VASPET-II AND VASPET-III WIND POWER PROJECT, MAHARASHTRA

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Project Title	Vaspet-II and Vaspet-III Wind Power Project, Maharashtra
Version	1.2
Report ID	VCS1404-II
Date of Issue	15-December-2021
Project ID	VCS1404
Monitoring Period	04-August-2014 to 02-April-2020
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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The VCS project activity is installation of 33 numbers of Wind Turbine Generators (WTGs) of 1.5MW capacity each in Sangli district of Maharashtra, India. The project has been completely commissioned by 30-August-2013. Since then, the project has been in continuous operation.

In the current monitoring period, the project activity generates 501,095.14 MWh of clean energy and feeds to the connected electricity grid and thereby reduces 477,443 tCO2e of GHG emissions.

1.2 Sectoral Scope and Project Type

Sectoral Scope: 01 (Energy Industries (Renewable / Non-renewable sources)

Project Type: Renewable Energy Sources

The project is not a grouped project.

1.3 Project Proponent

Organization name	ReNew Wind Energy (Shivpur) Private Limited
Contact person	Nikunj Nangalia
Title	Head Project Development B2B & Carbon Market
Address	601 – 604, 6th Floor, 4A, DLF Corporate Park, Gurgaon, Haryana, PIN – 122001, India
Telephone	+91- 124 – 4896670/80
Email	Nikunj.Nangalia@renewpower.in

1.4 Other Entities Involved in the Project

Organization name	Emergent Ventures India Pvt. Ltd.
Role in the Project	Project Consultant
Contact person	Atul Sanghal
Title	Business Head

Address	Magnum Tower 1, 8th Floor, Sector 58, Gurgaon
Telephone	+91-97173 96309
Email	contact@emergent-ventures.com

1.5 Project Start Date

03-April-2013.

1.6 Project Crediting Period

Project Crediting Period: 03-Apr-2013 to 02-Apr-2020

Number of years: 7 years

1.7 Project Location

The VCS project activity is located in Shedyal, Salekeri and Valsang village of Sangli district, Maharashtra.

Wind turbine wise detailed geo-coordinates are given below:

S No	Location Number	Village	Geographical Coordinates	
			Longitude	Latitude
1	VASP-237	Shedyal	75.349014	17.020735
2	VASP-15	Shedyal	75.325371	17.048208
3	VASP-72	Shedyal	75.335732	17.050913
4	VASP-142	Shedyal	75.334518	17.041018
5	VASP-29	Shedyal	75.318893	17.046827
6	VASP-64	Salekiri	75.309723	17.036627
7	VASP-35	Salekiri	17.044722	75.311092
8	VASP-394	Salekiri	75.305176	17.052109
9	VASP-09	Salekiri	75.312446	17.050634
10	VASP-49	Shedyal	75.303299	17.041645

S No	Location Number	Village	Geographical Coordinates	
			Longitude	Latitude
11	VASP-450	Shedyal	75.315186	17.040342
12	VASP-564	Valsang	75.335457	17.068613
13	VASP-510	Valsang	75.337708	17.057283
14	VASP-637	Valsang	75.349586	17.062027
15	VASP-696	Valsang	75.346336	17.058496
16	VASP-92	Shedyal	75.361488	17.050245
17	VASP-21	Valsang	75.307396	17.058651
18	VAPS III 397	Shedyal	75.314384	17.028946
19	VAPS III 26	Valsang	75.306488	17.055532
20	VAPS III 58	Salekiri	75.304634	17.038271
21	VAPS III 525	Valsang	75.338750	17.066222
22	VAPS III 384V	Valsang	75.317722	17.073472
23	VAPS III 387	Valsang	75.318108	17.077499
24	VAPS III 388	Valsang	75.319496	17.084095
25	VAPS III 700/1	Valsang	75.343796	17.054434
26	VAPS III 689	Valsang	75.355079	17.060282
27	VAPS III 355	Shedyal	75.329028	17.016833
28	VAPS III 698	Valsang	75.350258	17.055481
29	VAPS III 108	Salekiri	75.304083	17.028250
30	VAPS III 440	Valsang	75.318535	17.063026

S No	Location Number	Village	Geographical Coordinates	
			Longitude	Latitude
31	VAPS III 463	Valsang	75.321266	17.060102
32	VAPS III 105	Shedyal	75.356155	17.046394
33	VAPS III 424	Shedyal	75.312675	17.024509

1.8 Title and Reference of Methodology

ACM0002: "Grid-connected electricity generation from renewable sources"; Version 13[1]

Tools referred with above methodology and applicable for the project activity are:

TOOL01: Tool for the demonstration and assessment of additionality; Version 07.0.0[2]

TOOL07: Tool to calculate emission factor for an electricity system; Version 04.0[3]

1.9 Participation under other GHG Programs

The VCS project activity has been registered with UNFCCC under Clean Development Mechanism (CDM). The project is a component project activity under Programme of Activities (PoA). The details are provided below:

Unique Reference No. of PoA:	9416
Name of the PoA:	Promotion of renewable energy generation in India-Programme of Activities
Date of Registration:	31-December-2012
Name of the project:	Vaspet-II and Vaspet III Wind Power Project, Maharashtra
Unique Reference No. of CPA:	CPA 9416-P1-0003-CP1
Date of Inclusion:	04-August-2014

[1] https://cdm.unfccc.int/methodologies/DB/MPY3HVJIMTKE5P0UNTYE827D6Q7EHB

[2] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf

[3] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v4.0.pdf

1.10 Other Forms of Credit

Net GHG emission reductions or removals generated by the Project will not be used for compliance with an emissions trading program or to meet binding limits on GHG emissions in any Emission Trading program or other binding limits.

The Project has no intent to generate any other form of GHG-related environmental credit for GHG emission reductions or removals claimed under the VCS Program.

1.11 Sustainable Development

Contribution of the project activity to sustainable development:

Ministry of Environment and Forests, Government of India has suggested social well-being, economic wellbeing, environmental well-being and technological well-being as the four indicators for sustainable development in the host country approval eligibility criteria for Clean Development Mechanism (CDM) projects.

The project contributes to the general well-being of the region and is in line with the sustainable development policies of Government of India, as described below:

Social well-being:

The project has resulted in the investment in the rural sector of India thereby creating employment opportunities to local population (skilled and unskilled manpower) available in and around project facility for building infrastructure, installation and maintenance and managing the wind farm thus enabling improvement in the quality of life of the people.

Economic well-being:

The land prices in the neighboring area have gone up thereby benefiting the villagers. It will help to improve the availability of electricity as the electricity generated will be fed into the grid thereby curtailing the supply demand gap. This will provide new opportunities for industries and economic activities to be setup in the area thereby increasing employment opportunities.

Environmental well-being:

The project activity is a cleaner means for power generation which avoids fossil fuel based thermal power generation. Therefore it positively contributes towards the reduction in demand for India's carbon intensive energy resources thereby conserving the non-renewable natural resources like coal, gas, oil. By substituting and hence decreasing the need for fossil fuel based power generation in the grid, the project activity will reduce GHG emissions from the country's electricity sector. Moreover wind power projects produce no end products in the form of solid and liquid wastes. Power generation from renewable energy sources in the project activity creates global as well as local environmental benefits.

Technological well-being:

The project activity is an energy diversification measure where renewable energy is harnessed for generation of power in order to meet the increasing energy demand of the state. The associated technology for power generation does not have any associated GHG emission. These turbines deploy the advanced technology for generation as well as for grid interaction. Hence, the project would utilize environmentally safe and sound technologies in wind power sector. Further the project demonstrates harnessing wind potential and encourages others for setting up more such projects in future.

2 SAFEGUARDS

2.1 No Net Harm

The project activity includes wind energy projects and these renewable power projects are excluded from conducting detailed EIA as per the EIA Notification 2006[4]. Thus, environmental impact assessment has not been required for the project activity.

2.2 Local Stakeholder Consultation

The CPA implementer identified stakeholders like local population living near CPA power plants, employees, elected representatives of nearby areas etc. as potential stakeholders. A local stakeholders' meeting was held on 19 Dec 2013 and invitation was by a newspaper ad (Punyanagari, Kolhapur) and few individual invitations in (local language). The meeting was held at 507/1/2, 1st Floor, Algur, TV Nagar, Old High School Road, Jath, Tal. Jath, Dist. Sangli.

The meeting was attended by total 25 people and started by welcome address from Mr. Dipak Nalavade (ReGen Powertech, the WTG supplier and O&M contractor) and introductions. Mr. Kuber Turevale, a local representative was unanimously chosen as chairperson of the meeting. Mr. Rohit Joshi, representative of CPA implementer introduced objectives of project, its benefits and role in reducing GHG emissions. He also discussed issue of global warming and role of CDM of the Kyoto Protocol. The meeting Chairman discussed benefits of project to the local communities.

The Chairperson then summarised comments and gave his view, thanked CPA implementer for the social benefits. Then attendees were requested to give comments and raise concerns if any.

Summary of comments received

SN	Query / comments from stakeholders	Response from PP
1	Mr. Arun Shinde Is it true that wind mills move	The clouds are much higher than the height of wind mills and hence it is not likely to have any imapct on rain. Further reference was made to studies

[4] http://environmentclearance.nic.in/writereaddata/standardtorreference.pdf

	away rain clouds?	from Indian Institute of Tropical Meteorology and Center of Wind Energy Technology on same conclusion.
2	Mr. Jagtap S.B. Why can't the electricity generation from this project be directly supplied to the local community?	The generated electricity is supplied to the state electricity distribution company which distributes it as per the state policy. PP cannot supply electricity directly to the local community
3	Mr. Akash Whether wind projects harm local property value?	There would not be any negative impact on the property values due to the presence of wind farms. In fact, the development of wind farms will subsequently increase the property value owing to the overall development in the region.
4	Mr. Mahesh Jalake What are the direct and indirect benefits to local people from the project?	The project would generate local job opportunities, which will help in the overall socio-economic development of the region. Additionally, a number of social corporate responsibility initiatives would be undertaken, which would be identified based on the specific needs of local populace.

Further, the stakeholders can anytime provide their inputs or concerns over the project, and for this, PP has placed a grievance register onsite, where in they can put down their complaint and the same if found genuine will be addressed immediately. The site manager is responsible for addressing the grievances received from stakeholders.

No complaints were received during the monitoring period.

2.3 AFOLU-Specific Safeguards

Not Applicable, as this project is a non-AFOLU project.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The Project Activity envisages implementation of a 49.50MW wind power project consisting of 33 Wind Electric Generators (WEGs) of individual capacity 1.5MW in Sangli district, Maharashtra by ReNew Wind Energy (Shivpur) Private Limited. The project is completely commissioned and connected to NEWNE regional grid.

The technical detail of WEGs installed in the project is:

S.N.	Parameter	Specification/ Value with unit
1	Rated power	1500 kW
2	Rotor diameter	82 m
3	Hub height	85 m
4	Turbine type	Direct drive horizontal axis wind turbine with variable rotor speed
5	Power regulation	Independent electromechanical pitch system with for each blade
6	Cut in wind speed	3 m/s
7	Rated wind speed	~ 13 m/s
8	Cut out wind speed	22 m/s
9	Operational range of rot. speed	9 – 17.3 rpm
10	Orientation	Upwind
11	No. of blades	3
12	Blade material	Glass fibre reinforced plastic
13	Gear box type	Gearless
14	Generator type	Synchronous, variable speed
15	Braking	Aerodynamic
16	Output voltage	620 V
17	Tower	85 m
18	Useful life	20 years

The commissioning details of all the WEGs installed under the project activity have been detailed below:

S No	Location numbers	Date of commissioning
1	VASP-237	27-Jun-13
2	VASP-15	05-Apr-13
3	VASP-72	04-Apr-13

S No	Location numbers	Date of commissioning
4	VASP-142	04-Apr-13
5	VASP-29	04-Apr-13
6	VASP-64	05-Apr-13
7	VASP-35	05-Apr-13
8	VASP-394	26-Jun-13
9	VASP-09	05-Apr-13
10	VASP-49	05-Apr-13
11	VASP-450	26-Jun-13
12	VASP-564	04-Apr-13
13	VASP-510	04-Apr-13
14	VASP-637	04-Apr-13
15	VASP-696	24-Jun-13
16	VASP-92	30-Aug-13
17	VASP-21	30-Aug-13
18	VAPS III 397	28-Jun-13
19	VAPS III 26	27-Jun-13
20	VAPS III 58	01-Aug-13
21	VAPS III 525	21-Aug-13
22	VAPS III 384V	27-Jun-13
23	VAPS III 387	01-Aug-13

S No	Location numbers	Date of commissioning
24	VAPS III 388	19-Jul-13
25	VAPS III 700/1	21-Aug-13
26	VAPS III 689	21-Aug-13
27	VAPS III 355	29-Aug-13
28	VAPS III 698	27-Jun-13
29	VAPS III 108	22-Aug-13
30	VAPS III 440	27-Jun-13
31	VAPS III 463	21-Aug-13
32	VAPS III 105	29-Aug-13
33	VAPS III 424	21-Aug-13

Further, there are no changes to the project participant for the project activity during the monitoring period.

The project activity has been in operation through the monitoring period. The details of shutdown of the project activity during the monitoring period are provided below:

	Plant shutdown		
Year	BM-WTG (hrs)	WTG (hrs)	External shutdown (hrs)
2014-15	1234.04	1731.73	31299.78
2015-2016	1113	2270.83	2645.66
2016-17	1194.23	1340.22	1937.51
2017-18	2391	1280	855
2018-19	5862	2853	1082
2019-20	16044	3069	334
2020-21	8705	2133	129
Total	**36543.27**	**14677.78**	**38282.95**

3.2 Deviations

2.3.1 Methodology Deviations

There has not been any methodology deviation during the current monitoring period.

2.3.2 Project Description Deviations

There has not been any project description deviation during the current 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	$EF_{grid,OM,y}$
Data unit	tCO_2/ MWh
Description	Operating Margin emission factor of NEWNE grid
Source of data	CO_2 baseline database for Indian power sector, v7.0
Value applied	0.9842
Justification of choice of data or description of measurement methods and procedures applied	The values are taken from the database developed by Central Electricity Authority (CO_2 Baseline database for the Indian power sector, v7.0)[5]. The database is Government of India's official publication based on the 'Tool to calculate the emission factor for an electricity system'.
Purpose of Data	Calculation of baseline emissions
Comments	Parameter was determined ex-ante and would not be monitored during the crediting period.

Data / Parameter	$EF_{grid,BM,y}$
Data unit	tCO_2/ MWh
Description	Build Margin emission factor of NEWNE grid

[5] https://cea.nic.in/cdm-co2-baseline-database/?lang=en

Source of data	CO_2 baseline database for Indian power sector, v7.0[6]
Value applied	0.8588
Justification of choice of data or description of measurement methods and procedures applied	The values are taken from the database developed by Central Electricity Authority (CO_2 Baseline database for the Indian power sector, v7.0). The database is Government of India's official publication based on the 'Tool to calculate the emission factor for an electricity system'.
Purpose of Data	Calculation of baseline emissions
Comments	Parameter was determined ex-ante and would not be monitored during the crediting period.

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Data / Parameter	$EF_{grid,CM,y}$
Data unit	tCO_2/ MWh
Description	Combined Margin emission factor of NEWNE grid
Source of data	CO_2 baseline database for Indian power sector, v7.0[7]
Value applied	0.9528
Justification of choice of data or description of measurement methods and procedures applied	The values are taken from the database developed by Central Electricity Authority (CO_2 Baseline database for the Indian power sector, v7.0). The database is Government of India's official publication based on the 'Tool to calculate the emission factor for an electricity system'.
Purpose of Data	Calculation of baseline emissions
Comments	Parameter was determined ex-ante and would not be monitored during the crediting period.

4.2 Data and Parameters Monitored

Data / Parameter	$EG_{facility,y}$
Data unit	MWh
Description	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y
Source of data	Joint meter reading or Credit Note provided by Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL)

[6] https://cea.nic.in/cdm-co2-baseline-database/?lang=en

[77] https://cea.nic.in/cdm-co2-baseline-database/?lang=en

Description of measurement methods and procedures to be applied	The JMR is usually taken once in month for the bulk/ revenue meter at the common substation. Also with the individual WEG controller reading (LCS data), the JMR also gives (where applicable – apportioned) electricity import of each WTG and losses till metering point. By using these data, net export by the WEGs is calculated (as in some case net export is not explicitly reported in JMR).
Frequency of monitoring/recording	Continuous measurement and at least monthly recording
Value monitored	501,095.14
Monitoring equipment	Equipment used: Electronic meters Meter make: Elster A1800 (all meters are same make) Accuracy class: 0.2s (all meters same accuracy class) Calibration/ Testing Frequency: Annually Meter details: **Feeder 1** Main meter 13769363 Check meter 013813547 Replacement check meter 02797655 **Feeder 2** Main meter 13813570 Check meter 15687853 Replacement check meter 013813547 **Feeder 6** Main meter 13813551 Check meter 05269309 Replacement check meter 1350784 **Feeder 7** Main meter 15687854 Check meter 14953662 Details on the meter calibration is provided in Annexure I.

QA/QC procedures to be applied	Cross check measurement results with records for sold electricity
Purpose of the data	Calculation of baseline emissions
Calculation method	Based on JMR data.
Comments	The data will be archived both in electronic and paper format for crediting period + 2 years.

4.3 Monitoring Plan

The only parameter to be monitored, in-line with the applied methodology ACM0002, v13.0.0 is Quantity of net electricity generation supplied by the project plant/unit to the grid.

General Description: Meter readings are taken jointly at the appointed date by PP's representative and Maharashtra State Electricity Distribution Company Limited (MSEDCL) official. The same is reported as Joint Meter Reports (JMR). The same is reported to the O&M team and the complied reports are generated in the form of Credit Notes.

Net electricity supplied by the project activity to the grid is cross-checked with records for sold electricity by invoices raised for the payment purpose. The accuracy of monitoring parameter is ensured by adhering to the calibration and testing procedure as set in the power purchase agreement. The project adheres to all mandatory regulatory and statutory requirements at the state as well as national level. The energy meters installed are tri-vector meters of 0.2s/ 0.5 accuracy class.

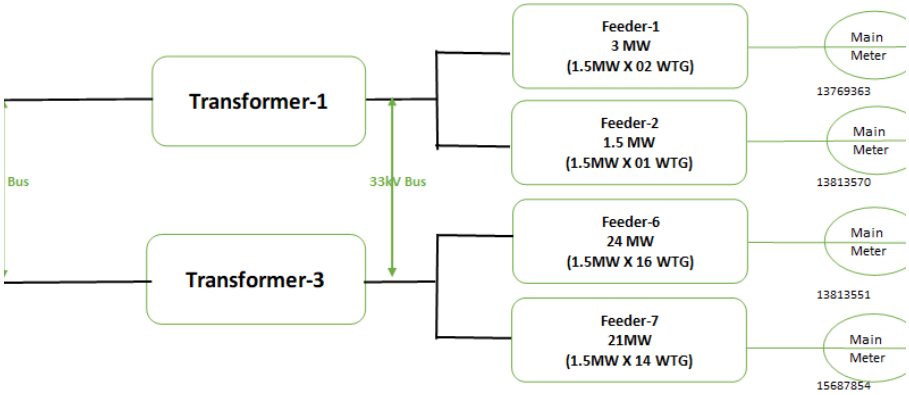
Organizational Structure and Roles & Responsibilities: The operational and management structure designed for the project activity includes representatives of PP and O&M Contractor.

The detailed roles and responsibilities are presented in the table below:

Role	Responsibility
CDM Coordinator	• Cross- checking of the data collected by O&M Team (Site In-charge, Supervisor, Technician); • Review of the collected data; • Forwarding monitored data to corporate office; • Forwarding the data to CDM Advisor for calculation and reporting of emission reductions.
O&M Team	• Primary collection of data; • Facilitating timely periodic testing and calibration of monitoring equipment; • Monitoring, recording, reporting and archiving of data.
Operator at site	

Apportionment Procedure: In some cases, if a particular feeder/ substation has non-project WEGs connected through same electricity meter, apportioning is used. Even otherwise, to determine WEG-wise electricity supplied to grid, apportioning is carried out.

The schematic line diagram of the project is shown in the below diagram,



Apportioning of net electricity supplied is done with reference to the electricity generated from individual WEGs. The MSEDCL issues a monthly Joint Energy Meter Readings sheet for net electricity exported from the wind farm to the grid. Apportioning of net electricity supplied, as per the Joint Energy Meter Readings sheet, by each project owner is done based on the individual energy generated by each WEG. The Credit Notes with electricity buyer are used to calculate net electricity supplied to the grid and on the basis of which, GHG emission reductions by the project activity is calculated.

$$\text{Net Generation of a WEG @ sub-station end} = \text{kWh individual generation @ WEG controller} \times \frac{\text{Total electricity supplied to the grid as recorded in meter @ sub-station end connected to feeder}}{\text{Total controller reading of all WEGs connected to the feeder}}$$

Procedure for handling data uncertainty:

- In case main meter is faulty: In the event that the main metering system is not in the service as result of maintenance, repairs or testing, then the back metering system shall be used during the period the main metering system is not in service and the provisions above shall apply to the reading of the backup metering system.
- In case both the meters are faulty: When the Main Metering System and/or Backup Metering System and/or any component thereof is found to be outside the acceptable limit of accuracy or otherwise not functioning properly, it shall be repaired, recalibrated or replaced as soon as possible by the MSEDCL. The error observed during this calibration will be applied to all readings from last correct JMR / last meter calibration. MSEDCL will ensure that metering system is tested for accuracy at least once in year and report furnished along with joint meter reading.

- Any meter seal(s) shall be broken only by the authorized officer of MSEDCL in the presence of representative of Power Producers/ Developers, whenever the Main Metering System or the backup metering system is to be inspected, tested, adjusted, repaired or replaced.
- In case, the monitoring period starts mid- month, the reading for that month will be apportioned based on the daily electricity export data give by the O&M contractor. This will be also checked with the average daily export arrived from that month's JMR and the conservative of the two will be used for the emission reduction calculation.

Calibration Details: Calibration details of all the meters are included in Appendix 1 of the monitoring report.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

In-line with equation no. 6 of applied methodology, ACM0002, v13.0.0; baseline emissions include only CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants. The baseline emissions are to be calculated as follows:

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

Where:

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

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the project activity in year y (MWh/yr)

$EF_{grid,CM,y}$ = Combined margin CO2 emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO_2/MWh)

In-line with equation 7 of applied methodology, ACM0002, v13.0.0 and considering the fact that the project activity is the installation of a new grid-connected renewable power plant/unit at a site where no renewable power plant was operated prior to the implementation of the project activity, then:

$$EG_{PJ,y} = EG_{facility,y}$$

Where:

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the project activity in year y (MWh/yr)

$EF_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)

Therefore,

$EF_{grid,CM,y} = w_{OM} * EF_{grid,OM,y} + w_{BM} * EF_{grid,BM,y}$

$= 0.75 * 0.9842 + 0.25 * 0.8588$

$= 0.9528\ tCO_2e/MWh$

And

BE_y = **501,095.14** MWh × 0.9528 tCO2/ MWh = **477,443** tCO_{2e}

5.2 Project Emissions

In-line with applied methodology ACM0002, v13.0.0; for most renewable power generation project activity, $PE_y = 0$. Considering the fact that the project activity utilizes wind in order to generate electricity, no fossil fuel is used on-site and therefore, project emission is nil.

Therefore, **$PE_y = 0$.**

5.3 Leakage

In-line with applied methodology, no leakage emissions are considered.

Therefore, **$LE_y = 0$.**

5.4 Net GHG Emission Reductions and Removals

Net GHG emission reductions ERy = BEy – PEy – Ley

i.e.

Net GHG emission reductions ERy = 477,443 – 0 – 0 = 477,443

The table below provides details of year wise distribution of net emission reductions in the monitoring period. A detailed emission reduction sheet is provided to DOE for validation.

Year	Baseline emissions of removals (tCO_2e)	Project emissions of removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG reductions of removals (tCO_2e)
2014	13,302	0	0	13,302

2015	92,363	0	0	92,363
2016	98,221	0	0	98,221
2017	84,879	0	0	84,879
2018	88,140	0	0	88,140
2019	90,655	0	0	90,655
2020	9,884	0	0	9,884
Total	**477,443**	**0**	**0**	**477,443**

APPENDIX 1: METER AND CALIBRATION DETAILS

Feeder number	Feeder 1			Feeder 2	
Meter Type	Main	Check	Check	Main	Check
Meter Serial No	13769363	013813547	02797655	13813570	05269309
Meter make	Elster A1800	Elster A1800		Elster A1800	Elster A1800
Accuracy class	0.2 s	0.2 s	0.2 s	0.2 s	0.2 s
Date of previous calibration I	03-Jan-14	03-Jan-14		03-Jan-14	NA
Validity	02-Jan-15	02-Jan-15		02-Jan-15	
Date of previous calibration II	01-Sep-14	20-Feb-2015 Meter replaced	20-Feb-15	01-Sep-14	
Validity	31-Aug-15		19-Feb-16	31-Aug-15	
Date of previous calibration III	22-Jul-15		22-Jul-15	22-Jul-15	22-Jul-15
Validity	21-Jul-16		21-Jul-16	21-Jul-16	21-Jul-16
Date of previous calibration IV	08-Jul-16		08-Jul-16	08-Jul-16	26 Jan 2016 Meter replaced
Validity	07-Jul-17		07-Jul-17	07-Jul-17	
Date of previous calibration V	NA		18-Sep-17	18-Sep-17	
Validity			17-Sep-18	17-Sep-18	
Date of previous calibration VI	27-Jun-18		27-Jun-18	27-Jun-18	
Validity	26-Jun-19		26-Jun-19	26-Jun-19	
Date of current calibration	20-Aug-20		20-Aug-20	20-Aug-20	
Validity	19-Aug-21		19-Aug-21	19-Aug-21	
Remark		Meter replaced on date 20-02-2015 from 13813547 to 2797655			Meter replaced on date 26-01-2015 from 5269309 to 13813547

Feeder No.		Feeder 6		Feeder 7	
Meter Type	Check	Main	Check	Main	Check
Meter Serial No	013813547	13813551	15687853	15687854	14953662
Meter make		Elster A1800	Elster A1800	Elster A1800	Elster A1800
Accuracy class	0.2 s	0.2 s	0.2 s	0.2 s	0.2 s
Date of previous calibration I		22-Oct-13	22-Oct-13	22-Oct-13	22-Oct-13
Validity		21-Oct-14	21-Oct-14	21-Oct-14	21-Oct-14
Date of previous calibration II		19-Jun-14	19-Jun-14	23-Jun-14	23-Jun-14
Validity		18-Jun-15	18-Jun-15	22-Jun-15	22-Jun-15
Date of previous calibration III	22-Jul-15	22-Jul-15	22-Jul-15	22-Jul-15	22-Jul-15
Validity	21-Jul-16	21-Jul-16	21-Jul-16	21-Jul-16	21-Jul-16
Date of previous calibration IV	NA	08-Jul-16	08-Jul-16	08-Jul-16	08-Jul-16
Validity		07-Jul-17	07-Jul-17	07-Jul-17	07-Jul-17
Date of previous calibration V	NA	18-Sep-17	18-Sep-17	18-Sep-17	18-Sep-17
Validity		17-Sep-18	17-Sep-18	17-Sep-18	17-Sep-18
Date of previous calibration VI	27-Jun-18	27-Jun-18	27-Jun-18	27-Jun-18	27-Jun-18
Validity	26-Jun-19	26-Jun-19	26-Jun-19	26-Jun-19	26-Jun-19
Date of current calibration	NA	20-Aug-20	Calibration not done due fault in meter	20-Aug-20	NA
Validity		19-Aug-21		19-Aug-21	
Remark			Meter replaced in 19-01-2021 from 15687853 to 1350784		

Note

- For energy meter on Feeder 6 and Feeder 7, calibration information is unavailable for period June 2015 and July 2015.
- For energy meter on Feeder 1, calibration information is unavailable for period July 2017 till June 2018.
- For energy meters on all Feeders. Calibration information is unavailable for period July- Sep 2017.
- For energy meters on all Feeders. Calibration information is unavailable for period June 2019-March 2020,
- However meters were found to be working within the permissible limit of error when these were calibrated in the future date. Hence an adjustment equal to the permissible limit of 0.2% is considered for both exports and imports data for respective feeders for the same period.