

**Verification report for
GS4GG project activities
(Gold Standard for the Global Goals)**

BASIC INFORMATION

Title of the GS4GG Project Activity	Vaayu India Wind Power Project in Gujarat
Reference number of the Project Activity	GS 3958
Version number of the verification and certification report	1.3
Completion date of the verification and certification report	19/10/2022
Monitoring period number and duration of this monitoring period	5 th Monitoring Period (for GS) 01/01/2020 to 31/05/2021 (inclusive of both dates)
Version number of the monitoring report to which this report applies	1.2 Dated: 20/09/2022
Crediting period of the project activity corresponding to this monitoring period	01/06/2011 to 31/05/2021
Project representative	Vaayu (India) Power Corporation Private Limited (India)
Host Party	India
Applied methodologies and standardized baselines	"Consolidated baseline methodology for grid connected electricity generation from renewable sources" ACM0002 (Version 11, EB 52)
Activity requirements applied	☐ Community Services Activities ☒ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Mandatory sectoral scopes	Sectoral Scope 1: Energy industries (renewable - / non-renewable sources)

Product requirements applied			☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A	
Sustainable Development Goals Targeted	SDG Impact	Estimated amount of annual average certified SDG impact (as per approved PDD)	Total amount of certified SDG impact (as per approved methodology) achieved in this monitoring period	Units/Products
SDG 13 (Climate action)	Climate Action	151,552 (Estimated for 520 Days of MP)	100,845	GS VER / tCO _{2e}
SDG 7 (Affordable and clean energy)	Affordable and Clean Energy	164,280.449 (approx. estimated for 520 Days of MP)	109,347.95	MWh
SDG 8 (Decent work and economic growth)	Decent Work and Economic Growth	-	2 trainings 10 employees	Numbers
Name of the Gold Standard approved auditor (OE)			Earthood Services Private Limited E-0066	
Name, position, and signature of the approver of the verification and certification report			 Dr. Kaviraj Singh Managing Director	

SECTION A. Executive summary

The project activity is registered CDM project with registration number UNFCCC - 4700 and been transitioned to the Gold Standard prior to the Current verification. Prior to current verification the issuance of the project has happened under CDM and converted to GSVERs. The current monitoring period verification is undertaken for GS only.

The project activity is a large-scale wind power plant consists of 64 Nos of 800 kW wind energy converters (WEC) (model no - E-53) with a total capacity of 51.2 MW. The generated electricity is supplied to the Gujarat state electricity grid which is part of the Indian national electricity grid.

The project activity intends to reduce the GHG emissions in host country (SDG 13) - India by utilizing the renewable wind energy for generation of electricity (SDG 7), while uplifting the local economy by creating local employment (SDG 8) and doing many social benefits for the rural areas of Jamnagar and Rajkot Districts within boundaries of Gujarat state.

The project activity is in villages Chattar, Narmana, Seth Wadala, Jam Ambardi, Mevasa, Dhun Dhoraji, Sadodar, Bodi, Padavala and Machharda in Jamnagar and Rajkot Districts of Gujarat state in India.

Scope of Verification

This verification is an independent and objective review and ex-post determination of the monitored SDG outcomes by the VVB. The verification addresses the implementation and operation of the GS PA and tests the data and assertions set out in the monitoring report based on the following:

- (i) The registered CDM/GS PDD and preliminary review feedback
- (ii) The approved methodology mentioned in the PDD.
- (iii) The registered monitoring plan
- (iv) UNFCCC criteria referred to in the Kyoto Protocol criteria and the CDM modalities and procedures as agreed in the Bonn Agreement and the Marrakech Accords
- (v) Latest GS4GG requirements
- (vi) CDM Validation and Verification Standard (VVS)
- (vii) Principles and Requirements for GS4GG
- (viii) Validation and Verification Body requirements, Product requirements and references relevant to the project activity's reported SDG outcomes

The verification has considered both quantitative and qualitative aspects on stated/reported SDG outcomes achieved as part of GS4GG. The monitoring report (all versions) and corresponding supporting documentation was assessed in accordance with the rules defined by UNFCCC and GS4GG, as appropriate to the PA. The verification is not meant to provide any consulting or recommendations to the PD/others. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

Verification process

The verification process is conducted as per internal GS Quality Manual, which includes the following steps:

- Contract with PD and appointment of verification team and technical review team (refer Section B.1 and B.2 of this report)
- Desk review of Monitoring Report and corresponding ER sheet by verification team along with other reference and supporting documents (refer Section D.1 of this report)
- Site visit planning (refer Section D.2 of this report) as well as physical implementation and interview with relevant stakeholders by verification team. Sampling has been not applied for project (refer Section D.3 of this report)
- Reporting and closure of findings (CARs/CLs/FARs) and preparation of draft verification report (refer Section D.4. of this report)
- Independent review of the project and final/revised documentation (e.g., Monitoring Report, corresponding ER sheet and evidence)
- Reporting and closure of findings (CARs/CLs/FARs) and final approval for the decision made after Technical Review (refer Section E and F of this report).
- Issuance of final verification report to contracted PD (or authorized representatives) and submission of request for issuance, as appropriate.

Conclusion:

During the current monitoring period from 01/01/2020 to 31/05/2021 (inclusive of both dates), the plant has successfully delivered 109,347.95 MWh of electricity to the national grid under SDG 7, provided employment opportunities to a total of 10 employees under SDG 8 and resulted in a reduction of 100,845 tCO_{2e} GHG emissions under SDG 13. The values for the SDG impacts achieved during the current monitoring period have been reported below:

Vintage

SDG	Total	Units/ Products
	01/01/2020 to 31/05/2021	
SDG 7 (Affordable and clean energy)	109,347.95	MWh
SDG 8 (Decent work and economic growth: Number of jobs created)	10 employees & 2 trainings	Number of employees` & Trainings
SDG 13 (Climate action)	100,845 69,717 (01/01/2020 to 31/12/2020) 31,128 (01/01/2021 to 31/05/2021)	tCO _{2e}

SECTION B. Verification team, technical reviewer and approver

B.1. Verification team member

Role	First name	Affiliation	Involvement in
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No .			Last name		(e.g. name of central or other office of DOE or outsourced entity)	Desk/document review	On-site inspection*	Interviews	Verification findings
1.	Team Leader and Local expert	IR	Raval	Harsh	Central Office	Y	Y	Y	Y
2.	Technical Expert (TA 1.2) and Methodology Expert	IR	Raval	Harsh	Central Office	Y	Y	Y	Y
3.	Trainee Verifier (previous team)	IR	Banerjee	Apoorva	Central Office	Y	N	N	Y
4.	Trainee Verifier	IR	Chawla	Muskan	Central Office	Y	N	N	Y

B.2. Technical reviewer and approver of the verification and certification report

No .	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer and TA Expert	IR	Garg	Shreya	Central office
2.	Approver	IR	Singh	Kaviraj	Central office

SECTION C. Application of materiality

C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Human Error caused due recording monitored data in main meter tabular report sheets	Low	The tabular reports are generated by the state agency/authority based on JMRs and then finalised by an independent division for to be used for invoicing purpose.	All Share certificates issued by GEDA/GETCO.
2.	Error in transferring the recorded data to ER sheet	Medium	The procedure for transferring in the final tabular report readings to the ER calculation sheet is manual, thus increasing the chances of error.	All Share certificates issued by GEDA/GETCO were verified and their entry into ER sheet checked for 100% data.
3.	Error in applying the formulae in the emission reduction calculation sheet	Medium	The calculation method has been prescribed in the applied methodologies and further detailed in the registered PDD. The project involves large data, and the final emission reduction are a result of complex mathematical equations.	The emission reduction calculation sheet has been reviewed in detail by the assessment team. Each step for the calculation has been thoroughly checked to confirm the final numbers.

In line with Guidelines for Application of materiality in verifications, a reasonable level of assurance is defined for the verification of the project by complete verification of all the values indicated in the emission reduction spreadsheet with source documents such as electricity generation records, invoices at the document review stage and during remote site visit. There are no material errors, omissions or misstatements.

SECTION D. Means of verification

D.1. Desk/document review

The verification is performed primarily as a desk review of the documents submitted at various stages of assessments. The review is performed by assessment team using dedicated protocols (checklists). The assessment team cross checks the information provided in the documents (MR) and information from sources other than those used, if

available, and conducts independent background investigations. Earthood conducted a desk review as under;

- a) A review of the data and information presented to verify their completeness.
- b) A review of the monitoring plan (as described in PDD), the monitoring methodology including applicable tool(s) and, where applicable, the applied standardized baseline, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures.
- c) A review of calculations and assumptions made in determining the SDG outcomes.
- d) An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of SDG outcomes.

The list of documents reviewed during verification is provided under appendix 3 of this report.

D.2. On-site inspection and Interviews

In the context of verification, the GS4GG principles and requirements version 1.2, para 5.1.26 requires VVB to conduct a site visit including the assessment of the monitoring report and all supporting evidence and documents included by the Project Developer to demonstrate conformity.

The on-site inspection was carried out by a competent with of Team Leader, Local Expert and technical area expert on 02/04/2022.

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1	Bariya	Kantilal	WWIL O&M Head, western region –	02/04/2022	Monitoring and measurement system, collection of measurements, observations of established practices and data verification of monitoring parameters, Electricity Generation records (monthly energy statements, invoices and share certificates), Reliability & accuracy of	Harsh Raval

					readings considered for emission reduction calculations, Calibration procedures	
2	Shenoy	Poorvi Joshi	Project Consultant	02/04/2022 and Continuous till closer of findings	Monitoring report compliance, Findings and responses, ER calculation	Harsh Raval
3	Rathod	Pankaj	Local Villagers, Employed at project site	02/04/2022	Working conditions at workplace, Salary cycle, Employee benefits like leaves, bonuses, general satisfaction of working on Project	Harsh Raval
4	Dangar	Vikas				
5	Parmar	Hitesh				
6	Dangar	Nitin				
7	Dabhi	Rohit				
8	Gagliya	Vijay				
9	Bhai	Iqbal	Local Villager, Shopkeeper , Haripar	02/04/2022	Benefits of the project at rural area specifically indirect income generation, CSR activities by project developers in the area including schools.	Harsh Raval

D.3. Sampling approach

No sampling approach has been followed.

D.4. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	-	CAR 01	-
Compliance of the project implementation and operation with the registered PDD	-	-	-
Post-registration changes	-	-	-
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines	-	CAR 02	-
Compliance of monitoring activities with the registered monitoring plan	-	-	-
Compliance with the calibration frequency requirements for measuring instruments	-	-	-
Assessment of data and calculation of SDG impacts	-	CAR 02	-
Assessment of reported sustainable development co-benefits	-	-	-
Safeguarding Principle	-	-	-
Monitoring Period	-	-	-
Global stakeholder consultation	-	-	-
ER sheet	CL 03	-	-
Crediting Period	-	-	-
Scale of the project	-	-	-
GS Review from previous Verification: Grievance Mechanism	-	-	-
Parameters	-	-	-
Others (please specify)	-	-	-
Total	01	02	-

SECTION E. Verification findings

E.1. Compliance of the monitoring report with the monitoring report form

Means of verification	The Gold Standard for Global Goals prescribes a template for MR. Therefore, PD has used the Gold standards for global goals MR template form version 1.1/09/ which has been issued by Gold Standards on 14/10/2020. In addition, all the GS4GG requirements are included in accordance with the Principles and requirements/15/ in the MR.
Findings	CAR 01 was raised as successfully resolved.
Conclusion	The MR version 1.2 is found to be in compliance with the applicable latest monitoring report form/09/ and instructions contained therein.

E.2. Remaining forward action requests from validation and/or previous verifications

This is the fifth verification of the project activity under GS and no FAR(s) from validation or previous verification/4/ that need to be closed during this verification.

E.3. Compliance of the project implementation and operation with the registered project design document

Means of verification

The Monitoring Report for the project activity "Vaayu India Wind Power Project in Gujarat", version 1.2 of 26/05/2022 submitted by Vaayu (India) Power Corporation Private Limited is the basis for the verification process conclusion and certification.

The project is a 51.2 MW wind power project. The project consists of 64 WTGs each having 800 kW capacity. The WTGs have been commissioned between 25/06/2010 and 04/07/2011. The same was verified against the commissioning certificates/14/. The commercial operation of the project activity had been started on 21/05/2011.

The project activity WTGs are connected to 17 clusters with each cluster have dedicated metering arrangement at 33kV at project site. All the cluster meters (for the project activity and non-project activity) are further connected to metering yards which ultimately linked to common metering system (GETCO meters) at 220 kV Sadodar substation maintained by WWIL. Based on the data recorded at cluster metering points (33 kV) and at GETCO main meters, the net electricity supplied to the grid by Project Developer is calculated by GEDA after adjusting the transmission losses and share certificates for each project developer is prepared. Share certificate issued by GETCO only mentions the electricity generation value on monthly basis through apportioning calculation. The calculation of net electricity generation is completely under jurisdiction of state utility and Project Developer does not have any control over it. The values of EGPJ,y are being directly sourced from share certificates.

The project boundary and location were verified from the commissioning certificates/14/ and was found to be consistent with the information mentioned in the PDD/01/ and the MR. The generated electricity is supplied to the Gujarat State Electricity grid (Indian national Grid) as confirmed during the site visit/19/ to the project activity substation.

The geo coordinates of the WTGs forming part of the project activity as mentioned in the MR are crosschecked with the revised approved PDD/01/ and previous validation/verification reports/4/ and found to be consistent. This the fifth verification under GS and last verification of the crediting period. The locations of the WTGs are already verified during the previous assessment and thus consistency and details of information have been checked.

Sr. No.	Location No.	WTG-ID No.	Village	Latitude	Longitude
1	3020	EIL/800/10-11/1826	Machharda	N22 ° 06' 19.0"	E70 ° 18' 45.7"
2	3021	EIL/800/10-11/1827	Machharda	N22 ° 06' 23.5"	E70 ° 18' 43.7"

	3	3022	EIL/800/10-11/1828	Machharda	N22 ° 06' 29.7"	E70 ° 18' 44.6"
	4	3072	EIL/800/09-10/1738	Padavala	N21 ° 57' 19.6"	E70 ° 15' 05.0"
	5	3073	EIL/800/09-10/1739	Padavala	N21 ° 57' 14.9"	E70 ° 15' 11.7"
	6	3075	EIL/800/09-10/1740	Padavala	N21 ° 56' 43.1"	E70 ° 15' 20.6"
	7	3076	EIL/800/09-10/1741	Padavala	N21 ° 55' 59.2"	E70 ° 15' 33.7"
	8	3088	EIL/800/09-10/1742	Padavala	N21 ° 56' 19.3"	E70 ° 14' 38.0"
	9	62	EIL/800/09-10/1766	Chattar	N22 ° 07' 40.2"	E70 ° 15' 10.7"
	10	63	EIL/800/09-10/1767	Chattar	N22 ° 07' 46.6"	E70 ° 15' 00.6"
	11	64	EIL/800/09-10/1768	Chattar	N22 ° 07' 53.3"	E70 ° 14' 57.1"
	12	539	EIL/800/09-10/1789	Seth Wadala	N22 ° 04' 46.7"	E70 ° 05' 34.3"
	13	540	EIL/800/09-10/1790	Seth Wadala	N22 ° 04' 33.3"	E70 ° 05' 43.1"
	14	541	EIL/800/09-10/1791	Seth Wadala	N22 ° 04' 27.4"	E70 ° 05' 47.6"
	15	543	EIL/800/09-10/1792	Seth Wadala	N22 ° 04' 17.3"	E70 ° 05' 53.7"
	16	544	EIL/800/09-10/1793	Seth Wadala	N22 ° 04' 13.5"	E70 ° 06' 00.7"
	17	545	EIL/800/09-10/1794	Seth Wadala	N22 ° 03' 31.5"	E70 ° 05' 32.6"
	18	546	EIL/800/09-10/1795	Jam Ambardi	N22 ° 03' 40.2"	E70 ° 05' 31.0"
	19	547	EIL/800/09-10/1796	Jam Ambardi	N22 ° 03' 45.3"	E70 ° 05' 31.9"

	20	548	EIL/800/09-10/1797	Jam Ambardi	N22 ° 03' 50.7"	E70 ° 05' 34.2"
	21	903	EIL/800/09-10/1747	Mevasa/Haripar	N22 ° 01' 23.0"	E70 ° 15' 35.2"
	22	904	EIL/800/09-10/1748	Mevasa/Haripar	N22 ° 01' 30.2"	E70 ° 15' 41.0"
	23	905	EIL/800/09-10/1749	Mevasa/Haripar	N22 ° 01' 36.6"	E70 ° 15' 27.2"
	24	906	EIL/800/09-10/1750	Mevasa/Haripar	N22 ° 01' 30.7"	E70 ° 14' 55.0"
	25	907	EIL/800/09-10/1751	Mevasa/Haripar	N22 ° 01' 37.9"	E70 ° 14' 56.8"
	26	908	EIL/800/09-10/1752	Mevasa/Haripar	N22 ° 01' 44.8"	E70 ° 14' 54.1"
	27	909	EIL/800/09-10/1753	Mevasa/Haripar	N22 ° 01' 51.2"	E70 ° 14' 51.2"
	28	910	EIL/800/09-10/1754	Mevasa/Haripar	N22 ° 01' 57.7"	E70 ° 14' 55.7"
	29	912	EIL/800/09-10/1746	Dhun Dhoraji	N22 ° 02' 09.1"	E70 ° 15' 04.4"
	30	926	EIL/800/09-10/1769	Chattar	N22 ° 06' 57.6"	E70 ° 16' 33.0"
	31	927	EIL/800/09-10/1770	Chattar	N22 ° 06' 59.3"	E70 ° 16' 23.3"
	32	928	EIL/800/09-10/1771	Chattar	N22 ° 07' 10.0"	E70 ° 16' 16.5"
	33	929	EIL/800/09-10/1772	Chattar	N22 ° 07' 15.9"	E70 ° 16' 11.3"
	34	931	EIL/800/10-11/1870	Chattar	N22 ° 07' 12.7"	E70 ° 15' 23.5"
	35	932	EIL/800/09-10/1773	Chattar	N22 ° 07' 05.5"	E70 ° 15' 27.2"
	36	933	EIL/800/09-10/1774	Chattar	N22 ° 06' 59.3"	E70 ° 15' 31.5"

	37	934	EIL/800/09-10/1775	Chattar	N22 ° 06' 53.9"	E70 ° 15' 27.9"
	38	935	EIL/800/09-10/1776	Chattar	N22 ° 06' 46.0"	E70 ° 15' 22.7"
	39	936	EIL/800/09-10/1777	Chattar	N22 ° 06' 40.3"	E70 ° 15' 25.7"
	40	937	EIL/800/09-10/1778	Chattar	N22 ° 06' 32.0"	E70 ° 15' 23.4"
	41	938	EIL/800/09-10/1779	Chattar	N22 ° 06' 25.7"	E70 ° 15' 22.1"
	42	939	EIL/800/09-10/1760	Jamvadi	N22 ° 08' 19.5"	E70 ° 19' 02.3"
	43	941	EIL/800/09-10/1761	Jamvadi	N22 ° 08' 07.2"	E70 ° 18' 57.8"
	44	942	EIL/800/09-10/1762	Jamvadi	N22 ° 08' 08.6"	E70 ° 19' 30.2"
	45	943	EIL/800/09-10/1763	Jamvadi	N22 ° 08' 00.9"	E70 ° 19' 25.4"
	46	944	EIL/800/09-10/1764	Jamvadi	N22 ° 07' 53.9"	E70 ° 19' 26.0"
	47	945	EIL/800/09-10/1765	Jamvadi	N22 ° 07' 49.5"	E70 ° 19' 31.4"
	48	947	EIL/800/09-10/1755	Moti Vavdi	N22 ° 06' 04.0"	E70 ° 18' 16.9"
	49	948	EIL/800/09-10/1756	Moti Vavdi	N22 ° 05' 57.0"	E70 ° 18' 17.8"
	50	950	EIL/800/09-10/1757	Moti Vavdi	N22 ° 05' 45.7"	E70 ° 18' 21.5"
	51	951	EIL/800/09-10/1758	Moti Vavdi	N22 ° 05' 38.3"	E70 ° 18' 18.4"
	52	952	EIL/800/09-10/1759	Moti Vavdi	N22 ° 05' 31.6"	E70 ° 18' 16.9"
	53	958	EIL/800/09-10/1743	Dhun Dhoraji	N22 ° 02' 32.4"	E70 ° 16' 42.8"

54	959	EIL/800/09-10/1744	Dhun Dhoraji	N22 ° 02' 26.2"	E70 ° 16' 44.6"
55	960	EIL/800/09-10/1745	Dhun Dhoraji	N22 ° 02' 19.0"	E70 ° 16' 44.4"
56	992	EIL/800/09-10/1782	Sadodar	N22 ° 03' 13.6"	E70 ° 10' 37.3"
57	993	EIL/800/09-10/1783	Sadodar	N22 ° 03' 09.5"	E70 ° 10' 40.0"
58	994	EIL/800/09-10/1784	Sadodar	N22 ° 02' 59.6"	E70 ° 10' 36.4"
59	995	EIL/800/09-10/1785	Sadodar	N22 ° 02' 54.2"	E70 ° 10' 33.5"
60	996	EIL/800/09-10/1786	Sadodar	N22 ° 02' 47.4"	E70 ° 10' 22.2"
61	997	EIL/800/09-10/1787	Sadodar	N22 ° 02' 41.3"	E70 ° 10' 32.4"
62	1028	EIL/800/09-10/1788	Seth Wadala	N22 ° 03' 06.0"	E70 ° 08' 36.9"
63	1045	EIL/800/09-10/1780	Bodi	N22 ° 08' 43.4"	E70 ° 15' 11.4"
64	1046	EIL/800/09-10/1781	Bodi	N22 ° 08' 48.8"	E70 ° 15' 08.5"

The Project implementation is found to be in line with the registered PDD/01/ as verified from the various documentary evidence submitted by the PD and the site visit conducted for the project. Furthermore, the information about the monitoring & implementation were verified details were found to be consistent with the PDD/01/ and the MR/08/. The assessment team has checked the electricity Share certificates/17/ raised for monitoring period confirmed continuous electricity generation and normal operation for the monitoring period.

Electricity exported and imported by the WTGs (including non-project WTGs) is recorded through the meters installed at Sadodar substation and then supplied to the utility's substation at Moti Paneli. The details of meters installed at Sadodar substation for measuring export and import was provided in the MR/08/ and was verified through the calibration certificates/12/.

Serial No. (Main meter/ GETCO meter)	Type/ Make	Accuracy Class	Calibration dates	Validity
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GJB01470	Secure	0.2s	30/09/2016	29/09/2021
GJU04175	Secure	0.2s	30/09/2016	29/09/2021
GJU04176	Secure	0.2s	30/09/2016	29/09/2021
KAB11082	Secure	0.2s	30/09/2016	29/09/2021

Apart from it there are also cluster meters with details provided as below.

Meter Serial No	Make	Accuracy Class	Last Calibration Date prior to monitoring period	Validity
10059208	L&T	0.2s	25/09/2013	25/09/2018
10059203	L&T	0.2s	25/09/2013	25/09/2018
GJU60947	Secure	0.2s	25/09/2013	25/09/2018
GJU61707	Secure	0.2s	25/09/2013	25/09/2018
GJU61698	Secure	0.2s	25/09/2013	25/09/2018
GJU61321	Secure	0.2s	25/09/2013	25/09/2018
GJU61313	Secure	0.2s	25/09/2013	25/09/2018
GJU61690	Secure	0.2s	25/09/2013	25/09/2018
GJU61699	Secure	0.2s	25/09/2013	25/09/2018
GJU61322	Secure	0.2s	26/09/2013	26/09/2018
GJU61696	Secure	0.2s	26/09/2013	26/09/2018
GJU61310	Secure	0.2s	26/09/2013	26/09/2018
GJU61701	Secure	0.2s	26/09/2013	26/09/2018
GJU61693	Secure	0.2s	26/09/2013	26/09/2018
GJU61692	Secure	0.2s	25/09/2013	25/09/2018
GJU61691	Secure	0.2s	26/09/2013	26/09/2018
GJU60943	Secure	0.2s	26/09/2013	26/09/2018

It is evident from the details of above table that there were delays in calibration of the cluster meters. The calibration of any of the energy meters are not under control of the PD. The PD has also produced a request letter submitted to the authority for timely calibration of cluster meters. However, it was not carried out throughout the monitoring period. These cluster meters are latest calibrated in 2021 after the monitoring period and found to be working under their desired accuracy limits.

The Cluster meters are not directly used in monitoring of the export or import for project activity WTGs, but however used in the apportioning calculation. Since, the PD only gets the final value of the net export value in terms of the share certificate, it has conservatively applied a correction factor of 0.4% to the net export readings.

The accuracy class of the energy meters is 0.2s. So, a maximum error factor of 0.2% needs to be applied to decrease the export and to increase the import in case of the calibration delayed period. However the PD only

gets the value of net electricity generation. Hence, a cumulative error of 0.4% is applied on the value of net generation.

For the renewable wind project projects, the export values are always much higher as compared to the import values as import values are generally being minimal only being used for start-up process. For example for current project activity imports measured at substation are only about approximately 0.5% of the total export value. So, in place of increasing the import and reducing export by same correction factor of 0.2%, it is always more conservative to reduce the net export by 0.4%. Therefore, the approach considered by the PD is deemed conservative and same has been verified and accepted by the assessment team.

The crediting period has been from the 01/06/2011 to 31/05/2021 for the project activity. The date of previous monitoring period is from 01/04/2018 – 31/12/2019.

During the current monitoring period from 01/01/2020 to 31/05/2021, the following SDG goals have been targeted:

Sustainable Development Goals targeted	Amount achieved
SDG 13 Climate Change	100,845 tCO ₂ e
SDG 8 Decent work and economic growth	10 employees and 2 trainings
SDG 7 Affordable and clean energy	109,347.95 MWh

Grievance Mechanism:

The Project Activity has an elaborate system for recording and processing any grievances that might arise at any stage of the Project Activity. This was checked during the site visit and local stake holders and beneficiaries were also interviewed. There were no complaints made in person or conveyed via telephonic call or email or by physical means. The Project developer keeps grievance register at site office for any concerned raised by the local stakeholders and appropriate actions are being taken for the same. During site visit this register has been checked and no concerns are found or recorded for the current monitoring period.

Findings

No issues identified and hence finding was not raised for this section.

Conclusion

The verification team confirms that:

- The project activity was found completely implemented as per the description given in the registered PDD.
- The actual operation conforms to the description in the registered PDD/01/.
- No operational parameter (information/data variable) was found deviating from the registered PDD.
- The SDG impacts for the monitoring period were found to be within the estimated quantity in the registered PDD.
- The emission reductions achieved during the current monitoring period is 100,845 tCO₂e, that is within the estimated quantity (151,552 tCO₂e) in the registered PDD for the comparable period of 520 days.

E.4. Post-registration changes

E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents¹

There are no temporary deviations from registered monitoring plan or applied methodology. It was verified and confirmed from the registered PDD/01/; the applied methodology and the on-site verification.

E.4.2. Corrections

Not Applicable.

E.4.3. Changes to the start date of the crediting period

Not Applicable.

E.4.4. Inclusion of a monitoring plan

Not Applicable.

E.4.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

1. Revised monitoring plan was approved by UNFCCC on 01/08/2013 and
2. Post Registration Change (PRC) was made due to a change in calibration frequency from once every three years to once every five years & the request was made via registered PDD version 6/01/, dated 09/04/2021².

E.4.6. Changes to the project design

Not Applicable.

E.4.7. Changes specific to afforestation and reforestation project activities

Not Applicable.

E.5. Compliance of the registered monitoring plan with applied methodologies, applied standardized baselines, and other applied methodological regulatory documents

Means of verification	Based on this review it was found that the monitoring plan contained in the registered PDD/01/ includes all the required parameters to be monitored in the context of the PA design and description and allows proper determination of emission reductions in accordance with PDD/01/ and applied methodology ACM0002 "Consolidated baseline methodology for grid connected electricity generation from
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¹ Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

² [CDM: Vaayu India Wind Power Project in Gujarat. \(unfccc.int\)](http://unfccc.int)

	renewable sources"- Version 11, EB 52/11/.
Findings	No findings were raised.
Conclusion	The monitoring plan is in accordance with the approved methodology, ACM0002 "Consolidated baseline methodology for grid connected electricity generation from renewable sources"- Version 11, EB 52/11/ as included in the PDD/01/.

E.6. Compliance of monitoring activities with the registered monitoring plan

E.6.1.Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	The values of ex-ante parameter can be found in the table given below:			
	Parameter(s) fixed ex-ante:			
	Relevant SDG Indicator	Parameter	Value in PDD	Assessment
	13.2.1: Number of countries that have communicated the establishment or operationalization of an integrate policy/ strategy/ plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emission development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication,	EF _{grid OM, Y} tCo2e/MWh	1.00498	The value has been calculated as per the "Central Electricity Authority using the simple OM approach in accordance with ACM0002". The parameter is consistent with the PDD/01/ and MR /06/ and is fixed for the entire duration of the crediting period. The value is sourced from CO2 Baseline Database for Indian Power Sector, version 5 published by the Central Electricity Authority, Ministry of Power, Government of India https://cea.nic.in/cdm-co2-baseline-database/?lang=en

	biennial update report or other)			
	13.2.1: Number of countries that have communicated the establishment or operationalization of an integrate policy/ strategy/ plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emission development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)	EF _{grid BM, Y} tCo2e/MWh	0.67518	The value has been calculated as per the "Central Electricity Authority using the simple OM approach in accordance with ACM0002". The parameter is consistent with the PDD/01/ and MR /06/ and is fixed for the entire duration of the crediting period. The value is sourced from CO2 Baseline Database for Indian Power Sector, version 5 published by the Central Electricity Authority, Ministry of Power, Government of India https://cea.nic.in/cdm-co2-baseline-database/?lang=en
	13.2.1: Number of countries that have communicated the establishment or operationalization of an integrate policy/ strategy/ plan which increases their ability to adapt to the adverse impacts of climate change,	EF _{grid CM, Y} tCo2e/MWh	0.92252	The value has been calculated as per the "CDM methodologies: ACM0002, and Tool to calculate the emission factor for an electricity system". The parameter is consistent with the PDD/01/ and MR /08/ and is fixed for the entire duration of the crediting period. The value is sourced from CO2 Baseline Database for Indian Power Sector, version 5 published by the Central Electricity

	and foster climate resilience and low greenhouse gas emission development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)			Authority, Ministry of Power, Government of India https://cea.nic.in/cdm-co2-baseline-database/?lang=en
	The assessment team has checked that the ex-ante parameter was fixed at the level of PA and verified from the registered PDD/01/ & MR/08/. Also, the ex-ante parameter value has been consistently applied for the ER calculation which is evident from the ER calculation sheet/06/, which is consistent with MR/08/.			
Findings	No issues identified and hence finding was not raised for this section.			
Conclusion	The values mentioned in the monitoring report/08/ is consistent with the registered PDD/01/. The applied value is correct and justified.			

E.6.2.Data and parameters monitored

E.6.2.1. SDG 7, indicator 7.2.1: Renewable energy share in the total final energy consumption, $EG_{PJ,y}$ (MWh)

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring / Reading/ Recording Frequency	The parameter was calculated and recorded on monthly basis. $EG_{PJ,y}$ is calculated as the difference of net electricity exported and imported to/from the grid by the project activity. The parameter is calculated and recorded on monthly basis. However, the input values used to calculate the value of $EG_{PJ,y}$ are continuously monitored and monthly recorded.
	Is measuring and metering frequency are in according with the monitoring plan and monitoring methodology? (Yes/No)	Yes, measuring and reporting frequency is in accordance with the monitoring plan /01/ and methodology/11/, and is recorded on monthly basis by means of Share certificates issued by GETCO/17/.

	Monitoring equipment	Since it is calculated value, hence not applicable. No monitoring equipment is used as this parameter is calculated using measured values. The WECs belongs to project activity are connected to 17 clusters and each cluster have dedicated metering arrangement at 33kV at project site. Similarly, the WECs of other project developers (non-project activity) in the wind farm are also connected to separate clusters having exclusive dedicated metering arrangement at 33kV at project site. All the cluster meters (for the project activity and non-project activity) are further connected to different Vacuum Circuit Breaker metering yards (VCB) which ultimately linked to common metering system (GETCO meters) at 220 kV Sadodar substation maintained by WWIL. Based in data recorded at the cluster meters and at GETCO main meters, the net electricity supplied to the grid by project developer is calculated by GEDA after adjusting the transmission losses and share certificates for each project developer is prepared. Share certificate issued by GETCO/17/ on monthly basis, indicates the value of $EG_{PJ,y}$. Since the calculation of $EG_{PJ,y}$ is completely under jurisdiction of state utility and PP don't have any interference in the calculation procedure, hence values of $EG_{PJ,y}$ are directly sourced from share certificates.
	Is accuracy of the monitored equipment as started in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacture's specifications?	Not Applicable as it calculated parameter. However, the values used in calculation of this parameter are measured parameters through energy meters. The meters used in measurements of these input parameters are compliance with the accuracy and calibration requirements of the registered monitoring plan.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to	NA

	the different measuring ranges?	
	Calibration Frequency/interval:	NA
	Is the calibration of the measuring equipment carried out by an accredited person or institution?	NA
	Is(are) calibration(s) valid for the whole reporting period?	NA
	How were the values in the monitoring report verified?	Based on the data recorded in the JMRS of cluster meters and generation recorded at substations, electricity exported/imported to/from the grid by the project activity is calculated by state agency, using the apportioning procedure. The apportioning procedure is for project is mentioned in the MR and is consistent with the registered PDD, PPA and observation made on site. The apportioning procedure for the project activity is done by GEDA (Gujarat Energy Development Agency) based on the meters that are connected to the cluster meter of various project owners connected to substation of Wind World (India) Limited based on meter reading noted at Wind World (India) Limited substation connecting all the machines of the project activity and other project developers. Cumulative value of $EG_{PJ,y}$ for entire monitoring period is reported in the monitoring report/08/, however monthly values are reported in the ER calculation sheet/06/. The monthly values were verified from the share certificates/17/ issued by state utility GETCO and found to be consistent.

		Value of this parameter for the current monitoring period is 109,347.95 MWh.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of $EG_{PJ,y}$ were further cross-checked with the monthly invoices/17/ and were found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the adequate QA/QC procedures were implemented by the PP.
	In case project participants have temporarily not monitored the parameter, has either (i) a deviation been approved by the CDM EB or (ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No issues have been observed.
Findings	No issues identified and hence finding was not raised for this section.	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

E.6.2.2. 7.2.1: Renewable energy share in the total final energy consumption, $EG_{GETCO,Export}$ (kWh)

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Continuous measurement and monthly reported
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes/ No)	Yes, measuring and reporting frequency is in accordance with the monitoring plan as outlined in the registered PDD/01/.
	Values monitored	918816672 kWh
	Monitoring Equipment	Measured at Main meter

	Is accuracy of the monitored equipment as started in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacture's specifications?	In compliance with national regulations, the calibration of the meters is being done periodically every 5 years. There were no issues of calibration delay and reading of electricity generation data. Serial number, calibration date/12/ and accuracy information of meters are given below.																			
		Serial No.	Accuracy Class	Calibration dates	Validity																
		GJB01470	0.2s	30/09/2016	29/09/2021																
		GJU04175	0.2s	30/09/2016	29/09/2021																
		GJU04176	0.2s	30/09/2016	29/09/2021																
	KAB11082	0.2s	30/09/2016	29/09/2021																	
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to the different measuring ranges?	According to the monitoring plan/01/ and the manufacturer's specifications, the accuracy of 0.2s is valid for the entire measuring range.																			
	Calibration Frequency/interval:	The PDD version 6/01/ for the Project Activity states" Calibration of all the meters will be undertaken once in five years and faulty meters will be duly replaced immediately."/01/. The meters have worked under their desired calibration frequency for the monitoring period.																			
	Is the calibration of the measuring equipment carried out by an accredited person or institution?	The calibration was carried out during the previous monitoring period and still valid for current monitoring period. No calibration applicable for current monitoring period. Previous calibration was carried out by accredited state agency as it is not under purview of project developer.																			
	Is(are) calibration(s) valid for the whole reporting period?	Calibration is valid for the whole reporting period/12/. <table><tr><td>Serial No.</td><td>Accuracy Class</td><td>Calibration dates</td><td>Validity</td></tr><tr><td>GJB01470</td><td>0.2s</td><td>30/09/2016</td><td>29/09/2021</td></tr><tr><td>GJU04175</td><td>0.2s</td><td>30/09/2016</td><td>29/09/2021</td></tr><tr><td>GJU04176</td><td>0.2s</td><td>30/09/2016</td><td>29/09/2021</td></tr></table>				Serial No.	Accuracy Class	Calibration dates	Validity	GJB01470	0.2s	30/09/2016	29/09/2021	GJU04175	0.2s	30/09/2016	29/09/2021	GJU04176	0.2s	30/09/2016	29/09/2021
Serial No.	Accuracy Class	Calibration dates	Validity																		
GJB01470	0.2s	30/09/2016	29/09/2021																		
GJU04175	0.2s	30/09/2016	29/09/2021																		
GJU04176	0.2s	30/09/2016	29/09/2021																		

		KAB1108 2	0.2s	30/09/201 6	29/09/202 1
	How were the values in the monitoring report verified?	The data transfer process for the said parameter is as follows: These daily generation reports measured at meters are used to prepare monthly generation reports. The monitoring procedures were sufficiently robust to enable accurate transmission of data. The values were verified from the monthly JMR/18/ issued by O&M contractor.			
	If applicable, has the reported data been cross-checked with other available data?	Not Applicable. The parameter is used by GEDA to calculate the transmission losses and it is not used directly in calculation of the emission reductions. The parameter is being measured at the GETCO substation through meters connected at feeders. The feeders are connected to various WTG including the project activity and outside project activity. The export values measured at these meters are being further used by GETCO/GEDA to do the apportioning calculation in order to derive the net electricity exported by each Project Developer,			
	Does the data management ensure correct transfer of data and reporting of SDG outcomes and are necessary QA/QC processes in place?	Data management and QA/QC procedures were found to be in place as per the registered PDD/01/.			
	In case project participants have temporarily not monitored the parameter, has either (i) a deviation been approved by the CDM EB or (ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No issues have been observed.			
Findings	Issue in CAR#02 was raised as this parameter was not reported in the initial version of MR. This issue in CAR#02 was closed as PD corrected the error in revised MR. For detailed closure of CAR#02, please refer to Appendix 4 of this report.				
Conclusion	The parameters, EG _{GETCO, Export} & EG _{GETCO, Import} have been mentioned by the PD in the revised MR /08/ and has mentioned that the values have been used for the calculation of transmission loss by GEDA and is not directly used for the calculation of emission reductions. It is in line with the registered				

	PDD/01/. The parameter has been monitored appropriately, in accordance with the registered PDD/01/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/01/.
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E.6.2.3. 7.2.1: Renewable energy share in the total final energy consumption, $\Sigma EG_{GETCO, Import}$ (kWh)

Means of verification	Criteria/Requirements	Assessment/Observation			
	Measuring /Reading /Recording frequency	Continuous measurement and Monthly recording			
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes/ No)	Yes, measuring and reporting frequency is in accordance with the monitoring plan as outlined in the registered PDD/01/.			
	Monitoring equipment	Measured at Main meter			
	Values monitored	4907000 kWh			
	Is accuracy of the monitored equipment as started in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacture's specifications?	In compliance with national regulations, the calibration of the meters is being done periodically every 5 years. There were no issues of calibration delay and reading of electricity generation data. Serial number, calibration date/12/ and accuracy information of meters are given below.			
		Serial No.	Accuracy Class	Calibration dates	Validity
		GJB01470	0.2s	30/09/2016	29/09/2021
		GJU04175	0.2s	30/09/2016	29/09/2021
		GJU04176	0.2s	30/09/2016	29/09/2021
		KAB11082	0.2s	30/09/2016	29/09/2021
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to the different measuring ranges?	According to the monitoring plan/01/ and the manufacturer's specifications, the accuracy of 0.2s is valid for the entire measuring range.			
	Calibration Frequency/interval:	The PDD version 6/01/ for the Project Activity states " Calibration of all the meters will be			

	undertaken once in five years and faulty meters will be duly replaced immediately."/01/. The meters have worked under their desired calibration frequency for the monitoring period.																				
Is the calibration of the measuring equipment carried out by an accredited person or institution?	The calibration was carried out during the previous monitoring period and still valid for current monitoring period. No calibration applicable for current monitoring period. Previous calibration was carried out by accredited state agency as it is not under purview of project developer.																				
Is(are) calibration(s) valid for the whole reporting period?	Calibration is valid for the whole reporting period/12/. <table><tr><td>Serial No.</td><td>Accuracy Class</td><td>Calibration dates</td><td>Validity</td></tr><tr><td>GJB01470</td><td>0.2s</td><td>30/09/2016</td><td>29/09/2021</td></tr><tr><td>GJU04175</td><td>0.2s</td><td>30/09/2016</td><td>29/09/2021</td></tr><tr><td>GJU04176</td><td>0.2s</td><td>30/09/2016</td><td>29/09/2021</td></tr><tr><td>KAB11082</td><td>0.2s</td><td>30/09/2016</td><td>29/09/2021</td></tr></table>	Serial No.	Accuracy Class	Calibration dates	Validity	GJB01470	0.2s	30/09/2016	29/09/2021	GJU04175	0.2s	30/09/2016	29/09/2021	GJU04176	0.2s	30/09/2016	29/09/2021	KAB11082	0.2s	30/09/2016	29/09/2021
Serial No.	Accuracy Class	Calibration dates	Validity																		
GJB01470	0.2s	30/09/2016	29/09/2021																		
GJU04175	0.2s	30/09/2016	29/09/2021																		
GJU04176	0.2s	30/09/2016	29/09/2021																		
KAB11082	0.2s	30/09/2016	29/09/2021																		
How were the values in the monitoring report verified?	The data transfer process for the said parameter is as follows: These daily generation reports measured at meters are used to prepare monthly generation reports. The monitoring procedures were sufficiently robust to enable accurate transmission of data. The values were verified from the monthly JMR/18/ issued by O&M contractor.																				
If applicable, has the reported data been cross-checked with other available data?	Not Applicable. The parameter is used by GEDA to calculate the transmission losses and it is not used directly in calculation of the emission reductions. The parameter is being measured at the GETCO substation through meters connected at feeders. The feeders are connected to various WTG including the project activity and outside project activity. The import values measured at these meters are being further used by GETCO/GEDA to do the apportioning calculation in order to derive the net electricity exported by each Project Developer,																				
Does the data management ensure correct transfer of data and reporting	Data management and QA/QC procedures were found to be in place as per the registered PDD/01/.																				

	of emission reductions and are necessary QA/QC processes in place?	
	In case project participants have temporarily not monitored the parameter, has either (i) a deviation been approved by the CDM EB or (ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No issues have been observed.
Findings	Issue in CAR#02 was raised as this parameter was not reported in the initial version of MR. This issue in CAR#02 was closed as PD corrected the error in revised MR. For detailed closure of CAR#02, please refer to Appendix 4 of this report.	
Conclusion	The parameters, EG _{GETCO, Export} & EG _{GETCO, Import} have been mentioned by the PD in the revised MR /08/ and has mentioned that the values have been used for the calculation of transmission loss by GEDA and is not directly used for the calculation of emission reductions. It is in line with the registered PDD/01/. The parameter has been monitored appropriately, in accordance with the registered PDD/01/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/01/.	

E.6.2.4. 8.5.2: Unemployment rate, by sex, age and persons with disabilities

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring / Reading/ Recording Frequency	Measured
	Is measuring and metering frequency are in according with the monitoring plan and monitoring methodology? (Yes/No)	Yes, the measuring and recording frequency are in line with the monitoring plan/01/ of registered passport/02/.
	Monitoring equipment	Not Applicable
	Values monitored	2 training programs
	Is accuracy of the monitored equipment as started in the monitoring plan? If the monitoring plan does not specify the accuracy of the	Not Applicable

	monitoring equipment comply with local/national standards, or as per the manufacture's specifications?	
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to the different measuring ranges?	Not Applicable
	Calibration Frequency/interval	Not Applicable
	Is the calibration of the measuring equipment carried out by an accredited person or institution?	Not Applicable
	Is(are) calibration(s) valid for the whole reporting period?	Not Applicable
	How were the values in the monitoring report verified?	2 training programs have been organized to enhance the safety awareness, operational skills and occupational health management during the current monitoring period. Attendance/training records/13/ are maintained and provided by the PD and were also checked during site visit.
	If applicable, has the reported data been cross-checked with other available data?	The reported data have been cross checked during the interviews carried out on site visit with the employees, whom have attended the trainings.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Data management and QA/QC procedures were found to be in place as per the registered PDD/01/.
	In case project participants have temporarily not monitored the parameter, has either (i) a deviation been approved by the CDM EB or (ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No issues have been observed.
Findings	An Issue in CAR#02 was raised and was successfully resolved. For detailed closure of CAR#02, please refer to Appendix 4 of this report.	
Conclusion	In revised version of MR/08/ values of SDG 8 in the section E.4 the values have been added by the PD. The parameter has been monitored appropriately, in accordance with	

the registered PDD/01/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/01/.

E.6.2.5. 8.5.2: Unemployment rate, by sex, age and persons with disabilities, Quantitative employment and income generation, Number of Employees

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring / Reading/ Recording Frequency	Annually
	Is measuring and metering frequency are in according with the monitoring plan and monitoring methodology? (Yes/No)	Yes
	Monitoring equipment	Not Applicable
	Values monitored	10
	Is accuracy of the monitored equipment as started in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacture's specifications?	Not Applicable
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to the different measuring ranges?	Not Applicable
	Calibration Frequency/interval	Not Applicable
	Is the calibration of the measuring equipment carried out by an accredited person or institution?	Not Applicable
	Is(are) calibration(s) valid for the whole reporting period?	Not Applicable
	How were the values in the monitoring report verified?	Attendance Sheet/13/ and employment records/13/ maintained by Project Developer.
	If applicable, has the reported data been cross-checked with other available data?	The reported data have been cross checked with the employment records maintained by the project developer/O&M contractor and also verified by the interviewing the

		employed personals for the project activity.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The HR department monitors and maintains the up-to-date records of total number of jobs created, necessary QA/QC processes in place.
	In case project participants have temporarily not monitored the parameter, has either (i) a deviation been approved by the CDM EB or (ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No issues have been observed.
Findings	CL#03 was raised to include the parameter in ER sheet and was resolved.	
Conclusion	The SDG parameters has been included in the ER sheet/06/ which is in line with the Monitoring report/08/. The parameter has been monitored appropriately, in accordance with the registered PDD/01/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/01/.	

E.6.3. Implementation of sampling plan

Means of verification	No sampling plan has been reported in the registered PDD/01/.
Findings	Not Applicable.
Conclusion	Not Applicable.

E.7. Comparison of monitored parameters with last monitoring period

Means of verification	This section is not applicable for non-community service activities as per GS4GG guidelines/09/.
Findings	Not Applicable.
Conclusion	Not Applicable.

E.8. Assessment of data and calculation of SDG impacts

E.8.1. Calculation and assessment of SDG outcomes

Means of verification	100,845 tCO₂e (for SDG 13) 109,347.95 MWh (for SDG 7) Employment to 10 persons and 2 trainings conducted (for SDG 8) SDG 13: As per the approved methodology ACM0002, Version 11, EB 52/11/, CDM Sectoral Scope: 01, baseline emissions for the project activity is calculated by multiplying the net quantity of electricity supplied by this
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project activity ($EG_{PJ, y}$) with the CO_2 baseline emission factor for the electricity displaced due to the project ($EF_{grid, CM, y}$) as follows:

$$ER_y = BE_y - PE_y$$

Where:

BE_y Baseline Emissions in year y (t CO_2e/yr)

PE_y Project Emissions in year y (t CO_2e/yr)

Baseline emissions

Baseline emission factor (Combined Margin) (EF_y) = 0.92252 t CO_2e/MWh

Baseline Emissions Reduction: $ER_y = EF_{grid, CM, y} * EG_{PJ, y}$

where,

ER_y is baseline emissions in year y , t CO_2e

$EG_{PJ, y}$ is the net electricity supplied to the grid in year y and is applied directly from GEDA/GETCO sharing certified by state utility. This value can also be cross-checked from the invoice/17/.

EF_y or $EF_{grid, CM, y}$ is the CO_2 emission factor of the grid (0.92252 t CO_2e/MWh fixed ex-ante)

Baseline emissions

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

$$= 109,347.95 * 0.92252$$

$$= \mathbf{100,845 \text{ t}CO_2e}$$

For SDG 8

Employment opportunities created for 10 people and 2 trainings were given.

The records for training and employment are checked and verified during the site visit

SDG 7

Clean energy generated of 109,347.95 MWh for the current monitoring period since the project activity is a wind energy based electricity generation.

Leakage:

As per the applied methodology there is no leakage associated with the project activity.

Project emissions:

There are no project emissions involved as this project is a wind power plant and as per the methodology no project emissions are associated.

SDG 8:

SDG Impact	Baseline estimate	Project estimate	Net benefit
Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	-	Number of employment opportunities created: 10 Number of trainings given 2	Number of employment opportunities created: 10 Number of trainings given 2

As confirmed by the attendance records/13/ and the training certificates, a total of 10 employees have been allocated in the Project facility during the current monitoring period.

SDG 7:

SDG Impact	Baseline estimate	Project estimate	Net benefit
Ensure access to affordable, reliable, sustainable and modern energy for all	0 MWh	109,347.95 MWh	109,347.95 MWh

SDG 13:

SDG Impact	Baseline estimate	Project estimate	Net benefit
Take urgent action to combat Climate Change and its impacts	0 tCO ₂ e Reduction	100,845 tCO ₂ e Reduction	100,845 tCO ₂ e Reduction

The actual values for the electricity exported to the national grid have been monitored continuously through the electricity meters installed on the project site according to the registered PDD/01/.

Findings

No findings.

Conclusion

Calculations of baseline GHG emissions was found to be satisfactory. The assessment team confirms that:
(a) The monitored data was available in accordance with the registered PDD/01/

	(b) The monthly reported data was cross-checked, as prescribed in the registered PDD/01/, with the invoices /17/ and was found consistent. (c) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals have been followed. (d) The assumptions, emission factors and default values that were applied in the calculations have been justified.
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E.8.2. Calculation of leakage GHG emissions

Means of verification	The PA is a renewable wind energy project which involves no leakage emissions. This is found to be in line with the applied methodology ACM0002 Version 11, EB 52/11/.
Findings	No findings.
Conclusion	No leakage emissions were required to be calculated.

E.8.3. Comparison of actual SDG impacts with estimates in approved PDD

Means of verification	The table below gives a comparison between the values estimated in the registered PDD/01/ and the values achieved during the current monitoring period in the MR/08/:			
	SDG	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values achieved during this monitoring period	Difference in Estimated & Achieved value
	SDG 13 (Climate action)	151,552 tCO2e (Estimated for 520 Days of MP)	100,845 tCO2e	- 33.46%
	SDG 7 (Affordable and clean energy)	164,280.74 MWh (Estimated for 520 Days of MP)	109,347.95 MWh	
	SDG 8 (Decent work and economic growth)	Number of employment opportunities created: 10 Number of trainings given: 2	Number of employment opportunities created: 10 Number of trainings given: 2	-
Findings	No findings.			
Conclusion	The verification team confirms that a) The complete data was available and is duly reported. b) As indicated above, the description with regard to cross-check of reported data is included under respective parameter (refer - 'data and parameters monitored' section of this report.			

	c) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals, project emissions and leakage emissions were followed. d) Appropriate emission factors, IPCC default factors and other reference values were correctly applied.
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E.8.4. Actual SDG impacts

Means of verification	Earthhood Services Private Limited is able to certify that the SDG outcomes from the project activity GS 3958 "Vaayu India Wind Power Project" in Gujarat during the period 01/01/2020 to 31/05/2021 (inclusive of both dates) amounts is as follows:		
	SDG	SDG impact	Net benefit
	SDG 13 (Climate action)	Emission reduction	100,845 tCO2e
	SDG 7 (Affordable and clean energy)	MWh of renewable energy generated	109,347.95 MWh
	SDG 8 (Decent work and economic growth)	Employment	Number of employment opportunities created: 10 Number of trainings given: 2
Findings	No findings.		
Conclusion	The SDG outcomes were calculated fairly using the latest GS4GG principles and requirements.		

E.9. Assessment of reported Global stakeholder consultation

E.9.1.1. Inputs and Grievances which have been received via the Continuous Input and Grievance Mechanism together with their respective responses/mitigations

Means of verification	As verified from previous monitoring and verification reports, no grievances had been received in the previous monitoring periods, thus no follow up required. Also, No grievances were received for this Monitoring period also. This has been verified by checking grievances register maintained at project activity site and by interviewing the local stakeholder's as well as employees on the project site during the site visit. The local stakeholders interviewed at the site were also aware about the ways to register their grievance. With through check by means of interview, register and discussion with the project developer and local stakeholders, it was concluded that no grievance was raised during the current monitoring period by means of phone, email, letters or any other physical means.
Findings	No findings

Conclusion	The grievance mechanism has been reported in line with the latest requirements of GS4GG principles and requirements/15/.
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E.9.1.2. Report on any stakeholder mitigations that were agreed to be monitored

Means of verification	There were no stakeholder mitigations that were agreed to be monitored during the current monitoring period.
Findings	No findings.
Conclusion	Not Applicable.

E.9.1.3. Details of any legal contest that has arisen with the project during the monitoring period

Means of verification	There were no legal disputes that have arisen with the Project during the current monitoring period or pending from the previous monitoring period. This has been checked with declaration provided by the Project Developer in the MR and verified during interviews with project developer representatives and other stakeholders.
Findings	No findings.
Conclusion	Not Applicable.

E.10. Safeguards reporting

Means of verification	As per the safeguarding Principal Assessment approved in Transition Annex/03/ of the project, there are no safeguarding principles which are to be included in the monitoring plan/01/ or hold any relevance to the project activity. There are no impact (positive/negative/slightly) for any mitigation measures, being applicable to any of the safeguarding principles. Hence, this section is not relevant.
Findings	No findings were raised.
Conclusion	The project implementation is not harming the project in any safeguarding Principal. Therefore, no mitigation measure is required.

SECTION F. Internal quality control

The draft verification report that is prepared by verification team is reviewed by an independent technical review team (one or more members) to confirm if the internal procedures established and implemented by Earthood were duly complied with and such opinion/conclusion is reached in an objective manner that complies with the applicable CDM rules/requirements. The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of technical review team are independent of the verification team.

During the technical review process additional findings may be identified or the closed-out findings may be opened, which needs to be satisfactorily resolved before the request for issuance is submitted to Gold Standard. The independent technical reviewer may either approve the report as such or reject/return the same in such case providing the comments/findings/issues that needs to be resolved by the verification team. The decision taken by the Technical Reviewer is final and is authorized on behalf of Earthood Services Private Limited.

SECTION G. Verification opinion

Earthood Services Private Limited (Earthood), contracted by Vaayu (India) Power Corporation Private Limited, has performed the independent verification of the emission reductions for the GS project activity 3958 “Vaayu India Wind Power Project in Gujarat” for the monitoring period 01/01/2020 to 31/05/2021 (inclusive of both dates) as reported in the Monitoring Report (public) Version 1.2/08/ dated 26/05/2022.

Vaayu (India) Power Corporation Private Limited is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity.

Earthood commenced the verification based on the baseline and monitoring methodology ACM0002 Version 11, EB 52/11/, the monitoring plan contained in the PDD Version 6.0/01/, and initial Monitoring Report, version 01.

Earthood’s verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. Earthood planned and performed the verification by obtaining evidence and other information and explanations that Earthood considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

The assessment team confirms that:

- The project activity was found completely implemented as per the description given in the registered PDD/01/.
- The actual operation conforms to the description in the registered PDD/01/.

SECTION H. Certification statement

It is our responsibility to express an independent verification statement on the reported GHG emission reductions from the project activity.

In our opinion the GHG emissions reductions reported for the project activity for the period 01/01/2020 to 31/05/2021 (inclusive of both days) are fairly stated in the Monitoring Report Version 1.2 (Final)/08/ dated 20/09/2022. The GHG emission reductions were calculated correctly based on the approved baseline and monitoring methodology ACM0002 Version 11, EB 52/11/ and the registered monitoring plan.



Earthhood Services Private Limited is able to certify that the emission reductions from the Gold Standard project activity 3958 "Vaayu India Wind Power Project in Gujarat" during the period 01/01/2020 to 31/05/2021 (inclusive of both dates) amount to 100,845 tCO₂e.

Verified and certified SDG outcomes as per commitment period:

SDG 13: 100,845 tCO₂e
SDG 7: 109,347.95 MWh
SDG 8: 10 full time employees

Appendix 1. Abbreviations

Abbreviations	Full texts
General	
ACM	Approved Consolidated Methodology
AM	Approved Methodology
AMS	Approved Methodology for SSC Projects
BE	Baseline Emission
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon di oxide
CP	Crediting Period
CPA DD	Component Project Activity Design Document
DNA	Designated National Authority
DR	Desk Review
DOE	Designated Operational Entity
EB	Executive Board
EIA	Environmental Impact Assessment
ESPL	Earthood Services Private Limited
FAR	Forward Action Request
GHG	Green House Gas
GSC/GSP	Global Stakeholder Consultation Process
GS4GG	Gold Standard for the Global Goals
GW	Giga Watt
GWh	Giga Watt hour
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
kW	kilo Watt
kWh	kilo Watt hour
LoA	Letter of Approval/Authorization
LSC	Local Stakeholder Consultation Process
MoC	Modalities of Communication
MoEFCC	Ministry of Environment, Forest and Climate Change
MoV	Means of Validation
MP	Monitoring Plan
MW	Mega Watt
MWh	Mega Watt hour
N ₂ O	Nitrous Oxide
OM	Operating Margin
PCP	Project Cycle Procedure
PDD	Project Design Document
PD	Project Developer
PE	Project Emission
PP	Project Participant
PS	Project Standard
tCO ₂ e	Tonnes of Carbon di oxide equivalent
TPH	Tonnes Per Hour
UNFCCC	United Nations Framework Convention on Climate Change

V	Version
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Appendix 2. Competence of team members and technical reviewers

Competence Statement			
Name	Harsh Raval		
Education	Bachelor of Engineering in Chemical Engineering Masters of Science in Environmental and Energy Engineering		
Experience	15 Years		
Field	Climate Change, Environment and Waste Management		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	YES(AMS-I.D, ACM0002)		
Local expert	YES (INDIA)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert (1.2)	YES		
Reviewed by	Deepika Mahala (Quality Manager)	Date	08/12/2021
Approved by	Ashok Gautam (Technical Manager)	Date	08/12/2021

Competence Statement	
Name	Muskan Chawla
Education	M.Sc. Environment Science
Experience	NA
Field	Environment Science
Approved Roles	
Team Leader	NO
Validator	NO
Verifier	NO
Methodology Expert	NO
Local expert	NO
Financial Expert	NO
Technical Reviewer	NO
TA Expert (X.X)	NO
Trainee	YES

Reviewed by	Deepika Mahala	Date	09/03/2022
Approved by	Ashok Gautam	Date	09/03/2022

Competence Statement			
Name	Shreya Garg		
Country	India		
Education	M.Sc. (Climate Science & Policy), TERI University		
Experience	6 Years +		
Field	Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS.I.A., AMS.I.C., AMS.I.D., AMS.I.F., AMS.II.D., AMS.II.G., AMS.II.J., AMS.III.AV., AMS.III.BL, ACM0002, ACM0012		
Local expert	YES (India)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (TA 1.2, TA 3.1)		
Reviewed by	Shifali Guleria	Date	26/04/2022
Approved by	Deepika Mahala	Date	26/04/2022

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	PD	CDM Registered PDD	Version: 6 Dated: 09/04/2021	Others
2	PD	GS Passport	Version: 04 Dated: 09/09/2015	Others
3	PD	Transition request form and approval	-	PD
4	VVBs	Previous GS Validation report and Verification reports for previous monitoring periods	-	Others

5	PD	ER Spreadsheet (Initial)	Corresponding to initial MR (version 1.0)	PD
6	PD	ER Spreadsheet (Final)	Corresponding to Final MR (Version 1.2)	PD
7	PD	Monitoring Report	Version: 1 Dated: 04/03/2022	PD
8	PD	Monitoring Report (Final)	Version: 1.2 Dated: 20/09/2022	PD
9	GS	Monitoring Report Template and Guidelines	Version: 1.1 Dated: 14/10/2020	Others
10	Gold Standard	Gold Standard Project webpage: https://registry.goldstandard.org/projects/details/682	-	Others
11	UNFCCC	Applied approved CDM Baseline and Methodology ACM0002: Consolidated baseline methodology for grid connected electricity generation from renewable sources"	Version 11, EB 52	Others
12	PD	Calibration Certificates for substation and cluster meters	-	PD
13	PD	Training attendance and employment records for the monitoring period	-	PD
14	State utility	Commissioning certificates for all the WTGs	-	Others
15	GS	GS4GG – Principles and Requirements	Version 1.2	Others
16	VVB (RINA)	GS4GG Verification Report For the period 01/01/2019 to 31/03/2020	Version 03.0Aa dated 01/03/2022	Other
17	GETCO	Month Share Certificate of electricity generated by the project activity Subsequent Invoices raised by the project developer based in share certificates	For the period 01/01/2020 to 31/05/2021	PD
18	PD	Monthly JMR/ meter readings for energy meters	For the period 01/01/2019 to 31/03/2020	PD
19	ESPL	Physical site visit carried out for the project activity by assessment team	02/04/2022	-

Appendix 4. Clarification requests, corrective action requests and forward action requests

CAR: Corrective Action Request

CL: Clarification Request

FAR: Forward Action Request

Table 1. Remaining FAR from validation and/or previous verification

FAR ID	-	Section no.	Date : DD/MM/YYYY
Description of FAR			
There is no FAR raised in the previous verifications.			
Project participant response			Date : DD/MM/YYYY
Documentation provided by project participant			
DOE assessment			Date: DD/MM/YYYY

Table 2. CL from this verification

CAR ID	01	Section no.	B.2.3	Date : 11/04/2022
Description of CL				
Project Developer is requested to include the section B.2.3, as per the guidelines of the template of the Monitoring Report.				
Project participant response				Date : 06/05/2022
There is no change in the crediting period.				
Documentation provided by project participant				
NA				
DOE assessment				Date: 10/05/2022
The PD has added the clarification in MR that there is no change in the crediting period. The section is now as per completion guidelines. OK closed. However, the PP needs to check the completeness/consistency in the MR for the details provided. For example, GS Monitoring period number is wrongly mentioned, Details of all the Project Representative not provided, ER Excel sheet does not mention project number, MP number and units at some places. Please see the attached MR and ER sheet with comments.				
Project Developer Response:				Date: 26/05/2022
All the comments are addressed and MR and ER sheet. Details are made consistent and complete.				
Documents Provided by Project Developer:				
Revised MR and ER sheet, version 1.2				
DOE Assessment				Date: 26/05/2022
The project developer has corrected all the inconsistency and incomplete details in the revised MR, version 1.2. Closed.				

CAR ID	02	Section no.	D.2 & E.4	Date : 11/04/2022
Description of CL				
1. Project Developer is requested to clarify why the parameters, EG_{GETCO, Export} & EG_{GETCO, Import} Parameter from the registered PDD are not mentioned in the Monitoring report shared. 2. SDG 8 in the section E.4 of the MR sheet shared the values are missing.				

Project participant response		Date : 06/05/2022
1. The value of parameters, EG_{GETCO, Export} & EG_{GETCO, Import} has been mentioned in the revised Monitoring report. 2. In revised version of MR values of SDG 8 in the section E.4 the values have been added by the PD.		
Documentation provided by project participant		
Revised MR, ER sheet		
DOE assessment		Date: 10/05/2022
1. The parameters, EG_{GETCO, Export} & EG_{GETCO, Import} has been mentioned by the PD in the revised MR /06/ and has mentioned that the values have been used for the calculation of transmission loss by GEDA and is not directly used for the calculation of emission reductions. It is in line with the registered PDD/01/. 2. The values of SDG 8 in the section E.4 has been added by the PD in the revised Monitoring report/06/.		
CAR 02 is now closed.		

CL ID	03	Section no.	ER sheet	Date : 11/04/2022
Description of CAR				
1. Project Developer is also requested to include SDG parameters in the ER sheet. 2. Project Developer is requested to share the evidence for January 2021				
Project participant response				Date : 06/05/2022
1. The SDG parameters has been included in the ER sheet. 2. The JMR for month January 2021 has been submitted along with revised MR.				
Documentation provided by project participant				
Revised ER Sheet, JMR January 2021				
DOE assessment				Date: 10/05/2022
1. The SDG parameters has been included in the ER sheet which is in line with the Monitoring report. 2. The PD has shared the share certificate for January 2021 which is consistent with the ER sheet.				
CL 03 is now closed.				

Table 3. FAR from this verification

FAR ID	NA	Section No.		Date : DD/MM/YYYY
Description of FAR				
-				
Project participant response				Date : DD/MM/YYYY
-				
Documentation provided by project participant				
-				
DOE assessment				Date: DD/MM/YYYY
-				

e.g., there is no FAR from this verification.