Gold Standard
for the Global Goals

TEMPLATE

KEY PROJECT INFORMATION & PROJECT DESIGN DOCUMENT (PDD)

PUBLICATION DATE **14.10.2020**

VERSION **v. 1.2**

RELATED SUPPORT

- **TEMPLATE GUIDE Key Project Information & Project Design Document v.1.2**

This document contains the following Sections

Gold Standard for the Global Goals

TEMPLATE

KEY PROJECT INFORMATION

GS ID of Project	GS11415
Title of Project	Nhon Hoa 2 Wind Power Project
Time of First Submission Date	10/10/2021
Date of Design Certification	29/11/2023
Version number of the PDD	3.0
Completion date of version	05/12/2023
Project Developer	Nhon Hoa 2 Wind Electricity Joint Stock Company
Project Representative	Monsoon Sustainability Co. Ltd.
Project Participants and any communities involved	• Nhon Hoa 2 Energy Joint Stock Company (Project Owner) • Monsoon Sustainability Co. Ltd. (Project Participant and Project Representative)
Host Country (ies)	Vietnam
Activity Requirements applied	☐ Community Services Activities ☒ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Scale of the project activity	☐ Micro scale ☐ Small Scale ☒ Large Scale
Other Requirements applied	GS4GG
Methodology (ies) applied and version number	ACM0002 - Grid-connected electricity generation from renewable sources (version 21.0)
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A
Project Cycle:	☐ Regular ☒ Retroactive

Table 1 – Estimated Sustainable Development Contributions

Sustainable Development Goals Targeted	SDG Impact (defined in B.6.)	Estimated Annual Average	Units or Products
SDG 4: Quality Education	Substantially increase the number of youth and adults who have relevant skills for employment	14	Number of people that received training per year
SDG 7: Affordable and Clean Energy	Ensure access to affordable, reliable, sustainable and modern energy for all	164,834	MWh of renewable energy generated/yr
SDG 8: Decent Work and Economic Growth	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all (100% of the employees have access to training, healthcare, insurances and better income)	27 staffs during operation period	Jobs/yr
SDG 13: Climate Action (mandatory)	Emissions Reductions	135,655	GS-VERs tCO2e/yr

SECTION A. DESCRIPTION OF PROJECT

A.1 Purpose and general description of project

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The Nhon Hoa 2 Wind Power Project ("NH2 WPP" or "the project") activity, which is implemented by Nhon Hoa 2 Energy Joint Stock Company involves the construction of a wind power plant in Chu Don commune, Chu Puh district, Gia Lai province, Vietnam with a total capacity of 50 MW. The project involves the installation of ten (10) wind turbines with 4.2 MW capacity and two (02) turbines with 4.0 MW capacity. The project will also construct a 63 MVA transformer station and a 220 kV transmission line.

Prior to the implementation of the project activity, electricity in Vietnam is generated mainly from fossil fuel sources and is solely distributed to consumers by Vietnam Electricity (EVN) via the unique national electricity grid.

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

The purpose of the project activity is to generate power using a renewable energy source (wind) and to export the electricity to the national grid. The project will generate an estimated annual amount of 164,834 MWh of electricity which will be supplied to the national grid via a newly constructed transmission line from the plant to a transformer station.

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. It is expected that when fully operational, the power plant will reduce emissions by 135,655 tCO2e annually and 678,273 tCO2e over the first crediting period of 5 years.

The project's contributions to the sustainable development of the local area as well as the host country are as follows:

Contributions towards national sustainable development:

- In recent years, Vietnam has suffered a critical electricity shortage as a consequence of rapidly increasing demand and insufficient supply, thereby imposing negative impacts on economic growth as well as on daily lives of people. This project activity will contribute towards balancing the supply and demand gap. By exporting electricity directly to the national grid, it will help to reduce electricity losses across the national grid and to lessen the risks of cascading national grid collapse due to overload.
- Reducing reliance on exhaustible fossil fuel-based power sources and also reducing the import of fuels for the purpose of power generation.
- Modern and highly efficient turbines and generators are being used in the project and the power transmission will be at high voltage to ensure low losses. The project will accelerate the deployment of renewable energy technologies in Vietnam.

Contributions towards local sustainable development:

Economic well-being

- Once commissioned, the proposed project will increase the industrial share in the economic structure of Gia Lai province. The proposed project will make a significant contribution to the state budget via annual taxes (i.e. corporate income tax, resources tax).
- By supplying a stable electricity output, this project will facilitate the industrialization process of the province and support economic development of local villages through fostering tourism, trade and services inside the province.
- After commissioning, this project will supply electricity to speed up the commissioning of other large infrastructure projects in the region.

Social well-being

- The project improves existing roads, which will facilitate transportation and travel. Thus, the project creates convenience for the transfer and trade in the area, thereby improves minorities' living standard and contributes to fill the gap in development between different ethnic groups in Vietnam. This project will contribute directly to improving the low-quality infrastructure systems of the commune.
- The project will construct a new transmission line together with the wind power plant, which will reduce electricity losses and improve the quality of electricity supply in the region.
- The project activity will result in the direct employment of local people for the construction and operation phases. Therefore, this project activity will contribute directly to alleviating poverty in the region.
- The project activity involves specialized training and education of new people on project technology (i.e., wind power) and relevant skills for employment. Hence, this project activity partly contributes to ensuring quality education for local people resulting in decent jobs and financial security.

In conclusion the project activity will contribute positively towards sustainable development of Vietnam.

The key implementation timeline of the project is listed in the table below.

Table 2: The list of key events of NH2 WPP

Date	Key events
27/06/2019	Land use planning approval

28/10/2019	Local stakeholder consultation
25/06/2020	Decision to include in master plan
14/09/2020	Connection Agreement
16/10/2020	Finalizing the FSR report
06/11/2020	Board management decision on project investment
02/12/2020	Construction permit exemption
07/12/2020	Signing the Equipment supply contract and start the project
15/12/2020	Power Purchase Agreement
08/03/2021	Exemption of Environment protection management plan
29/05/2021	Land use right transfer decision
30/05/2021	Start the construction
10/10/2021	First submission for GS4GG preliminary review
14/10/2021	First commercial operation date for seven Wind Turbine Generators
22/10/2021	Second commercial operation date for the remaining five Wind Turbine Generators
30/11/2021 – 29/11/2026	The first crediting period

A.1.1. Eligibility of the project under Gold Standard

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The project activity meets the eligibility criteria as per section 3.1.1 of GS4GG Principles & Requirements, version 1.2 as described below.

Eligibility Criteria	**Requirement**	**Meet requirement? (Yes/No)**
(a) Type of Project	Eligible Projects shall include physical action/implementation on the ground. Pre-identified eligible Project types are identified in the Eligibility Principles and Requirements section.	**Yes.** The project activity includes construction and operation of a wind power plant to generate renewable electricity to supply the national gird. Wind power project activity is an eligible project type according to section 2 of GS4GG

		Renewable energy activity requirements, version 1.2.
(b) Location of Project	Projects may be located in any part of the world.	**Yes**. The location of the Project is Vietnam
(c) Project Area, Project Boundary and Scale	The Project Area and Project Boundary shall be defined. Projects may be developed at any scale although certain rules, requirements and limitations may apply under specific Activity Requirements, Impact Quantification Methodologies and Products Requirements. In order to avoid double counting the Project shall not be included in any other voluntary or compliance standards programme unless approved by Gold Standard (for example through dual certification). Also, if the Project Area overlaps with that of another Gold Standard or other voluntary or compliance standard programme of a similar nature, the project shall demonstrate that there is no double counting of impacts at design and performance certification (for example use of similar technology or practices through which the potential arises for double counting or misestimation of impacts amongst projects).	**Yes**. The Project Area is defined in A.2. The Boundary is defined in B.3. The project scale is large scale as the install capacity is 50 MW. The project is not included in any other voluntary or compliance standard programme.
(d) Host Country Requirements	Projects shall be in compliance with applicable Host Country's legal, environmental, ecological and social regulations.	**Yes**. The project owner works with local government to ensure that the Project is implemented in line with relevant regulations.
(e) Contact Details	As part of the Project Documentation the Project Developer shall provide (i) name and (ii) contact details of all Project Participants; AND in case of an organization (iii) the legal registration details and	**Yes.** The Project Developer's and Participant's details (i), (ii) and (iii) are provided in the Appendix 2 of this document.

	(iv) documentation by the governing jurisdiction that proves that the entity is in good standing (defined as being a legal or other appropriate entity registered in or allowed to operate within the required jurisdiction and with no evidence of insolvency or legal/criminal notices placed against it or any of its Directors). Gold Standard retains the right (at its own discretion) to refuse use of the Standard where reputational concerns are highlighted.	(iv) the Project Owner's business license is submitted together with this PDD proves that the entity is in good standing (defined as being a legal or other appropriate entity registered in or allowed to operate within the required jurisdiction and with no evidence of insolvency or legal/criminal notices placed against it or any of its Directors)
(f) Legal Ownership	Full and uncontested legal ownership of any Products that are generated under Gold Standard Certification, (for example carbon credits) shall be demonstrated. Where such ownership is transferred from project beneficiaries this must be demonstrated transparently and with full, prior and informed consent (FPIC). Note that for certain Project types there is a requirement for full and uncontested legal land title/tenure to be demonstrated. These are contained within specific Activity or Product Requirements. All projects shall immediately report to Gold Standard any land title/tenure disputes arising.	**Yes.** The project owner has full legal right to control and operate the project activity. They have obtained all the required permits which are granted by the government, including a Business License, Investment License of the Project, Land Use Certificate, Power Purchase Agreement etc.
(g) Other Rights	As well as legal title and ownership, the Project Developer shall also demonstrate where required uncontested legal rights and/or permissions concerning changes in use of other resources required to service the Project (for example, access rights, water rights etc.). Any known disputes or contested rights must be declared immediately to Gold Standard by the Project Developer and resolved prior to further Project implementation in affected areas.	**Yes**. The Project Developer will inform GS of any disputes.
(h) Official Development	All Project Developers applying for project activities located in a country named by the OECD Development	**Yes**.

Assistance (ODA) Declaration	Assistance Committee's ODA recipient list and seeking Gold Standard Certification for carbon credits shall declare the Official Development Assistance (ODA) support. The Project Developer shall follow the GHG Emissions Reduction & Sequestration Product Requirements and submit the declaration at the time of Design Certification.	The Project Developer has submitted a signed ODA Declaration.

The project activity meets the additional requirements as per section 2 and 3 of "Renewable Energy Activity Requirements", version 1.4 as described below.

Eligibility Criteria	**Requirement**	**Meet requirement? (Yes/No)**
2.1.2	In order to be eligible for Gold standard certification, all Renewable Energy Projects, shall meet the following Eligibility Criteria: (a) Projects shall generate and deliver energy services (e.g. mechanical work/electricity/heat) from non-fossil and renewable energy sources (b) Projects shall comprise of renewable energy generation units, such as photovoltaic, tidal/wave, wind, hydro, geothermal, waste to energy and renewable biomass, that are • Supplying energy to a national or a regional grid; OR • Supplying energy to an identified consumer facility via national/regional grid through a contractual agreement such as wheeling. (c) Any Project supplying electricity to a mini-grid shall refer to Community Services Activity Requirements. (d) Projects generating on-site energy for captive consumption at an industrial	**Yes**. The project comprises of renewable energy generation units (wind), that supply energy to a national or a regional grid.

	facility shall refer to the requirements in this document.	
2.1.3	New Gold Standard Verified Emission Reductions (GS VER) or Gold Standard labels for Certified Emission Reductions (GS CER), Renewable Energy projects connected to national or a regional electricity grid must be located in either a: a. Least Developed Country (LDC), Small Island Developing State (SIDS) or a Land Locked Developing Country (LLDC) or b. Low Income and Low Middle-income country where the penetration level of the proposed Renewable Energy Technology type is less than 5% of the total grid installed capacity, at the time of the first submission to preliminary review. Renewable Energy projects connected to national or a regional electricity grid are ineligible for GS VERs/CERs, if located in: - an Upper Middle-Income Country or High-Income Country5 or - SIDS and LLDC, defined as a High- Income Country	**Yes**. The project is located in Vietnam - a Lower Middle-Income country[1] where the penetration level - the ratio of installed capacity of the wind power (538 MW[2]) to the total grid installed capacity (70,393 MW[3]) is 0.76%, which is less than 5%.
2.1.4	Grid Connected off-shore wind projects and waste to energy projects that involve utilization of landfill gas/biogas to electricity generation with or without thermal energy production are exempted from eligibility requirement outlined in paragraph 2.1.3 |above.	**Yes.** This criterion is not applicable to the proposed project.
2.1.5	The eligibility requirement outlined in paragraph 2.1.3 above is effective from 24 Jan 2020. This requirement is applicable in case of projects and PoAs as follows;	**Yes.** This proposed project submitted for preliminary review after 24 Jan 2020 and demonstrated

[1] https://datahelpdesk.worldbank.org/knowledgebase/articles/906519
[2] EVN NLDC, Operational result of 2020 & Q1/2021, dated 23/04/2021.
[3] EVN NLDC, Operational result of 2020 & Q1/2021, dated 23/04/2021.

	a. Projects submitted for preliminary review after 24 Jan 2020 shall demonstrate compliance with the requirements of paragraph 2.1.3 |. b. PoAs registered before 24th Jan 2020: i. A registered PoA can include new VPAs/CPAs until the next renewal of the PoA following the approved inclusion criteria as per the registered PoA Design Document (i.e., previous RE eligibility rules). At the time of next PoA renewal, the inclusion criteria for new VPAs/CPAs must be updated in line with the paragraph 2.1.3 above. ii. Any new VPAs/CPAs included as per the previous rules can continue till the end of their respective maximum allowed crediting period. iii. Registered PoAs that have inclusion criteria as per previous eligibility rules cannot extend PoA boundary to include new countries or expand the scope to include new renewable technology types until next PoA renewal. iv. Registered PoAs that have inclusion criteria in line with paragraph 2.1.3 above can extend the PoA boundary to include new countries or expand the scope to include new renewable technology types. c. PoAs validated and/or listed before 24 Jan 2020 i. Validated and /or listed PoAs submitting request for registration after 24 October 2020 shall define the VPAs/CPAs inclusion criteria in line with the new RE activity requirements, paragraph 2.1.3 above. d. New PoAs listed after 24 October 2020 i. PoAs submitted for preliminary review after 24 October 2019, shall define the VPAs/CPAs inclusion criteria in line with the	compliance with the requirements of paragraph 2.1.3.

	new RE activity requirements, paragraph 2.1.3 above. e. Projects/PoAs seeking transition to Gold Standard i. Projects/PoAs seeking transition from another carbon crediting scheme to GS4GG or labelling of emission reductions under GS4GG are exempted from eligibility requirements of paragraph 2.1.3 above if the projects/POAs started their first crediting period with the original carbon crediting scheme from 01/01/2016 or later but before 24/01/2020. ii. PoAs seeking transition from another carbon crediting scheme to GS4GG or labelling of emission reductions under GS4GG are exempted from eligibility requirements of paragraph 2.1.3 above. At the time of submission to Gold Standard, PoAs seeking transition shall update the inclusion criteria for new CPAs in line with the paragraph 2.1.3 above. CPAs that started their first crediting period with the original carbon crediting scheme from 01/01/2016 or later but before 24/01/2020 are exempted from the eligibility requirements of paragraph 2.1.3.	
2.1.6	Where exceptional circumstances exist, a project may seek an exception to paragraph 2.1.3 above. This include cases when a project serves impoverished beneficiaries at preferential electricity rates or the project is located in a conflict zone10, or penetration of proposed project technology type is not a common practice in the relevant region of the host country. Exceptional circumstances will be judged on a case by case basis and are entirely at the discretion of Gold Standard. If exceptional circumstance exists; A. A request for exception approval should be submitted before submitting the project for preliminary review.	**Yes.** This criterion is not applicable to the proposed project.

	b. The project developer shall submit a deviation request describing the exceptional circumstances that are relevant to the proposed activities, accompanied, at a minimum, with an Investment Analysis to demonstrate the financial additionality. The developer shall follow the latest version of CDM methodology tool "Methodological tool: Investment analysis" to demonstrate financial additionality as per the CDM Requirements. The review process may include independent expert analysis, paid for by the Project Developer but reimbursable against fees for first issuance (not reimbursable in the event of an unsuccessful application for exceptional circumstances). Penetration level significantly higher than the 5% benchmark, when proposed as an exception, are unlikely to be approved. c. Projects must still demonstrate additionality at the time of design certification.	
2.1.7	An exception to paragraph 2.13 is pre-approved for distributed installations of renewable technologies, as outlined below; a. Grid connected Renewable Energy projects/ VPAs that involve distributed installation of Renewable technology, where individual unit size is up to a maximum 500 kW of installed capacity, are eligible for the issuance of GSVERs or GS-CERs. b. Projects/ VPAs must be submitted to Gold Standard for preliminary review on or before 31/12/2023. c. Projects/ VPAs must still demonstrate additionality at the time of design certification or inclusion, as applicable.	**Yes.** This criterion is not applicable to the proposed project.

2.1.8	Additional eligibility criteria for specific Renewable Energy project technologies like Hydropower, projects using biomass resources, biogas, waste heat/gas recovery, fossil co-generation, waste incineration and gas, and waste handling and disposal etc., are prescribed in Annex A.	**Yes.** This criterion is not applicable to the proposed project.
2.1.9	Projects seeking to issue of both Renewable Energy Labels and GS VERs shall meet the applicable requirements of: a. Applied Impact Quantification Methodologies for Emissions Reductions b. GHG Emissions Reductions & Sequestration Product Requirements c. Renewable Energy Label Product Requirements	**Yes.** This criterion is not applicable to the proposed project as the project only seeks for issuance of GS VERs.
3.1.1	Eligible projects shall include physical action/implementation on the ground. Pre-identified eligible project types are mentioned in the paragraph 2 above.	**Yes.** Please see 2.1.2
3.2.1	Eligible projects may be located in any part of the world. Hydropower projects shall not be located in High Conservation Values (HCVs) areas. Please refer to Annex A for further information on hydropower projects.	**Yes.** Please see 2.1.3
3.3.1	Project Area and Boundary shall be defined in line with the applicable Methodologies and Product Requirements.	**Yes.** Please see (c) Project Area, Project Boundary and Scale of the above table
3.3.2	The following scale categories are applied to RE activities: a. Microscale i. RE project issuing less than or equal to 10,000 GS VERs ii. RE project seeking any product other than GS VERs with an installed capacity less than equal to 2 MW electricity / 6 MW thermal b. For the purpose of applying GS approved methodologies for quantification	**Yes.** The project scale is large scale as the installed capacity is 50 MW.

	of GS VERs/CERs, 'small scale' is defined as per the indicated type, as follows; i. Renewable energy Project with a maximum output capacity of 15 MW (or an appropriate equivalent). In this context: a. "Output" is the installed/rated capacity as indicated by the manufacturer of the equipment or plant, irrespective of the actual load factor of the plant. The installed/rated capacity of renewable electricity generating units that involve turbine generator systems shall be based on the installed/rated capacity of the generator; b. Regarding the "appropriate equivalent" of 15 MW, the project developer may refer to MW(p), MW(e) or MW(th). As MW (e) is the most common denomination, MW is defined as MW (e), and otherwise an appropriate conversion factor shall be applied; c. For biomass, biofuel and biogas project activities, the maximal limit of 15 MW (e) is equivalent to a 45 MW thermal output of the equipment or the plant (e.g. boilers). For thermal applications of biomass, biofuels or biogas (e.g. cookstoves), the limit of 45 MW(th) is the installed/rated capacity of the thermal application equipment or device(s) (e.g. biogas stoves). For electrical or mechanical applications, the limit of a 15 MW installed/rated output shall be used. In the case of co-firing renewable and fossil fuels, the rated capacity of the system when using fossil fuel shall apply; d. For thermal applications of solar energy project activities, "maximum output" shall be calculated using a conversion factor of 700 W(th)/m2 of aperture area of glazed flat plate or evacuated tubular collector,	

	that is, the eligibility limit in terms of aperture area is 64,000 m2 of the collector. 20 The project participants may also use other conversion factors determined as per the requirements in paragraph 73 above, but shall then justify why the chosen conversion factor is more appropriate to the project activity; ii. End-use energy efficiency improvement project activities that reduce energy consumption, on the supply side, with a maximum energy saving of 60 GWh per year (or an appropriate equivalent) in any year of the crediting period. In this context, for project activities that improve thermal energy efficiency, the maximum energy saving of 60 GWh(e) per year is equivalent to 180 GWh(th) per year saving iii. Other project types not included in Renewable and End use energy project types that result in GHG emission reductions not exceeding 60,000 tCO2eq per annum in any year of the crediting period.	
3.4.1	Certain Impact Quantification methodologies allow projects to account for a Suppressed Demand scenario when establishing a baseline. In such cases, the application of the Suppressed Demand baseline is limited to small scale and microscale projects.	**Yes.** This project activity does not use Certain Impact Quantification as well as a Suppressed Demand scenario when establishing the baseline.
3.5.1	A single Renewable Energy project may potentially pursue any number and combination of Certified Impact Statements or Products. However, certain Product Requirements, which supersede the generic requirements stated in this document can set restrictions on co-issuance of Certified Impact statements or Products. For instance, GS VERs or GS CERs with REC labels cannot be claimed for the same MWh.	**Yes.** The project activity claims for GS VERs only. GS VERs with REC labels (if any) shall not be claimed for the same MWh.

3.5.2	Where a Suppressed Demand baseline is applied, it is not allowed to 'stack' Gold Standard Certified Impact Statements or Products as the definition of the baseline may be contradictory	**Yes.** This criterion is not applicable to the proposed project.

A.1.2. Legal ownership of products generated by the project and legal rights to alter use of resources required to service the project.

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The project owner, Nhon Hoa 2 Energy Joint Stock Company, has the legal ownership of the products that generated under Gold Standard Certification and has 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 the Investment License, Power Purchase Agreement, and Land Use Certificate.

A.2 Location of project

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The wind power plant is located in Chu Don commune, Chu Puh district, Gia Lai province, Vietnam.

The geo-coordinates of the turbines are as follow:

Table 3 - Geo-coordinates of the turbines

Turbine	Northern latitude	Eastern longitude
NH2 - T1	13°33'23.96"N	108°4'28.24"E
NH2 - T2	13°33'14.02"N	108°4'29.14"E
NH2 - T3	13°33'7.35"N	108°4'49.87"E
NH2 - T4	13°32'56.64"N	108°4'46.66"E
NH2 - T5	13°32'37.35"N	108°4'11.70"E
NH2 - T6	13°31'56.72"N	108°4'23.16"E
NH2 - T7	13°32'32.57"N	108°4'27.28"E
NH2 - T8	13°31'52.53"N	108°4'35.28"E
NH2 - T9	13°31'44.46"N	108°4'42.55"E
NH2 - T10	13°31'32.50"N	108°4'43.09"E
NH2 - T11	13°33'6.07"N	108°4'21.50"E

NH2 - T12	13°32'59.30"N	108°4'13.61"E

The location of the project's site is shown in Figure below:

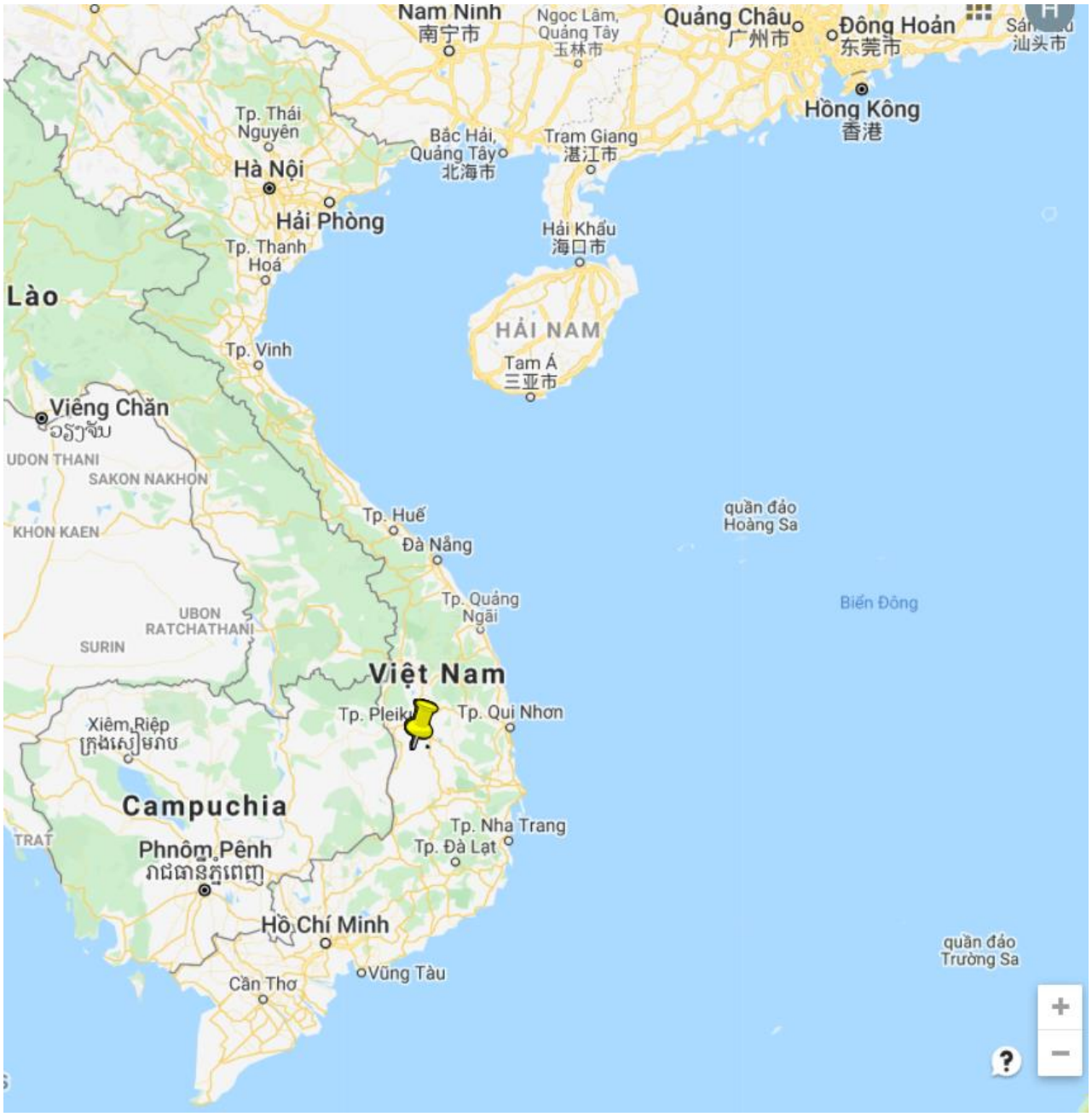

Figure 1 - Project's location

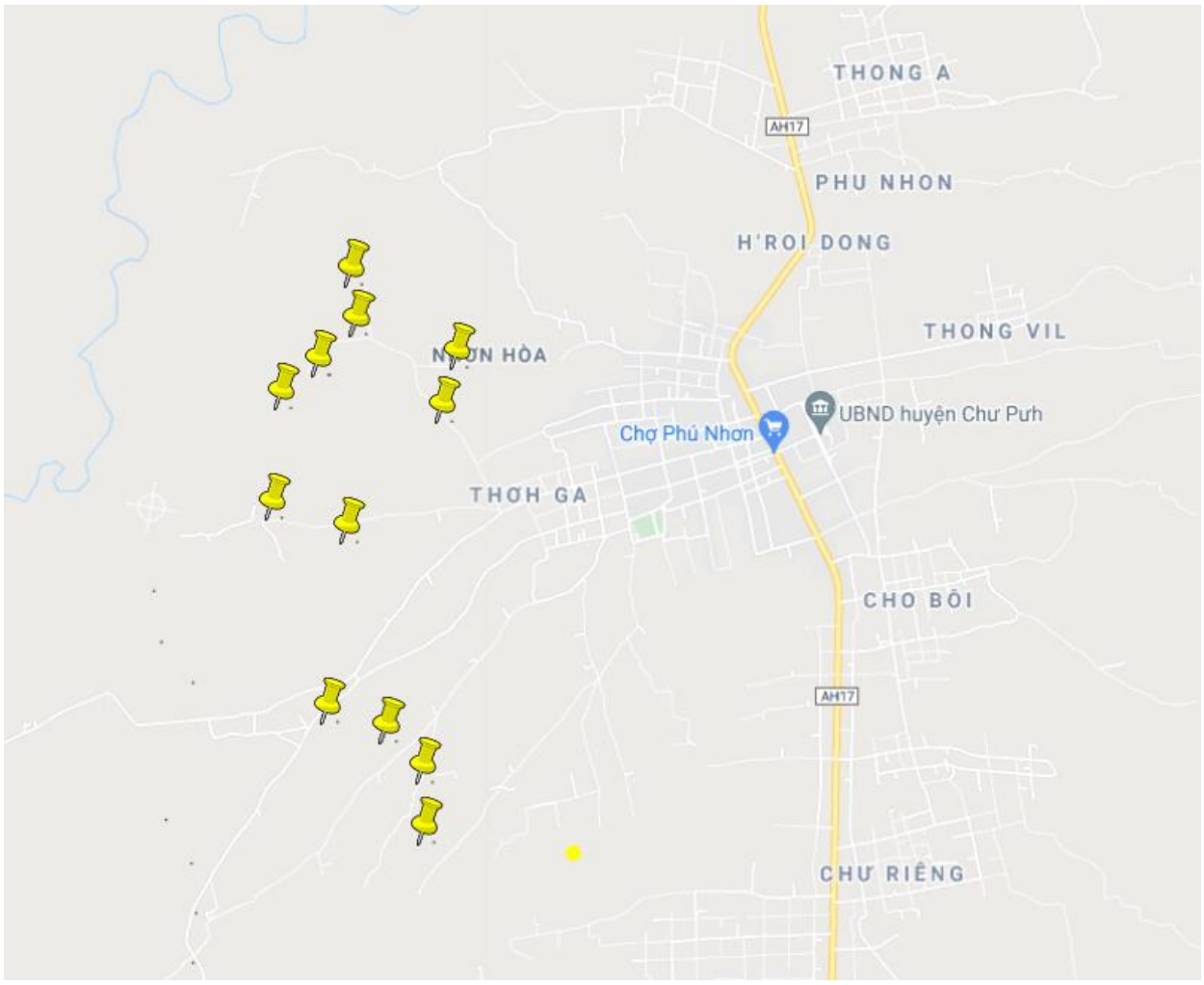

Figure 2 – Turbines' location

A.3 Technologies and/or measures

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The project involves the construction of a 50 MW grid-connected wind power plant with 12 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. They are digital and bi-directional type to measure the export and import of electricity of Nhon Hoa 2 Wind Power Plant.

The main technical parameters of the project are shown in Table below.

Table 4 - Main technical parameters of NH2 WPP

Main parameter	Unit	Value

1. Turbine 4.2 MW[4]		
• Type		V150
• Rated power	MW	4.2
• Mechanical Design		Rotor: 3 bladed, upwind Hydraulic Pitch controlled
• Number of turbines	set	10
2. Turbine 4.0 MW		
• Type		V150
• Rated power	MW	4.0
• Mechanical Design		Rotor: 3 bladed, upwind Hydraulic Pitch controlled
• Number of turbines	set	2
2. Generator		
• Type		Three-phase
• Rated capacity	kVA	4,500
• Voltage	kV	0.72
• Frequency	Hz	50
• Number of generators	set	12
3. Main transformer		
• Type		Three phases
• Frequency	Hz	50
• Voltage	kV	33/ 220 (grid side)
4.Technical lifetime of the plant[5]	year	20

A.4 Scale of the project

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Large scale project.

A.5 Funding sources of the project

>> The proposed project is not using any ODA funding as mentioned in ODA Declaration.

[4] Turbines supply contract

[5] Tool10 – Tool to determine the remaining lifetime of equipment, EB50, Annex 15, Option (a); And Service and Energy Based Availability Agreement AOM5000 dated 07 December 2020, between VESTAS Wind Technology Vietnam LLC and Nhon Hoa 2 Wind Electricity JSC, page 44, "Availability Term" of 20 years for WTGs

SECTION B. APPLICATION OF APPROVED GOLD STANDARD METHODOLOGY (IES) AND/OR DEMONSTRATION OF SDG CONTRIBUTIONS

B.1. Reference of approved methodology (ies)

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Applied methodology:

- Version 21.0 of ACM0002: "Grid-connected electricity generation from renewable sources";
(https://cdm.unfccc.int/methodologies/DB/HF3LP6O41YY0JIP1DK6ZRJO9RSCX3S)

Related tools:

- Version 07.0 of the Tool07: "Tool to calculate the emission factor for an electricity system"; and

(https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf)

- Version 07.0.0 of the Tool01: "Tool for the demonstration and assessment of additionality".

(https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf)

B.2. Applicability of methodology (ies)

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This proposed project is a grid-connected renewable power generation that is eligible to apply Version 21.0 of ACM0002. More details of the comparison of the project's characteristics and the applicability criteria, as specified in Version 21.0 of ACM0002, is given in the Table below.

Table 5 - Comparison of project's characteristics and eligibility criteria of ACM0002

No.	Applicability conditions in Version 21.0 of ACM0002	Characteristics of the project activity	Applicability criterion met?
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 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).	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
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 a new wind power plant	Yes
	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	The project activity is the installation of a new wind power plant	Not applicable

	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.		
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, 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;	The project activity is the installation of new wind power plant	Not applicable

	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 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 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	This project activity is not an integrated hydropower plant	Not applicable

	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	Yes
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 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".	The project activity is the installation of a new wind power plant	Not applicable

B.3. Project boundary

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According to Version 21.0 of ACM0002, the spatial extent of the project boundary includes the NH2 WPP and all power plants connected physically to the national electricity grid to which the proposed project is also connected. The flow diagram of the project boundary is shown in Figure below.

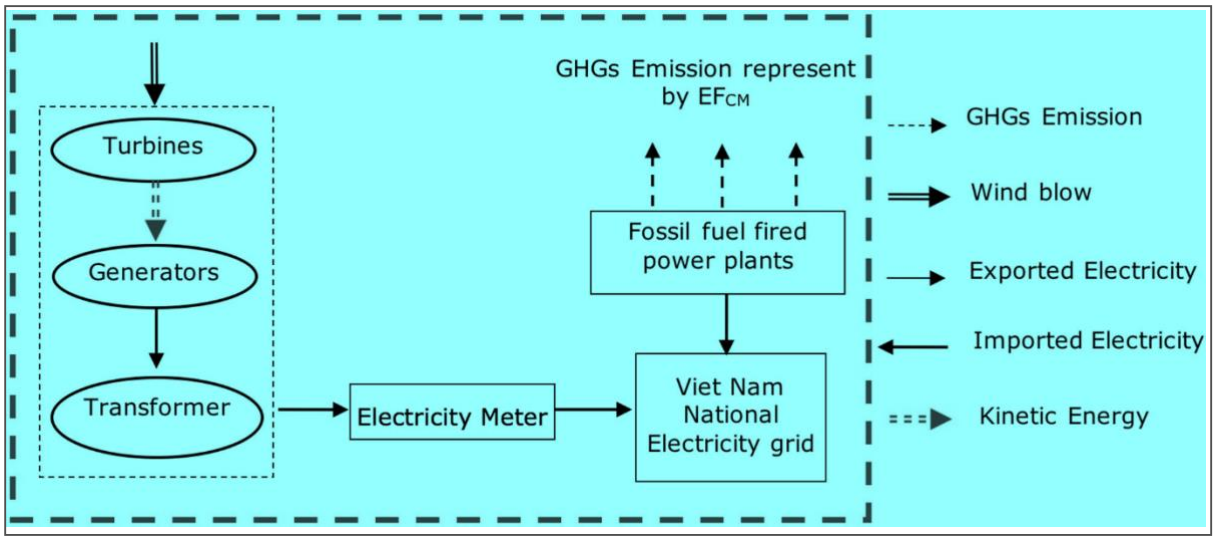

Figure 3 - Project boundary

The GHGs and emission sources included in the project boundary are shown in the table below:

Table 6 - Sources and gases included in or excluded from the project boundary

Source		GHGs	Included?	Justification/Explanation
Baseline	CO2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity	CO_2	Yes	Main emission source
		CH_4	No	Minor emission source
		N_2O	No	Minor emission source
Project	Wind power project	CO_2	No	Minor emission source
		CH_4	No	Minor emission source
		N_2O	No	Minor emission source

B.4. Establishment and description of baseline scenario

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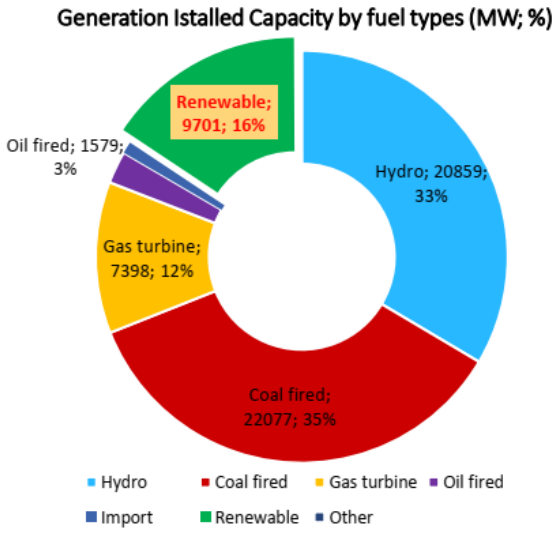
Vietnam electricity generation profile

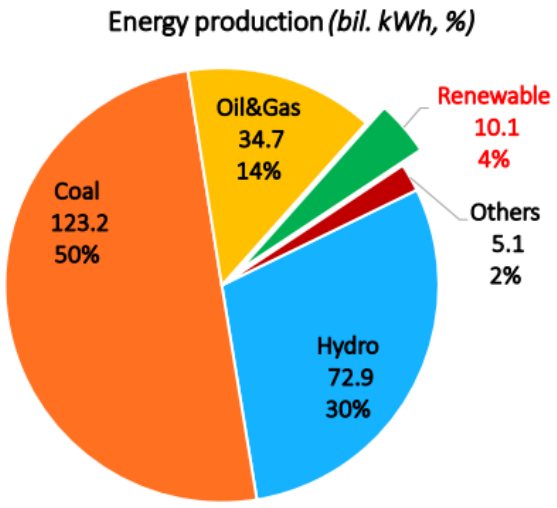
According to the Electricity Vietnam (EVN) report[6], as of first quarter of 2021, the total installed capacity of generation facilities was 70,393 MW, in which, wind power accounted for 0.76%:

Type of generation	Installed Capacity (MW)	Ratio (%)
Hydro	16,972	24.11%
Coal fired	22,077	31.36%
Oil fired	1,579	2.24%
Small Hydro	3,887	5.52%
Gas turbine	7,398	10.51%
Biomas	325	0.46%
Wind	**538**	**0.76%**
Solar farm	**8,852**	**12.58%**
Solar rooftop	**8,145**	**11.57%**
Nhập khẩu	572	0.81%
Diesel	24	0.03%
Total	***70,393***	***100%***



The energy production is presented below:

Category	Energy production (bil. kWh)	(%)
Hydro	72.9	30%
Coal	123.2	50%
Oil & Gas	34.7	14%
Renewable	**10.1**	**4%**
Others	5.1	2%
Total	245.9	100%



According to version 21.0 of ACM0002 paragraph 24, for the project activity which is the installation of a Greenfield grid-connected renewable power plant, the baseline scenario is the following:

[6] EVN NLDC, Operational result of 2020 & Q1/2021, dated 23/04/2021. Available at http://vepg.vn/wp-content/uploads/2021/05/VEPG_TWG3_6thMeeting-Report_fin.pdf

"*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*".

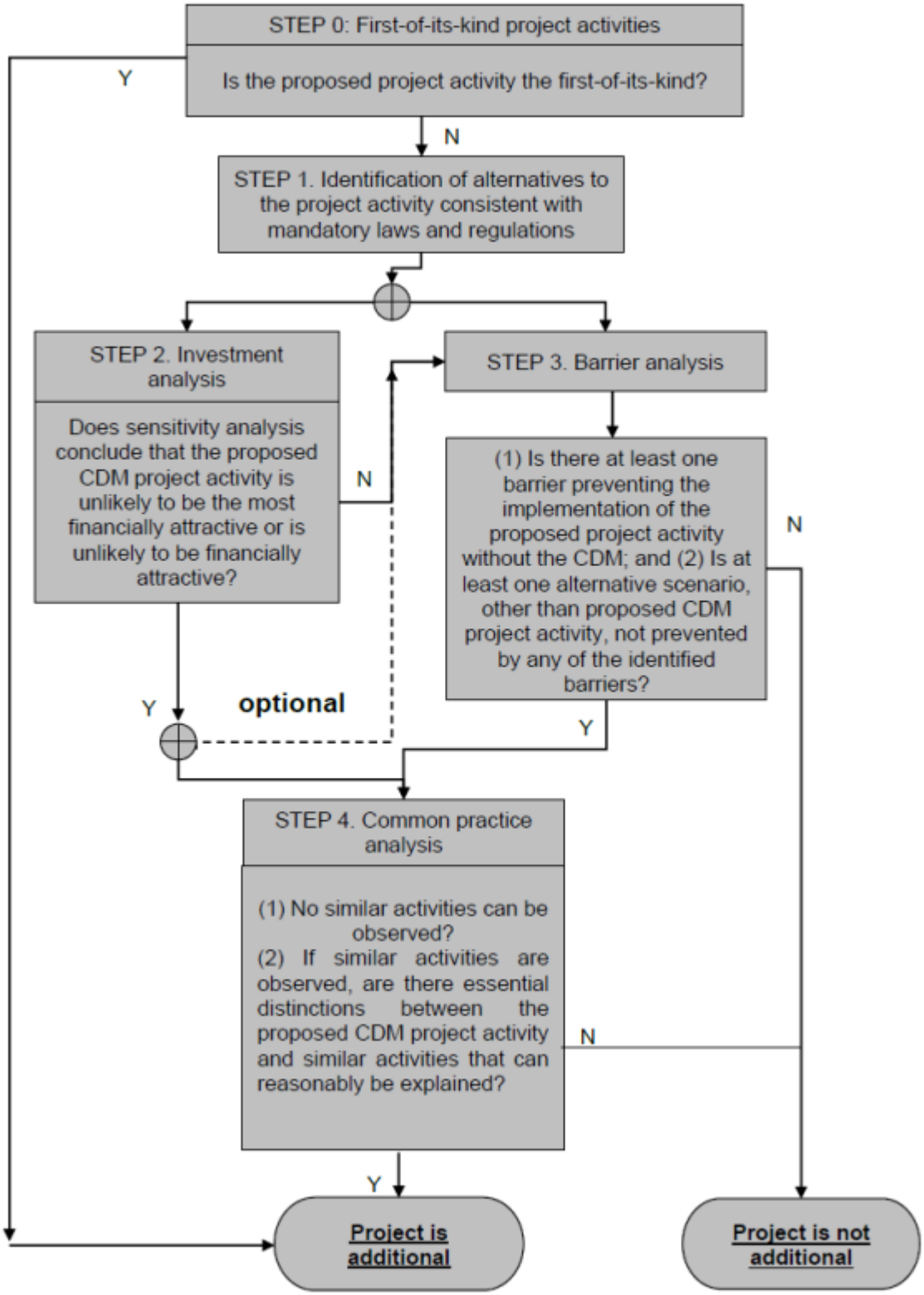
The NH2 WPP involves the installation and operation of a Greenfield wind power plant to generate and supply electricity to the national grid. The Vietnam national electricity grid is operated and monopolized by the EVN and is the unique transmission and distribution system, to which all power plants in Vietnam are physically connected 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, to which 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. This will be used to calculate baseline emissions related to the project activity. Data to calculate $EF_{grid,CM,y}$ for specific wind power projects was published by the Vietnam Department of Climate Change - Ministry of Natural Resources and Environment in December 2021.

For more details on $EF_{grid,CM,y}$ see Section B.6.1 and B.6.2.

B.5. Demonstration of additionality

According to version 21.0 of ACM0002, the latest version of the *"Tool for the demonstration and assessment of additionality"* – version 07.0.0 shall be used to demonstrate the additionality of the proposed project activity. The demonstration of additionality includes the following steps:



Step 0: Demonstration whether the proposed project activity is the first-of its- kind

This step is not applied to the project activity since it is not first-of-its-kind, hence the additionality of the project will be demonstrated in next steps below.

Step 1: Identification of alternatives to the project activity consistent with current laws and regulations

Sub-step 1a: Define alternatives to the project activity:

Paragraph 8 of version 07.0.0 of the Additionality Tool states: *"Project activities that apply this tool in context of approved consolidated methodology ACM0002, only need to identify that there is at least one credible and feasible alternative that would be more attractive than the proposed project activity."*

Two scenarios are therefore considered in the following analysis:

- Alternative 1: Project activity is developed and constructed without being registered as a carbon project activity; and
- Alternative 2: Continuation of the current situation. In this case, the proposed project will not be constructed and the power will be solely supplied from the Vietnam national grid.

Sub-step 1b: Consistency with mandatory laws and regulations:

The Alternative 2 "the continuation of the current situation" does not face any barrier from the current law and regulations in Vietnam because it is the "do-nothing" alternative. The project owner of the proposed project has no obligation to build or invest in the power plant to supply electricity for the local area. Hence this alternative is consistent with mandatory laws and regulations.

The Alternative 1 is consistent with mandatory laws and regulations of Vietnam as the project was approved and issued an Investment License by the Government.

Both the alternatives enlisted above are found to comply with the mandatory laws and regulations considering the enforcement of the legislations in the region or country decisions on national and/or sectoral policies and regulations.

Step 2: Investment analysis

Determine whether the proposed project activity is not:

a) The most economically or financially attractive; or
b) Economically or financially feasible, without the revenue from the sale of emission reductions.

To conduct the investment analysis, the following sub-steps are applied:

Sub-step 2a: Determine appropriate analysis method

Tool07 - "*Tool for the Demonstration and Assessment of Additionality,* (Version 7.0)" provides three methods of investment analysis: simple cost analysis (Option I), investment comparison analysis (Option II) and benchmark analysis (Option III).

Option I (simple cost analysis) cannot be used as the project involves revenue different from the sale of carbon credits.

Out of the two remaining options, Option II is also not applicable as there are no other credible and realistic baseline scenario alternatives other than electricity supply from the grid. Thus, the benchmark analysis (Option III) is chosen to prove additionality.

Sub-step 2b (Option III): Apply benchmark analysis

According with the *"Tool for the Demonstration and Assessment of Additionality (Version 07.0)"* the financial indicator for the analysis will be the Equity IRR, and it will be compared with the cost of equity. Regarding the benchmark Equity IRR, according to the *Methodological Tool 27 – Investment Analysis (version 12.0),* because the project activity could be developed by an entity other than the project participant, the benchmark should be based on parameters that are standard in the market. Therefore, in this case the benchmark cost of equity should be determined either by:

a) Selecting the values provided in the Appendix of the Tool; or
b) Calculating the cost of equity using a CAPM

Option a) is applied in this case and the default values for cost of equity provided in the Appendix is post-tax equity IRR benchmark. As the proposed project activity generates power utilizing wind energy, Group 1 as per paragraph 5 (a) of Appendix EB 116, Annex 2 has been identified as a suitable category. Hence, the default value for Real Equity IRR Benchmark, or cost of equity, for Energy Industries in Vietnam is 11.73%.

The investment analysis of the proposed project activity is carried out in nominal terms while the available default IRR benchmark is in real terms. Therefore, to enable comparison, the real Equity IRR Benchmark is converted to the equivalent nominal value by adding the inflation rate.

Nominal IRR (Nominal Benchmark)[7] = [(1+ Real Benchmark) x (1 – Inflation rate)] – 1

[7] Calculated following Principles of Corporate Finance, Brealey Myers, Edition 10, page 61 and please also find a detailed calculation in tab "Sensitivity_Benchmark" of the submitted IRR spreadsheet.

The inflation rate shall be the average forecasted inflation rate of the host country (e.g., Vietnam) published by the World Bank for the next five years after the start of the proposed project activity. The start date of the proposed project activity is on 07/12/2020, therefore, applicable inflation rates during the period of 2021 – 2025 have been chosen accordingly for the calculation of the nominal benchmark.

Therefore, the cost of equity in nominal terms is calculated by adjusting the default real cost of equity for Vietnam (e.g., 11.73%):

Nominal Equity IRR (Nominal Benchmark) = [(1+ Real Benchmark) x (1 – Inflation rate)] – 1

= [(1+ 11.73%) x (1 + 4.57%)] - 1

= 16.84%

Sub-step 2c: Calculation and comparison of financial indicators

The key assumptions used to calculate the Post-tax Equity IRR of the proposed project are presented in the table below:

Table 7 - Key assumption for investment analysis of NH2 WPP

No	Parameter	Unit	Value	Source
1	Gross capacity	MW	50	Feasibility Study Report (FSR)
2	Annual electricity generation	GWh	165.663 (164,834 exclusive of losses)	FSR, Volume 1.1, page 99
3	Capacity factor	%	37.8	FSR, Volume 1.1, page 99
4	Total investment cost	billion VND	2,033	FSR
5	O&M cost per year	USD/WTG unit		The average maintenance cost per annum for the proposed Project is at 0.00551 USD/KWh which is in line with the Industry Standard for

No	Parameter	Unit	Value	Source
				Onshore Wind Power Plants[8] available at the time of investment (i.e., the annual O&M cost for 12 turbines is USD 912,000 and the annual electricity generation is 165.663 GWh). Whereas, the annual average maintenance cost ranging from 0.005 USD/KWh to 0.025 USD/KWh from the Theoretical O&M cost determined by Wind Turbine Technology brief published by IEA-ETSAP and IRENA[9].
			58,000	Year 1-5
			78,000	Year 6-10
			83,000	Year 11-15
			85,000	Year 16-20
6	Analysis period including construction period	year	21	Assumption
7	Preparation and construction period	year	1	FSR
8	Period of financial assessment	year	20	Technical lifetime of wind turbines according to the Tool to determine the remaining lifetime of equipment[10]

[8] Theoretical O&M cost determined by Wind Turbine Technology brief published by IEA-ETSAP and IRENA (page 4). Available at https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2016/IRENA-ETSAP_Tech_Brief_Wind_Power_E07.pdf?rev=7ff8e1d6d6b84661bfa49869fc83c4e0

[9] Refer to IRR spreadsheet, also available at https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2016/IRENA-ETSAP_Tech_Brief_Wind_Power_E07.pdf?rev=7ff8e1d6d6b84661bfa49869fc83c4e0

[10] Tool10 – Tool to determine the remaining lifetime of equipment, EB50, Annex 15, Option (a); And Service and Energy Based Availability Agreement AOM5000 dated 07 December 2020, between VESTAS Wind Technology Vietnam LLC and Nhon Hoa 1 Wind Electricity JSC, page 44, "Availability Term" of 20 years for WTGs

No	Parameter	Unit	Value	Source
9	Electricity price	US cents/kWh	8.5	Decision No. 39/2018/QD-TTg[11] dated 10/09/2018 on amendment and adding some articles of Prime Minister's Decision No. 37/2011/QD-TTg on 29/06/2011 on promotion mechanism on wind power projects in Vietnam. The price is fixed for 20 years. Note that this is a subsidized tariff, and the above Decision is considered to be an E-minus policy.
10	Residual/ fair value	billion VND	0	According to Paragraph 6 of Tool27 - "Investment Analysis", Version 10.0, "Both project internal rate of return (IRR) and equity IRR calculations should reflect the period of expected operation of the underlying project activity (technical lifetime) and if a shorter period than the technical lifetime is chosen, the investment analysis shall be conducted for at least 10 years and include the fair value of the project activity assets at the end of the assessment period". Since the technical lifetime of 20 years has been applied as the financial analysis period, full value of assets has been completely depreciated thus no residual value remains at the end of the assessment period.

[11] Available at https://thuvienphapluat.vn/van-ban/Dau-tu/Decision-39-2018-QD-TTg-amending-Decision-37-2011-QD-TTg-development-of-wind-power-projects-394945.aspx

No	Parameter	Unit	Value	Source
11	Equity ratio (We)	%	30	Decision No 30/2006/QD-BCN[12] issued on 31 August 2006 by the Ministry of Industry requires that the investment capital of a project owner (equity) in an Independent Power Producer (IPP) project must account for at least 30% of the investment cost So, the Equity ratio is determined as 30%. This rate is in conformity with the paragraph 26 of the "Methodological tool - Investment analysis", Version 12.0: "the typical debt/equity finance structure observed in the sector of the country should be used".
12	Debt ratio (Wd)	%	70	Wd = 100%-We
13	Interest rate	%	11	The average long-term lending rates are 9% for medium term and 11% for long term loan contracts according to the weekly reports published by the State Bank of Vietnam on its official website (https://www.sbv.gov.vn/). As the project lifetime is 20 years, then the applied cost of debt for the proposed project is 11%.

[12] Available at https://thuvienphapluat.vn/van-ban/Dau-tu/Quyet-dinh-30-2006-QD-BCN-quan-ly-dau-tu-xay-dung-du-an-dien-doc-lap-13914.aspx

No	Parameter	Unit	Value	Source
14	Tax rate	%		An energy production project, including renewable energy from wind power, qualifies for tax incentives of Government. The current standard corporate tax rate is 20%. Preferential corporate tax applied as per Decree 218/2013/ND-CP[13] of the Government detailing and guiding the implementation of the Law on Corporate Income Tax issued by Government dated 26/12/2013. In detail, 10% tax rate for 15 years; tax-exempt for four years and the subsequent nine years a 50% reduction will be applied for the new investment projects located in difficult or extremely difficult socio-economic condition areas.
		%	0	Corporate Tax (0-4 years)
		%	5	Corporate Tax (5-13 years)
		%	10	Corporate Tax (14-15 years)
		%	20	Corporate Tax (16-20 years)
15	**Post-tax Equity IRR**	**%**	**12.38%**	Calculated; does not yet account for the E-minus policy

[13] Available at https://thuvienphapluat.vn/van-ban/Doanh-nghiep/Nghi-dinh-218-2013-ND-CP-huong-dan-thi-hanh-Luat-thue-thu-nhap-doanh-nghiep-217811.aspx

The above table shows that the Nominal Post-tax Equity IRR of the project as calculated at the time of the investment decision is lower than the Nominal Equity IRR Benchmark (i.e., 16.84%).

Sub-step 2d: Sensitivity Analysis

A sensitivity analysis of the project activity has been conducted to test the robustness of the above calculations. As the O&M cost accounts for less than 20% of the total investment cost, these costs are disregarded in the sensitivity analysis as regulated under the guidance in Tool27 – *"Investment analysis"* – Version 12.0, paragraph 27, which states that *"variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenue should be subjected to reasonable variation".* The following parameters are used in the sensitivity analysis of the project activity:

- Annual amount of electricity exported to the national grid.
- Total investment cost
- Electricity price

The table below shows the impact of variations in key factors on the Post-tax Equity IRR considering a ±10% variation in the parameters.

Table 8 - Sensitivity analysis for NH2 WPP

No	Parameter	Variation	Post-tax Equity IRR	Likelihood to happen
1	Annual amount of electricity exported to the national grid	+10%	15.59%	Lower than the benchmark
		-10%	9.29%	Lower than the benchmark
2	Total investment cost	+10%	9.74%	Lower than the benchmark
		-10%	15.73%	Lower than the benchmark
3	Electricity price	+10%	15.59%	Lower than the benchmark
		-10%	9.29%	Lower than the benchmark

The results indicate that the post-tax Equity IRR value continues to remain below the benchmark, even with the parameters undergoing the range of variation of +/- 20%, except for three (03) cases as below:

- Increase in Electricity Tariff by +13.80 %
- Increase in Electricity Generation by +13.80%
- Decrease in the Project Investment Cost by -12.80%.

Table 9 – Required Variation to Exceed the Nominal Benchmark for NH2 WPP

No	Parameter	Calculated Post-tax Equity IRR	Nominal Benchmark IRR	Required Variation to Exceed Nominal Benchmark IRR	Changes in Post-tax Equity IRR
1	Electricity tariff	12.38%	16.84%	↑ **13.80%**	16.85%
2	Annual amount of electricity exported to the national grid			↑ **13.80%**	16.85%
3	Total investment cost			↓ **12.80%**	16.85%

Case 1 - If the Electricity Tariff increases by 13.80% then the post-tax Equity IRR will be crossing the Nominal benchmark.

The electricity tariff of the proposed Project is a fixed price and terms as per the national decision for all renewable power plants which are intended to be connected to the national grid and under specific power purchase agreement (PPA). The tariff is fixed for 20 years of the proposed Project operational lifetime with the Government off-taker. Hence, there is no chance that the electricity tariff will be any higher.

Case 2 - If Electricity Generation increases by 13.80% then the post-tax Equity IRR will be crossing the Nominal benchmark.

The amount of electricity supplied to the grid is an optimistic (conservative) estimate based on P50 modelling (refer to the FSR, Volume 1.1, page 88). It also assumes that 100% of the electricity will be taken by the Government off-taker (i.e., no curtailment by EVN). Hence, the chances of the amount of electricity supplied to the grid being 10% higher than estimated is very low and no possibility of increase the generation by 13.80% in the future.

Case 3 - If the Investment Cost decreases by 12.80% then the post-tax Equity IRR will be crossing the Nominal benchmark.

The proposed Project is in operation and already completed its investment. Hence, there is no addition or deletion in investment cost. In addition, as evidenced by the Investment Certification amendment, approved by the Government on 16 April 2021 (No. 238/QD-UBND), the total investments costs were VND 2,110 billion, higher than the estimates made at the time of the investment decision on 16 April 2021 when the FSR was finalized, as used in the IRR analysis (VND 2,033 billion). Therefore, there is no chance that the total investment costs could be less than the estimated amount in the IRR analysis.

The sensitivity analysis shows that it is unlikely that a variation of a parameter can make the project's post-tax Equity IRR without GS-VERs revenues reach the benchmark.

In conclusion, the proposed GS project activity is unlikely to be financially attractive and so the project activity is additional.

Step 3: Barrier analysis

Barrier analysis has not been applied.

Step 4: Common practice analysis

Stepwise approach for common practice analysis has been carried out as per Methodological Tool24 - *"Common Practice",* Version 03.1.

Step (1): Calculate applicable capacity or output range as +/-50% of the total design capacity or output of the proposed project activity.

The proposed project activity has an installed capacity of 50 MW. So the applicable output range of +/-50% of the capacity of the proposed project activity is 25 MW and 75 MW.

Step (2): Identify similar projects (both CDM/GS and non-CDM/GS) which fulfil all of the following conditions:

Tool requirement	Project analysis
The projects are located in the applicable geographical area.	The proposed project is located in Vietnam so the entire host country (Vietnam) was chosen as the applicable geographical area.
The projects apply the same measure as the proposed project activity.	The proposed project activity is a Greenfield wind power plant. Therefore, all the wind power plants (the same measure as the proposed project activity) are candidates for similar projects;
The projects use the same energy source/fuel and feedstock as the proposed project activity, if a technology switch measure is implemented by the proposed project activity;	The energy source used by the proposed project activity is wind. Hence, only wind power plants are candidates for similar projects.
The plants in which the projects are implemented produce goods or services with comparable quality, properties and applications areas (e.g. clinker) as the proposed project plant.	The proposed project activity produces electricity from wind energy. Therefore, all the wind power plants are candidates for similar projects.
The capacity or output of the projects is within the applicable capacity or output range calculated in Step 1.	The capacity range of the similar projects is within the applicable capacity range from 25 MW to 75 MW.
The projects started commercial operation before the project design document (CDM/GS-PDD) is published for global stakeholder consultation or before the start date of proposed project activity whichever is earlier for the proposed project activity.	The project start date was 07 December 2020 as defined in section C of the PDD. According to the EVN NLDC, Operational result of 2020 & Q1/2021, dated 23/04/2021, at end of 2020, there were 7 wind power grid connected projects

	operated[14]. The projects (7 grid connected and 1 in Phu Quy island) are listed in the below table:

Table 10 – Detail of wind power projects that have started commercial operation before 07/12/2020[15]

No	Name	Capacity (MW)	Commissioning year	In range of 25-75 MW?	Note
0	The proposed project	50	2021	Yes	Applying to GS as a carbon project
1	Wind Power Plant No.1 - Binh Thuan 30MW [16]	30	2009 [17]	Yes	Registered as a GS CDM project
2	Phu Lac Wind Farm	24	2016 [18]	No	Registered as an IREC project[19]
3	Mui Dinh[20]	37.6	2019	Yes	Submitted to prior consideration to UNFCCC on 03 November 2011.

[14] EVN NLDC, Operational result of 2020 & Q1/2021, dated 23/04/2021. Available at http://vepg.vn/wp-content/uploads/2021/05/VEPG_TWG3_6thMeeting-Report_fin.pdf (Renewable Energy Growth, page 24)
[15] Reference of List of Wind Projects in Viet Nam at https://docs.google.com/spreadsheets/d/1hQNS0W-EDO5DDw6TppV7pyYdyaqCDmHuASHHZBxQHxo/edit#gid=182466376
[16] https://cdm.unfccc.int/Projects/DB/KEMCO1219986182.6/view
[17] http://Viet Namprp.com.vn/prp/vi/tin-tuc/tin-tuc/54-nha-may-phong-in-u-tien-ti-vn-a-khi-ng.html
[18] https://www.nldc.evn.vn/newsg/1/1756/Thong-cao-bao-chi-khanh-thanh-Du-an-Nha-may-dien-gio-Phu-Lac-giai-doan-1/default.aspx
[19] https://evident.services/device-register/PHULAC01
[20] http://thoibaotaichinhViet Nam.vn/pages/kinh-doanh/2019-04-10/khanh-thanh-nha-may-dien-gio-mui-dinh-ninh-thuan-69965.aspx

No	Name	Capacity (MW)	Commissioning year	In range of 25-75 MW?	Note
4	Phu Quy Wind Power Project[21]	6	2012 [22]	No	Not connected to the national grid. Registered as a CDM project
5	Bac Lieu Province Wind Power Plant[23]	99.2	2013 [24]	No	Registered as GS CDM and IREC project. A near-shore project.
6	Dam Nai	37.8	2017	Yes	Registered as a TIGR project.
7	Huong Linh 2	32	2017 [25]	Yes	Submitted a prior consideration from to UNFCCC on 21 October 2011.
8	Trung Nam[26]	Total of 103.95 MW, in which 39.95 MW (phase I) and 64 MW (phase II)	2019 (phase I) and 2020 (phase II)	No	Submitted to prior consideration to UNFCCC on 09 September 2016.

Step (3): Within the projects identified in Step 2, identify those that are neither registered CDM project activity, project activity submitted for registration, nor project activity undergoing validation. Note their number Nall.

In the list of projects above, there are 4 projects that fall within the range of 25 MW to 75 MW and 3 of these projects are either registered or in the process of registration as CDM projects. Therefore, **Nall = 1**.

[21] https://cdm.unfccc.int/Projects/DB/TUEV-SUED1356090592.49/view
[22] https://www.evn.com.vn/d6/news/Nha-may-dien-gio-dao-Phu-Quy-van-hanh-phat-dien-141-17-4892.aspx
[23] https://cdm.unfccc.int/Projects/DB/BVQI1347365592.64/view
[24] https://pvpower.vn/dien-gio-bac-lieu-phat-duoc-hon-30-trieu-kwh/
[25] https://pvpower.vn/nha-may-dien-gio-huong-linh-2-chinh-thuc-hoa-vao-luoi-dien-quoc-gia/
[26] https://www.trungnamgroup.com.vn/khanh-thanh-nha-may-dien-gio-trung-nam

Step (4): Within similar projects identified in Step 3, identify those that apply technologies that are different to the technology applied in the proposed project activity. Note their number Ndiff.

The Dam Nai Wind Power Project has been registered as TIGR project which could get access to the "other financial flows" so it is different to the proposed project as mentioned in paragraph 12.d.ii of the "Methodology tool: Common practice". Therefore, these projects are not comparable investments to the proposed project.

In conclusion, **N_{diff} = 1.**

Step (5): Calculate factor F=1-Ndiff/Nall representing the share of similar projects (penetration rate of the measure/technology) using a measure/technology similar to the measure/technology used in the proposed project activity that deliver the same output or capacity as the proposed project activity.

Calculate factor:

$F = 1 - N_{diff}/N_{all}$

$= 1 - 1/1$

$= 0$ (smaller than 0.2)

Besides, $N_{all} - N_{diff} = 0$ (smaller than 3)

Therefore, the project activity is not a "common practice" within a sector in the applicable geographical area, according to the guideline.

In conclusion, the proposed project is additional.

B.5.1 Prior Consideration

>>

The time of first submission date was 10/10/2021 and the project start date was 07/12/2020 which is in line with the PDD template guidelines V.1.2 and it is evident that time of first submission is within one year of the project start date[27].

B.5.2 Ongoing Financial Need

>>

Not applicable as this information need only be included at Design Certification Renewal.

[27] Principles and Requirements version 1.2, paragraph 5.1.51

B.6. Sustainable Development Goals (SDG) outcomes

Relevant Target/Indicator for each of the four SDGs

Sustainable Development Goals Targeted	Most relevant SDG Target	SDG Impact Indicator (Proposed or SDG Indicator)
4. Quality Education	Target 4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	Indicator 4.4.1 – Proportion of youth and adults with information and communications technology skills, by type of skill
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)
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
13. Climate Action (mandatory)	Target 13.2: Integrate climate change measures into national policies, strategies grid planning	Indicator 13.2.2 – Total greenhouse gas

B.6.1 Explanation of methodological choices/approaches for estimating the SDG Impact
>>

SDG 4: Quality Education

Baseline situation:

In the baseline situation, there will be no technical training provided in the absence of the project.

Project's outcome:

The project will provide technical training for several people.

Net contribution:

SDG4 contribution = Project's outcome – baseline situation

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

This SDG outcome is measured in accordance with ACM 0002 "*Grid-connected electricity generation from renewable sources*" version 21.0 for the net electricity supplied to the national grid by the project, $EG_{facility,y}$ (MWh).

Baseline situation:

Prior to the implementation of the project activity, electricity in Vietnam is generated mainly from fossil fuel sources and is solely distributed to consumers via the unique national electricity grid.

Project's outcome:

This project annually supplements 164,834 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.*

Net contribution:

SDG7 contribution = Project's outcome – baseline situation

SDG 8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment and decent work for all

Baseline situation:

In the baseline situation, there will be no new job creation in the absence of the project.

Project's outcome:

The project leads to employment opportunities in both construction and operation phases of the project.

Net contribution:

SDG8 contribution = Project's outcome – baseline situation

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

For the climate combat action, this project directly reduces 135,655 tons of CO_2 equivalent/year, thereby the project contributes to the 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 21.0 for the emission reductions generated by the project, ER_y (tCO_2e).

Baseline emissions (BEy)

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:

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

Where:

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

- Calculation of Quantity of Net electricity generation (EGPJ,y)

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:

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

In which, $EG_{facility,y}$ is the 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:

$$BE_y = EG_{facility,y} \times EF_{grid,CM,y} \quad \textbf{(1)}$$

- Calculation of Emission Factor ($EF_{grid,CM,y}$)

As per Tool 07 "Tool to calculate the emission factor for an electricity system" version 7.0, the CO2 emission factor for the displacement of electricity generated by power plants in an electricity system is determined by calculating the Combined Margin emission factor ($EF_{grid,CM,y}$) of the electricity system.

The data to calculate $EF_{grid,CM,2021}$ for specific renewable power projects in Vietnam in 2021 was published by the Vietnam Department of Climate Change (DCC) – Ministry of Natural Resources and Environment in December 2022 (Document No. 1278/BĐKH-TTBVTOD[28]) and has been used for the calculation of emission factor of the proposed Project.

The combined margin emission factor ($EF_{grid,CM,y}$) is calculated by the result of a weighted average CM of two emission factors including the Operating Margin (OM) and Build Margin (BM).

$$\mathbf{EF_{grid,CM,y} = EF_{grid,OM,y} \times W_{OM} + EF_{grid,BM,y} \times W_{BM}}$$

EFgrid,OM,y	Operating margin CO2 emission factor in year y (tCO2/MWh)
EFgrid,BM,y	Build margin CO2 emission factor in year y (tCO2/MWh)
WOM	Weighting of operating margin emissions factor (percent)
WBM	Weighting of build margin emissions factor (percent)

The default values shall be used for the weight of the operating margin emission factor (W_{OM}) and weight of the building margin emission factor (W_{BM}) for wind and solar power generation Project activities. The Tool 07 allows to take 75% weightage of $EF_{grid,OM,y}$ and 25% weightage of $EF_{grid,BM,y}$.

Hence,

$$EF_{grid,CM,2021} = EF_{grid,OM,2021} \times W_{OM} + EF_{grid,BM,2021} \times W_{BM}$$
$$= 0.9239 \times 0.75 + 0.5202 \times 0.25 \text{ (tCO2/MWh)}$$
$$\mathbf{= 0.8230 \text{ (tCO2/MWh)}}$$

Project emission (PEy)

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

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

[28] Available at http://dcc.gov.vn/van-ban-phap-luat/1102/Nghien-cuu,-xay-dung-he-so-phat-thai-(EF)-cua-luoi-dien-Viet-Nam-nam-2021-(k%C3%A8m-CV-1278/BDKH-TTBVTOD).html (Published in 31st December 2022)

Where:

PE_y	Project emissions in year y (tCO_2e/yr)
$PE_{FF,y}$	Project emissions from fossil fuel consumption in year y (tCO_2/yr)
$PE_{GP,y}$	Project emissions from the operation of geothermal power plants due to the release of non-condensable gases in year y (tCO_2e/yr)
$PE_{HP,y}$	Project emissions from water reservoirs of hydro power plants in year y (tCO_2e/yr)

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

$$PE_y = 0 \qquad (2)$$

Leakage (LEy)

According to ACM0002, Version 21.0, 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.

$$LE_y = 0 \qquad (3)$$

Emission reductions (ERy)

From (1), (2), and (3), the emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y - LE_y$$
$$ER_y = EG_{facility,y} \times EF_{grid,CM,y}$$

Where:

ER_y	Emission reductions in year y (tCO_2e/yr).
BE_y	Baseline emissions in year y ($t\ CO_2e/yr$)
PE_y	Project emissions in year y (tCO_2e/yr).
LE_y	Leakage emissions in year y (tCO_2e/yr).

B.6.2 Data and parameters fixed ex ante

SDG13

Data/parameter	**EFgrid,OM,y**
Unit	tCO_2e/MWh
Description	Operating margin CO_2 emission factor for grid connected power generation in year y

Source of data	Data published by by the Vietnam Department of Climate Change (DCC) – Ministry of Natural Resources and Environment in 31st December 2022 (Document No. 1278/BĐKH-TTBVTOD)[29]
Value(s) applied	0.9239
Choice of data or Measurement methods and procedures	The latest $EF_{grid,OM,y}$ for 2021 was calculated and published by the Vietnam Ministry of Natural Resources and Environment, Department of Climate Change (DNA of Vietnam) in December 2022 as per "*Tool to calculate the emission factor for an electricity system"* – Version 07.0 The quantity of electricity generation that is produced and fed into the grid during the latest 03 years (e.g., 2019, 2020, and 2021) has been used to calculate $EF_{grid,OM,y}$
Purpose of data	For calculation of the combined margin CO_2 emission factor ($EF_{grid,CM,y}$)
Additional comment	N/A

SDG13

Data/parameter	**$EF_{grid,BM,y}$**
Unit	tCO_2e/MWh
Description	Build margin CO_2 emission factor for grid connected power generation in year y
Source of data	Data published by the Vietnam Department of Climate Change (DCC) – Ministry of Natural Resources and Environment in 31st December 2022 (Document No. 1278/BĐKH-TTBVTOD)[30]
Value(s) applied	0.5202

29 "Research and develop emission factor (EF) of Vietnam's electricity grid in 2021", published in 31st December 2022. Available at http://dcc.gov.vn/van-ban-phap-luat/1102/Nghien-cuu,-xay-dung-he-so-phat-thai-(EF)-cua-luoi-dien-Viet-Nam-nam-2021-(k%C3%A8m-CV-1278/BDKH-TTBVTOD).html

30 "Research and develop emission factor (EF) of Vietnam's electricity grid in 2021", published in 31st December 2022. Available at http://dcc.gov.vn/van-ban-phap-luat/1102/Nghien-cuu,-xay-dung-he-so-phat-thai-(EF)-cua-luoi-dien-Viet-Nam-nam-2021-(k%C3%A8m-CV-1278/BDKH-TTBVTOD).html

Choice of data or Measurement methods and procedures	The latest EFgrid,BM,y for 2021 was calculated and published by the Vietnam Ministry of Natural Resources and Environment, Department of Climate Change (DNA of Vietnam) in Dec 2022 as per *"Tool to calculate the emission factor for an electricity system"* – Version 07.0
Purpose of data	For calculation of the combined margin CO_2 emission factor ($EF_{grid,CM,y}$)
Additional comment	N/A

SDG13

Data/parameter	**$EF_{grid,CM,y}$**
Unit	tCO_2e/MWh
Description	Combined margin CO_2 emission factor for grid connected power generation in year y
Source of data	Data published by the Vietnam Department of Climate Change (DCC) – Ministry of Natural Resources and Environment in 31st December 2022 (Document No. 1278/BĐKH-TTBVTOD)[31]
Value(s) applied	0.8230
Choice of data or Measurement methods and procedures	The $EF_{grid,CM,y}$ is calculated using Operating margin CO_2 emission factor - $EF_{grid,OM,y}$ and Build margin CO_2 emission factor - $EF_{grid,BM,y}$ which were published by the DNA of Vietnam and weightings w_{OM}, w_{BM} of 0.75 and 0.25 for wind power plant projects as per *"Tool to calculate the emission factor for an electricity system"* – Version 07.0
Purpose of data	For calculation of CO_2 emission reductions
Additional comment	$EF_{grid,CM,y} = EF_{grid,OM,y} * 0.75 + EF_{grid,BM,y} * 0.25$

[31] "Research and develop emission factor (EF) of Vietnam's electricity grid in 2021", published in 31st December 2022. Available at http://dcc.gov.vn/van-ban-phap-luat/1102/Nghien-cuu,-xay-dung-he-so-phat-thai-(EF)-cua-luoi-dien-Viet-Nam-nam-2021-(k%C3%A8m-CV-1278/BDKH-TTBVTOD).html

B.6.3 Ex ante estimation of SDG Impact

SDG4: Quality Education

SDG4 contribution = 14 people per year receiving technical and vocational training.

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

SDG7 contribution = 164,834 (MWh/year)

SDG 8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment and decent work for all

SDG8 contribution = 27 staffs during operation phase.

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

Baseline emissions (BEy)

$$BEy = EG_{PJ,facility,I,y} \times EFgrid,CM,y$$
$$= 164,834 * 0.8230$$
$$= 135,655 (tCO2e/year)$$

Project emission (PEy)

$$PEy = 0$$

Leakage (LEy)

$$LEy = 0$$

Emission reductions (ERy)

Emission reductions are calculated as follows:

$$ERy = BEy - PEy - Ley$$
$$= 135,655 (tCO2e/year)$$

B.6.4 Summary of ex ante estimates of each SDG Impact

SDG 4 - Number of employees provided skill development trainings.

Table 11– SDG4 contribution over the crediting period

Year	Baseline estimate	Project estimate	Net benefit
2021 (30/11/2021 to 31/12/2021)	0	*14*	*14*
2022 (01/01/2022 to 31/12/2022)	0	*14*	*14*
2023 (01/01/2023 to 31/12/2023)	0	*14*	*14*
2024 (01/01/2024 to 31/12/2024)	0	*14*	*14*
2025 (01/01/2025 to 31/12/2025)	0	*14*	*14*
2026 (01/01/2026 to 29/11/2026)	0	*14*	*14*
Total	**0**	**70**	**70**
Total number of crediting years:	**5 years**		
Annual average over the crediting period	**0**	**14**	**14**

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

Table 12– SDG7 contribution over the crediting period

Year	Baseline estimate	Project estimate	Net benefit
2021 (30/11/2021 to 31/12/2021)	0	13,736	13,736
2022 (01/01/2022 to 31/12/2022)	0	164,834	164,834
2023 (01/01/2023 to 31/12/2023)	0	164,834	164,834
2024 (01/01/2024 to 31/12/2024)	0	164,834	164,834
2025 (01/01/2025 to 31/12/2025)	0	164,834	164,834
2026 (01/01/2026 to 29/11/2026)	0	151,098	151,098
Total	**0**	**824,172**	**824,172**
Total number of crediting years:	**5 years**		
Annual average over the crediting period	**0**	**164,834**	**164,834**

SDG 8 - Promote inclusive and sustainable economic growth, employment and decent work for all

Table 13– SDG8 contribution over the crediting period

Year	Baseline estimate	Project estimate	Net benefit
2021 (30/11/2021 to 31/12/2021)	0	27	27
2022 (01/01/2022 to 31/12/2022)	0	27	27
2023 (01/01/2023 to 31/12/2023)	0	27	27
2024 (01/01/2024 to 31/12/2024)	0	27	27
2025 (01/01/2025 to 31/12/2025)	0	27	27
2026 (01/01/2026 to 29/11/2026)	0	27	27
Total	**0**	**135**	**135**
Total number of crediting years:	**5 years**		
Annual average over the crediting period	**0**	**27**	**27**

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

Table 14– SDG13 contribution over the crediting period

Year	Baseline estimate	Project estimate	Net benefit
2021 (30/11/2021 to 31/12/2021)	11,305	0	11,305
2022 (01/01/2022 to 31/12/2022)	135,655	0	135,655
2023 (01/01/2023 to 31/12/2023)	135,655	0	135,655
2024 (01/01/2024 to 31/12/2024)	135,655	0	135,655
2025 (01/01/2025 to 31/12/2025)	135,655	0	135,655
2026 (01/01/2026 to 29/11/2026)	124,350	0	124,350
Total	**678,273**	**0**	**678,273**
Total number of crediting years:	**5 years**		
Annual average over the crediting period	**135,655**	**0**	**135,655**

B.7. Monitoring plan

B.7.1 Data and parameters to be monitored

SDG 4: Quality Education

Data / Parameter	Number of people that received technical training
Unit	Number of people
Description	Number of people that received technical training due to the project activity
Source of data	Training records
Value(s) applied	14
Measurement methods and procedures	The total number of persons receiving technical training was calculated based on the training records or training plans of the project
Monitoring frequency	Once per monitoring period
QA/QC procedures	Number of people trained by the project will be monitored through training records or internal training plans/materials or training certificates. Cross-checking by interviews.
Purpose of data	To Monitor the SDG 4 Indicator
Additional comment	N/A

SDG 7: Affordable and Clean Energy

Data / Parameter	$EG_{PJ,facility,I,y}$ - Access to affordable and clean energy services[32]
Unit	MWh/year
Description	Quantity of net electricity generated and supplied by the project power plant to the grid in year y (MWh/yr)
Source of data	Direct measurement or calculated based on measurements from more than one electricity meters
Value(s) applied	164,834 MWh

[32] It is also referred as EGPJ,grid,y or EGPJ,facility,I,y in the Methodological tool 05 "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation", Version 03.0

Measurement methods and procedures	Use electricity meters installed at the grid interface for electricity export to grid. This parameter should be either monitored using bi-directional energy meter or calculated as difference between (a) the quantity of electricity supplied by the project plant/unit to the grid (export); and (b) the quantity of electricity the project plant/unit from the grid (import). Then, the Net electricity supplied to the grid by each project is calculated as below: Net electricity = Export – Import
Monitoring frequency	Continuous measurement and at least monthly recording
QA/QC procedures	In cases where electricity meters are regulated (e.g., the electricity is supplied to the electric grid), the electricity meter will be subject to regular maintenance and testing in accordance with the stipulation of the meter supplier and/or as per the requirements set by the grid operators or national requirements. The calibration of meters, including the frequency of calibration, should be done in accordance with national standards or requirements set by the meter supplier or requirements set by the grid operators. The accuracy class of the meters should be in accordance with the stipulation of the meter supplier and/or as per the requirements set by the grid operators or national requirements. The electricity generation (gross or net) shall be cross-checked with records of electricity sale (e.g. sales receipt)
Purpose of data	Contribution of clean and sustainable energy from the Project to the national grid and to the increase of the share of renewable energy in the global energy mix.
Additional comment	N/A

SDG 8: Decent Work and Economic Growth

Data / Parameter	Number of jobs created
Unit	Number of employees
Description	Number of people employed directly due to the project activity
Source of data	Labour contracts, salary records
Value(s) applied	27 staffs during operation phase

Measurement methods and procedures	The total number of persons working in the plant will be calculated based on the daily log and employment records available at site.
Monitoring frequency	Once per monitoring period
QA/QC procedures	Cross-checking by interviews
Purpose of data	To Monitor the SDG 8 Indicator
Additional comment	N/A

SDG 13: Climate Action

Data / Parameter	ER_y - Annual emission reduction
Unit	tCO_2e/year
Description	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 due to this project.
Source of data	Electricity generated by NH2 WPP and the calculated combined margin (CM) emission factor will be used as inputs/ references in the calculation of the emission reduction.
Value(s) applied	135,655 tCO_2e
Measurement methods and procedures	According to ACM0002 version 21.0
Monitoring frequency	Once per monitoring period
QA/QC procedures	Cross-checking with electricity data
Purpose of data	Direct emission reductions of the Project over the Baseline
Additional comment	N/A

B.7.2 Sampling plan

>>

Not applicable

B.7.3 Other elements of the monitoring plan

>>

The monitoring system is designed in accordance with the requirements of methodology ACM0002, Grid-connected electricity generation from renewable sources (Version 21.0).

B.7.3.1 Monitoring parameters

The main monitoring parameter is the net electricity supplied to the grid $EG_{facility,I,y}$ (i.e. electricity delivered to the grid $EG_{export,y}$ and the electricity imported from the grid $EG_{import,y}$).

For the SDGs, the monitoring parameters are:

- SDG 4: Number of people receiving skill development training by the project
- SDG 7: MWhrs generated
- SDG 8: Number of people employed by the project.
- SDG 13: Emissions reductions

B.7.3.2 The SGD Impact Tool

The SDG Impact Tool has been applied to help the Project more efficiently monitor and quantify a project's contribution to the SDGs. The tool is provided separately to this PDD and for the VVBs to verify these contributions during Validation. The SDG Impact Tool presents the estimated ex-ante net SDG impact during the first monitoring period.

Table 15 – Estimated Ex-ante Sustainable Development Contributions of NH2 WPP

SDGs	SDG Impact	Values estimated in ex-ante calculation of SDG Impact tool for this monitoring period
SDG 4	Quality Education – Substantially increase the number of youth and adults who have relevant skills for employment (Number of people)	14
SDG 7	Affordable and Clean Energy – Net amount of electricity generated and supplied to grid (MWh)	164,834
SDG 8	Decent work and Economic Growth – Number of jobs created	27
SDG 13	Climate Action – Emission Reductions (tCO2e)	135,655

The estimated ex-ante calculation during the first monitoring period was carried out with detailed calculations of sustainable development impacts in the SDG tool and summarized the result in Section B.6.3.

B.7.3.3 Management structure

The purpose of the management structure is to define the organizational structure of the monitoring team, monitoring practices, QA/QC procedures and archiving procedures.

A monitoring plan will ensure that the emission reductions from the Project Activity are reported accurately and transparently. In detail, the data for the Project is compiled by the operational and maintenance (O&M) team and subsequently stored by the Project owner. The reporting and data flows as per the below structure of the monitoring group:

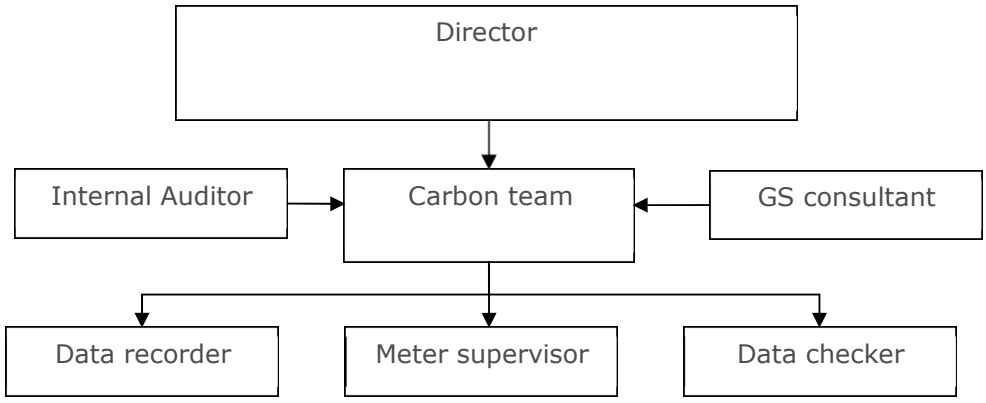


Figure 4 - Structure of the monitoring group

The responsibilities of each person involved are elaborated as follows:

Table 16- Group members and their responsibilities

Person	Responsibility
Director	Check and sign the monitoring report annually.
Carbon team	Managing the carbon activities, guiding and supervising data recorder after being trained by carbon consultant.
Carbon consultant	Providing training and technical support about carbon monitoring plan.
Internal auditor	Checking the monitoring procedure at least once in a year
Data recorder	Collecting and recording data every month.
Meter supervisor	Checking power meter periodically according to relevant regulations.
Data checker	Double checking the collected data measured by the power meter.

The steps of monitoring the electricity supplied to the grid and the electricity imported from the grid and consumed by the proposed project are as follows:

- The electricity supplied by the project to the grid and electricity imported from the grid are measured automatically by the bi-directional meter systems (main and backup power meters). The data is measured continuously;
- Persons in charge of data recording and the meter supervision from the Project will monitor and report the data to EVN through an internal system every day by the Project data monitoring software and the data also be sent to EVN, the result (monthly electricity protocol) will be signed by both parties and kept by both parties;
- The data from the backup power meters will be cross checked with the data from main power meter. The data from the back-up system will be used in case of a failure of the main meter
- The project owner provides electricity sales invoices to EVN, and keeps the copies of invoices; and
- The power owner provides the electricity protocols and copies of invoices and other related documents to the verifier of VVB.

B.7.3.4 Monitoring Equipment and Installation

Three electricity meters are adopted in the monitoring system of the project. The meters have been installed at the interconnection point to the grid for monitoring the electricity delivered to the grid.

One bidirectional electricity meters with the accuracy of 0.2s (Meter 232C) are installed as the main meter at the output side of the 33/220 kV substation to monitor the electricity exported to the grid ($EG_{export,y}$) and imported from the grid ($EG_{import,y}$) by the project activity.

Another two bidirectional electricity meters of the same accuracy of 0.5s which is meter 232DP1 and meter 332DP2 as backup meters for main meter 232C at the 33/ 220 kV substation.

The emission reductions are calculated based on records of the main meter 232C, and can be cross-checked with electricity sales and purchase receipts.

The monitoring system is illustrated in Figure 4 with blue highlight below (i.e. the SLD showing the meters for NH2).

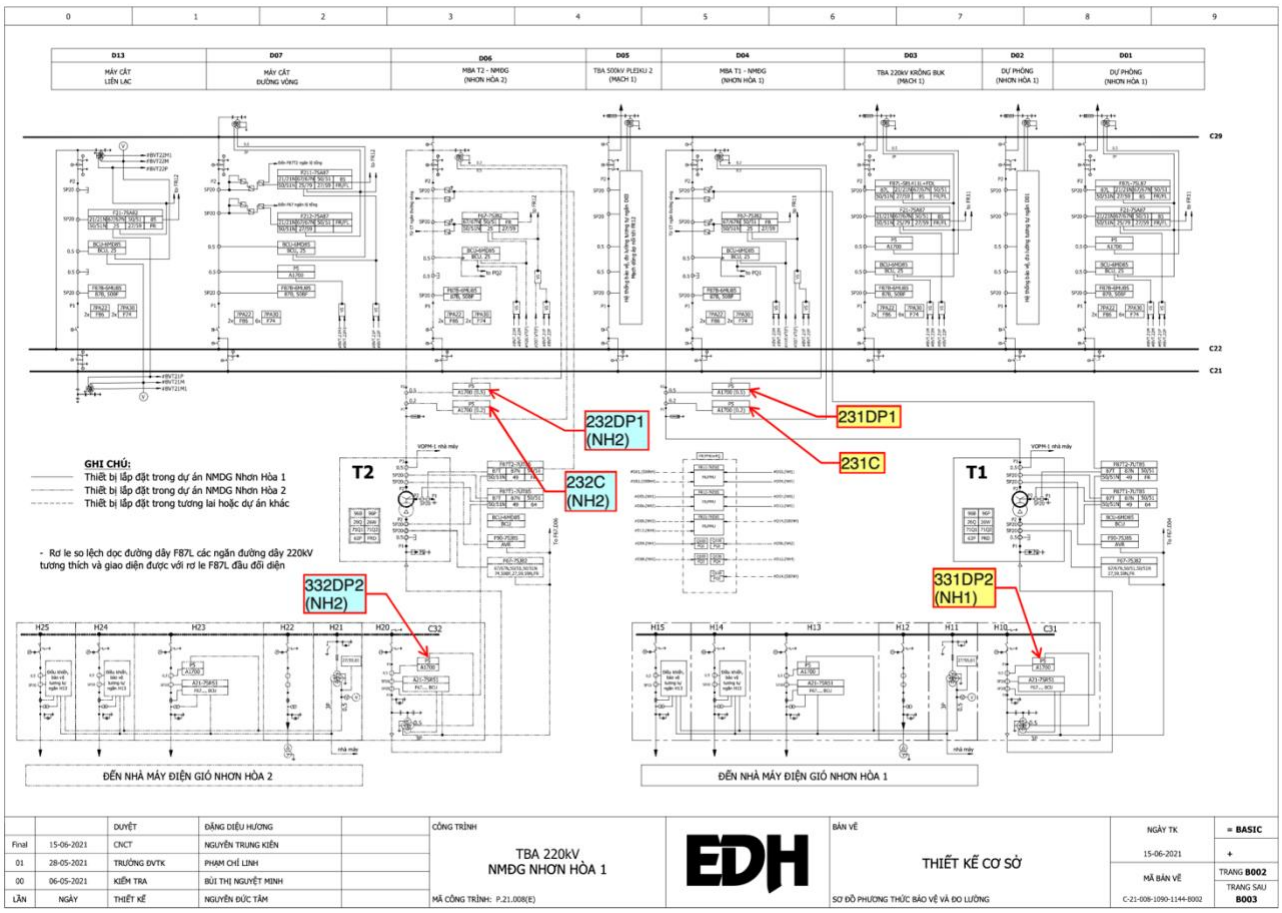


Figure 5 – Single Line Diagram of NH2

The electricity meter will be subject to regular maintenance and testing in accordance with the stipulation of the meter supplier and/or as per the requirements set by the grid operators or national requirements. The accuracy class of the meters should be in accordance with the stipulation of the meter supplier and/or as per the requirements set by the grid operators or national requirements.

In detail, testing and calibration of all the energy meters M232C, M232DP1, and M332DP2 will be calibrated and checked by qualified external parties EVN (i.e., once a year for the main meter and once every three years for back-up meters) with the records being supplied to the Project as per the specifications in the power purchase agreement (PPA) and Connection Agreement.

B.7.3.5 Data recording, collection and reporting

Meter and invoice data will be cross-checked on an internal system managed by EVN. Every month, the monitored data has been archived electronically, at the same time the paper document has been archived for back-up. The project owner keeps the receipts of power sales/purchases. The electricity generation (gross or net) shall be cross-checked with records of electricity sales (e.g. sales receipt).

The monitoring plan has been carried out mainly by the carbon team and conducted by the appointed personnel. All key documents have been kept collectively. The monitored data will be kept during the whole crediting period and at least 2 years after the end of the crediting period or until the last issuance of VERs, whichever occurs later.

B.7.3.6 Emergency procedures for monitoring system

Electricity measured by the main meter alone should suffice for the purpose of billing and emissions reduction verification as long as the error in the main meter is within the permissible limits. However, should either the project owner or the grid operator find the function of the main meter abnormal or broken-down, the other party and the authorized meter inspection institution needs to be informed immediately to address the issues and make the meter function normally again as soon as possible.

The back-up power meter will be used in case of a failure of the main meter. In case of the meters, which is used to record the net electricity exported and imported by the Project, is found to be faulty, the staff in charge will immediately inform the monitoring group and will repair or replace the equipment. In the unlikely another event that the recording meters fail, they will also be repaired or replaced.

In addition, should any previous monthly readings of the main meter be inaccurate by more than the allowable error, or be functioned improperly, the electricity generated by the project shall be determined by:

a) First, by reading the backup main meter, unless a test by either party reveals it is inaccurate;
b) If the backup also meter fails to function normally, the project owner and the grid company shall jointly estimate the correct reading in a conservative manner;
c) If the project owner and the grid company fail to mutually estimate of the correct reading, the readings will be taken as zero, it is conservative.

SECTION C. DURATION AND CREDITING PERIOD

C.1. Duration of project

C.1.1 Start date of project
>>
07/12/2020 (the date that the equipment supply contract[33] was signed).

C.1.2 Expected operational lifetime of project
>>
20 years

C.2. Crediting period of project

C.2.1 Start date of crediting period
>>
The start date of the first crediting period: 30/11/2021.

The Project Design Certification date is on 29/11/2023 and the maximum period for Retroactive Certification is two years prior to the date of Project Design Certification (i.e., Principles and Requirements, version 1.2, paragraph 5.1.37). Therefore, the Project start date of the Crediting Period is 30/11/2021.

C.2.2 Total length of crediting period
>>
The maximum of three Certification Renewal Cycles mentioned in the Renewable Energy Activity Requirements, version 1.4, paragraph 4.4.2, page 10[34] is 15 years (three renewals). Hence,

First crediting period: 5 years, 0 months (30/11/2021 – 29/11/2026, both dates inclusive).
Second crediting period: 5 years, 0 months (30/11/2026 – 29/11/2031, both dates inclusive).

[33] Wind Turbine Supply Contract between Nhon Hoa 2 Wind Electricity Joint Stock Company and VESTAS ASIA Pacific A/S for Nhon Hoa 2 Wind Power Plant, signed on 7th December 2020.
[34] Available at https://globalgoals.goldstandard.org/202-ar-renewable-energy-activity-requirements/

Third crediting period: 5 years, 0 months (30/11/2031 – 29/11/2036, both dates inclusive).

SECTION D. SUMMARY OF SAFEGUARDING PRINCIPLES AND GENDER SENSITIVE ASSESSMENT

D.1 Safeguarding Principles that will be monitored

A completed Safeguarding Principles Assessment is in Appendix 1 and ongoing monitoring is summarised below.

Principles	Mitigation Measures added to the Monitoring Plan
Principle 1. Human Rights	not required
Principle 2. Gender Equality	not required
Principle 3. Community Health, Safety and Working Conditions	Operation of the project does present safety risks (i.e., compared to the baseline). However, these risks will be managed carefully. The project will provide regular Occupational Health and Safety training to their workers about the accident hazards and risk related to specific works and preventive measures.
Principle 4.1 Sites of Cultural and Historical Heritage	not required
Principle 4.2 Forced Eviction and Displacement	not required
Principle 4.3 Land Tenure and Other Rights	not required
Principle 5. Corruption	not required
Principle 6.1 Labour Rights	not required
Principle 6.2 Negative Economic Consequences	not required
Principle 7.1 Emissions	not required
Principle 7.2 Energy Supply	not required
Principle 8.1 Impact on Natural Water Patterns/Flows	not required
Principle 8.2 Erosion and/or Water Body Instability	not required
Principle 9.1 Landscape Modification and Soil	not required
Principle 9.1 Landscape Modification and Soil	not required
Principle 9.3 Genetic Resources	not required

Principle 9.4 Release of pollutants	not required
Principle 9.5 Hazardous and Non-hazardous Waste	The hazardous waste such as waste oil will be collected in the waste bins with covers and labeled properly at the sites. Regularly, the PO will contract with authorized parties for collecting and treating the hazardous wastes.
Principle 9.6 Pesticides & Fertilisers	not required
Principle 9.7 Harvesting of Forests	not required
Principle 9.8 Food	not required
Principle 9.9 Animal husbandry	not required
Principle 9.10 High Conservation Value Areas and Critical Habitats	not required
Principle 9.11 Endangered Species	not required

Data / Parameter	**Safeguarding Principle 3 - Community Health, Safety and Working Conditions**
Unit	Occupational health and safety for workers
Description	Measures are taken to eliminate safety hazards related to the construction and operation of the project. • An OHS Plan is prepared and implemented and best efforts are made to manage OHS risks.
Source of data	• Safety performance reports from the O&M contractor
Value(s) applied	The project continues to comply with local regulations
Measurement methods and procedures	An Occupational Health and Safety Plan will be developed and implemented according to the national regulations. The OHS trainings will be conducted periodically to the Project workers with records.
Monitoring frequency	Once per monitoring period
QA/QC procedures	On-going process since COD. Training OHS records or OHS plan or List of Training Attendances or Photos will be maintained.
Purpose of data	To monitor the Safeguarding Principle 3 - Community Health, Safety and Working Conditions
Additional comment	N/A

Data / Parameter	**Safeguarding Principle 9.5 - Hazardous and non-hazardous waste**
Unit	Quantity of the Hazardous and Non-hazardous waste to be managed
Description	Measures are taken to eliminate the environmental risks associated with hazardous and non-hazardous waste. Only small amounts of waste will be generated from the Project and this will be managed in compliance with national regulations for waste storage and waste collection and disposal. For examples: • Law on Environmental Protection 72/2020/QH14; • Decree No. 08/2022/ND-CP[35] • Circular No. 02/2022/TT-BTNMT[36]
Source of data	• Environmental performance reports from the 3-rd party (e.g., O&M contractor); • Designated waste storage and waste bins for non-hazardous waste and hazardous waste; • Waste collection contracts and manifests.
Value(s) applied	The project continues to contract a licensed waste collector as required by national regulations
Measurement methods and procedures	Collect and store wastes in appropriate bins/ storages with cover lid, separate by type of waste before contacting the contracted agencies authorized by the government to pick up for further disposal. Records will be maintained.
Monitoring frequency	Once per monitoring period
QA/QC procedures	On-going process since COD. Contracts and records to be maintained in terms of waste management activities.
Purpose of data	To monitor the Safeguarding Principle 9.5 - Hazardous and non-hazardous waste
Additional comment	N/A

[35]Available at https://monre.gov.vn/VanBan/Pages/ChiTietVanBanPhapQuy.aspx?pID=277
[36] Available at https://monre.gov.vn/VanBan/Pages/ChiTietVanBanPhapQuy.aspx?pID=276

D.2. Assessment that project complies with GS4GG Gender Sensitive requirements

Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	The project is aligned with existing country policies, strategies and best practices. The project addresses the Gender sensitive requirements as mentioned in Appendix 1.
Question 2 - Explain how the project aligns with existing country policies, strategies and best practices	The project has committed to comply with national regulations which also ratified relevant International Labour Organization (ILO) core conventions on equality, namely Equal Remuneration Convention No 100, and Discrimination Convention No 111 in 1997[37]. The compliance can be cross-checked through Employment contracts. Hence, the project aligns with existing country policies, strategies and best practices as mentioned in the Appendix 1.
Question 3 - Is an Expert required for the Gender Safeguarding Principles & Requirements?	The Project has its internal regulations and policies including its commitment to implementing the Gender equality as mentioned in Appendix 1. No expert is required as the project meets the requirements outlines in the Gender Safeguarding Principles and Requirements and also falls under Renewable Energy type.
Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	The Project has its internal regulations and policies including its commitment to implementing the Gender equality as mentioned in Appendix 1. No expert is required as the project meets the requirements outlines in the Gender Safeguarding Principles and Requirements and also falls under

[37] Available at https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11200:0::NO::P11200_COUNTRY_ID:103004

	Renewable Energy type.

SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION

The below is a summary of the two-step GS4GG Consultation for monitoring purposes. Please refer to the separate Stakeholder Consultation Report for a complete report on the physical meeting integrated into the Stakeholder Feedback Round (as per paragraph 3.6.7 of the Stakeholder Consultation and Engagement Requirement version 2.1[38]).

E.1 Summary of stakeholder mitigation measures

>>

- *Physical Stakeholder Consultation*

Following the guidance set out in the *COVID-19 Interim Measures*[39], physical stakeholder consultations are currently postponed until the COVID-19 situation eases. After the government lifted the lockdown, the first round of local stakeholder consultation took place on-site on 19th March 2022, gathering valuable feedback that was promptly and satisfactorily addressed.

From the stakeholder consultation meeting, all Stakeholders are aware of the project implementation and benefits of the Project to the Environment. There were no comments, concerned about environmental, social, and economic impacts which caused a change to the project design.

There are no concerns related to the project's performance and existence in the locality , except only one related to the Project's construction activities such as dust which was directly reported to the project Director. The dust impacts were temporary and now completed hence the project will be implemented as per original plan.

- *Stakeholder Feedback Round*

Later, Stakeholder Feedback round was conducted but only no feedback was received during 16 Feb and 15 Apr 2022. Overall, the Feedback round was satisfactory, and no adverse feedback was noted.

After the combined stakeholder consultation and feedback round, the Project committed to take into consideration the comments received and to implement the project in line with the expectations of the local people.

The Project also committed to contributing to four SDGs goals including:

- SDG 4 Quality Education The project provides capacity building to local personnel by training services for employment (e.g., technical training, Occupation Health

[38] Available at https://globalgoals.goldstandard.org/102-par-stakeholder-consultation-requirements/
[39] Available at https://globalgoals.goldstandard.org/ru-2022-covid-19-interim-measures-update/#:~:text=v.&text=Following%20the%20last%20update%20to,this%20date%20will%20still%20apply.

and Safety, vocational skills, etc). To monitor this goal, number of people trained by the project will be monitored through training records or internal training plans/materials or training certificates/photos.

- SDG 7 Affordable and Clean Energy: The project generates electricity from the sustainable and renewable energy and contributes to increase the share of renewable energy mix in the global energy mix. The quantity of net electricity generation supplied by the Project plant to the grid per annum will be monitored by more than one bi-directional energy meters.
- SDG 8 Decent Work and Economic Growth: Project supports the creation of long-term job opportunities during the construction and operation of the project activity and will track the number of employments through checking payroll or labor contracts.
- SDG 13 Climate Action: The project generates renewable energy-based electricity and mitigates the CO2 emissions. This impact will be monitored by the annual average amount of emission reduction estimated by ton of CO2e (denoted by tCO2e).

Regarding the Safeguarding Principles, the Project adheres to:

- Principle 3 - Community Health, Safety and Working Conditions: The Project is not likely to create occupational health hazards, but if there is the case, an Occupational Health and Safety Plan will be implemented according to the national regulations. The Project also provides regular OHS training to the Project workers.
- Principle 9.5 - Hazardous and Non-hazardous waste: In the process of construction and operation of the project activity, there is a possibility of Hazardous waste generated from equipment or machinery. However, the waste volume is low, which is then managed and monitored to demonstrate its negligible influence. To keep them on track, for the former, it contracts licensed waste collectors to effectively and appropriately manage quantities of hazardous and non-hazardous waste.

E.2 Final continuous input / grievance mechanism

Method	Include all details of Chosen Method (s) so that they may be understood and, where relevant, used by readers.
Continuous Input / Grievance Expression Process Book (mandatory)	The Grievance Expression Process Book will be placed at the project location office in Plei Phung hamlet, Ia Phang commune, Chu Puh district, Gia Lai Province, Vietnam. Local stakeholders could give their comments directly to the Grievance Expression Process book. This location is easily

	accessible to both internal and external individuals, enabling them to conveniently provide suggestions. The Project Owner will check the comments in the book on a regular basis, and record responses. They will be respectful to the views of stakeholders and suggest alternative solutions or compromises wherever possible.
GS Contact (mandatory)	help@goldstandard.org
Nominated Independent Mediator	Local representatives from communes, village authorities or people committees Local people could give feedback directly to the commune's representatives such as chiefs of villages, and representatives of local associations then these representatives could aggregate and transfer the feedback to the Project Owners
Telephone access	+84.912265574
Email	longnt@emi.com.vn
Other	N/A

Continuous Input / Grievance Expression Process Book

The Grievance Expression Process Book is placed at the Project site (e.g., at the gate of the Project administrative offices, and also store records in Project office). The book was established with the below template:

Continuous Inputs and Grievance Expression Process Book							
No.	Date	Name	Description of Inputs/ Grievances	Checked by Project Manager (Yes/No)	Contact the grievance if needed (Yes/No)	Details of the mitigation actions	Inputs/ Grievances are solved (Yes/No)
1							
…							

In order to establish a rigorous grievance mechanism, the Project has also developed a Grievance Procedure on how the Project receives and resolves grievances from project internal and external stakeholders. The Project's Grievance Procedure is basically structured as follows:

Step 1: Receipt of Complaint/ Grievance

Local stakeholders could give their comments directly to the Grievance Channels described above or any channels which are regulated by applicable regulations.

Step 2: Verify, and Transfer the Records to the Relevant Departments

All the comments and grievances raised by the stakeholders would be recorded, considered, and addressed in accordingly with the local regulations.

Step 3: Respond to Grievances/Complaints

- If the complaints are within the Project rights to address, the response time takes at least of seven working days. All records will be maintained.
- If the complaints are anonymous, Project shall report and inspect the grievance issue and address it respectively.
- If the complaints are not within the Project rights to resolve, Project will then collaborate with the authorized government units and support to addressing all the issues raised.

Step 4: Reporting, Managing, and Recording

All the comments and grievances raised by the local stakeholders would be recorded, considered, and addressed in compliance with the local regulations. The Project will summarize an annually report relating to grievances process and how all the grievances have been taken into account and addressed. So far, no grievances have been received during operation phase regarding to the Project activity at the locality.

APPENDIX 1 - SAFEGUARDING PRINCIPLES ASSESSMENT

Complete the Assessment below and copy all Mitigation Measures for each Principle into SECTION D above. Please refer to the instructions in the Guide to Completing this Form.

Assessment Questions/ Requirements	Justification of Relevance (Yes/potentially /no)	How Project will achieve Requirements through design, management or risk mitigation.	Mitigation Measures added to the Monitoring Plan (if required)
Principle 1. Human Rights			
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 Human Rights 2. The Project shall not discriminate with regards to participation and inclusion	No	1. Vietnam ratified the "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, 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.	Not required

		2. Vietnam ratified the "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 to/contribute to adverse impacts on gender equality and/or the situation of women 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	No	1. The project does not adversely affect 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 complies with the Labor Code (Chapter X – Separate provision for female employees[40]).	Not required

[40] Available at Available at http://www.ilo.org/dyn/natlex/natlex4.detail?p_lang=en&p_isn=91650&p_country=VNM&p_count=532

and recommendations of an Expert Stakeholder(s)		2. The project owner complies with regulations of Vietnam law. The project also has its internal regulations and policies including its commitments to implementing Gender equality such as Code of Conduct, Human Rights Policy, and Human Resources Policy compliance at all of Project-levels. The project implements a grievance mechanism and procedure that internal stakeholders (e.g., employees) are also able to report if there are any gender issues. Therefore, the Project Activity will not discriminate with regard to participation. The Project Activity treats its employees equally for work of equal value and does not discriminate through providing training to every employee; applies equal treatment regarding recruitment and working conditions. 3. The Project has committed to comply with national regulations which also ratified relevant International Labour Organization (ILO) core conventions on equality, namely Equal Remuneration	

		Convention No 100, and Discrimination Convention No 111 in 1997. The project positively contributes towards the national[41] mission for empowerment of women through improvement of health and attaining vision for empowerment of women under the Law on Gender Equality 2006 and the Government's Decree No. 48/2009/ND-CP providing measures to assure gender equality. 4. N/A. The project does not have any scope to apply gender strategy or seek Expert's Opinion of the project impact.	
Principle 3. Community Health, Safety and Working Conditions			
1. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community	Potentially	The project leads to safe working condition and improvement in health as it will replace coal as fuel with wind, which is clean and safe. Further, periodic maintenance by the implementing agency ensures prevention of any unsafe working condition. The Project also provides regular OHS training to the Project workers.	The Project is not likely to create occupational health hazards, but if there is the case, an Occupational Health and Safety Plan will be implemented according to the national

[41] Available at https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11200:0::NO::P11200_COUNTRY_ID:103004

		Therefore, the impacts is minor and mitigatable.	regulations. The regular OHS training to the Project workers will be maintained with training records or OHS plan or training attendances, etc.
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?		The Project Area does not include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture	Not required
>>			
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	Most of land area occupied by the project activity is poor agricultural land. The project does not require or cause the physical or economic relocation of local people	Not required
>>			
Principle 4.3 Land Tenure and Other Rights			
a. Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership?	No	The Project has been granted formal land use rights for site including the turbines area, transmission line and transformer station which are required by the project activity. The	Not required

b. For Projects involving land use tenure, are there any uncertainties with regards to land tenure, access rights, usage rights or land ownership? >>		compensation plan and compensation expenditure were validated and approved by the Provincial People's Committee in accordance with national regulations and procedures. Therefore, there are no uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership.	
Principle 4.4 - Indigenous people			
Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples? >>	No	There are no indigenous people present in or within the area of influence of the Project and/or the Project is located on land/territory claimed by indigenous peoples	Not required
Principle 5. Corruption			
1. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	No	There is no corruption provision in the project activity.	Not required
Principle 6.1 Labour Rights			
1. The Project Developer shall ensure that all employment is in compliance with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions	No	1. The project owner and contractors will comply with all national labour and OHS regulations, which are in line with the ILO conventions. Therefore, no forced labour or child labour is involved in the project.	Not required

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 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		2. Workers in Vietnam 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 and contractors follow the regulations of the Labour Code of Vietnam. Thus, they always ensure that labourers have a written labour contract, appropriate insurance, working hours, leave time, and appropriate working conditions. 4. No child labour is involved in the construction or operation of the project. 5. Trained technicians are involved in construction and operation and maintenance of plants. The project owner ensures the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures.	

preparedness and response measures			
Principle 6.2 Negative Economic Consequences			
1. Does the project cause negative economic consequences during and after project implementation? >>	No	1. The project does not cause negative economic consequences during or after the implementation process of the project.	Not required
Principle 7.1 Emissions			
Will the Project increase greenhouse gas emissions over the Baseline Scenario? >>	No	The Project will reduce the emission of 135,655 tCO2e/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.	Not required
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 will use their own generated renewable electricity for internal electricity consumption.	Not required
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	No	The project entails installing and operating wind turbines on the land and does not affect the natural or pre-existing	Not required

high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?		pattern of watercourses, ground-water and/or the watershed(s).	
>>			
Principle 8.2 Erosion and/or Water Body Instability			
a. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? b. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?	No	The project entails the installation and operation of wind turbines on the land project and does not affect erosion and/or water body stability.	Not required
>>			
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. Farming can continue around the wind turbines. All the households who cultivated on the land taken for the turbines have been compensated satisfactorily.	Not required
>>			
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 Th 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.	Not required
>>			
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.	Not required
>>			
Principle 9.4 Release of pollutants			
Could the Project potentially result in the release of pollutants to the environment?	No	The project has received environmental clearance from the State Pollution control Board. The project does not require the storage, use or handling of material quantities or hazardous substances and will not lead to release of any hazardous substances that pose threat to the environment. Rather it aims at reducing the air pollution that is prevalent due to use of fossil fuel power plants. The project promotes environmental	Not required
>>			

		protection through the use of cleaner technology.	
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	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 manufacture, trade, release, and/or use of hazardous and non-hazardous chemicals and/or materials.	The hazardous waste such as waste oil will be collected in the waste bins with cover and labelled properly at sites. Regularly, the Project Owner will contract with authorized parties for collecting and treating the hazardous wastes
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.	Not required
Principle 9.7 Harvesting of Forests			
Will the Project involve the harvesting of forests? >>	No	The project does not involve the harvesting of forests.	Not required
Principle 9.8 Food			

Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	The Project does not modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives.	Not required
>>			
Principle 9.9 Animal husbandry			
Will the Project involve animal husbandry?	No	The Project does not involve animal husbandry.	Not required
>>			
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 area or within critical natural habitats.	
>>			
Principle 9.11 Endangered Species			
a. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? b. Does the Project potentially impact other areas where endangered species may be present through transboundary affects?	No	1. The physical location of the project is described in Section A.4. above. The Project location is not located in an area within a High Conservation Value or within Critical Habitats[42] and no endangered species identified as potentially being	Not required

[42] Map of National Conservation Areas in Vietnam

>>		present within the project boundary. The EIA and FSR were conducted and approved in accordance with national permitting regulations. It is confirmed that the Project site is not located in or near to a Protected Area or any area recognized as having high biodiversity value (e.g., conservation areas). No endangered or vulnerable or critically endangered species listed in IUCN or Vietnam Red Data Book or Government releases presented at the Site[43]. Hence, the Project does not have the risk of negatively impacting or reducing of any recognized species and therefore has a very low biodiversity risk. An additional study conducted by a third-party at the Site in May 2023 which again confirmed that there are no endangered or	

[43] EIA Report 2021 (page 29) and 2023 (page 71 and 75); FSR Volume 1.1, page 140.

		vulnerable species at the Site. In detail, all recorded birds are common species, recorded terrestrials are common species in field habitat and mostly husbandry animals. It also concluded that the Project is not containing high biodiversity value areas (Approved EIA 2023). 2. The project activity is not expected to potentially impact other areas where endangered species may be present through transboundary affects.	

APPENDIX 2- CONTACT INFORMATION OF PROJECT PARTICIPANTS

Organization name	Nhon Hoa 2 Energy Joint Stock Company (Project Owner)
Registration number with relevant authority	5901148794
Street/P.O. Box	Ly Thuong Kiet Street
Building	Phu Dien Building
City	Hanoi City
State/Region	Vietnam
Postcode	100000
Country	Vietnam
Telephone	N/A
E-mail	diengionhonhoa2@gmail.com
Website	N/A
Contact person	Nguyen Thang Long
Title	Deputy General Manager
Salutation	MR
Last name	Nguyen
Middle name	Thang
First name	Long
Department	Board of Directors
Mobile	+84.912265574
Direct tel.	N/A
Personal e-mail	longnt@emi.com.vn

Organization name	Nhon Hoa 1 Wind Electricity Joint Stock Company (Project Developer)
Registration number with relevant authority	5901148787
Street/P.O. Box	Ly Thuong Kiet Street
Building	Phu Dien Building
City	Hanoi City
State/Region	Vietnam
Postcode	100000
Country	Vietnam

Telephone	TBU
E-mail	diengionhonhoa1@gmail.com
Website	N/A
Contact person	Nguyen Thang Long
Title	Deputy General Manager
Salutation	MR
Last name	Nguyen
Middle name	Thang
First name	Long
Department	Board of Directors
Mobile	+84.912265574
Direct tel.	N/A
Personal e-mail	longnt@emi.com.vn

Organization name	Monsoon Sustainability Co. Ltd. (Project Representative)
Registration number with relevant authority	316925932
Street/P.O. Box	Level 9, Star Building, 33 Mac Dinh Chi Street, Da Kao Ward, District 1
Building	25A
City	HCMC
State/Region	HCMC
Postcode	700000
Country	Vietnam
Telephone	+84 79 6477040
E-mail	amcewin@monsooncarbon.com
Website	www.monsoonsustainability.com
Contact person	Angus McEwin
Title	Director
Salutation	MR
Last name	McEwin
Middle name	Daniel Burns
First name	Angus
Department	Carbon
Mobile	+84 79 6477040
Direct tel.	+84 79 6477040
Personal e-mail	amcewin@monsooncarbon.com

APPENDIX 3- LUF ADDITIONAL INFORMATION

Not Applicable

APPENDIX 4-SUMMARY OF APPROVED DESIGN CHANGES

Not Applicable

Revision History

Version	Date	Remarks
1.2	14 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Inclusion criteria table added Gender sensitive requirements added Prior consideration (1 yr rule) and Ongoing Financial Need added Safeguard Principles Assessment as annex and a new section to include applicable safeguards for clarity Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on Stakeholder Consultation information required Provision of an accompanying Guide to help the user understand detailed rules and requirements
1.1	24 August 2017	Updated to include section A.8 on 'gender sensitive' requirements
1.0	10 July 2017	Initial adoption