section 'Appendix 3' of this report.

D.2. Site visit

Verification team has used the following means for its assessment and to justify that they are sufficient for the purpose of verification. Along with desk review, audit team has conducted site visit interview as follows:

- A complete desk review of the MR, as well as all applicable country legal requirement and supportive evidences have been checked by the verification team.
- Verification team has performed interview with PP representative/Employees/Local Stakeholders in order to check implementation, project boundary, current situation, evaluation of data management, QA/QC system, monitoring and metering equipment, monitoring procedures, calibration, Grievance mechanism, SD parameters etc.
- Cross checks between information provided by interviewed personnel (i.e. by checking sources) to ensure that no relevant information has been omitted.
- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in MR and supporting documents.
- Document Reviews: Scrutinizing project documentation, reports, and records to assess compliance, accuracy, and adherence to standards and regulations.
- Direct Observations: Personally, observing project activities, facilities, and procedures to validate the information obtained through interviews and documents.

- Risk assessment of the techniques employed involved evaluating the reliability and potential limitations of each method. Mitigation strategies were implemented to address, identified risks and ensure the overall effectiveness of the audit process.

Details of interviewees, topics covered and additional information presented in the below section “D.3 Interviews”.

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Nguyen	Mai Lam	Technical Manager, Pacific - Binh Thuan Energy Joint Stock Company	19/10/2023 (physical site visit)	Operational and implementation data, GS Requirements, Data collection, Calibration Requirements, Monitoring and data recording, Issues in the MR and ER calculation, Training and practice of the operational personnel, Grievance mechanism, Sustainable Development parameters	Mr. Chetan Swaroop Sharma (Team Leader, Technical Expert (TA 1.2) and Local Expert)
2.	Dang	Tan Anh	Deputy Director of Thai Hoa WPP, Pacific - Binh Thuan Energy Joint Stock Company			
3.	Hoang	Thuy An	Project Manager, Pacific - Binh Thuan Energy Joint Stock Company			
4.	Nguyen	Tien Hai	Director of Project Development and Implementation, Energy and Environment Consultancy Joint Stock Company			
5.	Tran	Ich Cuong	Deputy Head of Technical Department, Pacific - Binh Thuan Energy Joint Stock Company			
6.	Mai	Thi Giang Hai	Local people of Hoa Thang commune			
7.	Nguyen	Thi Mua	Local people of Hoa Thang commune			
8.	Ho	Buu Hoang Thanh	Local people of Hoa Thang commune			
9.	Tran	Ngoc Linh	Local people of Hoa Thang commune			

10.	Nguyen	Trong Hoang	Local people of Hoa Thang commune			

D.4. Sampling approach

>> No Sampling Approach is used during verification.

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	00	00	00
Compliance of the project implementation and operation with the registered PDD	00	00	00
Post-registration changes	00	00	00
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines	00	00	00
Compliance of monitoring activities with the registered monitoring plan	00	01	00
Compliance with the calibration frequency requirements for measuring instruments	00	00	00
Assessment of data and calculation of emission reductions or net removals	00	02	00
Assessment of reported sustainable development co-benefits	00	00	00
Global stakeholder consultation	00	00	00
Others (FARs from design review under GS4GG)	00	00	01
Total	00	03	01

SECTION E. Verification findings

E.1. Compliance of the monitoring report with the monitoring report form

Means of verification	Verification team checked the GS monitoring report /02/ with "GS template" and found OK.
Findings	No findings have been raised.
Conclusion	Verification team confirms that final GS monitoring report /02/ is completed using the latest valid version of the applicable monitoring report form.

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

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The current verification is for the 1st monitoring period of the project activity under 1st crediting period. All raised CARs and CLs were successfully closed during validation. One FAR was raised during GS4GG Design review of the project activity. The same FAR was raised during this verification as mentioned under appendix 4 of this report. Refer appendix 4 of this report for more details.

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

Means of verification	The Thai Hoa Wind Power Project activity involves the construction of an on-shore wind power plant in Hoa Thang commune, Bac Binh district, Binh Thuan province, Viet Nam with a total capacity of 90 MW. The project involves the installation of 18 wind turbines – generators at 5 MW, 22kV underground cable line, 2x50 MVA transformer station and 220 kV transmission line. The purpose of the project activity is to generate power using renewable energy source and export to the national grid by utilizing wind energy. The electricity generated supplied to the national grid via a newly constructed transmission line from the plant to the 2x50 MVA transformer station. Project activity started commissioning and supplying electricity to the national grid on 31/10/2021 as verified from commissioning document /05/, site visit interview, name plate photos /11/. Project location is verified during the site visit and also from the web /28/ and found consistent with registered PDD /36/ and MR /02/.

	The project activity generates renewable power with negligible Greenhouse Gas (GHG) emissions, which displaces part of the electricity otherwise supplied by mainly fossil fuel fired power plants. The project's purpose is to generate and supply renewable electricity to the national grid via the Power Purchase Agreement (PPA) /07/ signed with the Electricity Corporation of Vietnam (EVN). Through site visit and document reviews, the verification team confirms that all physical features of the project activity including technology, data collection systems and storage systems have been implemented in accordance with registered PDD /36/. The project activity harnesses the wind energy available at project site to generate electricity and net generated electricity supplied to the National grid /07/. The verification team has reviewed the power purchase agreement /07/ signed between the PP and "Electricity of Vietnam (EVN)" to confirm the power from the project activity is being supplied to the grid in compliance to the applied methodology ACM0002, version 20.0 /25/ and registered PDD /36/. The power from the project activity is being sold to EVN, assessment team has reviewed the copy of invoices /09/ to confirm the same. Service and Maintenance of the project is done by technology provided as per the signed contract /30/. The rated capacity of turbines/transformer, meter serial number and make were verified from the name plates /11/ and the technical specifications /10/ and found to be consistent with the information provided in the MR /02/ and registered PDD /36/. The project developer declared that the Project activity is only registered with GS. Thai Hoa Wind Power Project is registered only in GS program. The project activity is not participated in other emissions trading programs, other binding limits, other forms of environmental credits or other GHG programs. This project is not rejected by any other GHG programs. The project developer has not and/or will not claim emission reductions for the same vintage in another standard other GS. Project developer also confirmed that project is not included in any national or international emissions trading program or binding emission limit as confirmed from the weblinks /39/, /40/, /41/, /42/. Double counting declaration /43/ has been checked. The project boundaries and all key equipment are in line with the registered PDD /36/. No special events which might affect the monitoring of the project have been observed as reported in the MR /02/. There is no event or situation occurred during this monitoring period which has impacted the applicability of methodology /25/. The allocation of the responsibilities is followed as described in the registered PDD /36/. Routines for the archiving of data are defined and documented. Calculations, laid down in the monitoring report are in line with registered PDD /36/. Interviews (refer section D.3 of this report) were carried out with the project representative during the site visit interview to verify the actual monitoring system practiced by PP. It was found that the plant personnel are well aware of their roles & responsibilities. The actual monitoring system presently practiced complies with the monitoring plan provided in the registered PDD /36/ and the applied methodology /25/. In the monitoring period from 31/10/2021 - 30/06/2023 (first and last days included - 608 days), project activity has achieved emission reductions of 278,059 tCO_2e. The selected monitoring period for the 1st verification i.e. 31/10/2021 - 30/06/2023

	(first and last days included - 608 days) is within the 1st crediting period 31/10/2021 - 30/10/2026 which is accepted to the verification team. The actual emission reductions are 278,059 tCO_2e for the current monitoring period /02/ which is less than the estimated emission reduction in registered PDD /36/ i.e., 357,684 tCO_2e for corresponding current monitoring period. The monitored data are archived partly in physical (hard copy) and partly in electronic form. The archived data will be kept for the whole crediting period and 2 years after the crediting period.
Findings	No findings have been raised.
Conclusion	The verification team confirms that: a) The project activity is implemented as per the registered PDD /36/. b) The actual operation of the proposed CDM project activity is in line to the registered PDD /36/. c) The actual emission reductions are less than the expected emission reductions for the current monitoring period. It has been reviewed from the registered PDD /36/ including the monitoring plan, the applied monitoring methodology and found that the Final MR /02/ for this monitoring period is in line with all the above-mentioned documents.

E.4. Post-registration changes

E.4.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline

>> There is no temporary deviation to be submitted with this request for issuance. Therefore, this section is not applicable.

E.4.2. Corrections

>> There is no correction to be submitted with this request for issuance. Therefore, this section is not applicable

E.4.3. Changes to start date of crediting period

>> No changes to the start date of the crediting period in this monitoring period.

E.4.4. Permanent changes from the Design Certified monitoring plan, applied methodology or standardized baselines

>> There is no permanent change to be submitted with this request for issuance. Therefore, this section is not applicable.

E.4.5. Changes to project design of approved project

>> There is no change to the project design to be submitted with this request for issuance. Therefore, this section is not applicable.

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

Means of verification	The verification team was able to confirm that the monitoring plan contained in registered PDD /36/ and MR /02/ is in accordance with the approved large scale methodology applied for the project activity i.e. ACM0002: "Grid-connected electricity generation from renewable resources" (Version 20.0) /25/ and its applicable tools. All parameters stated in the monitoring plan /36/ and the applied methodology /25/ has been fulfilled in the current monitoring period. The discussion regarding each parameter has been elaborated in the further sections (E.6.1 and E.6.2) of this Verification report.
Findings	No findings have been raised.
Conclusion	Verification team confirm that the monitoring plan of the registered PDD /36/

	complies with the monitoring requirement of the applied approved large scale methodology ACM0002: "Grid-connected electricity generation from renewable resources" (Version 20.0) /25/.

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		
	Relevant SDG Indicator/Safeguarding Principle	**SDG indicator 13 – Climate action**
	Ex-ante Parameter:	$EF_{grid,OM,y}$, tCO_2/MWh (Operating margin CO2 emission factor for grid connected power generation in year y)
	Value(s) applied):	0.9242 tCO_2/MWh Source: registered PDD /36/
	Source and Verification of the source:	It is fixed for the entire crediting period as per the registered PDD /36/. The value of the operating margin emission factor has been correctly taken as per the registered PDD /36/ and hence accepted by the verification team. This ex-ante parameter is used for the calculation of "$EF_{grid,CM,y}$".
	Relevant SDG Indicator/Safeguarding Principle	**SDG indicator 13 – Climate action**
	Ex-ante Parameter:	$EF_{grid,BM,y}$, tCO_2/MWh (Build margin CO2 emission factor for grid connected power generation in year y)
	Value(s) applied):	0.6840 tCO_2/MWh Source: registered PDD /36/
	Source and Verification of the source:	It is fixed for the entire crediting period as per the registered PDD /36/. The value of the build margin emission factor has been correctly taken as per the registered PDD /36/ and hence accepted by the verification team. This ex-ante parameter is used for the calculation of "$EF_{grid,CM,y}$".
	Relevant SDG Indicator/Safeguarding Principle	**SDG indicator 13 – Climate action**
	Ex-ante Parameter:	$EF_{grid,CM,y}$, tCO_2/MWh (Combined margin CO_2 emission factor for grid connected power generation in year *y*)
	Value(s) applied):	0.8641 tCO2/MWh Source: registered PDD /36/
	Source and Verification of the source:	It is fixed for the entire crediting period as per the registered PDD /36/. The value of the combined margin emission factor has been correctly taken as per the registered PDD /36/ and hence accepted by the verification team. This ex-ante

		parameter is used for baseline emission calculation.
Findings	No findings have been raised.	
Conclusion	Verification team confirms that the ex-ante parameters of the project activity is in accordance with the registered PDD /36/ and meets the requirements of the applied monitoring methodology /25/. The verification team confirm that the value used for grid emission factor (Fixed ex-ante for the 1st crediting period) for calculation of emission reduction is consistent with registered PDD /36/ and correctly applied in MR /02/ and emission reduction spread sheet /04/ and justified.	

E.6.2. Data and parameters monitored

Means of verification

During the verification, the monitoring parameters of the registered PDD /36/ have been verified with regard to the appropriateness of the verification method; the correctness of the values applied for ER calculation, the accuracy and applied QA/QC measures. The monitoring parameters have been measured / determined without material misstatements and is in line with all applicable standards and relevant requirements.

Verification team confirms through site visit and from the document review, the actual monitoring system complies with the monitoring plan mentioned in the registered PDD /36/.

Complete set of data for the specified monitoring period (31/10/2021 - 30/06/2023) was available. The same is confirmed through verification of electricity export and import data /08/ and /09/.

The assessment for monitoring parameters as per registered PDD /36/ is given below:

1. **Data/Parameter:** $EG_{facility,y}$
   Unit: MWh
   Description: Net electricity supplied to the national grid by the project activity

Relevant SDG Indicator/Safeguarding Principle	SDG 7 - Indicator 7.2.1: Renewable energy share in the total final energy consumption
	Discussion and verification assessment
Purpose of data	Baseline Emissions calculation
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	The net electricity supplied by the project to the national grid ($EG_{facility,y}$) is monthly calculated from $EG_{y,export}$ and $EG_{y,import}$ The net electricity supplied by the project to the national grid is calculated as follows: $EG_{facility,y} = EG_{y,export} - EG_{y,import}$ The calculation is provided in the emission reduction calculation sheet /04/. The ER sheet is verified and found that the calculation of $EG_{facility,y}$ is correct. Two-way power meters (one main and one back-up meter) are installed at the grid connection point (220 kV Thai Hoa switching station) to measure the amount of electricity exported to grid/imported from grid by the plant which is verified from the site visit and Single line diagram /13/. The technical details of the meters specified in the MR /02/ were found consistent with the Calibration records /06/, Name plate photos /11/ and site visit. For the details of calibrations of energy meters please

		refer the section E.7 of report. The accuracy of the main energy meter is 0.2s and back-up energy meters is 0.5s as verified from Calibration records /06/, meter photos /11/ and during site visit which is as per the registered PDD /36/ and hence acceptable. Calibration frequency is once in three years which is in compliance with the registered PDD /36/, government regulation /18/ and hence acceptable. Meters were calibrated for the whole monitoring period. There was no meter replacement during this monitoring period. The Calibration of all the meters have been done by a competent third party /06/ appointed by EVN (Electricity company) which is accepted to the verification team. The calibration certificates /06/ are verified and found that the error in calibration test is within the accuracy class of the respective meter.	
	Measuring/Reading/ Recording frequency	The net electricity supplied by the project to the national grid ($EG_{facility,y}$) is monthly calculated from $EG_{y,export}$ and $EG_{y,import}$ The net electricity supplied by the project to the national grid is calculated as follows: $EG_{facility,y} = EG_{y,export} - EG_{y,import}$ The calculation is provided in the emission reduction calculation sheet /04/. The ER sheet is verified and found that the calculation of $EG_{facility,y}$ is correct. The electricity exported to grid/imported from grid by the project is monitored continuously and reported on monthly basis in form of Monthly Joint balance sheet (Monthly Electricity reports) /08/. The measuring and recording frequency is in compliance with the registered PDD /36/ and the applied methodology /25/.	
	Data collection (from data generation, aggregation, to recording, calculation and reporting)	The electricity exported to grid/imported from grid by the project is monitored continuously and reported on monthly basis in form of Monthly Joint balance sheet (Monthly Electricity reports) /08/. The details of roles and responsibilities for the monitoring is provided in the MR /02/. The project representative was interviewed during site visit and the assessment team confirms that the details as provided are followed at site and are effective, reliable for the accounting of emission reductions.	
	Verified value	321,791.613 MWh The verification team has verified all the monthly electricity reports /08/ for this monitoring period and confirms that the same values are applied in the ER calculation sheet /04/. The calculation of the net electricity supplied to the grid has been checked under the ER sheet /04/ and found in compliance with the registered PDD /36/. The value has been verified from the ER sheet /04/ and MR /02/ and found OK.	

Cross checks	The monthly electricity exported to grid/imported from grid were cross-checked, as prescribed in the registered PDD /36/ with the invoices /09/ and found consistent.
QA/QC procedures applied	The energy meters were calibrated by the third party. For the details of calibrations of energy meters please refer the section E.7 of report.

2. Data/Parameter: Quality of employment; Quantitative employment and income generation; Equal pay for work of equal value for both men and women.

Unit: • Number of employees (for data on quantitative employment); • Income in USD and VND (for data on income generation). • List of employees, functions and respective income (for data on equal pay for work of equal value for both men and women)

Description: The employees of the project are trained on technical aspects relating to the operation of the wind power plant and provided with labour contracts, medical insurance and social insurance. The employees of the project are paid higher than the average monthly income per capita of Binh Thuan province (4.3 mil. VND/month) and the minimum wage regulated by the Government (3.64 mil. VND/month). Men and women are paid equally for work of equal value.

Relevant SDG Indicator/Safeguarding Principle	SDG 8 - Indicator 8.5.1 – Average hourly earnings of female and male employees, by occupation, age and persons with disabilities
	Discussion and verification assessment
Purpose of data	Contribution of the project to provide full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	Not applicable.
Measuring/Reading/ Recording frequency	Annual. The monitoring frequency is in compliance with the registered PDD /36/.
Data collection (from data generation, aggregation, to recording, calculation and reporting)	Verification team has checked the total employees under the project plant i.e. 24 employees (including 5 female and 19 male employees) from the site visit interview and from the plant records /29/. Training records /15/ have been checked by the verification team. All the employees have labour contracts as verified from the supportive /34/ and social and medical insurances as verified from /35/. Verification team has also checked the salary level of the employee /29/ and found higher than monthly average income per capita of Binh Thuan province in 2022 of 4.307 million VND per month /22/. Verification team has also checked the contract for health check and results of periodic health check of employees in 2021-2022 /34/. Verification team has checked the values and found in compliance with the PDD /36/.
Verified value	- Ten training courses have been provided to the employees including: 01 training for operation of the wind power plant; 01 training for operation and management of the 220kV substation; 03 trainings for electrical safety; 02 trainings for fire prevention and rescue; 03 trainings for occupational safety and hygiene training; Summary of training courses:

No.	Subject	Date	Number of attendees	Conducted by
1	Wind power plant operation	09/04/2021	7	EVN – National Load Dispatch Centre
2	Operation and management of the 220kV substation	23/07/2021	10	EVN – Southern Regional Load Dispatch Centre
3	Electrical safety	19/07/2021	14	DHP Technology and Service Co., Ltd.
4	Electrical safety	28/10/2022	5	BHL Group International JSC
5	Electrical safety	03/07/2023	19	BHL Group International JSC
6	Occupational safety and hygiene	15/07/2021	14	DHP Technology and Service Co., Ltd.
7	Occupational safety and hygiene	28/11/2022	8	BHL Group International JSC
8	Occupational safety and hygiene	03/07/2023	25	BHL Group International JSC
9	Fire prevention and recuse	15/01/2022	10	Fire Prevention, Fighting and Rescue Police Department of Binh Thuan Province
10	Fire prevention and recuse	26/12/2022	10	Fire Prevention, Fighting and Rescue Police Department of Binh

					Thuan Province

- The employees are provided with labour contracts, social and medical insurances;
- Number of employees: 24 (including 5 female and 19 male employees);
- Average income: 21.8 million VND per month.

The value has been verified from the MR /02/ and found consistent.

Cross checks	The monitoring parameter is also cross-checked from the interviews.
QA/QC procedures applied	NA

3. Data/Parameter: ER_y - Annual emission reduction
Unit: tCO_2e/year
Description: The project generates renewable power, which displaces part of the electricity otherwise supplied by fossil fuel fired power plants, thus GHG emission reductions are achieved via this project

Relevant SDG Indicator/Safeguarding Principle	SDG 13: Climate action
	Discussion and verification assessment
Purpose of data	Direct emission reductions of the Project over the Baseline
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	This is a calculated parameter based on the monitoring parameter "Net electricity supplied to the national grid by the project activity ($EG_{facility,y}$)". The monitoring equipment details have been justified under the monitoring parameter "$EG_{facility,y}$" above.
Measuring/Reading/ Recording frequency	Monthly measured and calculated. The measuring and recording frequency is in compliance with the registered PDD /36/ and the applied methodology /25/.
Data collection (from data generation, aggregation, to recording, calculation and reporting)	This is a calculated parameter. Verification team has checked the calculation of the emission reduction and found in compliance with the PDD /36/.
Verified value	278,059 The value has been verified from the MR /02/ and ER Sheet /04/ and found consistent.
Cross checks	NA
QA/QC procedures applied	NA

Findings	CAR-03 has been raised and closed satisfactorily. Refer to appendix 4 of this report for further details.
Conclusion	The assessment team concludes that the monitoring of the project activity is being carried out in accordance with the registered PDD monitoring plan /36/ and meets the requirements of the applied monitoring methodology /25/. The adequacy and compliance of the monitoring plan in the MR can be concluded to be conforming. The flow of the information from the point of generation up to reporting has been reviewed and found to be correct and appropriate meeting the requirements of the applied methodology.

E.6.3. Implementation of sampling plan

Means of verification	No sampling plan applied for the project activity. Therefore, this section is not applicable.
Findings	-
Conclusion	Not applicable.

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

Means of verification

Verification team has checked whether the calibration of the measuring equipment that has an impact on the claimed GHG emission reductions is conducted by the PP at a frequency specified in the registered PDD /36/.

In the monitoring plan /36/, there are three monitoring parameters however only one parameter i.e. $EG_{facility,y}$ is measured by the electricity meters at the connection point.

The net electricity supplied by the project to the national grid is calculated as follows:

$$EG_{facility,y} = EG_{y,export} - EG_{y,import}$$

It can be concluded by the assessment team that the calibration requirements have been met as verified from the calibration certificates /06/.

Two-way power meters (one main and one back-up meter) are installed at the grid connection point (220 kV Thai Hoa switching station) to measure the amount of electricity exported to grid/imported from grid by the plant which is verified from the site visit and Single line diagram /13/.

The technical details of the meters specified in the MR /02/ were found consistent with the Calibration records /06/, Name plate photos /11/ and site visit.

The calibration details of the monitoring equipments corresponding to $EG_{export,y}$ and $EG_{import,y}$ is given in the below table:

Technical details		Main meter 272M	First backup meter 272B
Serial No.		20015946	20042041
Model		A1700	A1700
Accuracy		0.2s	0.5s
Operation status during the monitoring period		Good	Good
Manufacturer		Elster	Elster
Calibration frequency as the national regulations		At least once every three years	
1st calibration	*Date:*	08/03/2021	08/03/2021
	Calibration entity:	Quality Assurance and Testing Center 1	
2nd calibration	*Date:*	14/09/2022	14/09/2022
	Calibration entity:	Southern Electrical Testing Company	

	Valid until: | 13/09/2025 | 13/09/2025 The accuracy of the main energy meter is 0.2s and back-up energy meters is 0.5s as verified from Calibration records /06/, meter photos /11/ and during site visit which is as per the registered PDD /36/ and hence acceptable. Calibration frequency is once in three years which is in compliance with the registered PDD /36/, government regulation /18/ and hence acceptable. Meters were calibrated for the whole monitoring period. There was no meter replacement during this monitoring period. The Calibration of all the meters have been done by a competent third party /06/ appointed by EVN (Electricity company) which is accepted to the verification team. The calibration certificates /06/ are verified and found that the error in calibration test is within the accuracy class of the respective meter. All these meters are specific only to the project activity. The Calibration performance was checked from the calibration reports /06/ and found that the meters were within the respective accuracy level as verified from the calibration results. The calibration validity of the energy meters /06/ during this monitoring period were verified from the corresponding calibration certificates /06/. No delay in calibration was observed. The monitoring equipment's have been installed in the project activity according to monitoring plan /36/. Please refer individual monitoring parameter table (Under section E.6.2 of this report) for the calibration details.
Findings	No findings have been raised.
Conclusion	The Verification team confirms that the calibration frequency is in line with the monitoring plan mentioned in the registered PDD /36/.

E.8. CALCULATION OF SDG IMPACTS

E.8.1. Calculation of baseline value or estimation of baseline situation of each SDG Impact

Means of verification	**SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all** No electricity is exported to the national grid in the baseline scenario of the project activity, so the baseline estimate for SDG7 is 0 MWh which is found OK. **SDG 8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment and decent work for all** No employee is employed; no income is generated; and no training is provided in the baseline scenario of the project activity, so the baseline estimate for SDG8 is 0 employee; 0 VND; and 0 training which is found OK. **SDG 13: Take urgent action to combat climate change and its impacts** The calculation, applied formulae and the method for calculation of baseline emissions are in accordance with the registered PDD /36/ and are in line with the requirements of the applied methodology (ACM0002 Version 20.0 /25/). The formulae and the methods referred in the MR /02/ and the emission reduction calculation spread sheet /04/ for estimation of emission reduction complies with the corresponding formulae and methods in the registered PDD /36/. The ex-ante and validated fixed value of grid emission factor i.e. Combined margin CO2 emission factor for grid connected power generation in year y (0.8641 tCO_2e/MWh, registered PDD /36/) is taken into account for the calculation of baseline emissions.

	The verification team has checked all the monthly electricity reports /08/ and invoices /09/ applicable for the monitoring period and found the monitoring parameters are monitored and recorded as per the monitoring plan in the registered PDD /36/. The verification team has crosschecked the ER sheet /04/ and monitoring report /02/ data with the monthly electricity reports /08/ and invoices /09/ and found all the input values are matching. As per registered PDD /36/, the baseline emissions (BEy) by the project activity during the monitoring period is: **$BE_y = EG_{facility,y} * EF_{grid,CM,y}$** The calculation is provided in the emission reduction calculation sheet /04/. The ER sheet is verified and found that the calculation of $EG_{facility,y}$ is correct. $EG_{facility,y}$ = 321,791.613 MWh $EF_{grid,CM,y}$ = 0.8641 tCO_2e/MWh BE_y = 278,059 tCO_2e (Rounded down) Hence baseline emission for this monitoring period is 278,059 tCO_{2e} (Rounded down)
Findings	CAR-01 and CAR-02 have been raised and closed satisfactorily. Refer to appendix 4 of this report for further details.
Conclusion	Verification team concludes that the calculation provided in the monitoring report /02/ and emission reduction spread sheet /04/ are complete and reflect all the requirements of the registered PDD /36/ and: a) All the monitored data pertaining to baseline calculation as required by the monitoring plan /34/ was available to PP, the same has been verified by the verification team. b) All the formula used for the baseline, was in line to the monitored plan /36/. c) The ex-ante emission factors correctly sourced from the registered PDD /36/ and was found to be appropriate and justified.

E.8.2. Calculation of project value or estimation of project situation of each SDG Impact

Means of verification	**<u>SDG7 - Ensure access to affordable, reliable, sustainable and modern energy for all</u>** The project activity includes the installation of a wind power project with capacity of 90 MW. During the monitoring period from 31/10/2021 - 30/06/2023, the project has supplied to the national grid the net electricity of 321,791.613 MWh which is verified from the monthly electricity reports /08/ and invoices /09/. **<u>SDG 8 - Promote sustained, inclusive, and sustainable economic growth, full and productive employment and decent work for all</u>** 24 employees are employed with average salary of 21.8 million/month; and 10 training courses have been provided to employees in this monitoring period of the project activity, so the project estimate for SDG8 is 24 employees; 21.8 million/month; and 10 trainings. Verification team has checked the total employees under the project plant i.e. 24 employees (including 5 female and 19 male employees) from the site visit interview and from the plant records /29/. Training records /15/ have been checked by the verification team. Verification team has also checked the salary level of the employee /29/ and found higher than monthly average income per capita of Binh Thuan province in 2022 of 4.307 million VND per month /22/. Verification team has checked the values and found in compliance with the PDD /36/. **<u>SDG 13 - Take urgent action to combat climate change and its impacts</u>** The project emissions of this wind power project: PEy = 0 which is in accordance with applied methodology /25/ and monitoring plan /36/.

Findings	No findings have been raised.
Conclusion	Verification team concludes that the project emissions are not applicable to the project activity for the current monitoring period.

E.8.3. Calculation of leakage

Means of verification	Not applicable in accordance with applied methodology /25/ and registered PDD /36/.
Findings	No findings have been raised.
Conclusion	Verification team concludes that the leakage emissions are not applicable to the project activity for the current monitoring period.

E.8.4. Calculation of net benefits or direct calculation of each SDG Impact

Means of verification

SDG 13: Climate Action

As per registered PDD /36/, the emission reductions ERy by the project activity during the monitoring period is equal to the baseline emission less project emission and leakage emission.

ERy = BEy – PEy – LEy

Since project emission and leakage are zero

ERy = BEy = 278,059 tCO_2

The calculation provided in the ER sheet and MR was assessed appropriate by the verification team.

The verification team confirms that a complete set of data for this monitoring period is available to verify the emission reduction calculation, and the same was found in accordance with the registered PDD /36/.

The net electricity supplied to National grid has been sourced from the monthly balance sheet /08/, the same forms the basis of emission reduction calculation. The verification team has verified the net electricity supplied for respective months by the project activity and found the values used are consistent between the meter readings and ER sheet /04/. The invoices /09/ for the sale of power to EVN were also crosschecked as a plausibility check.

No lack of evidence and missing data were detected during this monitoring period. All values as per the monitoring plan were crosschecked by the verification team against basic monitored data and the calculations were found to be correct.

The verification team confirms that the emission reductions are real and measurable.

No reporting risks have been identified for the data reported.
All the monitored data are archived in electronic and paper form. The data will be kept for the whole crediting period and 2 years after the last crediting period thereby meeting the requirement of the PDD. The verification team has checked and confirms that all the meters are calibrated. Thus conclude no material risks in the claimed emission reduction for the applied period.

SDG	SDG Impact	Baseline estimate	Project estimate	Net benefit
SDG 7: Ensure access to affordable, reliable, sustainable and	MWh of renewable energy generated	0 MWh	321,791.613 MWh	321,791.613 MWh

	modern energy for all				
	SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	The employees have access to training, healthcare, insurances and better income	0 employee 0 VND 0 training	24 employees 21.8 million VND 10 trainings	24 employees 21.8 million VND 10 trainings
	SDG 13: Take urgent action to combat climate change and its impacts	Emissions reductions	278,059 tCO_2e	0 tCO_2e	278,059 tCO_2e
Findings	No findings have been raised.				
Conclusion	Verification team concludes that the calculation provided in the monitoring report /02/ and emission reduction spread sheet /04/ are complete and reflect all the requirements of the monitoring plan /36/ and: a) All the monitored data as required by the registered PDD /36/ was available to PP, the same has been verified by the verification team. b) Formula used for the baseline was in line to the registered PDD /36/. c) The ex-ante emission factors correctly sourced from the registered PDD /36/ and was found to be appropriate and justified.				

E.8.5. Comparison of actual SDGs Impacts with estimates in registered PDD

Means of verification

The MR includes a comparison of the calculated actual emission reductions with the ex-ante calculated values in the registered PDD /36/.

SDG	Values estimated in ex ante calculation of registered PDD for this monitoring period	Actual values[1] achieved during this monitoring period
SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all	413,939.726 MWh	321,791.613 MWh
SDG 8: Promote sustained, inclusive and	35 employees 0 VND 0 training	24 employees 21.8 million VND 10 trainings

[1] Whenever emission reductions are capped, both the original and capped values used for calculations must be transparently reported. Use brackets to denote original values.

	sustainable economic growth, full and productive employment and decent work for all		
	SDG 13: Take urgent action to combat climate change and its impacts	357,684 tCO2e	278,059 tCO_2e
	In summary, verification team confirms that the actual emission reduction is less than the estimate of the registered PDD /36/ for the current monitoring period.		
Findings	No findings have been raised.		
Conclusion	In summary, verification team confirms that the actual emission reduction is less than the estimate of the registered PDD /36/ for the current monitoring period. Verification team confirms that the comparison for the estimated and actual emission reduction for this monitoring period is correctly calculated and reported.		

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

Means of verification	The actual emission reductions are less than the estimated emission reductions based on the registered PDD /36/.
Findings	No findings have been raised.
Conclusion	The actual ERs achieved during the monitoring period is 78% (=278,059 /357,684) of the estimated amount based on the ex-ante estimation in registered PDD /36/.

E.9. Evaluation of SDGs

Means of verification

The verification team checked the sustainable development Goals outcome during the site visit interviews.

SDGs Outcome:

Relevant SDG Indicator/Safeguarding Principle	**Principle 8.2 Erosion and/or water body stability**	**Means of Verification**
Data / Parameter	Cultivation of plant and afforestation for impacted areas	Verification team confirm that PP has a Contract for design, supply and construction of landscape and additional items of Thai Hoa WPP from a third party Thai Binh Duong Corporation Joint Stock Company /31/ which is checked and found OK. The parameter is checked from the signed contract and also checked during the on-site visit. Verification team confirm that parameter is monitored as per the frequency defined in the PDD /36/ and found in compliance with the local requirements.
Unit	Number of trees and m^2 of grass	
Description	The project owner has planted trees in the campus such as powerhouse, transformer station site, access road to restore the green cover, create nice scenery and improve the ecosystem as well as the landscape and soil conditions in the area.	
Source of data	Site observation; Contract for design, supply and construction of landscape and additional items of Thai Hoa WPP.	

Value(s) applied	613 trees and 760 m^2 of grass	
Measurement methods and procedures	Site observation and checking documents	
Monitoring frequency	Once per monitoring period	
QA/QC procedures	Cross-checking by interviews	
Purpose of data	Improved environment and biodiversity in the project's area	
Additional comment	N/A	

Relevant SDG Indicator/Safeguarding Principle	**Principle 9.5 Hazardous and Non-hazardous Waste**	**Means of Verification**
Data / Parameter	• Hazardous waste (lubricant, grease, light bulb, accumulator, etc.); and • Non-hazardous waste (domestic solid waste, domestic wastewater).	Verification team has checked the Contract for collection, transportation and treatment of hazardous wastes, 16/12/2022 with third party "An Sinh Construction and Trading Co., Ltd." for 1 year /35/. The Receipt of hazardous waste /32/ have been checked by the verification team. Verification team confirm that hazardous waste has been treated by a third party in compliance with the PDD /36/ which is also confirmed during the site visit. VVB reviewed the details of Non-hazardous wastes treatment and found consistent with the Periodic Environmental Monitoring Report – 2022 by a third party report /44/. Verification team has also checked As-built drawings of the wastewater treatment system /35/ which confirm system for waste water treatment. Verification team confirm that parameter is monitored as per the frequency defined in the PDD /36/ and found in compliance with the local requirements.
Unit	Kg	
Description	• Hazardous wastes are collected and treated by the third authorized party in accordance with local laws and related regulations. The project owner has contracted a licensed third party to transport and treat hazardous waste in accordance with the law. • Non-hazardous wastes are collected and treated in accordance with local laws and related regulations. - Domestic solid waste is transported and treated by the local urban environment company; - Domestic wastewater is collected and treated by the three-compartment septic tank system built at the project site	
Source of data	Site observation; the signed contract for collection, transportation and treatment of hazardous wastes with the third licensed party; the receipt of hazardous waste, the	

	periodic environmental monitoring report.	
Value(s) applied	- 550 kg of hazardous waste has been collected by the project owner during this monitoring period; and then treated by the third party contracted with the project owner. - 5 kg of domestic solid waste per day. - 0.8 m3 of domestic wastewater per day	
Measurement methods and procedures	Site observation and checking documents	
Monitoring frequency	Once per monitoring period	
QA/QC procedures	Cross-checking by interviews	
Purpose of data	Prevent the penetration of waste, lubricant and grease into soil and groundwater	
Additional comment	N/A	

Relevant SDG Indicator/Safeguarding Principle	**Principle 9.10 High conservation value areas and critical habitats Principle 9.11 Endangered Species**	**Means of Verification**
Data / Parameter	Number of birds and other animals are killed or injured	Verification team has checked the Logbook of project's impact on the biodiversity /35/ and no record was observed during this monitoring period. The same was also verified from the local stakeholder interviews during the site visit and site visit observation. Verification team confirm that parameter is monitored as per the frequency defined in the PDD /36/ and found in compliance with the local requirements.
Unit	Number	
Description	Number of birds and other animals are killed or injured when colliding with turbines.	
Source of data	Records at the plant	
Value(s) applied	0 (no bird, bat or other animals were killed by collisions with the turbines during this monitoring period).	
Measurement methods and procedures	Site observation and checking documents	
Monitoring frequency	Once per monitoring period	
QA/QC procedures	Cross-checking by interviews	
Purpose of data	Assessing the project's impacts on birds and other animals	
Additional comment	N/A	

In summary, verification team confirms that all monitored sustainable development indicators are in accordance to the PDD /36/. It is also confirmed that all SDGs are rated as positive hence the project fulfils the eligibility requirement

Finding: No finding raised.

Conclusion:

The adequacy and compliance of the monitoring plan in the Monitoring report was found as per the requirements laid by the monitoring methodology and the PDD. The information flow (from data generation, aggregation, to recording, calculation and reporting) is already included under respective parameter above. The verification team has verified all the data and collected evidence as per the required monitoring frequency and found to be correct and appropriate meeting the requirements of the applied methodology and the PDD.

E.10. Stakeholder Inputs & Grievance Mechanism

Means of verification	Verification team verified the continuous input and grievance mechanism in place. There is a continuous input/grievance mechanism in place for beneficiaries to be able to give feedback on the project. The process books have been located in People's Committee of Hoa Thang commune and Thai Hoa Wind Power Project office to provide feedback of whatever nature they wish during the monitoring period. The telephone numbers of the Project Owner and the GS consultancy company are made available for local stakeholders to provide feedback on the project. Stakeholders can find the telephone number in the Comment Book. The Project Owner has its email and the GS consultancy company also has its email provided in the Continuous Input/Grievance Expression Process Book for local stakeholders to provide feedback on the project. Based on the site visit and grievances register /33/, Verification team confirm that no feedback was received during the monitoring period. The Verification team also interviewed the stakeholders and confirms that they are aware about the grievance mechanism in place for this project activity.
Findings	No findings have been raised.
Conclusion	No grievances received during the current or previous monitoring period.

SECTION F. Internal quality control

>> The draft verification report prepared by team leader is reviewed by an independent technical reviewer before requesting for issuance for this verification period for the project activity to confirm the internal procedures established by 4KES are duly followed and the verification report/opinion is reached in an objective manner and complies with the applicable GS requirements. The technical review is conducted by the technical reviewer qualified as per the 4KES procedures established for the qualification of CDM/GS personnel as per EB guidelines and GS guidelines.

The independent technical reviewer may approve or reject the draft verification report. The findings may be identified even at this stage, which needs to be satisfactorily resolved, before the request for issuance is submitted to GS. The final decision is taken by the Head of the VVB. The technical reviewer approves the final version of the report.

The final approval is authorized by the Director, 4KES once the report is approved by the Head/VVB Manager.

SECTION G. Verification opinion

>> The verification team confirms that the evidence is of sufficient quantity, appropriate quality and reliable. The reported values, notation, units and sources in the monitoring report for all the monitoring parameters have been cross checked with the emission reduction sheet and monitoring report. During the course of verification and site visit, the data submitted by PP was cross verified with the values mentioned in the emission reduction sheet and monitoring report. The procedure for data monitoring, recording, transfer and

compilation was also verified and found in compliance with the monitoring plan as mentioned in the registered PDD /36/.

Evidences (Documents/Site visit interview) referred for verification of individual monitoring parameters and fixed parameters are defined in section E.6 above. It is confirmed by the assessment team that the reported emission reductions have been conservatively calculated. A list of referred documents for verification is also included in Appendix 3 of this report.

Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 278,059 tCO_2e emission reductions during period from 31/10/2021 - 30/06/2023 (Including both the days).

SDG	SDG Impact	Baseline estimate	Project estimate	Net benefit
SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all	MWh of renewable energy generated	0 MWh	321,791.613 MWh	321,791.613 MWh
SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	The employees have access to training, healthcare, insurances and better income	0 employee	24 (including 19 men and 05 women) Employees, 10 Trainings, 21.8 Million VND/month	24 (including 19 men and 05 women) Employees, 10 Trainings, 21.8 Million VND/month
SDG 13: Take urgent action to combat climate change and its impacts	Emissions reductions	278,059 tCO_2e	0 tCO_2e	278,059 tCO_2e

SECTION H. Certification statement

>> 4K EARTH SCIENCE PRIVATE LIMITED has been contracted by Swiss Carbon Value Ltd. to undertake independent verification and certification for the SDGs reported from "Thai Hoa Wind Power Project", GS Ref. No. GS 11251 for the monitoring period 31/10/2021 - 30/06/2023 in the GS Monitoring Report Version 1.0 (first submission) dated 25/09/2023.

The verification is based on the registered PDD /36/ and the monitoring report for this project. Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakech accord, as well as those defined by the GS.

The management of Pacific - Binh Thuan Energy Joint Stock Company is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project Final Monitoring Report, version 2.1 dated 28/12/2023. The calculation and determination of GHG emission reductions from the project is the responsibility of the management of the Swiss Carbon Value Ltd. The development and maintenance of records and reporting procedures are in accordance with the Monitoring Report Version 2.1 dated 28/12/2023.

It is our responsibility to express an independent GHG verification opinion on the GHG emissions and on the calculation of GHG emission reductions from the project for the period 31/10/2021 - 30/06/2023 based on the reported emission reductions in the Final Monitoring Report Version 2.1 dated 28/12/2023 for the same period.

Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, 4K EARTH SCIENCE PRIVATE LIMITED planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated.

4K EARTH SCIENCE PRIVATE LIMITED confirms the following;

Reporting period: From 31/10/2021 - 30/06/2023

Verified and certified SDGs in the above reporting period:

SDG	SDG Impact	Baseline estimate	Project estimate	Net benefit
SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all	MWh of renewable energy generated	0 MWh	321,791.613 MWh	321,791.613 MWh
SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	The employees have access to training, healthcare, insurances and better income	0 employee	24 (including 19 men and 05 women) Employees, 10 Trainings, 21.8 Million VND/month	24 (including 19 men and 05 women) Employees, 10 Trainings, 21.8 Million VND/month
SDG 13: Take urgent action to combat climate change and its impacts	Emissions reductions	278,059 tCO_2e	0 tCO_2e	278,059 tCO_2e

Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CL	Clarification Request
CO_2e	Carbon dioxide equivalent
COP	Conference of Parties
DNA	Designated National Authority
EF	Emission Factor
ERs	Emission Reductions
FAR	Forward Action Request
GHGs	Greenhouse Gas(es)
ISO	International Organization of Standardization
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
kWh	Kilo Watt Hour
LE	Leakage Emissions
MR	Monitoring Report
MP	Monitoring Plan
MWh	Mega Watt Hour
PE	Project Emissions
PDD	Project Design Document
PP	Project Participant
QA/QC	Quality Assurance/Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
VVB	Validation and Verification body
VVS	Validation & Verification Standard
4KES	4K Earth Science Private Limited

Appendix 2. Competence of team members and technical reviewers

Certificate of Competence							
Name	☒ Mr. ☐ Ms.	**Chetan Swaroop Sharma**					
Qualification Procedure		*Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.*					
Appointed to work as:							
		CDM Validator/Verifier	**Team Leader**	**Team Member**	**Technical Expert**	**Technical Reviewer**	**Financial Expert**
Appointed		Yes	Yes	Yes	Yes	Yes	No
Appointed Date		15/07/2023					
Authorized to work as Technical Expert for:							
Authorized Technical Area		**Sectoral Scope**		**TA Code**	**Technical Area within the scope**		
		Energy industries (renewable - / non-renewable sources)		1.1	Thermal energy generation		
		Energy industries (renewable - / non-renewable sources)		1.2	Renewables		
		Energy distribution		2.1	Energy distribution		
		Energy demand		3.1	Energy demand		

	Waste handling and disposal	13.1	Solid waste and wastewater
	Waste handling and disposal	13.2	Manure
Authorized to work as Local Expert for:			
Country/Countries	India, Mauritius, Vietnam, Senegal and Thailand		
Compliance check by: Anand S. R.			

Certificate of Competence							
Name	☒ Mr. ☐ Ms.	**Ma Paa Puratchikkanal**					
Qualification Procedure		*Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.*					
Appointed to work as:							
		CDM Validator/Verifier	**Team Leader**	**Team Member**	**Technical Expert**	**Technical Reviewer**	**Financial Expert**
Appointed		Yes	Yes	Yes	Yes	Yes	No
Appointed Date		27-04-2021					
Authorized to work as Technical Expert for:							
Authorized Technical Area		**Sectoral Scope**		**TA Code**	**Technical Area within the scope**		
		Energy industries (renewable - / non-renewable sources)		1.1	Thermal energy generation		
		Energy industries (renewable - / non-renewable sources)		1.2	Renewables		
		Energy demand		3.1	Energy demand		
		Construction		6.1	Construction		
		Waste handling and disposal		13.1	Solid waste and wastewater		
		Waste handling and disposal		13.2	Manure		
		Agriculture		15.1	Agriculture		
Authorized to work as Local Expert for:							
Country/Countries		India and Sri Lanka					
Compliance check by: Anand S. R.							

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	Project participant	Initial GS monitoring report	Version 1.0, dated 25/09/2023	Project participant
2.	Project participant	Final GS Monitoring report	Version 2.1, dated 28/12/2023	Project participant
3.	Project participant	Draft ER calculation sheet	Corresponding to hosted MR version 1.0	Project participant
4.	Project participant	Final ER calculation sheet	Corresponding to final MR version 2.1	Project participant
5.	VIETNAM ELECTRICITY, ELECTRIC POWER TRADING COMPANY	Commercial operation date (COD) of 31/10/2021	Dated 31/10/2021	Project Participant
6.	Quality Assurance and Testing Center 1 and Southern Electrical Testing Company	Calibration Reports of Energy meters corresponding to this monitoring period	-	Project participant
7.	Project participant & VIETNAM ELECTRICITY (EVN)	Power Purchase Agreement signed between PP and VIETNAM ELECTRICITY (EVN) dated 31/12/2019 (valid for 20 years from COD)	-	Project participant
8.	EVN	Monthly Electricity reports (Joint balance sheet) corresponding to the monitoring period	-	Project participant
9.	Project participant /EVN	Monthly electricity invoices corresponding to the monitoring period.	-	Project participant
10.	Manufacturer	Technical specification of the main equipments (turbine and transformer) of the project activity	-	Project participant
11.	Project participant	Name plate photos of turbine, transformer and meters (along with recent reading) and video of project site	-	Project participant
12.	Project	Organization structure	-	Project

	participant			participant
13.	Project participant	Single line diagram showing the metering location and connection to Substation	-	Project participant
14.	Project participant	Project General Layout	-	Project participant
15.	Project participant	Training records: Electricity safety training records in 2021, 2022, 2023 Occupational safety and hygiene training records 2021, 2022, 2023 Fire prevention and rescue certificates in 2022, 2023	-	Project participant
16.	PP and Swiss Carbon Value Ltd.	ERPA (Emission Reduction Purchase Agreement) between PP and Swiss Carbon Value Ltd.	Dated 24/06/2021	Project participant
17.	Project participant & VIETNAM ELECTRICITY (EVN)	AGREEMENT ON TECHNICAL DESIGN OF POWER MEASURING SYSTEM AND DATA COLLECTION SYTEM, dated 16/09/2019	-	Project participant
18.	Government authority	Decision No. 2739 QD-TDC on promulgating metrological technical standard of Viet Nam Metrology standard DLVN 39-2019 - Power meters - Verification procedure	-	Project participant
19.	MINISTRY OF INDUSTRY AND TRADE, ELECTRICITY REGULATORY AUTHORITY OF VIETNAM	Electricity generation permit, 06/10/2021 (valid until 05/10/2031)	-	Project participant
20.	Vietnam Electricity - Southern Regional Load Dispatch Centre	Certificates of management and operation of 220kV transformer station	-	Project participant
21.	Project participant	Report on management and operation review 2021, 2022	-	Project participant
22.	General Statistics Office of Vietnam	Monthly average income per capita of Binh Thuan province 2022: 4.307 million VND/month	-	Project participant
23.	SOCIALIST REPUBLIC OF VIETNAM	Government Decree No.: 38/2022/ND-CP on minimum wages, dated 12/06/2022	-	Project participant
24.	UNFCCC	Glossary “CDM terms”	Version 11.0	Publicly available
25.	UNFCCC	Approved monitoring methodology: ACM0002: “Grid-connected electricity generation from renewable resources” (Version 20.0)	-	Publicly available

26.	UNFCCC	Guidelines for Application of materiality in verifications version 02.0	-	Publicly Available
27.	UNFCCC	CDM Validation and Verification Standard for project activities, Version 03.0 CDM Project Standard for project activities, Version 03.0 CDM project cycle procedure for project activities, Version 03.0	-	Publicly available
28.	web	Websites referred: http://www.itouchmap.com/latlong.html (Latitude-Longitude location finder)	-	web
29.	Project participant	List of employees and salary records	-	Project participant
30.	Siemens Gamesa Renewable Energy LLC and Siemens Gamesa Renewable Energy Eolica SL	Service and Maintenance Agreement	18/06/2021	Project participant
31.	PP and Thai Binh Duong Corporation Joint Stock Company	Contract for design, supply and construction of landscape and additional items of Thai Hoa WPP	02/06/2021	Project participant
32.	An Sinh Construction and Trading Co., Ltd.	Minutes of delivery and receipt of hazardous waste, 28/02/2023	-	Project participant
33.	Project participant	Continuous Input and Grievance Expression Process Book	-	Project participant
34.	Project participant	1. Labour Contracts for Staff 2. Contract for health check 2021-2022 3. Results of periodic health check for employees 2021-2022	-	Project participant
35.	Project participant	• Contract for collection, transportation and treatment of hazardous wastes, 16/12/2022 with "An Sinh Construction and Trading Co., Ltd." for 1 year • Logbook of project's impact on the biodiversity • Plant operation certificate for employees by Vietnam Electricity - National Load Dispatch Centre • Social insurance books • Health insurance cards • As-built drawings of the wastewater treatment system	-	Project participant
36.	Project participant	• GS11251_GS4GG Design Review round 4_final_20230808 • GS11251_Registered PDD_Thai Hoa Wind Power Project_Ver 2.6_Clean • FValR_Clean_Ver 2.2	-	Project participant
37.	Gold Standard	Validation and Verification Standard	1.0	Publicly Available

38.	Gold Standard	PRINCIPLES & REQUIREMENTS	1.2	Publicly Available
39.	UNFCCC	CDM webpage https://cdm.unfccc.int/Projects/projsearch.html	-	Publicly available
40.	VERRA	Verra Registry https://registry.verra.org/app/search/VCS/All%20Projects	-	Publicly Available.
41.	I.REC Standard	International REC Standard (I-REC) https://www.irecstandard.org/registries/	-	Publicly Available
42.	Global Carbon Council	GCC Website https://www.globalcarboncouncil.com/	-	Publicly Available
43.	Project participant	Double counting declaration, Dated 18/09/2021	-	Project participant
44.	Hung Cuong Binh Thuan Co. Ltd.	Periodic Environmental Monitoring Report - 2022 of Thai Hoa Wind Power Plant	-	Project participant
45.	Project participant	GS11251_Annual Report	Dated 15/11/2023	Project participant
46.	Project participant	Thai Hoa WPP_V1.3_IQ_SDG-Impact-tool	-	Project participant
47.	Gold Standard	Design Certification Date on SC app	-	Project participant

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.2	**Date:** 21/10/2023
Description of FAR				
FAR pending from GS4GG Design review: In-line with GS4GG Principles and Requirements, VVB and PP shall consider the following rules after the design certification is finalized: 5.1.1: The number of Performance Certifications in a five-year certification cycle is not limited although it must take place at least once, no later than two years after Project implementation or Design Certification, whichever is later. 5.1.39: Transparent, annual update reports need to be provided for Projects that have achieved the Project Design Certification stage. An annual report shall be submitted for each monitoring year by end of next calendar year for which verification is not completed. If a verification is in progress but not completed, then an Annual Report is still required by the end of calendar year.				
Project participant response				**Date:** 25/10/2023
The request for 1st performance review is expected to be submitted to SustainCERT in November 2023 within 2 years from the date of Design Certification on 07/12/2022. The project participants received the final Design Review for this project on 08/08/2023. An annual report will be submitted to GS by the end of 2023 in case the 1st performance review cannot be submitted in 2023.				
Documentation provided by project participant				
39_Confirmation email on Review Closure by SustainCERT				
DOE assessment				**Date:** 03/11/2023
Clarifications have been provided by PP and found OK. Hence this FAR is closed.				

Table 2. CL from this verification

No CL raised during this monitoring period.

~~CL ID~~	~~XX~~	~~Section no.~~	~~-~~	~~Date:~~ ~~DD/MM/YYYY~~
~~Description of CL~~				
~~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.8.1	**Date:** 21/10/2023
Description of CAR				
PP need to summarize all the SDGs under the ER calculation sheet.				
Project participant response				**Date:** 25/10/2023
All the SDGs have been summarized in the revised ER calculation sheet.				
Documentation provided by project participant				
02_GS 11251_Thai Hoa WPP_ER Calculation Sheet_Ver 2.0				
DOE assessment				**Date:** 03/11/2023
Corrections have been done in the revised ER sheet /04/ and found OK. Hence this CAR is closed.				

CAR ID	02	**Section no.**	E.8.1	**Date:** 21/10/2023
Description of CAR				
1. Under section E.1 of the MR, Under a heading for each SDG, provide sample calculations for all formulae used to calculate/estimate baseline values (SDG 13 - emissions or net baseline removals), applying actual values as per MR filling guideline. 2. Under section E.2 of the MR, Under a heading for each SDG, provide sample calculations for all formulae used to calculate/estimate project values (SDG 13 - emissions or net removals), applying actual values MR filling guideline.				
Project participant response				**Date:** 25/10/2023
1. Section E.1. Calculation of baseline value or estimation of baseline situation of each SDG impact has been updated in the revised MR. 2. Section E.2. Calculation of project value or estimation of project situation of each SDG impact has been updated in the revised MR.				
Documentation provided by project participant				
The revised MR				
DOE assessment				**Date:** 03/11/2023
1. Corrections have been done in the revised MR /02/ and found OK. Hence this part of CAR is closed. 2. Corrections have been done in the revised MR /02/ and found OK. Hence this part of CAR is closed.				

CAR ID	03	**Section no.**	E.6.2	**Date:** 21/10/2023
Description of CAR				
Verification team has found that futuristic sentences have been used under the submitted monitoring report. Since the verification is for the monitoring period already monitored, PP need to mention the actual practices followed during this monitoring period.				
Project participant response				**Date:** 25/10/2023
The information has been updated in the revised MR.				
Documentation provided by project participant				
The revised MR				
DOE assessment				**Date:** 03/11/2023
Corrections have been done in the revised MR /02/ and found OK. Hence this CAR is closed.				

Table 4. FAR from this verification

No FAR raised during this verification

FAR 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

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Document information

Version	*Date*	*Description*
04.0	6 April 2021	Revision to: • Reflect the “Clarification: Regulatory requirements under temporary measures for post-2020 cases” (CDM-EB109-A01-CLAR).
03.0	31 May 2019	Revision to: • 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
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