

Validation report for GS project activity

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

BASIC INFORMATION

Title of the project activity	Title: Wind Power Project at Sea – No.5 Wind Power Plant Thanh Hai 1-4 GS reference number: GS10798
Scale of the project activity	☒ Large-scale ☐ Small-scale
GS Version applicable	GS4GG
Version number of the validation report	05
Completion date of the validation report	21/01/2023
Version number of the PDD to which this report applies	2.4
Project Developer	Swiss Carbon Value Ltd.
Project Representative	Swiss Carbon Value Ltd.
Project Participants and any communities involved	Tan Hoan Cau Ben Tre Joint Stock Company (the Project Owner) Swiss Carbon Value Ltd. (Project Developer) Energy and Environment Consultancy Joint Stock Company (GS-VER Consultant)
Host Party	Vietnam
Applied methodology	Methodology applied: ACM0002 - Grid-connected electricity generation from renewable sources (version 20.0)
Activity Requirements applied:	Renewable Energy Activities
Product Requirements applied:	GHG Emissions Reduction & Sequestration
Regular/Retroactive:	Retroactive
Mandatory sectoral scopes	Sectoral scope 1: Energy industries (renewable - / non-renewable sources)
Conditional sectoral scopes, if applicable	N/A
Estimated amount of SDG Impact Certified	SDG 13: 307,540 tCO _{2e} /year SDG 8: 80 Employees SDG 7: 343,141 MWh
Name and UNFCCC reference number of the DOE	4K Earth Science Private. Limited UNFCCC Ref No. CDM-E-0069

Name, position and signature of the approver of the validation report	 S. Jagajothi Director
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SECTION A. Executive summary

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4K Earth Science Private Limited has been contracted by 'Swiss Carbon Value Ltd.' to perform a validation of the GS project 'Wind Power Project at Sea – No.5 Wind Power Plant Thanh Hai 1-4' (GS Ref. No. 10798) in Vietnam.

The scope of the validation is defined as an independent and objective review of the GS project design document, the project's baseline study, monitoring plan, and other relevant documents. The information in these documents is reviewed against the requirements of 'Gold Standard for Global Growth' in conjunction with the CDM Validation and Verification Standard for Project Activities (version 03), Project Cycle Procedure for Project Activities (version 03), Project Standard for Project Activities (version 03), Kyoto Protocol requirements and UNFCCC rules.

The report is based on the assessment of the GS project design document, application of standard auditing techniques including but not limited to desk review, follow up actions (e.g., electronic (Microsoft Teams and email) interviews) and also the review of the applicable approved methodological and relevant tools, GS4GG guidance and CDM decisions.

Wind Power Project at Sea – No.5 Wind Power Plant Thanh Hai 1-4 includes the construction of an off-shore wind power farm in Thanh Hai commune, Thanh Phu district, Ben Tre province, Viet Nam with total capacity of 120 MW and gross annual electricity output of 343,141 GWh. The project involves the installation of total 28 wind turbines - generators in four phases.

- Phase 1 – Thanh Hai 1: The installed capacity of 30 MW and estimated annual electricity output of 96.853 GWh;
- Phase 2 – Thanh Hai 2: The installed capacity of 30 MW and estimated annual electricity output of 96.853 GWh;
- Phase 3 – Thanh Hai 3: The installed capacity of 30 MW and estimated annual electricity output of 97.748 GWh;
- Phase 4 – Thanh Hai 4: The installed capacity of 30 MW and estimated annual electricity output of 97.748 GWh.

The above details of the project has been verified from remote audit and FSR /06/, EIA report /08/, Project Investment License /10/, Business License /11/, Power Purchase Agreement /15/ and Photos/Video of site /28/ etc.

Project activity power plant when in full operation, will result in a reduction of 307,540 tCO₂ on average per year and 1,537,698 tCO₂ over the first crediting period of 5 years along with direct environmental, social and economic benefits.

The review of the project design documentation and the subsequent follow-up interviews have provided 4KES with sufficient evidence to determine the project's fulfilment of all the stated criteria. In our opinion, the project meets all applicable GS4GG requirements along with UNFCCC requirements for the CDM.

- ☒ The project is recommended with a request for registration.
☐ The project is not recommended for request for registration.

SECTION B. Validation team, technical reviewer and approver

B.1. Validation 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	Validation findings
1.	Team Leader and Technical expert (TA 1.2)	IR	Sharma	Chetan Swaroop	Central Office	✓		✓	✓
2.	Local Expert	EI	Nguyen	Hong Ngoc Trang	Central Office	✓			

B.2. Technical reviewer and approver of the validation 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 & Expert (TA 1.2)	IR	Puratchikkanal	Ma Paa	Central office
2.	Approver	IR	Jagajothi	S	Central Office

SECTION C. Means of validation

C.1. Desk/document review

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The report is based on the assessment of the project design document, application of standard auditing techniques including but not limited to desk review, follow up actions (e.g., electronic (Microsoft Teams or e-mail) interviews) and also the review of the applicable approved methodological and relevant tools, GS4GG guidance and CDM decisions.

All the documents used for arriving validation conclusion are listed in Appendix 03 and referenced accordingly in validation report.

C.2. Remote audit

As a result of the COVID-19 pandemic, taking into account the rules of relevant national and local authorities (local to the DOE offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the DOE and other relevant travel restrictions and guidance (for example, a requirement to self-isolate upon return from specific countries), the DOE has skipped the on-site visit. However as per the COVID-19 Interim Measures by GS4GG, the DOE has used alternative measures for auditing like remote audits.

Considering the current COVID-19 world situation, Site visit is not expected to happen in near future. Hence the DOE has skipped the on-site visit.

As per para 4.1.1 (b) of COVID 19 Interim Measures /34/, Validation team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of validation.

- Complete desk review of the final GS-PDD (version 2.4, dated 18/01/2023) /02/, as well as all the supportive evidences have been checked by the Validation team.
- During the desk review, FSR /06/, EIA report /08/, Project Investment License /10/, Business License /11/, Power Purchase Agreement /15/ and Photos/Video of site /28/ etc. and other relevant background documents were provided and assessed. The project description in the GS-PDD was verified from these documents.
- By taking follow up actions by conducted interview with PP/Consultant/Local stakeholder to gather information about knowledge of project design, implementation, management system of the PA, project technology, stakeholder consultation, monitoring plan, start date, Methodology applicability, SDG impact, Grievance mechanism etc. via Microsoft Teams/email. Cross-checked evaluation under the scope of all information and references provided in PDD.
- Cross checks between information provided by interviewed personnel (i.e. by checking sources) to ensure that no relevant information has been omitted.

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

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Tran	Mr. Van HOANG	Deputy General Director of Tan Hoan Cau Ben Tre JSC	07/01/2022	1. Issues in the PDD 2. Roles and responsibilities 3. Applicability of the methodology	Mr. Chetan Swaroop Sharma (Microsoft Teams interviews)
2.	Nguyen	Mr. Hoai NAM	Technician - Tan Hoan Cau Ben Tre JSC	07/01/2022	4. Emission reduction	
3.	Nguyen Tien	Mr. Hai	Technical Manager, Energy and Environment Consultancy Joint Stock Company	07/01/2022	5. Monitoring requirement 6. Monitoring procedure 7. Data collection	
4.	Duong	Ms. Thi My CHUYEN	Local people	07/01/2022	8. Start date 9. LSC	
5.	Lang	Mr. Nguyen CHAU	Local people	07/01/2022	10. Sustainable Development parameters	
6.	Mai	Mr. Quang BUU	Local people	07/01/2022	11. Grievance Mechanism 12. Environmental impacts etc. 13. Local stakeholder consultation	

Some of the questions asked from the stakeholder with summary of their response:

Questions	Responses
Q1. Any local jobs created due to project activity?	The answer was affirmative. Jobs created during the construction phase and also during the operation phase.
Q2. Any resettlement of local people due to project activity?	Few people lost their land and compensation plan completed. Compensation by money and nobody lost house. Compensation process was monitored by local government for transparency.
Q3. Participated in the LSC meeting?	Yes, participated in the meeting
Q4. Mode of invitation in the LSC meeting?	Project owner send invitation to government and leader of village. They inform to local people in the community.
Q5. Whether grievance mechanism is in place and are you aware of it?	Yes
Q6. Comments about the project activity.?	Only positive comments.
Q7. Does the project provide opportunity to both male and female?	Yes

C.4. Sampling approach

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Not Applicable

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

During the validation, 00 CL and 03 CAR were raised and successfully closed. 00 FAR were raised during this validation. Refer Appendix 4 of this report for more details.

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	Validation team checked the Project Design Document /02/ with latest version of PDD template available in the GS website (i.e., version 1.2) /35/.
Findings	CAR-02 is raised and successfully closed. Refer Appendix 4 of this report for more details.
Conclusion	The validation team confirms that the proposed project activity meets the requirement of GS4GG and the PDD is completed using the valid version of the PDD form appropriate to the type of project activity.

D.2. Description of project activity

Means of validation	Wind Power Project at Sea – No.5 Wind Power Plant Thanh Hai 1-4 includes the construction of an off-shore wind power farm in Thanh Hai commune, Thanh Phu district, Ben Tre province, Viet Nam with total capacity of 120 MW and gross annual electricity output of 343,141 GWh. The project involves the installation of total 28 wind turbines - generators in four phases. - Phase 1 – Thanh Hai 1: The installed capacity of 30 MW and estimated annual electricity output of 96.853 GWh. Phase 1 was put into commercial operation on 29/10/2021; - Phase 2 – Thanh Hai 2: The installed capacity of 30 MW and estimated annual electricity output of 96.853 GWh. Phase 2 was put into commercial operation on 31/10/2021;
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- Phase 3 – Thanh Hai 3: The installed capacity of 30 MW and estimated annual electricity output of 97.748 GWh. Phase 3 is expected to be commercial operation on 01/01/2023;
- Phase 4 – Thanh Hai 4: The installed capacity of 30 MW and estimated annual electricity output of 97.748 GWh. Phase 4 is expected to be commercially operation on 01/01/2023.

The above details of the project has been verified from remote audit and FSR /06/, EIA report /08/, Project Investment License /10/, Business License /11/, Power Purchase Agreement /15/ and Photos/Video of site /28/ etc.

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 net electricity generated (with an estimated annual volume of 343,141 GWh¹) will be supplied to the national grid via a newly constructed transmission line from the plant to a transformer station. PPA has been signed between PP and EVN /15/ which has been checked by the validation team. PPA is valid for 20 years from the commercial operation date. The project will reduce the emission of greenhouse gases by replacing electricity generated from fossil fuel-fired power plants with zero emissions electricity from a wind power plant.

The wind power plant is located in Thanh Hai communes, Thanh Phu district, Ben Tre province of Viet Nam as verified from FSR /06/, EIA report /08/, Project Investment License /10/, Business License /11/, Power Purchase Agreement /15/ and Photos/Video of site /28/. The geo-coordinates of the project site are given under section A.2 of the GS PDD /02/ which have been verified by the validation team and found OK.

The project involves the construction of a 120 MW grid-connected off-shore wind power plant with wind turbines and generators to convert kinetic power of the wind to electrical energy, which will be supplied to the national grid at the connection point through the transmission line. At the connection point, the electricity meter systems will be installed as discussed during remote audit. They are digital and bi-directional type to measure the export and import of electricity of Wind Power Project at Sea – No.5 Wind Power Plant Thanh Hai 1-4. The main technical parameters of the project (as mentioned in the below Table) have been verified FSR /06/, EIA report /08/, Project Investment License /10/, Business License /11/, Power Purchase Agreement /15/ and Photos/Video of site /28/ etc.

Main technical parameters of Wind Power Project at Sea – No.5 Wind Power Plant Thanh Hai 1-4

Main parameter	Unit	Value
1. Turbine²		
• Type		Phase 1: SG4.5-145 Phase 2: SG4.5-145 Phase 3: D450-155 Phase 4: D450-155
• Number of turbines + Phase 1 + Phase 2	Set	Total: 28 7 7 7 7

¹ Annual electricity output when all 4 phases are completed.

² FSR.

	+ Phase 3		
	+ Phase 4		
	2. Generator³		
	• Type		Three-phase asynchronous
	• Voltage	V	690
	• Frequency	Hz	50
	3. Main transformer⁴		
	• Type		Three phases, outdoor
	• Rated capacity	MVA	4 x 40
	• Voltage	kV	22/110
	4. Technical lifetime of the plant⁵	year	20
	The project falls under GS4GG Renewable Energy Activities Requirements. Validation confirm that project activity has met the eligibility criteria of section 3.1.1 of GS4GG Principles & Requirements /33/.		
	GENERAL ELIGIBILITY CRITERIA	VVB Justification	
	(a) Types of Project	The project activity includes construction and operation of an off-shore wind power plant to generate renewable electricity to supply to the national grid. The off-shore wind power project activity is an eligible project type according to section 2 of GS4GG Renewable energy activity requirements, version 1.4 /37/. Project eligibility as per GS4GG Renewable energy activity requirements, version 1.4 /37/ is justified below. 1. Projects generate and deliver energy services (electricity) from non-fossil and renewable energy sources. (Para 2.1.2 (a)) 2. Projects comprise of renewable energy generation units i.e. wind that are Supplying energy to a national grid. (Para 2.1.2 (b)) 3. This project activity is a grid-connected off-shore wind power plant. According to Paragraph 2.1.4 of Renewable Energy Activity Requirements Version 1.4 /37/, grid-connected off-shore Wind projects is automatic eligible. Hence the project activity is eligible under GS4GG.	
	(b) Location of Project	The project is located in Thanh Hai commune, Thanh Phu district, Ben Tre province, Viet Nam as confirmed from FSR /06/, EIA report /08/, Project Investment License /10/, Business License /11/, Power Purchase Agreement /15/ and Photos/Video of site /28/.	
	(c) Project Area, Project Boundary and Scale	The project area is 12.5 hectares ⁶ as checked from investment license /10/. According to the applied CDM methodology ACM0002, version 20.0, the spatial extent of the project boundary includes the Wind Power Project at Sea – No.5 Wind Power Plant Thanh Hai 1-4 and all power plants connected physically to the national electricity grid	

³ FSR.

⁴ FSR.

⁵ Tool10 – Tool to determine the remaining lifetime of equipment, EB50, Annex 15.

⁶ The land lease contract was signed between the PO and Ben Tre Provincial People's Committee.

		which the proposed project is also connected. The detailed on the project boundary is defined under Section B.3 of this PDD which is found OK. The installed capacity of the project activity is 120 MW as verified from FSR /06/, approval of FSR by DEPARTMENT OF INDUSTRY AND TRADE /07/, Project Investment License /10/ etc., so it is large scale project. Project is also a large scale project activity as per section 9.1.2 of “GHG EMISSIONS REDUCTION & SEQUESTRATION PRODUCT REQUIREMENTS” Version 2.1 /40/. Wind Power Project at Sea – No.5 Wind Power Plant Thanh Hai 1-4 is seeking registration only in GS4GG program. The proposed project activity is not participated to 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. Therefore, no double counting of impacts is potentially in this project activity. This information is confirmed in the no-double counting declaration by the project owner /30/.
	(d) Host Country Requirements	The proposed project activity is in compliance with applicable Vietnam's laws and environmental, ecological and society regulations including the law on investment, the law on environmental protection, the electricity law, the labour code, the law on gender equality, the land law... which is documented in the project investment license issued by Ben Tre Provincial People's Committee (Ben Tre PPC) /10/, the approval of environmental impact assessment report issued by Ben Tre PPC /09/, the business license for the project owner issued by Ben Tre PPC /11/, the approval of FSR issued by Ben Tre PPC /07/, the power purchase agreement /15/ and electricity connection agreement signed with Vietnam Electricity (EVN) /19/, Land lease contract signed with Ben Tre PPC /12/; and Land use license issued by Ben Tre PPC etc.
	(e) Contact Details	The project participants include Tan Hoan Cau Ben Tre Joint Stock Company, Swiss Carbon Value Ltd and Energy and Environment Consultancy Joint Stock Company. Swiss Carbon Value Ltd, a company organized and existing under the laws of Switzerland, with the company registration number CH-020.3.032.152-1. Tan Hoan Cau Ben Tre Joint Stock Company, a company organized and existing under the laws of Vietnam, with the company registration number 1301060117. Energy and Environment Consultancy Joint Stock Company, a company organized and existing under the laws of Vietnam, with the company registration number 0103013853. All project participants are in good standing with no evidence of insolvency or legal/criminal notices placed against it. Contact details of all the Project Participants are presented in Appendix 1 of this GS PDD /02/.
	(f) Legal Ownership and (g) Other Rights	The project owner – Tan Hoan Cau Ben Tre Joint Stock Company has full legal right to control and operate the project activity. They have got all the required permits granted by the government like Project Investment License /10/, Business License /11/, Approval of EIAR /09/, Approval of FSR /07/, Land contract /12/, Power Purchase Agreement /15/ etc. The project owner – Tan Hoan Cau Ben Tre Joint Stock Company has the legal rights concerning changes in the

		use of resources required to service the project for land use, construction, selling electricity license and so on, which is documented in Investment License, Power Purchase Agreement. Swiss Carbon Value Ltd. – The project developer has signed the emission reduction purchase agreement /21/ for Wind Power Project At Sea – No.5 Wind Power Plant Thanh Hai 1-4 with the project owner and therefore has full and uncontested legal ownership of any GS-VERs that are generated under Gold Standard Certification. Energy and Environment Consultancy Joint Stock Company (VNEEC) is the service provider to develop and register the proposed project activity according to GS4GG.
	(h) Official Development Assistance (ODA) Declaration	The project is not using any ODA funding. The same has been checked from the signed declaration /25/.
	Under section D.2 of the GS PDD /02/, PP has provided the assessment that project complies with 'gender sensitive' requirements which is found correct and acceptable. The same was also verified during the stakeholder interview. Project activity power plant when in full operation, will result in a reduction of 307,540 tCO₂ on average per year and 1,537,698 tCO₂ over the first crediting period of 5 years along with direct environmental, social and economic benefits.	
Findings	No finding raised.	
Conclusion	The assessment team confirms that GS PDD contains a transparent and accurate description of the project activity and provides reader a clear understanding of the project activity	

D.3. Application and selection of methodologies and standardized baselines

D.3.1. Application of methodologies and standardized baselines

Means of validation	The large-scale project activity utilizes Version 20.0 of ACM0002: "Grid-connected electricity generation from renewable sources" /05/. Under section B.2 of the PDD /02/, project has been assessed for all the applicability conditions of the applied methodology.				
	No.	Applicability conditions in Version 20.0 of ACM0002	Characteristics of the project activity	Applicability criterion met?	VVB Justification
	1	This methodology is applicable to grid-connected renewable energy power generation project activities that: a) Install a Greenfield power plant; b) Involve a capacity addition to (an) existing plant(s); c) Involve a	The project activity consists of the installation of a new grid connected renewable power plants at a site where no renewable power plant was operated prior to the implementation of the project activity (green field plant)	Yes	The project activity consists in the installation of a new grid connected renewable power plants at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield

		retrofit of (an) existing operating plant(s)/unit(s); d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or e) Involve a replacement of (an) existing plant(s)/unit(s).			power plant). Hence point (a) is applicable. FSR /06/, Project Investment License /10/, Business License /11/, Equipment Supply Contract /14/. Power Purchase Agreement /15/ and Photos/Video of site /28/ have been checked. Project is supplying electricity to EVN. PPA /15/ has already signed between PP and EVN which has been verified by the validation team. Hence the project is in compliance with latest version of the methodology ACM 0002 Version 20.0.
	2	The methodology is applicable under the following conditions: a) The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;	The project activity is the installation of new wind power plant	Yes	a) The project activity is the installation of a new wind power plant as verified during the remote interview. FSR /06/, Project Investment License /10/, Business License /11/, Equipment Supply Contract /14/. Power Purchase Agreement /15/ and Photos/Video of site /28/ have

					been checked. Hence the project is in compliance with latest version of the methodology ACM 0002 Version 20.0.
		b) In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects) the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.	The project activity is the installation of a new wind power plant	Not applicable	b) The project activity consists in the installation of a new grid connected renewable power plants at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield power plant). Hence this para is not applicable. Hence the project is in compliance with latest version of the methodology ACM 0002 Version 20.0.
	3	In case of hydro power plants, one of the following conditions shall apply: a) The project activity is implemented in an existing single or multiple reservoir, with no change in the volume of any of the reservoir or b) The project activity is implemented in existing single or multiple reservoirs,	The project activity is the installation of new wind power plant	Not applicable	The project activity is the installation of a new wind power plant. Hence this para is not applicable. Hence the project is in compliance with latest version of the methodology ACM 0002 Version 20.0.

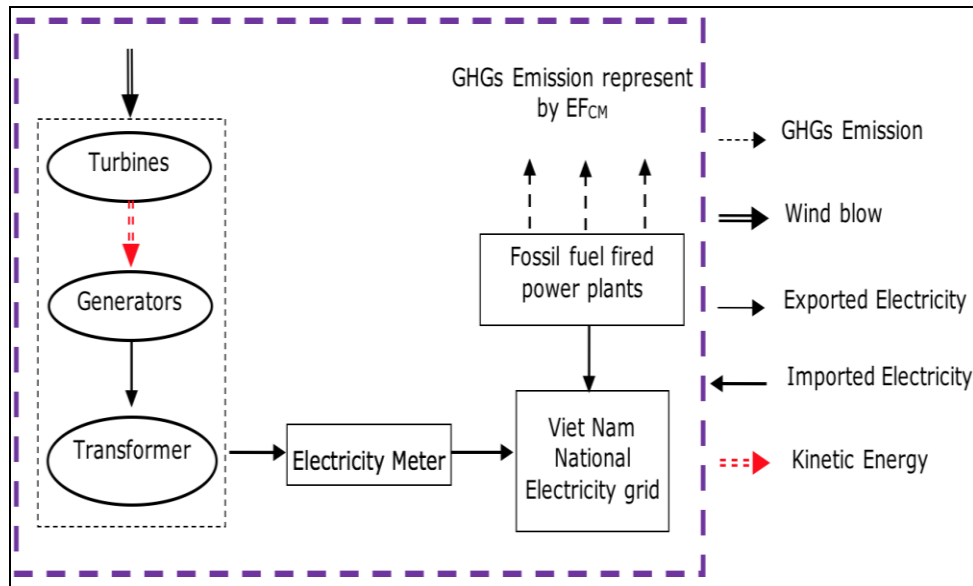
		where the volume of the reservoir(s) is increased and the power density, calculated using equation (7), is greater than 4 W/m²; or c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (7), is greater than 4 W/m² d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (7), is lower than or equal to 4 W/m², all of the following conditions shall apply: i. The power density calculated using the total installed capacity of the integrated project, as per equation (8), is greater than 4 W/m²; ii. Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity; iii. Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m²			
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		shall be: iv. Lower than or equal to 15 MW; and v. Less than 10 percent of the installed capacity of integrated hydro power project.			
	4	In the case of integrated hydro power projects, project proponent shall: a) Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or b) Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This	This project activity is not an integrated hydropower plant	Not applicable	The project activity is not an integrated hydropower plant. Hence this para is not applicable. Hence the project is in compliance with latest version of the methodology ACM 0002 Version 20.0.

		demonstration has to be carried out in the specific scenario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore, this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum five years prior to implementation of CDM project activity			
	5	This methodology is not applicable to: a) Project activities that involve switching from fossil fuels to renewable energy at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site b) Biomass fired power plants/ units	It is a renewable energy project with no fuel-switch involved	Not applicable Not applicable	It is a renewable energy project with no fuel-switch and biomass fired power plant involved. The project activity is the installation of a new wind power plant. Hence this para is not applicable. Hence the project is in compliance with latest version of the methodology ACM 0002 Version 20.0.
	6	In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of	The project activity is the installation of new wind power plant	Not applicable	The project activity is the installation of a new wind power plant. Hence this para is not applicable. Hence the

	baseline scenario, is “the continuation of the current situation, that is to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance”.			project is in compliance with latest version of the methodology ACM 0002 Version 20.0.
	It can be concluded by the assessment team that the project meets all the applicability criteria established in the methodology. Validation team has verified the same from the remote interviews and documents review.			
Findings	No finding raised.			
Conclusion	The applied baseline and monitoring methodology and relevant tool are valid and applicable to the project activity. The project fulfils all relevant criteria of the applied methodology ‘ACM0002: Grid-connected electricity generation from renewable sources’ – Version 20.0. Hence, use of the selected methodology is appropriate for this project activity.			

D.3.2. Project boundary, sources and GHGs

Means of validation	According to para 20 of Version 20.0 of ACM0002, the spatial extent of the project boundary includes the Wind Power Project at Sea – No.5 Wind Power Plant Thanh Hai 1-4 and all power plants connected physically to the national electricity grid system to which that the proposed GS4GG project is also connected to. The flow diagram of the project boundary is shown in Figure below.  Project boundary The GHGs and emission sources included in the project boundary are shown in the table below:
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Sources and gases included in or excluded from the project boundary					
Source		GHGs	Included?	Justification/Explanation	
Baseline scenario	CO2 emission from electricity generation in fossil fuel fired power plants that is displaced due to the project activity	CO2	Yes	Main emission source	
		CH4	No	Minor emission source	
		N2O	No	Minor emission source	
Project scenario	Proposed project	CO2	No	According to ACM0002, the project emission of wind energy project activity is zero.	
		CH4	No		
		N2O	No		
The information was validated during the remote auditing conducted by the validation team and same has been demonstrated in section B.3 of the PDD.					
Findings		No finding raised.			
Conclusion		The project boundary confirmed during the remote auditing along with the documentary evidence was found in conformance with the applied baseline methodology. All sources of GHG emissions required by the methodology have been included in the project boundary and are justified in reference to the project activity. There are no project emissions/leakage emissions of any sort which are not addressed by the applied methodology occurring because of the project activity.			

D.3.3. Baseline scenario

Means of validation	According to para 22 of version 20.0 of ACM0002 /05/, for the project activity including the installation of a Greenfield grid-connected renewable power plant, the baseline scenario is the following: “Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin calculations described in the “Tool to calculate the emission factor for an electricity system”. The Wind Power Project at Sea – No.5 Wind Power Plant Thanh Hai 1-4 involves the installation and operation of a Greenfield wind power plant to generate and supply electricity to the national grid which has been verified from FSR /06/, Project Investment License /10/, Business License /11/, Equipment Supply Contract /14/. Power Purchase Agreement /15/ and Photos/Video of site /28/. The Viet Nam national electricity grid is operated and monopolized by the EVN and is the unique transmission and distribution line, to which all power plants in Viet Nam are physically connected to and the proposed project activity is not outside that system. Therefore, the baseline scenario of the project is to provide an equal amount of electricity provided by the national grid where the proposed project is also connected. The combined margin emission factor of the national grid ($EF_{grid,CM,y}$) is calculated according to Tool 07 - "Tool to calculate the emission factor for an electricity system", version 07.0, will be used to calculate baseline emissions from the project activity. Data to calculate $EF_{grid,CM,y}$ is published by Department of Climate Change - Ministry of Natural Resources and Environment (CDM DNA), Official Letter No. 263/BDKH dated 12/03/2020 /17/. Validation team has checked the grid emission factor calculation and found correct. The same is also justified in section D.3.6 of this report.
Findings	No finding raised.
Conclusion	The assessment of the applied baseline suggests that the baseline methodology has been correctly applied and the most appropriate and conservative baseline

	scenario has been selected: a) All data and values used by the project proponent have been listed and referenced in the PDD indicating their sources; b) Relevant documents have been used for the establishment of baseline scenario, interpreted appropriately; c) All the relevant national and sectoral policies and circumstances have been considered; d) The applied methodology's applicability has been found in accordance and the baseline identification has been found appropriate by the assessment team. e) Justification has been provided in the PDD /02/ and found OK.
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D.3.4. Demonstration of additionality

Means of validation	According to para 28 of version 20.0 of ACM0002, Section 5.3 - Additionality, the project proponent shall refer to the latest version of "Tool32: Positive lists of technologies" for the simplified procedure to demonstrate additionality. The project activity includes the construction and operation of a grid-connected off-shore wind power plant. At the time of GS-PDD first submission for preliminary review on 03/07/2020 /36/, the percentage share of total installed capacity of the wind power plants (582 MW⁷, even though this wind power projects capacity is on 22/03/2021 which is conservative approach) in the total installed grid-connected power generation capacity in Vietnam (48,573 MW⁸) is 1.2%, which is less than 2%. According to Paragraph 14 (a), Section 5.2.1 of Tool32: Positive lists of technologies, version 02.0, the project activity is additional. Validation team has checked the sources /16/ and found acceptable as the same are government documents. PP has used the authentic sources and most recent available as the time of first submission. Hence project activity is additional. <u>Prior consideration of the carbon revenues:</u> As the project is a retroactive project activity, hence the prior consideration is applicable for the project activity. As per GS4GG rule for retroactive projects, project documents need to submit to GS within one year of the project start date to meet prior consideration. The time of first submission date for preliminary review was 03/07/2020 as verified from the document /36/, it is within one year of the project start date on 22/07/2019. The preliminary review has been completed by the GS registry and the proposed project activity is listed at https://registry.goldstandard.org/projects/details/2755. The prior consideration is in accordance with GS rules update (https://www.goldstandard.org/sites/default/files/documents/rule-update_prior-consideration.pdf). Therefore, the project meets the prior consideration requirements.
Findings	No finding raised.
Conclusion	Based on the local and sectoral expertise, the assessment team confirms that the projects is additional and also meet the prior consideration requirement.

D.3.5. Sustainable Development Goals (SDG) outcomes

Means of validation	The project contributes directly in achieving the SDG 7, 8 & 13 as required by Principle-1 of GS4GG.
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⁷ The official letter No.1380/EVN-TTD issued by Vietnam Electricity on 22nd March 2021 regarding "Vietnam's wind power development in 2021" – available at: <https://law.concetti.vn/en/document/cong-van-1380-evn-ttd-ve-tinh-hinh-phat-trien-dien-gio-tai-viet-nam-nam-2021>.

⁸ EVN Annual Report 2018 – available at: <https://www.evn.com.vn/d6/news/EVN-Annual-Report-2018-2-50-24114.aspx>.

	Sustainable Development Goals Targeted	Most relevant SDG Target	SDG Impact
			Indicator (Proposed or SDG Indicator)
	13 Climate Action (mandatory)	Target 13.2: Integrate climate change measures into national policies, strategies grid planning	Climate action – GHG emissions reductions
	8 Decent Work and Economic Growth	Target 8.5: By 2030, achieve 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	Indicator 8.5.1 – Average hourly earnings of female and male employees, by occupation, age and persons with disabilities
	7 Affordable and Clean Energy	Target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix	Indicator 7.2.1 – Renewable energy share in the total final energy consumption (MWh of renewable energy generated)
<u>Explanation of methodological choices/approaches for estimating the SDG Impact:</u> SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all This SDG outcome is measured in accordance with applied methodology ACM 0002 version 20.0 for the net electricity supplied to the national grid by the project, $EG_{facility,y}$ (MWh). $EG_{facility,y}$ is determined as follows: $EG_{facility,y} = EG_{export,y} - EG_{import,y}$ Where: $EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr) $EG_{export,y}$ = Quantity of electricity exported to the national grid by the project activity in year y (MWh/yr) $EG_{import,y}$ = Quantity of electricity imported from the national grid by the project activity in year y (MWh/yr) <u>Baseline:</u> Prior to the implementation of the project activity, electricity in Viet Nam is generated mainly from fossil fuel sources and is solely distributed to consumers via the unique national electricity grid. <u>Project's outcome:</u> This project annually supplements 343,141 MWh of clean and sustainable electricity to the national grid, thereby contributing to the Target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix. SDG 8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment and decent work for all <u>Baseline:</u> The project activity is located in Ben Tre province. The average monthly income per capita of Ben Tre province in 2019 is 3.685 million VND⁹. <u>Project's outcome:</u> The project leads to employment opportunities for the local community with an expected average monthly salary of 8.0 million VND, which would not have been possible in the baseline			

⁹ General Statistics Office of Viet Nam.

scenario. The project provides sustainable energy resources contributing to the economic development of the region.

The project contributes to the Target 8.5:

- By 2030, achieve 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.

SDG 13: Take urgent action to combat climate change and its impacts

For the climate combat action, this project directly reduces 307,540 tons of CO₂ equivalent/year, thereby the project contributes to the National SDG 13 - Target 13.2 - Integrate climate change measures into national policies, strategies and planning.

This SDG outcome is measured in accordance with ACM0002 "Grid-connected electricity generation from renewable sources" version 20.0 for the emission reductions generated by the project, ER_y (tCO₂e). SDG 13 - Emission Reductions are calculated using the following equations:

Baseline emissions (BE_y)

Baseline emissions include only CO₂ emissions from electricity generation from fossil fuel fired power plants that are displaced due to the project activity, calculated as follows (as per para 39 of the applied methodology):

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

Where:

- BE_y Baseline emissions in year y (tCO₂/yr).
- EG_{PJ,grid,y} Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)
- EF_{grid,CM,y} Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system".

Calculation of EG_{PJ}

Because the project activity is the installation of a new grid-connected renewable power plant/unit at a site where no renewable power plant was operated prior to the implementation of the project activity, then:

$$EG_{PJ,grid,y} = EG_{facility,y} \text{ ((as per para 41 of the applied methodology))}$$

Where:

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

Therefore, the baseline emissions are calculated as follows:

$$BE_y = EG_{facility,y} \times EF_{grid,CM,y}$$

Project emission (PE_y)

According to para 31 of ACM0002, Version 20.0, the project emissions are calculated using the following equation:

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

Where:

- PE_y Project emissions in year y (tCO₂e/yr)
- PE_{FF,y} Project emissions from fossil fuel consumption in year y (tCO₂/yr)
- PE_{GP,y} Project emissions from the operation of geothermal power plants due to the release of non-condensable gases in year y (tCO₂e/yr)
- PE_{HP,y} Project emissions from water reservoirs of hydro power plants in year y (tCO₂e/yr)

The proposed project is a wind power plant that neither uses fossil fuel nor operates geothermal power plants or having water reservoirs (i.e. PE_{FF,y} = 0; PE_{GP,y} = 0; PE_{HP,y} = 0); therefore, the project emission is zero:

$$PE_y = 0$$

Leakage (L_y)

According to para 53 of ACM0002, Version 20.0, no leakage emissions are considered. The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions

from fossil fuel use (e.g. extraction, processing, transport). These emissions sources are neglected.

Emission reductions (ER_y)

Emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y$$

Where:

ER_y Emission reductions in year y (t CO₂e/yr).
 BE_y Baseline emissions in year y (t CO₂e/yr)
 PE_y Project emissions in year y (t CO₂e/yr).

Validation team confirm that the methodological choices/approaches for estimating the SDG Impact have been clearly explained and found OK.

Ex ante estimation of SDG Impact:

SDG 13 - Take urgent action to combat climate change and its impacts

Project emissions (PE_y)

The emissions of this wind power project $PE_y = 0$. This is accepted to the validation team as the proposed project is a wind power plant that neither uses fossil fuel nor operates geothermal power plants or having water reservoirs.

Baseline emissions (BE_y)

Baseline emissions include only CO₂ emissions from electricity generation by fossil fuel fired power plants that are displaced due to the project activity. It is calculated as follows:

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

Where:

BE_y Baseline emissions in year y (t CO₂e/yr).
 $EG_{PJ,grid,y}$ Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr), and equal to 343,141 MWh/yr. The electricity generation is based on the "FSR" /06/, /07/, which was made by third party and was approved by Ministry of Industry and Trade – Electricity & Renewable Energy Authority, hence accepted to the validation team.
 $EF_{grid,CM,y}$ = 0.89625 tCO₂/MWh. Validation team has checked the Emission factor calculation and found correct.

Therefore:

$$BE_y = 343,141 \times 0.89625 = 307,540 \text{ tCO}_2\text{e/yr}$$

Leakage (LE_y)

As it is stated in para 53 of ACM0002 version 20.0, no leakage emission is considered. The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, transport). These emission sources are neglected.

Emission Reductions (ER_y)

Emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y = 307,540 \text{ tCO}_2\text{/yr}$$

Summary of ex ante estimates of each SDG Impact:

SDG 7 – Ensure access to affordable, reliable, sustainable and modern energy for all

Net electricity supplied to national grid

Year	Baseline estimate	Project estimate (MWh)	Net benefit (MWh)
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		(MWh)		
2021 (from 29/10 to 31/12)	0	33,434	33,434	
2022	0	193,706	193,706	
2023	0	389,202	389,202	
2024	0	389,202	389,202	
2025	0	389,202	389,202	
2026 (from 01/01 to 28/10)		320,958	320,958	
Total	0	1,715,705	1,715,705	
Total number of crediting years	5			
Annual average over the crediting period	0	343,141	343,141	
SDG 8 - Promote inclusive and sustainable economic growth, employment and decent work for all The project leads to employment opportunities which would not have been possible in the baseline scenario. The project is expected to provide permanent employment to 80 people¹⁰. A wind project in general does not expose workers to unsafe or unhealthy work environments in terms of toxins or chemicals. In addition, the project follows national safety rules under (Host Country) Law that covers work safety. The staffs will participate the operation training before completion of the wind power plant. After the course, the staffs passed the examination will get the certificate. Then internal trainings on plant operation will be conducted for plant staffs. The project proponent also creates good labor conditions for the plant staffs. Every year, all the employees are checked-up at the medical center for free using their health insurance via insurance card.				
SDG 13 - Take urgent action to combat climate change and its impacts Expected emission reduction in the 1st crediting period				
Year	Baseline estimate (tCO ₂ e)	Project estimate (tCO ₂ e)	Net benefit (tCO ₂ e)	
2021 (from 29/10 to 31/12)	29,965	0	29,965	
2022	173,609	0	173,609	
2023	348,822	0	348,822	
2024	348,822	0	348,822	
2025	348,822	0	348,822	
2026	287,658	0	287,658	

¹⁰ FSR.

	(from 01/01 to 28/10)			
	Total	1,537,698	0	1,537,698
	Total number of crediting years	5		
	Annual average over the crediting period	307,540	0	307,540
The detail ER calculation is demonstrated in the separate ER spreadsheet /04/ by the PP and validated by the validation team with respect to correctness of all parameters and their sources.				
Findings	No finding raised.			
Conclusion	The assessment team confirms that: a) The selection of the equations of the applied methodology is appropriate. b) The assumptions used by the project have been clearly referenced and listed in the PDD/02/. c) The data included in the PDD has been adopted from authentic sources based on appropriate assumptions. d) Appropriate values are reasonably used relating to the project activity. e) The baseline methodology has been correctly applied for the calculation of emission reductions. f) The calculations are traceable and the values can be replicated using the data provided in the PDD.			

D.3.6. Monitoring of SDGs

Means of validation	The monitoring plan for the project activity is provided in Section B.7 of the PDD /02/, based on the approved monitoring methodology. The monitoring plan is being correctly applied to the project activity and is in compliance with the requirements of the applied methodology. Parameters available at the time of validation (ex-ante) (Mention under section B.6.2 of the GS PDD /02/) are:					
	Relevant SDG Indicator	Parameter	Description	Unit	Value	Justification for the applied value
	SDG13	EF_{grid,OM,y}	Operating margin CO ₂ emission factor for grid connected power generation in year y	tCO ₂ /MWh	0.8795	The latest EF_{grid,OM,y} for 2018 was calculated and published by Ministry of Natural Resources and Environment, Department of Climate Change (DNA of Viet Nam) on 12/03/2020 as per “Tool to calculate the emission factor for an electricity system” – Version 07.0 (Ref. http://dcc.gov.vn/van-ban-phap-luat/1059/Nghien-cuu,-xay-dung-he-so-phat-thai-(EF)-cua-luoi-dien-Viet-Nam-

						(K%C3%A8m-CV-263/BDKH).html) Validation team has checked the source of the data /17/ and found the value is correct. The value is calculated as per the “Tool to calculate the emission factor for an electricity system” – Version 07.0 which is latest available tool. This ex-ante parameter is fixed ex-ante for the 1st crediting period. This ex-ante parameter is used for the calculation of the combined margin CO₂ emission factor (EF_{grid,CM,y}).
		EF _{grid,BM,y}	Build margin CO ₂ emission factor for grid connected power generation in year y	tCO ₂ /MWh	0.9465	The latest EF_{grid,BM,y} for 2018 was calculated and published by Ministry of Natural Resources and Environment, Department of Climate Change (DNA of Viet Nam) on 12/03/2020 as per “Tool to calculate the emission factor for an electricity system” – Version 07.0 (Ref. http://dcc.gov.vn/van-ban-phap-luat/1059/Nghien-cuu,-xay-dung-he-so-phat-thai-(EF)-cua-luoi-dien-Viet-Nam-(K%C3%A8m-CV-263/BDKH).html) Validation team has checked the source of the data /17/ and found the value correct. The value is calculated as per the “Tool to calculate the emission factor for an electricity system” – Version 07.0 which is latest available

						tool. This ex-ante parameter is fixed ex-ante for the 1 st crediting period. This ex-ante parameter is used for the calculation of the combined margin CO ₂ emission factor (EF _{grid,CM,y}).
		EF _{grid,CM,y}	Combined margin CO ₂ emission factor for grid connected power generation in year y	tCO ₂ /MWh	0.89625	Validation team has checked the calculation for combined margin CO ₂ emission factor and found correct. The emission factor is calculated as per the latest version of the tool “Tool to calculate the emission factor for an electricity system” Version 7. Calculated ex-ante based on 75% of OM and 25% of BM values approach. The Operating margin and Build margin grid emission factor have been calculated by the DNA of Vietnam /17/ and is the latest available data and is designed in compliance with the tool “Tool to calculate the emission factor for an electricity system” Version 7. Validation team has checked the calculation and found correct.
	Parameters that will be monitored (ex-post) (Mention under section B.7.1 of the GS PDD /02/) are:					
	Relevant SDG Indicator	Parameter	Description	Unit	Monitoring	
	SDG 7 Indicator -	EG _{PJ,grid,y} (or	Net electricity supplied to the	MWh/year	The electricity will be	

	7.2.1: Renewable energy share in the total final energy consumption	$EG_{\text{facility},y}$	national grid by the proposed project	continuous measured at the connection point by power meters and monthly recorded. The net electricity supplied to the grid will be calculated by subtracting $EG_{y,\text{import}}$ from $EG_{y,\text{export}}$. Two-way power meters will be installed at the grid-connected point to measure the amount of electricity supplied and consumed by the proposed project by the reverse direction. The recorded data will be confirmed by the electricity protocol which will be signed by the representatives of EVN and the project owner. Electronic data will be archived within the crediting period and 2 years after the end of the crediting period. The power meters should be calibrated and checked every 3 year according to the related national regulations. Electricity protocols shall be crosschecked with electricity
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					sale invoices. Validation team has found the monitoring parameter in accordance to the applied methodology.
	SDG 13: Climate Action	ER _y - Annual emission reduction	The project will generate renewable power, which will displace part of the electricity otherwise supplied by fossil fuel fired power plants, thus GHG emission reductions are achieved via this project	tCO ₂ e/year	The monitoring parameter would be calculated annually. Cross-checking with electricity data. Validation team has found the monitoring parameter correct.
	SDG 8 - Indicator 8.5.1 - Average hourly earnings of female and male employees, by occupation, age and persons with disabilities	• Quality of employment; • Quantitative employment and income generation; • Local Employees; • Equal pay for work of equal value for both men and women.	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 regular health-check as well as social insurance and unemployment insurance. The employees of the project are paid higher than the average monthly income per capita of the province. Men and women are paid equally for work of equal value.	• Number of employees (for data on quantitative employment); and • Income in USD and VND (for data on income generation). • Number of local employees; • List of employees, functions and respective income (for data on equal pay for work of equal value for both men and women)	The monitoring parameter will be checked from Training records, labour contracts, salary records annually and also Cross-checking by interviews. Validation team has checked the monitoring parameter and found correct.
	Safeguarding Principle Assessment: 8.2 Erosion and/or water body stability	Cultivation of plant and afforestation for impacted areas	The project owner will conduct plantation in the campus such as	N/A	The monitoring parameter would be checked by site observation

			powerhouse, transformer station site, coastal area to restore the green cover, create nice scenery and improve the ecosystem as well as the landscape and soil conditions in the area. The project owner will pay money to the Government to plant new equivalent forest area to replace the area occupied by the project activity.		and checking documents once per monitoring period. Cross-checking by interviews. Validation team has checked the monitoring parameter and found correct.
	Safeguarding Principle Assessment: 9.5 Hazardous and Non-hazardous waste	- Hazardous waste (lubricant, grease, light bulb, accumulator, etc.); and - Non-hazardous waste (domestic waste).	- Hazardous wastes are collected and treated by the third authorized party in accordance with local laws and related regulations; and - Non-hazardous wastes are collected and treated in accordance with local laws and related regulations.	N/A	The monitoring parameter would be checked by site observation and checking documents once per monitoring period. Cross-checking by interviews. Validation team has checked the monitoring parameter and found correct.
	Safeguarding Principle Assessment: Principle 9.10 High Conservation Value Areas and Critical Habitats/ Principle 9.11 Endangered Species	Number of endangered aquatic and birds are killed or injured when colliding with turbines.	NA	Number	The monitoring parameter would be checked by site observation and checking documents once per monitoring period. Cross-checking by

					interviews. Validation team has checked the monitoring parameter and found correct.
	Validation team has also checked the other elements of the monitoring plan mentioned under section B.7.3 of the GS PDD /02/ and found OK. It can be concluded that the monitoring plan has provisions for the real measurement of the parameter to reach to the achieved emission reductions. After an intensive document review of the PDD and remote audit assessment by interviews with representatives about the monitoring procedures and structure, the validation team confirms that verification of emission reductions would be feasible. Also quality assurance and quality control procedures identified in the PDD will lead to accuracy and lesser uncertainty. <u>Sampling Plan:</u> No sampling is applicable in the monitoring.				
Findings	No finding raised.				
Conclusion	The assessment team confirms that the monitoring plan: a) Is in compliance with the requirements stated in the applied approved monitoring methodology. b) Is feasible and can be implemented in the case of the project activity. c) Can be implemented by the project participant.				

D.4. Start date, crediting period type and duration

Means of validation	The start date of the project activity has been considered as 22/07/2019 (the date that the equipment supply contract was signed /14/). Validation team has checked the equipment supply contract /14/ and found the mentioned start date correct. The selected date is the earliest date on which the Project Developer has committed to expenditures related to the implementation of the Project and hence in accordance to para 4.1.39 of GS4GG Principles and Requirements, version 1.2 /33/. PP has chosen a renewable crediting period of 5 years which is renewable two times. The crediting period start date of the project activity has been considered as 29/10/2021 (The commercial operation date of Phase 1 – Thanh Hai 1) which is found acceptable. The start date of crediting period has been verified from the commercial operation date of Phase 1 – Thanh Hai 1 issued by EVN /26/.
Findings	CAR-03 is raised and successfully closed. Refer Appendix 4 of this report for more details.
Conclusion	Validation team confirm that start date and crediting period start date have been chosen correctly according to the GS4GG requirements. Also the chosen crediting period is as per the GS4GG requirements.

D.5. Local stakeholder consultation

Means of validation	The local stakeholder consultation was conducted by the project proponent on 29/12/2020 at Wind Power Project at Sea – No.5 Wind Power Plant Thanh Hai 1-4's Meeting Room. The invitees include local residents, local policy makers, local NGOs, representatives from DNA Vietnam and all people/ communities. Invitees were invited by invitation letter delivered in person/organization by post, by mail, invitation letter was announced/ listed at offices of commune people's committees and published at the website. The invitation letter, announcement and email were
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	sent to all stakeholders regardless of gender. The meeting was open for everyone concerning about the project activity. The meeting was attended by both males and females. Stakeholders were provided an alternative of providing their feedbacks and comments via email. There were no negative comments received for the project activity during the local stakeholder consultation process. Validation team has checked the supportive document i.e. Minutes of LSC meeting, public invitation, personal invitations, Email to stakeholders, Attendance sheet, LSC evaluation forms and photos /18/ to confirm the LSC and found OK. Since the project is a retroactive project (Start date of the project is 22/07/2019), PP has conducted integrated stakeholder consultation and stakeholder feedback round as per the requirement of para 6.1.4 of GS4GG STAKEHOLDER CONSULTATION AND ENGAGEMENT REQUIREMENTS Version 1.2 which is found acceptable. An email was sent to the stakeholders on 25/11/2020 along with the project documents. SFR was from 29/12/2020 to 28/02/2021. As discussed with PP, no comments have been received. The stakeholders were informed about this through email.
Findings	CAR-01 is raised and successfully closed. Refer Appendix 4 of this report for more details.
Conclusion	The remote audit interview with the stakeholder was undertaken and it can be confirmed that the project proponent takes into account the feedback of local people and no negative comments were received for the project activity.

D.6. Safeguarding Principles Assessment

Means of validation	PP has done the safeguarding principles assessment analysis and presented assessment in the GS PDD /02/. The assessment has been performed in accordance to requirements prescribed in the GS4GG Principles & Requirements, Version 1.2 & Safeguarding Principles & Requirements, Version 1.2. The detailed assessment of safeguarding principle is provided below:				
	Assessment Questions/ Requirements	Justification of Relevance (Yes/potentiall y/no)	How Project will achieve Requirements through design, management or risk mitigation.	Mitigation Measures added to the Monitoring Plan (if required)	VVB Assessment
	Principle 1. Human Right				
	1. The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of	1. Yes 2. Yes	1. Viet Nam ratified "International Convention on the Elimination of all Form of Racial Discrimination" on 09/06/1981; "International Covenant on Civil and Political Rights" and "International Covenant on Economic,	1. N/A 2. N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/em ployee and stakeholders were interviewed during the remote audit to confirm the same.

	Human Rights		Social and Cultural Rights” on 24/09/1982; “Convention on the Elimination of all Forms of Discrimination against Women” on 27/11/1981. Therefore, the project developer and the project do respect nationally and internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind		
	2. The Project shall not discriminate with regards to participation and inclusion		2. Viet Nam ratified “International Convention on the Elimination of all Form of Racial Discrimination” on 09/06/1981; “Convention on the Elimination of all Forms of Discrimination against Women” on 27/11/1981. Therefore, the project will not discriminate with regards to participation and inclusion.		
	Principle 2. Gender Equality				
	1. The Project shall not directly or indirectly lead	1. Yes 2. Yes	1. The project does not adversely affect	1. N/A 2. N/A	The justification provided by PP was found adequate based

	to/contribute to adverse impacts on gender equality and/or the situation of women	3. Yes	men and women in marginalized or vulnerable communities because it creates stable jobs and incomes for local men and women. The project does not reduce or put at risk women's access to or control of resources, entitlements and benefits because the project owner comply with the Labor Code (Chapter X – Separate provision for female employees). (Ref. Policy Statement and Labor Code).	3. N/A	on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
	2. Projects shall apply the principles of non-discrimination, equal treatment, and equal pay for equal work 3. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks 4. (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)	4. No	2. The project owner complies with regulations of Viet Nam law. Therefore, the project will not discriminate with regards to participation. The employees	4. N/A	

			of the project are paid higher than the average monthly income per capita of the province. Men and women are paid equally for work of equal value. 3. The project does not have any scope to apply gender strategy. Although the project positively contributes towards the national mission for empowerment of women through improvement of health and attaining vision for empowerment of women under Law on Gender Equality 2006 4. N/A		
	Principle 3. Community Health, Safety and Working Conditions				
	1. The Project shall avoid community exposure to	1. Yes	1. The project leads to safe working condition and	1. N/A	The justification provided by PP was found adequate based

	increased health risks and shall not adversely affect the health of the workers and the community		improvement in health as it will replace coal as fuel with wind which is clean and safe. Further, periodic maintenance by implementing agency ensure prevention of any unsafe working condition.		on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
	Principle 4.1 Sites of Cultural and Historical Heritage				
	Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture?	No	This is an off-shore wind power plant. The project site is located in mostly unused land along the sea without any cultural or historical heritage.	N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
	Principle 4.2 Forced Eviction and Displacement				
	Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	This is an off-shore wind power plant. Most of land area occupied by the project activity is unused land along the sea for the construction of management house and transformer. Therefore, the project does not require or cause the physical or economic relocation of local people.	N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
	Principle 4.3 Land Tenure and Other Rights				
	Does the Project require any change,	No	The compensation plan and	N/A	The justification provided by PP

	or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership?		compensation expenditure were validated and approved by the Provincial People's Committee. Therefore, there are no uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership. The compensation process has been completed. The project owner has signed the Land Lease Contract with Ben Tre PPC and also received the Land Use Licences issued by Ben Tre PPC.		was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
	Principle 5. Corruption				
	1. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	Yes	There is no corruption provision in the project activity.	N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
	Principle 6.1 Labour Rights				
	1. The Project Developer shall ensure that all employment is in compliance with national labour occupational health and	1. Yes 2. Yes 3. Yes 4. Yes 5. Yes	1. The project does not require labour force for implementation of the project. Trained technicians are involved in construction and operation and	1. N/A 2. N/A 3. N/A 4. N/A 5. N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and

	safety laws and with the principles and standards embodied in the ILO fundamental conventions 2. Workers shall be able to establish and join labour organisations 3. Working agreements with all individual workers shall be documented and implemented and include: a) Working hours (must not exceed 48 hours per week on a regular basis), AND b) Duties and tasks, AND c) Remuneration (must include provision for payment of overtime), AND d) Modalities on health insurance , AND		maintenance of plants. Therefore, no forced labour is involved in the project. No child labour is involved. 2. Workers should have the right to establish and join the organization that they consider necessary in a climate of complete security based on Decree No. 58/2014/ND-CP. 3. The project owner follows regulations of Labour Code of Viet Nam. Thus, they always ensure the participation of women and men in project activities and benefits. 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 regular health-check as well as social insurance and unemployment insurance. (Ref. Labour Code). 4. The project does not require		stakeholders were interviewed during the remote audit to confirm the same.
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	e) Modalities on termination of the contract with provision for voluntary resignation by employee , AND f) Provision for annual leave of not less than 10 days per year, not including sick and casual leave. 4. No child labour is allowed (Exceptions for children working on their families' property requires an Expert Stakeholder opinion) 5. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response		labour force for implementation of the project. Trained technicians are involved in construction and operation and maintenance of plants. Therefore, no child labour is involved. 5. The project does not require labour force for implementation of the project. Trained technicians are involved in construction and operation and maintenance of plants.		
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	measures				
	Principle 6.2 Negative Economic Consequences				
	1. Does the project cause negative economic consequences during and after project implementation?	1. No	1. The project does not cause negative economic consequences during implementation process of the project.	1. N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
	Principle 7.1 Emissions				
	Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	The Project will reduce the emission of 307,540 tCO ₂ e/year compared to the Baseline Scenario as it replaces electricity generated from fossil fuel fired power plants with zero emissions electricity from the wind power plant. <i>Ref. GS-PDD, pages 2</i>	N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
	Principle 7.2 Energy Supply				
	Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	The Project's purpose is to supply clean energy from the wind power plant to the national grid. It does not use energy from a local grid or power supply or fuel resource that provides for other local users. The project activity may import electricity from the national grid in case the plant is temporarily shut	N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.

		down. The imported electricity from the national grid ($EG_{y,import}$) will be monitored and deducted from total electricity exported to the national grid ($EG_{y,export}$), only net electricity supplied to the national grid ($EG_{PJ,grid,y} / EG_{facility,y} = EG_{y,export} - EG_{y,import}$) is used to calculate emission reductions. Ref. GS-PDD, Section B.7.1		
Principle 8.1 Impact on Natural Water Patterns/Flows				
Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	No	The proposed project is located on the vacant land, where no population and crop lands from turbines to the powerhouse. It is concluded that the Project will not affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s).	N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
Principle 8.2 Erosion and/or Water Body Instability				
Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion?	No	This is an off-shore wind power plant. Therefore, impacts on erosion and/or water body instability or disrupt the natural pattern of erosion are very limited. During the construction period, topsoil erosion may occur due to the excavation activities. However, proper mitigation measures will be applied including: • Embankments to prevent soil erosion	The following mitigation measures will be conducted by the PPs: • Embankments to prevent soil erosion and landslides. • Minimize	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.

			and landslides. - Minimize the vegetable clearance in the project site and surrounding areas. - Conduct reforestation in the temporarily occupied areas and strengthen the slopes to avoid landslide and erosions, after accomplishing the construction of main works During the operational period, there are no excavation activities and the vegetation cover will be restored. Therefore, the soil erosion will be monitored and controlled.	the vegetable clearance in the project site and surrounding areas. Conduct plantation in the campus such as power house, transformer station site, coastal area to restore the green cover, create nice scenery and improve the ecosystem as well as the landscape and soil conditions in the area. The project owner pays money to the	
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				Government to plant new equivalent forest area to replace the area occupied by the project activity.	
	Principle 9.1 Landscape Modification and Soil				
	Does the Project involve the use of land and soil for production of crops or other products?	No	The project activity is to generate electricity from wind. It does not involve the use of land and soil for production of crops or other products. Before the operation, the project site is located partly on agricultural land. All the households who cultivated on the land had been compensated satisfactorily	N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
	Principle 9.2 Vulnerability to Natural Disaster				
	Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	The Project's purpose is to supply clean energy from the wind power plant to the national grid. Therefore, the Project is not susceptible to and does not lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions.	N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
	Principle 9.3 Genetic Resources				

	Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	The Project's purpose is to supply clean energy from the wind power plant to the national grid. Therefore, the Project is not negatively impacted by the use of GMOs.	N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
	Principle 9.4 Release of pollutants				
	Could the Project potentially result in the release of pollutants to the environment?	No	Construction phase: The project is a wind power project, so the impact on air quality is only temporary during construction period and not significant. Besides, the Project owner has applied the following measures: - Spraying water along the construction roads and construction site to mitigate dust dispersion. - All means/vehicles for transport of construction materials must be covered in order to minimize dust dispersion. - Trees will be planted to create a dust barrier. - Don't use very old machines to transport materials and construct. All transport equipment/vehicles and machines must	N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.

			have operational certifications issued by the Directorate for standards and Quality to reduce noise and waste gas during their operation. Operation phase: The proposed project operates using wind energy and does not use fossil fuels. Therefore, there is no gas pollutants emitted into the atmosphere during the operation.		
Principle 9.5 Hazardous and Non-hazardous Waste					
Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	This is an off-shore wind power plant. The Project's purpose is to supply clean energy from the wind power plant to the national grid. Therefore, the release and impacts of hazardous and non-hazardous waste are very limited. Hazardous waste including lubricant, grease, light bulb, accumulator, etc. may release during the maintenance process of equipment; and Non-hazardous waste including domestic solid waste and domestic waste water are generated from worker's activities.	The following mitigation measures will be applied to the project activity. • Hazardous wastes are collected and treated by the third authorized party in accordance with local laws and related regulations;	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.	

				and Non-hazardous wastes are collected and treated in accordance with local laws and related regulations.	
	Principle 9.6 Pesticides & Fertilisers				
	Will the Project involve the application of pesticides and/or fertilisers?	No	The Project's purpose is to supply clean energy from the wind power plant to the national grid. Therefore, the Project does not involve the application of pesticides and/or fertilizers.	N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
	Principle 9.7 Harvesting of Forests				
	Will the Project involve the harvesting of forests?	No	Most of land area occupied by the project activity is unused land along the sea, there is limited species settled prior to the project activity. Therefore, the project does not involve the harvesting of forests.	N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
	Principle 9.8 Food				
	Does the Project modify the quantity or nutritional quality of food available such as through	No	The Project's purpose is to supply clean energy from the wind power plant to the national grid.	N/A	The justification provided by PP was found adequate based on the sectoral

	crop regime alteration or export or economic incentives?		Therefore, the Project does not modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives.		expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
	Principle 9.9 Animal husbandry				
	Will the Project involve animal husbandry?	No	The Project's purpose is to supply clean energy from the wind power plant to the national grid. Therefore, the Project does not involve animal husbandry.	N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
	Principle 9.10 High Conservation Value Areas and Critical Habitats				
	Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No	The project is not located in an area within a high conservation value areas. area or within critical natural habitats. Therefore, the project activity does not affect or alter ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified. According to the approved EIAR, the project activity is an off-shore wind power plant, 28 wind turbines are located on the sea about 3 km far from the mainland, each turbine pillar occupies about 350	N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.

			m2 of sea water surface. However, the impact of sea surface occupation to aquatic life or lack of aquatic connectivity is not significant and can be neglected. There is no precious bird listed in the Red Book at the project area and the project area is not on the migration path of birds therefore the effect on birds by the project activity is negligible. However, proper mitigation measures are applied to the project activity including: painting over turbine with white colour and installation of warning lights; and monitoring the number of birds that are injured or killed by collisions with turbines has been included in the project activity.		
Principle 9.11 Endangered Species					

	1. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? AND/OR 2. Does the Project potentially impact other areas where endangered species may be present through transboundary affects?	1. No 2. No	1. The physical location of the project is described in Section A.2. above. According to the approved EIA report, there are no endangered species identified as potentially being present the project boundary. 2. There is no any nature reserve nearby the project site so the project activity is not expected either potentially impact other areas where endangered species may be present through transboundary affects. However, monitoring the number of endangered aquatics that are injured or killed by collisions with turbine foundations has been included in the project activity.	1. N/A 2. N/A	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the remote audit to confirm the same.
Finding s	No finding raised.				
Conclu sion	Validation team has carried out Microsoft Teams/email interviews to cross check the safeguarding principle assessment conducted by the PP. GS VVB has also reviewed the initial GS local stakeholder consultation report and GS4GG PDD and found that the PP has assessed all the required critical safeguarding principle of United Nations in project activity. It has been found that the PA fulfil all the principles like Human Rights, Labor standards, environment protection, and anti-corruption.				

D.7. Stakeholder Inputs & Grievance Mechanism

Means of validation	Discussion of continuous input /grievance mechanism As part of the grievance mechanism in place, the local stakeholders are encouraged to approach the PP through following avenues i.e. in-person, e-mail and telephone to express their grievance, if any.						
	The project proponent informed the users about the input and grievance mechanism. They were informed about the maintenance of a grievance expression book which would be maintained to have a continuous account of stakeholder's feedback. Grievance Expression Process Book has been located Thanh Hai People Committee and Wind Power Project at Sea – No.5 Wind Power Plant Thanh Hai 1-4 offices, VNEEC office as the stakeholders' chosen places. All the sites are appropriate publicly accessible location where local stakeholders can provide their feedback about the project.						
	The telephone contact details/email address of the company and GS were explained and discussed at the Meeting and also provided in the Continuous Input / Grievance Expression Process Book. Stakeholders were provided below details to register their issues:						
	<table><tr><td>GS Contact (mandatory)</td><td>help@goldstandard.org</td></tr><tr><td>Telephone access</td><td>Tan Hoan Cau Ben Tre JSC +84 969 995 1595 Energy and Environment Consultancy JSC +84 24 6666 9753 Swiss Carbon Value Ltd. +41 435 013 550</td></tr><tr><td>Internet/email access (optional)</td><td>phungquocan6789@gmail.com eec@eec.vn registration@southpolecarbon.com</td></tr></table>	GS Contact (mandatory)	help@goldstandard.org	Telephone access	Tan Hoan Cau Ben Tre JSC +84 969 995 1595 Energy and Environment Consultancy JSC +84 24 6666 9753 Swiss Carbon Value Ltd. +41 435 013 550	Internet/email access (optional)	phungquocan6789@gmail.com eec@eec.vn registration@southpolecarbon.com
GS Contact (mandatory)	help@goldstandard.org						
Telephone access	Tan Hoan Cau Ben Tre JSC +84 969 995 1595 Energy and Environment Consultancy JSC +84 24 6666 9753 Swiss Carbon Value Ltd. +41 435 013 550						
Internet/email access (optional)	phungquocan6789@gmail.com eec@eec.vn registration@southpolecarbon.com						
Findings	No finding raised.						
Conclusion	Validation team has checked the corresponding documents /18/ and /29/ and found OK. The validation team confirms that the project activity meets the Gold Standard requirements for stakeholder feedback/ grievance mechanism.						

SECTION E. Internal quality control

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The validation report prepared by team leader is reviewed by an independent technical reviewer (having competence of relevant technical area himself/herself or through an independent technical area expert) to confirm the internal procedures established by 4KES are duly followed and the validation report/opinion is reached in an objective manner and complies with the applicable CDM requirements.

The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of technical review team are independent of the validation team. The independent technical reviewer(s) may approve or reject the draft validation report. The findings may be identified even at this stage, which needs to be satisfactorily resolved, before submit final report to GS. The final approval decision is taken by the Head of the DOE/Director.

The final decision is authorized by the Director, 4KES, once the report is finalized by the Head of the DOE/DOE Manager.

SECTION F. Validation opinion

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4K Earth Science Private Limited has been contracted by 'Swiss Carbon Value Ltd.' to perform a validation of the GS project 'Wind Power Project at Sea – No.5 Wind Power Plant Thanh Hai 1-4' (GS Ref. No. 10798) in Vietnam.

The validation was performed in accordance with the GS4GG in conjunction with UNFCCC criteria for the Clean Development Mechanism, latest version of Validation and Verification Standard for Project Activities and related Standards/Guidance and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

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

The review of the project design documentation and the subsequent follow-up interviews have provided validation team with sufficient evidence to validate the project. The project design document (Version 2.4, dated 18/01/2023) /02/ correctly applies methodology /05/.

Project activity will result in saving of 1,537,698 tCO₂e in first crediting period from 29/10/2021 to 28/10/2026 with an average saving of 307,540 tCO₂e/year. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achievable given the underlying assumptions do not change. Under the project activity, products to be certified are GS VERs.

The monitoring plan provides for the monitoring of the SDG impact. The monitoring arrangements described in the monitoring plan are feasible within the project design, and it is validation team's opinion that the project participants are able to implement the monitoring plan.

In summary, it is validation team's opinion that the project activity "Wind Power Project at Sea – No.5 Wind Power Plant Thanh Hai 1-4" in Vietnam meets all relevant GS & UNFCCC requirements. Hence, 4KES requests for the registration of the project activity under GS4GG.

Appendix 2. Abbreviations

Abbreviations	Full texts
BE	Baseline Emission
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction(s)
CL	Clarification request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CP	Commitment Period
DOE	Designated Operational Entity
EB	Executive Board
EF	Emission factor
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GS4GG	Gold standard for global goals
MP	Monitoring Plan
PP	Project Participant
SDG	Sustainable development goal
UNFCCC	United Nations Framework Convention on Climate Change

Appendix 3. Competence of team members and technical reviewers

<u>Certificate of Competence</u>						
Name	☒ Mr. ☐ Ms.	Chetan Swaroop Sharma				
Qualification Procedure	Fulfills 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
<i>Appointed</i>	Yes	Yes	Yes	Yes	Yes	No
<i>Appointed Date</i>	27-04-2021					
Authorized to work as Technical Expert for:						
<i>Authorized Technical Area</i>	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
Compliance check by: Anand S. R.	

Certificate of Competence						
Name	☐ Mr. ☒ Ms.	Nguyen Hong Ngoc Trang				
Qualification Procedure	Fulfil 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	-	-
Appointed Date	13-06-2020					

Authorized to work as Technical Expert for:			
Authorized Technical Area	Sectoral Scope	TA Code	Technical Area within the scope
	Waste handling and disposal	13.1	Solid waste and wastewater
Authorized to work as Local Expert for:			
Country/Countries	Vietnam		
Compliance check by: Anand S. R.			

Certificate of Competence						
Name	☒ Mr. ☐ Ms.	Ma Paa Puratchikkannal				
Qualification Procedure	Fulfil 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

<u>Compliance check by:</u> Anand S. R.	

Appendix 4. Documents reviewed or referenced

No.	Title	References to the document
1.	First GS Project Design Document	Version 2.0, dated 30/01/2021
2.	Final GS Project Design Document	Version 2.4, dated 18/01/2023
3.	First GS ER Calculation Sheet	Corresponding to PDD version 2.0
4.	Final GS ER Calculation Sheet	Corresponding to PDD version 2.4
5.	Methodology applied: ACM0002 - Grid-connected electricity generation from renewable sources (version 20.0)	-
6.	Feasibility study report for No.5 Wind Power Plant Thanh Hai 1 Prepared by QUANG BINH POWER CONSULTING INVESTMENT JOINT STOCK COMPANY October 2018 Feasibility study report for No.5 Wind Power Plant Thanh Hai 2 Prepared by QUANG BINH POWER CONSULTING INVESTMENT JOINT STOCK COMPANY October 2018 Feasibility study report for No.5 Wind Power Plant Thanh Hai 3 Prepared by QUANG BINH POWER CONSULTING INVESTMENT JOINT STOCK COMPANY May 2019 Feasibility study report for No.5 Wind Power Plant Thanh Hai 4 Prepared by QUANG BINH POWER CONSULTING INVESTMENT JOINT STOCK COMPANY May 2019	-
7.	Approval of FSR: DEPARTMENT OF INDUSTRY AND TRADE-Decision No. 1816/SCT-QLNL on approval of Feasibility Study Report of No.5 Wind Power Plant - Thanh Hai 1, dated 09/10/2018 DEPARTMENT OF INDUSTRY AND TRATE-Decision No. 1915/SCT-QLNL on approval of Feasibility Study Report of No.5 Wind Power Plant - Thanh Hai 2, dated 24/10/2018 DEPARTMENT OF INDUSTRY AND TRADE-Decision No.951/SCT-QLNL on approval of Feasibility Study Report of No.5 Wind Power Plant - Thanh Hai 3, dated 12/06/2019 DEPARTMENT OF INDUSTRY AND TRATE-Decision No. 950/SCT-QLNL on approval of Feasibility Study Report of No.5 Wind Power Plant - Thanh Hai 4, dated 12/06/2019	-
8.	Environmental Impact Assessment Report for No.5 Wind Power Plant - Thanh Hai 1-4 (Prepared by CENTER FOR NATURAL RESOURCES AND ENVIRONMENTAL MONITORING)	December 2018
9.	Approval of Environmental Impact Assessment Report by BEN TRE PROVINCIAL PEOPLE'S COMMITTEE (approved at Decision No. 201/QD-UBND on the approval of Environmental Impact Assessment Report of No.5 Wind Power Plant - Thanh Hai 1-4)	25/01/2019
10.	Project Investment License for No.5 Wind Power Plant - Thanh Hai 1-4 by Department of Planning And Investment	-
11.	Business License of the Project Owner by Department of Investment and Planning, Business code: 1301060117 Date of registration: 17 September 2018	-

12.	Land renting contract No. 12/HDTD, Dated 04/05/2019	
13.	Project layout	-
14.	Equipment Supply Contract for No.5 Wind Power Plant - Thanh Hai 1-2, dated 22/07/2019 (Project start date) Equipment Supply Contract for No.5 Wind Power Plant - Thanh Hai 3-4, dated 06/01/2021	-
15.	Power Purchase Agreement between PP and Vietnam Electricity – EVN (for 20 years from COD) for No.5 Wind Power Plant - Thanh Hai 1, dated October 2019 No.5 Wind Power Plant - Thanh Hai 2, dated September 2020 No.5 Wind Power Plant - Thanh Hai 3, dated September 2020 No.5 Wind Power Plant - Thanh Hai 4, dated November 2020	27/05/2019
16.	Proof of penetration level Report on supplemental planning of wind power projects - No. 1931/BCT-DL issued by Ministry of Industry and Trade on 19/03/2020. The official letter No.1380/EVN-TTD issued by Vietnam Electricity on 22 nd March 2021 regarding “Vietnam’s wind power development in 2021” – available at: https://law.concetti.vn/en/document/cong-van-1380-evn-ttd-ve-tinh-hinh-phat-trien-dien-gio-tai-viet-nam-nam-2021 . EVN annual report 2018	-
17.	Grid Emission Factor 2018 http://dcc.gov.vn/van-ban-phap-luat/1059/Nghien-cuu,-xay-dung-he-so-phat-thai-(EF)-cua-luoi-dien-Viet-Nam-(K%C3%A8m-CV-263/BDKH).html	-
18.	Local stakeholder consultation: Minutes of local stake holder consultation process Public invitation Personal Invitation to stakeholders Email invitation to stakeholders Attendance sheet of LSC LSC evaluation forms Photos	
19.	TECHNICAL DESIGN AGREEMENT OF ELECTRICITY MEASUREMENT AND DATA COLLECTION SYSTEM OF NO.5 WIND POWER PLANT, BEN TRE PROVINCE between EVN and PP, No. 425/EPTC-KT&CNTT-KDBD	30/09/2019
20.	General Statistics Office of Vietnam_ Average income per capital of Ben Tre province in 2019	-
21.	Emission Reduction Purchase Agreement signed between Swiss Carbon Value Ltd. and PP	14/04/2020
22.	GS10798_GS4GG-Preliminary Review_Final	-
23.	Local Stakeholder Consultation report	-
24.	Signed cover letter	15/06/2020
25.	ODA declaration	14/09/2020
26.	Implementation status: Confirming the COD of Phase 1 – Thanh Hai 1 by EVN: 29/10/2021 Confirming the COD of Phase 2 – Thanh Hai 2 by EVN: 31/10/2021 As confirmed by the PO, Phase 3 – Thanh Hai 3 is expected to be completed on 01/01/2023 and Thanh Hai 4 is on 01/01/2023.	-

27.	Calibration frequency supportive. 1. MINISTRY OF SCIENCE AND TECHNOLOGY DIRECTORATE FOR STANDARDS, METROLOGY AND QUALITY Decision No. 2739/QD-TDC: Decision No. 2739 QD-TDC on promulgating metrological technical standard of Viet Nam (23 rd December 2019). 2. Metrology standard DLVN 39:2019 - Power meters - Calibration & Verification procedure.	-
28.	Photos/Video of site	-
29.	Grievance mechanism book	-
30.	No-double counting declaration	14/09/2020
31.	Terms and Conditions	15/06/2020
32.	CDM Project Standard for project activities CDM Validation and Verification Standard for project activities	Version 03 Version 03
33.	Gold standard Principles and Requirements, version 1.2	-
34.	COVID 19 Interim measures https://globalgoals.goldstandard.org/ru-2020-covid-19-interim-measures-update/	PUBLICATION DATE v5-21/12/2021 (VALID UP TO 30/06/2022)
35.	Project design document form (GS-PDD) https://globalgoals.goldstandard.org/t-prereview-design-document/	Version 1.2
36.	Communication for preliminary review	-
37.	RENEWABLE ENERGY ACTIVITY REQUIREMENTS, Version 1.4	-
38.	Manufacturer specification of wind turbines	-
39.	20_Law on Corporate Income Tax 21_Law on Value-added Tax 22_Decree on Licensing Fees 23_Law on Investment 24_Labor Code	-
40.	GHG EMISSIONS REDUCTION & SEQUESTRATION PRODUCT REQUIREMENTS	2.1
41.	GS10798_SDG-Impact-Tool_Ver 1.0	-

Appendix 5. Clarification requests, corrective action requests and forward action requests

Table 1. CL from this validation

No CL raised during this validation.

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 2. CAR from this validation

CAR ID	01	Section no.	D.5	Date: 09/01/2022
Description of CAR				

Raised as per GS preliminary review findings: PD shall conduct physical meeting at the time of SFR as per GS4GG rules before submitting the project for GS Design Review.	
Project participant response	Date: 20/01/2022
According to GS4GG guidelines and requirements, a physical meeting integrated into the SFR has been held on 29/12/2020. Minutes of meeting, list of participants, evaluation forms, photos... are presented in the updated Stakeholder Consultation Report.	
Documentation provided by project participant	
-	
DOE assessment	Date: 08/03/2022
Clarification has been provided by the PP which is further verified from the GD PDD /02/ and LSC supportive documents /18/. Hence this CAR is closed.	

CAR ID	02	Section no.	D.1	Date: 09/01/2022
Description of CAR				
1. PP need to fill the heading "Other Requirements applied" (Under page 1 of the GS PDD) as per the GS PDD template requirements. 2. Under section B.6.1 of GS PDD, PP need to clearly state which equation will be used in calculating net benefit as per the GS PDD template requirements. 3. Under section B.6.3 of the GS PDD, PP need to clearly mention the applicable SDGs for the ex-ante estimation.				
Project participant response				Date: 20/01/2022
1. Item "Other Requirements applied" has been updated in the revised PDD. 2. The equations for calculating net benefits have been added in Section B.6.1 of the revised PDD. 3. The ex-ante estimation for SDGs has been added in Section B.6.3 of the revised PDD.				
Documentation provided by project participant				
The revised PDD.				
DOE assessment				Date: 08/03/2022
1. Correction has been done in the revised GS PDD /02/ and found OK. Hence this part of CAR is closed. 2. Correction has been done in the revised GS PDD /02/ and found OK. Hence this part of CAR is closed. 3. Correction has been done in the revised GS PDD /02/ and found OK. Hence this part of CAR is closed.				

CAR ID	03	Section no.	D.4	Date: 09/01/2022
Description of CAR				
Under section C.2.1 of the GS PDD, PP need to mention the realistic crediting period start date.				
Project participant response				Date: 20/01/2022
The start date of the first crediting period has been updated in Section C.2.1 of the revised PDD.				
Documentation provided by project participant				
The revised PDD and ER sheet.				
DOE assessment				Date: 08/03/2022
Correction has been done in the revised GS PDD /02/ and found consistent with the project implementation status /26/. Hence this CAR is closed.				

Table 3. FAR from this validation

No FAR is raised during this validation

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