SHANDONG TAIPINGSHAN WIND FARM PROJECT

Document Prepared by CGN Carbon Asset Management (Beijing) Co., Ltd.

Project Title	*Shandong Taipingshan Wind Farm Project*
Version	*04*
Report ID	*CGN-1189-202201*
Date of Issue	*28/10/2022*
Project ID	*PL1189*
Monitoring Period	*27/04/2020-31/12/2021*
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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

Shandong Taipingshan Wind Farm Project (hereinafter referred to as the proposed project) is to utilize wind resources for electricity generation through the construction of a wind farm with a total capacity of 49.3MW and an 110kV substation in Weifang City, Shandong Province, P. R. China. The electricity generated from the project will be sold to North China Power Grid (NCPG). The proposed project will achieve obvious greenhouse gas (GHG) emission reductions through the displacement of electricity delivered by North China Power Grid which is a fossil-fuel dominated grid. The proposed project is invested and developed by Anqiu Taipingshan Wind Power Co., Ltd..

The proposed project is located in Weifang City, Shandong Province, P. R. China. The proposed project involves the installation of 58 wind turbines with capacity of 850 kW each, which amount to a total installed capacity of 49.3MW. The proposed project is constructed and operated by Anqiu Taipingshan Wind Power Co., Ltd.. The estimated annual net electricity generation supplied to the grid is 91,030.5 MWh and the annual full-load operation time amount to 1,846 h per year. The estimated emission reduction is 76,511 tCO_2e annually.

The project started construction on 11/08/2009. The first batch of generating units started commercial operation on 27/04/2010 and all of the generating units had put into commercial operation on 01/11/2010. The expected operation period of the Project is 20 years as stated in the registered VCS PD Version 07.1 dated 05/11/2021. The first renewable crediting period of the project updated from 27/04/2010-23/04/2012 to 27/04/2010-26/04/2020. And the second crediting period is from 27/04/2020 to 26/04/2030.

The project has been registered as VCS project with Ref. VCS1189 and VCUs of 180,005 tCO_2e have been issued for the monitoring period from 27/04/2010-23/04/2012, 307,768 tCO_2e have been issued for the monitoring period from 24/04/2012-31/12/2015 and 358,660 tCO_2e have been issued for the monitoring period from 01/01/2016-26/04/2020. The project also has been registered as CDM project with Ref. 5659.

The total emission reductions achieved in this monitoring period (27/04/2020-31/12/2021) were 124,141 tCO_2e.

1.2 Sectoral Scope and Project Type

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

Project type: Energy industries (renewable/non-renewable sources)

The project is not a grouped project.

1.3 Project Proponent

Organization name	***Anqiu Taipingshan Wind Power Co., Ltd.***
Contact person	*Shi Lei*
Title	*CDM office director*
Address	*No.188, West of South 4th ring Road, No.2 Building, Area of Advanced Business Park, Beijing, P. R. China*
Telephone	*+86 10 63705765*
Email	*cgnwind@163.com*

1.4 Other Entities Involved in the Project

There are no other entities involved.

1.5 Project Start Date

The project started on 27/04/2010(commissioning start date).

1.6 Project Crediting Period

In the registered VCS PD, the crediting period is described as from 27/04/2010 to 23/04/2012. A deviation is requested for the crediting period in the registered PD. The project is registered under VCS Standard Version 3.4 and completed validation before 19/03/2020. Thus, it remains eligible to apply the crediting period requirements under VCS Version 3 which shall be a maximum of ten years and may be renewed at most twice, so the first renewable crediting period of the project should be updated from "27/04/2010 to 23/04/2012" to "27/04/2010 to 26/04/2020". Moreover, as the project is also registered as a CDM project with a seven year twice renewable project crediting period staring from 24/04/2012 and furthermore, the project has the lifetime of 20 years; it is not eligible for VCU issuance beyond 26/04/2030. The second crediting period is from 27/04/2020 to 26/04/2030.

This monitoring period is from 27/04/2020-31/12/2021 within the second VCS crediting period and the monitoring period contains 614 days.

1.7 Project Location

The proposed project is in Weifang City, Shandong Province, P. R. China. The project has geographical coordinates with east longitude from 118°42'46"E to 118°50'27"E and north latitude from 36°10'20"N to 36°13'30"N. The figure A1 and A2 shows the geographical location of the proposed project.

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

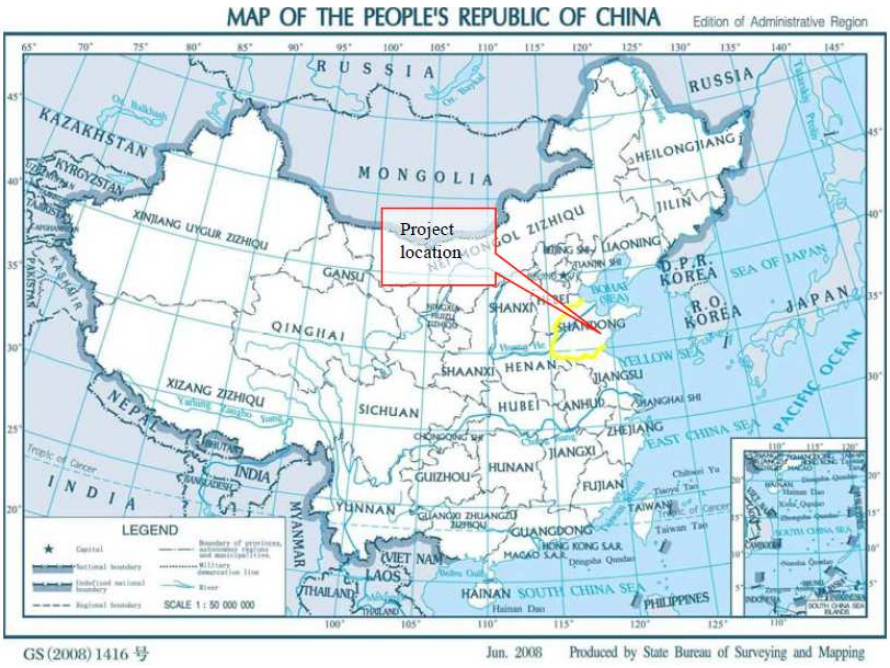


Figure A2. The proposed project on the map of Shandong Province and Wendeng County

1.8 Title and Reference of Methodology

Methodology:

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

Reference:
https://cdm.unfccc.int/methodologies/DB/XP2LKUSA61DKUQC0PIWPGWDN8ED5PG

The applied tools:

Tools: "Tool for 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).

Reference:

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

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 CDM project and the registration number is 5659, the first CDM crediting period is from 24/04/2012 to 23/04/2019, and the crediting period has been successfully renewed on 27/04/2019 with the 2nd CDM crediting period from 24/04/2019 to 23/04/2026. The project has been registered as VCS project with Ref. VCS1189.

1.10 Other Forms of Credit

Emission Trading Programs and Other Binding Limits

The project has been registered as a CDM project on 24/04/2012 with Ref No.5659, for which a renewable crediting period of 3*7 years will be used under the CDM GHG Program. Until now, no emission reductions were issued under CDM scheme. The project was registered as a VCS project under VCS standard (Version.3.4), emission reduction from 27/04/2010 to 23/04/2012, 24/04/2012 to 31/12/2015, and 01/01/2016 to 26/04/2020 has been issued under VCS scheme.

The project has not been counted or used under GS project or under any other voluntary carbon crediting scheme. And the project does not involved in ETS or other binding limits. All credits from 27/04/2020 to 31/12/2021 will be claimed under VCS program as VCUs 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.

Other Forms of Environmental Credit

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

1.11 Sustainable Development Contributions

The Project is located within Weifang City, Shandong Province, P. R. China. The purpose of the Project is to utilize wind resources for electricity generation through construction of a wind farm. The project employed standard wind power generation technology. It installed 58 wind turbines with an individual capacity of 850 kW, adding up to a total installed capacity of 49.3 MW. The electricity generated from the Project is delivered to Shandong Power Grid, an integral part of the North China Power Grid (NCPG).

The Project will not only supply renewable electricity to the grid, but also contribute to sustainable development of the local community, the host country and the world by means of:

1. reducing greenhouse gas emissions compared to a business-as-usual scenario;

2. diversifying power sources and mitigating the demand and supply contradiction;

3. helping to stimulate the growth of the local wind power industry and encourage and promote the technology progress and commercial proliferation of grid-connected renewable power generation projects;

4. reducing the emission of other pollutants resulting from the power generation industry in China, compared to a business-as-usual scenario;

5. creating employment opportunities for local community during the operation period of the Project and creating several employment opportunities for local community during the construction period of the Project.

The proposed project makes contribution to the local sustainable development as follows:

Table 1: Sustainable Development Contributions

Row number	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Current Project Contributions	Contributions Over Project Lifetime

<table>
<tr>
<td>3)</td>
<td>13.0</td>
<td>Tonnes of greenhouse gas emissions avoided or removed</td>
<td>Implemented activities to increase</td>
<td>The project had achieved obvious GHG emission reductions by avoiding 124,141tCO_2 emissions, as grid-connected fossil fuel-fired power dominates in the NCPG during this monitoring period.</td>
<td>The project had achieved obvious GHG emission reductions by avoiding 846,433tCO_2e that had been approved by the VCS program during the first crediting period from 27/04/2010-26/04/2020, and 124,141tCO_2e during this monitoring period from 27/04/2020-31/12/2021. The cumulative emission reductions until the end of this monitoring period from 27/04/2010 to 31/12/2021 is 970,574tCO_2e.
<table>
<tr><th colspan="2">Period[1]</th><th>ER</th><th rowspan="2">GHG Program</th><th rowspan="2">Status</th></tr>
<tr><th>From</th><th>To</th><th>tCO_2e</th></tr>
<tr><td>27/04/2010</td><td>23/04/2012</td><td>180,005</td><td>VCS</td><td>Approved</td></tr>
<tr><td>24/04/2012</td><td>31/12/2015</td><td>307,768</td><td>VCS</td><td>Approved</td></tr>
<tr><td>01/01/2016</td><td>26/04/2020</td><td>358,660</td><td>VCS</td><td>Approved</td></tr>
<tr><td colspan="2">Subtotal (1st Crediting period)</td><td>846,433</td><td>VCS</td><td>Approved</td></tr>
<tr><td>27/04/2020</td><td>31/12/2021</td><td>124,141</td><td>VCS</td><td>Verification Approval Requested</td></tr>
<tr><td colspan="2">Total</td><td>970,574</td><td>-</td><td>-</td></tr>
</table>
</td>
</tr>
</table>

[1] This table includes sustainable development impacts from 27/04/2010 to 31/12/2021.

2 SAFEGUARDS

2.1 No Net Harm

The environmental impact assessment for this project was carried out by Shandong Academy of Environmental Science in December 2007 and approved by Shandong Provincial Environmental Protection Bureau on 11/01/2008. The approval number is Luhuanshen [2008] 3. A summary of the report is illustrated as below:

Ambient air

The impact on ambient air quality of the proposed project is mainly from dust during construction stage. The excavation work is the primary emission source, however, it is a ground source and the particle size is quite large so that dust will deposit quickly on the ground. Immediately replant the areas where construction has completed, and by sprinkling water frequently and timely clearing can reduce the dust pollution. When the project is in operational period, there will be no air pollutions. In conclusion, the proposed project will not pose any threat on the quality of ambient air.

Impact from noise

There is some noise during the operation of wind turbines. The equipments and techniques with lower noise will be chosen to apply. Improvement on construction process and strengthening of equipment maintenance is emphasized. Noise Limits in Construction site (GB12523-90) and Emission standard for industrial enterprise noise at boundary (GB12348-2008) Level II noise standard would be fulfilled during the construction and operational period. Besides, some noise control measures on the noise source control and sensitive object protection would be taken to mitigate the noise at the maximum limit. Consequently, the noise of operation has little impact to the surrounding environment. Hence, the noise will not impact the work and daily life of local residents.

Electromagnetic impact

The electromagnetic pollution generated from operation of the wind blades has limited effect within about 20m around, whereas no wireless communication facilities exist within, so the electronic magnetic pollution to the surrounding environment is insignificant.

Impact from Solid waste

There is mainly some waste of stone, bricks or domestic waste in the construction stage and basically no solid waste in the operational period. Solid waste will be collected and handled properly. Hence, it will not result any environmental impact.

Impact from Wastewater

Wastewater is mainly domestic wastewater. Wastewater quantity is fairly small and treatment methods will be applied for on-site primary treatment, and then the wastewater will be treated together with the local wastewater. Small-scale septic tanks should be built on the site, through which the discharging wastewater can reach the Water quality standard for urban miscellaneous water consumption (GB/T18920-2002). Therefore, the impact of wastewater is limited and mitigated.

No migrating birds have been found in the project field. Therefore, the project is not located on the passage of migrating birds, and the project construction will not influence the migration of birds.

2.2 Local Stakeholder Consultation

Local stakeholders Consultation during the project preparation stage:

Comments on the construction of the proposed project is invited through means of putting up a notice and holding stakeholder meeting on 16/06/2009 to guarantee the successful implementation of proposed project with the interest of stakeholder being taken into account. The project developer conducted a survey among the potential stakeholders, collecting public opinion regarding the proposed project activity. 50 copies of questionnaires were all received. Among the interviewees, there were 22 farmers, 13 workers, 2 are officers, 4 are teachers and 9 others with other occupation; 28 of them have educational level of middle school, 14 of high school, 4 of technical secondary school and 4 of collage. The questions regarding the proposed project were mainly as follows:

a) How do you think the general condition of the local environmental quality?

b) Do you currently experience electromagnetic interference when watching TV at home?

c) Are there any negative impacts of the proposed project on the everyday life of local residents?

d) Is the proposed project going to help improve the living and/or working environment?

e) How the proposed project impact the acoustic environment (noise) quality?

f) Which is the environmental topic that concerns you the most during the construction and operation of the proposed project?

g) Do you support the proposed project?

The summary of survey is listed as the following:

- 35 (70%) of them think the local environmental quality is very well, 15(30%) of them think it is general;

- All (100%) of them currently do not experience electromagnetic interference when watching TV at home;

- 47 (94%) of them think there will not be any negative impacts on their everyday life, and the remainder is unsure;

- All (100%) of them think the proposed project will help improve their living and/or working environment;

- All (100%) of them are unsure whether the proposed project will make noise;

- Regarding the construction and operation of the propose project, 22 (44%) of them are most concerned with electromagnetic interference, 28 (56%) of them are most concerned with the noise level, and none of them are most concerned with wastewater from the project;

- All (100%) of them support the implementation of the proposed project.

During the survey local residents support the propose project as they showed in the questionnaires. Some people express their concerns about the negative impacts of the project, but they don't think it is serious. About the environment impacts of the project, the requirements in the EIA report will be strictly conducted by the project owner and be supervised by the municipal environmental protection bureau. Therefore, the proposed project can be carried out as planned.

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 Aug 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.

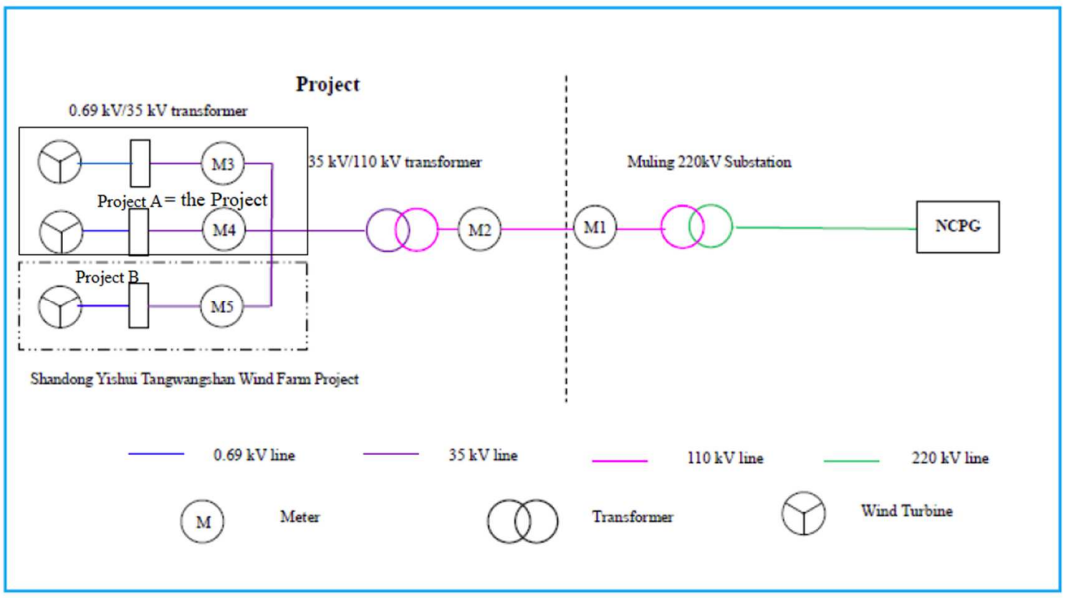
3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The project employed standard wind power generation technology. It installed 58 wind turbines with capacity of 850kW each, adding up to a total installed capacity of 49.3 MW. The main specifications of the turbine/generator are listed as below Table:

Item	Unit	Index
Type	-	G58-850kW
Rated capacity	kW	850
Number of blades		3
Rotor diameter	m	58
Cut-in speed	m/s	3.0
Rated wind speed	m/s	16
Cut-off speed	m/s	21
Height of hub	m	65
Rated voltage	V	690

The technology diagram of the Project is as follows:



The project started construction on 11/08/2009. The first batch of generating units started commercial operation on 27/04/2010. The expected operation period of the Project is 20 years as stated in the registered VCS PD Version 07.1 dated 05/11/2021.

The electricity generated from the Project is delivered to Shandong Power Grid, an integral part of the North China Power Grid (NCPG). During this monitoring period, there was no significant malfunction or any emergency occurred for the Project during this monitoring period. No events occurred during this 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 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/ MWh
Description	The baseline grid emission factor
Source of data	Registered VCS PD with Ref No.1189
Value applied	0.8405
Justification of choice of data or description of measurement methods and procedures applied	Refer to the registered VCS PD with Ref No.1189
Purpose of Data	Calculation of baseline emissions
Comments	The data is calculated ex-ante according to the applied tool.

4.2 Data and Parameters Monitored

Data / Parameter	**$EG_{facility,y}$**
Data unit	MWh
Description	Quantity of net electricity generation supplied by the project to the Grid in year y.
Source of data	Calculation according to $EG_{A,y}/(EG_{A,y} + EG_{B,y})* EG_{export,y} - EG_{import,y}$
Description of measurement methods and procedures to be applied	The Quantity of net electricity generation supplied by the project plant/unit in year y will be calculated through $EG_{export,y}$, $EG_{import,y}$, $EG_{A,y}$ and $EG_{B,y}$. $EG_{facility,y} = EG_{A,y}/(EG_{A,y} + EG_{B,y})* EG_{export,y} - EG_{import,y}$ $EG_{export,y}$ and $EG_{import,y}$ will be monitored by the main meter M1(S/N:1305712953). The reading from the main meter M1(S/N:1305712953) is first choice. When the main meter is out of order, the reading from the backup meter M2(S/N:9070125900004) will be used. The project operator is responsible for recording such data. Cross check the meter reading with sales receipts. Designated person records the readings of the main meter each month.
Frequency of monitoring/recording	Continuously measurement and monthly recording
Value monitored	<table><tr><th>Period</th><th>MWh</th></tr><tr><td>27/04/2020- 31/12/2020</td><td>56,120.55</td></tr><tr><td>01/01/2021- 31/12/2021</td><td>91,579.98</td></tr><tr><td>Total</td><td>147,700.53</td></tr></table>
Monitoring equipment	Electricity meters reading M1(S/N:1305712953), M2(S/N:9070125900004), M3(S/N:9090151400334), M4(S/N:9090151400336), M5(S/N:9090151400332). Please refer to

	the monitoring equipment information in the table of "Information of monitoring equipments" below.
QA/QC procedures to be applied	The meter M1(S/N:1305712953), M2(S/N:9070125900004), M3(S/N:9090151400334), M4(S/N:9090151400336) and M5(S/N:9090151400332) will be calibrated once a year according to the national rules. The electricity generation by the proposed project will be monitored and recorded. The project operator is responsible for recording such data.
Purpose of the data	Baseline Emission calculation
Calculation method	-
Comments	-

Data / Parameter	$EG_{export,y}$
Data unit	MWh
Description	Total electricity supplied to the grid by the proposed Project and Project B during year y.
Source of data	Bidirectional electricity meter reading of main meter M1(S/N:1305712953) The reading from the main meter M1(S/N:1305712953) is first choice. When the main meter is out of order, the reading from the backup meter M2(S/N:9070125900004) will be used.
Description of measurement methods and procedures to be applied	The readings of the electricity meter will be hourly measured and monthly recorded by the designated person. 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 not lower than 0.5s. The calibration frequency is one time/year according to the national calibration standard.
Frequency of monitoring/recording	Continuously measurement and monthly recording
Value monitored	Period: 27/04/2020- 31/12/2020 — MWh: 75,956.32 Period: 01/01/2021- 31/12/2021 — MWh: 123,837.12 Total: 199,793.44
Monitoring equipment	Main electricity meter reading M1(S/N:1305712953) and backup electricity meter reading M2(S/N:9070125900004). Please refer to the monitoring equipment information in the table of "Information of monitoring equipments" below.

QA/QC procedures to be applied	The main meter M1(S/N:1305712953) and backup meter M2(S/N:9070125900004) will be calibrated once a year according to the national standards. Electricity supplied to the grid will be double checked according to sales receipts.
Purpose of the data	Baseline Emission calculation
Calculation method	-
Comments	-

Data / Parameter	$EG_{import,y}$
Data unit	MWh
Description	Electricity imported from the grid by the Project and Project B during year y.
Source of data	Bidirectional electricity meter reading. The reading from the main meter M1(S/N:1305712953) is first choice. When the main meter is out of order, the reading from the backup meter M2(S/N:9070125900004) will be used.
Description of measurement methods and procedures to be applied	The data will be continuously measured and monthly recorded by the designated person. Data will be archived for 2 years following the end of the crediting period.
Frequency of monitoring/recording	Continuously measurement and monthly recording
Value monitored	<table><tr><th>Period</th><th>MWh</th></tr><tr><td>27/04/2020- 31/12/2020</td><td>377.52</td></tr><tr><td>01/01/2021- 31/12/2021</td><td>512.16</td></tr><tr><td>Total</td><td>889.68</td></tr></table>
Monitoring equipment	Main electricity meter reading M1(S/N:1305712953) and backup electricity meter reading M2(S/N:9070125900004). Please refer to the monitoring equipment information in the table of “Information of monitoring equipments” below.
QA/QC procedures to be applied	Meter readings from the meter M1(S/N:1305712953) and M2(S/N:9070125900004) will be directly applied for cross checking of electricity purchased from the grid by the proposed project. Electricity purchased from the grid will be double checked against electricity sales receipts. Conservative values will be adopted for ERs calculation.
Purpose of the data	Baseline Emission calculation

Calculation method	-
Comments	-

Data / Parameter	$EG_{A,y}$
Data unit	MWh
Description	Quantity of electricity supplied to the grid by Project A (the project) in year y.
Source of data	The readings of the meters M3(S/N:9090151400334) and M4(S/N:9090151400336) installed on the 35kV transmission lines at 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.
Frequency of monitoring/recording	Continuously measurement and monthly recording
Value monitored	Period: 27/04/2020- 31/12/2020 — MWh: 56,924.28 Period: 01/01/2021- 31/12/2021 — MWh: 92,762.60 Total: 149,686.88
Monitoring equipment	Electricity meter M3(S/N:9090151400334) and M4(S/N:9090151400336) installed on the 35kV transmission lines at the project site. Please refer to the monitoring equipment information in the table of "Information of monitoring equipments" below.
QA/QC procedures to be applied	The metering equipment at the substation are calibrated once a year according to the national standard.
Purpose of the data	Baseline Emission calculation
Calculation method	-
Comments	-

Data / Parameter	$EG_{B,y}$
Data unit	MWh
Description	Quantity of electricity supplied to the grid by Project B in year y.

Source of data	Readings of electricity meter M5(S/N:9090151400332) 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 paper backup. The calibration frequency is once a year.
Frequency of monitoring/recording	Continuously measurement and monthly recording
Value monitored	<table><tr><th>Period</th><th>MWh</th></tr><tr><td>27/04/2020- 31/12/2020</td><td>19,603.92</td></tr><tr><td>01/01/2021- 31/12/2021</td><td>31,975.72</td></tr><tr><td>Total</td><td>51,579.64</td></tr></table>
Monitoring equipment	Electricity meter M5(S/N:9090151400332) was installed at the Project B site. Please refer to the monitoring equipment information in the table of "Information of monitoring equipments" below.
QA/QC procedures to be applied	The metering equipment at the substation are calibrated once a year according to the national standard.
Purpose of the data	Baseline Emission calculation
Calculation method	-
Comments	-

Information of monitoring equipments

Meters	Type	Serial No.	Accuracy	Calibration date	Calibration frequency	Validity
M1	DTSD3000	1305712953	0.5S	13/01/2020 13/01/2021	Annually	Yes
M2	DL/T614	09070125900004	0.2S		Annually	Yes
M3[2]	DL/T614	09090151400334	0.5S		Annually	Yes
M4[2]	DL/T614	09090151400336	0.5S		Annually	Yes
M5[3]	DL/T614	09090151400332	0.5S		Annually	Yes

[2] These two are the monitoring meters for the 35kV line of the Shandong Taipingshan Wind Farm Project (Project A).

[3] This is the monitoring meter for the 35kV line of the Shandong Yishui Tangwangshan Wind Farm Project (Project B).

4.3 Monitoring Plan

The 58 sets of wind turbines of the project are connected with two 35kV transmission lines. Two electricity meters (M3(S/N:9090151400334) and M4(S/N:9090151400336)) are installed on the 35kV transmission lines at the project site. The M3(S/N:9090151400334) and M4(S/N:9090151400336) are used to measure the electricity supplied to the grid by the project, which are equal to the summation of the readings of M3(S/N:9090151400334) and M4(S/N:9090151400336).

The project is sharing the meter M1(S/N:1305712953) installed Muling 220kV substation measures the electricity exported to and imported from the grid by the proposed project and another project (Shandong Yishui Tangwangshan Wind Farm project, hereafter referred to Project B). The backup meter M2(S/N:9070125900004) was installed at the higher voltage side of 35kV/110kV substation. The reading from the main meter M1(S/N:1305712953) is first choice. When the main meter is out of order, the reading from the backup meter M2(S/N:9070125900004) will be used.

Electricity supplied to the grid by Project B is measured by meter M5(S/N:9090151400332) installed at the Project B site.

The accuracy of the meters M1(S/N:1305712953), M2(S/N:9070125900004), M3(S/N:9090151400334), M4(S/N:9090151400336) and M5(S/N:9090151400332) is no lower than 0.5s, and the calibration accuracy is once a year in line with the national rules of Relative Technical Administrative Code of Electric Energy Metering. Also, sales receipts for the proposed project activity will be used for double checking following the requirement in the applied methodology.

For calculating the net electricity generation supplied by the project plant/unit to the grid in year y, the following equation will be applied.

$$EG_{facility,y} = EG_{A,y}/(EG_{A,y} + EG_{B,y})* EG_{export,y} - EG_{import,y}$$

Where:

$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y.

$EG_{export,y}$ = Total electricity supplied to the grid by the proposed Project (Project A) and Project B during year y.

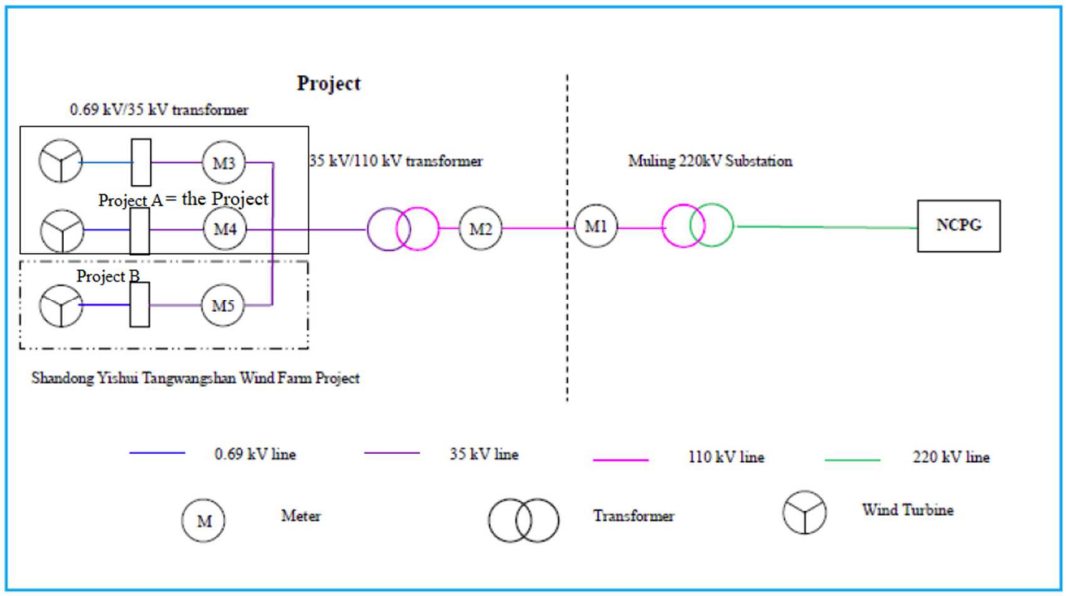
$EG_{import,y}$ = Electricity imported from the grid by the Project (Project A) and Project B during in year y.

$EG_{A,y}$ = Quantity of electricity supplied to the grid by the Project (Project A) in year y.

$EG_{B,y}$ = Quantity of electricity supplied to the grid by Project B in year y.

Meter readings from meter M1(S/N:1305712953) or M2(S/N:9070125900004) which measures the electricity imported by both Project A and project B. The total electricity purchased from the grid by the Project (Project A) and Project B is deemed as the total electricity purchased from the grid by the project when calculating emission reductions, which is conservative.

The simplified wiring diagram is shown as below:



Monitoring organizational structure, roles and responsibilities

The project owner will use this document as guideline in monitoring of the project emission reduction performance and will adhere to the guidelines set out in this monitoring plan to ensure that the monitoring is credible, transparent and conservative.

The responsibilities of the project staff are as follows:

General Manager: To be responsible for supervising the whole monitoring procedure.

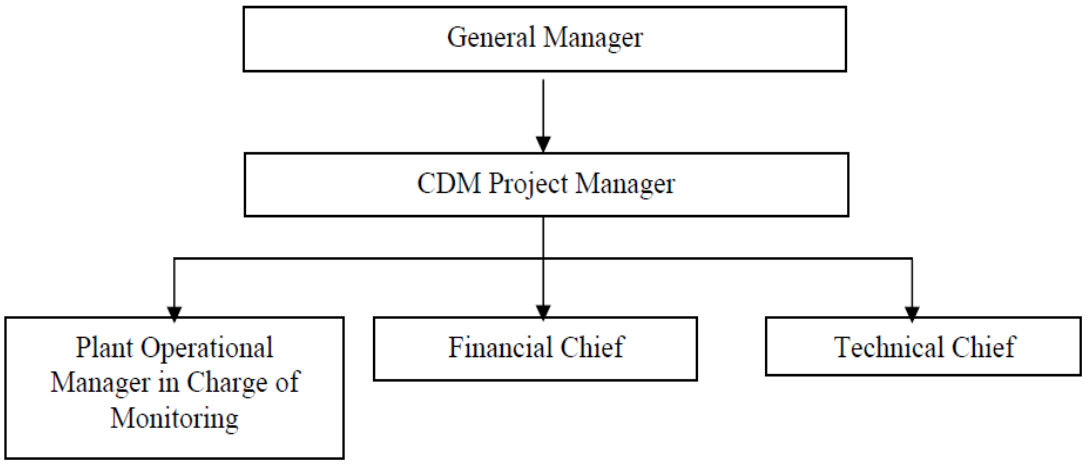
CDM Project Manager: To be responsible for data management and compiling monitoring report.

Operational and monitoring manager: To be responsible for collecting data and do internal audit.

Financial chief: To be responsible for collection of sales receipts.

Technical chief: To be responsible for preparing operational reports of the project activity, recording the daily operation of the wind farm, including operating periods, equipment defects, etc.

The organization of the monitoring implementers is illustrated in the table below:



Data Management System

To keep safely the record of the data collected during monitoring, this project will set up a complete data management system. The project will perfect the whole monitoring procedure by developing the CDM manual, tracking information from the primary source to the end-data calculations in paper document format. It is the responsibility of the proposed project owner to provide additional necessary data and information for validation and verification requirements of respective DOE. Physical documentation such as paper-based maps, diagrams and environmental assessment will be collated in a central place, together with this monitoring plan. All paper-based information will be stored by the proposed project owner and kept at least one copy.

At the end of each month, the monitoring data will be filed in a spreadsheet, and the paper-based printout will be also archived as well. Furthermore, the project owner collects the sales receipts for the electricity supplied to the grid as a cross-check, and compiled the monitoring report including the monitoring data and relevant evidence at the end of each crediting year.

All the data will be kept for two years following the end of the last crediting period.

Quality Assurance and Quality Control

The workers are trained to be competent and the metering equipments are calibrated and sealed as per the industry practices at regular intervals, with the purpose to provide credible, accurate, transparent and conservative monitoring data and ensure the real, measurable, long-term GHG emission reduction from this project.

Monthly metering data of the supplied and purchased electricity by the proposed project will be approved and signed off by the Manager before it is accepted and stored. This audit will check compliance with monitoring procedures in this monitoring plan. This internal audit will also identify potential improvements to procedures to improve monitoring and reporting in future years. The monitoring officers will also attend a training session organized by the CDM consultant. The

purpose of training is to assure those staffs are competent to conduct the monitoring plan, thus to make the monitored data accurate.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

Baseline Emissions are calculated by multiplying the ex-ante Baseline Emission factor by annual power generation.

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

Where:

BE_y = Baseline emissions in year y (tCO_2/yr)

$EG_{facility,y}$ = Quantity of net electricity generation supplied to the grid by the Project in year y. (MWh)

$EF_{grid,CM,y}$ = Combined margin emission factor for grid connected power generation in year y (tCO_2/MWh).

$EG_{facility,y} = EG_{A,y}/(EG_{A,y} + EG_{B,y})* EG_{export,y} - EG_{import,y}$

Where:

$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y.

$EG_{export,y}$ = Total electricity supplied to the grid by the proposed Project (Project A) and Project B during year y.

$EG_{import,y}$ = Electricity imported from the grid by the Project (Project A) and Project B during in year y.

$EG_{A,y}$ = Quantity of electricity supplied to the grid by the Project (Project A) in year y.

$EG_{B,y}$ = Quantity of electricity supplied to the grid by Project B in year y.

Table 1: The electricity exported and imported by the proposed project ($EG_{export,y}$&$EG_{import,y}$)

Period	$EG_{export,y}$			$EG_{import,y}$		
	Readings	Sales receipts	Value	Readings	Sales receipts	Value

	A	B	C=Min(A,B)	D	E	F=Max(D,E)
27/04/2020-30/04/2020	1661.44	1661.44	1661.44	1.76	1.76	1.76
01/05/2020-31/05/2020	14962.64	14962.64	14962.64	44.00	44.00	44.00
01/06/2020-30/06/2020	10252.88	10252.88	10252.88	49.28	49.28	49.28
01/07/2020-31/07/2020	8729.60	8729.60	8729.60	43.12	43.12	43.12
01/08/2020-31/08/2020	7171.12	7171.12	7171.12	33.44	33.44	33.44
01/09/2020-30/09/2020	4748.48	4748.48	4748.48	50.16	50.16	50.16
01/10/2020-31/10/2020	6432.80	6432.80	6432.80	58.96	58.96	58.96
01/11/2020-30/11/2020	10640.96	10640.96	10640.96	51.04	51.04	51.04
01/12/2020-31/12/2020	11356.40	11356.40	11356.40	45.76	45.76	45.76
Subtotal 2020			**75956.32**			**377.52**
01/01/2021-31/01/2021	11864.16	11864.16	11864.16	45.76	45.76	45.76
01/02/2021-28/02/2021	16103.12	16103.12	16103.12	28.16	28.16	28.16
01/03/2021-31/03/2021	12850.64	12850.64	12850.64	52.80	52.80	52.80
01/04/2021-30/04/2021	11878.24	11878.24	11878.24	26.40	26.40	26.40
01/05/2021-31/05/2021	13005.52	13005.52	13005.52	29.92	29.92	29.92
01/06/2021-30/06/2021	9962.48	9962.48	9962.48	31.68	31.68	31.68
01/07/2021-31/07/2021	9351.76	9351.76	9351.76	33.44	33.44	33.44

01/08/2021-31/08/2021	4810.08	4810.08	4810.08	70.40	70.40	70.40
01/09/2021-30/09/2021	6358.88	6358.88	6358.88	26.40	26.40	26.40
01/10/2021-31/10/2021	10767.68	10767.68	10767.68	44.00	44.00	44.00
01/11/2021-30/11/2021	8474.40	8474.40	8474.40	52.80	52.80	52.80
01/12/2021-31/12/2021	8410.16	8410.16	8410.16	70.40	70.40	70.40
Subtotal 2021			**123837.12**			**512.16**
Total			**199793.44**			**889.68**

Table 2: The electricity supply of the proposed project ($EG_{A,y}/(EG_{A,y} + EG_{B,y})* EG_{export,y}$)

Period	Electricity supply of the proposed project and the other project by the meters					
	$EG_{B,y}$ by the meter M5(S/N:909 0151400332)	$EG_{A,y}$ by the meter M3(S/N:9090 151400334)	$EG_{A,y}$ by the meter M4(S/N:9090 151400336)	$EG_{output,y}$		
	G	H1	H2	I=(H1+H2)/(H 1+H2+G)*C	Sales receipts (J)	Value (K=Min(I,J))
27/04/2020-30/04/2020	441.28	610.12	610.12	1220.18	1220.18	1220.18
01/05/2020-31/05/2020	4039.00	5533.50	5526.22	10960.04	10960.04	10960.04
01/06/2020-30/06/2020	2257.92	4045.30	4048.80	8016.58	8016.58	8016.58
01/07/2020-31/07/2020	2050.16	3380.16	3376.38	6697.39	6697.39	6697.39
01/08/2020-31/08/2020	2047.36	2590.56	2589.44	5139.69	5139.69	5139.69
01/09/2020-30/09/2020	1207.36	1784.58	1782.06	3547.57	3547.57	3547.57

01/10/2020-31/10/2020	1711.36	2378.18	2380.14	4731.20	4731.20	4731.20
01/11/2020-30/11/2020	2695.00	4002.74	3997.14	7959.55	7959.55	7959.55
01/12/2020-31/12/2020	3154.48	4144.56	4144.28	8225.88	8225.88	8225.88
Subtotal 2020	**19603.92**	**28469.70**	**28454.58**			**56498.07**
01/01/2021-31/01/2021	2967.72	4495.40	4492.60	8919.17	8919.17	8919.17
01/02/2021-28/02/2021	4040.40	6078.94	6076.14	12085.76	12085.76	12085.76
01/03/2021-31/03/2021	3501.12	4722.20	4719.40	9374.43	9374.43	9374.43
01/04/2021-30/04/2021	3001.60	4485.32	4482.52	8899.51	8899.51	8899.51
01/05/2021-31/05/2021	3289.44	4905.18	4902.38	9739.06	9739.06	9739.06
01/06/2021-30/06/2021	2530.92	3758.30	3752.98	7451.65	7451.65	7451.65
01/07/2021-31/07/2021	2014.32	3712.94	3707.34	7355.13	7355.13	7355.13
01/08/2021-31/08/2021	1334.20	1761.90	1759.10	3488.28	3488.28	3488.28
01/09/2021-30/09/2021	1587.88	2409.40	2406.60	4782.16	4782.16	4782.16
01/10/2021-31/10/2021	3091.20	3889.76	3886.40	7704.83	7704.83	7704.83
01/11/2021-30/11/2021	2187.08	3167.78	3164.42	6298.84	6298.84	6298.84
01/12/2021-31/12/2021	2429.84	3014.48	3011.12	5993.33	5993.33	5993.33
Subtotal 2021	**31975.72**	**46401.60**	**46361.00**			**92092.14**
Total	**51579.64**	**74871.30**	**74815.58**			**148590.21**

Table 3: Calculation of baseline emission reductions

Period	$EG_{A,y}/(EG_{A,y}+EG_{B,y})*EG_{export,y}$	$EG_{import,y}$	$EG_{facility,y}$	$EF_{grid,CM,y}$	BE_y
	(MWh)	(MWh)	(MWh)	(tCO_2e/MWh)	(tCO_2e)
27/04/2020-31/12/2020	56,498.07	377.52	56,120.55	0.8405	47,169
01/01/2021-31/12/2021	92,092.14	512.16	91,579.98	0.8405	76,972
Total	**148,590.21**	**889.68**	**147,700.53**		**124,141**

5.2 Project Emissions

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

Hence, PE_y=0 tCO_2e.

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_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
27/04/2020-31/12/2020	47,169	0	0	47,169
01/01/2021-31/12/2021	76,972	0	0	76,972
Total	124,141	0	0	124,141

The annual average emission reductions estimated in the registered VCS-PD is 76,511 tCO_2, so the estimated amount of emission reductions for the corresponding 614 days (the duration of this monitoring period) are 614/365×76,511=128,706 tCO_2, which is higher than the actual value of 124,141 tCO_2.