Monitoring report form for CDM project activity
(Version 08.0)

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

MONITORING REPORT			
Title of the project activity	Bac Lieu Province Wind Power Plant		
UNFCCC reference number of the project activity	7250		
Version number of the PDD applicable to this monitoring report	6.0		
Version number of this monitoring report	1.0		
Completion date of this monitoring report	18/05/2021		
Monitoring period number	01 of crediting period 02		
Duration of this monitoring period	20/06/2020 – 31/12/2020 (first and last days included)		
Monitoring report number for this monitoring period	1		
Project participants	1. Cong Ly Construction – Trading – Tourism Co., Ltd. 2. Swiss Carbon Assets Ltd.		
Host Party	Viet Nam		
Applied methodologies and standardized baselines	ACM0002: "Grid-connected electricity generation from renewable sources" – Version 20.0		
Sectoral scopes	1. Energy industries (renewable-/non-renewable sources)		
Amount of GHG emission reductions or net anthropogenic GHG removals achieved by the project activity in this monitoring period	Amount achieved before 1 January 2013	Amount achieved from 1 January 2013 until 31 December 2020	Amount achieved from 1 January 2021
	Not applicable	67,582 tCO_2e	Not applicable
Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the PDD	156,969 tCO_2e		

SECTION A. Description of project activity

A.1. General description of project activity

Bac Lieu Province Wind Power Plant includes the construction of an off-shore wind power farm on the area of 540 ha along the East Dam (De Dong) of Bac Lieu city, Bac Lieu province, Viet Nam with total capacity of 99.2 MW and gross annual electricity output of 335.2 GWh. The project involves the installation of 62 wind turbines at capacity of 1.6 MW each in two phases.

The first phase includes the installation of 10 wind turbines on 80 ha area. The capacity and net electricity output of Phase 1 is 16 MW and 55,355 MWh/year, respectively. Phase 2 includes the installation of the remaining 52 turbines with combined capacity of 83.2 MW and annual net output of 272,471 MWh on 460 ha.

Prior to the implementation of the project activity, electricity in Viet Nam is generated mainly from fossil fuel sources and is solely distributed to consumers via the unique national electricity grid. 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 project's purpose is to exploit the wind resources in Bac Lieu province to produce and supply electricity to the national grid under a Power Purchase Agreement (PPA) signed with the Electricity Corporation of Viet Nam (EVN).

The project reduces the emission of greenhouse gases (GHGs) by replacing electricity generated from fossil fuel fired power plants with zero emissions electricity from a wind power plant. It is expected that the power plant, when in full operation, will result in the reduction of 293,814 tCO_2e per year and 2,056,698 tCO_2e over the second crediting period.

The construction of Bac Lieu Province Wind Power Plant started in 2011. On 20/06/2013, the first wind turbine of the project activity started to supply electricity to the national grid. On 29/09/2016, the last turbine of the wind power plant started commercial operation.

Bac Lieu Province Wind Power Plant was registered as CDM project on 13/09/2012 with the PDD version 04 dated 21/08/2012. The first crediting period was from 20/06/2013 to 19/06/2020. The second crediting period from 20/06/2020 to 19/06/2027 has been renewed on 11/02/2021 with the PDD, version 6.0 dated 18/11/2020.

In the fist monitoring period under the second crediting period from 20/06/2020 to 31/12/2020 (both days included), Bac Lieu Province Wind Power Plant has achieved total 67,582 tCO_2e emission reductions.

A.2. Location of project activity

Bac Lieu Province Wind Power Plant is located in Bac Lieu city, Bac Lieu province, Viet Nam. The turbines are installed along the East Dam of Bac Lieu city within the following coordinates:

- Northern latitude: 9°12'07" - 9°14'38"
- Eastern longitude: 105°44'45" - 105°49'41"

The location of the project activity is showed in the Figure below:

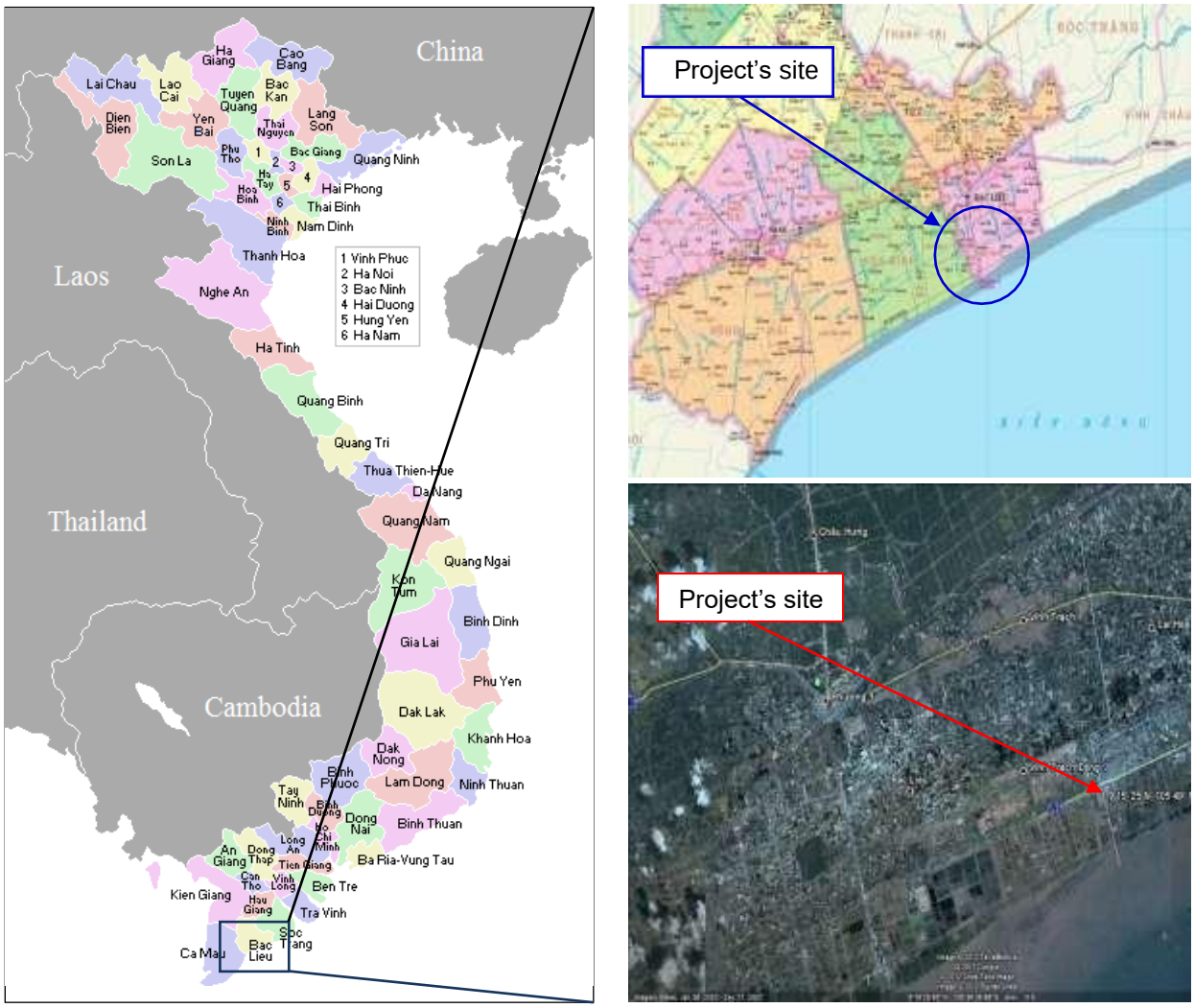

Figure 1: Map of the location of the project activity

A.3. Parties and project participants

Parties involved	Project participants	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Viet Nam (host Party)	Cong Ly Construction – Trading – Tourism Co., Ltd.	No
Switzerland	Swiss Carbon Assets Ltd.	No

A.4. References to applied methodologies and standardized baselines

- ACM0002 "Grid-connected electricity generation from renewable sources", version 20.0[1]
- Tool 07 "Tool to calculate the emission factor for an electricity system", version 07.0[2]
- Tool 11 "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period", version 03.0.1[3]
- Tool 01 "Tool for the demonstration and assessment of additionality", version 06.0.0[4]

[1] https://cdm.unfccc.int/methodologies/DB/XP2LKUSA61DKUQC0PIWPGWDN8ED5PG

[2] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf

[3] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-11-v3.0.1.pdf

[4] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v6.0.0.pdf

A.5. Crediting period type and duration

Crediting period type: renewable.
Duration of the second crediting period: 20/06/2020 - 19/06/2027.

SECTION B. Implementation of project activity

B.1. Description of implemented project activity

1. Description of the installed technology, techinical process and equipment

The project involves the construction of a 99.2 MW grid-connected wind power plant with 62 wind turbines and generators in order to convert kinetic power of the wind to electrical energy to supply to the national grid at the connection point through the transmission line.
The main technical parameters of project are shown in the Table below

Table 1: Main technical parameters of the proposed project activity

Main parameter	Unit	Value
1. Turbine[5]		
• Type		GE 1.6xle
• Number of installed turbines: + Phase I + Phase II	set	 10 52
• Rated power	kW/ set	1600
• Rotor diameter	m	82.5
• Swept area	m^2	5346
• Tower height	m	80/ 100
• Cut-in wind speed	m/s	3.5
• Cut-out wind speed	m/s	25
• Survival wind speed	m/s	50.1
2. Generator[6]		
• Type		Three phases, asynchronous
• Voltage	V	690
• Frequency	Hz	50
• Rated speed	rpm	1915
3. Plant load factor[7]		
• Phase I	%	40.38
• Phase II	%	38.23

[5] Main technical parameters of turbines are extracted from the devices' document.

[6] Main technical parameters of generators are extracted from the Equipment Contract signed with GE.

[7] Plant load factor was calculated and confirmed by the independent third party in accordance to EB 48 Annex 11.

• Combined plant load factor	%	38.57

2. Information on the implementation status of the project activity during this monitoring period

Bac Lieu Province Wind Power Plant started the construction in 2011. The installation of the 10 turbines in Phase 1 was completed in 2013 with the first turbine commissioned on 20/06/2013. The installation of the 52 turbines in Phase 2 was completed in 2016 with the last turbine commissioned on 29/09/2016.

The project was registered as CDM project by UNFCCC on 13/09/2012. The renewal of 2nd CP has been approved by EB on 11/02/2021 with PDD version 6.0, dated 18/11/2020.

In the first monitoring period under CP2 from 20/06/2020 to 31/12/2020, Bac Lieu Province Wind Power Plant is in good operation state.

3. Information on any request for prior approval by the Board of changes to the registered CDM project activity

Not applicable.

B.2. Post-registration changes

B.2.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents

Not applicable.

B.2.2. Corrections

Not applicable.

B.2.3. Changes to the start date of the crediting period

Not applicable for the 2nd CP.

B.2.4. Inclusion of monitoring plan

Not applicable.

B.2.5. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

Not applicable.

B.2.6. Changes to project design

Not applicable.

B.2.7. Changes specific to afforestation or reforestation project activity

Not applicable.

SECTION C. Description of monitoring system

Monitoring equipment:

The metering system of Bac Lieu Province Wind Power Plant installed at the transformer station (as the connection point) for measuring the electricity exported to and imported from the grid. The

metering system includes the main and back-up system of electronic 3 phased type. They are digital meters bi-directly with allowed errors at least 0.2 and 0.5 for main and back-up meters respectively.

The following diagram indicates the power meter location:

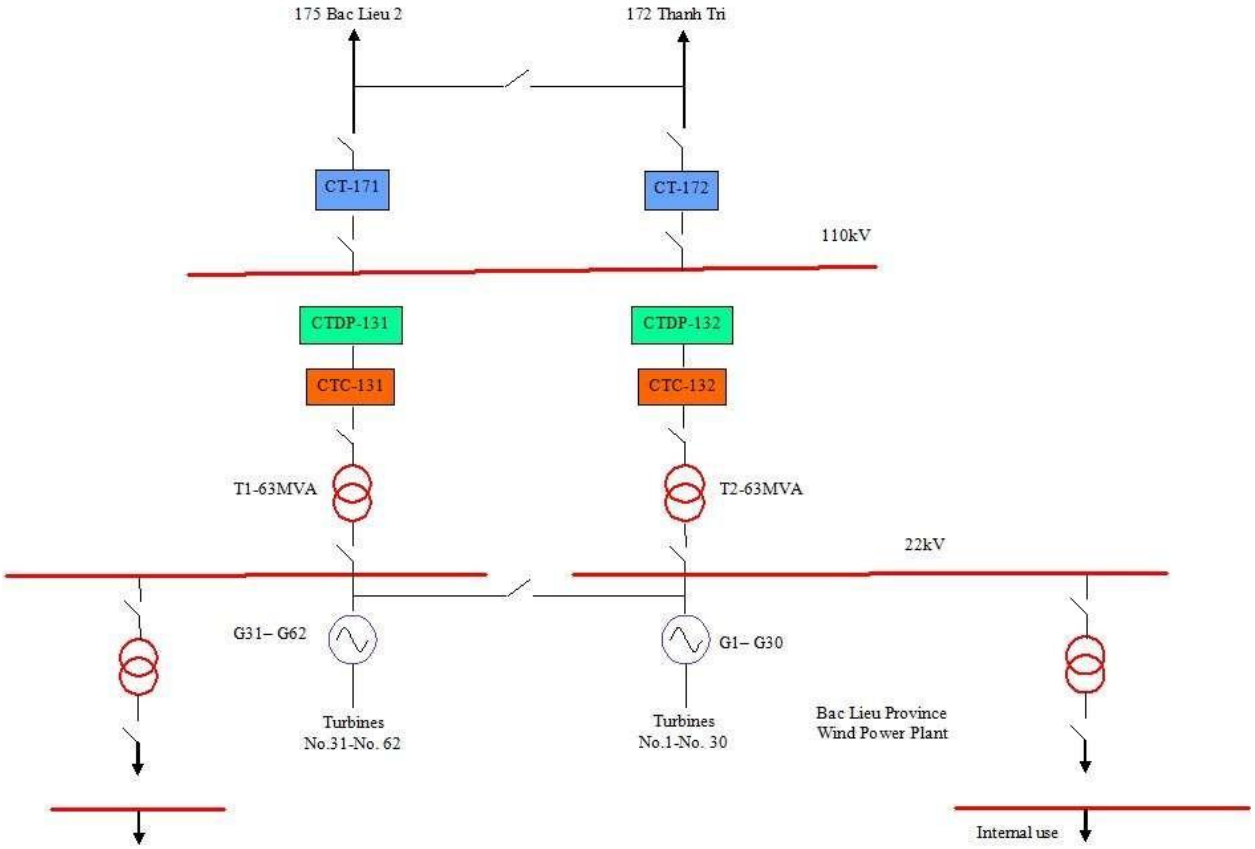

Figure 2. Power meter location of Bac Lieu Wind Power Plant

Where:
G1-G62: Generators
T1, T2: Transformers
CTC: Main meters
CTDP: Back-up meters
CT: Meters

Details of the power meters are as follows

Table 2: Details of the power meters of Bac Lieu Province Wind Power Plant

Power meter	Type	Position	Function	Record frequency	Calibration party and frequency
Main Meter 132 (CTC-132)	A1700	Bac Lieu Province Wind Power Plant	Measuring amount of electricity exported from and amount of electricity imported to the generators of Turbines No.1 to 30 of Bac Lieu Province Wind Power Plant. Data recorded by this meter will be used as basis for electricity sale/	The end of every month	Third party, at least once every two years

			purchase invoice.		
Backup Meter 132 (CTDP-132)	A1700	Bac Lieu Province Wind Power Plant	Measuring amount of electricity exported from and amount of electricity imported to the generators of Turbines No.1 to 30 of Bac Lieu Province Wind Power Plant. Data recorded by this meter will be used when the main meter fails.	The end of every month	Third party, at least once every two years
Meter 171 (CT-171)	A1700	Bac Lieu Province Wind Power Plant	Measuring amount of electricity exported by Bac Lieu Province Wind Power Plant and amount of electricity imported by Bac Lieu Province Wind Power Plant on route 175 Bac Lieu 2. Data recorded by this meter will be used when both main and back-up meters fail.	The end of every month	Third party, at least once every two years
Meter 172 (CT-172)	A1700	Bac Lieu Province Wind Power Plant	Measuring amount of electricity exported by Bac Lieu Province Wind Power Plant and amount of electricity imported by Bac Lieu Province Wind Power Plant on route 172 Thanh Tri. Data recorded by this meter will be used when both main and back-up meters fail.	The end of every month	Third party, at least once every two years
Main Meter 131 (CTC-131)	A1700	Bac Lieu Province Wind Power Plant	Measuring amount of electricity exported from and amount of electricity imported to the generators of Turbines No.31 to 62 of Bac Lieu Province Wind Power Plant. Data recorded by this meter will be used as basis for electricity sale/ purchase invoice.	The end of every month	Third party, at least once every two years

Back-up Meter 131 (CTDP- 131)	A1700	Bac Lieu Province Wind Power Plant	Measuring amount of electricity exported from and amount of electricity imported to the generators of Turbines No.31 to 62 of Bac Lieu Province Wind Power Plant. Data recorded by this meter will be used when the main meter fails.	The end of every month	Third party, at least once every two years

Monitoring Procedure:

The project owner and VNEEC have developed and implemented the monitoring procedure formalized as a monitoring manual. The manual is used by monitoring staff as a reference, for data collection, supervision, verification and records.

1. Organizational structure, roles and responsibilities of personnel

The project owner established a special CDM group to take charge of data collection, supervision, recording and verification. CDM group manager is trained by the CDM consultant and receives technical support from time to time from the CDM consultant. The structure of monitoring group is as follows:

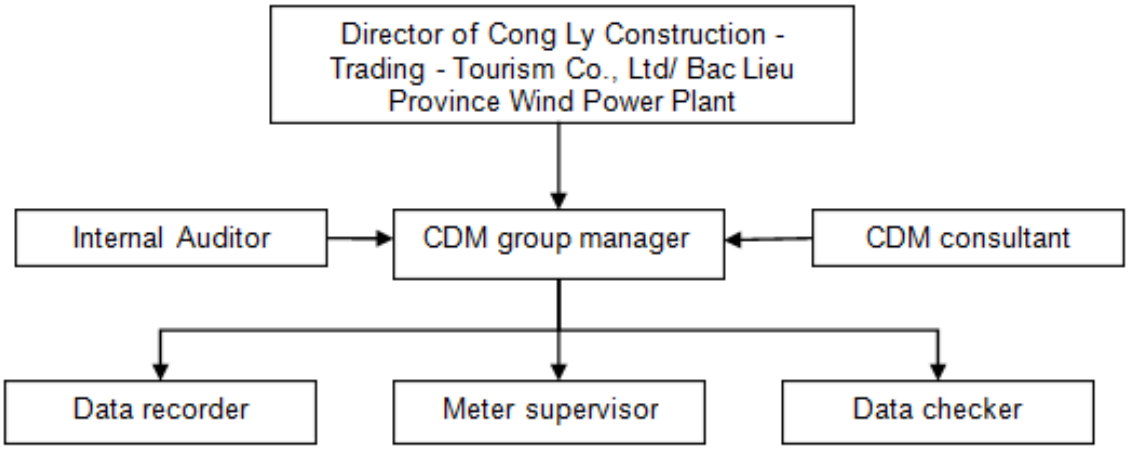

Figure 3: Structure of monitoring group

The details of members in CDM group of Cong Ly Construction – Trading – Tourism Co.,Ltd are as follows:

Table 2: Organization of CDM group

Function[8]	Name	Job title	Responsibility
Representative of the Company	To Hoai Dan	Director General of Cong Ly Construction - Trading - Tourism Co., Ltd	Legal representative of Cong Ly Construction - Trading - Tourism Co., Ltd
CDM group manager	Nguyen Phu Nong Le Hoang Hai	Head of Administration-Personnel	Managing the whole CDM business of Bac Lieu

[8] Group members are subject to change from time to time according to the adjustment by the Company

		Department Acting Manager of Bac Lieu Province Wind Power Plant	province wind power plant, guiding and supervising data recorder after trained by CDM consultation.
Internal Auditor/	Nguyen Trung Kien	Foreman	Check the monitoring procedure.
Meter supervisor			Checking power meter periodically according to relevant regulation.
CDM consultant	Nguyen Tien Hai	Technical Manager - VNEEC	Providing CDM group director training and technical support about CDM monitoring plan.
Data recorder	Pham Viet Cuong Ho Van Tai Le Cong Loc Ha Hoai Nam	Operating staff of Bac Lieu Province Wind Power Plant	Collecting and recording data every month.
Data checker	Tran Trung Ket Lam Hoang Dien Do Van Tam Tran Hoang Thai	Shift leaders of Bac Lieu Province Wind Power Plant	Double check the collected data measured by power meter.

2. Data collection procedures

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

- Persons in charge of data record and meter supervisor from Bac Lieu Province Wind Power Plant together with staff from EVN read and collect data from main power meters on the first day of every month, the result will be signed by both parties and kept respectively;
- The data from the backup power meter are hourly recorded by the person in charge of data recording of Bac Lieu Province Wind Power Plant. This recorded data is cross checked with the data from main power meter. Data are filled in the form provided by VNEEC.
- Bac Lieu Province Wind Power Plant provides electricity sales invoice to EVN, and keeps the copy of invoice of electricity purchased from EVN for internal use;
- Bac Lieu Province Wind Power Plant provides the record of main, backup power meters and copy of invoices to the verifier of DOE.

3. Data recording and archiving procedures

The CDM group appointed by Bac Lieu Province Wind Power Plant keeps monitored data in electronic archives at the end of every month. Paper documents are stored in electronic format and copied by CD. Electronic documents are printed out and kept.

Bac Lieu Province Wind Power Plant keeps the copy of electricity sales/purchase invoices (the original electricity sales/purchase invoices are kept by Finance Department of Bac Lieu Province Wind Power Plant).

All the data and information in the form of paper documents are archived by the CDM group, with at least one copy backup for each datum.

All the data shall be kept for 2 years after the crediting period.

4. Emergency procedures

In case of any unforeseen event that is not covered under this monitoring plan, staff of the CDM group shall inform the manager and the director. The manager and director are then responsible to ensure that the cause for the unforeseen event is detected, the event is remedied and for the

period of time in which the unforeseen event has occurred uncertainty in data gathered is limited as much as possible.

In case of both main and back-up metering systems are in failure, the project owner and the power company (EVN) will jointly calculate a conservative estimate of power supplied to the grid. The assumptions used to estimate net electricity supply to the grid will be signed by a representative of the project owner as well as a representative of the power company (EVN).

Emergency case

Since the starting of monitoring period, emergency case did not occur and the difference between the power meters is in an acceptable range because the director of the plant applies the preventive maintenance to prevent all possible bad conditions.

5. Quality Assurance and Quality Control

5.1 Training

- All staffs working for CDM group are trained and the training records are kept. Through the training, the staffs receive the necessary knowledge of the installation, examination and maintenance of electricity and machine; being familiar with the operating principle and basic structure of equipment; masters the cause and solution of common problems and the basic knowledge of CDM and monitoring requirements.
- During the operating period, Project Owner holds irregularly scheduled training to improve staff's professional level.
- The new staff is not allowed to operate or maintain the equipment until they pass the exams and master the knowledge and skills after training mentioned above.
- CDM monitoring training contents:

  Monitoring organization

  File system

  Connection point

  Monitoring parameters

  Monitoring method

  Guideline against dispute resolution

  Data management

  Calibration and maintenance

  Monitoring report

  Internal audit

  Management review

- History of CDM internal training in Bac Lieu Province Wind Power Plant:

VNEEC has cooperated with Cong Ly Construction-Trading-Tourism Co., Ltd to establish CDM group which has full responsibility for CDM monitoring as well as data management. The one-day training was held on 19/06/2013, which provides Bac Lieu Province Wind Power Plant's staff all necessary information to monitor the plant.

- Other trainings:

Cong Ly Construction-Trading-Tourism Co., Ltd has cooperated with Ho Chi Minh City Electric Power College (HEPC), the Southern Power Corporation, to organize a training course on "Management, operation and maintenance of 110kV transmission line for Cong Ly Construction-Trading-Tourism Co., Ltd." from 08/05/2017 to 09/06/2017.

5.2 Calibration and Maintenance

Project Owner has signed an agreement with EVN that stipulates quality control process of measurement and calibration in order to ensure measurement precision. Periodical power meter inspection and on-site check should be implemented according to the relevant guidance of the EVN. After inspection and on-site check, power meters must be sealed after examination and identification by both of Project Owner and EVN, either party cannot remove the seal or modify any power meter when the other party (or its authorized representative) is absent.

- ***History of power meters of Bac Lieu Province Wind Power Plant in the monitoring period (20/06/2020 – 31/12/2020)***

The detailed information of each power meter is shown as following tables:

Table 4: Detailed information of power meters in Bac Lieu Windpower project

Technical details	Main Meter 132 (CTC-132)	Backup Meter 132 (CTDP-132)	Meter 171 (CT-171)	Meter 172 (CT-172)	Main Meter 131 (CTC-131)	Backup Meter 131 (CTDP-131)
Serial No.	11090571	12163049	10150054	08124470	171314187	15023392
Model	PB3KAGGHT-5	OB3KAAGHT-5	PB3KAGGHT-5	PB3KAGGHT-5	PB3KAGGHT-5	PB3KAGGHT-5
Accuracy	0.2s	0.5s	0.2s	0.2s	0.2s	0.5s
Status during the monitoring period	Good	Good	Good	Good	Good	Good
Manufacturer	Elster	Elster	Elster	Elster	Elster	Elster
Calibration frequency as the latest Government regulation[9]	At least once every three years					
Date of current calibration	05/05/2020	05/05/2020	05/05/2020	05/05/2020	05/05/2020	05/05/2020
Last calibration entity	Southern Electrical Testing Company					

[9] According to the Decision No. 2739/QD-TDC on "promulgating metrological technical standard of Viet Nam" issued by Directorate for Standards, Metrology and Quality under Ministry of Science and Technology of the Socialist Republic of Viet Nam on 23/12/2019, Article 2, the metrology standard – DLVN 39:2019 takes effect from 01/01/2020. Paragraph 8.3, DLVN 39:2019 – "Power meters – Verification/calibration procedure", the calibration for 3 phase meters need to be conducted every three years by the third party once during the project operation.

SECTION D. Data and parameters

D.1. Data and parameters fixed ex ante

Data/Parameter	**$EF_{grid,OM,y}$**
Unit	tCO_2/MWh
Description	Operating margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of "Tool to calculate the emission factor for an electricity system"
Source of data	Data published by DNA Viet Nam
Value(s) applied	0.8795
Choice of data or measurement methods and procedures	As per the "Tool to calculate the emission factor for an electricity system"
Purpose of data/parameter	For calculation of $EF_{grid,CM,y}$
Additional comments	Not applicable

Data/Parameter	**$EF_{grid,BM,y}$**
Unit	tCO_2/MWh
Description	Build margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of "Tool to calculate the emission factor for an electricity system"
Source of data	DNA published by DNA Viet Nam
Value(s) applied	0.9465
Choice of data or measurement methods and procedures	As per the "Tool to calculate the emission factor for an electricity system"
Purpose of data/parameter	For calculation of **$EF_{grid,CM,y}$**
Additional comments	Not applicable

Data/Parameter	**$EF_{grid,CM,y}$**
Unit	tCO_2/MWh
Description	Combined margin CO_2 emission factor for grid connected power generation in year y calculated using the lasted version of "Tool to calculate the emission factor for an electricity system"
Source of data	Data published by DNA Viet Nam
Value(s) applied	0.89625
Choice of data or measurement methods and procedures	The $EF_{grid,CM,y}$ is calculated using published data by Ministry of Natural Resources and Environment, Department of Climate Change on 12/03/2020; and Version 07.0 of "Tool to calculate the emission factor for an electricity system"
Purpose of data/parameter	For calculation of **BE_y**
Additional comments	Fixed for the whole second crediting period

D.2. Data and parameters monitored

Data/Parameter	$EG_{y,export}$
Unit	MWh/yr
Description	Electricity supplied by the proposed project to the national grid
Measured/calculated/ default	Measured
Source of data	Electricity meter(s)
Value(s) of monitored parameter	

Period		$EG_{y,export}$ (MWh)
From	To	
20/06/2020	30/06/2020	1,883.688
01/07/2020	31/07/2020	6,325.544
01/08/2020	31/08/2020	12,278.576
01/09/2020	30/09/2020	9,679.638
01/10/2020	31/10/2020	10,216.627
01/11/2020	30/11/2020	16,601.393
01/12/2020	31/12/2020	18,905.275
TOTAL		**75,890.741**

Monitoring equipment	Details of monitoring equipment are presented in the tables 4 above
Measuring/reading/recording frequency	Continuously measured by power meter and monthly recording
Calculation method (if applicable)	Not applicable
QA/QC procedures	Double checking by the joint balance sheet issued by EVN and project owner to ensure the consistency. Data will be archived within the crediting period and 2 years after the end of the crediting period.
Purpose of data/parameter	For the determination of $EG_{facility,y}$
Additional comments	-

Data/Parameter	$EG_{y,import}$
Unit	MWh/yr
Description	Electricity imported from the grid by the proposed project
Measured/calculated/ default	Measured
Source of data	Electricity meter(s)
Value(s) of monitored parameter	

Period		$EG_{y,import}$ (MWh)
From	To	
20/06/2020	30/06/2020	42.296
01/07/2020	31/07/2020	133.523
01/08/2020	31/08/2020	45.279
01/09/2020	30/09/2020	89.532
01/10/2020	31/10/2020	67.402
01/11/2020	30/11/2020	57.068
01/12/2020	31/12/2020	49.716
TOTAL		**484.816**

Monitoring equipment	Details of monitoring equipment are presented in the tables 4 above
Measuring/reading/recording frequency	Continuously measured by power meter and monthly recording
Calculation method (if applicable)	Not applicable
QA/QC procedures	Double checking by the joint balance sheet issued by EVN and project owner to ensure the consistency. Data will be archived within the crediting period and 2 years after the end of the crediting period.
Purpose of data/parameter	For the determination of $EG_{facility,y}$
Additional comments	-

Data/Parameter	**$EG_{facility,y}$**
Unit	MWh/yr
Description	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y
Measured/calculated/ default	Calculated
Source of data	Calculating by subtracting $EG_{y,import}$ from $EG_{y,export}$
Value(s) of monitored parameter	
Monitoring equipment	Details of monitoring equipment are presented in the tables 4 above
Measuring/reading/recording frequency	Continuously measured by power meters and monthly recording
Calculation method (if applicable)	Calculating by subtracting $EG_{y,import}$ from $EG_{y,export}$.
QA/QC procedures	Double checking by the joint balance sheet issued by EVN and project owner to ensure the consistency. Data will be archived within the crediting period and 2 years after the end of the crediting period.
Purpose of data/parameter	For **BE_y** calculation
Additional comments	-

Period		**$EG_{facility,y}$ (MWh)**
From	**To**	
20/06/2020	30/06/2020	1,841.392
01/07/2020	31/07/2020	6,192.021
01/08/2020	31/08/2020	12,233.297
01/09/2020	30/09/2020	9,590.106
01/10/2020	31/10/2020	10,149.225
01/11/2020	30/11/2020	16,544.325
01/12/2020	31/12/2020	18,855.559
TOTAL		**75,405.925**

D.3. Implementation of sampling plan

Not applicable

SECTION E. Calculation of emission reductions or net anthropogenic removals

E.1. Calculation of baseline emissions or baseline net removals

Baseline emissions include only CO_2 emissions from electricity generation by fossil fuel fired power that are displaced due to the project activity. It is calculated as follows:

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

Where:

BE_y	Baseline emissions in the monitoring period (tCO_2e)
$EG_{facility, y}$	Quantity of net electrictity generation supplied by Bac Lieu Province Wind Power Plan to the grid during the monitoring period (MWh)
$EF_{grid,CM,y}$	Combined margin CO_2 emission factor of the national electricity grid in year y (tCO_2/ MWh)

In the first monitoring period under CP2 (20/06/2020 – 31/12/2020), Bac Lieu Province Wind Power Plant supplied to the grid a total net electricity of $EG_{facility,y}$ = 75,405.925 MWh.
The baseline emission factor $EF_{grid,CM,y}$ = 0.89625 tCO_2e/MWh.

The baseline emission (BE_y) for the monitoring period is calculated as follows:

$$BE_y = 75,405.925 * 0.89625 = 67,582\ tCO_2$$

E.2. Calculation of project emissions or actual net removals

The project emissions are calculated using the following equation:

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

Where:

PE_y	Project emissions in year y (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-considerable gases in year y (tCO_2e/ yr)
$PE_{HP,y}$	Project emissions from water reservoir 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 having water reservoir (i.e. $PE_{FF,y}$ = 0, $PE_{GP,y}$ = 0, $PE_{HP,y}$ = 0); therefore, the project during emission is zero:

$$PE_y = 0$$

E.3. Calculation of leakage emissions

The technology utilized in Bac Lieu Province Wind Power Plant is neither transferred to nor transferred from another activity; hence, leakage is considered as zero.

$$LE_y = 0$$

E.4. Calculation of emission reductions or net anthropogenic removals

	Baseline GHG emissions or baseline net GHG removals (t CO_2e)	**Project GHG emissions or actual net GHG removals (t CO_2e)**	**Leakage GHG emissions (t CO_2e)**	**GHG emission reductions or net anthropogenic GHG removals (t CO_2e)**			
				Before 01/01/ 2013	**From 01/01/ 2013 until 31/12/ 2020**	**From 01/01/ 2021**	**Total amount**
Total	67,582	0	0	0	67,582	0	67,582

E.5. Comparison of emission reductions or net anthropogenic removals achieved with estimates in the registered PDD

Amount achieved during this monitoring period (t CO_2e)	Amount estimated ex ante for this monitoring period in the PDD (t CO_2e)
67,582	156,969

E.5.1. Explanation of calculation of "amount estimated ex ante for this monitoring period in the PDD"

This monitoring period is from 20/06/2020 to 31/12/2020 (first and last days included) – 195 days.

According to the approved revised PDD, amount estimated ex ante for one year – 365 days is 293,814 tCO_2e.

The amount estimated ex ante for this monitoring period in the PDD is calculated as follows:

$$293,814 / 365 * 195 = 156,969\ tCO_2e.$$

E.6. Remarks on increase in achieved emission reductions

As shown in the table above, the actual emission reductions achieved in this monitoring period (20/06/2020 – 31/12/2020) of Bac Lieu province wind power project is 67,582 tCO_2e while the estimated ex ante is 156,969 tCO_2e. It is thus 43% of the ex-ante estimation in registered PDD, no justification is required.

E.7. Remarks on scale of small-scale project activity

Not applicable.

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Document information

Version	*Date*	*Description*
08.0	6 April 2021	Revision to: • Reflect the “Clarification: Regulatory requirements under temporary measures for post-2020 cases” (CDM-EB109-A01-CLAR).
07.0	31 May 2019	Revision to: • Ensure consistency with version 02.0 of the “CDM project standard for project activities” (CDM-EB93-A04-STAN); • Add a section on remarks on the observance of the scale limit of small-scale project activity during the crediting period; • Add "changes specific to afforestation or reforestation project activity" as a possible post-registration changes; • Clarify the reporting of net anthropogenic GHG removals for A/R project activities between two commitment periods; • Make editorial improvements.
06.0	7 June 2017	Revision to: • Ensure consistency with version 01.0 of the “CDM project standard for project activities” (CDM-EB93-A04-STAN); • Make editorial improvements.
05.1	4 May 2015	Editorial revision to correct version numbering.
05.0	1 April 2015	Revisions to: • Include provisions related to delayed submission of a monitoring plan; • Provisions related to the Host Party; • Remove reference to programme of activities; • Overall editorial improvement.
04.0	25 June 2014	Revisions to: • Include the Attachment: Instructions for filling out the monitoring report form (these instructions supersede the "Guideline: Completing the monitoring report form" (Version 04.0)); • Include provisions related to standardized baselines; • Add contact information on a responsible person(s)/ entity(ies) for completing the CDM-MR-FORM in A.6 and Appendix 1; • Change the reference number from *F-CDM-MR* to *CDM-MR-FORM*; • Editorial improvement.
03.2	5 November 2013	Editorial revision to correct table in page 1.
03.1	2 January 2013	Editorial revision to correct table in section E.5.

Version	*Date*	*Description*
03.0	3 December 2012	Revision required to introduce a provision on reporting actual emission reductions or net GHG removals by sinks for the period up to 31 December 2012 and the period from 1 January 2013 onwards (EB 70, Annex 11).
02.0	13 March 2012	Revision required to ensure consistency with the "Guidelines for completing the monitoring report form" (EB 66, Annex 20).
01.0	28 May 2010	EB 54, Annex 34. Initial adoption.

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