



**Verified Carbon
Standard**

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



Document Prepared by EKI Energy Services Limited

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¹ <https://registry.terra.org/app/projectDetail/VCS/1404>

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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The VCS project activity is implementation and operation of new grid-connected wind power project in Sangli district of Maharashtra, India. The project activity comprises of installation of 33 numbers of WTG of 1.5 MW capacity each. The project has been completely commissioned by 30-August-2013. Since then, the project has been in continuous operation.

Brief description of the installed technology and equipment:

The project activity involves WTGs made by ReGen Powertech Private Limited, model V82-rated capacity 1500 kW. The commissioning dates of WTGs are mentioned below:

Location No.	Agg. Capacity (MW)	District	State	Commissioning Date
VASP-35, VASP-49, VASP64, VASP-09, VASP-510, VASP-564, VASP-637, VASP-29, VASP-72, VASP-142 VASP-15	16.50	Sangli	Maharashtra	03-April-2013
VASP III-388	1.50			19-April-2013
VASP-696	1.50			24-June-2013
VASP III-384, VASP III-397, VASP III-440 VASP III-26, VASP III-698, VASP-237, VASP-450, VASP-394	12.00			26-June-2013
VASP III-387, VASP III-58	3.00			01-August-2013
VASP III-700/1, VASP III-424, VASP III-108, VASP III-463, VASP III-525, VASP III-689	9.00			21-August-2013
VASP III-105, VASP III-355	3.00			29-August-2013
VASP-92, VASP-21	3.00			30-August-2013

The relevant implementation dates

The first WTG was commissioned on 03-April-2013. The last WTG was commissioned on 30-August-2013. Since then, all WTGs have been running satisfactorily. In current Monitoring Period, there is no major breakdown happened, which has an impact on emission reduction calculation.

Details of previous monitoring periods are given below:

- 1st Monitoring Period: 03-April-2013 to 03-August-2014; VCU Issued: 102,835 tCO₂e
- 2nd Monitoring Period: 04-August-2014 to 02-April-2020; VCU Issued: 477,443 tCO₂e
- 3rd Monitoring Period: 03-April-2020 to 31-December-2021; VCU Issued: 143,540 tCO₂e.

The total GHG emission reductions or removals generated in this monitoring period.

The total GHG emission reductions for the current monitoring period 01-January-2022 to 30-June-2022 (First and last date included) is 36,878 tCO₂e.

1.2 Sectoral Scope and Project Type

Sectoral Scope : 01, Energy industries (renewable / non-renewable sources)
Project Type : Renewable type (wind)

1.3 Project Proponent

Organization name	M/s. ReNew Wind Energy (Shivpur) Private Limited
Contact person	Mr. Aditya Sharma
Title	PP Representative
Address	ReNew Hub, Commercial Block-1, Zone 6, Golf Course Road, DLF City, Phase-V, Gurugram- 122009, Haryana
Telephone	+91-8800915324
Email	Aditya.Sharma@renewpower.in

1.4 Other Entities Involved in the Project

Organization name	EKI Energy Services Limited
Role in the Project	Project Consultant
Contact person	Bibhushita Ghose
Title	Manager – Operations
Address	Enking Embassy, Office no. 201, Plot 48, Scheme 78 Part-2, Vijay Nagar, Indore-452010, Madhya Pradesh, India
Telephone	+91 0731 428 9086
Email	Email ID: bibhushita.ghose@enkingint.org , registry@enkingint.org

1.5 Project Start Date

As per §3.7.1 of VCS Standard, v3.4; the project start date is 03-April-2013 (Date of commissioning of first WTG).

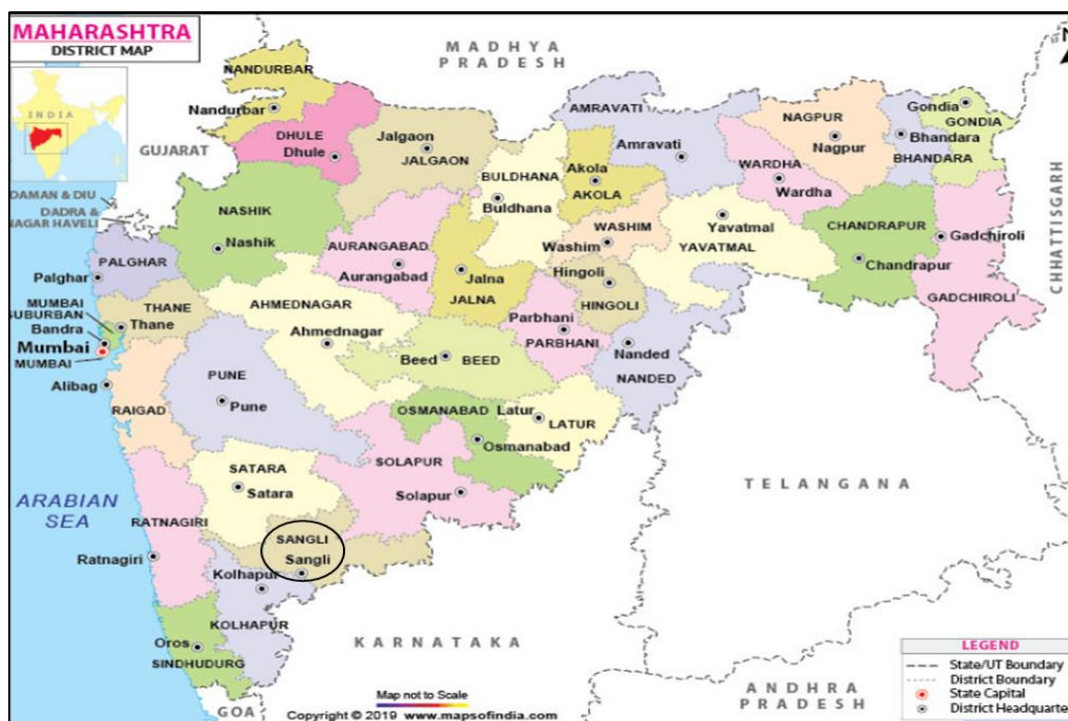
1.6 Project Crediting Period

Crediting period start date: 03-April-2013
Crediting period end date: 02-April-2023

Project crediting period: 10 years and 0 months, renewable twice.

1.7 Project Location

The VCS project activity is located in Shedyal, Salekeri and Valsang village of Sangli district, Maharashtra. The unique geographical coordinates of individual WTGs are presented in Appendix 1 of VCS Monitoring Report. Please refer “Appendix 1: Geographical Coordinates of WTG” for more details.



1.8 Title and Reference of Methodology

Details of Methodology applied

Name: ACM0002
Title: Consolidated baseline methodology for grid-connected electricity generation from renewable sources
Version: 13
Reference: EB67 Annex13²

Details of Methodology Tools applied

Name : Tool to calculate emission factor for an electricity system
Version: 04.0.0
Reference: EB75 Annex15³

² <https://cdm.unfccc.int/UserManagement/FileStorage/DYPFI935XBG274NWH6O8CM1KEZR0VU>

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

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 a Programme of Activities (PoA). The details are provided below:

Unique Reference No. of PoA	:	9416 ⁴
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	:	9416-0003 ⁵
Date of Inclusion	:	04-August-2014

In VCS, current monitoring period is considered from 01-January-2022 to 30-June-2022.

PP has provided undertaking that in current monitoring period, it would not claim GHG emission reduction credits in any GHG program other than that in VERRA. There would be no double counting of GHG emission reductions.

1.10 Other Forms of Credit

Emission Trading Programs and Other Binding Limits: This project activity is a voluntary initiative of ReNew Wind Energy (Shivpur) Private Limited and not been implemented to meet any local laws and regulatory compliances. ReNew Wind Energy (Shivpur) Private Limited has submitted an undertaking that the company shall not claim for GHG emission reduction credits for the given period under any other emission trading program.

The project activity is not availing any REC benefits and the same can be confirmed from publicly available link of REC generators.

https://www.recregistryindia.nic.in/index.php/publics/registered_regens

Other Forms of Environmental Credit: In accordance with §3.11.3 of VCS Standard, v3.4; PP clarifies that emission reduction generated by the project activity won't be double counted, (i.e., issuance of other form of environmental credit/certificate) for this particular crediting period. ReNew Wind Energy (Shivpur) Private Limited has submitted an undertaking that the company shall not claim for GHG emission reduction credits for the given period under any other emission trading program.

1.11 Sustainable Development Contributions

Contribution to sustainable development:

⁴ https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/H8ZL9NPDCF0B76JQM5XVTGKI1YU4AO/view

⁵ https://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/S0DAMYVG9ROKQ146BFWJPT82Z7L3IN/view

Ministry of Environment, Forests and Climate Change (MoEFCC), has stipulated economic, social, environment and technological well-being as the four indicators of sustainable development. The project contributes to sustainable development using the following ways.

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 has provided 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 reduces 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. 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.

Table 1: Sustainable Development Contributions

Row number	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Current Project Contributions	Contributions Over Project Lifetime
Sequential row number	SDG Target number	Number and text of SDG indicator or, if no official SDG indicator is applicable, user-defined indicator	Indicate the project's contribution to the SDG Indicator (implemented activities to increase or decrease)	Brief description of the quantifiable impact of the project's activities related to the SDG indicator, during the monitoring period.	Brief description of the cumulative quantifiable impact of the project's activities related to the SDG indicator, over the project lifetime.
					-
					-

The parameter is not applicable upto 2025.

2 SAFEGUARDS

2.1 No Net Harm

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

2.2 Local Stakeholder Consultation

The process of local stakeholder consultation is continuous. During the current monitoring period, the project proponent has kept grievance register in plant site office and sought comments/grievances/suggestions from local stakeholders including local community, government agencies and NGOs. However, no comments/grievances/suggestions have been received from the aforementioned stakeholders during the current monitoring period.

2.3 AFOLU-Specific Safeguards

Not applicable to this as this is not an AFOLU project activity.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The Project Activity is implementation of a 49.50 MW wind power project consisting of 33 Wind Turbine Generators (WTGs) of individual capacity 1.5 MW in Sangli district, Maharashtra by ReNew Wind Energy (Shivpur) Private Limited. The project is completely commissioned and connected to Indian grid. A comprehensive list of WTGs commissioning dates are provided below.

Location No.	Agg. Capacity (MW)	District	State	Commissioning Date
VASP-35 VASP-49 VASP-64 VASP-09 VASP-510 VASP-564 VASP-637 VASP-29 VASP-72 VASP-142 VASP-15	16.50	Sangli	Maharashtra	03-April-2013
VASP III-388	1.50			19-April-2013
VASP-696	1.50			24-June-2013

Location No.	Agg. Capacity (MW)	District	State	Commissioning Date
VASP III-384V VASP III-397 VASP III-440 VASP III-26 VASP III-698 VASP-237 VASP-450 VASP-394	12.00			26-June-2013
VASP III-387 VASP III-58	3.00			01-August-2013
VASP III-700/1 VASP III-424 VASP III-108 VASP III-463 VASP III-525 VASP III-689	9.00			21-August-2013
VASP III-105 VASP III-355	3.00			29-August-2013
VASP-92 VASP-21	3.00			30-August-2013

The technical specification of WTGs are shown below:

Parameter	Specification/ Value (With Unit)
Manufacturer	ReGen Powertech Private Limited
Rated Power	1500kW
Rotor Diameter	82 m
Hub Height	85 m
Turbine Type	Direct drive horizontal axis with variable rotor speed
Power Regulation	Independent electromechanical pitch system for each blade
Cut-in wind speed	3 m/s
Rated wind speed	13 m/s
Cut-out wind speed	22 m/s
Operational range of rot. Speed	9 – 17.3 rpm
Orientation	Upwind
No. of blades	3
Blade Material	Glass fibre reinforced plastic
Gear box type	Gearless
Generator type	Synchronous, variable speed
Braking	Aerodynamic
Output voltage	620V
Tower height	85 m
Useful life	20 years

The project has been under operation since commissioning without any major breakdowns. Though normal breakdowns due to O&M measures are continuously being worked upon by the dedicated O&M contractor for the projects WTGs. There have been no events that may have an impact on the GHG emissions or removals during the current monitoring period.

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

3.2 Deviations

3.2.1 Methodology Deviations

There has not been any methodology deviation during the aforesaid monitoring period (01-January-2022 to 30-June-2022).

3.2.2 Project Description Deviations

There has not been any project description deviation during the aforesaid monitoring period (01-January-2022 to 30-June-2022).

Project activity was registered in VCS standard v3.4 and as per VCS standard crediting period must be 10 years which is renewable twice. However, VCS PD mentioned as "Project Crediting Period: 03-April-2013 – 02-April-2020, Number of years: 7 years". There was a typo error while mentioning the crediting period for which PP had requested for deviation during earlier monitoring period from 03-April-2020 to 31-December-2021. This deviation to change the crediting period as 10 years which is renewable twice is approved during earlier verification⁶.

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, BM, y}
Data unit	tCO ₂ / MWh
Description	Build Margin emission factor of Indian grid
Source of data	CO ₂ baseline database for Indian power sector, v7.0 published by CEA in January 2012 ⁷
Value applied	0.8588
Justification of choice of data or description of measurement	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'.

⁶ https://registry.terra.org/app/projectDetail/VCS/1404 - 1404_VCS_FVR_2022_IQ_MD_3.0Aa_03_October_2022.pdf

⁷ https://cea.nic.in/wp-content/uploads/baseline/2020/07/database_7.zip

methods and procedures applied	
Purpose of Data	Calculation of baseline emissions
Comments	Parameter was determined ex-ante and would not be monitored during the crediting period.

Data / Parameter	$EF_{grid, OM, y}$
Data unit	tCO ₂ / MWh
Description	Operating Margin emission factor of Indian grid
Source of data	CO ₂ baseline database for Indian power sector, v7.0 published by CEA in January 2012 ⁸
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). 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	$EF_{grid, CM, y}$
Data unit	tCO ₂ / MWh
Description	Combined Margin emission factor of Indian grid
Source of data	CO ₂ baseline database for Indian power sector, v7.0 published by CEA in January 2012 ⁹
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.

⁸ https://cea.nic.in/wp-content/uploads/baseline/2020/07/database_7.zip
⁹ https://cea.nic.in/wp-content/uploads/baseline/2020/07/database_7.zip

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)
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 WTG 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 WTGs is being calculated (as in some case net export is not explicitly reported in JMR). Measuring equipment: 3-phase, 4-wire bi-directional tri- vector meters Recording: Electronic and paper Recording Frequency: Continuous measurement and monthly recording Responsibility: The operators/ O&M team are being responsible for measurement of electricity Calibration/ Testing Frequency: Annually Accuracy class of meters: 0.2s/ 0.5s (as per state regulation) Archiving: Crediting Period + 2 years
Frequency of monitoring/recording	Continuous measurement and at least monthly recording
Value monitored	38,705.422
Monitoring equipment	Equipment used: Electronic meters (Please refer Appendix II for more detail)
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	O&M contractor apportioned the electricity export and import data based on individual WTGs controller reading, summation of all controller reading of WTGs connected under the common feeder and joint meter reading (based on billing meter).
Comments	The data are being 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 being taken jointly at the appointed date by PP's representative, Regen Powertech Pvt. Ltd. official and Maharashtra State Electricity Distribution Company Limited (MSEDCL) official. The same is reported as Joint Meter Reports (JMR). The same is being 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 are 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	ORGANIZATION	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 reporting of emission reductions.
O&M Team	Regen Powertech Pvt. Ltd.	↻ 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 WTGs connected through same electricity meter, apportioning is used. Even otherwise, to determine WTG-wise electricity supplied to grid, apportioning is carried out.

Apportioning of net electricity supplied is done with reference to the electricity generated from individual WTGs. 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 WTG. The Credit Notes with electricity buyer are being used to calculate net electricity supplied to the grid and on the basis of which, GHG emission reductions by the project activity are being calculated

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

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 is repaired, recalibrated or replaced as soon as possible by the MSEDCL. The error observed during this calibration is applied to all readings from last correct JMR / last meter calibration. MSEDCL ensures that metering system is tested for accuracy at least once in year and report furnished along with joint meter reading.

Any meter seal(s) are 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 is being apportioned based on the daily electricity export data give by the O&M contractor. This is also being checked with the average daily export arrived from that month's JMR and the conservative of the two are being used for the emission reduction calculation.

Calibration Details: Calibration details of all the meters are included in Appendix 2 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 CO₂ 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 (tCO₂/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" (tCO₂/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:

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

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

Therefore,

Parameter	$EG_{PJ, y}$	$EF_{\text{grid}, CM, y}$	BE_y
Year	MWh	tCO ₂ / MWh	tCO ₂
01-January-2022 to 30-June-2022	38,705.422	0.9528	36,878(Round Down)
Total	38,705.422		36,878

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 emissions is nil. Therefore, $PE_y = 0$.

5.3 Leakage

In-line with applied methodology ACM0002, v13.0.0; no leakage emissions are considered. Therefore, $LE_y = 0$

5.4 Net GHG Emission Reductions and Removals

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
01-January-2022 to 30-June-2022	36,878	0	0	36,878
Total	36,878	0	0	36,878

APPENDIX I: GEOGRAPHICAL COORDINATE

S. NO.	LOCATION NO.	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	75.311081	17.04476
8	VASP-394	Salekiri	75.305176	17.052109
9	VASP-09	Salekiri	75.312446	17.050634
10	VASP-49	Salekiri	75.303299	17.041645
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	75.33876	17.066185
22	VAPS III 384V	Valsang	75.317703	17.07345
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	75.329117	17.0168
28	VAPS III 698	Valsang	75.350258	17.055481
29	VAPS III 108	Salekiri	75.3041	17.028555
30	VAPS III 440	Valsang	75.318535	17.063026
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

APPENDIX II: CALIBRATION DETAILS

FEEDER #	STATUS	S. NO.	ACCURACY CLASS	DOC	VALIDITY
				2021-22	
01	Main	13769363	0.2s	23-September-2021	22September-2022
	Check	02797655	0.2s	23-September-2021	22September-2022
02	Main	13813570	0.2s	28-September-2021	27-September-2022
	Check	13813547	0.2s	28-September-2021	27-September-2022
06	Main	13813551	0.2s	28-September-2021	27-September-2022
	Check	X1350784	0.2s	28-September-2021	27-September-2022
07	Main	15687854	0.2s	28-September-2021	27-September-2022
	Check	14953662	0.2s	28-September-2021	27-September-2022

APPENDIX III: BREAKDOWN DETAILS

DATE	WTG	Total Duration (hrs)
02-February-22	VASP-142	24.00
18-February-22	VASP-237	24.00
04-March-22	VASP-III-384v	24.00
05-March-22	VASP 21	22.45
06-March-22	VASP III-689	16.00
04-April-22	VASP-III-26	23.00
28-April-22	VASP-696	24.00
12-May-22	VASP-92	15.00
21-May-22	VASP-142	18.00
26-May-22	VASP-15	17.50
30-May-22	VASP-510	24.00
07-June-22	VASP-III-424	24.00
09-June-22	VASP-III-424	23.85
17-June-22	VASP-III-689	23.65
18-June-22	VASP III-105	19.00
24-June-22	RESVP-31	24.00