



108 MW FATANPUR WIND POWER PROJECT IN MADHYA PRADESH



Project title	108 MW Fatanpur Wind Power Project in Madhya Pradesh
Project ID	1746
Monitoring period	01-January-2022 to 31-December-2024 (Inclusive of both dates)
Original date of issue	29-April-2024
Most recent date of issue	02-April-2026
Version	8
VCS Standard Version	4.7
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PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The project activity is installation of 108 MW wind power project, promoted by Energon RJ Wind Power Private Limited (It was renamed as Vena Energy Fatanpur Power Private Limited on 5 September 2018). The purpose of the project activity is to generate clean electricity with utilization of wind energy. The project consists of 54 numbers of Gamesa G97 Wind Turbine Generators (WTGs) of 2.0 MW capacities each. The project WTGs are installed in and around the villages in Taluk Dewas, Tonkkhurd of Dewas district and Tarana Taluk of Ujjain district of Madhya Pradesh in India.

The construction of the project has been started on 31st March 2015. The project has been commissioned between 11-March-2016 to 27-March-2016. The details of individual WTGs as per the commissioning certificates are as following:

WTG Nos	Capacity	Commissioning Date
GF-67N3, GF-17N2, GF-96N3, GF-83N2, GF-22N1, GF-25N1, GF-22N3, GF-24N2, GF-27N2, GF-08N2, GF-69N4, GF-37N2, GF-40N2, GF-53N, GF-10N, GF-123N, GF-125N, GF-129N, GF-36N2, GF-06N, GF-126N1	42 MW	11-March-2016
GF-34N3, GF-42N, GF-68N6, GF-87N3, GF-01N2, GF-154N, GF-18N2, GF-41N, GF-35N2, GF-38N	20 MW	16-March-2016
GF-28N2, GF-39N4, GF-127N, GF-132N4, GF-133N2, GF-54N2, GF-57N4, GF-110N5, GF-144N, GF-23N3	20 MW	22-March-2016
GF-80N3, GF-07N1, GF-26N2, GF-149N4, GF-03N3, GF-163N, GF-162N, GF-134N2, GF-165N, GF-44N4, GF-135N2, GF-161N, GF-82N	26 MW	27-March-2016

From the date of commissioning the WTGs are operating continuously without any major outages.

The electricity generated by the project is exported to the Indian electricity grid. The project activity will therefore displace an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid. Since wind power is Greenhouse Gas (GHG) emissions free, the power generated will prevent the anthropogenic gas emissions generated by fossil fuel based thermal power stations comprising coal, diesel, furnace oil and gas.

There was no activity at the site prior to implementation of the project activity. Hence, the scenario existing prior to the project activity is same as baseline scenario which is continual use of highly carbon intensive electricity in the regional grid.

The estimation of GHG reductions by this project is limited to carbon dioxide (CO₂) only. Thus, the project activity leads to an estimated emission reduction of 2,127,450 tCO₂ for the chosen crediting period of 10 years.

The current monitoring period chosen is from 01-January-2022 to 31-December-2024 (inclusive of first & last date) and the GHG emission reductions calculated are 526,786 tCO₂.

1.2 Audit History

Audit type	Period	Program	Validation/verification body name	Number of years
Validation	11-March-2016 to 10-March-2026	VCS	LGAI Technological Center S.A. (Applus+ Certification)	10 years (Twice Renewable)
Verification	11-March-2016 to 31-January-2018	VCS	LGAI Technological Center S.A. (Applus+ Certification)	1 year and 10 months
Verification	01-February-2018 to 30-November-2019	VCS	Earthood Services Pvt. Ltd.	1 year and 09 months
Verification	01-December-2019 to 31-December 2021	VCS	LGAI Technological Center S.A. (Applus+ Certification)	2 years and 1 month
Verification	01-January-2022 to 31-December-2024	VCS	LGAI Technological Center S.A. (Applus+ Certification)	3 years

1.3 Sectoral Scope and Project Type

Sectoral scope ¹	1 - Energy Industries (Renewable/Non-Renewable Sources)
Project activity type	The project activity is not a grouped project; it is a standalone 108 MW wind power project by a single project developer.

¹ Projects, activities, or methodologies may be developed under any of the 16 VCS sectoral scopes: <https://verra.org/programs/verified-carbon-standard/vcs-program-details/#sectoral-scopes>

1.4 Project Proponent

Organization name	Vena Energy Fatanpur Power Private Limited (Formerly Energon RJ Wind Power Private Limited)
Contact person	Kaushal Kumar Singh
Title	Managing Director
Address	1st Floor, Embassy Icon Annexe, 2/1 Infantry Road, Bangalore- 560001, Karnataka, India
Telephone	080-66454000
Email	kaushal.singh@venaenergy.com

1.5 Other Entities Involved in the Project

Organization name	Kosher Climate India Private Limited
Role in the project	Project Representative
Contact person	Vamsi Krishna M
Title	Managing Director
Address	#109, 2nd Floor, 27th Main, Sector – 1, HSR Layout, Bangalore-560102, India
Telephone	91- 80-49931177
Email	vamsi@kosherclimate.com

1.6 Project Start Date

Project start date	11-March-2016
Justification	This is the day on which the first WTG was commissioned <i>and started electricity generation.</i>

1.7 Project Crediting Period

Crediting period	☐ Seven years, twice renewable ☐ Ten years, fixed
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	☒ Ten years, twice renewable (10 years which can be renewed twice. As per the registered VERRA PDD, the crediting period is 10 years renewable twice. Hence, the same has been followed).
Start and end date of first or fixed crediting period	11-March-2016 to 10-March-2026

1.8 Project Location

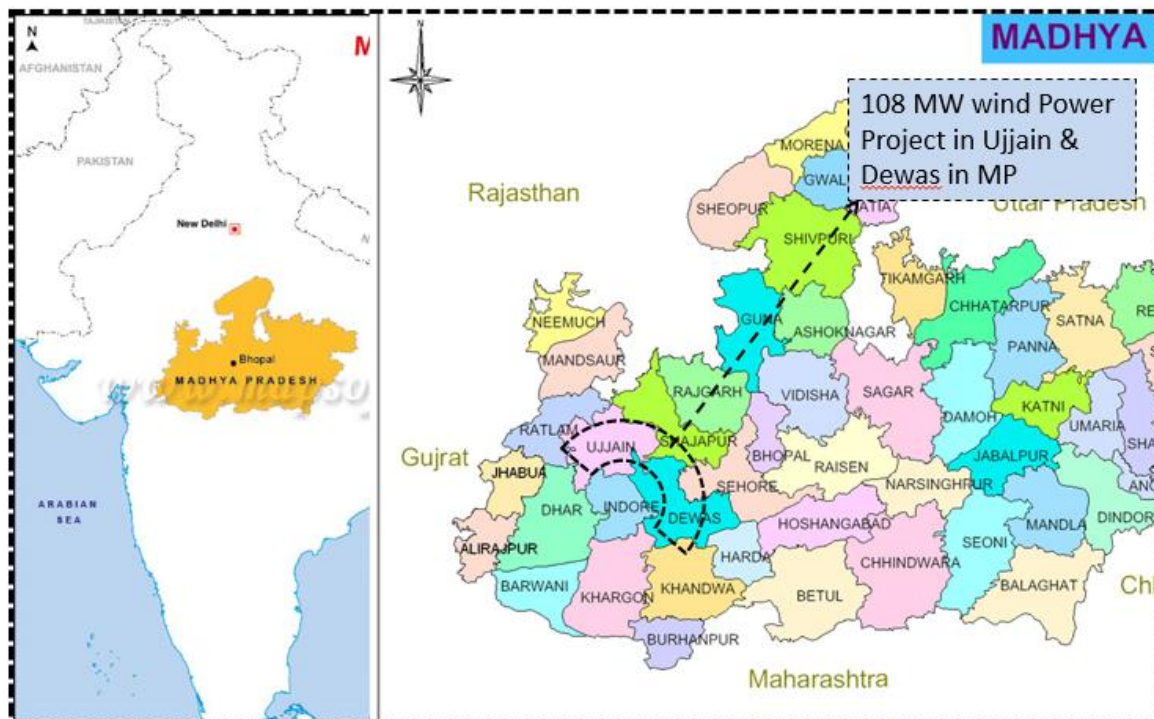
As per the commissioning certificate, the project activity is located at Ujjain and Dewas district of Madhya Pradesh State, India. The geo-coordinates of the project location are as follows:

S.No	WTG No	Village	Taluk	District	Latitude	Longitude
1	GF-01N2	Tonk kalan	Tonkkhurd	Dewas	23.11165	76.16163
2	GF-03N3	Tonk kalan	Tonkkhurd	Dewas	23.09773	76.1649
3	GF-06N	Kalama	Tonkkhurd	Dewas	23.09149	76.16223
4	GF-07N1	Kalama	Tonkkhurd	Dewas	23.07842	76.17004
5	GF-08N2	Kalama	Tonkkhurd	Dewas	23.07517	76.16557
6	GF-10N	Nandel	Tonkkhurd	Dewas	23.06392	76.18173
7	GF-110N5	Khareli	Tonkkhurd	Dewas	23.21342	76.20812
8	GF-122N3	Upadi	Tarana	Ujjain	23.0769	76.11671
9	GF-123N	Kathbadoda	Tarana	Ujjain	23.11701	76.08299
10	GF-125N	Kathbadoda	Tarana	Ujjain	23.12293	76.08401
11	GF-126N1	Tonk kalan	Tonkkhurd	Dewas	23.0959	76.11686
12	GF-127N	Tonk kalan	Tonkkhurd	Dewas	23.10679	76.11251
13	GF-129N	Khajuriya	Tarana	Ujjain	23.10788	76.09603
14	GF-132N4	Upadi	Tarana	Ujjain	23.0731	76.11162
15	GF-133N2	Barkhedakaytha	Tarana	Ujjain	23.06762	76.10838
16	GF-134N2	Barkhedakaytha	Tarana	Ujjain	23.05925	76.10921
17	GF-135N2	Barkhedakaytha	Tarana	Ujjain	23.05371	76.10084
18	GF-144N	Bhirwakhedi	Tonkkhurd	Dewas	23.13373	76.1641
19	GF-149N4	Banarasi	Tonkkhurd	Dewas	23.13412	76.08225
20	GF-154N	Khajuria	Tarana	Ujjain	23.1129	76.09178

21	GF-161N	Khajuria	Tarana	Ujjain	23.10144	76.0985
22	GF-162N	Khajuria	Tarana	Ujjain	23.10665	76.07376
23	GF-163N	Banarsi	Tonkkhurd	Dewas	23.144	76.07643
24	GF-165N	Banarsi	Tonkkhurd	Dewas	23.13702	76.07503
25	GF-17N2	Nawada	Tonkkhurd	Dewas	23.05493	76.16877
26	GF-18N2	Janolibujung	Tonkkhurd	Dewas	23.03759	76.16923
27	GF-22N1	Harnawada	Tonkkhurd	Dewas	23.11878	76.19369
28	GF-23N3	Polay	Tonkkhurd	Dewas	23.10386	76.19617
29	GF-24N2	Nipaniya	Tonkkhurd	Dewas	23.12257	76.19533
30	GF-25N1	Nipaniya	Tonkkhurd	Dewas	23.13025	76.18838
31	GF-26N2	Nipaniya	Tonkkhurd	Dewas	23.12691	76.19547
32	GF-27N2	Kanheria	Tonkkhurd	Dewas	23.07294	76.22128
33	GF-28N2	Dehriya	Tonkkhurd	Dewas	23.08212	76.22137
34	GF-34N3	Nandel	Tonkkhurd	Dewas	23.06981	76.18637
35	GF-35N2	Rabadiya	Dewas	Dewas	23.02136	76.14209
36	GF-36N2	Sindni	Tonkkhurd	Dewas	23.02675	76.14465
37	GF-37N2	Jasodgarh	Dewas	Dewas	23.03168	76.1422
38	GF-38N	Fatehpur	Tonkkhurd	Dewas	23.03798	76.14307
39	GF-39N4	Jirway	Tonkkhurd	Dewas	23.06387	76.23739
40	GF-40N2	Fatehpur	Tonkkhurd	Dewas	23.04294	76.14288
41	GF-41N	Nawada	Tonkkhurd	Dewas	23.04872	76.14041
42	GF-42N	Chhota Mahalasapura	Dewas	Dewas	23.05351	76.1326
43	GF-44N4	Banarsi	Tonkkhurd	Dewas	23.13051	76.08451
44	GF-53N	Khajuria	Tarana	Ujjain	23.09503	76.09964
45	GF-54N2	Deoguradiya	Tonkkhurd	Dewas	23.08233	76.27071
46	GF-57N4	Devli	Tonkkhurd	Dewas	23.08357	76.28342
47	GF-67N3	Khareli	Tonkkhurd	Dewas	23.1963	76.22195
48	GF-68N6	Panda	Tonkkhurd	Dewas	23.18884	76.22579
49	GF-69N4	Panda	Tonkkhurd	Dewas	23.1926	76.2256
50	GF80N3	Girila Khedi	Tonkkhurd	Dewas	23.0767	76.26505

51	GF-82N	Nandel	Tonkkhurd	Dewas	23.04887	76.1876
52	GF-83N2	Nandel	Tonkkhurd	Dewas	23.05341	76.18985
53	GF-87N3	Nandel	Tonkkhurd	Dewas	23.06029	76.18456
54	GF-96N3	Nawada	Tonkkhurd	Dewas	23.05866	76.16897

The geographical location of the project site is as shown below:



1.9 Title and Reference of Methodology

Type (methodology, tool or module).	Reference ID, if applicable	Title	Version
Methodology	ACM0002	Grid-connected electricity generation from renewable sources	17.0 ²

² <http://cdm.unfccc.int/methodologies/DB/VJ19AX539D9MLOPXN2AY9UR1N4IYGD>

Tool	Tool - 7	Tool to calculate the emission factor for an electricity system	6.0 ³
Tool	Tool - 1	Tool for the demonstration and assessment of additionality	7.0 ⁴

1.10 Double Counting and Participation under Other GHG Programs

1.10.1 No Double Issuance

Is the project receiving or seeking credit for reductions and removals from a project activity under another GHG program?

☐ Yes ☒ No

1.10.2 Registration in Other GHG Programs

Was the project registered or seeking registration under any other GHG programs?

☐ Yes ☒ No

1.11 Double Claiming, Other Forms of Credit, and Scope 3 Emissions

1.11.1 No Double Claiming with Emissions Trading Programs or Binding Emission Limits

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit? See the *VCS Program Definitions* for definitions of emissions trading program and binding emission limit.

☐ Yes ☒ No

1.11.2 No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system? See the *VCS Program Definitions* for definition of GHG-related environmental credit system.

☐ Yes ☒ No

³ https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v6.pdf/history_view

⁴ <http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf>

1.11.3 Supply Chain (Scope 3) Emissions

Do the project activities affect the emissions footprint of any product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

If yes:

Is the project proponent(s) or authorized representative a buyer or seller of the product(s) (goods or services) that are part of a supply chain?

☐ Yes ☐ No

If yes:

Has the project proponent(s) or authorized representative posted a public statement on their website saying, "Carbon credits may be issued through the Verified Carbon Standard project [project ID] for the greenhouse gas emission reductions or removals associated with [project proponent or authorized representative organization name(s)] [name of product(s) whose emissions footprint is changed by the project activities]."

☐ Yes ☐ No

1.12 Sustainable Development Contributions

The proposed project activity involves the installation of Wind Power Projects in Madhya Pradesh State of India. The purpose of the project activity is to generate clean electricity with utilization of wind energy.

The project supplies clean electricity from the wind power plant to the Indian National Grid hence displacing the electricity generated from grid connected fossil fuel power plants and thereby avoiding the equivalent Carbon dioxide which is a greenhouse gas. In the absence of the project activity, there won't be any avoidance of carbon dioxide

During the construction and operation and maintenance of the wind power plant, the project created many direct and indirect new job opportunities mostly to the local people in the project region. In the absence of the project activity, there would be no new jobs created in the project area.

As a part of regional development efforts associated with the project, PP has supported many education, health & infrastructure related needs for local people. These are funded from the revenue generated from the operation of the project activity. In the absence of project activity, there would be no revenue generated from the project and hence the activity would have not occurred in the absence of the project activity.

Table 1: Sustainable Development Contributions

Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
1)	3.b	3.b.2 Total net official development assistance to medical research and basic health sectors	Implemented activities to increase	PP has distributed health kit, assistive devices to the needy persons in 25 villages and conducted free health camps in 40 villages during the monitoring period.	40 villages and 6,719 people benefitted from free health camps and medical essential distribution since commissioning of this project.
2)	4.a	4.a.1 Proportion of schools offering basic services, by type of service	Implemented activities to increase	No new incremental activity has been conducted during this monitoring period.	3 Schools are provided with basic infrastructure and 175 students benefitted from this project since commissioning of the project.
3)	7.2	7.2.1 Renewable energy share in the total final energy consumption	Implemented activities to increase	About 538,803.18 MWh renewable electricity has supplied to Indian National grid during the current monitoring period that helps to increase the renewable energy share in the energy mix.	Project activity has supplied 1,715,711.18 MWh to Indian National grid since commissioning, that helps to increase the renewable energy share in the energy mix.

4)	8.5	8.5.1 Average hourly earnings of employees, by sex, age, occupation and persons with disabilities	Implemented activities to increase	38 new employment opportunities have been created and 133 trainings have been provided during the current monitoring period.	The project has created 86 employment opportunities and provided 375 trainings since commissioning.
5)	13.0	Tonnes of greenhouse gas emissions avoided or removed	Implemented activities to increase	By supplying 538,803.18 MWh clean electricity to national grid, the project avoided release of 526,786 tCO ₂ e into the atmosphere during the current monitoring period and contributed to the sustainable development goal 13.	Prevented the release of 1,674,392 tCO ₂ e into the atmosphere since its commissioning.

1.13 Commercially Sensitive Information

There is no commercially sensitive information in this monitoring report. All the relevant information is disclosed in the project description. Hence, the section is not applicable.

2 SAFEGUARDS AND STAKEHOLDER ENGAGEMENT

2.1 Stakeholder Engagement and Consultation

2.1.1 Stakeholder Identification

Stakeholder Identification	There is no change involved in the stakeholder identification since validation. Therefore, this parameter is not applicable.
Legal or customary tenure/access rights	The legal and customary rights of the wind plant during and post implementation of the project activity lies with Vena Energy Fatanpur Power Private Limited (Formerly Energon RJ Wind Power Private Limited). Project proponent has the legal ownership of the land. There are no identified disputes or conflicts over rights of the land and its resources. No concerns were received against the implementation of the project activity and confirms the consent and full support for the project implementation.
Stakeholder diversity and changes over time	There is no change involved in the stakeholder identification since validation. The project anticipates no significant changes to the group's cultural integrity in the project region. Further, the project activities by contributing to the environmental, economic, and social benefits (SDG 3,4,7,8 and 13), play a crucial role in enabling local communities to remain located in the project area.
Expected changes in well-being	Environmental well-being: The main purpose of the project activity is to generate clean electricity with utilization of wind

	energy. There are no GHG emissions. The impact on land, water, air and soil is negligible. Thus, the project activity contributes to environmental well-being without causing any negative impact on the surrounding environment. Economic well-being: The project activity generates permanent and temporary employment opportunity within the vicinity of the project. The electricity supply in the nearby area improves which directly and indirectly improves the economy and life style of the area.
Location of stakeholders	All community members, those who are directly or indirectly impacted by the project are mostly local people who reside near the project areas.
Location of resources	The location of territories and resources to which stakeholders have customary access is the nearby land in Ujjain and Dewas district of Madhya Pradesh State.

2.1.2 Stakeholder Consultation and Ongoing Communication

Ongoing consultation	There is a mechanism in place to engage the stakeholders and address their grievances and resolve any potential conflict between the project proponent and local stakeholders. The project proponent contact information like e-mail and phone numbers are provided to the stakeholders during the consultation meeting in case they want to contact and share their ideas and convey their grievances. Additionally, for the current monitoring period, the generation data was maintained at the project site and during this monitoring period stakeholders are provided access to this information whenever required.
Date(s) of stakeholder consultation	02-January-2016.
Communication of monitored results	A dedicated email address as well as the phone number and the address of PP were provided to all stakeholders during the stakeholder meeting to foster open and accessible communication. A grievance register is being maintained at the site to register the complaints of the stakeholders. There is an active presence of the Project Proponent team in the project area. They are working closely with the community

	and other stakeholders to address any queries or grievances in relation to the project. Also assured that a grievance register is always made available at the project site to register their complaints if any in the register and same will be addressed and resolved in the earliest possible time. . For this monitoring period, there were no grievances registered. Further, the generation data is being maintained at the project site, and stakeholders are provided access to this information whenever required.
Consultation records	A grievance register has been maintained at the site to register the complaints of the stakeholders.
Stakeholder input	No negative comments have been received on project activity from any of the local stakeholders consulted during the current monitoring period. Hence, no changes were made in the project design.

2.1.3 Free, Prior, and Informed Consent

Consent	The legal and customary rights of the wind project during and post implementation of the project activity lies with Vena Energy Fatanpur Power Private Limited (Formerly, Energon RJ Wind Power Private Limited). Project proponent has the legal ownership of the land. There are no identified disputes or conflicts over rights of the land and its resources. No concerns were received against the implementation of the project activity and confirms the consent and full support for the project implementation.
Outcome of FPIC	The project proponent has not done encroachment and relocated people, and forced physical or economic displacement.

2.1.4 Grievance Redress Procedure

Grievances received	Resolution and outcome
Not applicable	There is a mechanism in place to address the grievances and resolve any potential conflict

	between the project proponent and local stakeholders. The project proponent contact information like e-mail and phone numbers are provided to the stakeholders during consultation meeting in case they want to contact and share their ideas and convey their grievances. No grievance was received during the current monitoring period. In case a grievance is raised, the project team follows a defined procedure that includes recording the complaint, acknowledging it to the concerned stakeholder, conducting an investigation, and implementing corrective actions within a specified timeframe. The effectiveness of this mechanism is ensured through regular monitoring of grievance resolution, periodic reviews of the register, and feedback from stakeholders to confirm that issues have been addressed satisfactorily.
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2.1.5 Public Comments

Summary of comments received	Actions taken
No concerns received during public comment period which was open from 09-March-2018 to 08-April-2018 and local stakeholder consultation. The potential benefits of the project activity for the local stakeholders were acknowledged. Local stakeholders were totally in support for setting up of these kinds of projects in the region.	As all comments were very positive about the project, no further action is required.

2.2 Risks to Stakeholders and the Environment

2.2.1 Management Experience

Vena Energy Fatanpur Power Private Limited, formerly Energon RJ Wind Power Private Limited is the SPV of Vena Energy and derives its technical knowledge, operational expertise, and best practices from the parent company. Vena Energy has extensive experience in developing and

operating renewable energy projects across Asia-Pacific region including several large-scale wind projects such as 46 MW Mangoli Wind Project, 72 MW Wind project in the South Sulawesi, etc. Through this association, the SPV benefits from strong capabilities in project development, construction, and long-term operations. The management team applies Vena Energy's established standards for quality, safety, and environmental management. The company also follows the group's structured approach to community engagement, consultation, and grievance handling. There was no other entity engaged with Project proponent for the management of project activity.

Kosher Climate India Private Limited has provided advisory services for over 300 projects across multiple sectors, including renewable energy, waste-to-energy, nature-based solutions, and community development, implemented in various countries. The company has successfully supported the development of carbon credit projects for renewable energy technologies such as wind and solar under recognized mechanisms, including Gold Standard, VCS and the GCC, covering end-to-end technical documentation during validation and verification phases and carbon market transactions. Our portfolio reflects extensive cross-border implementation experience, with active collaborations across India, Southeast Asia, Latin America, and Africa.

2.2.2 Risk assessment

	Risk identified	Mitigation or preventative measure(s) taken
Natural and human-induced risks to stakeholders' wellbeing	No risks identified	The stakeholders were given the opportunity to express their concerns regarding natural and human-induced risks affecting their well-being through the grievance register maintained at the site.
Risks to stakeholder participation	No risks identified	The project team has explained about the project to the stakeholders including project benefits, costs, risks, rights, laws and opportunities on employment generation. The stakeholders are voluntarily willing to participate in the project because of benefits like safeguarding the communities from environmental challenges and various other SDG benefits of the project.
Working conditions	No risks identified	The project has taken comprehensive measures to ensure providing safe and healthy working conditions for its employees by implementing strict safety

		protocols specific to wind power operations, including turbine maintenance safety measures, use of personal protective equipment (PPE), and regular safety training.
Safety of women and girls	No risks identified	The PP made sure for the safety of women and girls through the Vena Energy's Policy on prohibition, prevention and redressal of sexual harassment of women employees at workplace. The organization does not tolerate harassment for any women employees which includes sexual, psychological or any other form of harassment that can be a form of discrimination. The organization has policies for sexual harassment and would take appropriate steps for the prevention of such activities at workplace and put in place an appropriate mechanism of complaint/grievance redressal. All complaints are managed confidentially through a structured redressal process, and regular reviews are conducted to assess the effectiveness of the system and ensure a safe, supportive environment for women employees. For the current monitoring period, there are no women employees.
Safety of minority and marginalized groups, including children	No risks identified	The project proponent has implemented the Vena Energy Code of Conduct aimed at safeguarding women, children and other marginal or vulnerable groups.
Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical	No risks identified	The project is the installation of wind power project and do not involve generation of pollutants such as air, noise, discharge of water. The hazardous materials generated from the project activities are treated as per Hazardous waste management rules ⁵ .

⁵ <https://cpcb.nic.in/rules/>

pesticides and
fertilizers)

2.3 Respect for Human Rights and Equity

2.3.1 Labor and Work

	Risks identified ⁶	Mitigation or preventative measure(s) taken
Discrimination	No risks identified	The PP has policies for Non-Discrimination and would take appropriate steps for the prevention of such activities at workplace and put in place an appropriate mechanism of complaint/grievance redressal. There is no discrimination has occurred.
Sexual harassment	No risks identified	The organization has policies for sexual harassment and would take appropriate steps for the prevention of such activities at workplace and put in place an appropriate mechanism of complaint/grievance redressal. There is no sexual harassment has occurred.
Gender equity in labor and work	No risks identified	The project abides the rules of equality accordingly and does not involve and is not complicit in any form of discrimination. Specific to gender equality, detailed enforcement rules are regulated in Women's Rights Protection Law to provide support and benefits to women. Qualified local residents, both men and women, are recruited to work for the project. During stakeholders' consultation process, comments were collected from the local people, including both men and women. The project abides the rules of equality. Regarding the gender equality, detailed enforcement rules are regulated in Labor Law and Women's Rights Protection Law.

⁶ The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

Forced labor	No risks identified	The Project does not use victims of forced labor. India has promulgated the “Labor Law” to protect the legitimate rights and interests of workers and prohibit forced labor.
Child labor	No risks identified	The Project does not use victims of child labor. India has published protection laws on the minors. Employment regulations are described in this Law. The Project requires skilled employees to operate, maintain, and manage the wind power plant. Therefore, the project does not employ and is not complicit in any form of child labor. According to the Employee list, it has been confirmed that the project does not employ any child labor.
Human trafficking	No risks identified	Human trafficking is a serious crime that is strictly regulated and combated in the Indian legal system. Hence, PP firmly prohibits human trafficking in all its operations through Vena Energy’s Code of Conduct and confirms no human trafficking happened during current monitoring period.

2.3.2 Human Rights

Risks identified	Mitigation or preventative measure(s) taken
No risks identified	The project recognizes, respects, and promotes the protection of the rights of IPs, LCs, and customary rights holders in line with applicable United Nations international human rights law ⁷ , and the United Nations Declaration on the Rights of Indigenous Peoples ⁸ and ILO Convention 169 on Indigenous and Tribal Peoples ⁹ .

⁷ <https://www.ohchr.org/en/instruments-and-mechanisms/international-human-rights-law>

⁸ <https://www.ohchr.org/en/indigenous-peoples/un-declaration-rights-indigenous-peoples>

⁹

https://normlex.ilo.org/dyn/nrmlx_en/f?p=NORMLEXPUB:55:0::NO::P55_TYPE%2CP55_LANG%2CP55_DOCUMENT%2CP55_NODE:REV%2Cen%2CC169%2C%2FDocument

2.3.3 Indigenous Peoples and Cultural Heritage

Risks identified	Mitigation(s) or preventative measure taken
No risks identified	The project activity area is not located on or near any Indigenous community settlements, sacred sites, or culturally significant landscapes. Hence, the project does not impact and protects cultural heritage as part of project activities.

2.3.4 Property Rights

Risks identified	Mitigation or preventative measure(s) taken
No risks identified	The project activity has been implemented with all necessary approvals and project proponent has conducted LSC during which all the necessary information regarding the project activity was explained to the stakeholders. Through this comprehensive process, the project not only obtained consent but also built a foundation of trust and cooperation with stakeholders, resulting in no ongoing or unresolved conflicts. Hence, not applicable.

2.3.5 Benefit Sharing

Summary of the benefit sharing plan	Not Applicable as there is no impact on the property rights of the Stakeholders due to the project activity. Hence, there is no benefit sharing involved.
Benefit sharing during the monitoring period	Not Applicable as there is no impact on the property rights of the Stakeholders due to the project activity. Hence, there is no benefit sharing involved.

2.4 Ecosystem Health

	Risk identified	Mitigation or preventative measure(s) taken during the monitoring period
Impacts on biodiversity and ecosystems	No risk identified	The project activity has been implemented in fallow/barren land which has no alternative use and does not involve of forest land. Hence, the project does not have any impact on biodiversity and ecosystems.
Soil degradation and soil erosion	No risk identified	As this is a wind power project, the potential for soil erosion exists primarily during the construction phase. However, strict control measures were implemented to prevent any soil erosion during construction period. Therefore, soil degradation & erosion is unlikely to occur in the project location during the operation phase of the project.
Water consumption and stress	No risk identified	As the project is the installation of wind turbines, the project's operations do not require significant water use and therefore do not exert pressure on surface or groundwater sources. Hence, no risk identified.

2.4.1 Rare, Threatened, and Endangered species

The project has been implemented on fallow/barren land which has no alternative use and is not a forest land which ensures that the project does not impact any protected species or critical habitats. The project is not located in or adjacent to habitats for rare, threatened, or endangered species. Hence, not applicable.

Species or habitat	Not Applicable
Areas needed for habitat connectivity	Not Applicable

	Risks identified	Mitigation or preventative measure(s) taken
Habitats for rare, threatened, and endangered species	No risk identified	The project has been implemented on fallow/barren land which has no alternative use and is not a forest land which ensures that the project does not impact any protected species or critical habitats. Hence, not applicable.
Areas for habitat connectivity	No risk identified	The project has been implemented on fallow/barren land which has no alternative use and is not a forest land which ensures that the project does not impact any protected species or critical habitats. Hence, not applicable.

2.4.2 Introduction of species

This is not a AFOLU project and doesn't involve introduction of any species into the project area, hence this section is not applicable.

Species introduced	Classification	Justification for use	Adverse effects and mitigation
NA	NA	NA	NA

Existing invasive species	Mitigation measures to prevent the spread or continued existence of invasive species
NA	NA

	Risks identified	Mitigation or preventative measure(s) taken
Invasive species	No risk identified	Not applicable as this is not a AFOLU project and doesn't involve introduction of any species into the project area.

2.4.3 Ecosystem conversion

As the project is not an ARR, ALM, WRC or ACoGS project, this section is not applicable.

	Risks identified	Mitigation or preventative measure(s) taken
Ecosystem conversion	No risk identified	The project is not an ARR As, ALM, WRC or ACoGS project, this section is not applicable.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The project has been commissioned between 11-March-2016 to 27-March-2016. The commissioning details of individual WTGs as per commissioning certificate are as following:

WTG Nos	Capacity	Commissioning Date
GF-67N3, GF-17N2, GF-96N3, GF-83N2, GF-22N1, GF-25N1, GF-22N3, GF-24N2, GF-27N2, GF-08N2, GF-69N4, GF-37N2, GF-40N2, GF-53N, GF-10N, GF-123N, GF-125N, GF-129N, GF-36N2, GF-06N, GF-126N1	42 MW	11-March-2016
GF-34N3, GF-42N, GF-68N6, GF-87N3, GF-01N2, GF-154N, GF-18N2, GF-41N, GF-35N2, GF-38N	20 MW	16-March-2016
GF-28N2, GF-39N4, GF-127N, GF-132N4, GF-133N2, GF-54N2, GF-57N4, GF-110N5, GF-144N, GF-23N3	20 MW	22-March-2016
GF-80N3, GF-07N1, GF-26N2, GF-149N4, GF-03N3, GF-163N, GF-162N, GF-134N2, GF-165N, GF-44N4, GF-135N2, GF-161N, GF-82N	26 MW	27-March-2016

The project consists of 54 numbers of Gamesa G-97 Wind Turbine Generators (WTGs) of 2.0 MW capacities each. The project WTGs are installed in and around the villages in Taluk Dewas, Tonkkhurd of Dewas district and Tarana Taluk of Ujjain district of Madhya Pradesh in India.

As per the registered JPD-MR, the technical specifications of the WTG has been provided as below.

Gamesa G-97	
POWER	
Rated Power	2000 kW
Average annual wind speed	7.5 m/s
Turbulence intensity 15%	18 m/s
Reference -minute wind speed for 50-years	37.5 m/s
Survival wind speed	52.5 m/s
GENERATOR	
Type	Doubly-fed with coil rotors and slip rings
Rated power	2.0 MW
Voltage	690 V AC

Frequency	50Hz/60 Hz
Protection class	IP 54
Power Factor	0.95 CAP- 0.95 IND throughout the power range
ROTOR	
Diameter	97 m
Swept area	7390 sq.m
Speed range (variable)	9:19 rpm
TOWER AND FOUNDATION	
Hub Height	104 m
Design	Tubular, Four sections
Foundation type	Floating foundation
GEAR BOX	
Type	1 Planetary stage & 2 Parallel stage
Ratio	1:106.8 (50 Hz), 1:127.2 (60 Hz)

There are no changes in the project design occurred since the commissioning of the project.
The project was operational continuously during the monitoring period without any major breakdown.

3.2 Deviations

3.2.1 Methodology Deviations

There is no methodology deviation applied during this monitoring period.

3.2.2 Project Description Deviations

Deviation: Change in WTG location

There was an error in WTG village location in the approved PD for the project.

The corrected WTG wise locations are provided below:

S.No	WTG No	Village
1.	GF-07N1	Kalama
2.	GF-08N2	Kalama
3.	GF-123N	Kathbadoda
4.	GF-132N4	Upadi
5.	GF-133N2	Barkhedakaytha

6.	GF-134N2	Barkhedakaytha
7.	GF-135N2	Barkhedakaytha
8.	GF-161N	Khajuria
9.	GF-17N2	Nawada
10.	GF-22N1	Harnawada
11.	GF-27N2	Kanheria
12.	GF-35N2	Rabadiya
13.	GF-38N	Fatehpur
14.	GF-40N2	Fatehpur
15.	GF-41N	Nawada
16.	GF-42N	Chhota Mahalasapura
17.	GF-53N	Khajuria
18.	GF-54N2	Deoguradiya
19.	GF-96N3	Nawada

Reason: The approved village locations of WTGs was found to be in error and did not represent actual project location.

The above deviation does not impact the applicability of the methodology, additionally or the appropriateness of the baseline scenario, and the project remains in compliance with the applied methodology.

3.3 Grouped Projects

The project is not a grouped project. Hence, not applicable.

3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes

☒ No

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	EF _{OM,y}
Data unit	tCO ₂ /MWh
Description	Operating margin CO ₂ emission factor of INDIAN Grid
Source of data	Central Electricity Authority: CO ₂ Emission Database CEA CO ₂ Baseline database Version 11 ¹⁰
Value applied	0.9941
Justification of choice of data or description of measurement methods and procedures applied	Calculated in line with “Tool to calculate the emission factor for an electricity system (Version 06.0.0)” using data from Central Electricity Authority of India’s (CEA) “Baseline Carbon Dioxide Emission Database Version 11.0”. The value used is calculated ex-ante as generation based weighted average of last three years of the operating margin provided in the CEA database. Weighted average $= \frac{\sum_{i=1 \text{ to } n} (\text{Net generation in operating margin in year } i * \text{Simple operating margin in year } i)}{\sum_{i=1 \text{ to } n} (\text{Net generation in operating margin of year } i)}$
Purpose of Data	Baseline Emission calculation
Comments	The operating margin emission factor is a 3-year generation-weighted average (2012-15). The operating Margin is calculated ex ante and fixed during the crediting period.

Data / Parameter	EF _{BM,y}
Data unit	tCO ₂ /MWh
Description	Build margin CO ₂ emission factor of INDIAN grid
Source of data	Central Electricity Authority: CO ₂ Emission Database CEA CO ₂ Baseline database Version 11 ¹¹
Value applied	0.9285
Justification of choice of data or description of measurement methods and procedures applied	Calculated in line with “Tool to calculate the emission factor for an electricity system (Version 06.0.0)” using data from Central Electricity Authority of India’s (CEA) “Baseline Carbon Dioxide Emission Database Version 11.0”.

¹⁰ https://cea.nic.in/wp-content/uploads/baseline/2020/07/user_guide_ver11.pdf

¹¹ https://cea.nic.in/wp-content/uploads/baseline/2020/07/user_guide_ver11.pdf

	The value is calculated ex-ante as most recent build margin provided by the CEA.
Purpose of Data	Baseline Emission calculation
Comments	The Build Margin would be calculated ex ante and fixed during the crediting period. For ex ante calculation the most recent data (2014-15) available has been used and the build margin is thus calculated.

Data / Parameter	$EF_{grid,CM,y}$
Data unit	tCO ₂ /MWh
Description	Combined margin CO ₂ emission factor of INDIAN grid
Source of data	Central Electricity Authority: CO ₂ Emission Database CEA CO ₂ Baseline database Version 11 ¹²
Value applied	0.9777
Justification of choice of data or description of measurement methods and procedures applied	The data has been considered in accordance to the Tool to calculate emission factor of an electricity system. The tool guides to take 75% weightage of $EF_{grid,OM,Simple}$, & 25% weightage of $EF_{grid,BM,y}$.
Purpose of Data	Baseline Emission calculation
Comments	The combined margin would be calculated ex-ante and fixed for the entire crediting period and the combined margin thus calculated is 0.9777.

4.2 Data and Parameters Monitored

Data / Parameter	$EG_{facility,y}$ ¹³
Data unit	MWh
Description	Calculated (based on the measured values of electricity exported and imported).
Source of data	Share Certificate Issued by Gamesa and JMR (Joint Meter Reading) by EB.
Description of measurement methods and procedures to be applied	Net electricity supplied is calculated based on the difference between calculated values of “export”, “import” and “transmission loss” on the EB energy meter at the “evacuation point” and at Government Substation”. (Net Electricity = Export – Import)
Frequency of monitoring/recording	Measurement: Continuous Recording: Monthly

¹² https://cea.nic.in/wp-content/uploads/baseline/2020/07/user_guide_ver11.pdf

¹³ If the project activity is the installation of a Greenfield power plant, then: $EGPJ,y = EG_{facility,y}$

	Monitoring Method: recording in JMR (Joint Meter Reading)																																																																				
	The JMR includes, monthly recording of electricity export, import & transmission loss.																																																																				
Value monitored	538,803.18																																																																				
Monitoring equipment	Energy meters of accuracy class 0.5 or better. Old Meter Details: <table><tr><th rowspan="2">Details</th><th colspan="2">Line I</th></tr><tr><th>Main meter</th><th>Check meter</th></tr><tr><td>Meter Number</td><td>XC548500</td><td>XC548501</td></tr><tr><td>Make</td><td>Secure</td><td>Secure</td></tr><tr><td>Accuracy</td><td>0.2S</td><td>0.2S</td></tr><tr><td>Location</td><td>GSS</td><td>GSS</td></tr></table> <table><tr><th rowspan="2">Details</th><th colspan="2">Line II</th></tr><tr><th>Main meter</th><th>Check meter</th></tr><tr><td>Meter Number</td><td>XC548502</td><td>XC548503</td></tr><tr><td>Make</td><td>Secure</td><td>Secure</td></tr><tr><td>Accuracy</td><td>0.2S</td><td>0.2S</td></tr><tr><td>Location</td><td>GSS</td><td>GSS</td></tr></table> The above-mentioned energy meters have been replaced with the below meter details respectively: New Meter Details: <table><tr><th rowspan="2">Details</th><th colspan="2">Line I</th></tr><tr><th>Main meter</th><th>Check meter</th></tr><tr><td>Meter Number</td><td>Q0580316</td><td>Q0580317</td></tr><tr><td>Make</td><td>Secure</td><td>Secure</td></tr><tr><td>Accuracy</td><td>0.2S</td><td>0.2S</td></tr><tr><td>Location</td><td>GSS</td><td>GSS</td></tr></table> <table><tr><th rowspan="2">Details</th><th colspan="2">Line II</th></tr><tr><th>Main meter</th><th>Check meter</th></tr><tr><td>Meter Number</td><td>Q0580318</td><td>Q0580319</td></tr><tr><td>Make</td><td>Secure</td><td>Secure</td></tr><tr><td>Accuracy</td><td>0.2S</td><td>0.2S</td></tr><tr><td>Location</td><td>GSS</td><td>GSS</td></tr></table>	Details	Line I		Main meter	Check meter	Meter Number	XC548500	XC548501	Make	Secure	Secure	Accuracy	0.2S	0.2S	Location	GSS	GSS	Details	Line II		Main meter	Check meter	Meter Number	XC548502	XC548503	Make	Secure	Secure	Accuracy	0.2S	0.2S	Location	GSS	GSS	Details	Line I		Main meter	Check meter	Meter Number	Q0580316	Q0580317	Make	Secure	Secure	Accuracy	0.2S	0.2S	Location	GSS	GSS	Details	Line II		Main meter	Check meter	Meter Number	Q0580318	Q0580319	Make	Secure	Secure	Accuracy	0.2S	0.2S	Location	GSS	GSS
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Accuracy	0.2S	0.2S																																																																			
Location	GSS	GSS																																																																			

QA/QC procedures to be applied	Net electricity supplied to the grid by the project activity are cross checked with invoices submitted to EB. The meter(s) are calibrated and maintained by the state utility as per their own schedule, and this frequency of meter calibration is not within the control of the Project Proponent.																							
	Calibration of electricity meters is carried out in-line with the Nation standard ¹⁴ which recommends at least once in 5-year calibration or whenever abnormal difference/inconsistency is observed between main meter and check meter.																							
	Old Energy Meter Calibration Dates:																							
	<table><tr><th>Meter</th><th>Calibration Date</th><th>Due date</th></tr><tr><td rowspan="2">Main meter Line I - XC548500</td><td>18/06/2019</td><td>17/06/2024</td></tr><tr><td>20/02/2020</td><td>19/02/2025</td></tr><tr><td rowspan="2">Check meter Line I - XC548501</td><td>18/06/2019</td><td>17/06/2024</td></tr><tr><td>20/02/2020</td><td>19/02/2025</td></tr><tr><td rowspan="2">Main meter Line II - XC548502</td><td>18/06/2019</td><td>17/06/2024</td></tr><tr><td>20/02/2020</td><td>19/02/2025</td></tr><tr><td rowspan="2">Check meter Line II - XC548503</td><td>18/06/2019</td><td>17/06/2024</td></tr><tr><td>20/02/2020</td><td>19/02/2025</td></tr></table>	Meter	Calibration Date	Due date	Main meter Line I - XC548500	18/06/2019	17/06/2024	20/02/2020	19/02/2025	Check meter Line I - XC548501	18/06/2019	17/06/2024	20/02/2020	19/02/2025	Main meter Line II - XC548502	18/06/2019	17/06/2024	20/02/2020	19/02/2025	Check meter Line II - XC548503	18/06/2019	17/06/2024	20/02/2020	19/02/2025
	Meter	Calibration Date	Due date																					
	Main meter Line I - XC548500	18/06/2019	17/06/2024																					
		20/02/2020	19/02/2025																					
	Check meter Line I - XC548501	18/06/2019	17/06/2024																					
		20/02/2020	19/02/2025																					
	Main meter Line II - XC548502	18/06/2019	17/06/2024																					
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New Energy Meter Calibration Dates:																								
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The energy meters were replaced on 31/03/2022. New energy meters are factory-calibrated to meet specific accuracy standards, so they generally do not require additional calibration when initially installed or throughout their operational life under normal conditions. As per national standards, energy meters are required to be calibrated once in every five years. Accordingly, the new energy meters were calibrated on 16/05/2025, which is in compliance with the national standard.																								
Purpose of the data	Calculation of baseline emissions																							
Calculation method	Net electricity = Electricity export – Electricity import																							
Comments	-																							

¹⁴ https://cea.nic.in/old/reports/regulation/CEA_metering_regulation_amendment_2019.pdf

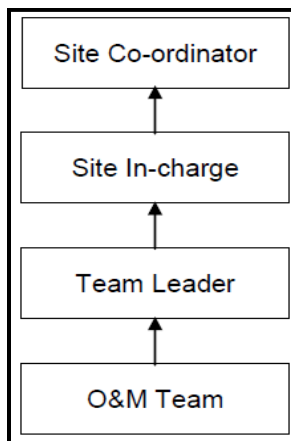
4.3 Monitoring Plan

The project proponent has entered into agreement with the WTG Suppliers (Gamesa) for the operation and maintenance of WTGs. The WTG supplier has dedicated and technically well-equipped O&M team for day-to-day Operation and maintenance of each WTG. O&M contractor will provide a monthly report, which includes generation data, major breakdown events and machine availability. Project manager is responsible for recording of monthly meter readings of export and import. Monthly power export and import data will be sent regularly to site in charge of each project separately.

Monitoring roles and responsibilities:

The roles and responsibilities for the project are described as below;

The data for the project is compiled by the O&M Contractor and subsequently stored by the PP, the reporting and data flows as per the below mentioned flow chart starting from Site O&M team which monitors day to day operational data and monthly recording.



The Site In-charge is responsible for carrying out internal auditing and QA/QC. All the values from generation record are checked with JMR and invoices for consistency. In case there are any non-conformances identified, the Site In-charge will investigate the error and revise the record to correct it. In any case where values have slightest of variation in different records the most conservative value will be taken in the project monitoring report. All the verified data are sent to site co-coordinator of the PP and it is stored at HQ.

Personal Training:

The training for operating and maintaining the plant will be provided to the O&M team whenever there would be necessity or any technological up gradation. The number of trainings provided during the current monitoring period is as follows:

Year	Number of trainings
01-January-2022 to 31-December-2022	36
01-January-2023 to 31-December-2023	51
01-January-2024 to 31-December-2024	46
Total	133

Monitoring Process at project site

Joint monthly meter reading is taken at the Gamesa Pooling substation (PSS) meters by representative of Distribution Company (DISCOM) and O&M team/service provider (on behalf of the project proponent). It must be noted here that the meter readings as mentioned above shall be calculated as the product of meter multiplication factor and the difference of the current and previous meter readings.

Currently, the PSS has only the project WTGs and hence there is no need to calculate transmission losses.

(Net Electricity = Export – Import)

However, in future if there are other WTGs connected to the same feeder in PSS with the project WTGs then O&M contractor (Gamesa) shall be responsible for calculation of net electricity and arriving at transmission loss. In such a scenario:

(Net Electricity = Export – Import – Transmission Loss)

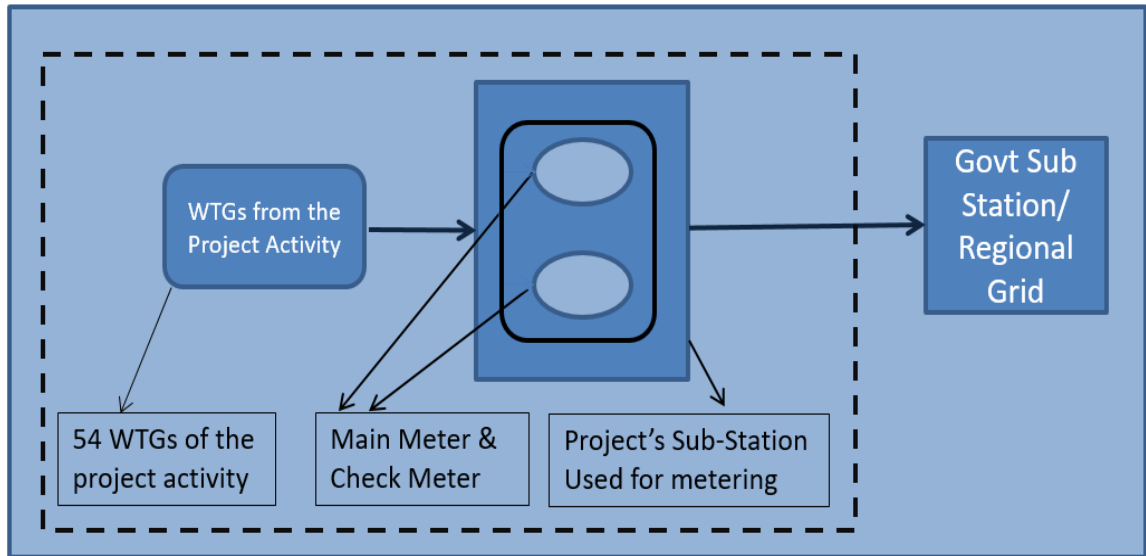
Based on the above procedure, the Monthly JMRs shall be provided to the project proponent. This is to be noted that the detail procedure of monitoring is illustrated here for the sake of understanding; for the preparation of monitoring report during periodic verifications, only the net electricity generation value shall be directly used for emission reduction calculation. No other parameters as explained above shall be used and presented in the monitoring report.

Emergency preparedness:

In case Main meter or Check meter is found to be outside the acceptable limits of accuracy or faulty or not functioning properly, it will be repaired, recalibrated or replaced as soon as possible. In the event that the Main meter is not in service as a result of maintenance, repairs or testing, the check meter will be used for readings.

Data recording & archiving: The project proponent shall maintain data both in electronic form and hard copies. The monitored data shall be archived till 2 years after the completion of crediting period.

A schematic diagram indicating the metering system is provided below:



5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

The baseline emission is calculated in line with para 42 of ACM0002, Version 17.0, using equation below:

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

$EF_{grid,CM,y}$ is 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) (i.e, 0.9777 tCO₂/MWh).

and;

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

Net Electricity ($EG_{facility,y}$) month wise data:

Month	Export energy in MWh	Import energy in MWh	Net Energy (Export-Import) (MWh)
Jan-22	9,178.75	97.19	9,081.56
Feb-22	11,127.50	106.25	11,021.25
Mar-22	13,652.69	75.31	13,577.38
Apr-22	23,508.00	29.00	23,479.00
May-22	33,394.00	16.00	33,378.00
Jun-22	24,716.00	26.00	24,690.00
Jul-22	17,898.00	39.00	17,859.00
Aug-22	19,711.00	95.00	19,616.00
Sep-22	12,374.00	74.00	12,300.00
Oct-22	9,360.00	78.00	9,282.00
Nov-22	5,013.00	162.00	4,851.00
Dec-22	7,867.00	125.00	7,742.00
Jan-23	10,746.00	99.00	10,647.00
Feb-23	6,143.00	158.00	5,985.00
Mar-23	12,231.00	108.00	12,123.00
Apr-23	18,217.00	47.00	18,170.00
May-23	20,647.00	55.00	20,592.00
Jun-23	29,887.00	8.00	29,879.00
Jul-23	16,889.00	53.00	16,836.00

Aug-23	27,471.00	6.00	27,465.00
Sep-23	17,663.00	48.00	17,615.00
Oct-23	10,923.98	100.00	10,823.98
Nov-23	5,372.00	182.00	5,190.00
Dec-23	7,040.01	107.00	6,933.01
Jan-24	4,876.01	151.00	4,725.01
Feb-24	12,503.01	82.00	12,421.01
Mar-24	19,112.98	44.00	19,068.98
Apr-24	18,407.00	45.00	18,362.00
May-24	22,962.99	40.00	22,922.99
Jun-24	20,072.01	58.00	20,014.01
Jul-24	20,548.99	45.00	20,503.99
Aug-24	16,842.00	66.00	16,776.00
Sep-24	13,709.00	92.00	13,617.00
Oct-24	7,184.01	156.00	7,028.01
Nov-24	4,494.00	162.00	4,332.00
Dec-24	9,980.00	84.00	9,896.00
Total	541,721.93	2,918.75	538,803.18

Calculations of baseline emissions:

Vintage	Net Electricity - EG _{PJ,y} (MWh)	Grid Emission Factor- EF _{grid, CM,y} tCO ₂ /MWh	Baseline Emissions (tCO ₂) EG _{PJ,y} x EF _{grid,CM,y}
01-January 2022 to 31-December 2022	186,877.19	0.9777	182,709
01-January 2023 to 31-December 2023	182,259.00	0.9777	178,194
01-January 2024 to 31-December 2024	169,667.00	0.9777	165,883
Total	538,803.18	0.9777	526,786

5.2 Project Emissions

The project activity involves in harnessing wind power. The project activity involves in harnessing wind power. As per the approved consolidated Methodology ACM0002 (Version 17.0), para 34: “For most renewable energy power generation project activities, PE_y = 0. However, some project activities may involve project emissions that can be significant. These emissions shall be accounted for as project emissions by using the following equation:

$$PE_y = PE_{FF,y} + PE_{GP,y} + PE_{HP,y}$$

PE_y - Project emissions in year y (t CO₂e/yr)

$PE_{FF,y}$ - Project emissions from fossil fuel consumption in year y (t CO₂/yr)

$PE_{GP,y}$ - Project emissions from the operation of dry, flash steam or binary geothermal power plants in year y (t CO₂e/yr)

$PE_{HP,y}$ Project emissions from water reservoirs of hydro power plants in year y (t CO₂e/yr)"

As the project activity is the installation of a new grid-connected Wind power plant/ unit and does not involve any project emissions from fossil fuel, operation of dry, flash steam or binary geothermal power plants, and from water reservoirs of hydro power plants. Therefore $PE_{FF,y}$, $PE_{GP,y}$ and $PE_{HP,y}$ are equal to zero and thus, $PE_y = 0$.

So, the emissions from the project are zero.

5.3 Leakage Emissions

As per para no.56 of applied methodology ACM0002, version 17, no leakage emissions have been considered and hence the leakage emission is zero.

5.4 GHG Emission Reductions and Carbon Dioxide Removals

As per the applied methodology, emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y - LE_y$$

Where,

ER_y = Emission Reduction in tCO₂e/year

BE_y = Baseline emission in tCO₂/year

PE_y = Project emissions in tCO₂e/year

LE_y = Leakage emission in tCO₂e/year

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCU (tCO ₂ e)	Removal VCU (tCO ₂ e)	Total VCUs (tCO ₂ e)
01-January 2022 to 31-December 2022	182,709	0	0	182,709	0	182,709
01-January 2023 to 31-December 2023	178,194	0	0	178,194	0	178,194

01-January 2024 to 31-December 2024	165,883	0	0	165,883	0	165,883
Total	526,786			526,786		526,786

Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference
01-January-2022 to 31-Dec-2022	212,745	182,709	-14.12%	There is a decrease of 14.12% ER as compared to the ex-ante estimated, which is mainly due to the lower generation against the estimated value. The generation of electricity depends upon many other climatic conditions and the availability of wind power density is not within the control of the Project proponent.
01-Jan-2023 to 31-Dec-2023	212,745	178,194	-16.24%	There is a decrease of 16.24% ER as compared to the ex-ante estimated, which is mainly due to the lower generation against the estimated value. The generation of electricity depends upon many other climatic conditions and the availability of wind power density is not within the control of the Project proponent.
01-Jan-2024 to 31-Dec-2024	213,328	165,883	-22.24%	There is a decrease of 22.24% ER as compared to the ex-ante estimated, which is mainly due to the lower generation against the estimated value. The generation of electricity depends upon many other climatic conditions and the availability of wind power density is not within the control of the Project proponent.
Total	638,817	526,786	-17.54%	There is a decrease of 17.54% ER as compared to the ex-ante estimated, which is mainly due to the lower generation against the estimated value. The generation of electricity depends upon many other climatic conditions and the availability of wind power density is not within the control of the Project proponent. The post-tax equity IRR has not breached the benchmark with the decrease in generation data of 17.54%.

APPENDIX 1: COMMERCIALY SENSITIVE INFORMATION

Not Applicable

Section	Information	Justification
Not applicable	Not applicable	Not Applicable