

INNER MONGOLIA YIHEWUSU PHASE II 49.5 MW WIND POWER PROJECT

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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The Inner Mongolia Yihewusu Phase II 49.5 MW Wind Power Project (hereafter referred to as the “Project”) developed by Inner Mongolia Xinjin Wind Power Co., Ltd. (hereafter referred to as the “Project Developer”), is a grid-connected renewable energy project in Ordos city, Inner Mongolia, in the People’s Republic of China (hereafter referred to as the “Host Country”).

It involves the installation of 66 wind turbines, each of which has a rated output of 750 kW, providing a total installed capacity of 49.5 MW, with a predicted power supplied to the grid of 101,689 MWh per annum. The provider of the wind turbines is Xinjiang Goldwind Science & Technology Co., Ltd. The purpose of the Project is to utilise a wind power facility to generate zero greenhouse gas (GHG) emissions electricity for the North China Power Grid (hereafter referred to as the “NCPG”), thereby displacing electricity that is relatively carbon intensive, with a Combined Margin Emission Factor of 1.05485 tCO₂/MWh. The project is therefore expected to reduce emissions of GHG by an estimated 107,267 tCO₂e per year by displacing electricity from the Grid. The baseline scenario is the same as the scenario existing prior to the start of the implementation of the project activity: electricity delivered to the Grid by the project would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources.

The project started construction on 15/09/2008 and started commercial operation on 25/06/2009. The project was registered as a CDM project (No. 3490) on 25/11/2010 and was registered as a VCS project (No. 1001).

The VCS crediting period of the Project changed as ‘25/06/2009 to 24/06/2019’, totally 10 years., and the crediting period deviation is described in section 2.2.1 of this PD.

During the monitoring period (from 21/12/2015 to 24/06/2019), the monitoring activities were conducted strictly in accordance with the monitoring plan in the registered VCS PD. The project has operated without any accidental or emergency events that might impact the accuracy and/or implementation of monitoring activities. The net feed-in electricity during this period is 368346.00 MWh, and the emission reduction achieved by the project in this monitoring period is 388,547 tCO₂e. The emission reductions in the monitoring period will be verified and issued under VCS rules.

1.2 Sectoral Scope and Project Type

This category would fall within sectoral scope 1: energy industries (Renewable sources).

Project type: wind power project.

The project is not a grouped project.

1.3 Project Proponent

Organization name	Inner Mongolia Xinjin Wind Power Co., Ltd.
Contact person	Fei Wantang
Title	Project Owner
Address	No.81 Xinhua East Road, West of Eight Floor, Comprehensive Building, Fangting Garden, Huhehaote, Inner Mongolia Autonomous Region
Telephone	+86-471-4223486
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1.4 Other Entities Involved in the Project

Organization name	Demeter Venture UK Limited
Role in the project	Project manager
Contact person	Teng Haipeng
Title	Manager
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1.5 Project Start Date

25/06/2009 (The project started operation on 25/06/2009.)

1.6 Project Crediting Period

The VCS crediting period of the Project is from 25/06/2009 to 24/06/2019, totally 10 years.

1.7 Project Location

The project was located in Ordos city, Inner Mongolia, in the People's Republic of China. The exact location of the Project is defined using geographic coordinates obtained with a Global Positioning System (GPS) receiver: E 107°31'42" Longitude, N 40°07'02" Latitude. These geographic coordinates are for the centre of the wind farm.

1.8 Title and Reference of Methodology

1. The approved consolidated baseline and monitoring methodology ACM0002: "Consolidated methodology for grid-connected electricity generation from renewable sources", Version 10, in effect as of EB47;
2. The approved "Tool for demonstration and assessment of additionality", Version 5.2, in effect as of EB 39 and

3. The approved “Tool to calculate the emission factor for an electricity system”, Version 2, in effect as of EB 50 are applied to the Project activity.

1.9 Other Programs

Emission Trading Programs and Other Binding Limits:

The project has been registered as a CDM project on 25/11/2010, for which a renewable crediting period of 3×7 years is used under the CDM GHG Program. The project proponent confirmed that, once emission reductions generated from 21/12/2015 to 24/06/2019 are issued under VCS rules, those credits will not be claimed as CERs and will be claimed as zero in the possible future CER monitoring report. And issued VCUs will be sold only once to one particular buyer.

Once the project proponent is included in an emissions trading program or any other mechanism that includes GHG allowance trading, the VCU issuance under VCS rules will be stop immediately since the date of included in an emissions trading program or any other mechanism that includes GHG allowance trading.

Other Forms of Environmental Credit:

The Project is a renewable energy generation project, which discharges no emission during operation period. Thus, the project doesn't fall into categories that creating GHG emissions primarily for the purpose of its subsequent removal or destruction.

The Project has not created another form of environmental credit, which will be verified by DOE. And the Project will not create other environmental credit in the future.

Participation under Other GHG Programs:

The Project has been registered as a VCS project with registration number 1001.

The Project has been registered as a CDM project with registration number 3490.

1.10 Sustainable Development

The proposed project will contribute to sustainable development mainly by:

- Increases employment opportunities in the area where it is located - approximately 15 people will be permanently employed for Project operation, and Project construction secures jobs in the construction sector. The Project therefore contributes to poverty alleviation
- Enhances the local investment environment, and therefore improves the local economy
- Diversifies the sources of electricity generation. This is important for meeting growing energy demands, and transitioning away from coal-supplied electricity generation
- Makes use of renewable wind power resources

2 IMPLEMENTATION STATUS

2.1 Implementation Status of the Project Activity

The project started construction on 15/09/2008 and started commercial operation on 25/06/2009. The electricity generated by the Project is delivered to NCPG.

During this monitoring period, the Project is well operated and implemented. Neither emergencies (including of overhaul times, downtimes of equipment, exchange of equipment, etc.) happened to the monitoring system in this monitoring period, nor events or situations occurred during the monitoring period, which may impact the applicability of the methodology.

It involves the installation of 66 wind turbines, each of which has a rated output of 750 kW, providing a total installed capacity of 49.5 MW, with a predicted power supplied to the grid of 101,689 MWh per annum. The provider of the wind turbines is Xinjiang Goldwind Science & Technology Co., Ltd. Technical parameters of the wind turbines employed by the Project are illustrated in Table 1.

Table 1. Technical parameters of the wind turbines

Wind turbine	
Type	Jinfeng S50/750
No. of vane	3
Rated Power (kW)	750
Rotor diameter (m)	50
Cut-in speed(m/s)	3.5
Cut-out speed(m/s)	25
Rated speed(m/s)	14-15
Hub height (m)	60
Manufacturer	Xinjiang Goldwind Science & Technology Co., Ltd.

2.2 Deviations

2.2.1 Methodology Deviations

There is no deviation applied to this monitoring period.

2.2.2 Project Description Deviations

The project was registered under CDM scheme on 25/11/2010 with reference number of 3490. According to CDM standard, the crediting period is 25/11/2010-24/11/2017, which could be renewed twice.

Then the project was registered under VCS scheme in 2013. In the registered PD, the project commission date is 25/06/2009 and crediting period is from 01/07/2009 to 24/11/2010(512 days). The first issuance under is from 25/06/2009 to 24/11/2010. While according to VCS standard-v3.7, the project crediting period is allowable for 10 years and could be renewed twice. Therefore, the crediting period should be from 25/06/2009 to 24/06/2019 (10years), which could be renewed twice.

Therefore, the project description has a deviation for the crediting period. The crediting period is changed from '01/07/2009 to 24/11/2010 (512 days)' to '25/06/2009 to 24/06/2019 (10years)', which could be renewed twice.

2.3 Grouped Project

The Project is not a grouped project.

2.4 Safeguards

2.4.1 No Net Harm

According to Clauses 13 and 19 of the Environmental Evaluation Law of the Host Country, the Project entity must analyse the environmental impacts of project activities in the Host Country before utilising natural resources and beginning Project construction. The Project Developer therefore commissioned a third party, the Inner Mongolia Institute of Electricity Power Survey and Design, to conduct the required Environmental Impact Assessment (EIA) in 2008, and the EIA report was approved by the Inner Mongolia Environmental Protection Bureau on 07/05/2008.

There is no transboundary impact related to the Project, and there is no requisite resettlement or relocation of population, buildings, or public services. Therefore, social and environmental influences are considered partial, short-term, and reversible.

Where impacts of the project were identified, mitigation measures were suggested and defined. The EIA highlights the following with regards to the Project, as shown in the following discussion.

Noise: The noise pollution mainly comes from the manual drills and cement mixers during the construction period, and aerodynamic interaction between the wind and turbine blades during operation. The noise levels will be naturally attenuated by ambient conditions, and will remain within the 'Standards of Environmental noise of urban areas' (GB3096-93). It is stated in the EIA that the project location is far away from the nearest resident area. Therefore, the noise of the turbines will not affect the local residents.

Solid Waste: Most of the waste produced during the construction shall be landfilled or disposed of in an appropriate solid waste disposal site. The household waste will be collected and sent to the local waste treatment station or refuse dump.

Electromagnetic impact: The operation of the wind farm will generate electromagnetic energy, however, the amount produced will be very small. Furthermore, the site of the Project is far from any residential area. Therefore, there is no significant electromagnetic impact to be expected.

Wastewater and sewage: The total amount of wastewater and sewage from the operation of the project will be very small. The wastewater and sewage from the construction and operational periods will be treated and reused for plant irrigation, which indicates no impact on the surrounding environment.

Dust and Air Quality: The air impact during the construction period mainly comes from airborne dust produced by excavating, by land transportation vehicles, and some exhaust discharge from using and moving construction machinery. Regarding this problem, the project owner will use enclosed or semi-enclosed transportation the construction controls, advocating 'civilized construction', and regularly spraying and cleaning the branch roads, material dump sites and other construction work surfaces.

Ecological impact: The proposed wind farm is located in an area of natural grassland. During the construction period, some vegetation will be affected, but this will be restored within a short period. The installation height of the turbines is lower than 100m, so there is not expected to be any significant effect on birds' migration. In conclusion, the construction work of this proposed project is not expected to affect the local ecological environment.

Given the environment of the project location, there is very little wildlife at the site, and no protected species has been detected. Therefore, there is no significant impact by the Project on the local ecology.

With mitigation controls planned as part of the Project construction and EIA process, and the contribution made by the project to sustainable development for the local and national area, the Project is expected to have an overall positive impact on the local and global environments. Mitigation measures will ensure that there are no significant residual impacts associated with the Project.

2.4.2 Local Stakeholder Consultation

Local Stakeholder Consultation during the project preparation stage:

The stakeholder consultation for the Project activity took place during May 2009. The consultation invited local stakeholders to submit comments on the Project activity by filling in a questionnaire sent out by the Project Developer. The Project Developer put the notice at the gate of the Hangjin county government office. The notice included a technical description of the Project as well as a brief explanation of how the project activity mitigates climate change through the Clean Development Mechanism of the Kyoto Protocol, and brings other sustainable development benefits. The questionnaires were sent out around the project site. The questions asked were as follows:

- What impacts do you think the CDM Project activity will have on the local environment?
- What impacts do you think the CDM Project activity will have on employment in the local area?

- What impacts do you think the CDM Project activity will have on your livelihood?
- What impacts do you think the CDM Project activity will have on social welfare in the local area?
- What would be the overall effects of the construction and operation of the CDM Project?
- What is your attitude towards the construction of the CDM Project?

31 questionnaires were sent to the stakeholders by the Project Developer. The stakeholders are all local residents including governmental officials (2 people), local residents (26 people) and related employees (3 people). A full list of stakeholders consulted is available from the Project Developer.

Local Stakeholder Consultation during the project implementation stage:

There is a Notebook provided near the notice board of the local village. All the local stakeholders can write their comments, suggestions, or complains in the Notebook anytime during the lifetime of the project. The project owner will check the book every month. There are no negative comments received for the project. In line with VCS requirements all the processes have been implemented to receive comments from local stakeholders as well as communicate with them at periodic intervals.

3 DATA AND PARAMETERS

3.1 Data and Parameters Available at Validation

Data / Parameter	EF _y
Data unit	tCO ₂ e/MWh
Description	Baseline emission factor: the combined emission factor of the project grid system in year y.
Source of data	Registered VCS PD EF _y was not directly available at validation but calculated based on other parameters in the VCS PD available at validation, therefore in the MR, only EF _y is included and the rest of the parameters are either used to calculate EF _y or not used in the MR.
Value applied	1.05485
Justification of choice of data or description of measurement methods and procedures applied	Notification on 2008 baseline emission factors for regional power grids in China, issued by China on 18/07/2008 and the registered VCS PD.
Purpose of the data	Baseline emission calculations.
Comments	The emission factor of the Project was ex-ante determined and is fixed during the first crediting period. All data and parameters had been determined at registration.

3.2 Data and Parameters Monitored

Data / Parameter	EG _{facility,y}																
Data unit	MWh/yr																
Description	Quantity of net electricity generation supplied by the project to the grid in year y																
Source of data	Electricity Meter																
Description of measurement methods and procedures to be applied	Both the electricity exported to the grid by the proposed project and the power imported from the grid will be monitored continuously through the two-way metering equipment (Key meter) at the onsite substation.																
Frequency of monitoring/recording	Measuring continuously/Reading monthly/Recording monthly																
Value monitored	The quantity of net electricity generation supplied by the Project plant/unit to the grid during this monitoring period is 371086.32 MWh. The electricity exported to the grid by the Project is 389,893.68 MWh, and the electricity imported from the grid by the Project is 2740.32 MWh.																
Monitoring equipment	The monitoring meter is the key Meter, and a check meter is installed in case the key meter is malfunctioned. During this monitoring period, the key meter has operated normally. The information about the meters <table border="1"> <tr> <td></td><td>Key meter</td></tr> <tr> <td>Type</td><td>Bidirectional electricity meter</td></tr> <tr> <td>Accuracy class</td><td>0.2S</td></tr> <tr> <td>Serial number</td><td>95236565</td></tr> <tr> <td>Date of calibration</td><td>11/08/2015; 24/05/2016; 15/03/2017; 26/12/2017; 12/10/2018;</td></tr> <tr> <td>Calibration validity until</td><td>11/10/2019</td></tr> <tr> <td>Calibration frequency</td><td>Once per year</td></tr> <tr> <td>Calibration entity</td><td>Electric energy Measuring and Testing center of Inner Mongolia Electric Power Science Research Institute</td></tr> </table>		Key meter	Type	Bidirectional electricity meter	Accuracy class	0.2S	Serial number	95236565	Date of calibration	11/08/2015; 24/05/2016; 15/03/2017; 26/12/2017; 12/10/2018;	Calibration validity until	11/10/2019	Calibration frequency	Once per year	Calibration entity	Electric energy Measuring and Testing center of Inner Mongolia Electric Power Science Research Institute
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Calibration validity until	11/10/2019																
Calibration frequency	Once per year																
Calibration entity	Electric energy Measuring and Testing center of Inner Mongolia Electric Power Science Research Institute																
QA/QC procedures to be applied	Cross check measurement results with sales receipts. A check meter (S/N: 96358957) which has been calibrated was installed in case the key meter is malfunctioned																
Purpose of the data	Baseline emission calculations.																
Calculation method	It is the difference between the monitored electricity exported to the Grid and monitored electricity imported from the Grid																
Comments	-																

3.3 Monitoring Plan

This section details the steps taken to monitor the GHG emissions reductions on a regular basis from the Inner Mongolia Yihewusu Phase II 49.5 MW Wind Power Project in the Host Country.

The monitoring set-up for this Project has been developed to ensure that from the start, the Project is well organised in terms of the collection and archiving of complete and reliable data.

1. CDM monitoring Organisation

Roles and responsibilities will be defined for relevant staff involved in CDM monitoring, and the prospect of nominating a CDM Manager will be considered. If appointed, the CDM Manager will have the overall responsibility for the monitoring system on this project. All staff involved in the collection of data and records will be coordinated by him.

2. Staff training

Training is conducted on-site to ensure that staffs are capable of performing their designated tasks to high standards. This will include CDM specific training to warrant that they understand the importance of complete and accurate data and records for CDM monitoring.

3. Maintenance and calibration of monitoring equipment

The electricity meter(s) measuring power output to the grid will be calibrated in line with the relevant national standard. The meter(s) measuring electricity supply will maintain accuracy within 0.5%.

4. Data collection and record-keeping arrangements

The meter installed at the high voltage side of the on-site transformer is used to obtain the amount of electricity effectively supplied to the Grid and the amount of imported electricity from the Grid. The electricity generated and consumed by the facility is collected and recorded at 24:00 on the 20th every month, meanwhile the net electricity exported onto the net is calculated automatically by the computer, this method of calculation is accepted by the Inner Mongolia Power (Group) Co., Ltd.

The meter recording value should be cross checked with the ETN issued by Grid Company. The monitoring system is as following:

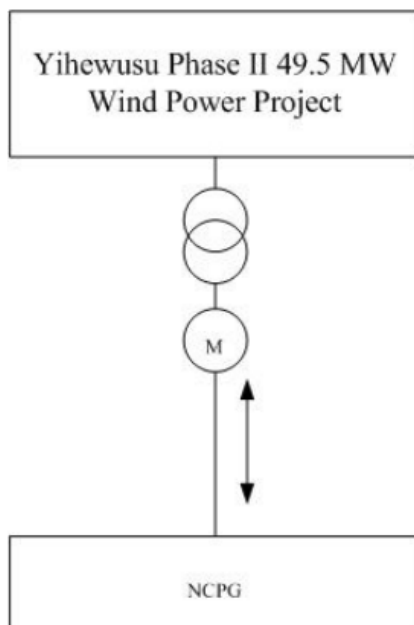


Figure 1. Line diagram²⁴¹

5. Data Quality Control and Quality Assurance

All data collected on-site will be checked internally before being compiled in an electronic format, to ensure that it is complete and of appropriate quality. The responsible company or person will perform a final check of the data, and analyse project performance prior to any verification.

4 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

4.1 Baseline Emissions

According to ACM0002 and the registered VCS PD of the Project, The baseline emission BE_y during the monitoring period results from:

$$BE_y = EG_{\text{facility},y} \times EF_y$$

$$EG_{\text{facility},y} = EG_{\text{export},y} - EG_{\text{import},y}$$

Where:

BE_y is the baseline emissions of the Project;

EF_y is the combined margin baseline emission factor of the NCPG;

$EG_{\text{facility},y}$ is Quantity of net electricity generation supplied by the project to the grid in year y ;

¹ If the proposed project imports power from back-up line in case of emergency, dedicated meter will be installed to measure the power imported from the back-up line.

$EG_{\text{export},y}$ is the quantity of electricity exported to the grid by the Project;

$EG_{\text{import},y}$ is the quantity of electricity imported from the grid by the Project.

The monthly electricity data is listed in following table 2:

Table2. Calculation of the net electricity supplied to the grid by the Project

Period	Electricity generated by the projet monitored by Key meter	Electricity consumed by the project on-site monitored by Key meter	Quantity of net electricity generation supplied by the project to the grid in year y	Sales Receipt of electricity exported to the Grid	Conservative Chosen of Electricity supplied to the Grid
From-to	MWh	MWh	MWh	MWh	MWh
	A	B	C=A-B	D	E=Min(C,D)
21/12/2015-31/12/2015	3131.04	31.68	3,099.36	3,099.36	3099.36
From 21/12/2015 to 31/12/2015	3131.04	31.68	3099.36	3099.36	3099.36
01/01/2016-20/01/2016	5541.36	47.52	5,493.84	5,493.84	5493.84
21/01/2016-20/02/2016	7220.40	87.12	7,133.28	7,133.28	7133.28
21/02/2016-20/03/2016	8556.24	44.88	8,511.36	8,511.36	8511.36
21/03/2016-20/04/2016	7824.96	63.36	7,761.60	7,761.60	7761.60
21/04/2016-20/05/2016	10462.32	34.32	10,428.00	10,428.00	10428.00
21/05/2016-20/06/2016	9680.88	79.20	9,601.68	9,601.68	9601.68
21/06/2016-20/07/2016	9406.32	58.08	9,348.24	9,348.24	9348.24
21/07/2016-20/08/2016	10660.32	89.76	10,570.56	10,570.56	10570.56
21/08/2016-20/09/2016	8120.64	66.00	8,054.64	8,054.64	8054.64
21/09/2016-20/10/2016	7355.04	52.80	7,302.24	7,302.24	7302.24
21/10/2016-20/11/2016	6879.84	134.64	6,745.20	6,745.20	6745.20
21/11/2016-20/12/2016	10288.08	97.68	10,190.40	10,190.40	10190.40
21/12/2016-31/12/2016	3754.08	29.04	3,725.04	3,725.04	3725.04
From 01/01/2016 to 31/12/2016	105750.48	884.40	104866.08	104866.08	104866.08
01/01/2017-20/01/2017	5169.12	58.08	5,111.04	5,111.04	5111.04
21/01/2017-20/02/2017	6687.12	68.64	6,618.48	6,618.48	6618.48
21/02/2017-20/03/2017	9010.32	26.40	8,983.92	8,983.92	8983.92
21/03/2017-20/04/2017	8946.96	36.96	8,910.00	8,910.00	8910.00
21/04/2017-20/05/2017	10029.36	31.68	9,997.68	9,997.68	9997.68
21/05/2017-20/06/2017	10127.04	47.52	10,079.52	10,079.52	10079.52
21/06/2017-20/07/2017	6803.28	71.28	6,732.00	6,732.00	6732.00
21/07/2017-20/08/2017	9224.16	39.60	9,184.56	9,184.56	9184.56
21/08/2017-20/09/2017	7700.88	76.56	7,624.32	7,624.32	7624.32
21/09/2017-20/10/2017	8804.40	52.80	8,751.60	8,751.60	8751.60
21/10/2017-20/11/2017	9018.24	58.08	8,960.16	8,960.16	8960.16
21/11/2017-20/12/2017	7856.64	73.92	7,782.72	7,782.72	7782.72
21/12/2017-31/12/2017	6222.48	15.84	6,206.64	6,206.64	6206.64
From 01/01/2017 to 31/12/2017	105600.00	657.36	104942.64	104942.64	104942.64
01/01/2018-20/01/2018	2146.32	34.32	2,112.00	2,112.00	2112.00

21/01/2018-20/02/2018	7360.32	108.24	7,252.08	7,252.08	7252.08
21/02/2018-20/03/2018	9218.88	116.16	9,102.72	9,102.72	9102.72
21/03/2018-20/04/2018	8907.36	63.36	8,844.00	8,844.00	8844.00
21/04/2018-20/05/2018	10610.16	44.88	10,565.28	10,565.28	10565.28
21/05/2018-20/06/2018	8719.92	79.20	8,640.72	8,640.72	8640.72
21/06/2018-20/07/2018	9636.00	47.52	9,588.48	9,588.48	9588.48
21/07/2018-20/08/2018	8418.96	60.72	8,358.24	8,358.24	8358.24
21/08/2018-20/09/2018	8421.60	63.36	8,358.24	8,358.24	8358.24
21/09/2018-20/10/2018	10813.44	55.44	10,758.00	10,758.00	10758.00
21/10/2018-20/11/2018	9517.20	58.08	9,459.12	9,459.12	9459.12
21/11/2018-20/12/2018	8484.96	39.60	8,445.36	8,445.36	8445.36
21/12/2018-31/12/2018	2629.44	23.76	2,605.68	2,605.68	2605.68
From 01/01/2018 to 31/12/2018	104884.56	794.64	104089.92	104089.92	104089.92
01/01/2019-20/01/2019	6042.96	55.44	5,987.52	5,987.52	5987.52
21/01/2019-20/02/2019	7893.60	87.12	7,806.48	7,806.48	7806.48
21/02/2019-20/03/2019	8556.24	44.88	8,511.36	8,511.36	8511.36
21/03/2019-20/04/2019	7824.96	63.36	7,761.60	7,761.60	7761.60
21/04/2019-20/05/2019	10462.32	34.32	10,428.00	10,428.00	10428.00
21/05/2019-20/06/2019	9683.52	79.20	9,604.32	9,604.32	9604.32
21/06/2019-24/06/2019	1256.64	30.45	1248.72	1248.72	1248.72
From 01/01/2019 to 24/06/2019	51720.24	372.24	51348.00	51348.00	51348.00
Total in this monitoring period	371086.32	2740.32	368346.00	368346.00	368346.00

Year	EG _{facility,y} (MWh)	EF _{grid,CM,y}	BE _y (tCO ₂ e)
21/12/2015-31/12/2015	3099.36	1.05485	3,269
01/01/2016-31/12/2016	104866.08	1.05485	110,617
01/01/2017-31/12/2017	104942.64	1.05485	110,698
01/01/2018-31/12/2018	104089.92	1.05485	109,799
01/01/2019-24/06/2019	51348.00	1.05485	54,164
Total	371086.32		388,547

4.2 Project Emissions

Project emission (PE_y) is 0 tCO₂e as per the registered VCS PD.

4.3 Leakage

No leakage emissions are considered as per the applied methodology ACM0002 and the registered VCS PD.

4.4 Net GHG Emission Reductions and Removals

Year	Baseline emissions or	Project emissions or	Leakage emissions	Net GHG emission
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	removals (tCO ₂ e)	removals (tCO ₂ e)	(tCO ₂ e)	reductions or removals (tCO ₂ e)
21/12/2015- 31/12/2015	3,269	0	0	3,269
01/01/2016- 31/12/2016	110,617	0	0	110,617
01/01/2017- 31/12/2017	110,698	0	0	110,698
01/01/2018- 31/12/2018	109,799	0	0	109,799
01/01/2019- 24/06/2019	54,164	0	0	54,164
Total	388,547	0	0	388,547

The estimated annual emission reductions are 107,267 tCO₂e as per registered VCS PD. The monitoring period covers 1282 days. The estimated emission reductions during this monitoring period are $107,267/365 \times 1282 = 376,757$ tCO₂e. The actual emission reductions in this period are, 388,547 tCO₂e, which are 3.13% more than the estimated value within the normal variation range.