



**Verified Carbon
Standard**

GUOHUA WULATE ZHONGQI CHUANJING PHASE II WIND FARM PROJECT

Document Prepared by

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Contact Information

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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The purpose of the report is to calculate the emission reductions generated by Guohua Wulate Zhongqi Chuanjing Phase II Wind Farm Project (thereafter referred to the project) during the monitoring period (01/12/2019 to 31/07/2022), and to serve as basis for the verification and issuance of corresponding VCUs.

The Project, developed by Guohua Bayannaoer (Wulate Zhongqi) Wind Power Co., Ltd., involves construction and operation of a wind power project that is sited in the Wulate Zhongqi, Bayannaoer City, Inner Mongolia Autonomous Region, People's Republic of China. The construction start date for the project is 12/06/2009. The first power unit started operation on 22/11/2009, and all the wind turbine generators were put into operation on 15/12/2009. The Project has been registered as a CDM project on 05/01/2011 (UNFCCC registration reference number: 4303).

The total installed capacity of the Project is 49.5MW consisting of 33 sets of wind turbine with unit capacity of 1.5MW. The electricity generated by the Project is delivered to the North China Power Grid (NCPG). The scenario existing prior to the start of the implementation of the project is the same as the baseline scenario, i.e. electricity would have otherwise been generated by the operation of existing power plants connected to NCPG and by the addition of new generation sources of NCPG. After the project is put into operation, the power generated will replace a part of power supply in NCPG which is dominated by fuel-fired power plants and thus reduce greenhouse gas (GHG) emission through avoiding CO₂ emissions produced by NCPG. The estimated annual emission reductions are 107,149 tCO₂e during the second crediting period.

During this monitoring period (01/12/2019 to 31/07/2022), the monitoring activities were conducted strictly in accordance with the monitoring plan contained in the registered CDM-PDD. The Project has operated without any accidental or emergency events that might impact the accuracy and/or implementation of monitoring activities during this monitoring period. The net power supply during this monitoring period is 364,298.307 MWh. The total emission reductions in this monitoring period (01/12/2019 to 31/07/2022) are 301,236 tCO₂e.

Audit history of the project:

Audit Type	Period	Program	VVB Name	Number of years
Validation	27/12/2010	CDM	Bureau Veritas Certification	/

Validation for VCS crediting period renewal	24/11/2021	VCS	CTI	/
Verification	01/12/2009 -- 31/12/2010	VCS	SGS United Kingdom Ltd.	1 years and 31 days
Verification	05/01/2011 -- 31/01/2012	CDM	SGS United Kingdom Ltd.	1 years and 27 days
Verification	01/02/2012 -- 20/01/2014	CDM	SGS United Kingdom Ltd.	1 years and 354 days
Verification	21/01/2014 -- 31/10/2019	VCS	LGA Technological Center, S.A. (Applus+)	5 years and 285 days
Verification	01/11/2019 -- 30/11/2019	VCS	CCSC	0 years and 30 days
Verification	01/12/2019 -- 31/07/2022	VCS	CCSC	2 years and 243 days
Total	01/12/2009 -- 31/07/2022	CDM and VCS	/	12 years and 246 days

1.2 Sectoral Scope and Project Type

Sectoral scope 1: Energy industries (renewable/non-renewable sources)

Project type: Grid-connected wind power project.

The project is not a grouped project.

1.3 Project Proponent

Organization name	Guohua Bayannaoer (Wulate Zhongqi) Wind Power Co., Ltd.
Contact person	Mr. Hu Weiping
Title	Project manager
Address	No. 3 of Dongzhimen South Street, Dongcheng District, Beijing
Telephone	010-58151719
Email	20005222@ceic.com

1.4 Other Entities Involved in the Project

Organization name	N/A
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Role in the Project	N/A
Contact person	N/A
Title	N/A
Address	N/A
Telephone	N/A
Email	N/A

1.5 Project Start Date

22/11/2009, on which the VCS project began reducing GHG emissions.

1.6 Project Crediting Period

01/12/2009 - 30/11/2019, the second crediting period which covers 10 years.

01/12/2019 - 30/11/2029, the second crediting period which covers 10 years.

This monitoring period is covered by the second crediting period.

1.7 Project Location

The Project is located in the Wulate Zhongqi, Bayannaoer City, Inner Mongolia Autonomous Region, People's Republic of China, and the central geographical coordinates are 108° 31'31" east longitude and 41° 33'54" north latitude.

1.8 Title and Reference of Methodology

Approved consolidated baseline and monitoring methodology ACM0002.version 20.0-“Grid-connected electricity generation from renewable sources”

The methodology also refers to the approved version for the following tool:

- Tool to calculate the emission factor for an electricity system, version 07.0.0
- Assessment of the validity of the original/current baseline and update the baseline at the renewal of the crediting period, version 03.0.1

Reference:

<http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html>

1.9 Participation under other GHG Programs

The Project was registered as a CDM project on 05/01/2011 (Ref. 4303). The first CDM crediting period is from 05/01/2011 to 04/01/2018. CERs of 293,584 tCO₂e have been issued for the

monitoring period from 05/01/2011 to 20/01/2014. The emission reductions during this monitoring period (01/12/2019 to 31/07/2022) will only apply for issuance under VCS, which is ensured by the statement that the PP will not request the issuance of CERs under CDM and the VCUs will not be double counted.

1.10 Other Forms of Credit and Supply Chain (Scope 3) Emissions

Emission Trading Programs and Other Binding Limits

China has a national emissions trading scheme only cover the high-emission industries, such as thermal power generation, petrochemical, chemical, building materials, iron and steel, non-ferrous, paper, aviation and other key emission industries that emitted at least 26,000 tons of CO₂e/year, not including renewable project¹.

Thus, the project proponent: Guohua Bayannaoer (Wulate Zhongqi) 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). Moreover, 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 does not reduce GHG emissions from activities that are included in an emissions trading program or any other mechanism that includes GHG allowance trading. The net GHG emission reductions generated during this monitoring period have not been used for compliance under such programs or mechanisms. Furthermore, a statement on no double counting will be submitted to Verra to confirm the credits during this monitoring period has not been counted and will not be counted under emission trading programs and other binding limits.

Other Forms of Environmental Credit

The project has not sought or received another form of GHG-related environmental credit, including renewable energy certificates, during this monitoring period.

Supply Chain (Scope 3) Emissions

N/A, as the project only produce and supply electricity with on emissions, and the project does not affect emissions associated with a good or service.

¹ http://www.mee.gov.cn/xxgk2018/xxgk/xxgk05/202103/t20210330_826728.html

1.11 Sustainable Development Contributions

The Project activity will not only supply renewable electricity to grid, but also contribute to sustainable development of the local community, which mainly include the following:

- The project utilizes wind resources to generate and supplied 364,298.307MWh renewable electricity to the power grid during this monitoring period, which contributes to SDG 7.
- The project provides 10 long-term job opportunities for local residents during this monitoring period, which has a positive effect on the local economy which contributes to SDG 8.
- The project utilizes zero-emission wind power to supply electricity to the grid, and reduces 301,236 tCO₂e of GHG emissions during this monitoring period, which contributes to SDG 13.

Table 1: Sustainable Development Contributions

Row number	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Current Project Contributions	Contributions Over Project Lifetime
1)	7.2	7.2.1 Renewable energy share in the total final energy consumption	Implemented activities to increase	The project has provided 364,298.307 MWh renewable energy generation during this monitoring period.	Since the project began to report sustainable development contributions, the project has provided 13,309.697 MWh renewable energy generation during the previous monitoring period, and the project has provided 364,298.307 MWh renewable energy generation during this monitoring period. The project has provided 377,608.004 MWh renewable energy generation accumulated at the end of this monitoring period.

2)	8.5	8.5.1 Average hourly earnings of employees, by sex, age, occupation and persons with disabilities	Implemented activities to increase	The project has employed 10 persons including 7 men and 3 women during this monitoring period with yearly average salary higher than the local average salary of the respective years ². <table><tr><td>Year</td><td>Average yearly salary of the project (CNY)</td><td>Local average salary (CNY)</td></tr><tr><td>2019</td><td>112,335</td><td>83,277</td></tr><tr><td>2020</td><td>115,960</td><td>87,916</td></tr><tr><td>2021</td><td>124,893</td><td>93,266</td></tr></table>	Year	Average yearly salary of the project (CNY)	Local average salary (CNY)	2019	112,335	83,277	2020	115,960	87,916	2021	124,893	93,266	Employed about 10 persons yearly.
Year	Average yearly salary of the project (CNY)	Local average salary (CNY)															
2019	112,335	83,277															
2020	115,960	87,916															
2021	124,893	93,266															
3)	13.0	Tonnes of greenhouse gas emissions avoided or removed	Implemented activities to increase	By supplying 364,298.307 MWh renewable energy to the grid, the project has prevented the release of 301,236 tonnes of carbon into the atmosphere during the monitoring period.	Since the project began to report sustainable development contributions, the project has prevented the release of 12,646 tonnes of carbon into the atmosphere during the previous monitoring period, and the project has prevented the release of 301,236 tonnes of carbon into the atmosphere during this monitoring period. The project prevented the release of 313,882 tonnes of carbon into the atmosphere accumulated at the end of this monitoring period.												

² http://tj.nmg.gov.cn/files_pub/content/PAGEPACK/cd1ebd873e844e50844846b25256a59b/zk/indexch.htm

2 SAFEGUARDS

2.1 No Net Harm

In accordance with relevant laws and regulations on environmental protection, an Environmental Impact Assessment (EIA) of the proposed project has been implemented. The results of the EIA have been approved by the Environmental Protection Bureau of Inner Mongolia.

The EIA has assessed every possible aspect of environmental impacts of the project and recommended corresponding measures, where applicable. The environmental impacts and corresponding mitigation measures during operation have been discussed in the registered CDM-PDD. No negative environmental impacts have been identified.

Furthermore, the project makes positive contributions to the sustainable development as described in section 1.11 of this report e.g., providing job opportunities and clean energy to the local community, and mitigating GHG emissions.

In conclusion, construction and operation of the project does not cause any negative environmental nor socio-economic impacts.

2.2 Local Stakeholder Consultation

LSC prior to the project implementation

A public survey was conducted on 18/09/2008 by the project owner. Questionnaires were distributed to the stakeholders in the directly affected area, requesting comments on the proposed project construction. As there are few people living around the wind farm project site, 28 copies of questionnaire were distributed and 28 copies of the questionnaire were returned. Most of the local residents knew about wind power projects and all of the local residents knew the proposed project and held a positive and supportive attitude towards its construction. They hope that the proposed project can be put into operation as soon as possible.

LSC during the operation period

During this monitoring period, the project carried out the communication with local stakeholders in line with the on-going communication mechanism, i.e.,

The project owner published the contact information of the contact person who is responsible for stakeholders' comments to the local government and residents. Stakeholders were informed of the contact information, and their comments can be directly collected by the contact person. The comments would be fed back to the stakeholders by the contact person for a timely response. Besides, the contact person of project owner also meets local villagers to collect their comments and suggestions at least yearly. Actually the contact person met local villagers to collect their comments and suggestions respectively in May 2019, June 2020, May 2021, and May 2022. Once the contact person received negative comments from the stakeholders, the contact person would record the negative comments and the feedback. The local authority also conducts spot checks on the implementation of the project at periodic intervals as per relevant regulations.

In line with VCS requirements all the processed have been implemented to receive comments from local stakeholders as well as communicate with them. By the end of this monitoring period, the project did not receive any negative comments nor grievance from the stakeholders.

2.3 AFOLU-Specific Safeguards

The project is a non-AFOLU project, and this section is not required.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The total installed capacity of the Project is 49.5MW consisting of 33 sets of wind turbine with unit capacity of 1.5MW of type GW 77/1500. See Table 2 below for key technical specifications.

Table 2. Major technical parameters of the key equipments of the Project

	Parameter	Value
Blade	Diameter	77m
	Hub height	65m
	Rated power	1500KW
	Cut-in wind speed	3m/s
	Cut-out wind speed	25m/s
	Rated wind speed	14 m/s
	Designed product life	20 years
Generator	Capacity	1500KW
	Voltage	690V

No abnormal circumstance occurred during this monitoring period. There is no event or situation occurred during the monitoring period, which may impact the applicability of the methodology and may impact the GHG emission reductions or removals and monitoring. The project was operational as normal during the monitoring period.

3.2 Deviations

3.2.1 Methodology Deviations

No methodology deviation exists.

3.2.2 Project Description Deviations

There was a deviation on the 1st crediting period, which has been verified and validated during the previous verifications and the renewal of crediting period. The 1st renewable crediting period of the project has been updated from 01/12/2009 - 31/12/2010 to 01/12/2009 - 30/11/2019. This deviation is related to the change on the duration of the 1st crediting period and is not applicable to this monitoring period covered by the 2nd crediting period, which does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario.

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 margin grid emission factor of the North China Power Grid where the Project connected to
Source of data	VCS-PD of 2 nd crediting period
Value applied	0.8269
Justification of choice of data or description of measurement methods and procedures applied	Determined ex-ante and fixed for the 2 nd crediting period
Purpose of Data	Calculation of baseline emissions.
Comments	-

4.2 Data and Parameters Monitored

Data / Parameter	EG _{export,y}
Data unit	MWh
Description	Electricity delivered to the North China Power Grid by the project in year y
Source of data	Electricity meter reading
Description of measurement methods and procedures to be applied	Bidirectional meters (M1 and M2) are installed to measure the Electricity delivered to the North China Power Grid by the project in year y
Frequency of monitoring/recording	Monthly recorded and aggregated
Value monitored	365,169.990
Monitoring equipment	See table below

QA/QC procedures to be applied	Meters have been properly calibrated annually according to the requirement from Technical administrative code of electric energy metering (national standard reference: DL/T448), and in compliance with the requirement of monitoring plan. Meter readings are crosschecked with sales receipts. All data and records are archived during the crediting period and at least 2 years after the end of the crediting period.
Purpose of the data	Calculation of baseline emissions
Calculation method	-
Comments	-

Data / Parameter	EG _{import,y}
Data unit	MWh
Description	Electricity consumed by the project which is imported from the North China Power Grid in year y
Source of data	Electricity meter reading
Description of measurement methods and procedures to be applied	Bidirectional meters (M1 and M2) are installed to measure the Electricity consumed by the project which is imported from the North China Power Grid in year y
Frequency of monitoring/recording	Monthly recorded and aggregated
Value monitored	871.683
Monitoring equipment	See table below
QA/QC procedures to be applied	Meters have been properly calibrated annually according to the requirement from Technical administrative code of electric energy metering (national standard reference: DL/T448), and in compliance with the requirement of monitoring plan. Meter readings are crosschecked with sales receipts. All data and records are archived during the crediting period and at least 2 years after the end of the crediting period.
Purpose of the data	Calculation of baseline emissions
Calculation method	-
Comments	-

Data / Parameter	$EG_{facility,y}$
Data unit	MWh
Description	Net electricity supplied by the project to the grid in year y
Source of data	Calculation: $EG_{facility,y} = EG_{export,y} - EG_{import,y}$
Description of measurement methods and procedures to be applied	Calculated by $EG_{facility,y} = EG_{export,y} - EG_{import,y}$
Frequency of monitoring/recording	Monthly recorded and aggregated
Value monitored	364,298.307
Monitoring equipment	See table below.
QA/QC procedures to be applied	Calculated by $EG_{facility,y} = EG_{export,y} - EG_{import,y}$
Purpose of the data	Used for baseline emission calculation
Calculation method	Calculated by $EG_{facility,y} = EG_{export,y} - EG_{import,y}$
Comments	-

Table 3 Information of meters

Meter	Type	Serial No.	Accuracy	Calibration date	Valid till	Calibrator
M1	Electricity meter	LY807324	0.5S	05/12/2018	04/12/2019	Inner Mongolia Electricity Research Institute
				01/12/2019	30/11/2020	
				25/11/2020	24/11/2021	
				22/11/2021	21/11/2022	
M2	Electricity meter	LY807185	0.5S	05/12/2018	04/12/2019	
				01/12/2019	30/11/2020	
				25/11/2020	24/11/2021	
				22/11/2021	21/11/2022	

4.3 Monitoring Plan

Organization Structure

Plant manager of wind farm is responsible for recording and collecting the information and data required by the Monitoring Plan. The required information and data will be documented and sent to the CDM officer monthly. The CDM officer works out the monitoring plan, charges of its

implementation and reports to the General Manager of the company. The General Manager of the company will make the confirmations on monitoring calculation data and reports.

For details regarding the management structure of the monitoring plan, please refer to Figure 1.



Figure 1. Management Structure of Monitoring Plan

Data collection procedures

Electricity delivered to NCPG by the Project ($EG_{\text{export}, y}$) and electricity consumed by the Project which is imported from the NCPG ($EG_{\text{import}, y}$) are measured continuously by M1 and M2. The positions of the meters are showed as Figure 2. Net electricity supplied to the grid is calculated as exports minus imports ($EG_{\text{facility}, y} = EG_{\text{export}, y} - EG_{\text{import}, y}$). This data will be cross checked by the receipt of sales. The accuracy of the meters is no less than 0.5%.

See the following figure for the monitoring points:

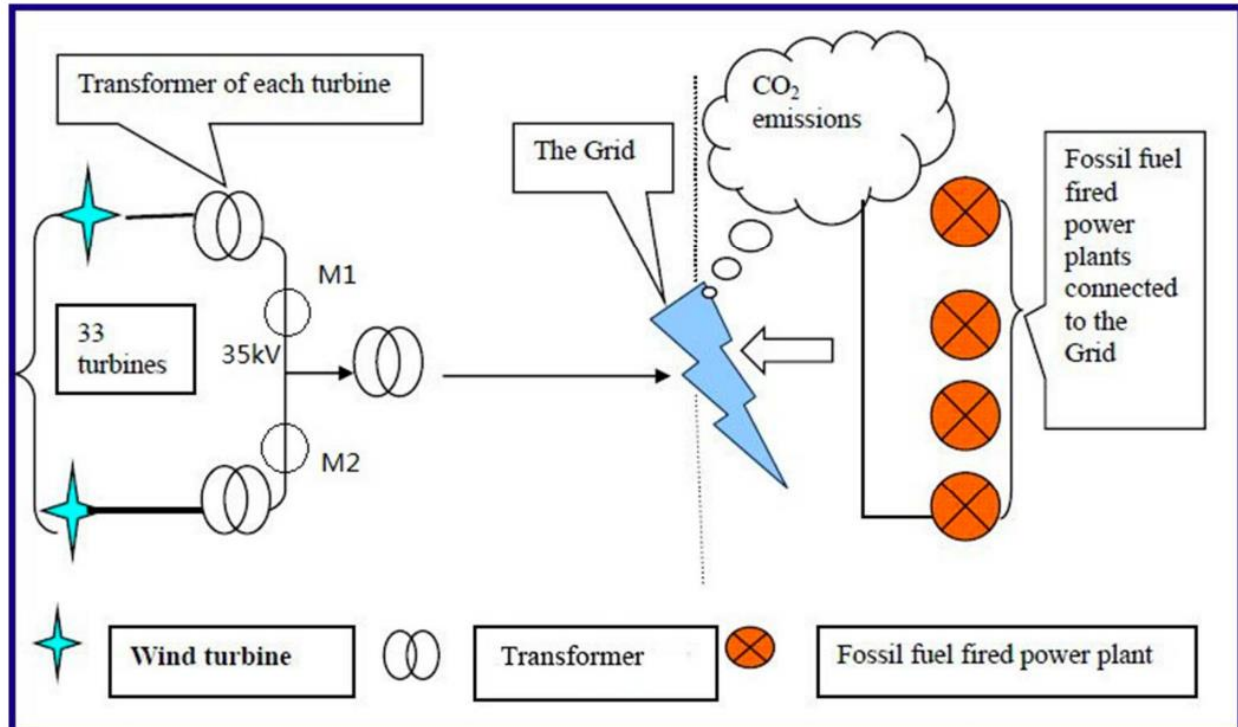


Figure 2. Monitoring points

The cut-off time of $EG_{export,y}$, $EG_{import,y}$ is 24:00 of the last day of each month. On monthly basis, the grid company issues sales receipts to the project company. Sale receipts are used for double check the measured data of electricity. The conservative data between the value measured and the sales receipts will be used for the emission reduction calculation. All meters mentioned above are continuously measured and monthly recorded used to calculate the Project's net electricity delivered to the grid.

Calibration of Meters & Metering

An agreement should be signed between the project owner and the local grid company that defines the metering arrangements and the required quality control procedures to ensure accuracy. Calibration is carried out by the local grid company according to relevant regulations of electric industry at least once every year. Calibration report shall be provided to the project owner.

Data management system

All monitoring data and records are archived in electronic documents as well as in paper. The electronic documents are backed up in compact disc or hard disc form. The project owner also keeps the copies of sale receipts and prepare a monitoring report at the end of each year, which

includes the net electricity generation, the monitoring data summary, the calibration records, and the emission reduction calculation.

Emergency procedures

In case of emergencies, which means that under the condition that project entity cannot monitor the main meter due to the unexpected accident, the project entity follows the following procedure: In case that the monitoring meters cannot be monitored due to the unexpected accident, the data is confirmed between the grid company and the project owner. During this monitoring period, no emergency happened.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

As per the registered PD, the baseline emission of the project is calculated as below:

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

Table 4 Baseline emissions calculation

Year	EG _{facility,y}	EF _{grid,CM,y}	BE _y
	MWh	tCO ₂ e/MWh	tCO ₂ e
2019 (01/12/2019 to 31/12/2019)	11,603.210	0.8269	9,594
2020 (01/01/2020 to 31/12/2020)	136,170.770	0.8269	112,599
2021 (01/01/2021 to 31/12/2021)	145,256.368	0.8269	120,112
2022 (01/01/2022 to 31/07/2022)	71,267.959	0.8269	58,931
total	364,298.307	/	301,236

The monitored monthly electricity data is shown in the tables below:

Table 5 Monitoring results (MWh)

Period start	Period end	EG _{export,y}					EG _{import,y}					EG _{facility,y} =EG _{export,y} - EG _{import,y}
		M1 reading records	M2 reading records	Total electricity recorded by M1 and M2	Sales receipts	Conservative values min(meter reading records, sales receipts)	M1 reading records	M2 reading records	Total electricity recorded by M1 and M2	Sales receipts	Conservative values max(meter reading records, sales receipts)	
01/12/2019	31/12/2019	5,435.500	6,205.500	11,641.000	11,636.070	11,636.070	16.625	15.750	32.375	32.860	32.860	11,603.210
Subtotal 2019		-	-	-	-	11,636.070	-	-	-	-	32.860	11,603.210
01/01/2020	31/01/2020	5,985.000	5,778.500	11,763.500	11,758.090	11,758.090	27.125	28.875	56.000	56.368	56.368	11,701.722
01/02/2020	29/02/2020	5,336.625	7,362.250	12,698.875	12,693.210	12,693.210	13.125	17.500	30.625	31.137	31.137	12,662.073
01/03/2020	31/03/2020	6,370.000	7,888.125	14,258.125	14,252.730	14,252.730	14.875	14.875	29.750	30.145	30.145	14,222.585
01/04/2020	30/04/2020	5,433.750	5,291.125	10,724.875	10,719.590	10,719.590	17.500	24.500	42.000	42.029	42.029	10,677.561
01/05/2020	31/05/2020	5,229.875	6,057.625	11,287.500	11,281.210	11,281.210	9.625	10.500	20.125	20.409	20.409	11,260.801
01/06/2020	30/06/2020	4,891.250	5,103.875	9,995.125	9,990.950	9,990.950	7.875	9.625	17.500	18.241	18.241	9,972.709
01/07/2020	31/07/2020	5,294.625	4,447.625	9,742.250	9,736.810	9,736.810	19.250	20.125	39.375	39.877	39.877	9,696.933
01/08/2020	31/08/2020	4,739.000	4,267.375	9,006.375	9,001.780	9,001.780	26.250	20.125	46.375	46.716	46.716	8,955.064
01/09/2020	30/09/2020	3,816.750	4,973.500	8,790.250	8,786.970	8,786.970	12.250	14.875	27.125	27.364	27.364	8,759.606
01/10/2020	31/10/2020	6,437.375	6,759.375	13,196.750	13,191.690	13,191.690	13.125	15.750	28.875	29.007	29.007	13,162.683
01/11/2020	30/11/2020	4,994.500	6,614.125	11,608.625	11,604.030	11,604.030	14.000	19.250	33.250	33.849	33.849	11,570.181
01/12/2020	31/12/2020	6,912.500	6,637.750	13,550.250	13,544.750	13,544.750	7.875	7.875	15.750	15.898	15.898	13,528.852
Subtotal 2020		-	-	-	-	136,561.810	-	-	-	-	391.040	136,170.770
01/01/2021	31/01/2021	8,924.125	9,217.250	18,141.375	18,133.700	18,133.700	9.625	10.500	20.125	20.919	20.919	18,112.781
01/02/2021	28/02/2021	6,924.750	6,069.875	12,994.625	12,989.580	12,989.580	13.125	14.875	28.000	28.005	28.005	12,961.575
01/03/2021	31/03/2021	5,123.125	6,224.750	11,347.875	11,342.470	11,342.470	10.500	10.500	21.000	21.469	21.469	11,321.001

01/04/2021	30/04/2021	4,876.375	5,985.000	10,861.375	10,856.130	10,856.130	13.125	8.750	21.875	22.660	22.660	10,833.470
01/05/2021	31/05/2021	7,124.250	5,896.625	13,020.875	13,014.650	13,014.650	10.500	10.500	21.000	21.238	21.238	12,993.412
01/06/2021	30/06/2021	5,514.250	4,612.125	10,126.375	10,121.630	10,121.630	10.500	11.375	21.875	22.450	22.450	10,099.180
01/07/2021	31/07/2021	4,802.875	3,423.000	8,225.875	8,222.320	8,222.320	11.375	9.625	21.000	21.784	21.784	8,200.536
01/08/2021	31/08/2021	4,302.375	4,804.625	9,107.000	9,102.820	9,102.820	12.250	14.000	26.250	26.910	26.910	9,075.910
01/09/2021	30/09/2021	3,880.625	4,242.875	8,123.500	8,119.950	8,119.950	10.500	8.750	19.250	19.546	19.546	8,100.404
01/10/2021	31/10/2021	7,809.375	6,045.375	13,854.750	13,850.320	13,850.320	16.625	13.125	29.750	30.525	30.525	13,819.795
01/11/2021	30/11/2021	6,608.000	8,497.125	15,105.125	15,100.050	15,100.050	1.750	1.750	3.500	3.793	3.793	15,096.257
01/12/2021	31/12/2021	7,179.375	7,474.250	14,653.625	14,647.540	14,647.540	2.625	2.625	5.250	5.493	5.493	14,642.047
Subtotal 2021		-	-	-	-	145,501.160	-	-	-	-	244.792	145,256.368
01/01/2022	31/01/2022	3,808.875	4,573.625	8,382.500	8,378.880	8,378.880	26.250	29.750	56.000	56.724	56.724	8,322.156
01/02/2022	28/02/2022	3249.75	3,299.625	6,549.375	6,547.350	6,547.350	23.625	26.25	49.875	50.142	50.142	6,497.208
01/03/2022	31/03/2022	7741.125	6,635.125	14,376.250	14,369.790	14,369.790	6.125	7.875	14.000	14.194	14.194	14,355.596
01/04/2022	30/04/2022	6551.125	6,806.625	13,357.750	13,353.450	13,353.450	5.250	4.375	9.625	10.014	10.014	13,343.436
01/05/2022	31/05/2022	4188.625	5,096.000	9,284.625	9,279.850	9,279.850	8.750	7.875	16.625	17.231	17.231	9,262.619
01/06/2022	30/06/2022	4781	4,529.000	9,310.000	9,304.960	9,304.960	13.125	13.125	26.250	27.026	27.026	9,277.934
01/07/2022	31/07/2022	5310.375	4,929.750	10,240.125	10,236.670	10,236.670	13.125	14	27.125	27.66	27.660	10,209.010
Subtotal 2022		-	-	-	-	71,470.950	-	-	-	-	202.991	71,267.959
Total		-	-	-	-	365,169.990	-	-	-	-	871.683	364,298.307

5.2 Project Emissions

As per the methodology and the registered CDM-PDD, the project emission is 0.

5.3 Leakage

As per the methodology and the registered CDM-PDD, the leakage is 0.

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)
2019 (01/12/2019 to 31/12/2019)	9,594	0	0	9,594
2020 (01/01/2020 to 31/12/2020)	112,599	0	0	112,599
2021 (01/01/2021 to 31/12/2021)	120,112	0	0	120,112
2022 (01/01/2022 to 31/07/2022)	58,931	0	0	58,931
Total	301,236	0	0	301,236

Comparison of the actual emission reductions with the estimated values of this monitoring period is analysed as follows:

<u>Ex-ante emissions reductions /removals</u>	<u>Achieved emissions reductions /removals</u>	<u>Percent difference</u>	<u>Justification for the difference</u>

285,926	301,236	Actual emission reductions are 5.35% higher than the ex-ante amount.	Annual estimated emission reductions are 107,149 tCO₂e Total days during this monitoring period are 974 days Calculated estimation of the emission reductions: $107,149 * 974 / 365 = 285,926 \text{ tCO}_2\text{e}$ The actual emission reductions achieved during this monitoring period are 5.35% higher than the estimated ex-ante amount, since the average wind resources during this monitoring period is higher than that during a long historical period which is the basis for calculating the average expected electricity. The quantity of ex-ante emission reductions is calculated with the expected annual electricity supply times the grid emission factor. It is reasonable that the actual electricity fluctuates higher or lower than the expected electricity, which is an average value of a long period. This would not influence the additionality of the project. According to the registered PDD, the IRR is still less than the benchmark of 8% when the net exported electricity increases 10%. The reasons for electricity increase is that in this monitoring period, the wind volume is larger than the estimation in project FSR.
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