



150 MW GRID CONNECTED WIND POWER BASED ELECTRICITY GENERATION PROJECT IN GUJARAT, INDIA

Document Prepared By



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Summary:

M/s VKU Certification Pvt. Ltd. (here after referred as VKU) was commissioned by Vayu (Project 1) Private Limited (formerly BLP Vayu (Project 1) Private Limited) here after referred as PP, has verified the greenhouse gas emission reductions reported for the project Activity **“150 MW Grid connected wind power-based electricity generation project in Gujarat, India”** (VCS ID 292), covering monitoring period from **01-January-2022 to 31-May-2023** (Inclusive of both start and end dates) with regard to the relevant requirements for VCS Standard version 4.5 /07/.

Purpose of Verification: The purpose of the verification is to have an independent review of ex-post determination of the monitored reductions in GHG emission reductions and verify that the monitoring methodology was implemented according to the monitoring plan and monitoring data used to confirm the reductions in anthropogenic emissions by sources is sufficient, definitive and presented in a concise and transparent manner from **01-January-2022 to 31-May-2023** (Inclusive of both start and end dates) under second crediting period from **30-September-2017 to 29-September-2027** (Inclusive of both dates).

The verification scope of the project is:

- To verify that the project is implemented as described in the registered VCS PD/03/
- To assess the project's compliance with other relevant rules applicable under Indian legislation
- To confirm that the monitoring system is implemented and fully functional to generate voluntary carbon units without any double counting/30/.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan of the registered VCS PD/03/;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- To verify that reported GHG emission data is sufficiently supported by evidence.

Verification was conducted using VKU's procedures in line with the requirements specified in the VCS Program Guide version 4.4/06/, VCS Standard Version 4.5/07/, VCS Validation and Verification Manual version 3.2/08/, CDM Validation and Verification Standard 3.0/09/, and applying standard auditing techniques.

The verification consisted of desk review, on-site assessment and the resolution of outstanding issues and the issuance of the final verification report and certification.

VKU followed the rule-based approach to perform this verification. During the course of verification, related to operation, monitoring and GHG emission reduction calculation of the VCS project activity in relation to all relevant VCS requirements for the project activity and the applied baseline and monitoring methodology and a total of **09** findings were raised, which includes: **04** Corrective Action Request (CARs); **05** Clarification Requests (CLs) and **00** Forward Action Request (FAR). All the findings were raised and successfully resolved by the PP. The same has been discussed in [Appendix-B](#) of this verification report

The verification team ensured that the reported emission reductions are complete and accurate in accordance with applicable VCS requirements in order to be certified therefore the verification team has detected no further uncertainties.

The GHG emission reductions were calculated on the basis of the approved methodology (ACM0002) “Grid-connected electricity generation from renewable sources”, Version 19.0/12/ and the monitoring plan included in the registered VCS PD Version 3.0 dated 11-November-2019/03/

Summary of the verification conclusion;

In conclusion, it is VKU's opinion that the bundle project activity **“150 MW grid connected wind power-based electricity generation project in Gujarat, India”** (VCS ID 292), meets all relevant requirements for VCS standard and guidelines and correctly applies the baseline and monitoring methodology ACM0002) “Grid-connected electricity generation from renewable sources”, Version 19.0/12/.

The monitoring system is in place and the emission reductions are calculated without material misstatement. Hence, VKU is able to certify that the emission reductions from the project during the fourth monitoring period from **01-January-2022 to 31-May-2023** (Inclusive of both start and end dates) under **second crediting period** from **30-September-2017 to 29-September-2027** (Inclusive of both start and end dates) amounts to **281,410 tCO₂e**

CONTENTS

1	Introduction	7
1.1	Objective	7
1.2	Scope and Criteria	8
1.3	Level of Assurance.....	9
1.4	Summary Description of the Project	10
2	Verification Process	12
2.1	Method and Criteria.....	12
2.2	Document Review	13
2.3	Interviews	15
2.4	Site Visits	17
2.5	Resolution of Findings	18
2.5.1	Forward Action Requests	18
2.6	Eligibility for Validation Activities	19
3	Validation Findings	20
3.1	Participation under Other GHG Programs	20
3.2	Methodology Deviations.....	21
3.3	Project Description Deviations.....	21
3.4	Grouped Project	22
4	Verification Findings	23
4.1	Project Implementation Status	23
4.2	Safeguards	38
4.2.1	No Net Harm	38
4.2.2	Local Stakeholder Consultation	39
4.3	AFOLU-Specific Safeguards	39
4.4	Accuracy of GHG Emission Reduction and Removal Calculations	39
4.5	Quality of Evidence to Determine GHG Emission Reductions and Removals	40
4.6	Non-Permanence Risk Analysis.....	47
5	VERIFICATION OPINION	48
	APPENDIX A: <ABBREVIATIONS>	52

APPENDIX B: <AUDIT FINDINGS>	52
APPENDIX C: <COMPETENCE STATEMENT>	72

1 INTRODUCTION

1.1 Objective

M/s Infinite Environmental Solutions LLP (hereafter referred as Infinite Solutions) commissioned M/s VKU Certification Pvt Ltd (here after referred as VKU) to carry out fourth verification of the bundle project **“150 MW grid connected wind power-based electricity generation project in Gujarat, India” (VCS ID 292)** in India for current monitoring period from **01-January-2022 to 31-May-2023** (Inclusive of both start and end dates) under **Second crediting period** from **30-September-2017 to 29-September-2027** (Inclusive of both start and end dates) for a period of **1 year 5 months** (516 days).

The objective of the verification is to have an independent evaluation of project activity by an accredited validation and verification body against the requirements of the VCS Program Guide Version 4.4/06/, VCS standard version 4.5/07/ and GHG Program applied, on the basis of the registered VCS PD/03/.

The objectives of this verification exercise are, by review of objective evidence, to establish that.

- To have an independent evaluation of project activity by an accredited validation and verification body against the requirements of the VCS Program Guide Version 4.4/06/, VCS standard version 4.5/07/ and GHG Program applied, on the basis of the registered VCS PD/03/
- The project activity has been implemented and operating as per the registered VCS PD/03/ and that all physical features (technology, project equipment, and monitoring) of the project are in place;
- Monitoring report/01/ and other supporting documents are complete;
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan.
- To confirm that the monitoring system is implemented and fully functional to generate Verified Carbon Units (VCUs) without any double counting/30/.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.

The verification process is conducted with the goal of smooth execution and complete operational effectiveness of the monitoring system, assuring the precise generation of Verified Carbon Units (VCUs) without encountering any double counting/30/. Furthermore, a thorough examination of the monitoring records and emissions reduction calculations was performed to ensure the data's comprehensiveness, coherence, transparency, and absence of significant errors or omissions, all in pursuit of establishing the trustworthiness and credibility of the data.

1.2 Scope and Criteria

The scope of this verification is the independent, objective review and ex-post determination of the monitored reductions in GHG emissions from the “**150 MW grid connected wind power-based electricity generation project in Gujarat, India**” (**VCS ID 292**) in India. The verification of this project was based on the validated & registered VCS PD/03/ and monitoring report/1/ along with supporting documents submitted by the project proponent to the VKU Assessment team. The documents thus submitted to the VKU Assessment team were reviewed against the following guidance & protocols:

- I. VCS Programme Guide Version 4.4 /06/
- II. VCS Standard Version 4.5 /07/
- III. VCS Program Definitions Version 4.4 /10/
- IV. VCS Validation and Verification Manual version 3.2/08/
- V. CDM Approved methodology ACM0002, “Grid-connected electricity generation from renewable sources” version 19.0 /12/
- VI. CDM Standard: Validation and Verification Standard for Project Activities version 3.0/09/
- VII. Tool for the demonstration and assessment of additionality – Version 07.0.0/14/
- VIII. Tool to calculate emission factor for an electricity system – Version 07.0/13/

The steps involved are as follows:

- To verify that the project is implemented as described in the registered VCS PD/03/
- To assess the project’s compliance with other relevant rules applicable under Indian legislation.
- To confirm that the monitoring system is implemented and fully functional to generate voluntary carbon units (VCUs) without any double counting /30/.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation/02/.
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- To verify that reported GHG emission data is sufficiently supported by evidence.

The verification method and criteria encompassed several phases, including

- Desk review of the MR/01/ & ER/02/ and registered VCS PD/03/ and other supporting documents listed in **Table No: -03**;

- Onsite visit and interviews with PP representative and local stakeholders documented in VKU.F46W. Attendance_Sheet_of_Onsite_audit_VKU.VER.125.23_VCS_292/35/
- Resolution of outstanding issues by PP
- Completeness Check and issuance of final verification report and applicable VCS Verification Deed of Representation.

Verification is not meant to provide any consultancy to the project proponents. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring.

1.3 Level of Assurance

All the revisions of the verification report before being submitted to the client were subjected to an independent internal technical review to confirm that all verification activities had been completed according to the pertinent VKU's procedure, with a **Reasonable level of assurance**, as per 04 clause 4.1.2 and clause 4.1.10 (1) of the VCS Standard version 4.5/07/.

The verification report is based on the Monitoring report /01/, registered VCS PD/03/ and supporting documents /24//25//26//27//28//29//30//31//32//33//34/ made available to the assessment team and further information is also collected through performing interviews/28/ and site visit/23/.

The technical review was performed by a technical reviewer qualified in accordance with VKU's qualification procedure.

The following individuals were part of the Verification Team as presented in **Table No: -01** below

Role/Qualification of Assessment Team	Last Name	First Name
Team Leader& Technical Expert (T.A. 1.2)	Kumar	Barun
Validator/Verifier	Chauhan	Shivani
Validator/Verifier-Trainee	Tripathi	Apoorva
Project Trainee	Kumar	Anand

The following individuals were part of the Technical Reviewer Team as presented in **Table No: -02** below:

Role/Qualification of Technical Team	Last Name	First Name
Technical Reviewer & Technical Expert (T.A. 1.2)	Kathuria	Sunil

The threshold for quantitative materiality with respect to the aggregate of errors, omissions, and misrepresentations, relative to the total reported GHG emission reductions and/or removals was limited to 1% percent, as required by clause 4.1.10 of the VCS Standard version 4.5/07/. As the project is large scale project, The materiality of the project activity based on actual emission reduction achieved is **1%** of **281,410 tCO₂e** which is equal to **2,814.10 tCO₂e**.

1.4 Summary Description of the Project

The project activity involves electricity generation by renewable source (Wind energy) and supplying the generated electricity to the Indian grid system which is under the purview of the Indian Electricity Grid of India. This is a grid connected project activity i.e., there was no renewable energy-based electricity generation facility in each site of this project and equivalent amount of electricity would have been supplied by fossil-fuel dominated grid – which is pre-project scenario as well as baseline scenario for this project activity. The project activity ensures the reduction of greenhouse gas (GHG) emissions that are real, measurable, and verifiable and also plays beneficial role in the mitigation of climate change.

The project activity involves total installation **150 MW** (100 Wind Turbine Generators (WTGs), each of 1.5 MW capacity made by Suzlon) and the power produced displaces an equivalent amount of power generated from the grid, which is fed mainly by fossil fuel fired power plants.

The technical specification of the WTGs is presented in **Table No:-08** below which is cross verified from the registered VCS PD/03/ and the technical specification document made available to verification team and the MR/01/.

This project was commissioned between **30-September-2007 to 31-March-2008** and runs satisfactorily since then which was verified against the registered VCS PD/03/, previous Verification reports /05/ and commissioning certificates/31/ which were submitted by the PP to the assessment team as a response to the feedback raised by the assessment team during verification assessment as per **section 3.26** and **clause 3.26.3** of the VCS Standard version 4.5/07/ which asserts that “it is an obligation for the project proponent to make available to the VVB the required supporting documents”.

The location of all WTGs installed at the site is provided in Appendix-01 of the MR/01/ which is verified by assessment team during desk review with the help of Google earth pro/23/ and further cross verified during site visit with the help of GPS Map camera app/22/ and found to be correct, although some discrepancies were observed during desk review which were addressed by PP and revised MR version 04 have the correct location references, hence accepted by the VKU assessment team.

As per MR/1/ and registered VCS PD/03/, the electricity generated from the project is supplied to the Indian electricity grid system which is confirmed from Share Certificate issued by GETCO- and, previous verification reports/05/ and interview with PP during site visit/36/. This

information was verified during on site assessment and found to be in line with the details provided in the registered VCS PD/03/.

The total emission reductions achieved in the current monitoring period i.e., from **01-January-2022 to 31-May-2023** (inclusive of both dates) is **281,410 tCO_{2e}** which are **38.98%** less than the estimated emission reductions of **461,153 tCO_{2e}** due to low PLF achieved during current monitoring period and breakdown of 80,941.05 hours. The net electricity generated by the project activity that was evacuated to the grid during the current monitoring period from **01-January-2022 to 31-May-2023** inclusive of both dates is **300,395 MWh**.

This information was verified by document review and interview with PP representative's present onsite of the project activity during site visit, the verification team confirms that all the components of installed technology are fully functional and found to be in line with the details provided in the registered VCS PD/03/. Since the project activity is a large-scale project activity, it follows the approved large scale CDM methodology **ACM0002 Version 19.0/12/** for quantification of GHG emission reductions.

The total emission reductions achieved by the project activity under the verification period from **01-January-2022 to 31-May-2023** (Inclusive of both start and end dates) amount to **281,410 tCO_{2e}**.

2 VERIFICATION PROCESS

The project is already registered under VCS with reference number 292/19/. The project is undergoing fourth verification from **01-January-2022 to 31-May-2023** (inclusive of both dates) under second crediting period of VCS, the approach adopted to ensure the quality of emission reductions is described in the following sections.

2.1 Method and Criteria

Verification was conducted using VKU's procedures in line with the requirements specified in the VCS Requirements, i.e., VCS Program Guide version 4.4/06/, VCS Standard version 4.4/07/. The GHG emission reductions are calculated on the basis of the approved Baseline and **monitoring methodology, ACM0002, Grid-connected electricity generation from renewable sources- Version 19.0/12/**

Scope: 01 Energy Industries (renewable- and non-renewable sources)

Title: "Grid Connected Renewable Electricity Generation" (version 19.0) /12/.

During onsite visit/23/ verification team **reviewed 100% data for all the Wind Turbine generators** involved in this project at site **and hence no sampling was involved** which is consistent with the VKU established procedure and VCS guideline as well since this is not a grouped project activity

The verification consisted of the following thirteen phases

- I. **Planning:** The assessment team initiates the GHG-program site visit by first conducting a desk review of MR/01/ and ER calculation spreadsheet/02/.
- II. **Strategic Analysis:** The assessment team conducted a strategic analysis to gain insights into the organization's, project's, or product's activities. This analysis was aimed at determining the scope and scale of the verification activities and will be utilized in the risk assessment process.
- III. **Risk Assessment;** The assessment team carried out a risk assessment of the GHG statement to identify the likelihood of a substantial error or noncompliance with the established criteria.
- IV. **Evidence Gathering Activities;** Using a risk-based approach assessment team prepared the evidence gathering activities to collect sufficient and appropriate evidence upon which to base the conclusion & determine whether the GHG statement conforms to the criteria, taking into account the principles of the standards that apply to the GHG statement.
- V. The requirement for a site visit is recognized, and subsequently, the planning for the site visit is undertaken
- VI. **Audit and Sampling Plan:** An audit plan is prepared, including all sub-elements required for an integrated verification process aligned with the contract, scope, objectives, level of assurance and materiality.
- VII. **Evidence Gathering Plan;** The evidence-gathering plan is formulated in accordance with the risk assessment conducted by VKU Assessment Team. This plan is structured to

- reduce the verification risk to a level considered acceptable. As a result, the evidence-gathering plan outlines the specific nature and scope of the evidence collection activities.
- VIII. **Client Confirmation and Approval:** The site visit audit plan is sent to the client for review and confirmation/approval via email.
 - IX. **Document Review:** Relevant documents, such as the verification report, monitoring plan, methodology, VCS PD/03/ and QA/QC procedures are thoroughly reviewed.
 - X. **On-Site Assessment:** This includes interviews and evaluation of the actual project scenario at site.
 - XI. **Resolution of Discrepancies:** Any non-conformities identified during the assessment are addressed and resolved and documented in Appendix-B of this report.
 - XII. **Independent Review:** An independent assessment was provided by the technical reviewer.
 - XIII. **Final Verification:** After completeness checks, the verification report and certification are issued

The following sections outline each step involved in verification in more detail.

2.2 Document Review

During the document review, VKU assessment team has applied standard auditing techniques to assess the quality of information provided. The verification was performed primarily based on the review of the monitoring report (MR) version 01 dated 26-June-2023/01/, MR version 02 dated 20-July-2023/01/, MR version 03 dated 04-August-2023 and final MR version 04 dated 12-September-2023 were assessed as part of the verification.

The emission reduction (ER) calculations spreadsheet version 1.0 dated 26-June-2023 and Final version dated 02 dated 20-July-2023/ received from PP /02/ were assessed along with the monitoring reports as part of the verification. In addition, the registered Project Documents VCS PD/03/ in particular for the baseline estimations and the monitoring plan for the project was reviewed.

The following **Table No: -03** lists the documentation that were reviewed during the verification

/01/	Infinite Environmental Solutions LLP: VCS monitoring report for “150 MW grid connected wind power-based electricity generation project in Gujarat, India”, - Version 01 dated 26-June-2023 - Version 02 dated 20-July-2023 - Version 03 dated 04-August-2023 - Final Version 04 dated 12-September-2023
/02/	Infinite Environmental Solutions LLP: Emission Reduction Calculation Spreadsheet, for 150 MW grid connected wind power-based electricity generation project in Gujarat, India - Version 01 dated 26-June-2023 - Final Version 02 dated 20-July-2023
/03/	Infinite Environmental Solutions LLP: <u>Registered VCS PD for the project ‘150 MW grid connected wind power-based electricity generation project in Gujarat, India’ Version 3.0 dated 11-November-2019</u>

/04/	Earthhood Services Pvt. Ltd: Registered previous VCS Validation RCP report for the project <u>“150 MW grid connected wind power-based electricity generation project in Gujarat, India”, Version 01 dated 27- November-2019</u>
/05/	LGAI Technological Center, S.A. (Applus+ Certification): Registered previous VCS Verification report for the project “150 MW grid connected wind power-based electricity generation project in Gujarat, under second crediting period: • <u>ESPL: VCS Verification report for the period version 3.1 dated 07-July-2020 for the period 18-June-2016 to 30-September-2019</u> • <u>LGAI: VCS Verification report for the period version 02 dated 09-August-2021 for the period 01-October-2019 to 30-June-2021</u> • <u>LGAI: VCS Verification report for the period version 03 dated 06-June-2022 for the period 01-July-2021 to 31-December-2021</u>
/06/	<u>VCS: VCS Program Guide, version 4.4 of 29-August-2023</u>
/07/	<u>VCS: VCS Standard, version 4.5 dated 29-August-2023</u>
/08/	<u>VCS Validation and verification manual version 3.2 dated 19-October-2016</u>
/09/	<u>CDM Validation and Verification Standard version 3.0 dated 09-September-2021</u>
/10/	<u>VCS Program Definitions Version 4.4 dated 29-August-2023</u>
/11/	VCS: Monitoring report Template Version 4.2
/12/	CDM: <u>Baseline and Monitoring Methodology Baseline and monitoring methodology ACM0002”, “Grid-connected electricity generation from renewable sources” (version 19.0)</u>
/13/	<u>Tool to calculate the emission factor for an electricity system - Version 07.0 (EB 100, Annex 04)</u>
/14/	<u>Methodological Tool- Tool for the demonstration and assessment of additionality - Version 07.0.0 (EB 70, Annex 08)</u>
/15/	<u>CO₂ Baseline Database for the Indian Power Sector User Guide Version 13.0</u>
/16/	UNFCCC: Project search: https://cdm.unfccc.int/Projects/projsearch.html
/17/	Gold Standard Foundation: https://registry.goldstandard.org/projects?q=&page=1
/18/	Central Electricity Authority (Installation and Operation of Meters) Regulations Notified on 17-March-2006 No. 502/70/CEA/DP&D Amendments Notified on 26-June-2010 No. 502/6/2009/DP&D/D-I
/19/	VERRA: https://registry.terra.org/app/projectDetail/VCS/292
/20/	<u>(Renewable Energy Certificate Registry of INDIA - Registered RE Generator List (recregistryindia.nic.in)</u>
/21/	EIA NOTIFICATION dated 14-September-2006; https://moef.gov.in/wp-content/uploads/2018/03/so1533.pdf

/22/	<u>GPS map camera (GPS App)</u>
/23/	<u>GPS Google earth pro software used for Location</u>
/24/	Power purchase Agreement
/25/	Yadav Measurement Private Limited - Certificates of Calibration for all the meters belongs to project activity
/26/	Operation and Maintenance Agreement -
/27/	Generation Log Book
/28/	Monthly Share Certificate issued by Gujarat Energy Transmission Corporation Limited (GETCO) for the current monitoring period 01-January-2022 to 31-May-2023 (Inclusive of both start and end dates)
/29/	Invoice issued by PP Gujarat Urja Vikash Nigam Limited for the current monitoring period from 01-January-2022 to 31-May-2023 (Inclusive of both start and end dates)
/30/	Letter of declaration from Vayu (Project 1) Private Limited (formerly BLP Vayu (Project 1) Private Limited) dated 17-July-2023 regarding not having created or sought any other form of environmental credit for the current verification period from 01-January-2022 to 31-May-2023 (Inclusive of both start and end dates)
/31/	Commissioning Certificates of all the WTGs
/32/	Technical specification of WTGs
/33/	Grievance Register present on-site
/34/	Training records of Site Personnels for the current verification period from 01-January-2022 to 31-May-2023 (Inclusive of both start and end dates)
/35/	Site visit dated 15-July-2023; photographs and attendance sheet VKU.F46W. Attendance_Sheet_of_Onsite_audit_VKU.VER.125.23_VCS_292
/36/	Onsite Personnel Interviews and Focussed Group Discussions dated 15-July-2023
/37/	Breakdown Details (Please Refer Appendix 2 of MR and section 04 Verification Process of this Verification Report) PP has submitted Breakdown Details
/38/	VKU.F64W.Field Assessment Checklist for Onsite Visit_ VKU.VER.125.23_VCS_292
/39/	<u>ISO 14064-3:2019: Greenhouse gases – Part 3: Specification with guidance for the verification and validation of greenhouse gas statements</u>
/40/	<u>ISO 14065:2020: General principles and requirements for bodies validating and verifying environmental information</u>
/41/	<u>ISO/IEC 17029:2019: Conformity assessment – General principles and requirements for validation and verification bodies</u>

2.3 Interviews

An on-site inspection has been performed by the assessment team where the representatives of the PP and O&M team were interviewed personally by assessment team on **15-July-2023** at Multiple Villages of Kutch region in Gujarat state, India where personnel responsible for

monitoring of the project activity, data collection and management, and QA/QC procedure were interviewed. These tables outline the personnel involved in the interviews, along with their respective roles. The interviews specifically targeted individuals responsible for monitoring the project activity, data collection and management, as well as those involved in the quality assurance and quality control (QA/QC) procedures. The tables serve to identify the individuals interviewed and provide relevant information regarding their roles within the project.

The details of the people interviewed are mentioned in the Table No:-04 below

Location: Region- Kutch State- Gujarat, Country- India

S. No.	Name	Organization and Designation	Topic of Interview
1	Abdul Kadre A. Solanki	ENEL Deputy Manager	- Data archiving, breakdown details - Maintenance of generation records and Calibration of meters - Project Implementation and technical details of the Project like breakdown details - Training requirement of the personnels - O&M of the plant site and personnel responsible for monitoring of required monitored parameters and implementation of QA/QC Procedure.
2	Bimal Agarwal	Safety Manager Kutch SGSL	
3	Kaushal	ENEL Site Support	
4	Sagar Solanki	ENEL	

The topics covered during interview ranges from general features and implementation of project to technical details of the project like calibration details, monitoring and measuring system and data collection, recording, emergency procedures, internal audit, Procedures for handling non-conformances with the validated monitoring plan, personal training and archiving procedures. The assessment was based on the feedback received during onsite interview coupled with the documentation in VKU.F62W.Field Assessment Checklist for Onsite Visit/38/

The Details of the Personnel Interview with Stakeholders are mentioned in the Table No:-05 below

S. No.	Name	Category	Topic of Discussion
1	Javed Harun Gujan	Local Stakeholder	Execution of Project activity and its impact on the economic, social and environmental parameters on
2	Alassin O Jareja		

3	Vishvresin K		the local people of the area & around the situated project activity • The ongoing communication procedure and the addressal of their grievance by the project proponent • The employment generation due to project activity implementation.
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The above stated information regarding the Interview with site personnel/36/ was recorded by VKU's Assessment Team in a form called as **VKU.F46W. Attendance Sheet of Onsite audit/35/** & there were no negative comments received during the stakeholder consultation interview conducted on site and more detail is enlisted in the section 4.2.2 below of this report

2.4 Site Visits

Site Location visited: Multiple Villages of Kutch region in Gujarat state, in Country - India.

Further the location along with longitude and latitude is mentioned in section 4.1 of this report and google earth pro/23/ was used to confirm the same and maps were also included in section 4.1 below in this report.

An On-site visit was undertaken by the verification team to the project location identified in the MR/01/ at Village- Multiple Villages of Kutch region in Gujarat state, India, on **15-July-2023** to carry out the following;

- A review of the operation and implementation of the registered project activity in accordance with the VCS PD/03/ and VCS MR/01/.
- An analysis of the information flows used to generate, aggregating and reporting the monitoring parameters.
- Interviews/36/ with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the registered VCS PD/03/
- A cross check between information provided in the monitoring report and data from other sources such as plant logbooks, DGR Reports, Share certificate, or other similar data sources
- A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the VCS PD/03/ the applied methodology/12/ including applicable tool/13/
- A review of calculations and assumptions made in determining the GHG data and emission reductions;
- An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters

2.5 Resolution of Findings

The objective of this phase of the verification is to resolve any outstanding issues which need to be clarified for VKU's positive conclusion on the project description. To guarantee transparency a verification protocol has been customized for the project. The protocol shows in a transparent manner the requirements, means of verification and the results from verifying the identified criteria. The verification protocol consists of three situations in tables; the different columns in these tables are described below.

A corrective action request (CAR) is raised if one of the following occurs:

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impair the estimate of emission reductions;
- Issues identified in a FAR during previous assessment i.e., in validation or verification report to be cross verified during verification have not been resolved by the project participants.

A clarification request (**CL**) is raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.

A forward action request (**FAR**) is also raised in cases where any required deviation/information is not fulfilled in current verification and thus needs to be taken up in consequent verification for better transparency thus holding the applicability of the methodology eligible to the project activity and there is no impact of the same on additionality, baseline scenario & emission reduction calculation of project.

In summary, **05 CLs**, **04 CARs** and **00 FAR** were raised during this verification which were closed successfully and details are provided under **Appendix B** of this report.

2.5.1 Forward Action Requests

Based on the review of the registered VCS Validation RCP report /04/ and previous VCS Verification Reports /05/, no FAR was found which needs to be closed during the current verification and no FAR has been raised during current verification.

2.6 Eligibility for Validation Activities

VKU has not undertaken any validation activities as part of the verification and does not hold accreditation for validation of any relevant sectoral scope. Hence this section is not applicable. It is to further conclude that during current verification there is no validation assessment undertaken either by VKU itself or parallelly by other certification bodies, as the same was confirmed with focussed group discussions and interview with the PP /36/ during site visit. Assessment team assessed the VERRA's website on 04-October-2023: <https://verra.org/validation-verification/vku-certification-pvt-ltd/#vcs> wherein the scope of services of VKU certification Pvt. Ltd. is mentioned as verification and not validation. Thus, ensuring that the accreditation details mentioned in this report (FVR) is consistent and correct.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project has not applied under any other GHG program except VCS for the current monitoring period, **01-January-2022 to 31-May-2023** (inclusive of both dates). The project is registered under VCS with project ID: 292 and under CDM with project ID 2347. This was confirmed by checking VERRA registry website for the project and CDM registry website, it was found that the project was registered with VCS and CDM and under CDM PP has requested for the renewal of crediting period but no issuance of CERs is requested for the current monitoring period, hence there is no double counting of emission reduction. Simultaneously other registry websites were also checked such as GS, CR-I, UCR and GCC registries with similar project title/capacity and Project Proponents but the assessment team could not find any such project registered on these registries thus it was confirmed that the project does not claim any emission reduction from other registries. This was supported from the declaration/30/ submitted by PP in which they have mentioned that they will not claim same GHG emission reductions of the project from any other GHG program except VCS thus ensuring emission reduction generated from the project activity for current monitoring period from **01-January-2022 to 31-May-2023** (Inclusive of both start and end dates) will not be double counted hence accepted by the assessment. Assessment team also did the exercise of independently searching for such project registration or claim for current monitoring period was performed for other GHG related benefits such as REC/20/ and I-REC benefits and based on both independent assessment and declaration submitted by PP/30/, the assessment team accepted the claim that there is no double counting from this project activity for current monitoring period from **01-January-2022 to 31-May-2023** (Inclusive of both start and end dates). Thus, ensuring emission reduction generated from the project activity will not be double counted hence accepted by the assessment team.

- <https://www.recregistryindia.nic.in/>
- <http://cdm.unfccc.int/>
- <http://www.goldstandard.org/>
- <https://verra.org/verra-standards-and-programs/>.
- <https://www.ucarbonregistry.io/>
- <https://projects.globalcarboncouncil.com/>
- [I-REC Standard - The International REC Standard Foundation \(irecstandard.org\)](http://www.irecstandard.org/)
- <https://cri.nccf.in/>
- [International Carbon Registry - International Carbon Registry](http://www.internationalcarbonregistry.org/)
- [VCU Issuance Records](http://www.vcuissuance.com/)

Rejection by other GHG programs

The Project is not rejected by other GHG programs. A declaration/30/ for the same is checked and found correct by the assessment team. Also, assessment team independently verified with the following registries and checked projects from the PP matching the same project design and found that no such project either exists or were rejected by the registries.

The details of the registries checked are as follows:

- <https://www.recregistryindia.nic.in/>
- <http://cdm.unfccc.int/>
- <http://www.goldstandard.org/>
- <https://verra.org/verra-standards-and-programs/>
- <https://www.ucarbonregistry.io/>
- <https://projects.globalcarboncouncil.com/>
- [I-REC Standard - The International REC Standard Foundation \(irecstandard.org\)](http://www.irecstandard.org/)
- <https://cri.nccf.in/>
- [International Carbon Registry - International Carbon Registry](http://www.internationalcarbonregistry.org/)

3.2 Methodology Deviations

There is no methodology description deviation identified during the current monitoring period. No deviation was involved in previous validation /04/and previous verification as well/05/. The assessment team confirms the same by checking the project webpage/19/.

3.3 Project Description Deviations

The following project deviations were considered during the previous third monitoring period:

Deviation 01:

PP has requested this deviation in the previous third monitoring period from 01-July-2021 to 31-December-2021 where PP has changed the monitoring practice as per the actual site practice as in the registered monitoring plan (section 4.2), following parameters are to be monitored

- i. Electricity supplied to GUVNL (EGy)
- ii. Quantity of Electricity exported to GUVNL facility (EGy, Export)
- iii. Electricity generated by each WEG(EGWEG)
- iv. Electricity generation recorded at the Vacuum Circuit Breaker (VCB) (EGVCB)

However in actual monitoring practice, parameters (ii),(iii) & (iv) were not used in the emission reductions calculation and the value of EGy is directly sourced from the monthly share certificates issued by state utility is used in the calculation of emission reductions. Hence the project proponent has not regarded the parameters (ii),(iii) & (iv) in the monitoring plan and considered

this change as project deviation. Since this change is in line with the actual monitoring plan implemented, hence does not have any impact on applicability of methodology, project design or the appropriateness of the baseline scenario. It is already approved in the previous monitoring period, hence accepted.

Deviation 02:

PP has requested this deviation in the previous third monitoring period from 01-July-2021 to 31-December-2021 where the calibration frequency of the energy meters is once in a year. The calibration is not under the purview of the Project Participant and is performed by the state utility (GUVNL) and as per the notification dated 10-February-2010, issued by the state utility "As per the provision of the relevant code, all meters are to be tested at least once in five years unless any problem is observed. However, as per the GUVNL, the ABT meters will have to be tested once in 3 years." Following the above guidance, the calibration frequency is updated from annual to once in 3 years and considered this change as project deviation. It is already approved and found to be practiced at the site during site visit hence accepted.

Deviation 03:

PP has requested this deviation in the previous third monitoring period from 01-July-2021 to 31-December-2021 period where the contact details of the Project Proponent and the other entities involved has been updated in Section 1.3 and Section 1.4 and other minor editorial corrections has been done in the previous (3rd monitoring period). It is already approved, hence accepted by VKU.

The following deviation is considered during the current fourth monitoring period of second crediting period- Duration of MP: 01-January-2022 to 31-May-2023

Deviation 04:

PP has requested this deviation in the current (4th) monitoring period, where PP has requested to change the PP company name to "Vayu (Project 1) Private Limited" on 24-March-2020 from "BLP Vayu (Project 1) Private Limited". The same has been intimated to Verra during previous verification process on 06-March-2023 through mail with the supporting document but it was not approved then. VKU has assessed the company name change document thoroughly and found it to be as per the current project scenario hence accepted and it does not have any impact on additionality and baseline scenario.

3.4 Grouped Project

This is not a grouped project; hence this section is not applicable.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

During the onsite audit with the project proponent (PP) representative, it was concluded that the project is implemented as per the requirement of the registered VCS PD version 3.0 dated **11-November-2019** /03/and approved monitoring plan as presented in section 1.4 of this verification report.

The project activity is a large-scale project activity which follows the approved large scale CDM methodology **ACM0002 Version 19.0/12/** for quantification of GHG emission reductions. The total emission reductions achieved by the project activity under the current verification period from **01-January-2022 to 31-May-2023** (Inclusive of both start and end dates) amount to **281,410 tCO₂e**.

This project involves total installation **100** Wind Turbine Generators (WTGs) of **1.5 MW** capacity made by Suzlon and the power produced is supplied to the Indian electricity grid system which is confirmed from Share Certificate issued by GETCO and, previous verification reports/05/ and interview with PP during site visit/36/. This information was verified during on site assessment and found to be in line with the details provided in the registered VCS PD /03/.

This project was commissioned between **30-September-2007 to 31-March-2008** as checked from the commissioning certificates of all sites/15/ and confirmed that the dates of commissioning for the Project are correct.

Assessment team also confirmed during the onsite audit/35/ that there is no change in project design viz., capacity of the WTGs remained the same and the project is implemented as per the description provided in the registered VCS PD/03/. The operation of the project activity has been further verified from the registered Validation report/04/ and previous verification reports/05/ and it was confirmed that after commissioning the plant has been running satisfactorily which was verified against the registered VCS PD/03/, previous verification reports /05/ which were submitted by PP. However, there was some breakdown observed during current verification period due to grid failure and scheduled maintenance as stated in Appendix-03 of MR/01/. Below **Table No:-06** clearly states the operational and breakdown hours for the project activity from January 2022 to May 2023 and its percentage impact on the operational hours and emission reductions achieved in the current monitoring period.

The breakdown and operational hours site wise are mentioned in the **Table No.:-06**; below:

Plant Name	Capacity	Operational Hours	Breakdown hours	Net Operational Hours	% of Breakdown Hours
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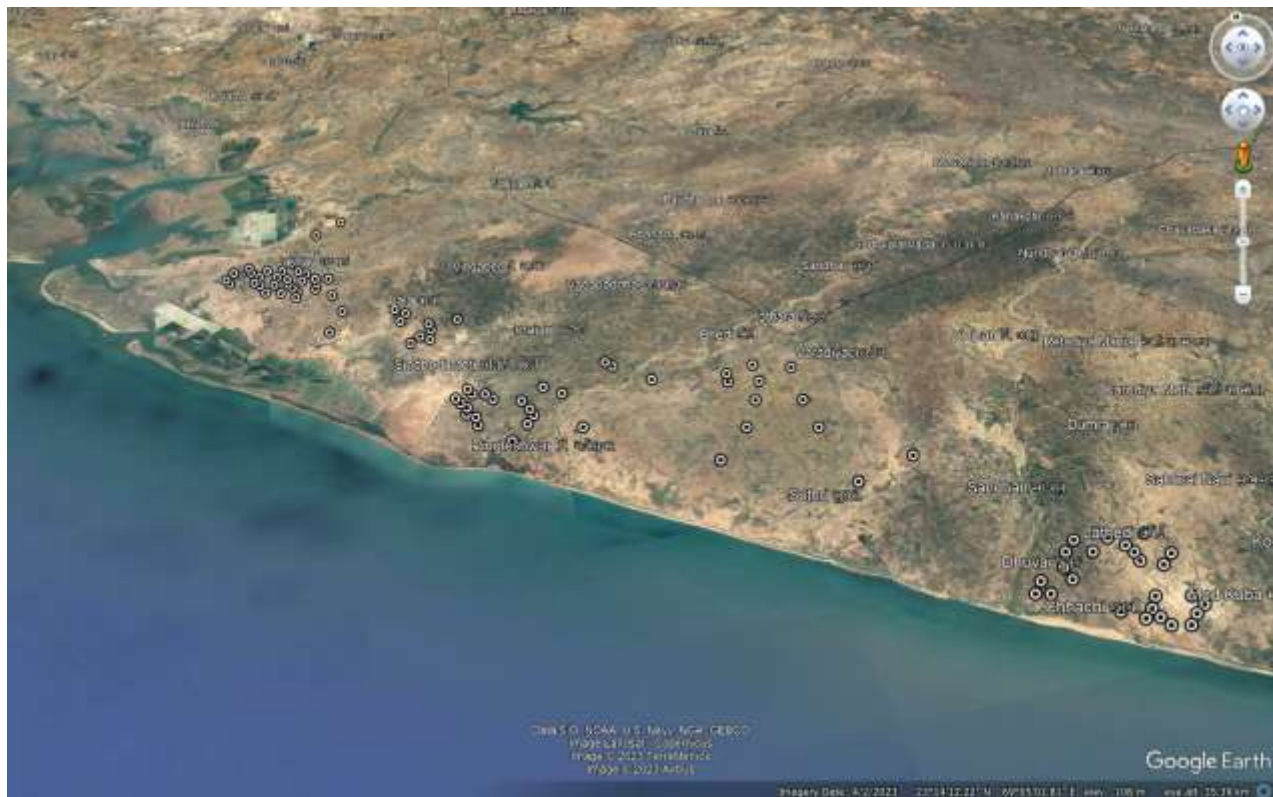
Vayu (Project 1) Private Limited (formerly BLP Vayu (Project 1) Private Limited)	150 MW with 100 WTGs of 1.5 MW	12,38,400 hours	80,941.05 hours	12,38,400- 80,941.05=11, 57,458.95 hours	(80,941.05/12,38,400) * 100 = 6.54%
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It was observed through breakdown details provided by PP /37/ and in Appendix 03 section of MR/1/ that the breakdown was mainly due to schedule maintenance and grid failure, and during this breakdown the plant was not entirely shut down; only the affected parts were temporarily taken out of operation. Hence the operation of project activity was not entirely affected during the current monitoring period **from 01-January-2022 to 31-May-2023**. The project underwent continuous operation and only scheduled maintenance as per the manufacture's specification happened which is acceptable to the assessment team as verified during the interview with PP personnel/36/ Senior engineers/Junior engineer/Assistant manager present at site during onsite visit. Moreover, there is no unforeseen incident which can affect the applicability of the methodology and thus the same is acceptable to the assessment team.

The verification process involved reviewing the generation log book records/27/ and breakdown excel sheet/37/ provided by the project proponent (PP). Additionally, an onsite visit to the project site/35/ was conducted, where it was confirmed that only the affected parts were shut down while the rest of the plant remained operational. This information is consistent with the details mentioned in Section 3.1 and Appendix 03 of the MR/01/.

During the current monitoring period, all the wind turbine were operational and the project activity has supplied **300,395 MWh** of electricity, and thus contributing to **281,410 tCO₂e** which are **38.98%** less than the estimated emission reductions of **461,153 tCO₂e** due to low PLF achieved during current monitoring period and breakdown of **80,941.05** hours. During the current monitoring period the plant was operational at the low PLF of 16.17% against the estimated PLF of 26.50% as per registered VCS PD/03/ which is 38.98% less than the estimated PLF value and due to that the emission reduction value achieved in the current monitoring period is less, this was confirmed from the ER calculation spreadsheet submitted by PP/02/. One more factor affected the ER generation value is the breakdown of **80,941.05** hours which was **6.54%** of the operational hours. Hence these two factors impacted the ER value and the project has witnessed the lower generation by 38.98% in the current monitoring period.

Assessment team also conducted a verification of the project location. This was accomplished through a desk review using Google Earth pro/23/ and further cross verified during site visit with the help of GPS Map camera/22/. The location for all WTGs as confirmed through the google earth pro is presented in the figure: - 01 below:



The latitude and longitude coordinates specified in the registered VCS PD/03/, VCS Validation Report/04/, and VCS MR/01/ were confirmed and found to be accurate.

The latitudes and longitudes of project activity are confirmed as listed in **Table No:07** below:

Site: Jakhau, District Kutch, Gujarat

S.No	Loc. No.	Zone	Turbine Co- ordinate		Latitude			Longitude		
			X	Y	Degree	Minute	Second	Degree	Minute	Second
1	M-726	42 Q	466499	2566625	23	12	30.2	68	40	21.4
2	M-727	42 Q	466681	2566249	23	12	17.9	68	40	27.8
3	M-744	42 Q	466846	2567109	23	12	45.9	68	40	33.5
4	M-745	42 Q	467581	2567340	23	12	53.5	68	40	59.4
5	M-746	42 Q	467708	2566954	23	12	40.9	68	41	3.9
6	M-747	42 Q	468112	2566530	23	12	27.2	68	41	18.1

7	M-748	42 Q	468125	2566237	23	12	12.7	68	41	10.01
8	M-749	42 Q	468165	2565817	23	12	4	68	41	20
9	M-750	42 Q	468440	2565185	23	11	43.5	68	41	29.7
10	M-761	42 Q	468499	2566947	23	12	40.8	68	41	31.7
11	M-762	42 Q	468862	2565724	23	12	1	68	41	44.6
12	M-764	42 Q	469192	2564945	23	11	35.7	68	41	56.2
13	M-765	42 Q	469913	2564475	23	11	20.5	68	42	21.6
14	M-770	42 Q	469239	2566747	23	12	34.3	68	41	57.7
15	M-771	42 Q	468994	2566307	23	12	20	68	41	49.2
16	M-772	42 Q	469499	2566017	23	12	10.6	68	42	6.9
17	M-773	42 Q	469544	2565603	23	11	57.1	68	42	8.6
18	M-774	42 Q	469762	2565236	23	11	45.2	68	42	16.3
19	M-775	42 Q	469968	2564882	23	11	33.7	68	42	23.5
20	M-783	42 Q	469694	2567314	23	12	52.8	68	42	13.7
21	M-785	42 Q	470043	2566546	23	12	27.8	68	42	26
22	M-786	42 Q	470224	2565748	23	12	1.9	68	42	32.5
23	M-787	42 Q	470867	2564930	23	11	35.3	68	42	55.1
24	M-789	42 Q	470420	2566278	23	12	19.1	68	42	39.3
25	M-790	42 Q	470857	2565748	23	12	1.9	68	42	54.7
26	M-791	42 Q	470929	2565331	23	11	48.4	68	42	57.3
27	M-792	42 Q	471667	2564261	23	11	13.6	68	43	23.3
28	M-793	42 Q	471680	2565620	23	11	57.0	68	43	17.6
29	M-794	42 Q	470955	2569490	23	14	3.6	68	42	57.9
30	M-810	42 Q	472137	2570272	23	14	30.26	68	43	43.19
31	M-632	42 Q	471476	2561472	23	9	42.9	68	43	16.8
32	M-634	42 Q	472120	2562911	23	10	29.8	68	43	39.4

Site: Lathedi, District Kutch, Gujarat

S.No	Loc. No.	Zone	Turbine Co- ordinate		Latitude			Longitude		
			X	Y	Degree	Minute	Second	Degree	Minute	Second

1	M-260	42 Q	497420	2540448	22	58	20	68	58	29
2	M-262	42 Q	497920	2540371	22	58	15.7	68	58	49.2
3	M-263	42 Q	499070	2541337	22	58	49	68	59	27
4	M-264	42 Q	499497	2542007	22	59	11	68	59	42
5	M-265	42 Q	500094	2542471	22	59	26	69	00	03
6	M-266	42 Q	497903	2540945	22	58	36	68	58	46
7	M-268	42 Q	499118	2540745	22	58	30	68	59	29
8	M-269	42 Q	500164	2539032	22	57	34	69	00	06
9	M-270	42 Q	500927	2538522	22	57	18	69	00	33
10	M-272	42 Q	500544	2541801	22	59	04	69	00	19
11	M-275	42 Q	501383	2538875	22	57	29	69	00	49
12	M-276	42 Q	501518	2538488	22	57	16	69	00	53
13	M-277	42 Q	501707	2538086	22	57	03	69	00	60
14	M-280	42 Q	501826	2539374	22	57	45	69	01	04
15	M-282	42 Q	502460	2537935	22	56	58	69	01	26
16	M-286	42 Q	502934	2538312	22	57	11	69	01	43
17	M-288	42 Q	503188	2539098	22	57	36	69	01	52
18	M-289	42 Q	503445	2538636	22	57	21	69	02	01
19	M-290	42 Q	501450	2542291	22	59	20	69	00	51
20	M-291	42 Q	501968	2541808	22	59	10	69	01	06
21	M-292	42 Q	502122	2541425	22	58	52	69	01	15
22	M-293	42 Q	502122	2541002	22	58	38	69	01	15
23	M-296	42 Q	502924	2540621	22	58	26	69	01	43
24	M-297	42 Q	502998	2542175	22	59	12	69	01	49
25	M-299	42 Q	503539	2541068	22	58	40	69	02	04

Site: Kadoli, District Kutch, Gujarat

S.No	Loc. No.	Zone	Turbine Co- ordinate		Latitude			Longitude		
			X	Y	Degree	Minute	Second	Degree	Minute	Second
1	M-526	42 Q	482146	2552731	23	4	59.2	68	49	32.4

2	M-589	42 Q	485745	2554999	23	6	13.1	68	51	38.9
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Site: Sindhodi, District- Kutch, Gujarat

S.No	Loc. No.	Zone	Turbine Co-ordinate		Latitude			Longitude		
			X	Y	Degree	Minute	Second	Degree	Minute	Second
1	M-417	42 Q	476904	2555707	23	6	35.8	68	46	28
2	M-418	42 Q	477078	2555335	23	6	23.7	68	46	34.2
3	M-419	42 Q	477329	2555010	23	6	13.1	68	46	43
4	M-420	42 Q	477267	2554611	23	6	0.1	68	46	40.8
5	M-421	42 Q	477656	2554345	23	5	51.5	68	46	54.5
6	M-422	42 Q	477682	2553828	23	5	34.7	68	46	55.5
7	M-431	42 Q	477650	2555940	23	6	39.5	68	46	54.5
8	M-439	42 Q	479020	2552587	23	4	54.4	68	47	42.6
9	M-440	42 Q	479185	2552277	23	4	44.3	68	47	48.4
10	M-443	42 Q	475680	2560249	23	9	3.4	68	45	44.7
11	M-444	42 Q	476114	2559916	23	8	53.8	68	45	55.56
12	M-455	42 Q	478217	2555695	23	6	35.4	68	47	14.2
13	M-456	42 Q	478513	2555311	23	6	23	68	47	24.6
14	M-464	42 Q	476146	2561063	23	9	29.9	68	46	1.1
15	M-465	42 Q	476208	2560604	23	9	15	68	46	3.3
16	M-478	42 Q	480153	2553918	23	5	37.7	68	48	22.3
17	M-479	42 Q	479808	2553437	23	5	22.1	68	48	10.2
18	M-506	42 Q	479765	2554928	23	6	10.6	68	48	8.6
19	M-508	42 Q	480035	2554331	23	5	51.2	68	48	18.2
20	M-514	42 Q	477524	2561078	23	9	30.4	68	46	49.5
21	M-533	42 Q	480840	2555592	23	6	32.2	68	48	46.4
22	M-544	42 Q	481612	2554985	23	6	12.5	68	49	13.6
23	M-586	42 Q	483907	2556578	23	7	4.4	68	50	34.2
24	M-587	42 Q	484179	2556236	23	6	53.3	68	50	43.8
25	M-640	42 Q	474637	2562070	23	10	2.9	68	45	24.7
26	M-641	42 Q	474529	2561612	23	9	75.2	68	45	14.8

27	M-643	42 Q	474614	2562490	23	10	16.2	68		45	7.1
28	M-645	42 Q	475195	2559849	23	8	50.4	68		45	27.7
29	M-667	42 Q	477285	2556235	23	6	51.3	68		46	48.2

Site: Suthari, District- Kutch, Gujarat

S.No	Loc. No.	Zone	Turbine Co-ordinate		Latitude			Longitude		
			X	Y	Degree	Minute	Second	Degree	Minute	Second
1	M-97	42 Q	487503	2549591	23	03	17	68	52	41
2	M-145	42 Q	489261	2554731	23	06	10	68	53	40
3	M-148	42 Q	489273	2554332	23	05	43	68	53	37
4	M-150	42 Q	489987	2552678	23	04	58	68	54	08
5	M-161	42 Q	489140	2551184	23	04	09	68	53	38
6	M-164	42 Q	490517	2554940	23	06	11	68	54	27
7	M-170	42 Q	490498	2553813	23	05	35	68	54	26
8	M-172	42 Q	492206	2554411	23	05	54	68	55	26
9	M-201	42 Q	492210	2550490	23	03	47	68	55	26
10	M-202	42 Q	492800	2547164	23	01	59	68	55	47
11	M-213	42 Q	492059	2552245	23	04	47	68	55	17
12	M-230	42 Q	495578	2548079	23	02	28	68	57	25

The verification team conducted a thorough assessment of the implementation status of the project activity and the installed instrumentation. This evaluation included an onsite visit/35/ to verify the technical specifications/32/. The team examined the nameplates and confirmed that the installed modules matched the provided specifications. Additionally, the project proponent (PP) submitted supporting documents detailing the salient features of the wind technology. The relevant information from these documents has been compiled and presented in the Table 09 below:

Wind Power Project Technology Details

The project activity involves the installation of **100 WTGs of 1.5 MW** each. The project activity installs the wind farm at a barren land. The power rating of the WTGs has been verified with the name plates as well as with the technical specifications of WTGs submitted to VKU assessment team by PP and also cross checked from the technical manual of the Manufactures/32/. The same could be verified from the VCS Validation Report/04/ and the technical parameters are

consistent with the registered VCS PD/ 3/. The major technical specifications of the WTG are as follows:

The technical details of WTG are detailed below in the Table No:-08:

Parameter Specifications	
1.5 MW -Suzlon ¹	
Rotor	
Installed electrical output	1500 kW
Diameter	82.0 m
Cut-in wind speed	4 m/s
Rated wind speed	14 m/s
Cut-out wind speed	20 m/s
Rotor swept area	5281 m ²
Rotational speed	16.30 RPM
Regulation	Pitch
Generator	
Type	Asynchronous, 4 Poles
Rated output	1500 kW
Rotational speed	1511 RPM
Operating voltage	690 V
Frequency	50 Hz
Insulation class	H
Cooling system	Air cooled
Gear Box	
Type	3 stage gear box; 1 planetary and 2 helical
Manufacturer	Winergy/Hansen
Gear Ratio	02:35.1
Nominal Load	1650 kW
Yaw system	
Drive	Active electrical yaw motors

¹ <https://www.suzlon.com/pdf/product/Suzlon-S82-product-brochure.pdf>

Bearing	Polyamide slide bearing
Safety system	
Aerodynamic brake	3 independent systems with blade pitching
Mechanical brake	Hydraulic disc brake

Based on the interviews conducted with site personnel and the verification team's onsite visit, it has been confirmed that all quality assurance and quality control (QA/QC) procedures specified in the registered VCS PD/03/ have been followed during the operation of the project activity. The monitoring plan outlined in the registered registered VCS PD/03/ and the applied methodology/12/ have been effectively implemented, monitoring of all the specified parameters in the current monitoring report.

It was observed that the monitoring plan was implemented as per the registered VCS PD /03/and applied methodology ACM0002, Version 19.0/12/. The organizational role and responsibility as mentioned in the registered VCS PD /03/ is followed onsite. Meters are calibrated as per calibration frequency mentioned in registered VCS PD /03/.

The baseline emission parameters specified in the registered VCS PD/03/ have been verified, ensuring their accuracy and compliance. PP has provided a declaration/30/ as an evidence stating that they will not claim credits under any other GHG emission reduction scheme, including the Clean Development Mechanism (CDM), for the current monitoring period under VCS. This declaration ensures that there is no possibility of double counting .

Overall, based on the interviews, onsite visit, and verification of documents, it can be concluded that the project activity has adhered to the necessary procedures, monitoring parameters, emergency preparedness, and baseline emission parameters outlined in the registered VCS PD.

Assessment team concludes the following:

- There are no material discrepancies between project implementation and the project description provided in the registered VCS PD /3/. However, a Deviation-04 and Deviation - 03 has been taken which relates to the change in the name of the PP and contact details of PP which has been confirmed and verified and reported in section 3.3 of this report and section 3.2.2 of MR/01/.
- The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling and analysing the monitored data and parameters) is appropriate as per the registered monitoring plan in VCS PD/03/ and MR/01/. However, a Deviation-01 and Deviation-02 has been taken in the third monitoring period from 01-July-2021 to 31-December-2021; which relates to changes in the monitoring parameters and calibration frequency of the energy meters which has been confirmed and verified by assessment team from previous approved verification report/05/, reported in section 3.3 of this report and section 3.2.2 of MR/01/.

- There are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology/12/. However, a Deviation-01 and Deviation-02 has been taken in the third monitoring period from 01-July-2021 to 31-December-2021; which relates to changes in the monitoring parameters and calibration frequency of the energy meters which has been confirmed and verified by assessment team from previous approved verification report/05/, reported in section 3.3 of this report and section 3.2.2 of MR/01/.
- The GHG emission reductions or removals generated by the project have not been included in any emissions trading program or any other mechanism that includes GHG allowance trading /30/.
- The project has not received or sought any other form of environmental credit, or has become eligible to do so since registered VCS validation/04/ or previous verifications/05/
- The project Activity is a wind power project and does not involve any supply chain in the project such as manufacturers, wholesalers, distributors and retailers. So, no indirect upstream and downstream GHG emissions are involved in the project activity. Thus, the Scope 3 emissions are not applicable in this project activity.
- The project is registered under VCS and CDM; however, PP has submitted the declaration stating /30/, they will not claim same GHG emission reductions of the project from any other GHG program for the current monitoring period when project is seeking to get GHG emission reduction from VCS. Audit team also checked the REC mechanism- Renewable Energy Certificate Registry of India ([Renewable Energy Certificate Registry of INDIA - Registered RE Generator List \(recregistryindia.nic.in\)](http://recregistryindia.nic.in))/20/ which confirms that the project is not registered under this mechanism.
- The project activity complies with 3 indicators for sustainable development in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India as discussed under section 1.11 of MR. In which SDG indicator taken by PP are.
 - **7.2 i.e. (Renewable energy share in the total final energy consumption)** As a part of this project activity the renewable electricity supplied to Indian grid over project lifetime is 4,093,176 MWh which has helped to strengthen the renewable energy share in the energy mix. For the current monitoring period project has supplied the 300,395 MWh of electricity to Indian grid. Assessment team has referred previous verification reports of VCS and CDM as listed in **Table No:-09** below to verify the claims and found that the above claimed renewable electricity supplied to Indian grid to be correct.
 - **8.8 i.e. (Fatal and non- fatal occupational injuries per 100,00 workers by sex and migrant status)** In the operations of the plants there have been no fatal and non-fatal occupational injuries during the reporting period and during project lifetime.
 - **13.0 i.e. (Tonnes of greenhouse gas emissions avoided or removed)** Due to installation of this project activity, PP has prevented the release 3,735,207 tCO_{2e} emissions into the atmosphere over project lifetime. For the current monitoring period the project activity has prevented the release of 281,410 tCO_{2e} emissions.

Assessment team has referred previous verification reports of VCS and CDM as listed in **Table No:-09** below to verify the claims and found that the above claimed emission reductions to be correct Thus, proving that the project generates eco-friendly, GHG free power which contributes to sustainable development of the region.

The project is contributing in sustainable development by generating electricity and reduction of CO₂ emissions due to implementation of project activity and generates employment to the local stakeholders. Through Project activity economic development has been achieved in the project location by creating opportunities of employment during the project lifetime. Project owner monitors the carbon emission with help of the record of electricity generated.

In view of the information verified above the assessment team is able to conclude that the project has been implemented as described in the registered VCS PD/03/, All the above stated information was verified by VVB during onsite visit/35/ and site personnel interviews /36/.

As per the section 1.1 of the MR/01/, PP has provided the audit history as stated in **Table No.-: 09** below:

Audit Type	Monitoring Period dates (Inclusive of both dates)	Program	Number of years	VVB Name	Generation (MWh)	VCUs /CERs Issued (tCO ₂ e)	Conclusion
Validation	18-June-2009 to 17-June-2016	CDM	7 years (renewable crediting period)	Bureau Veritas Holding SAS	N/A	N/A	VKU assessment team verified the CDM validation report available on CDM project webpage and found the details to be correct.
Validation	30-September-2007 to 29-September-2017	VCS	10 years (renewable crediting period)	Bureau Veritas Holding SAS	N/A	N/A	VKU assessment team verified the validation report available on project webpage and found the details to be correct.
Verification	30-September-2007 to 17-June-2009	VCS	1 Year 8 Months 19 days	Bureau Veritas Holding SAS	423,953	382,003	VKU's assessment team has conducted a cross-verification of the emission reductions reported in the monitoring report for MP-1 with the registered MR and

							Verification Report for first MP. Additionally, the issuance of VCUs was cross-verified with the VCU's issuance record link available on the project's web page/19/
Verificat ion	18-June- 2009 to 24- February- 2010	CDM	0 Year 8 Months 7 days	TÜV Nord	205,833	185,466	VKU's assessment team has conducted a cross-verification of the emission reductions reported in the monitoring report for MP-1 under CDM with the approved MR and Verification Report for first MP under CDM. Additionally, the issuance of CERs was cross-verified with the available on the project web page.
Verificat ion	25- February- 2010 to 28- February- 2011	CDM	1 Year 0 Month 4 days	TÜV Nord	256,691	231,287	VKU's assessment team has conducted a cross-verification of the emission reductions reported in the monitoring report for MP-2 under CDM with the approved MR and Verification Report for second MP under CDM. Additionally, the issuance of CERs was cross-verified with the available on the project web page.
Verificat ion	01-March- 2011 to 31-August- 2011	CDM	0 Year 6 Months 0 days	TÜV Nord	220,321	198,517	VKU's assessment team has conducted a cross-verification of the emission reductions reported in the monitoring report for MP-3 under CDM with the approved MR and Verification Report for third MP under CDM. Additionally, the issuance of CERs was cross-verified with the

							available on the project web page .
Verificat ion	01- September- 2011 to 31-March- 2012	CDM	0 Year 7 Months 0 days	TÜV Nord	94,816	85,430	VKU's assessment team has conducted a cross-verification of the emission reductions reported in the monitoring report for MP-4 under CDM with the approved MR and Verification Report for fourth MP under CDM. Additionally, the issuance of CERs was cross-verified with the available on the project web page .
Verificat ion	01-April- 2012 to 30-June- 2013	CDM	1 Year 3 Months 0 days	TÜV Nord	370,767	334,116	VKU's assessment team has conducted a cross-verification of the emission reductions reported in the monitoring report for MP-5 under CDM with the approved MR and Verification Report for fifth MP under CDM. Additionally, the issuance of CERs was cross-verified with the available on the project web page .
Verificat ion	01-July- 2013 to 30-June- 2014	CDM	1 Year 0 Month 0 days	TÜV Nord	268,937	242,319	VKU's assessment team has conducted a cross-verification of the emission reductions reported in the monitoring report for MP-6 under CDM with the approved MR and Verification Report for first MP under CDM. Additionally, the issuance of CERs was cross-verified with the available on the project web page .
Verificat ion	01-July- 2014 to	CDM	1 Year 11 Months 17 days	TÜV Nord	528,866	476,535	VKU's assessment team has conducted a cross-verification of the emission

	17-June-2016						reductions reported in the monitoring report for MP-7 under CDM with the <u>approved MR</u> and <u>Verification Report</u> for seventh MP under CDM. Additionally, the issuance of CERs was cross-verified with the available on the <u>project web page</u> .
Validation (RCP)	18-June-2016 to 17-June-2023	CDM	7 years (renewable crediting period)	Earthood services private limited	N/A	N/A	VKU assessment team verified the CDM validation report available on <u>CDM project webpage</u> and found the details to be correct.
Validation (RCP)	30-September-2017 to 29-September-2027	VCS	10 years (renewable crediting period)	Earthood services private limited	N/A	N/A	VKU assessment team verified the <u>validation report</u> available on <u>project webpage/19/</u> and found the details to be correct.
Verification	18-June-2016 to 30-September-2019	VCS	3 Years 3 Months 13 days	Earthood services private limited	928,462	855,219	VKU's assessment team has conducted a cross-verification of the emission reductions reported in the monitoring report for MP-1 under second crediting period of VCS with the <u>approved MR</u> and <u>Verification Report</u> for first MP. Additionally, the issuance of VCU's was cross-verified with the <u>VCU's issuance record link</u> available on the <u>project's web page/19/</u>
Verification	01-October-2019 to 30-June-2021	VCS	1 Year 9 Months 0 days	LGAi Technological Center, S.A. (Applus+	359,690	336,957	VKU's assessment team has conducted a cross-verification of the emission reductions reported in the monitoring report for MP-2 under second crediting period of VCS with the

				Certificatio n)			<u>approved MR and Verification Report for second MP. Additionally, the issuance of VCUs was cross-verified with the VCU's issuance record link available on the project's web page/19/</u>
Verificat ion	01-July- 2021 to 31-December- 2021	VCS	0 Year 6 Months 0 days	LGA Technologi cal Center, S.A. (Applus+ Certificatio n)	134,445	125,948	VKU's assessment team has conducted a cross-verification of the emission reductions reported in the monitoring report for MP-3 under second crediting period of VCS with the <u>approved MR and Verification Report for third MP. Additionally, the issuance of VCUs was cross-verified with the VCU's issuance record link available on the project's web page/19/</u>
Verificat ion	01-January- 2022 to 31-May- 2023	VCS	1 Year 5 Months 0 days	VKU Certificatio n Pvt. Ltd	300,395	281,410	VKU assessment team conducted the verification for current monitoring period (fourth MP under second crediting period of VCS) and verified the emission reductions reported in the ER Sheet/02/ and MR/01/ via supporting documents.
Total	30- September- 2007 to 31-May- 2023	VCS & CDM	15 Years 8 Months	-	4,093,176	3,735,207	The Total emission Reduction prevented by the project activity since commissioning was verified by VKU's Assessment team via previous verification reports and other supporting documents as available on the project webpages.

4.2 Safeguards

4.2.1 No Net Harm

The project activity and the initial project activity instance being wind power project, it does not involve any potential negative environmental and socio-economic impacts.

Being a renewable wind-based power generation project, it is considered as one of the cleanest forms of electricity generation projects. The wind-based power generation neither involves any type of emission in air nor generates any kind of effluent to the environment during its construction and operation phase. Project activity is not having any negative environmental impacts.

Moreover, renewable wind-based power generation projects are promoted by Indian government. According to Final Document on Revised Classification of Industrial Sectors Under Red, Orange, Green and White Categories (29-February-2016), the wind power projects come under White category of industries which are practically non-polluting. Therefore, does not require an Environmental Impact Assessment (EIA) and there is no necessity of obtaining the Consent to Operate.

As per section 04 page 31 of the report published by Ministry of New and Renewable Energy (MNRE) on September 2013 (Developmental Impacts and Sustainable Governance Aspects of Renewable Energy), "As established by life-cycle assessment, RE projects have comparatively low environmental externalities that too are limited to project development phase. The RE projects don't generate solid or liquid effluents during operations and thereby pollution of land, surface water or ground water resources is not anticipated from such projects. During the operations phase the impacts on the surrounding environment are negligible and are reversible in nature and can be mitigated by proper Environmental Management plan."

Thus, there is no harm identified from the project and hence no mitigations measures are applicable.

VKU concluded that the project has contributed to the region's labour force by creating job opportunities, resulting in improved socio-economic conditions in adherence to the section 3.18, clause 3.18.1 of VCS Standard version 4.4/08/ Overall, the project has demonstrated a net positive impact on both the socioeconomic and environmental aspects of the project region.

4.2.2 Local Stakeholder Consultation

The Project is already registered with VCS and registered VCS PD/3/; sections 2.2 describe the Local Stakeholder Consultation Process as in-line with VCS requirement. The Local Stakeholder Meetings were organized for local stakeholder consultation and informed local stakeholder regarding the meeting. The followings are the local stakeholders for the project activity:

- Local community
- Local village administration
- Technology suppliers
- Local vendors

All the stakeholders have been invited through public notice to attend the stakeholders meeting. DLF has organized a stakeholder consultation meeting with the local villagers on 10-January-2008 and 11-January-2008 to inform them on the environmental and social impacts of the project activity and discuss their concerns regarding the project activity.

The following stakeholders were involved:

1. Local villagers and representatives of village governing body including NGOs
2. Gujarat Energy Development Agency
3. Gujarat Urja Vikas Nigam Limited
4. Supplier of WTG

During the current monitoring period, as a part of maintenance activity some of the comments have been received from the stakeholder (mainly employees) related to the resolution of minor technical issues w.r.t proper maintenance and execution of the project activity, which were addressed and resolved by the concerned person for the smooth functioning of the project activity as per response mentioned in the grievance register. These comments do not have any impact in the project design

4.3 AFOLU-Specific Safeguards

As the project comes under the category of NON-AFOLU projects therefore this section does not apply for this verification. Hence Not Applicable

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The project monitoring has been carried in accordance with the registered VCS PD /03/and the monitoring report/01/. The monitoring plan laid in the registered VCS PD/03/ is being followed at the site/35/. The assessment team has verified the information flow (from data generation,

aggregation, to recording, calculation and reporting for these parameters including the values) in the MR/01/. The emission reductions are purely based on the net electricity generated and exported from the machines. PP has provided all the sufficient data for current monitoring period. The values of the parameter net electricity generation supplied to the grid by each phase used in deriving the GHG emission reduction could be very well correlated between the data sets and ER spreadsheet/2/ provided by PP. The verification of each monitoring parameter has been discussed later in section 4.5.

The project activity is expected to reduce emissions by 461,153 tCO₂e for the present monitoring period, whereas the actual emission reductions were 281,410 tCO₂e. The actual emission reductions achieved were 38.98% lower than what was anticipated. The lower electricity generation is chiefly due to the natural low wind availability which is an uncontrollable factor which leads to lower PLF of 16.17% achieved during current verification as confirmed through the ER sheet/02/ against the estimated PLF of 26.50% for this project activity which led to decrease in emission reductions and breakdown of 80,941.05 hours which is 6.54% of the total operation hours, due to preventive measure and scheduled maintenance activity at site.

In section 4,5 of this report and section 5.4 of MR /01/ calculations has been stated in ER sheet/02/ which has been verified by the assessment team from Share certificates issued to PP by GETCO/28/& Invoices issued by PP to state electricity authority /29/ submitted to VVB by PP. Hence VVB verified that the calculation method and formulae used in calculating baseline emissions is in compliance with the methodology used i.e., ACM0002 Version 19.0 /12/.

Since project activity is a wind power project, no other kind of fossil fuel is used hence according to para 36 of the methodology zero project emissions are considered for this project activity. For leakage emissions; zero emissions are considered according to section 5.6 of the applied methodology/7/, Hence, LE_y= 0 & PE_y= 0.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

During the verification and onsite audit, all relevant documents were checked to assess the correctness and quality of data submitted by the project proponents, which are used to determine emission reductions.

All records needed for monitoring are archived in line with the requirements of the registered monitoring plan. No significant, lack of evidence and missing data were detected during verification. Hence, the verification team confirms that the monitoring system ensures required quality of the monitoring system to ensure the quality of the monitored data. All internal data are subjected to QA/QC measures.

The only monitoring parameter in the project activity is “Electricity supplied to GUVNL”, EG_y (MWh). This parameter is monitored through the reading of bulk energy meters installed.

The table below describes how the parameter **EG_y**, is to be measured according to the monitoring plan, has been verified to confirm that the actual monitoring complies with the monitoring plan, monitoring data has been thoroughly assessed and that the calibration requirements are met in Table below -09

Parameter	Electricity supplied to GUVNL, EG _y (MWh)	
Means of verification		
	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Continuous measurement and at least monthly recording for net electricity generation supplied by the project plant/unit to the grid in year y. The Net Quantity of Electricity exported to the grid as per Share certificate issued by GETCO
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD /03/and monitoring methodology/12/. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews with site personnel. /36/
	Monitoring equipment	Energy meters are used as listed in Table No.-11 below Data type: Measured Type of meter: L & T meter (Main, Check meter). Accuracy Class: 0.2s
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the	The accuracy of the monitoring equipment is 0.2s, which is as per the registered VCS PD /03/

	monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	which is as per the norm defined in the PPAs/24/ as verified during desk review.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range which is as per the registered VCS PD /3/
	Calibration frequency /interval:	Calibration frequency of the meters is once in 5 years.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes. The calibration frequency is once in 5 years as outlined in the registered VCS PD /3/which is in accordance with the national standards/18/i.e., Clause 18 of Central Electricity Authority (Installation and Operation of Meters) ² . This was also confirmed during interview with onsite personnel /36/,
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Calibration of the measuring equipment's is carried out by a NABL accredited lab (Yadav measurements private limited) with serial number TC-6594 and was verified during onsite personnel interviews/36/ with PP and calibration certificates submitted/25/ by PP
	Is(are) calibration(s) valid for the whole reporting period?	Calibration of energy meters is valid for whole reporting period for project activity.

	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. As per the calibration certificates, error variation observed is lesser than the error variation specified (63.5V P-N & 1-1.2A & 50Hz). Hence, it is within the measurable range. The calibration is carried out appropriately as per the registered monitoring plan.
	How were the values in the monitoring report verified?	Cumulative value of EG_y for entire monitoring period is reported in the monitoring report/01/, and monthly values are mentioned in the ER calculation sheet/02/. The monthly values were verified from Share Certificate/28/ issued by state utilities and cross verified with the help of invoices issued by PP /29/ and they are found to be consistent. Value of this parameter for the current monitoring period was verified as 300,395 MWh .
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of EG_y were further cross checked with the monthly invoices raised by PP /29/ to state utilities and 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?	On site personnel interview/36/ with the project stakeholder of the project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable for the net electricity supplied by the project plant/unit to the grid in year y

	In case project proponents 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 such issues.
Findings	CL#01 and CAR#01 were raised and resolved	
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. The emission reduction calculation for the project activity is estimated based on the electricity supplied by WTGs. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

The Parameters fixed ex ante in Table No.-10 below

Parameter	Unit	Description	Value	MOV
EF_{grid,OM,y}	tCO ₂ /MWh	Operating Margin CO ₂ Emission Factor in year y	0.9610 tCO ₂ /MWh is consistent with the registered VCS PD /3/ and calculated from CEA database, Version 14	The values are verified through desk review of the MR submitted /01/ and registered VCS PD /03/ which is found acceptable
EF_{grid,BM,y}	tCO ₂ /MWh	Build Margin CO ₂ Emission Factor in year y	0.8644 tCO ₂ /MWh is consistent with the registered VCS PD /3/ Calculated from CEA database, Version 14	The values are verified through desk review of the MR submitted /01/ and registered VCS PD /03/ which is found acceptable

EF _{grid,CM,y}	tCO ₂ /MWh	Combined Margin CO ₂ Emission Factor in year y	0.9368 tCO ₂ /MWh is consistent with the registered VCS PD /03/ Calculated from CEA database, Version 14	The values are verified through desk review of the MR submitted /01/ and registered VCS PD /03/ which is found acceptable
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Calibration of meters

During the verification assessment of the project activity, accuracy of all the metering equipment's has been checked and found appropriate. The installation and working conditions of the meters were checked during the site inspection and were found to be satisfactory by VKU. Details of meters are provided in below table:

Calibration details of meters

Meter and Calibration details of meters installed in Table No.:-11 below

Meter Serial No.	Substation details	Accuracy class	Calibration date	Due date of Calibration
GJ-2319-A	Suthari ABT Meter Line 1	0.2 s	05-October-2021	04-October-2024
GJ-2320-A	Suthari ABT Meter Line 2	0.2 s	05-October-2021	04-October-2024
GJ-2317-A	Nani Sindhodi ABT Meter Line 1	0.2 s	04-October-2021	03-October-2024
GJ-2318-A ³	Nani Sindhodi ABT Meter Line 2	0.2 s	04-October-2021	03-October-2024
GJ-2468-A	Nani Sindhodi ABT Meter Line 2	0.2s	20-June-2022	19-June-2023

The energy meter calibration certificates/25/ are checked and found that the calibration details provided in the MR /01/ are correct. From the verification of above table, verification team also

³ Note that Energy Meter calibration is controlled by state government regulatory body and thus PP has no control over the government body proceedings. Meter serial no. GJ-2318-A has been replaced with meter serial no. GJ-5468-A on 09-November-2022 whose calibration is valid till current monitoring period which ends in May-2023, hence this change has no impact.

confirms that the energy meter calibrations are valid for the complete monitoring period i.e., from 01-January-2022 to 31-May-2023 (Inclusive of both start and end dates).

The verification team has checked all the meters and confirmed that the meters were working satisfactorily. Also, the calibration of meters is completely under purview of state utility and PP has no control over the same as confirmed through interviews of site personnel and PPAs signed by PP with state utilities /24/.

Hence it can be concluded that the approach followed by the PP is conservative and in line with the guidelines provided under paragraph 3.4.2 of VCS Validation and Verification Manual version 3.2/08/.

The registered VCS PD /03/& MR /01/ and site audit observations confirm that the metering equipment are sealed and maintained by the state utility.

The assessment team has verified the monthly Share Certificates issued by GETCO and confirmed that only the data recorded through main meters is used to calculate net electricity supplied to the grid consequently for ER calculations recorded in ER sheet /02/

In view of the above discussion the assessment team is able to confirm that evidence used to determine the GHG reductions and removals are sufficient and appropriate with respect to quality and quantity.

GHG Calculations:

The emission reduction calculated as per the applied methodology equals the baseline emissions (project emissions and leakage emissions for such project activities is considered zero).

The formula provided for the calculation of baseline emissions is:

$$BE_y = EG_y * EF_{grid,CM,y}$$

Where:

BE_y: Baseline emissions in year y (tCO₂e/yr)

EG_y: Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh)

EF_{grid,CM,y}: Combined Margin CO₂ emission factor in year y in tons CO₂/MWh

Parameter	Unit	Value
EG _{PJ, y}	MWh	300,395
EF _{grid,CM,y}	tCO ₂ e	0.9368
BE _y	=	300,395 * 0.9368
	=	281,410 tCO ₂ e (Round down value)

The verification team attests to the correctness of the formulas and methodologies used to compute baseline emissions. The applied default values, emission factors, and assumptions in the calculations are all reasonable.

The assumptions, emission factors and default values that were applied in the calculations are justified. The actual emission reduction achieved during the current monitoring period are 38.98% lower than the estimated emission reductions. We as VVB accepted this as this is mainly due to the lower generation of electricity achieved during current monitoring period which is due to low wind availability and low PLF and breakdown of 80,941.05 hours. These factors are not within the direct control of the project participant hence acceptable by VKU and it is as per registered VCS PD /03/.

VKU further states that the verification is done for a period of seventeen months from 01-January-2022 to 31-May-2023 (Inclusive of both dates) and 38.98% lower actual emission reduction achieved during the current monitoring period is due to low wind availability and low PLF and breakdown of 80,941.05 hours. All the supporting documents and ER sheet was verified by assessment team and found to be acceptable hence lower generation of 38.98% is acceptable by VKU Assessment team.

All the data were made available and have been monitored as per required monitoring frequency. The means of verification for the values of parameters, used for baseline emission calculation, is described above.

VKU is of the opinion that this method of calculation of emission reductions is accurate and results in conservative estimation of emission reduction and is in line with the applicable VCS requirements set out in section 3.15 of VCS Standard version 4.5/07/ and that the verification of the GHG statement was conducted in accordance with ISO 14064-3; 2019.

4.6 Non-Permanence Risk Analysis

Since this is not an AFLOU project hence this section is not applicable.

5 VERIFICATION OPINION

VKU Certification Pvt. Ltd. (referred as VKU) has performed the fourth verification under the second crediting period, from 30-September-2017 to 29-September-2027 (inclusive of both start and end dates), for the project activity **"150 MW grid connected wind power based electricity generation project in Gujarat, India"** in India. The reported emission reductions for this project activity, with VCS Registry Project ID 292, during the monitoring period from **01-January-2022 to 31-May-2023 (inclusive of both start and end dates)**, amount to **281,410 tCO₂e**. These reported reductions have been assessed in accordance with the relevant requirements outlined in the VCS Standard, version 4.5/07/.

The project proponents of the **"150 MW grid connected wind power based electricity generation project in Gujarat, India"** by "Vayu (Project 1) Private Limited (formerly BLP Vayu (Project 1) Private Limited)" is responsible for:

- The preparation of greenhouses gas emissions data and the reported greenhouse gas emission reductions from the project on the basis set out in the monitoring plan contained in the registered VCS PD Version 03 dated 11-November-2019/03/.
- The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of greenhouse gas emission reductions of the project.

It is the responsibility of VKU to express an independent verification opinion about the project's conformity with the requirements of VCS Standard version 4.5 /07/ and GHG program applied, on the reported greenhouse gas emission reductions from the project.

Based on documented evidence and corroborated by an on-site assessment, VKU can confirm that:

- The project has been implemented and operated as per the registered VCS PD version 03 dated 11-November-2019/03/;
- The monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Standard version 4.5/07/ requirements;
- The monitoring is in place as per the applied baseline and monitoring methodology;
- The monitoring plan in the registered VCS PD/03/ which is as per the applied baseline and monitoring methodology/12/.

VKU'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. VKU Certification planned and performed the verification by obtaining evidence and other information and explanations that VKU Certification considered necessary to give **Reasonable level of assurance** that reported GHG emission reductions are fairly stated.

It is VKU's opinion that the GHG emission reductions stated in the monitoring report version 04 dated 12-September-2023 for the "150 MW grid connected wind power based electricity generation project in Gujarat, India" in India for the period from 01-January-2022 to 31-May-2023 (Inclusive of both start and end dates) are fairly stated. The GHG emission reductions are calculated on the basis of approved methodology ACM0002: Grid-connected electricity generation from renewable sources- (version 19)/12/ and the monitoring plan included in the registered VCS PD version 03 dated 11-November-2019/03/.

Hence VKU is able to certify that the emission reduction from the project during the monitoring period **01-January-2022 to 31-May-2023** (Inclusive of both start and end dates) amounts to **281,410 tCO₂e** is in line with the applicable VCS requirements set out in clause 4.1.23, 4.1.24 and 4.1.25 of section 4.1 of VCS Standard version 4.5/07/ and that the verification of the GHG statement was conducted in accordance with ISO 14064-3; 2019/39/.

Opinion	Final Documents	Monitoring Period	Emission Reductions achieved	Remarks
Positive opinion ☒ Negative Opinion ☐ Adverse Opinion ☐ Unmodified Opinion ☒ Modified Opinion ☐	Monitoring Report Version 04 dated 12-September-2023 Emission Reduction Sheet Version 02 dated 20-July-2023	01-January-2022 to 31-May-2023 (Inclusive of both the dates)	281,410 tCO₂e	The GHG emission reductions are calculated on the basis of approved methodology ACM0002: Grid-connected electricity generation from renewable sources -- Version 19.0/12/ and the monitoring plan included in the registered VCS PD /03/
Hence VKU is able to certify that the emission reduction from the project during the current monitoring period 01-January-2022 to 31-May-2023 (Inclusive of both dates) amounts to				

281,410 tCO₂e assessed in line with the applicable VCS requirements set out in section 3.15 of VCS Standard version 4.5/07/

The VVB hereby issues a positive and unmodified opinion in accordance with ISO 14064-3:2019, and ISO 14065:2020 Section 09- Clause 9.7.1.6 & 9.7.2/40/. This opinion also meets the requirement stipulated under ISO/IEC 17029:2019, Section 9.7/41/ with a reasonable level of assurance for the reported GHG emission reduction data which is free from any material misstatement and is sufficiently supported by evidences provided to VVB by PP tabulated in Table No:-03 of this report.

Verification period: From 01-January-2022 to 31-May-2023 (Inclusive of both start and end dates)

Verified GHG emission reductions and removals in the above verification period, broken down by calendar year:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
Year 2022 01-January-2022 to 31-December-2022	203,336	0	0	203,336
Year 2023 01-January-2023 to 31-May-2023	78,074	0	0	78,074
Total	281,410	0	0	281,410

Year	Ex-ante emissions reductions /removals	Achieved emissions reductions /removals	Percent difference	Justification for the difference
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Year 2022 01-January-2022 to 31-December-2022	326,203	203,336	-37.66%	The decrease in the actual emission reduction achieved during the current monitoring period is due to the natural low wind availability which is an uncontrollable factor and this led to low PLF of 16.17% which is very less as compared to the estimated PLF of 26.50% in the registered VCS PD/03/ and another reason is breakdown of plant for 8,0941.05 hours which 6.54% of the total operating hours due to preventive measure and scheduled maintenance activity at site.
Year 2023 01-January-2023 to 31-May-2023	134,950	78,074	-42.14%	
Total	461,153	281,410	-38.98%	

APPENDIX A: < ABBREVIATIONS >

Abbreviations	Full texts
BE	Baseline Emissions
BEF	Baseline Emission Factor
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
EF	Emission Factor
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MoV	Means of Verification
MR	Monitoring Report
NA	Not Applicable
OSV	On Site Visit
PD	Project Description
PP(s)	Project Proponent(s)
QA/QC	Quality Assurance /Quality Check
Ref.	Document Reference
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
VCU	Verified Carbon Unit

VCS	Verified Carbon Standard
VKU	VKU Certification Ltd.
VVS	Validation and Verification Standard
VVB	Validation and Verification Body

APPENDIX B: < AUDIT FINDINGS>

Type		Date	19-July-2023	
CL#01		Reference	Section of Ver protocol: Section 1	
Description of the Non-Conformance				
1. Section 1.8 of MR; 1.1 This statement is inconsistent according to the section 3.10 of VCS standard version 4.4 as Projects are categorized by size into Projects and Large Projects according to their estimated average annual GHG emission reductions or removals. Please clarify. 2. Section 1.9 of MR; 2.1 PP needs to submit undertaking for no any double accounting for current monitoring period from 01-January-2022 to 31-May-2023 3. Section 1.10 of MR; 3.1 PP needs to submit undertaking for not availing others forms of environmental credit for the current monitoring period from 01-January-2022 to 31-May-2023				
1 st Response from PP		Date	24-July-2023	
1.1 The reference to the methodology has been revised in section 1.8 of the revised MR. 2.1 PP is submitting undertaking for no any double accounting for current monitoring period from 01-January-2022 to 31-May-2023 to the assessment team. 3.1 PP is submitting undertaking for not availing others forms of environmental credit for the current monitoring period from 01-January-2022 to 31-May-2023 to the assessment team.				
1 st Assessment by Audit Team	Status	Closed	Date	04-August-2023
1. Section 1.8 of MR; 1.1 The assessment team confirms that PP has revised this section and provided the correct reference. Hence accepted. 2. Section 1.9 of MR; 2.1 The assessment team confirms that PP has submitted the declaration confirming that the project is not participating in any other GHG program or taking any other kind of benefits. Hence accepted 3. Section 1.10 of MR; 3.1 The assessment team confirms that PP has submitted the declaration confirming that the project is not availing others forms of environmental credit in the current monitoring period. Hence accepted Hence CL#01 is Closed				

Type	Date	19-July-2023		
CL#02	Reference	Section of Ver protocol: Section 3, and 4		
Description of the Non-Conformance				
1. Section 3.1 of MR; 1.1 The project capacity is 150 MW and all 100 WTGs of 1.5 MW capacity has been already installed. How new WEGs are planned to be installed? 1.2 This statement contradicts with the breakdown’s details provided in APPENDIX-3 2. Section 4.3 of MR; 2.1 PP is requested to clarify how CDM related monitoring is applicable in the VCS project mentioned in, under the section 4.3. 3. Section 5.1 of MR; 3.1 Assessment team is unable to find reference of baseline calculation in this document.				
1 st Response from PP	Date	24-July-2023		
1.1 No new WEGs are planned to be installed as a part of project activity. The sentence has been removed from section 3.1 of the revised MR. 1.2 The statement has been reframed and made it in line with the breakdown details provided in APPENDIX-3 of the MR. 2.1 The project activity was initially registered under CDM and then got transitioned into VCS and CDM methodology is applied therefore, CDM related monitoring is applicable for the project activity. 3.1 The sentence has been reframed and the baseline calculation has been provided in section 5.1 of the MR.				
1 st Assessment by Audit Team	Status	Open	Date	04-August-2023
1. Section 3.1 of MR; 1.1 Assessment team confirms that PP has updated the statement in revised MR according to the current project activity. Hence accepted 1.2 PP to provide the approximate percentage or hours of breakdown details in this section for better clarity on the impact of such breakdowns in the GHG emissions achieved and also provide the reference of the appendix provided. Open 2. Section 4.3 of MR;				

2.1 Assessment team verifies and confirms that PP has updated this section according to the VCS PD section 4.3. Hence accepted.		
3. Section 5.1 of MR;		
3.1 The statement is still found to be same, kindly update. Open		
Hence CL#02 is Open		
2nd Response from PP	Date	07-August-2023
1.2 Breakdown hours has been provided for better clarity on the impact of breakdowns in the GHG emissions achieved and reference of the appendix has also been provided in section 3.1 of the revised MR.		
3.1 The sentence has been reframed.		
2nd Assessment by Audit Team	Status	Closed
	Date	10-August-2023
1.2 Assessment team verifies and confirms that PP has updated the breakdown hours and provided the details for better clarity on the impact of breakdowns in the GHG emissions achieved and reference of the appendix has also been provided in section 3.1 of the revised MR submitted, hence accepted.		
3.1 Assessment team verifies and confirms that PP has updated the statement in section 5.1 of the revised MR. Hence accepted.		
Hence CL#02 is Closed		

Type	Date	19-July-2023
CL#03	Reference	Section of Ver protocol: Section 4
Description of the Non-Conformance		
PP is requested to provide the following documents to verify the MR and project completely: 1. SLD of the Plant site 2. PPA agreement 3. O&M Agreement 4. Undertaking for not claiming credits from other GHG Program and other form of credits. 5. Grievance Register photograph 6. Training Records of the Personnel 7. Invoice for the month of May 2023		
1st Response from PP	Date	24-July-2023
PP is providing the following documents to assessment team to verify the MR and project completely:		

1.SLD of the Plant site 2.PPA agreement 3.O&M Agreement 4.Undertaking for not claiming credits from other GHG Program and other form of credits. 5.Grievance Register photograph 6.Training Records of the Personnel 7. Invoice for the month of May 2023				
1st Assessment by Audit Team	Status	Closed	Date	04-August-2023
Assessment team verifies and confirms that PP has submitted all supporting documents to verify the monitoring report and project. Hence accepted Hence, CL#03 is Closed				

Type	Date	19-July-2023
CL#04	Reference	Section of Ver protocol: Section 4
Description of the Non-Conformance		
Observations of assessment team during site visit: - During site visit, the assessment team found a meter with serial no. GJ-5468A (ABT Meter Line 2) at Nani Sindhodi site instead of meter serial no. GJ-2318A (ABT Meter Line 2) mentioned in the MR. Please clarify. - During site visit, the assessment team found five different sites connected to two substations Suthri (51 WTGs) and Nani Sindhodi (49 WTGs) instead of only two sites Jakhau and Suthri mentioned in appendix 1 of MR. - During site visit, Assessment team found inconsistencies in the location of WTGs as per the actual implementation and locations mentioned in the appendix – 1 of MR through the interview of site-in-charge.		
1st Response from PP	Date	24-July-2023
- Meter serial no. GJ-2318-A has been replaced with meter serial no. GJ-5468-A on 09/11/2022. PP is submitting supporting document to the assessment team to verify the same. - Site wise details of the wind turbine has been provided in Appendix 1 of the revised MR. - Site wise location number of the wind turbine has been provided and PD is submitting project layout showing location number of wind turbine to verify the same.		

1st Assessment by Audit Team	Status	Closed	Date	04-August-2023
1. Assessment team verifies and confirms that PP has mention the meter replacement details in revised MR and also submit the meter replacement certificate. Hence accepted 2. Assessment team confirms that PP has updated the Appendix-I as per the actual implementation at site and found it to be correct, hence accepted. 3. Assessment team confirms that the project layout provided by PP is found to be correct and it is consistent with the Appendix-I of MR. Hence accepted. Hence CL#04 is Closed				

Type	Date	25-August-2023
CL#05	Reference	Section of Ver protocol: Section 4
Description of the Non-Conformance		
1. Section 4.3 of MR; 1.1 In the SLD PP needs to clarify the following: • Please clarify the significance of "The project site WTGs of DLF". • Are all WTGs (both PP WTGs and others) have a single switch yard for stepping up the power generation. • what is the accuracy class of meters placed at switch yard at the project location and at the substation. • What is the formula used for apportioning? 1.2 Is the measurement performed as a joint reading exercise between the PP and the EB officials. 1.3 How is transmission loss accounted while recording energy generation data. 1.4 During the interim, how does the PP ensure the energy readings till a replacement meter is fixed. 1.5 Please clarify the dual accuracy class mentioned here.		
1st Response from PP	Date	28-August-2023
1. Section 4.3 of MR; 1.1 PP wants to clarify that, • During the first crediting period, the ownership of the project changed from DLF to Vayu (Project 1) Private Limited. The same has been corrected in the SLD. • Yes, all WTGs (both PP WTGs and others) have a single switch yard for stepping up the power generation. • 0.2 s is the accuracy class of meters placed at switch yard at the project location and at the substation. • The apportioning has been done by GETCO officials and PP has no control over it.		

- 1.2 Automatic recording of the data takes place and there is no involvement of the physical recording of the readings.
- 1.3 Transmission loss have already been accounted in the energy generation data recorded in the meters installed at the grid substation.
- 1.4 The readings will be taken by check meter till a replacement meter is fixed.
- 1.5 Single accuracy class has been mentioned under section 4.3 of the revised MR.

1st Assessment by Audit Team	Status	Closed	Date	30-September-2023
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1. Section 4.3 of MR;

1.1 Assessment team confirms that PP has updated the details in the SLD and provided the justification for the following:

- The assessment team confirms that the detail has been updated and it is acceptable as per the deviation taken by PP in current monitoring period.
- Yes, during site visit this was confirmed and also confirmed by PP that all WTGs (both PP WTGs and others) have a single switch yard for stepping up the power generation.
- The accuracy class of meters placed at switch yard at the project location and at the substation is 0.2s as confirmed by PP and through the meter calibration certificates and also during the site visit, hence this is accepted.
- As per PP response, the apportioning is done by GETCO officials and same was confirmed by assessment team during interview, thus this is accepted.

1.2 The data is automatically recorded and this was confirmed during site interviews with the PP by assessment team, hence this is accepted.

1.3 The GETCO share certificated submitted by PP have already accounted the transmission loss while recording energy generation data. hence this is accepted.

1.4 As per the monitoring plan the check meter should be used and same has been confirmed by the PP, hence it is accepted.

1.5 PP has updated the MR and the accuracy class is updated in the revised MR as per project scenario. Hence accepted.

Hence CL#05 is Closed.

Type	Date	19-July-2023
CAR#01	Reference	Section of Ver protocol: Cover MR and Section 1
Description of the Non-Conformance		
1. Content Page;		

1.1 Verification Team finds that “page numbers” are not mentioned in footer of entire MR as per the VCS MR template version 4.2 requirement.

1.2 Verification team finds during desk review that the “font size and font style” are inconsistent with the VCS MR template version 4.2 in various sections of the MR.

2. Section 1.1 of MR;

2.1 Assessment team found discrepancy in audit history table according to the VCS MR template version 4.2 in section 1.1

2.2 During desk review, Assessment team found that the number of total crediting period in CDM mentioned in this report is inconsistent with the registered CDM PDD version 03 dated.

2.3 During desk review assessment team finds that these dates are inconsistent with the available report in CDM registry

3. Section 1.6 of MR;

3.1 During desk review, Assessment team found that some necessary information (Indication of project crediting period, total number of years) is missing as per section 1.6 of VCS MR Template v4.2 guidelines.

4. Section 1.11 of MR;

4.1 During desk review, assessment team has not found ‘Summary description of project activities implemented during the monitoring period that result in SD contributions (i.e., technologies/measures implemented, activity location)’ as per the requirement of section 1.11 of VCS MR template, version 4.2

4.3 During desk review, assessment team has not found SDG Indicator Number in SDG target 13.0 under Table 1; Sustainable Development Contributions, as per the official list of SDG Targets and Indicators mentioned in section 1.11 of VCS MR Template, version 4.2

1st Response from PP

Date

24-July-2023

1.1 With reference to VCS MR template version 4.2 requirement, “page numbers” have been mentioned in footer of entire MR.

1.2 With reference to VCS MR template version 4.2 requirement, “font size and font style” have been made consistent in entire MR.

2.1 Audit history table in section 1.1 of the revised MR has been made in line with the VCS MR template version 4.2.

2.2 With reference to the registered CDM PDD version 03, the number of total crediting period in CDM has been revised in section 1.1 of the revised MR.

2.3 With reference to the available reports in CDM registry, dates have been made consistent in section 1.1 of the revised MR.

3.1 With reference to the VCS MR Template v4.2 guidelines, necessary information (such as Indication of project crediting period, total number of years) have been provided in section 1.6 of the revised MR.

4.1 With reference to the VCS MR Template v4.2 guidelines, summary description of project activities implemented during the monitoring period that result in SD contributions have been provided in section 1.11 of the revised MR.

4.2 SDG Indicator Number in SDG target 13.0 under Table 1 has been mentioned as per guidelines in MR template version 4.2, para 5 of section 1.11, "While climate change and mitigation activities relate to SDG 13, they do not align with any SDG 13 target. For climate change mitigation impacts, write "13.0" in the SDG target column and use the indicator "Tonnes of greenhouse gas emissions avoided or removed".

1st Assessment by Audit Team	Status	Open	Date	04-August-2023
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1. Content Page;

1.1 Assessment team verifies and confirms that PP has updated the font style, font size, date of format and also inserted the page numbers according to the MR template requirements in the contents table in the revised MR. Hence accepted.

2. Section 1.1 of MR;

2.1 Assessment team confirms that PP has updated the audit history table according to the VCS MR template version 4.2 in section 1.1 Hence accepted

2.2 Assessment team confirms that PP has updated the total crediting period number according to the registered CDM PDD version 03 dated 28-July-2006. Hence accepted

2.3 Assessment team confirms that PP has update the dates according to the available report in CDM registry. Hence accepted.

2.4 During desk review the dates of validation are found inconsistent. Open

3. Section 1.6 of MR;

3.1 Assessment Team found that the total number of first and second crediting period is inconsistent with the registered VCS PD version 03 dated 11-November-2019. During review it was found that the total crediting period length is 10 years according to the dates provided and registered VCS PD how is 7 years valid here. Open

4. Section 1.11 of MR;

4.1 Assessment Team found that PP has updated the section 1.11 (Sustainable development contributions) as per the requirement of section 1.11 of VCS MR template version 4.2. Hence accepted

4.2 Assessment team confirms that PP has mention the correct SDG Indicator Number in SDG target 13.0 under Table 1; Sustainable Development Contributions, as per the official list of SDG Targets and Indicators mentioned in section 1.11 of VCS MR Template, version 4.2. Hence accepted.

Hence CAR#01 is Open

2 nd Response from PP	Date	07-August-2023
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2.4 The dates of validation provided in section 1.1 of the MR version 03 are as per CDM PDD mentioning dates of second crediting period as 18-June-2016 to 17-June-2023.

3.1 With reference to registered VCS PD version 03 dated 11-November-2019, the duration of the crediting period in section 1.6 of the revised MR has been corrected.

2 nd Assessment by Audit Team	Status	Closed	Date	10-August-2023
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2.4 Assessment team verifies and confirms that PP has provided the correct dates in the table for the crediting period as it is consistent with the CDM project webpage and registered documents. Hence accepted.

3.1 Assessment team verifies and confirms that PP has updated the correct dates and duration of crediting period which is consistent with the registered VCS PD. Hence accepted.

Hence CAR#01 is Closed

Type	Date	19-July-2023
CAR#02	Reference	Section of Ver protocol: Section 2,3 and 4
Description of the Non-Conformance		
1. Section 2.1 of MR; 1.1 PP states that the project activity does not involve any potential negative environmental and socio-economic impacts, but according to VCS Standard V 4.4 section 3.18.2 requires a project to identify the potential negative impact thus, PP is requested to further elaborate on the potential environmental and social impacts of the project 2. Section 2.2 of MR;		

2.1 During desk review, assessment team has found that 'the procedures or methods used for engaging local stakeholders (e.g., dates of announcements or meetings, periods during which input was sought) and 'the procedures or methods used for documenting the outcomes of the local stakeholder communication' is not mentioned as per the requirement of section 2.2; VCS MR Template, version 4.2 3. Section 3.2.1 of MR; 3.1 Is there any methodology deviation applicable in previous monitoring periods as per the VCS MR template guidelines. 4. Section 3.2.2 of MR; 4.1 PP need to include the information of the monitoring period in which these deviations are approved and included in the monitoring report 5. Section 4.3 of MR; 5.1 PP needs to submit the O&M agreement to verify the details of the entities involved and the validity of the contract. 5.2 During the desk review, the assessment team found it to be inconsistent with the section 4.3 of registered VCS PD 6. APPENDIX 2 of MR; 6.1 During desk review assessment team found the energy meter calibration due date is inconsistent with calibration certificates provided by PP to VVB.		
1st Response from PP	Date	24-July-2023
1.1 With reference to the VCS Standard V 4.4 section 3.18.2, PP has further elaborated on the potential environmental and social impacts of the project in section 2.1 of the revised MR. 2.1 As per the requirement of section 2.2 mentioned in VCS MR Template, version 4.2, details of the local stakeholder consultation have been provided in section 2.2 of the revised MR. 3.1 There is no methodology deviation applicable in previous monitoring periods as per the VCS MR template guidelines. 4.1 Information of the monitoring period in which these deviations are approved and included in the monitoring report has been included in section 3.2.2 of the revised MR. 5.1 PP is submitting O&M agreement to assessment team to verify the details of the entities involved and the validity of the contract. 5.2 Hierarchy diagram of the project team has been made consistent with the section 4.3 of registered VCS PD in section 4.3 of the revised MR.		

6.1 With reference to the energy meter calibration certificate, the calibration due date of the energy meters has been made consistent with the submitted energy meter calibration certificate in Appendix 2 of revised MR.				
1 st Assessment by Audit Team	Status	Open	Date	04-August-2023
1. Section 2.1 of MR; 1.1 Assessment team confirms that PP has the update the section 2.1 (No Net Harm) as per the requirement of VCS standard version 4.4 section 3.18.2. Hence accepted 2. Section 2.2 of MR; 2.1 Assessment team confirms that PP has mention the procedure or methods used for engaging local stakeholders in section 2.2 (Local stakeholder consultation) as per VCS MR template version 4.2. Hence accepted 2.2 Assessment team verified the copy of grievance register and found that some registered complaints/grievances during the current monitoring period. Please elaborate and provide them as per the MR template requirements. Open 3. Section 3.2.1 of MR; 3.1 Assessment team confirms that no methodology deviations were raised in current and previous verifications and same description is added in revised MR. Hence accepted. 4. Section 3.2.2 of MR; 4.1 Please mention separately the monitoring period number and date during which these deviations were applied. Open 5. Section 4.3 of MR; 5.1 Assessment team verifies and confirms that PP has submit the copy of O&M agreement. Hence accepted 5.2 Assessment team verifies and confirms that PP has update this section according to the VCS PD section 4.3. Hence accepted 6. APPENDIX 2 of MR; 6.1 Assessment team verifies and confirms that PP has update the calibration due date according to the calibration certificate. Hence accepted Hence CAR#02 is Open				
2 nd Response from PP			Date	07-August-2023
2.2 As per the requirement of section 2.2 mentioned in VCS MR Template, version 4.2, the details of the grievances received during the current monitoring period has been provided in section 2.2 of the revised MR.				

4.1 Monitoring period number and date during which deviations were applied has been mentioned separately in section 3.2.2 of the revised MR.				
2nd Assessment by Audit Team	Status	Closed	Date	10-August-2023
2.2 Assessment team confirms that PP has mentioned in brief about the grievances of the current monitoring period and it is as per the grievance register submitted by PP and now it fulfils the requirement of section 2.2 mentioned in VCS MR Template, version 4.2. Hence accepted. 4.1 Assessment team confirms that PP has included the monitoring period number and dates during which these deviations were applied. Hence Accepted. Hence CAR#02 is Closed				

Type	Date	25-August-2023
CAR#03	Reference	Section of Ver protocol: Tittle Page Section 1, 2 and 3
Description of the Non-Conformance		
1. Section 1.1 of MR 1.1 The number of WTGs is not mentioned as part of the project description. 1.2 PP is requested to clarify regarding the local grid mentioned. 1.3 Please state whether this is inclusive of both the dates. Also request PP to state the monitoring period sequence number as well as the crediting period number. 1.4 PP is requested to express the number of years or duration as YYMMDD for more granular representation of the duration. 1.5 Total number of years is not mentioned as per the MR guidance template. 2. Section 1.2 of MR 2.1 The PP has not mentioned the status of the project activity against AFLU as per the guidance template. 3. Section 1.5 of MR 3.1 Please clarify whether WTGs were commissioned on 31/03/2008 as well. If yes, please clarify the sentence. 4. Section 1.9 of MR		

4.1 This sentence is contradicting the earlier sentence. PP is requested to clearly state the registry under which the project is registered against.

4.2 PP is requested to split the years as given in the CDM website in the table.

5. Section 1.10 of MR

5.1 The PP is requested to clarify whether the present project activity is registered under I-REC.

5.2 The report is issued on 04/08/2023 which is well past the deadline date given in the VCS program updates summary.

6. Section 1.11 of MR

6.1 As per TR team's internal assessment, the total energy generated during the first crediting period is: 1,944,228 MWh. Please clarify.

6.2 As per TR team's cross checking of the CERs as per the CDM website the total CERs in the first crediting period comes to 1,751,847.

18-06-2009	24-02-2010	1,85,275
25-02-2010	28-02-2011	2,30,857
01-03-2011	31-08-2011	1,98,654
01-09-2011	31-03-2012	85,385
01-04-2012	31-12-2012	2,27,039
01-01-2013	01-06-2012	1,06,266
01-07-2012	30-06-2014	2,41,836
01-07-2014	17-06-2016	4,76,535
Total		17,51,847

7. Section 2.1 of MR

7.1 PP is requested to clarify how this section follows the requirements under para 3.18.2 of the VCS standard v4.4.

8. Section 3.1 of MR

8.1 PP to provide the following technical details:

- The voltage generated at the hub is not mentioned.
- Additionally, the voltage, current that is generated at the rotor that is transformed and connected to PSS. Is the voltage stepped up further to synchronise with the grid?
- Specification of the transformers
- Any internal available automatic metering system installed?
- Meters installed at PSS if any and its relevance in the overall measurement of energy generation?
- Distance (nearest and longest) distance from the WTGs to the substation connected?

How many feeders are present in substation? Are they dedicated feeders? If not, how is the measurement of energy generation done? 8.2 PP is requested to express the breakdown hours as percentage of the available hours.		
1st Response from PP	Date	28-August-2023
1. Section 1.1 of MR 1.1 Number of WTGs has been mentioned as a part of project description. 1.2 The project activity is supplying electricity to the national grid and the same has been mentioned in section 1.1 of the revised MR. 1.3 The mentioned MP is inclusive of both dates and monitoring period sequence number as well as the crediting period number has been mentioned in section 1.1 of the revised MR. 1.4 The number of years or duration has been mentioned as YYMMDD in section 1.1 of the revised MR. 1.5 Total number of years has been mentioned as per the MR guidance template in section 1.1 of the revised MR. 2. Section 1.2 of MR 2.1 The project does not come under AFOLU project category and the same has been mentioned in section 1.2 of the revised MR. 3. Section 1.5 of MR 3.1 With reference to the commissioning certificate, the WTGs were not commissioned on 31/03/2008. The last WTG was commissioned on 29/03/2008 and the same has been mentioned under footnote 3 in the revised MR. 4. Section 1.9 of MR 4.1 The project activity was registered under Clean Development Mechanism before VCS transition and the same has been provided in section 1.9 of the revised MR. 4.2 The years have been split as per CDM website and the same has been provided in section 1.9 of the revised MR. 5. Section 1.10 of MR 5.1 The present project activity is not registered under I-REC. 5.2 The description regarding non-inclusion of supply chain (scope 3) emissions in the project activity has been provided in section 1.10 of the revised MR. 6. Section 1.11 of MR		

6.1 The total energy generated during the first crediting period has been corrected in section 1.11 of the revised MR.

6.2 With reference to the CDM website, total CERs in the first crediting period has been corrected in section 1.11 of the revised MR.

Standard	MP start date	MP end date	MWh	ER
CDM	18-Jun-09	24-Feb-10	205626	185275
	25-Feb-10	28-Feb-11	256215	230857
	01-Mar-11	31-Aug-11	220473	198654
	01-Sep-11	31-Mar-12	94766	85385
	01-Apr-12	30-Jun-13	369917	333305
	01-Jul-13	30-Jun-14	268401	241836
	01-Jul-14	17-Jun-16	528866	476535
Sum			1944264	1751847
VCS	30-Sep-07	17-Jun-09	383117	345208
	18-Jun-16	30-Sep-19	928462	855219
	01-Oct-19	30-Jun-21	359690	336957
	01-Jul-21	31-Dec-21	134445	125948
Sum			1805714	1663332
Total			3749978	3415179

7. Section 2.1 of MR

7.1 With reference to para 3.18.2 of the VCS standard v4.4, The project activity does not involve any potential negative environmental and socio-economic impacts. Reference of the report published by MNRE has also been mentioned in section 2.1 of the MR to verify the same. Therefore, there is no harm identified from the project and hence no mitigations measures are applicable for the project activity.

8. Section 3.1 of MR

8.1

- Audit team must have noted it during the site visit.
- Please check Audit team visited at the site.
- Audit team must have noted it during the site visit.
- Relevant information is provided in section 4.3 & 4.4 of the MR.
- Relevant information is provided in section 4.3 & 4.4 of the MR.
- Audit team must have noted it during the site visit. Further we are providing the location file for you to refer the same.
- The relevant document is provided to refer the requested information such as project layout "Vayu Layout of the 100 WTGs".
- None.

8.2 The breakdown hours have been mentioned as percentage of the available hours in section 3.1 of the revised MR.

1 st Assessment by Audit Team	Status	Closed	Date	30-September-2023
1. Section 1.1 of MR				

1.1 Assessment team confirms that PP has updated the number of WTGs as a part of project description in section 1.1 of MR, hence accepted.

1.2 Assessment team confirms that PP has updated the description in the revised MR version 04 submitted to assessment team and it is found to be consistent, hence accepted.

1.3 Assessment team confirms that PP has updated the details in the mentioned MP is inclusive of both dates and monitoring period sequence number as well as the crediting period number has been mentioned in section 1.1 of the revised MR and it is found to be consistent, hence accepted.

1.4 Assessment team confirms that PP has updated the number of years or duration has been mentioned as YYMMDD in section 1.1 of the revised MR and it is found to be consistent, hence accepted.

1.5 Assessment team confirms that PP has updated the total number of years has been mentioned as per the MR guidance template in section 1.1 of the revised MR and it is found to be consistent, hence accepted.

2. Section 1.2 of MR

2.1 Assessment team confirms that PP has updated the details in section 1.2 of the revised MR and found to be consistent, hence accepted.

3. Section 1.5 of MR

3.1 Assessment team confirms that PP has updated the reference of the last commissioning date in revised MR as per the commissioning certificates of the WTGs. The last WTG was commissioned on 29/03/2008 and the same has been mentioned under footnote 3 in the revised MR found to be consistent, hence accepted.

4. Section 1.9 of MR

4.1 Assessment team confirms that PP has updated the audit history and section 1.9 as per VCS and CDM project registration and found to be correct to the assessment team when cross verified, hence accepted.

4.2 Assessment team confirms that PP has updated the years for the CDM verification and the same has been provided in section 1.9 of the revised MR and found to be correct to the assessment team when cross verified, hence accepted.

5. Section 1.10 of MR

5.1 Assessment team confirms that PP has updated this section and the project activity is not registered under I-REC as confirmed online by the assessment team. Hence accepted.

5.2 Assessment team confirms that PP has updated this section and included the description regarding non-inclusion of supply chain (scope 3) emissions in the project activity and it has been provided in section 1.10 of the revised MR which is found to be consistent. Hence accepted.

6. Section 1.11 of MR

6.1 Assessment team confirms that PP has updated this section and the total energy generated during the first crediting period has been correctly mentioned in section 1.11 of the revised MR. Hence accepted.

6.2 Assessment team confirms that PP has updated this section and total CERs in the first crediting period has been corrected in section 1.11 of the revised MR. Hence accepted.

7. Section 2.1 of MR

7.1 Assessment team confirms that PP has already provided the justification and all information relevant for the section 2.1 of MR according to the standard requirements. Hence accepted.

8. Section 3.1 of MR

8.1 Assessment team confirms that during site visit the details have been verified and for the location PP has provided the kml file including all WTGs location which is verified by assessment team and found consistent, hence accepted.

8.2 Assessment team confirms that PP has provided the breakdown hours in section 3.1 and mentioned as percentage also in the revised MR, hence accepted.

Hence CAR#03 is Closed

Type	Date	25-August-2023
CAR#04	Reference	Section of Ver protocol: Section 4 and Appendix 1
Description of the Non-Conformance		
1. Section 4.3 of MR; 1.1 PP is requested to use the same reference to mention the wind power plant throughout the report. 1.2 PP is requested to provide the calculation or formula behind it. 2. APPENDIX 1: 2.1 Multiple numbers of the WTGs are not visible in the Google map. Kindly update the location of the WTGs in MR.		
1 st Response from PP	Date	28-August-2023

1. Section 4.3 of MR;

1.1 PP has used the same reference to mention the wind power plant and made it in line throughout the report.

1.2 The calculation or formula used is the part of registration process therefore, the same has been removed from the revised MR.

2. APPENDIX 1:

2.1 The coordinates of the WTG has been revised in the Appendix of the MR.

1st Assessment by Audit Team	Status	Closed	Date	30-September-2023
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1. Section 4.3 of MR;

1.1 The assessment team confirms that PP has revised this section and provided the consistent reference throughout the report. Hence accepted.

1.2 The assessment team confirms that PP has revised this section and no such reference or formula is required hence same has been updated and it is acceptable.

2. APPENDIX 1:

2.1 The assessment team confirms that PP has revised this section and provided the correct reference of geo co-ordinates in the MR. Hence accepted.

Hence CAR#04 is Closed

Type		Date	DD/MM/YYYY	
FAR		Reference		
Description of the Non-Conformance				
1 st Response from PP		Date	DD/MM/YYYY	
1 st Assessment by Audit Team	Status	Open/Closed	Date	DD/MM/YYYY

APPENDIX C: COMPETENCE STATEMENT

Team Leader and Sectoral Expert 1.2



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Barun Kumar
Nationality	Indian
Countries of Experience	India, South Africa, Kenya, Uganda, DR Congo, Zambia
Education Qualification	B.Sc. (Environmental Science & Water Management) M.Sc. (Ecology & Environmental Sciences)
Year of Experience	12 Years +
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	TA 1.2 - Renewables TA 3.1 - Energy Demand TA 6.1 - Construction TA 7.1 - Transport

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	NO
Verifier	NO
Team Leader	YES
Technical Reviewer	YES
Local Expert (Country Wise)	NO
TA Expert (1.2, 3.1, 6.1, 7.1)	YES
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	06/12/2022
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	06/12/2022

Validator/Verifier



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Shivani Chauhan
Nationality	Indian
Countries of Experience	India
Education Qualification	B.Sc. (Environmental Science) M.Sc. (Environmental Science)
Year of Experience	2 years as Intern 9 months as Employee
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	NA

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	YES
Verifier	YES
Team Leader	NO
Technical Reviewer	NO
Local Expert (Country)	NO
TA Expert (X.X)	NO
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	03.04.2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	03.04.2023

Validator/Verifier-Trainee



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Apoorva Tripathi
Nationality	Indian
Countries of Experience	India
Education Qualification	B.Sc. (BCZ) M.Sc. (Environmental Science)
Year of Experience	8 Months as Project Trainee
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	NA

Roles

Project Trainee	NO
Validator/Verifier Trainee	YES
Validator	NO
Verifier	NO
Team Leader	NO
Technical Reviewer	NO
Local Expert (Country Wise)	NO
TA Expert (X.X)	NO
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	04/04/2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	04/04/2023

Project Trainee



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Anand Kumar
Nationality	Indian
Countries of Experience	India
Education Qualification	M.Sc. (Environmental Science) B.Sc. (Chemistry Hons.)
Year of Experience	Fresher (Done 3 months Internship in VKU)
Area of Expertise	NA
Eligible Sectoral Scope	NA

Roles

Project Trainee	YES
Validator/Verifier Trainee	NO
Validator	NO
Verifier	NO
Team Leader	NO
Technical Reviewer	NO
Local Expert (Country Wise)	NO
TA Expert (X.X)	NO
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	31/03/2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	31/03/2023

Technical Reviewer and Sectoral Expert 3.1



Certification Pvt. Ltd.

VKU.F50W: Competence Statement

COMPETENCE STATEMENT

Name	Sunil Kathuria
Nationality	Indian
Countries of Experience	Malaysia, Uganda, Kenya, South Africa, Nigeria Bangladesh, China, Vietnam, Thailand, Philippines, United Kingdom, Germany, USA
Education Qualification	B.E. (Electrical Power)
Year of Experience	40 Years
Area of Expertise	Climate Change & Environment Energy Generation / Distribution GHG Footprints Manufacturing Sector
Eligible Sectoral Scope	TA 1.1 - Thermal energy generation TA 1.2 - Renewables TA 2.1 - Energy distribution TA 3.1 - Energy Demand (General & Cook Stove) TA 4.1 - Cement and lime production (Manufacturing Industries)

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	YES
Verifier	YES
Team Leader	YES
Technical Reviewer	YES
Local Expert (Country Wise)	YES
TA Expert (1.1, 1.2, 2.1, 3.1, 4.1)	YES
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	13/05/2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	13/05/2023