



CGN INNER MONGOLIA ZHURIHE PHASE I WIND FARM PROJECT

Document Prepared by

CGN Carbon Asset Management (Beijing) Co., Ltd.

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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

CGN Inner Mongolia Zhurihe Phase I Wind Farm Project is generating renewable electricity utilizing wind power and sells the generated output to the North China Power Grid (NCPG). The Project involves the installation of 25 wind turbines, each with a rated power output of 2000 kW, manufactured by Beijing Beizhong Stream Turbine Generator Co., Ltd, and the total installed capacity is 50MW. The ex-ante expected net generation of the project activity is approximately 123,962MWh per year, with a load factor of 28.30%.

The project started construction on 01/05/2008. The first wind turbine of the Project has been put into operation on 04/03/2009. And all the wind turbines have been put into operation on 13/04/2009.

According to the approved VCS PD for crediting period renewal with Version 02.1 dated 05/11/2021, the first renewable crediting period of the project has been updated from 04/03/2009~22/12/2009 to 04/03/2009~03/03/2019 and the second crediting period is from 04/03/2019~03/03/2029. The estimated emissions reductions of the project are 104,190 tCO₂e annually during the second crediting period.

The monitoring period of the MR is from 04/03/2019 to 31/12/2021. The total emission reductions achieved in this monitoring period are 256,089 tCO₂e, which are applying for VCS.

1.2 Sectoral Scope and Project Type

Sectoral Scope 1: Energy Industry (renewable/non-renewable sources)

Project type: Wind power project

The project is not a grouped project.

1.3 Project Proponent

Organization name	CGN Wind Power Co., Ltd.
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1.4 Other Entities Involved in the Project

Organization name	CGN Carbon Asset Management (Beijing) Co., Ltd.
Role in the Project	Consultancy
Contact person	Xu Xiansong
Title	Project Manager
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1.5 Project Start Date

The project started on 04/03/2009 (commissioning start date).

1.6 Project Crediting Period

This is the second crediting period. The start date of the crediting is 04/03/2019 and the end date of the crediting period is 03/03/2029. The total number of years for the crediting period is 10 years.

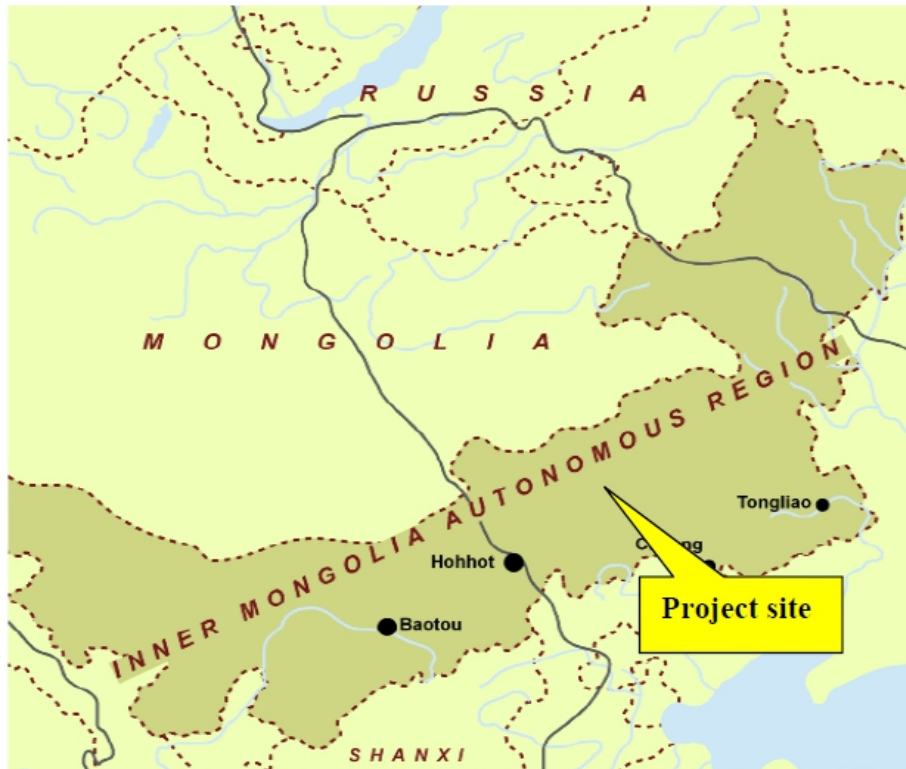
1.7 Project Location

CGN Inner Mongolia Zhurihe Phase I Wind Farm lies in the middle north part of Inner Mongolia Autonomy Region of People's Republic of China. It is located at the latitude 42°27'40" North and longitude 112°46'30". The average altitude of the project site is 1180 m above sea level. Figure A1 and A2 shows respectively the location of Xilinguole City in China map and the project site in the map of Inner Mongolia Autonomy Region.

Figure A1. The location of the proposed project in the map of P. R. China



Figure A2. The location of the proposed project in the map of Inner Mongolia Autonomous Region, P. R. China



1.8 Title and Reference of Methodology

Following approved baseline & monitoring methodology is applied:

Methodology:

ACM0002 “Grid-connected electricity generation from renewable sources” (Version 20.0)

Reference:

<https://cdm.unfccc.int/methodologies/DB/XP2LKUSA61DKUQC0PIWPGWDN8ED5PG>

The applied tools:

“Tool to calculate the emission factor for an electricity system” (Version 07.0)

Reference:

<https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-07-v7.0.pdf>

1.9 Participation under other GHG Programs

The project has been registered as a Clean Development Mechanism (CDM) project in UNFCCC on 23/12/2009 (UNFCCC Ref. 1577), with the 7 years crediting period started from 23/12/2009.

Total GHG emission reductions of 144,678 tCO₂ generated from 23/12/2009 to 28/02/2011 (both days included) by the project has been issued as CER under CDM program.

Total GHG emission reductions of 114,565 tCO₂ generated from 01/03/2011 to 31/05/2012 (both days included) by the project has been issued as CER under CDM program.

Total GHG emission reductions of 54,505 tCO₂ generated from 01/06/2012 to 31/12/2012 (both days included) by the project is awaiting issuance request as CER under CDM program.

Total GHG emission reductions of 268,802 tCO₂ generated from 01/01/2013 to 20/12/2016 (both days included) by the project has been issued as CER under CDM program.

Please refer to the following link for details.

<https://cdm.unfccc.int/Projects/DB/DNV-CUK1200642678.34/view?cp=1>

1.10 Other Forms of Credit

Emission Trading Programs and Other Binding Limits

The project has been registered as VCS project with Ref. VCS1182 and VCU of 80,706 tCO₂e have been issued for the monitoring period from 04/03/2009- 22/12/2009, and VCU of 237,397 tCO₂e have been issued for the monitoring period from 21/12/2016- 03/03/2019.

All credits from 04/03/2019 to 31/12/2021 will be only claimed under VCS program as VCU for the project to avoid double counting, which will not be used for compliance with emission trading programs or to meet binding limits on GHG emissions.

The project proponent CGN Wind Power Co., LTD as an enterprise for renewable energy investment, is not included in the compliance entity list by China national Emission Trading Scheme (ETS). Also, the project has not been registered as a CCER (Chinese Certified Emission Reductions) project in China, thus it is not eligible for emission reductions transaction under the China's ETS. Therefore, the project is not involved in an emission trading program or any other mechanism that includes GHG allowance trading. Furthermore, as a voluntary emission reduction project, the GHG emission reductions and removals generated by the project will not be enforced to be used for compliance in China.

Furthermore, as declared by the project proponent the credits in this monitoring period (04/03/2019 - 31/12/2021) has not been counted and will not be counted under other kind of GHG programs.

Other Forms of Environmental Credit

The project hasn't sought or received another form of environmental credits.

1.11 Sustainable Development Contributions

The power grid connected by the project is NCPG, which is dominated by the fossil-fuel fired power plants. The project utilizes the wind energy to generate electricity, which could increase electricity production from renewable sources, reduce the GHG and pollutants emission. Meanwhile, during the operation period, the project could also provide some employment opportunities to the local residents and enhance the local economic development.

Table 1: Sustainable Development Contributions

Row number	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Current Project Contributions	Contributions Over Project Lifetime
1)	7.b	7.b.1 Installed renewable energy/generating capacity in developing countries (in watts per capita)	Implemented activities to increase	No further changes this monitoring period.	The project involves the installation of 25 wind turbines, each of which has a rated output of 2,000 kW, providing a total installed capacity of 50 MW.
2)	13.0	Tonnes of greenhouse gas emissions avoided or removed	Implemented activities to increase	The project involves the installation of 25 wind turbines, each of which have a capacity of 2,000kW and total installed capacity of 50MW. The estimated emissions reductions of the project are 256,089 tCO ₂ e in this monitoring period.	An accumulated 1,156,742 tCO ₂ e of GHG emission reduction have been achieved by the project by end of the reporting period.

2 SAFEGUARDS

2.1 No Net Harm

According to clauses 13 and 19 of the Environmental Evaluation Law of the P.R.China, the project entity must analyze the environmental impacts of project activities in P.R.China before utilizing natural resources and beginning project construction. An Environmental Impact Assessment (EIA) for the CGN Inner Mongolia Zhurihe Phase I Wind Farm has been completed by Inner Mongolia Power Exploration & Design Institute assigned by the Project owner, and has been approved by the Environmental Protection Bureau of Inner Mongolia Autonomous Region. The EIA is summarized as follows:

1 The analysis of the environment impact in the construction period

Construction machinery and construction activity will generate noise. Since the local residential area is far away from the wind farm site, the impact of construction noise to the local region is light.

The waste water from the construction site is mainly the waste water generated by the construction workers. This small quantity of sewage will be treated by deposition in a septic tank, avoiding the impact on the environment. The waste water during the construction period, therefore, will have no impact on the local environment.

The project temporarily uses and disturbs the grass for construction use. The occupied land will be restored according to its characteristics after construction and will ensure its reutilization. Overall, land use impact on the local residents arising from the Project is considered to be insignificant.

2 The analysis of the environment impact in operation period

The noise from the wind turbines is reduced mainly by the selection of low noise equipment.

Furthermore the resident regions are far away from the wind farm, so the noise does not influence the residential districts nearest to the site.

Solid waste and liquid waste will be produced by operation staff during operation period. The emitted waste quantity is very small and might have no interference with the environment after treatment.

3. Conclusion

The Wind Farm does not put the much pressure on the local environment when generating renewable power. However it will bring great environmental benefit as well as the social benefit.

2.2 Local Stakeholder Consultation

Local stakeholders Consultation during the project preparation stage:

In Dec 2007, the staff from CGN Wind Power Co., Ltd. carried out a survey of the local villagers and residents in the area. 1 page questionnaire was designed to fill in and has the following sections

Following is a summary of the local survey. The survey forms are available from the project owner.

1 page questionnaire was designed to be easy to fill in and has the following sections:

Project introduction

Respondent's basic information and education level

Questions on:

1. Do you agree with the development of the Project?
2. Will the Project raise effects on your environment of living, studying and working?
3. Will construction, operation or decommissioning of the Project affect natural resources or ecosystems, such as water, habitats, etc?
4. Will the Project cause noise, vibration or release of electromagnetic radiation that could adversely affect your health?
5. Do you think the proposed project will have promotion in local economic development?
6. Do you have any suggestion about the project?

The survey had a 100% response rate and the following is a summary of the key findings (the questionnaires were sent to 30 households):

The people being surveyed as follows:

Gender	Male	6	20%
	Female	24	80%
Education	Elementary school	2	7%
	Junior high school	15	50%
	Senior high school	10	33%
	University or above	3	10%
Occupation	Officer	3	10%
	Worker	7	23%
	Farmer	16	54%
	Merchant	1	3%
	Others	3	10%

Their opinions

1. Will the Project raise effects on your environment of living, studying and working?	Yes	No	Not Sure
	0	97%	3%
2. Will construction, operation or decommissioning of the Project affect natural resources or ecosystems, such as water, habitats, etc?	Yes	No	Not Sure
	0	97%	3%
3. Will the Project cause noise, vibration or release of electromagnetic radiation that could adversely affect your health?	Yes	No	Not Sure
	0	93%	7%
4. Do you think the proposed project will have promotion in local economic development?	Yes	No	Unclear
	100%	0	0
5. Do you agree with the development of the Project?	Yes	No	No Concern
	100%	0	0

Conclusions from the survey:

The survey shows that the proposed project has strong local support among the local people. They all believe the proposed project will promote the local economic development and agree the project construction.

The villagers and local government are all supportive of the proposed project and to date there has been no need to modify the project design according to the comments received.

The project owner has an overall environment-friendly plan to guarantee that the project has the minimum negative impact on the environment during the project construction and operation.

Local stakeholder Consultation during the project implementation stage:

The project owner has set out the mechanism for on-going communication with local stakeholders and the communications with local stakeholders are being carried out at periodic intervals.

Firstly, stakeholders were informed of the status and progress of the project through the bulletin board on the village committee, and their comments can be recorded in the village committee's complaint book. This information is fed back to the project proponent by the contact person for a timely response.

Secondly, stakeholders can communicate and give feedback directly to the project proponent at any time through the published phone number of contact person.

Finally, the contract person of project owner also meets local villagers to collect their comments and suggestions yearly.

During this monitoring period, the project carried out the communication with local stakeholders in line with the mechanism. Village committee's complaint book were quarterly checked by the contact person, and the contact person visited the villages in March of 2019, 2020 and 2021 to communicate with stakeholders. Meanwhile, the local authority has also conducted spot checks on the implementation of the project yearly. There are no negative comments received for the project during this monitoring period. In line with VCS requirements all the processed have been implemented to receive comments from local stakeholders as well as communicate with them.

2.3 AFOLU-Specific Safeguards

The project is not AFOLU project.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The Project involves the installation of 25 wind turbines (type: BZD80-2000), each with a rated power output of 2000 kW, manufactured by Beijing Beizhong Stream Turbine Generator Co., Ltd, and the total installed capacity is 50MW. The project activity was started construction on 01/05/2008. The first turbine was commissioned on 04/03/2009, and all the wind turbines have been put into operation gradually till 13/04/2009, and well operated during this monitoring period. The main specifications of the turbine/generator are listed as below Table:

Item	Unit	Index
Type	-	BZD80-2000
Rated capacity	kW	2000
Number of blades		3
Rotor diameter	m	80

Cut-in speed	m/s	3.0
Rated wind speed	m/s	13.5
Cut-off speed	m/s	25
Height of hub	m	80
Rated voltage	V	690

During this monitoring period, the wind farm has a good running, smooth data transfer and grid connection, and no special events happened.

No events or situations occurred during the monitoring period, which may impact the applicability of the methodology.

3.2 Deviations

2.1.1 Methodology Deviations

There are no methodology deviations applied during this monitoring period.

2.1.2 Project Description Deviations

There are no project description deviations applied during this monitoring period.

3.3 Grouped Projects

The project is not a grouped project.

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	EF_{grid,CM,y}
Data unit	tCO ₂ e/ MWh
Description	The combined baseline grid emission factor for NCPG
Source of data	"Tool to calculate the emission factor for an electricity system version 07.0"
Value applied	0.8405
Justification of choice of data or description of measurement methods and procedures applied	As per the requirements in "Tool to calculate the emission factor for an electricity system version 07.0".

Purpose of Data	Calculation of baseline emissions
Comments	Calculated ex ante and fixed for the second crediting period

Data / Parameter	$EF_{grid,OM,y}$
Data unit	tCO ₂ e/ MWh
Description	Operating Margin Emission Factor for NCPG
Source of data	“2017 Baseline Emission Factors for Regional Power Grids in China” published by China DNA
Value applied	0.9680
Justification of choice of data or description of measurement methods and procedures applied	As per the requirements in “Tool to calculate the emission factor for an electricity system version 07.0”.
Purpose of Data	Calculation of baseline emissions
Comments	Calculated ex ante and fixed for the second crediting period

Data / Parameter	$EF_{grid,BM,y}$
Data unit	tCO ₂ e/ MWh
Description	Build Margin Emission Factor for NCPG
Source of data	“2017 Baseline Emission Factors for Regional Power Grids in China” published by China DNA
Value applied	0.4578
Justification of choice of data or description of measurement methods and procedures applied	As per the requirements in “Tool to calculate the emission factor for an electricity system version 07.0”.
Purpose of Data	Calculation of baseline emissions
Comments	Calculated ex ante and fixed for the second crediting period

Data / Parameter	ω_{OM}
Data unit	-
Description	Weighting of operating margin emissions factor
Source of data	“Tool to calculate the emission factor for an electricity system version 07.0”
Value applied	0.75
Justification of choice of	As per the requirements in “Tool to calculate the emission factor for an

data or description of measurement methods and procedures applied	electricity system version 07.0".
Purpose of Data	Calculation of $EF_{grid,CM,y}$
Comments	Calculated ex ante and fixed for the second crediting period

Data / Parameter	ω_{BM}
Data unit	-
Description	Weighting of build margin emissions factor
Source of data	"Tool to calculate the emission factor for an electricity system version 07.0"
Value applied	0.25
Justification of choice of data or description of measurement methods and procedures applied	As per the requirements in "Tool to calculate the emission factor for an electricity system version 07.0".
Purpose of Data	Calculation of $EF_{grid,CM,y}$
Comments	Calculated ex ante and fixed for the second crediting period

4.2 Data and Parameters Monitored

Data / Parameter	$EG_{facility,y}$
Data unit	MWh
Description	Quantity of net electricity generation supplied by the project plant/unit in year y.
Source of data	Calculated according to the equation in section 4.3.
Description of measurement methods and procedures to be applied	The Quantity of net electricity generation supplied by the project plant/unit in year y. The parameter will be calculated through $EG_{export,y}$, $EG_{import,y}$, $EG_{project-i,y}$, $EG_{A-i,y}$, $EG_{B-i,y}$ and $EG_{C-i,y}$ according to the equation in section 4.3 and designated person record the readings of the main meter each month.
Frequency of monitoring/recording	Continuous measurement and monthly recording
Value monitored	304,688.74 MWh
Monitoring equipment	Electricity meters.
QA/QC procedures to be applied	Power supplied to the grid will be checked by internal verification procedure and electricity sales receipts. Data will be archived for 2 years following the end of the last crediting period.

Purpose of the data	Calculation of baseline emissions
Calculation method	Calculated according to the equation in section 4.3.
Comments	-

Data / Parameter	$EG_{\text{export},y}$
Data unit	MWh
Description	Total electricity supplied to the grid by the Project, Project A (CGN Inner Mongolia Zhurihe Phase II Wind Farm Project), Project B (CGN Inner Mongolia Zhurihe Phase III Wind Farm Project), and Project C (CGN Inner Mongolia Zhurihe Phase IV Wind Farm Project) during year y.
Source of data	Bidirectional electricity meter reading of Main meter or Backup meter installed at the substation.
Description of measurement methods and procedures to be applied	The readings of the electricity meter will be hourly measured and monthly recorded. Data will be archived for 2 years following the end of the crediting period by means of electronic and paper backup. The accuracy of electricity meter is 0.2S. The calibration frequency is one time/year according to the national calibration standard (DL/T448-2016). Designated person records the readings of the main meter each month.
Frequency of monitoring/recording	Continuously measured and monthly recorded
Value monitored	1,275,523.75 MWh
Monitoring equipment	The Main meter or Backup meter installed at the substation.
QA/QC procedures to be applied	The electricity supplied by the project activity to the grid will be monitored and recorded at the central control room. The project operator is responsible for recording such data. Double check by receipt of sales.
Purpose of the data	Calculation of baseline emissions
Calculation method	Not applicable
Comments	The reading from the main meter is first choice. When the main meter is out of order, the reading from the backup meter will be used.

Data / Parameter	$EG_{\text{import},y}$
Data unit	MWh
Description	Total electricity purchased from the grid by the Project, Project A (CGN Inner Mongolia Zhurihe Phase II Wind Farm Project), Project B (CGN Inner Mongolia Zhurihe Phase III Wind Farm Project), and Project C (CGN Inner Mongolia Zhurihe Phase IV Wind Farm Project) during year y.
Source of data	Bidirectional electricity meter reading of Main meter or Backup meter installed at the substation.
Description of	The readings of the electricity meter are hourly measured and monthly recorded. Data will be archived for 2 years following the end of the

measurement methods and procedures to be applied	crediting period by means of electronic and paper backup. The accuracy of electricity meter is 0.2S. The calibration frequency is one time/year according to the national calibration standard (DL/T448-2016). Designated person records the readings of the main meter each month.
Frequency of monitoring/recording	Continuously measured and monthly recorded
Value monitored	3,000.96MWh
Monitoring equipment	The Main meter or Backup meter installed at the substation.
QA/QC procedures to be applied	The electricity supplied by the project activity to the grid will be monitored and recorded at the central control room. The project operator is responsible for recording such data. Double check by receipt of sales.
Purpose of the data	Calculation of baseline emissions
Calculation method	Not applicable
Comments	The total electricity purchased from the grid by the Project, Project A, Project B and Project C is deemed as the electricity purchased from the grid by the Project when calculating emission reductions, which is conservative

Data / Parameter	$EG_{\text{project-i, y}}$
Data unit	MWh
Description	Quantity of electricity supplied to the grid by Group project-i (i=1,2,3,4) of the Project in year y.
Source of data	Readings of electricity meters (M1, M2, M3 and M4) installed at the transmission line of the project site.
Description of measurement methods and procedures to be applied	The readings of the electricity meters are continuously measured and monthly recorded. Data will be archived for 2 years following the end of the last crediting period by means of electronic and paper backup. The calibration frequency is once a year. The accuracy of electricity meter is no less than 0.5S. The calibration frequency is one time/year according to the national calibration standard (DL/T448-2016). Designated person records the readings of the meters each month.
Frequency of monitoring/recording	Continuously measured and monthly recorded
Value monitored	310,933.08 MWh
Monitoring equipment	Electricity meters (M1, M2, M3 and M4) installed at the transmission line of the project site.
QA/QC procedures to be applied	The metering equipments at the substation will be calibrated once a year according to the management standard DL/T448-2016.
Purpose of the data	Calculation of baseline emissions

Calculation method	Not applicable
Comments	-

Data / Parameter	EG _{A-i, y}
Data unit	MWh
Description	Quantity of electricity supplied to the grid by Group project-i (i=1,2,3,4) of the Project A in year y.
Source of data	Readings of electricity meters (M5, M6, M7 and M8) installed at the site of project A.
Description of measurement methods and procedures to be applied	The readings of the electricity meters are continuously measured and monthly recorded. Data will be archived for 2 years following the end of the last crediting period by means of electronic and paper backup. The calibration frequency is once a year. The accuracy of electricity meter is no less than 0.5S. The calibration frequency is one time/year according to the national calibration standard (DL/T448-2016). Designated person records the readings of the meters each month.
Frequency of monitoring/recording	Continuously measured and monthly recorded
Value monitored	309,299.25MWh
Monitoring equipment	Electricity meters (M5, M6, M7 and M8) installed at the site of project A.
QA/QC procedures to be applied	The metering equipments at the substation are calibrated once a year according to the management standard DL/T448-2016.
Purpose of the data	Calculation of baseline emissions
Calculation method	Not applicable
Comments	-

Data / Parameter	EG _{B-i, y}
Data unit	MWh
Description	Quantity of electricity supplied to the grid by Group project-i (i=1,2,3,4) of the Project B in year y.
Source of data	Readings of electricity meters (M9, M10, M11 and M12) installed at the site of project B.
Description of measurement methods and procedures to be applied	The readings of the electricity meters are continuously measured and monthly recorded. Data will be archived for 2 years following the end of the last crediting period by means of electronic and The accuracy of electricity meter is no less than 0.5S. The calibration frequency is one time/year according to the national calibration standard (DL/T448-2016). Designated person records the readings of the meters each month.
Frequency of	Continuously measured and monthly recorded

monitoring/recording	
Value monitored	327,168.87MWh
Monitoring equipment	Electricity meters (M9, M10, M11 and M12) installed at the site of project B
QA/QC procedures to be applied	The metering equipments at the substation are calibrated once a year according to the management standard DL/T448-2016.
Purpose of the data	Calculation of baseline emissions
Calculation method	Not applicable
Comments	-

Data / Parameter	$EG_{C-i,y}$
Data unit	MWh
Description	Quantity of electricity supplied to the grid by Group project-i (i=1,2,3,4) of the Project C in year y.
Source of data	Readings of electricity meters (M13, M14, and M15) installed at the site of project C.
Description of measurement methods and procedures to be applied	The readings of the electricity meters are continuously measured and monthly recorded. Data will be archived for 2 years following the end of the last crediting period by means of electronic and paper backup. The calibration frequency is once a year. The accuracy of electricity meter is no less than 0.5S. The calibration frequency is one time/year according to the national calibration standard (DL/T448-2016). Designated person records the readings of the meters each month.
Frequency of monitoring/recording	Continuously measured and monthly recorded
Value monitored	341,601.64MWh
Monitoring equipment	Electricity meters (M13, M14, and M15) installed at the site of project C
QA/QC procedures to be applied	The metering equipments at the substation will be calibrated once a year according to the management standard DL/T448-2016.
Purpose of the data	Calculation of baseline emissions
Calculation method	Not applicable
Comments	-

Information of monitoring equipment

Meters	Accuracy Class	Serial number	Date of calibration	Results of calibration	Validity period
Main meter	0.2s	95232541	10/02/2019	Valid	09/02/2020

Meters	Accuracy Class	Serial number	Date of calibration	Results of calibration	Validity period
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022
Backup meter	0.2s	95232545	10/02/2019	Valid	09/02/2020
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022
M1	0.5s	96716256	10/02/2019	Valid	09/02/2020
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022
M2	0.5s	96716255	10/02/2019	Valid	09/02/2020
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022
M3	0.5s	96716257	10/02/2019	Valid	09/02/2020
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022
M4	0.5s	94316656	10/02/2019	Valid	09/02/2020
		96716282 ¹	03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022
M5	0.5s	96716250	10/02/2019	Valid	09/02/2020
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022
M6	0.5s	96716251	10/02/2019	Valid	09/02/2020
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022

¹ The meter M4 has been replaced on 03/02/2020 due to the regular inspection, the new serial number of M4 is 96716282. The meter of M4 was replaced according to relative rules, and the Meter Replacement Record has been approved by the Electric Trading Centre of Inner Mongolia Power Group, so the replacement of the meter M4 has no impact on the electricity monitoring of the project.

Meters	Accuracy Class	Serial number	Date of calibration	Results of calibration	Validity period
M7	0.5s	96716259	10/02/2019	Valid	09/02/2020
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022
M8	0.5s	96716254	10/02/2019	Valid	09/02/2020
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022
M9	0.5s	96716253	10/02/2019	Valid	09/02/2020
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022
M10	0.5s	87565489	10/02/2019	Valid	09/02/2020
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022
M11	0.5s	96716258	10/02/2019	Valid	09/02/2020
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022
M12	0.5s	96716252	10/02/2019	Valid	09/02/2020
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022
M13	0.5s	09040060580392	10/02/2019	Valid	09/02/2020
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022
M14	0.5s	09040060580383	10/02/2019	Valid	09/02/2020
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022
M15	0.5s	09040060580381	10/02/2019	Valid	09/02/2020
			03/02/2020	Valid	02/02/2021
			29/01/2021	Valid	28/01/2022

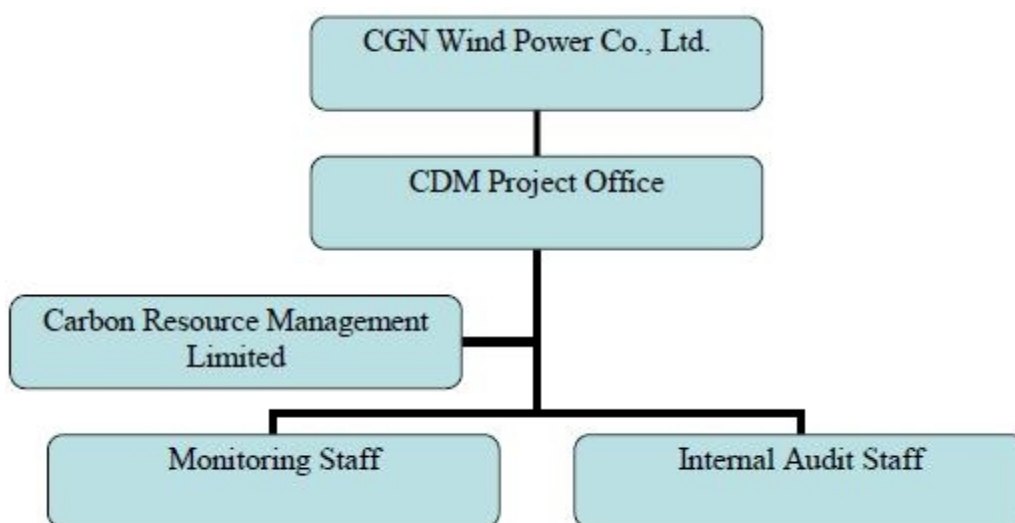
4.3 Monitoring Plan

The monitoring system is specified as below:

Organizational structure and responsibilities

Overall responsibility for monitoring and carrying out the monitoring following this monitoring plan lies with the CGN Wind Power Co., Ltd. had advised the project developer on how to perform the monitoring work. The staffs who were responsible for electricity meter readings and recording, and who were responsible for auditing the metered data had been trained according to the VCS requirements.

The operating and management structure of monitoring is illustrated as follows:



Monitoring Program and Equipments

Total electricity supplied to the grid by the Project, Project A, Project B, and Project C ($EG_{\text{export},y}$) and total electricity purchased from the grid by the Project, Project A, Project B, and Project C ($EG_{\text{import},y}$) are continuously measured by the main meter installed at the substation. The main and the back-up meter's precision is 0.2S, and is bidirectional, recording both electricity delivered to the grid and electricity purchased from the grid; The quantity of net electricity generation supplied to the grid by the project ($EG_{\text{facility},y}$) is calculated through $EG_{\text{export},y}$, $EG_{\text{import},y}$, $EG_{\text{project-i},y}$, $EG_{\text{A-i},y}$, $EG_{\text{B-i},y}$ and $EG_{\text{C-i},y}$ according to the equation below.

Currently, the project activity shares the same transformer, substation and transmission line with other three wind farms, named CGN Inner Mongolia Zhurihe Phase II Wind Farm Project (UNFCCC ref. No. 3453, hereafter referred to as Project A, commissioned on 06/01/2010), CGN Inner Mongolia Zhurihe Phase III Wind Farm Project (project title in its PDD is CGN Inner Mongolia Suniteyouqi Phase 3 Windfarm Project, UNFCCC Ref. 5746, hereafter referred to as Project B, commissioned on 01/05/2011) and CGN Inner Mongolia Zhurihe Phase IV Wind Farm Project, hereafter referred to as Project C. Besides, if the project has to share the same transformer, substation or transmission line with some other wind farms,

appropriate additional meters will be installed. Therefore, separate meters M1~M15 are installed at the project site so that the electricity generation can be monitored for each wind farm separately for calculating the share of this wind farm of the total net electricity exported to the grid. M1~M4 are installed in Line1#~4# respectively to monitor the generation from the project activity; M5~M8 are installed in Line5#~8# respectively to monitor the generation from Project A; M9~M12 are installed in Line9#~12# respectively to monitor the generation from Project B; M13~M15 are installed in Line13#~15# respectively to monitor the generation from Project C.

Therefore, the electricity generation can be monitored respectively to calculate the share of this wind farm of the total net exported electricity to the grid ($EG_{export,y}$).

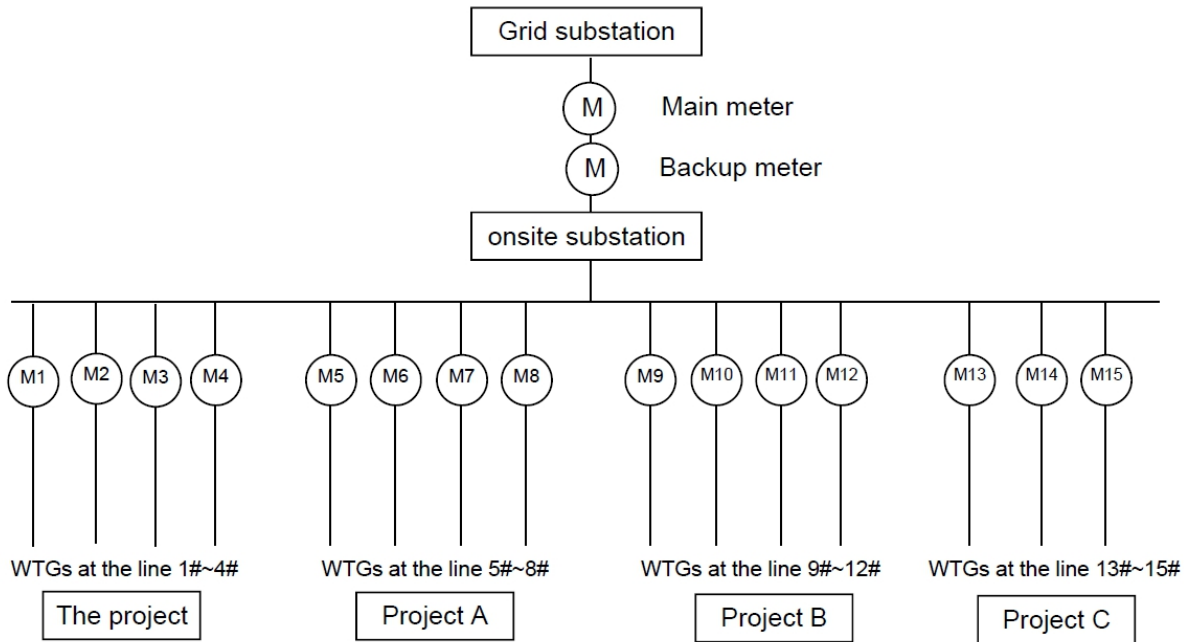
The quantity of net electricity generation supplied by the project activity ($EG_{facility,y}$) is calculated as follows:

$$EG_{facility,y} = \frac{\sum_{i=1,2,3,4} EG_{project-i,y}}{\sum_{i=1,2,3,4} EG_{project-i,y} + \sum_{i=1,2,3,4} EG_{A-i,y} + \sum_{i=1,2,3,4} EG_{B-i,y} + \sum_{i=1,2,3,4} EG_{C-i,y}} \times EG_{export,y} - EG_{import,y}$$

Where:

- $EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y.
- $EG_{export,y}$ = Total electricity supplied to the grid by the Project, Project A (CGN Inner Mongolia Zhurihe Phase II Wind Farm Project), Project B (CGN Inner Mongolia Zhurihe Phase III Wind Farm Project), and Project C (CGN Inner Mongolia Zhurihe Phase IV Wind Farm Project) during year y.
- $EG_{import,y}$ = Total electricity purchased from the grid by the Project, Project A (CGN Inner Mongolia Zhurihe Phase II Wind Farm Project), Project B (CGN Inner Mongolia Zhurihe Phase III Wind Farm Project), and Project C (CGN Inner Mongolia Zhurihe Phase IV Wind Farm Project) during year y.
- $EG_{project-i,y}$ = Quantity of electricity supplied to the grid by Group project-i (i=1,2,3,4) of the Project in year y.
- $EG_{A-i,y}$ = Quantity of electricity supplied to the grid by Group project-i (i=1,2,3,4) of the Project A in year y.
- $EG_{B-i,y}$ = Quantity of electricity supplied to the grid by Group project-i (i=1,2,3,4) of the Project B in year y.
- $EG_{C-i,y}$ = Quantity of electricity supplied to the grid by Group project-i (i=1,2,3,4) of the Project C in year y.

The location of the main meter, backup meter, separate meters in relation to the grid, project, other project transmission lines are displayed as following diagram:



The location of meters

Training

The VCS project management office assigns and trains the dedicated people carrying out the monitoring work. Mr. Zhao Jingjing completes the monitoring personnel training before the registration, further training work is completed with the preliminary verification.

Installation of meters

Total electricity supplied to the grid by the Project, Project A, Project B, and Project C ($EG_{\text{export},y}$) and total electricity purchased from the grid by the Project, Project A, Project B, and Project C ($EG_{\text{import},y}$) are continuously measured by the main meter installed at the substation. The main and the back-up meter's precision is 0.2S, and is bidirectional, recording both electricity delivered to the grid and electricity purchased from the grid; The quantity of net electricity generation supplied to the grid by the project is calculated to the grid by the project is calculated through $EG_{\text{export},y}$, $EG_{\text{import},y}$, $EG_{\text{project},y}$, $EG_{A,y}$, $EG_{B,y}$ and $EG_{C,y}$ according to the equation .

Every month the wind farm obtains the net on-grid electricity supplied from the substation. The net generation monitored by these meters suffice for the purpose of billing and emission reductions, as long as the error in the meters is within the agreed limits. The primary meter used for billing (at the substation) also is the primary meter used for emission reduction calculations.

In addition, at the project site, electricity from the turbines and the transmission lines connected to the turbines is monitored, and these data is the references to the net power supply to the grid.

Calibration of Meters & Metering

The metering equipments are calibrated and checked for accuracy in accordance with industry standards. The metering equipments have sufficient accuracy so that any error resulting from such equipment shall not exceed 0.5% of full-scale rating. The net generation output registered by the meters alone suffice for the purpose of billing and emission reduction verification as long as the error in the meters is within the agreed limits.

Both meters shall be jointly inspected and sealed on behalf of the parties concerned and shall not be interfered with by either party except in the presence of the other party or its accredited representatives.

Calibration is carried out by the qualified entity with the records being supplied to CGN Wind Power Co., Ltd. and these records are maintained by CGN Wind Power Co., Ltd. and the entity appointed by DOE.

All the meters installed are tested by qualified entity after: the detection of a difference larger than the allowable error in the readings of both meters; the repair of all or part of meter caused by the failure of one or more parts to operate in accordance with the specifications.

If any errors are detected the party owning the meter shall repair, recalibrate or replace the meter giving the other party sufficient notice to allow a representative to attend during any corrective activity.

Emergency procedures

The meters were calibrated and checked annually for accuracy. Calibration was carried out by the qualified entity. Meters had been jointly inspected and sealed on behalf of the parties concerned.

Should any previous months reading of the main meter be inaccurate by more than the allowable error, or otherwise functioned improperly, the net generation output shall be determined by:

- (a) Firstly, by reading backup meter, unless a test by either party reveals it is inaccurate;
- (b) If the backup system is not within acceptable limits of accuracy or operation is performed improperly the project operator and NCPG shall jointly prepare a reasonable and conservative estimate of the correct reading, and provide sufficient evidence that this estimation is reasonable and conservative.

Quality Assurance and Quality Control

The calibration of meters is conducted by an authorized organization with a frequency of no less than once every year to ensure accuracy in accordance with the relevant national and industrial regulation which is 'Technical Administrative Code of Electric Energy Metering'(DL/T448-2016). Data and records are checked prior to being recorded and archived.

Training on VCS monitoring has been provided to the relevant staff to guarantee the implementation of the monitoring plan. Meanwhile, monthly net generation data is approved and signed off by VCS manager

before it is accepted and stored. This audit checks compliance with operational procedures in this monitoring plan.

This internal audit also identifies potential improvements to procedures to improve monitoring and reporting in future years. If such improvements are these will be reported to the DOE and only operated after approval from the DOE.

Data collection and data management system

Physical document such as paper-based maps, diagrams and environmental assessments are collated in a central place, together with this monitoring plan. In order to facilitate auditors' reference of relevant literature relating to the CGN Inner Mongolia Zhurihe Phase I Wind Farm project, the project material and monitoring results are indexed. All paper-based information is stored by the technology department of CGN Wind Power Co., Ltd. and all the material have a copy for backup.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

In accordance with the ACM0002, baseline emissions are calculated according to the following formula:

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

The detailed calculation of EG_y is calculated below:

Monitoring Period		Electricity generation of the project activity metered by the separate meters				EG _{project}
		#1	#2	#3	#4	Total
Start	End	A	B	C	D	E=A+B+C+D
04/03/2019	20/03/2019	1,384.97	1,311.96	1,179.61	1,686.64	5,563.18
21/03/2019	20/04/2019	2,736.59	2,443.25	2,249.22	2,988.21	10,417.27
21/04/2019	20/05/2019	2,753.15	2,816.54	2,861.10	2,943.71	11,374.50
21/05/2019	20/06/2019	1,747.51	1,805.46	1,885.26	2,559.12	7,997.35
21/06/2019	20/07/2019	985.73	778.68	865.05	1,245.48	3,874.94
21/07/2019	20/08/2019	1,301.94	1,259.87	1,493.97	1,727.95	5,783.73

21/08/2019	20/09/2019	1,128.37	1,092.03	1,358.66	1,605.42	5,184.48
21/09/2019	20/10/2019	2,213.61	1,975.06	2,275.37	2,066.37	8,530.41
21/10/2019	20/11/2019	1,993.03	2,422.76	2,649.14	2,855.10	9,920.03
21/11/2019	20/12/2019	3,617.28	2,761.32	2,884.49	4,053.46	13,316.55
21/12/2019	31/12/2019	879.89	1,141.20	835.43	1,395.80	4,252.32
01/01/2020	20/01/2020	1,504.85	1,858.91	1,377.09	1,926.29	6,667.14
21/01/2020	20/02/2020	1,447.14	1,748.25	1,570.94	1,780.14	6,546.47
21/02/2020	20/03/2020	2,477.52	2,847.84	2,700.01	2,833.08	10,858.45
21/03/2020	20/04/2020	2,083.00	1,921.32	2,008.13	3,052.51	9,064.96
21/04/2020	20/05/2020	2,657.13	2,788.72	2,859.94	3,169.06	11,474.85
21/05/2020	20/06/2020	2,546.54	2,291.91	2,520.74	2,264.23	9,623.42
21/06/2020	20/07/2020	1,546.40	1,885.39	1,505.95	1,939.29	6,877.03
21/07/2020	20/08/2020	1,356.51	1,440.29	1,453.01	2,151.60	6,401.41
21/08/2020	20/09/2020	1,495.69	1,651.33	1,732.81	1,504.63	6,384.46
21/09/2020	20/10/2020	2,968.22	2,783.25	3,085.80	2,767.19	11,604.46
21/10/2020	20/11/2020	2,054.94	2,051.57	1,900.43	3,101.16	9,108.10
21/11/2020	20/12/2020	3,723.79	4,462.31	3,676.63	4,374.40	16,237.13
21/12/2020	31/12/2020	1,106.77	1,125.66	1,184.13	1,594.40	5,010.96
01/01/2021	20/01/2021	2,721.86	2,436.30	2,859.57	1,831.78	9,849.51
21/01/2021	20/02/2021	2,251.99	1,892.15	2,365.72	2,319.83	8,829.69
21/02/2021	20/03/2021	2,084.57	1,876.27	1,987.56	2,229.22	8,177.62
21/03/2021	20/04/2021	2,269.99	2,148.93	2,054.40	3,226.79	9,700.11
21/04/2021	20/05/2021	2,480.86	2,719.51	2,215.91	3,225.22	10,641.50
21/05/2021	20/06/2021	1,564.44	2,111.99	1,660.06	2,478.07	7,814.56
21/06/2021	20/07/2021	996.99	1,048.35	1,118.36	1,734.14	4,897.84
21/07/2021	20/08/2021	1,377.54	1,548.02	1,477.00	1,976.35	6,378.91
21/08/2021	20/09/2021	1,107.46	956.53	931.51	1,538.07	4,533.57
21/09/2021	20/10/2021	1,257.47	1,505.38	1,494.98	1,487.13	5,744.96
21/10/2021	20/11/2021	2,970.80	3,758.53	3,067.40	4,192.87	13,989.60
21/11/2021	20/12/2021	2,962.62	3,177.48	3,288.07	4,586.48	14,014.65

21/12/2021	31/12/2021	1,066.01	973.19	943.54	1,304.22	4,286.96
Total						310,933.08
Monitoring Period		Electricity generation of the other Project A metered by the separate meters				EG _A
		#5	#6	#7	#8	Total
Start	End	F	G	H	I	J=F+G+H+I
04/03/2019	20/03/2019	1,356.59	1,460.72	1,300.64	1,799.22	5,917.17
21/03/2019	20/04/2019	2,342.02	2,535.99	2,224.25	3,183.47	10,285.73
21/04/2019	20/05/2019	2,857.91	2,886.72	2,533.25	2,993.38	11,271.26
21/05/2019	20/06/2019	1,862.74	1,866.58	2,113.98	2,214.00	8,057.30
21/06/2019	20/07/2019	773.20	973.99	906.47	1,167.87	3,821.53
21/07/2019	20/08/2019	1,424.72	1,543.86	1,240.62	1,505.87	5,715.07
21/08/2019	20/09/2019	1,305.52	1,249.02	1,240.41	1,547.63	5,342.58
21/09/2019	20/10/2019	1,947.24	2,229.57	1,968.81	2,545.15	8,690.77
21/10/2019	20/11/2019	2,533.67	2,648.73	2,593.75	2,616.79	10,392.94
21/11/2019	20/12/2019	3,467.28	3,056.79	2,920.01	3,970.75	13,414.83
21/12/2019	31/12/2019	1,034.88	1,106.53	1,092.97	942.20	4,176.58
01/01/2020	20/01/2020	1,747.70	1,837.24	1,756.53	1,543.76	6,885.23
21/01/2020	20/02/2020	1,599.48	1,352.81	1,442.40	2,330.90	6,725.59
21/02/2020	20/03/2020	2,495.39	2,445.98	2,239.62	3,717.66	10,898.65
21/03/2020	20/04/2020	1,924.27	2,314.54	2,102.02	2,687.82	9,028.65
21/04/2020	20/05/2020	2,757.28	2,696.76	2,930.38	3,098.62	11,483.04
21/05/2020	20/06/2020	2,095.38	2,254.30	2,236.42	2,983.75	9,569.85
21/06/2020	20/07/2020	1,628.19	1,730.25	1,794.22	1,652.70	6,805.36
21/07/2020	20/08/2020	1,436.16	1,685.69	1,674.12	1,630.92	6,426.89
21/08/2020	20/09/2020	1,413.85	1,607.19	1,287.03	1,989.91	6,297.98
21/09/2020	20/10/2020	2,886.14	2,655.27	2,790.34	3,548.10	11,879.85
21/10/2020	20/11/2020	2,284.96	2,371.26	2,188.33	2,470.86	9,315.41
21/11/2020	20/12/2020	4,616.60	3,689.15	4,595.63	4,101.29	17,002.67
21/12/2020	31/12/2020	1,026.10	1,167.08	1,088.10	1,421.82	4,703.10

01/01/2021	20/01/2021	2,042.23	2,049.53	2,297.61	3,241.92	9,631.29
21/01/2021	20/02/2021	1,774.83	2,385.31	1,789.37	2,740.57	8,690.08
21/02/2021	20/03/2021	1,935.14	1,905.71	1,811.63	1,980.66	7,633.14
21/03/2021	20/04/2021	2,229.65	1,937.43	2,310.74	2,435.55	8,913.37
21/04/2021	20/05/2021	2,445.30	2,308.33	2,076.04	2,765.38	9,595.05
21/05/2021	20/06/2021	1,653.90	1,677.22	1,678.44	2,032.39	7,041.95
21/06/2021	20/07/2021	1,184.45	1,232.95	1,052.52	1,301.99	4,771.91
21/07/2021	20/08/2021	1,379.36	1,595.20	1,480.85	1,819.44	6,274.85
21/08/2021	20/09/2021	932.15	1,218.31	934.85	1,389.19	4,474.50
21/09/2021	20/10/2021	1,509.42	1,248.59	1,392.77	1,767.85	5,918.63
21/10/2021	20/11/2021	3,827.61	3,654.48	3,077.94	3,717.82	14,277.85
21/11/2021	20/12/2021	3,883.94	3,076.40	3,672.22	3,739.96	14,372.52
21/12/2021	31/12/2021	965.28	848.47	742.97	1,039.36	3,596.08
Total						309,299.25
Monitoring Period		Electricity generation of the other Project B metered by the separate meters				EG _B
		#9	#10	#11	#12	Total
Start	End	K	L	M	N	O=K+L+M+N
04/03/2019	20/03/2019	1,601.50	1,551.59	1,532.77	1,286.43	5,972.29
21/03/2019	20/04/2019	2,628.30	2,638.87	2,870.27	3,422.64	11,560.08
21/04/2019	20/05/2019	3,248.84	3,520.65	3,486.21	3,009.26	13,264.96
21/05/2019	20/06/2019	2,469.34	2,571.91	2,177.62	2,397.05	9,615.92
21/06/2019	20/07/2019	1,365.95	1,073.34	1,075.92	1,497.11	5,012.32
21/07/2019	20/08/2019	1,494.73	1,792.03	1,832.57	1,838.54	6,957.87
21/08/2019	20/09/2019	1,394.96	1,508.52	1,461.35	1,504.47	5,869.30
21/09/2019	20/10/2019	2,718.52	2,975.00	3,167.51	3,522.54	12,383.57
21/10/2019	20/11/2019	3,037.04	3,010.77	2,400.54	2,837.46	11,285.81
21/11/2019	20/12/2019	3,067.51	3,483.49	3,073.12	4,240.04	13,864.16
21/12/2019	31/12/2019	968.30	878.25	826.78	969.37	3,642.70
01/01/2020	20/01/2020	1,616.83	1,518.94	1,384.24	1,683.60	6,203.61

21/01/2020	20/02/2020	1,439.63	1,315.45	1,348.67	2,472.11	6,575.86
21/02/2020	20/03/2020	2,967.90	2,672.19	2,309.24	2,855.59	10,804.92
21/03/2020	20/04/2020	2,469.50	2,472.53	2,272.07	2,710.80	9,924.90
21/04/2020	20/05/2020	3,095.92	2,292.21	2,640.01	3,416.82	11,444.96
21/05/2020	20/06/2020	2,605.19	2,372.20	2,389.13	2,386.95	9,753.47
21/06/2020	20/07/2020	1,367.70	1,351.65	1,614.81	1,901.21	6,235.37
21/07/2020	20/08/2020	1,450.30	1,528.29	1,439.17	2,182.56	6,600.32
21/08/2020	20/09/2020	1,208.28	1,290.98	1,224.83	2,076.11	5,800.20
21/09/2020	20/10/2020	2,739.07	2,623.35	2,780.51	2,985.25	11,128.18
21/10/2020	20/11/2020	2,128.60	2,248.25	2,205.64	2,541.88	9,124.37
21/11/2020	20/12/2020	4,532.19	4,450.10	3,434.58	4,513.97	16,930.84
21/12/2020	31/12/2020	1,490.13	1,524.10	1,194.19	1,384.26	5,592.68
01/01/2021	20/01/2021	2,193.60	2,168.19	2,883.77	3,127.16	10,372.72
21/01/2021	20/02/2021	2,334.12	2,683.80	2,393.11	2,455.34	9,866.37
21/02/2021	20/03/2021	2,683.47	2,518.65	2,187.70	2,571.56	9,961.38
21/03/2021	20/04/2021	2,493.61	2,087.37	2,361.76	3,109.76	10,052.50
21/04/2021	20/05/2021	2,500.67	2,774.59	3,039.94	3,682.32	11,997.52
21/05/2021	20/06/2021	1,893.85	1,722.63	2,161.81	2,698.71	8,477.00
21/06/2021	20/07/2021	1,227.15	1,240.63	1,227.60	1,217.98	4,913.36
21/07/2021	20/08/2021	1,607.89	1,613.14	1,799.66	1,561.67	6,582.36
21/08/2021	20/09/2021	1,118.69	967.86	1,038.52	1,415.14	4,540.21
21/09/2021	20/10/2021	1,354.87	1,405.23	1,253.11	1,105.63	5,118.84
21/10/2021	20/11/2021	2,922.81	3,058.74	3,144.75	3,389.70	12,516.00
21/11/2021	20/12/2021	3,545.56	3,733.08	3,615.41	2,752.94	13,646.99
21/12/2021	31/12/2021	895.47	873.74	851.58	954.17	3,574.96
Total						327,168.87
Monitoring Period		Electricity generation of the other Project C metered by the separate meters		EG _c		
		#13	#14	#15	Total	
Start	End	P	Q	R	S=P+Q+R	

04/03/2019	20/03/2019	2,468.39	2,203.78	3,041.02	7,713.19
21/03/2019	20/04/2019	4,547.52	4,555.30	4,419.81	13,522.63
21/04/2019	20/05/2019	4,974.96	4,972.48	5,524.29	15,471.73
21/05/2019	20/06/2019	3,547.11	3,656.49	3,999.97	11,203.57
21/06/2019	20/07/2019	1,854.78	1,888.58	1,716.13	5,459.49
21/07/2019	20/08/2019	2,143.92	2,259.35	2,429.28	6,832.55
21/08/2019	20/09/2019	2,119.05	2,212.88	2,711.97	7,043.90
21/09/2019	20/10/2019	3,629.11	3,858.86	3,580.50	11,068.47
21/10/2019	20/11/2019	4,214.26	4,047.68	4,939.16	13,201.10
21/11/2019	20/12/2019	5,280.36	5,804.23	5,657.18	16,741.77
21/12/2019	31/12/2019	2,031.01	1,945.82	2,185.94	6,162.77
01/01/2020	20/01/2020	3,293.98	3,288.16	3,288.82	9,870.96
21/01/2020	20/02/2020	2,251.37	2,309.53	2,577.82	7,138.72
21/02/2020	20/03/2020	3,182.17	3,303.32	3,593.75	10,079.24
21/03/2020	20/04/2020	2,603.60	2,715.48	2,630.20	7,949.28
21/04/2020	20/05/2020	3,739.53	3,870.85	3,467.88	11,078.26
21/05/2020	20/06/2020	3,017.53	2,779.60	3,358.78	9,155.91
21/06/2020	20/07/2020	2,137.45	2,384.33	2,352.65	6,874.43
21/07/2020	20/08/2020	1,757.62	1,812.02	1,818.03	5,387.67
21/08/2020	20/09/2020	1,712.31	1,896.43	1,964.67	5,573.41
21/09/2020	20/10/2020	3,323.61	3,585.47	3,580.44	10,489.52
21/10/2020	20/11/2020	3,059.53	2,909.87	2,908.21	8,877.61
21/11/2020	20/12/2020	5,678.83	6,015.54	6,218.96	17,913.33
21/12/2020	31/12/2020	1,686.35	1,835.40	2,046.34	5,568.09
01/01/2021	20/01/2021	3,218.91	3,811.66	3,677.54	10,708.11
21/01/2021	20/02/2021	2,899.19	3,140.29	2,968.97	9,008.45
21/02/2021	20/03/2021	2,890.28	3,076.32	3,069.92	9,036.52
21/03/2021	20/04/2021	3,240.20	3,277.21	3,385.24	9,902.65
21/04/2021	20/05/2021	3,315.04	3,469.59	3,666.18	10,450.81
21/05/2021	20/06/2021	2,695.80	2,628.85	2,404.96	7,729.61

21/06/2021	20/07/2021	1,673.22	1,605.49	1,868.45	5,147.16
21/07/2021	20/08/2021	2,234.83	2,227.51	2,032.91	6,495.25
21/08/2021	20/09/2021	1,363.22	1,454.41	1,694.40	4,512.03
21/09/2021	20/10/2021	1,910.74	1,909.31	1,856.35	5,676.40
21/10/2021	20/11/2021	4,526.99	4,567.08	5,088.79	14,182.86
21/11/2021	20/12/2021	4,982.13	4,830.21	4,647.59	14,459.93
21/12/2021	31/12/2021	1,205.62	1,365.78	1,342.86	3,914.26
Total					341,601.64

Period		EG _{export}			EG _{import}			EG _{facility}
		Values from meter readings	Values from electricity sales receipts	Conservative	Values from meter readings	Values from electricity sales receipts	Conservative	
Start	End	T	U	V=MIN(T,U)	W	X	Y=Max(W, X)	Z=V*E/(E+J+O+S)-Y
04/03/2019	20/03/2019	24,602.83	24,602.83	24,602.83	31.72	31.72	31.72	5,407.00
21/03/2019	20/04/2019	44,875.83	44,875.83	44,875.83	73.77	73.77	73.77	10,136.48
21/04/2019	20/05/2019	50,576.52	50,576.52	50,576.52	39.03	39.03	39.03	11,157.06
21/05/2019	20/06/2019	36,265.55	36,265.55	36,265.55	92.57	92.57	92.57	7,772.78
21/06/2019	20/07/2019	17,883.87	17,883.87	17,883.87	136.62	136.62	136.62	3,677.66
21/07/2019	20/08/2019	24,975.12	24,975.12	24,975.12	114.32	114.32	114.32	5,597.57
21/08/2019	20/09/2019	23,156.68	23,156.68	23,156.68	123.05	123.05	123.05	4,998.70
21/09/2019	20/10/2019	40,398.94	40,398.94	40,398.94	91.27	91.27	91.27	8,381.61
21/10/2019	20/11/2019	44,171.04	44,171.04	44,171.04	82.83	82.83	82.83	9,697.95
21/11/20	20/12/20	56,471.80	56,471.80	56,471.80	35.92	35.92	35.92	13,079.61

19	19							
21/12/20 19	31/12/20 19	18,652.81	18,652.81	18,652.81	96.22	96.22	96.22	4,253.68
01/01/20 20	20/01/20 20	29,930.59	29,930.59	29,930.59	144.56	144.56	144.56	6,590.91
21/01/20 20	20/02/20 20	26,794.60	26,794.60	26,794.60	57.68	57.68	57.68	6,442.20
21/02/20 20	20/03/20 20	42,366.04	42,366.04	42,366.04	55.01	55.01	55.01	10,733.35
21/03/20 20	20/04/20 20	35,555.99	35,555.99	35,555.99	108.50	108.50	108.50	8,852.67
21/04/20 20	20/05/20 20	45,182.45	45,182.45	45,182.45	74.43	74.43	74.43	11,325.06
21/05/20 20	20/06/20 20	37,634.11	37,634.11	37,634.11	57.14	57.14	57.14	9,447.94
21/06/20 20	20/07/20 20	26,509.67	26,509.67	26,509.67	66.11	66.11	66.11	6,738.40
21/07/20 20	20/08/20 20	24,528.34	24,528.34	24,528.34	69.03	69.03	69.03	6,258.10
21/08/20 20	20/09/20 20	23,784.80	23,784.80	23,784.80	80.08	80.08	80.08	6,232.39
21/09/20 20	20/10/20 20	44,610.60	44,610.60	44,610.60	91.51	91.51	91.51	11,386.51
21/10/20 20	20/11/20 20	36,193.80	36,193.80	36,193.80	93.84	93.84	93.84	8,956.32
21/11/20 20	20/12/20 20	67,682.20	67,682.20	67,682.20	44.64	44.64	44.64	16,096.67
21/12/20 20	31/12/20 20	20,653.61	20,653.61	20,653.61	11.41	11.41	11.41	4,946.44
01/01/20 21	20/01/20 21	40,251.88	40,251.88	40,251.88	23.86	23.86	23.86	9,750.43
21/01/20 21	20/02/20 21	36,029.40	36,029.40	36,029.40	97.13	97.13	97.13	8,643.96
21/02/20 21	20/03/20 21	34,517.42	34,517.42	34,517.42	88.46	88.46	88.46	8,020.73
21/03/20 21	20/04/20 21	38,041.52	38,041.52	38,041.52	47.49	47.49	47.49	9,520.05
21/04/20	20/05/20	42,327.11	42,327.11	42,327.11	53.24	53.24	53.24	10,499.06

21	21							
21/05/20 21	20/06/20 21	30,609.06	30,609.06	30,609.06	68.20	68.20	68.20	7,632.13
21/06/20 21	20/07/20 21	19,564.38	19,564.38	19,564.38	156.03	156.03	156.03	4,700.62
21/07/20 21	20/08/20 21	25,354.98	25,354.98	25,354.98	105.67	105.67	105.67	6,179.93
21/08/20 21	20/09/20 21	17,863.03	17,863.03	17,863.03	185.51	185.51	185.51	4,298.53
21/09/20 21	20/10/20 21	22,261.85	22,261.85	22,261.85	105.92	105.92	105.92	5,588.65
21/10/20 21	20/11/20 21	54,332.74	54,332.74	54,332.74	38.08	38.08	38.08	13,790.26
21/11/20 21	20/12/20 21	55,785.70	55,785.70	55,785.70	101.66	101.66	101.66	13,737.25
21/12/20 21	31/12/20 21	15,126.89	15,126.89	15,126.89	58.45	58.45	58.45	4,160.08
Total		1,275,523. 75	1,275,523. 75	1,275,523. 75	3,000.9 6	3,000.9 6	3,000.96	304,688.74

Calculation of BE_y:

Period		EG _{facility} (MWh)	EF _{grid, CM, y} (tCO ₂ /MWh)	BE _y (tCO _{2e})
Start	End	AA	AB	AC=AA*AB
04/03/2019	31/12/2019	84,160.10	0.8405	70,736
01/01/2020	31/12/2020	114,006.96	0.8405	95,822
01/01/2021	31/12/2021	106,521.68	0.8405	89,531
Total		304,688.74	0.8405	256,089

5.2 Project Emissions

According to ACM0002 (Version 20.0), no project emissions were to be counted by the Project.

Hence, $PE_y = 0 \text{ tCO}_2\text{e}$.

5.3 Leakage

According to the baseline methodology ACM0002 (version 20.0), the leakage of the Project is not considered.

5.4 Net GHG Emission Reductions and Removals

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
Year 2019 (04/03/2019-31/12/2019)	70,736	0		70,736
Year 2020 (01/01/2020-31/12/2020)	95,822	0		95,822
Year 2021 (01/01/2021-31/12/2021)	89,531	0		89,531
Total	256,089	0	-	256,089

The annual average emission reductions estimated in the registered VCS-PD is 104,190 tCO₂e, so the estimated amount of emission reductions for the corresponding 1034 days (the duration of this monitoring period) are $1034/365 \times 104,190 = 295,157.42 \text{ tCO}_2\text{e}$, which is higher than the actual value of 256,089 tCO₂e.