



**Verified Carbon
Standard**

51 MW WIND POWER PROJECT AT CHITRADURGA

Document Prepared By



Certification Pvt. Ltd.

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Summary:

VKU Certification Pvt. Ltd. (hereafter referred as VKU) has been commissioned by NSL Renewable Power Pty Ltd (hereafter referred as NSL Renewable Power) to verify the greenhouse gas emission reductions reported for the project activity “**51 MW Wind Power Project at Chitradurga**” (**VCS ID 706**) in India. This is the seventh verification of second crediting period and overall, thirteenth periodic verification of the project activity. The monitoring period is from **01-January-2023 to 31-December-2023 (Inclusive of both the dates)** under second crediting period from **06-June-2018 to 05-June-2028** (inclusive of both the dates).

Purpose of the verification: The objective of the verification process is to obtain an impartial evaluation of the ex-post determination of the monitored reductions in greenhouse gas (GHG) emission. This verification aims to verify that the monitoring methodology aligns with the plan outlined in the registered VCS Joint PD&MR /03/, and that the monitoring data used to verify reductions in anthropogenic emissions from sources is comprehensive, definitive, and transparently presented.

The verification scope of the project is:

- To verify that the project is implemented as described in the registered VCS Joint PD & MR /03/.
- To evaluate the project's adherence to relevant regulations, including the legislation of the host country (India).
- To verify the implementation and functionality of the monitoring system, ensuring the generation of Verified Carbon Units without any activity of double counting.
- To verify the accuracy, completeness, consistency, transparency, and absence of significant errors or omissions in the reported data by examining monitoring records and emissions reduction calculations.

- To ensure that the actual monitoring systems and procedures align with those described in the monitoring plan.
- To assess the GHG emission reduction data and provide a conclusion with a reasonable level of assurance regarding the absence of material misstatements.
- 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 4.4/08/, VCS standard version 4.6/09/, VCS Validation and Verification Manual version 3.2/10/, CDM M&P, the latest version of the CDM Validation and Verification Standard 3.0/11/, and relevant decisions of the COP/MOP and the CDM EB viz., the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country (India) legislation. Furthermore, standard auditing techniques were applied throughout the verification process.

The verification process included inter alia a desk review, on-site assessment and the resolution of outstanding issues and the issuance of the final verification report and certification. This comprehensive verification is aimed to ensure that the reported emission reductions are thorough and precise, aligning with the relevant VCS requirements, thus enabling the project to obtain certification.

VKU diligently followed the rule-based approach during the verification process, ensuring strict adherence to the applicable VCS requirements. The verification encompassed a comprehensive assessment of the project activity's operations, monitoring procedures, and GHG emission reduction calculations.

As a result, a total of five **(05)** findings were identified, comprising **(02) Corrective Action Request (CARs); (03) Clarification Requests (CLs) and zero (00) Forward Action Requests (FAR)**. All the raised findings have been successfully resolved/closed after necessary corrections/clarifications by the client. The same has been discussed in APPENDIX 3: AUDIT FINDINGS of this verification report.

The assessment team ensured that the reported emission reductions are complete and accurate by verifying 100% of the data with the supporting documents and evidences made available to the assessment team. This was performed during desk review and also during site visit by conducting personnel interviews and focussed group discussions along with verification of data present on-site in accordance with applicable VCS requirements to be certified therefore the assessment team has detected no further uncertainties.

The GHG emission reductions have been calculated based on the approved methodology ACM0002. Consolidated baseline methodology for grid connected electricity generation from renewable sources - Version 19 /12/ and Tool to calculate the emission factor for an electricity system; Version 07.0/19/ and the monitoring plan included in the registered VCS Joint PD & MR (version 03) dated 05-February-2019/03/.

Verification Conclusion:

Based on VKU's thorough assessment and with judicious use of professional judgement, the project

activity that the project activity “51 MW Wind Power Project at Chitradurga.” (VCS ID 706) fully complies with the applicable requirements of VCS standard version 4.6 /09/ and associated guidelines. The project has successfully implemented the designated baseline and monitoring methodology outlined in ACM0002. Consolidated baseline methodology for grid connected electricity generation from renewable sources - Version 19 /12/.

The monitoring system in place is effective and reliable, ensuring reasonable level of measurement allowed by the methodology and the VCS standards version 4.6/09/ without any significant discrepancies. As a result, VKU is able to objectively state that the project has achieved an emission reduction of 71,033 tCO_{2e} during the seventh verification of second crediting period (06-June-2018 to 05-June-2028; **(Inclusive of both the dates)** and overall, thirteenth periodic verification of the project activity for monitoring period, which spans from **01-January-2023 to 31-December-2023 (Inclusive of both the dates)**. This certification affirms the project's substantial contributions towards mitigating greenhouse gas emissions.

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1 INTRODUCTION

1.1 Objective

M/s. NSL Renewable Power Pty Ltd (hereafter referred as NSL Renewable Power) commissioned VKU Certification (here after referred as VKU) to carry out seventh verification of the project “51 MW Wind Power Project at Chitradurga” ([VCS ID 706](#)) project in India for the period from **01-January-2023 to 31-December-2023 (Inclusive of both the dates)** under second crediting period from **06-June-2018 to 05-June-2028 (Inclusive of both the dates)**.

This report summarizes the findings of the verification of the project, performed based on VCS Requirements and UNFCCC criteria for CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting as per VKU’s standard procedure for verification which is in line with VCS standard version 4.6/09/ for verification.

The objective of the verification is to have an independent evaluation of a project activity by an accredited validation and verification body against the requirements of the VCS Program Guide Version 4.4 /08/, VCS standard version 4.6 /09/ and GHG program applied, on the basis of the registered VCS Joint PD & MR Version 03 dated 05-February-2019/03/.

Table No 01: Number of Verification and Validation under project activity:

First Crediting Period: 06-June-2008 to 05-June-2018, (Inclusive of both the dates)				
Audit Type	Monitoring Period (Inclusive of both the dates)	GHG Programme	VVB	Number of years
Validation	06-June-2008 to 05-June-2018	VCS	Perry Johnson Registrars CDM Inc.	10 Years
Verification	06-June-2008 to 30-June-2010	VCS	Perry Johnson Registrars Carbon Emissions Services, Inc.	02 Years 00 Months 25 Days
Verification	01-July-2010 to 30-September-2012	VCS	Bureau Veritas Certification	02 Years 03 Months 00 Days
Verification	01-October-2012 to 31-December-2013	VCS	Bureau Veritas Certification Holding Sas	01 Years 03 Months 00 Days

Verification	01-January-2014 to 29-February-2016	VCS	LGA Technological Center, S.A. (Applus+ Certification)	02 Years 02 Months 00 Days
Verification	01-March-2016 to 31-October-2017	VCS	LGA Technological Center, S.A. (Applus+ Certification)	01 Years 08 Months 00 Days
Verification	01-November-2017 to 05-June-2018	VCS	Earthood Services Pvt. Ltd.	00 Years 07 Months 05 Days
Second Crediting Period: 06-June-2018 to 05-June-2028, including both the dates.				
Joint Validation & Verification	06-June-2018 to 30-September-2018	VCS	Earthood Services Pvt. Ltd.	00 Years 03 Months 25 Days
Verification	01-October-2018 to 31-October-2019	VCS	LGA Technological Center, S.A. (Applus+ Certification)	01 Years 01 Months 00 Days
Verification	01-November-2019 to 31-October-2020	VCS	LGA Technological Center, S.A. (Applus+ Certification)	01 Years 00 Months 00 Days
Verification	01-November-2020 to 31-August-2021	VCS	LGA Technological Center, S.A. (Applus+ Certification)	00 Years 10 Months 00 Days
Verification	01-September-2021 to 30-April-2022	VCS	VKU Certification Pvt. Ltd.	00 Years 08 Months 00 Days
Verification	01-May-2022 to 31-December-2022	VCS	VKU Certification Pvt. Ltd.	00 Years 08 Months 00 Days
Verification	01-January-2023 to 31-December-2023 ¹	VCS	VKU Certification Pvt. Ltd.	01 Year 00 Months 00 Days
Total				05 Years, 6 months, 26 days

The verification will be performed by review of evidences & documents submitted to the VKU Assessment Team by PP, for the registered project activity to establish that:

¹ Current verification i.e., 7th verification of the second crediting period and overall periodic 13th verification

- The project activity has been implemented and operated in strict adherence to the registered VCS Joint PD & MR Version 03 dated 05-February-2019 /03/ & MR /01/. Furthermore, all essential physical aspects (technology employed, technical specifications of the WTGs /26/, project equipment's, metering and monitoring protocols) of the project have been diligently implemented.
- The monitoring report/01/ and accompanying documentation have been meticulously compiled and are comprehensive in nature.
- The data has been methodically recorded and stored in accordance with the prescribed monitoring methodology outlined in ACM0002. Version 19 /12/- Consolidated baseline methodology for grid connected electricity generation from renewable sources - and approved monitoring plan.

The verification process aimed to confirm the seamless implementation and full functionality of the monitoring system, ensuring the accurate generation of Verified Carbon Units (VCUs) without any activities of double counting/24/. Additionally, meticulous scrutiny of the monitoring records and emissions reduction calculations has been carried out to guarantee the completeness, consistency, transparency and absence of any material errors or omissions in the reported data. This aims to establish the reliability and integrity 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 “51 MW Wind Power Project at Chitradurga”. The verification of this project is based on the validated & registered VCS Joint PD & MR Version 03 dated 05-February-2019/03/ & monitoring report/01/ along with supporting documents submitted by the project proponent to the VKU assessment team. The documents thus submitted to the VKU Assessment Team are reviewed against the following guidance & protocols:

- i) VCS Programme Guide (Version 4.4) /08/
- ii) VCS Standard (Version 4.6) /09/
- iii) VCS Program Definitions (Version 4.4) /06/
- iv) VCS Registration & Issuance Process (Version 4.4) /07/
- v) VCS validation and verification manual version 3.2/10/
- vi) CDM Approved methodology ACM0002 Version 19.0 /12/
- vii) Tool to calculate the emission factor for an electricity system (Version 07.0)/19/
- viii) CDM Validation and Verification Standard version 3.0/11/

The steps involved are as follows:

- To assess the project's compliance with other relevant rules including the host country (India) legislation.
- To confirm that the monitoring system is implemented and fully functional to generate Verified Carbon Units (VCUs) without any double counting.

- 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 is sufficiently supported by evidence.
- The verification process ensures that the reported emission reductions are comprehensive and accurate in order to obtain certification.

The verification method and criteria encompassed several phases, including

- Desk review of VCS Joint Project Description & Monitoring Report, registered under (Version 03) dated 05-February-2019/03/ and other supporting documents listed in Table-04;
- Onsite interviews & Focussed Group Discussions Stakeholders & PP representatives involved in project's implementation.
- VKU's Completeness/Quality Check, and
- The Final issuance of the verification report.

Outstanding issues have been resolved, leading to the issuance of the final verification report and the relevant VCS Verification Deed of Representation and along with the annexures.

It is important to note that the verification process does not involve providing consultancy to the project proponents. However, requests for clarifications and corrective actions may have contributed to improvements in the monitoring process.

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 section 04 clause 4.1.2, 4.1.10 and clause 4.1.24 of the VCS Standard version 4.6/09/.

The verification report is based on the Monitoring report/01/, registered VCS Joint PD & MR Version 03 dated 05-February-2019/03/ & supporting documents that were made available to the VKU's assessment team (/22//23//24//25//26//27//28/29//30//31/) references in table-04 and information collected through performing interviews with PP Representatives/Local Stakeholders during on-site visit /35/

The technical review has been performed by a technical reviewer(s) qualified in accordance with VKU's qualification procedure. The assessment team and the technical reviewers consist of the following personnel.

Table No 02: The Assessment Team comprises of:

Role/Qualification of Assessment Team	Last Name	Middle Name	First Name
VCS Team Leader, Technical Expert TA 1.2 (Local Expert- Country: India)	Ahirwar	Kumar	Vivek
Validator/Verifier Trainee	Jha	NA	Monika

Table No 03: The Technical Reviewer Team comprises of:

Role/Qualification of Technical Team	Last Name	Middle Name	First Name
Technical Reviewer & Technical Expert TA 1.2	Kathuria	NA	Sunil

1.4 Summary Description of the Project

The project activity is a Wind Power Generation project of total capacity 50.4 MW, installed and currently operational at Bhimasamudra site in Chikkandavadi and Kallavanagathihalli village, Chitradurga District of Karnataka in India. The project activity has been connected to Unified Indian Grid (previously it was as Southern Grid) through sub-stations owned and maintained by the state electricity utility (BESCOM/KPTCL).

Nuziveedu Seeds Limited had made an application for conversion to private company under section 31(1) of the companies act and received approval from central government for name change as “Nuziveedu Seeds Private Limited” on 26-June-2008. In continuation to that, on 16-June-2010, the central government approved for the name change as “NSL Renewable Power Private Limited” (hereafter referred as NSL) in line with section 21 of the companies act-2013.

Difference in project title capacity (51MW) and actual installed capacity of project (50.4 MW):

On 10-December-2007, NSL issued a purchase order to Regen Power Private Limited (RPPL) for the supply of 34 Wind Turbine Generators (WTGs), each with a capacity of 1.5 MW, totalling 51 MW. RPPL delivered 9 WTGs on schedule but could only provide 19 out of the remaining 25 WTGs, notifying NSL on 12-September-2009, that the balance 6 WTGs would be delayed until after June 2010. In response to RPPL's delay, NSL opted to substitute 6 of the Regen WTGs with 4 WTGs from Suzlon, each with a capacity of 2.1 MW. Consequently, NSL placed a new purchase order with Suzlon Energy Limited (SEL) for these 4 WTGs. As a result, the current capacity stands at 50.4 MW, which is lower than the capacity mentioned in the title. PP was developing the project under CDM² and received HCA with the same title. PP used the same

² <https://cdm.unfccc.int/Projects/Validation/DB/69J8TNRR5CNV4D9LWCAG623YGZQ03F/view.html>

title for consistency between their CDM and VCS project. The project was webhosted in CDM but not proceeded for any further developments. Hence VKU confirms that through previous Joint validation & verification /04/ and verification reports/05/ and registered and approve VCS joint PD & MR/03/ that the project has lower actual installed capacity of 50.4 MW than the titled 51MW (proposed) and it is claiming emission reduction for 50.4 MW capacity only. Henceforth in VKU's opinion this would not lead to any overestimation of either baseline or the emission reductions.

The Project WTGs are currently operational and had successfully completed 10 years of first crediting period under VCS (first crediting period was from 06-June-2008 to 05-June-2018). It has been functioning at Bhimasamudra site in Chikkandavadi and Kallavanagathihalli village, Chitradurga District of Karnataka in India. This has been verified against registered VCS Joint Project Description and Monitoring Report version 03 dated 05-February-2019/03/ and commissioning certificates/25/ & onsite visit. The first machine under the project activity was commissioned on 06-June-2008 and last machine under the project activity was commissioned on 30-September-2011.

Wind Power Project Technology Details

The technology employed, converts Kinetic energy to mechanical energy and then converts it into electrical energy. The technology is an environment friendly technology since there are no GHG emissions associated with the electricity generation. There is no transfer of technology involved in the project activity.

Figure 01 Technical specification of the project are as follows: (Regen Turbines technical Specifications)

Parameters	Units
Rated power	1500 kW
Cut-in wind speed	3 m/s
(10 min. mean)	
Rated Wind Speed	approx. 13 m/s
(10 min. mean)	
Cut-out wind speed	22 m/s
(10 min. mean)	
Survival wind speed	52.5 m/s
Generator	Variable Speed, Multi-pole Synchronous with Permanent Magnet Excitation
ROTOR	
Diameter	77

Swept area	4637 sq.m
Speed range (variable)	9 to 17.3 rpm
Number of blades:	3
Power control	Pitch
TOWER AND FOUNDATION	
Hub height	85 m
Design	Tubular, Four sections
Foundation type	Floating foundation
CONTROL AND SAFETY SYSTEMS	
Control of output	Pitch Regulation
Speed control	Variable, Micro-controller based
Low Voltage Ride Through (LVRT)	3 seconds
Primary brake system	Aerodynamic Brake, Single Pitch Control/triple redundant
Pitch System	Electromechanical, Maintenance Free Toothed Belt Drive (Patented)
Remote Monitoring	VPN, Visualization via web-browser
TYPE CLASSES	
Wind turbine type class	GL III A
ReGen Turbine DP yard transformer	1800KVA/690V

Figure 02: MW technical data:

Power	
Rated power:	2,100.0 kW
Cut-in wind speed:	4.0 m/s
Rated wind speed:	14.0 m/s
Cut-out wind speed:	25.0 m/s
Survival wind speed:	59.5 m/s
Rotor	
Diameter:	88.0 m
Swept area:	6,082.0 m ²

Number of blades:	3
Rotor speed, max:	15.5 U/min
Tipspeed:	71 m/s
Material:	GFK / Epoxy
Power density 1:	345.3 W/m ²
Power density 2:	2.9 m ² /kW
Gear box	
Type:	spur/planetary
Stages:	3
Ratio:	0.110416667
Manufacturer:	Winergy
Generator	
Type:	Asynchronous
Speed, max:	1,830.0 U/min
Voltage:	690.0 V
Grid connection:	Flexi slip
Grid frequency:	50.0 Hz
Tower	
Hub height:	80.0 m
Type:	Steel tube
Shape:	conical
Corrosion protection:	painted
Suzlon Turbine DP yard Transformer:	2500KVA/620V

By implementing the project activity, the following GHG sources of emissions are reduced/avoided:

Baseline/Source	Generation of electricity by fossil fuel- dominated grid
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	connected power plants
Project Equipment/Sink	The avoidance of GHG emission into the atmosphere is due to generation of electricity by renewable means i.e., Wind Turbine Generators of this project and exporting to Unified Indian Grid which is in line with 3.1.1 of ISO:14064 part -2
Baseline GHG emission source reduced/avoided	CO ₂ emissions from fossil fuels and other fuel fired grid connected plants/projects.

As per MR/01/, the electricity generated from the project is supplied to the state grid system which is under the purview of the Unified Indian Grid which is confirmed by Assessment team through registered VCS Joint Project Description and Monitoring Report Version 03 dated 05-February-2019/03/ Group credit notes/B-forms/22/ issued by BESCO (Bangalore Electricity Supply Company Limited) and Invoices raised by PP to BESCO (Bangalore Electricity Supply Company Limited) /23/ and, last verification report/05/ and interview with PP/35/.

The net electricity generated by the project activity that was evacuated to the grid during the current monitoring period (7th monitoring period) of 01-January-2023 to 31-December-2023 (inclusive of both the dates) is **74,969.772 MWh** accounting to total emission reductions of **71,033 tCO₂e**.

2 VERIFICATION PROCESS

The registered VCS project “51 MW Wind Power Project at Chitradurga” (VCS ID 706) is undergoing seventh periodic verification of second crediting period and overall, thirteenth verification under VCS with VKU Certification Pvt Ltd from 01-January-2023 to 31-December-2023, (inclusive of both the dates). The second crediting period from 06-June-2018 to 05-June-2028 (inclusive of both the dates).

The approach adopted by VKU 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 /08/, VCS standard document version 4.6 /09/. The project activity does not fall under category “grouped projects”, hence no sampling methods was employed by the assessment team (AT) and during onsite visit /34/. AT reviewed 100% data for all the Wind Turbine Generators involved in this project at site for the verification of GHG emission reductions generated by the project.

- The GHG emission reductions are based on the approved Baseline and monitoring methodology ACM0002 “Grid-connected electricity generation from renewable sources” Version 19.0 /12/
- **Sectoral Scope:** 01 - Energy Industries (renewable /non-renewable sources)
- **Project type:** Type I - Renewable energy projects
- This is not a grouped and also a non-AFOLU project.

Tools used for GHG Calculations are as follows as per registered VCS Joint PD&MR/03/:

- Tool to calculate the emission factor for an electricity system, Version 07.0.0 /19/
-

Keeping in line with ISO (14064-3; 2019, clause 06/37/ & 14065-2020, clause 09/38/) Standard guidelines assessment team has framed down the process for completing the verification and has followed the same throughout the execution of audit of the said project VCS 706.

The verification consisted of the following phases.

1. **Planning and Intimation to VERRA about the Onsite audit:** AT started verification activities with a desk review and based on that assessment team decided to conduct an onsite audit of the project. AT submitted a Notice of Validation/Verification Services (NOVS) Form and submit it to auditing@verra.org. 15 business days before the initial opening meeting with the project proponent. The assessment team intimated Verra for this project activity on 06-February-2024. Decision to conduct an onsite visit was made by AT as per clause 4.1.13 of VCS standard version 4.6.
2. **Strategic Analysis:** Assessment team performed strategic analysis to understand the activities and complexity of the project, and to determine the nature and extent of the verification activities. The results of the strategic analysis shall be used in the risk assessment.
3. **Risk assessment:** Assessment team performed risk assessment of the GHG statement to identify the risk of a material misstatement or nonconformity with the criteria.
4. **Evidence gathering activities:** The assessment team has adopted a risk-based approach to develop evidence-gathering activities aimed at gathering adequate and relevant evidence to support conclusions. This process assesses whether the greenhouse gas (GHG) statement aligns with established criteria, considering the principles of applicable standards or GHG programs.
5. **Audit and sampling plan:** Including all sub-elements required for an integrated verification process aligned with the contract, scope, objectives, level of assurance and materiality, an audit plan for the onsite audit was prepared and the same was documented in VKU.F24W. Audit and Sampling Plan_VKU.VER.173.23_VCS_706. The audit plan was later shared with client before site visit.
6. **Evidence gathering plan:** The evidence-gathering plan is prepared based on the results of the VKU's Assessment Team's risk assessment. It was designed to lower the verification risk to

an acceptable level. · The evidence-gathering plan thus specify the type and extent of evidence-gathering activities.

7. **Document Review:** Relevant documents, such as the previous verification report, monitoring plan, methodology, VCS Joint PD & MR /03/ and QA/QC procedures are thoroughly reviewed.
8. **Onsite Assessment:** This includes interviews and evaluation of the actual project scenario through onsite audit. /34/
9. **Resolution of Discrepancies:** Any non-conformities identified during the assessment are addressed and resolved.
10. **Independent Review:** A technical reviewer provides an independent assessment for the project.
11. **Final Verification:** After completeness checks, the verification report and certification are issued.

The following sections outline each step in more detail.

2.2 Document Review

During document review, VKU has applied standard auditing techniques to assess the quality of information provided. The verification was performed primarily based on the review of VCS monitoring report for “51 MW Wind Power Project at Chitradurga.” Version 1.2 dated 22-June-2024 /01/ and the emission reduction calculations spreadsheet version 1.0 of 08-February-2024/02/. In addition, the registered VCS Joint Project Description and Monitoring Report-version 03 dated 05-February-2019/03/ has been reviewed in particular to assess the baseline estimations and the monitoring plan for the project. The following **table-04** lists the documentation that was reviewed during the verification.

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 is 5% percent, as required by clause 4.1.10 of the VCS Standard version 4.6/9/ . It was concluded that the materiality threshold applicable to the project activity based on actual emission reductions achieved is 5% of 71,033 tCO₂e which is equal to 3,551.65 tCO₂e.

As per section 3.26 and clause 3.26.2 and 3.26.3 of the VCS Standard version 4.6/9/ it is an obligation for the project proponent to make available to the assessment team the required supporting documents and data needed to support statements and data as documented in the monitoring report. Thus, the assessment team reviewed the following documents during verification:

Table No: 04; Lists of the documentation that were reviewed during the current verification:

Current Verification Reference Documents	
/1/	VCS monitoring report for “51 MW Wind Power Project at Chitradurga.” In India,

	Prepared by M/s. NSL Renewable Power Private Limited - Version 1.0 of 12-February-2024 - Version 1.1 of 16-April-2024 - Version 1.2 of 22-June-2024
/2/	Emission Reduction Calculation Spreadsheet, prepared by M/s. NSL Renewable Power Private Limited Version 1.0 of 08-February-2024
Background Documents/Weblinks	
/3/	<u>Registered VCS PD for the project "51 MW Wind Power Project at Chitradurga" Version 05 dated 31-May-2010</u> <u>Registered VCS Renewable Crediting period Joint PD & MR- for the project "51 MW Wind Power Project at Chitradurga" Version 03 dated 05-February-2019</u>
/4/	<u>LGAI Technological Center, S.A (Applus+ Certification): VCS Joint Validation and verification- Report: 51 MW Wind Power Project at Chitradurga., Version 01, dated 10-February-2016</u>
/5/	VKU Certification Pvt. Ltd: Verification Report: 51 MW Wind Power Project at Chitradurga., Version 1.1, dated 28-September-2023 covering monitoring period- 01-May-2022 to 31-December-2022 (inclusive of both the dates)
/6/	VCS program Definitions (Version 4.4) of 29-August-2023
/7/	Registration-and-Issuance-Process-v4.4-last-updated-4-Oct-2023.
/8/	VCS: VCS Program Guide, version 4.4 of 29-August-2023
/09/	VCS- VCS-Standard-version 4.6. of 21-March-2024
/10/	<u>Validation and verification manual version 3.2 dated 19-October-2016</u>
/11/	<u>CDM Validation and Verification Standard version 3.0 dated 09-September-2021</u>
/12/	<u>CDM Executive Board: Baseline and Monitoring Methodology "ACM0002: Grid-connected electricity generation from renewable sources- version 19.0</u>
/13/	<u>VERRA: Project search</u>
/14/	Central Electricity Authority (Installation and Operation of Meters) Regulations Notified on 17-March-2006 <u>No. 502/70/CEA/DP&D</u> Amendments Notified on 26-June-2010 <u>No. 502/6/2009/DP&D/D-I</u> <u>https://cea.nic.in/wp-content/uploads/2020/02/meter_reg.pdf</u> <u>Metering Regulations Archives - Central Electricity Authority (cea.nic.in)</u>

/15/	<u>Renewable Energy Certificate Registry of INDIA – Registered RE Generator List (recregistryindia.nic.in)</u>
/16/	<u>I-REC Standard – The International REC Standard Foundation (irecstandard.org)</u>
/17/	<u>Gold Standard Foundation</u>
/18/	<u>EIA NOTIFICATION dated 14-September-2006</u>
/19/	<u>Tool to calculate the emission factor for an electricity system, Version 07.0</u>
/20/	<u>CO₂ Baseline Database for the Indian Power Sector</u>
/21/	<u>Ministry of Environment, Forest and Climate Change (MoEF&CC) Notification dated 14-September-2006 (S.O. 1533I)</u>
Reference/Supporting documents submitted by PP to VVB	
/22/	JMRs/B-Forms Issued by Bangalore Electricity Supply Company Limited (BESCOM) to PP i.e., NSL Wind Power Company Private Limited for entire Monitoring period from- 01-January-2023 to 31-December-2023 (inclusive of both the dates)
/23/	Invoices issued by PP to DISCOM i.e., Bangalore Electricity Supply Company Limited (BESCOM)
/24/	Letter of declaration from PP regarding not having created or sought any other form of environmental credit for the current verification period (01-January-2023 to 31-December-2023, inclusive of both start and end dates)
/25/	Commissioning Certificates of all 32 Machines (Wind Turbine Generators) of the project activity issued by Bangalore Electricity Supply Company Limited.
/26/	ReGen Power Tech Private Limited: Technical Specifications of Wind Turbine Generators (WTGs) Suzlon: Technical Specifications of Wind Turbine Generators (WTGs)
/27/	Certificates of Calibration for all the energy meters for the project activity active during current monitoring period (01-January-2023 to 31-December-2023, inclusive of both start and end dates) issued by Bangalore Electricity Supply Company Limited (Wholly owned government of Karnataka undertaking).
/28/	Wind Energy Purchase Agreement between M/s NSL Wind Power Company (Satara) Pvt Ltd and Bangalore Electricity Supply Company Limited
/29/	Grievance Register/Grievance-Resolution Letters present on project implemented site; more information related to the same has been included in

	<u>Section 4.2.2</u> of this report
/30/	Employment Record
/31/	HR Policy and health and safety policy
VVB Documents used during Current Verification	
/32/	GPS Google earth software used for Location; <u>Google Earth</u>
/33/	<u>GPS Map Camera: Geotag Photos & Add GPS Location</u>
/34/	Onsite visit on 27-February-2024 to Project implemented site i.e. Bhimasamudra site in Chikkandavadi and Kallavanagathihalli village, Chitradurga District of Karnataka in India. On-site Visit Photographs/Evidences
/35/	Personnel Interviews and Focussed Group Discussions during onsite visit dated 27-February-2024 detailed in <u>section 2.3</u> of this report. as recorded by VKU Assessment Team i.e., VKU Certification Pvt Ltd during onsite visit in a form called as VKU.F46W. Attendance Sheet of Onsite Audit_VKU.VER.173.23_VCS_706
/36/	VKU Certification Pvt. Ltd : VKU.SOP.04. Process Requirements
/37/	<u>ISO 14064-3:2019: Greenhouse gases – Part 3: Specification with guidance for the verification and validation of greenhouse gas statements</u>
/38/	<u>ISO 14065:2020: General principles and requirements for bodies validating and verifying environmental information</u>
/39/	<u>ISO 17029:2019: Conformity Assessment General Principals and requirements for validation and verification bodies</u>

2.3 Interviews

An on-site inspection/34/ was performed by the assessment team. The representatives of the PP were interviewed personally by assessment team on 27-February-2024; i.e., Tables 05 & 06 provide a comprehensive overview of the onsite interview process/35/ conducted during the verification. 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 Key personnel interviewed during the opening meeting and closing meeting session of the onsite audit, and the main topics of the interviews are summarized in the table below:

Table no: 05: Details of Personnel Interview

S.no	Name	Gender	Designation	Topic of Discussion	Date and time of interviews
1	M. Venkat	Male	Sr. Manager (NSL Renewable Power)	Implementation of the project, Baseline emission, Emission reduction calculation,	Date- 27-february-2024 Time- Start time- 10:30 A.M to End time- 11:30 A.M.
M	Ramesh. B	Male	Assistant Manager (NSL Renewable Power)	Technical description of the project and monitoring along with QA/QC SCADA, Breakdown details and maintenance of generation records	
3	Girish Gowda	Male	Asst. Account & Finance & Plant In-charge (NSL Renewable Power)	Data recording, management and archiving procedure	

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 and archiving procedures. The assessment was based on the feedback received during onsite interview/35/ coupled with the documentation.

During Onsite Visit/34/, local stakeholders involved in the projects /35/ have been also interviewed to verify implementation of grievance mechanism and process of its resolution, as mentioned in the Monitoring report/01/ (refer section 1.11, & 2.2 of MR/01/). It also included confirmation of sustainable development claims and verification of the socio-economic impact made by the project on the local community. Assessment team also checked the records and observed that the PP provided opportunities for the locals to express their opinions and grievances, Project developed has put efforts to resolve any issues through effective communication & consultation with stakeholders. Assessment team could verify & confirm all the above statements via focussed group discussions and personal interview/35/ with stakeholders as tabulated below:

Table no: 06: Details of Stakeholder's Interviews

S.no	Name	Gender	Category	Topic of Discussion	Date and time of interviews
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1	Thippe Swamy. S	Male	Local Stakeholder	Execution of Project activity and its impact on the economic, social and environmental parameters on the local people of the area & around the situated project activity	Date- 27-february-2024 Time- Start Time: 12:30 P.M to End time: 1:15 P.M.
2.	Chikkappa .C	Male			
3.	Akshay Magdum	Male		The ongoing communication procedure and the address of their grievance mechanism followed by the project proponent	
4.	Vignesh Naik	Male			
5.	Nawaz. S.G	Male		Scope and generation of employment in the locality due to the implementation of said project activity in the area. The ongoing trainings provided to the locals for self-employment.	

The VKU Assessment Team meticulously documented the information obtained during the interview with site personnel /35/. This data was recorded using 'VKU's dedicated form, specifically VKU.F46W, known as the Attendance Sheet of Onsite Audit/34/. Through a comprehensive process involving documentation, desk review, document verification, and interviews with site personnel and local stakeholders, VKU Assessment Team affirms that no negative comments were received during the on-site interviews conducted by the team. For further details, please refer to section 4.2.2 of this report.

2.4 Site Visits

Site Location visited:

Location: Village – Bhimasamudra site, Chikkandavadi and Kallavanagathihalli in District- Chitradurga of State- Karnataka, Country- India. The latitude and longitude were cross checked via google earth/32/ by the assessment team during desk review. Further, during onsite visit assessment team verified the location via GPS map camera/33/and checked the coordinates for WTGs.

Table no. 07: Project Location along with longitude and latitude is mentioned below:

WTG HT SC No	Location No	Village	District	State	Latitude	Longitude
1	HK 1	Chikkandavadi	Chitradurga	Karnataka	N14 11 02.7	E76 12 32.2
2	HK 2	Chikkandavadi	Chitradurga	Karnataka	N14 10 49.7	E76 12 25.7
3	HK 3	Chikkandavadi	Chitradurga	Karnataka	N14 10 42.1	E76 12 26.8
4	HK 4	Chikkandavadi	Chitradurga	Karnataka	N14 10 33.7	E76 12 26.6
5	HK 5	Chikkandavadi	Chitradurga	Karnataka	N14 10 23.2	E76 12 26.0
6	HK 6	Chikkandavadi	Chitradurga	Karnataka	N14 10 08.8	E76 12 25.6
7	HK 7	Chikkandavadi	Chitradurga	Karnataka	N14 10 00.7	E76 12 25.0
8	HK 8	Chikkandavadi	Chitradurga	Karnataka	N14 09 53.1	E76 12 23.3
9	HK 9	Chikkandavadi	Chitradurga	Karnataka	N14 09 45.3	E76 12 22.1
10	HK 10	Kallavanagathihalli	Chitradurga	Karnataka	N14 13 10.6	E76 08 43.7
11	HK 11	Kallavanagathihalli	Chitradurga	Karnataka	N14 12 43.4	E76 08 39.2
12	HK 12	Kallavanagathihalli	Chitradurga	Karnataka	N14 12 23.0	E14 12 23.0 7
13	HK 13	Kallavanagathihalli	Chitradurga	Karnataka	N14 12 18.9	E76 09 02.5
14	HK 14	Kallavanagathihalli	Chitradurga	Karnataka	N14 12 12.5	E76 09 07.5
15	HK 15	Kallavanagathihalli	Chitradurga	Karnataka	N14 12 06.4	E76 09 11.9
16	HK 16	Kallavanagathihalli	Chitradurga	Karnataka	N14 11 59.5	E76 09 16.8
17	HK 17	Kallavanagathihalli	Chitradurga	Karnataka	N14 11 37.0	E76 09 38.3
18	HK 18	Kallavanagathihalli	Chitradurga	Karnataka	N14 11 30.3	E76 09 43.3
19	HK 19	Kallavanagathihalli	Chitradurga	Karnataka	N14 11 24.4	E76 09 48.0
20	HK 20	Kallavanagathihalli	Chitradurga	Karnataka	N14 11 16.6	E76 09 50.9
21	HK 21	Kallavanagathihalli	Chitradurga	Karnataka	N14 11 10.9	E76 09 56.4
22	HK 22	Kallavanagathihalli	Chitradurga	Karnataka	N14 11 04.4	E76 09 59.9
23	HK 23	Kallavanagathihalli	Chitradurga	Karnataka	N14 10 57.8	E76 10 03.4
24	HK 24	Kallavanagathihalli	Chitradurga	Karnataka	N14 10 41.1	E76 10 39.9
25	HK 25	Kallavanagathihalli	Chitradurga	Karnataka	N14 10 34.0	E76 10 44.3
26	HK 26	Kallavanagathihalli	Chitradurga	Karnataka	N14 10 26.9	E76 10 47.8
27	HK 27	Kallavanagathihalli	Chitradurga	Karnataka	N14 10 19.8	E76 10 51.3
28	HK 29	Kallavanagathihalli	Chitradurga	Karnataka	N14 10 02.1	E76 11 14.3
29	HK 30	Kallavanagathihalli	Chitradurga	Karnataka	N14 09 55.0	E76 11 18.0

30	HK 31	Kallavanagathihalli	Chitradurga	Karnataka	N14 09 48.9	E76 11 23.0
31	HK 32	Kallavanagathihalli	Chitradurga	Karnataka	N14 09 42.0	E76 11 26.8
32	HK 33	Kallavanagathihalli	Chitradurga	Karnataka	N14 09 35.0	E76 11 30.4

Decision to take site visit was based on independent risk assessment as defined in section 4.1.13 of VCS standard version 4.6/09/.

An On-site visit was undertaken by the assessment team to the project location identified in the MR/01/ on 27-February-2024/34/, to carry out the following;

- An assessment of the implementation and operation of the registered project activity as per the registered VCS Joint PD & MR Version 03 dated 05-February-2019/03/ and VCS MR/01/.
- A review of information flows used to generate, aggregating and reporting the monitoring parameters.
- Interviews/35/ with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the registered VCS Joint Project Description (PD) and Monitoring Report (MR) version 03 dated 05-February-2019/03/.
- A cross check between information provided in the monitoring report/01/ and data from other sources such as plant generation log books, inventories, purchase records or similar data sources.
- A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the VCS Joint PD & MR Version 03 dated 05-February-2019/03/ the applied methodology including applicable tool(s), and where applicable, the applied standardized baseline.
- 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 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 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.

Keeping in line with the Clauses 4.1.21 of the VCS Standard Version 4.6/09/, Assessment team has documented a summary of total **05 findings (00 FARs, 03 CLs and 02 CARs)** were raised during this verification which were closed successfully and details are provided under Appendix 3 of this report.

2.5.1 Forward Action Requests

Based on the review of the VCS Joint Validation and Verification Report/04/ and previous VCS Verification Report /05/ assessment Team confirms that no FAR has been found to be raised during Validation and previous Verification which needs to be closed during this verification and **no FAR has been raised during current verification, (01-January-2023 to 31-December-2023; Inclusive of both the dates).**

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 /35/ during site visit/34/

Assessment team assessed the VERRA's website on 24-June-2024 : <https://verra.org/validation-verification/vku-certification-pvt-ltd/#vcs> wherein the scope of services of VKU Certification Pvt. Ltd. is mentioned as verification.

Thus, ensuring that the accreditation details mentioned in FVR is consistent and correct.

3 VALIDATION FINDINGS

3.1 Methodology Deviations

No activities of methodology deviation have been identified throughout the current monitoring period from 01-January-2023 to 31-December-2023 (Inclusive of both the dates), signifying the adherence and compliance of the project to the prescribed methodologies. Furthermore, it is noteworthy that no methodology deviations were observed during the previous Joint Validation and Verification/04/ & and previous VCS Verification/05/ processes which were confirmed from the VCS Validation & Verification report /04/ and previous VCS Verification reports/05/, affirming the project's steadfast commitment to upholding the designated methodologies and ensuring accurate and reliable results.

3.2 Project Description Deviations

During the current monitoring period from 01-January-2023 to 31-December-2023 (Inclusive of both the dates), no discrepancies or deviations in the project description have been identified. This finding aligns with the absence of any deviations tracked during the VCS Joint Validation-Verification /04/ and previous Verification/05/. To ensure accuracy and compliance, the assessment team cross-references the project webpage /13/ VCS Joint Validation-Verification Report/04/ and previous Verification Report/05/ to verify the consistent and accurate representation of the project's description.

3.3 New Project Activity Activities in Grouped Projects

This is not a grouped project. Therefore, this section is Not Applicable

3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes ☒ No

VKU's assessment team conducted the seventh verification of the second crediting period (**06-June-2018 to 05-June-2028: inclusive of both the dates**), & overall thirteenth periodic verification of the project activity for the current monitoring period from 01-January-2023 to 31-December-2023, inclusive of both the dates. Based on the on-site audit of the project/34/ and desk review of the Joint project description & Monitoring report/03/, assessment team confirms that project did not go baseline reassessment during this monitoring period

4 VERIFICATION FINDINGS

4.1 Project Details

Audit history				
Audit Type	Period	Program	VVB Name	Number of years
Validation	06-June-2008 to 05-June-2018 ³	VC S	Perry Johnson Registrars CDM Inc.	10 Years
Verification	06-June-2008 to 30-June-2010	VC S	Perry Johnson Registrars Carbon Emissions Services, Inc.	02 Years 00 Months 25 Days
Verification	01-July-2010 to 30-September-2012	VC S	Bureau Veritas Certification	02 Years 03 Months 00 Days
Verification	01-October-2012 to 31-December-2013	VC S	Bureau Veritas Certification Holding Sas	01 Years 03 Months 00 Days

³ All the dates are inclusive of both start and end dates.

	Verific ation	01- January- 2014 to 29- February -2016	VC S	LGAI Technolo gical Center, S.A. (Applus+ Certificat ion)	02 Years 02 Months 00 Days
	Verific ation	01- March- 2016 to 31- October- 2017	VC S	LGAI Technolo gical Center, S.A. (Applus+ Certificat ion)	01 Years 08 Months 00 Days
	Verific ation	01- Novemb er-2017 to 05- June- 2018	VC S	Earthood Services Pvt. Ltd.	00 Years 07 Months 05 Days
	Joint Valida tion & Verific ation	06-June- 2018 to 30- Septemb er-2018	VC S	Earthood Services Pvt. Ltd.	00 Years 03 Months 25 Days
	Verific ation	01- October- 2018 to 31- October- 2019	VC S	LGAI Technolo gical Center, S.A. (Applus+ Certificat ion)	01 Years 01 Months 00 Days

	Verific ation	01- Novemb er-2019 to 31- October- 2020	VC S	LGAI Technolo gical Center, S.A. (Applus+ Certificat ion)	01 Years 00 Months 00 Days
	Verific ation	01- Novemb er-2020 to 31- August- 2021	VC S	LGAI Technolo gical Center, S.A. (Applus+ Certificat ion)	00 Years 10 Months 00 Days
	Verific ation	01- Septemb er-2021 to 30- April- 2022	VC S	VKU Certificat ion Pvt. Ltd.	00 Years 08 Months 00 Days
	Verific ation	01-May- 2022 to 31- Decemb er-2022	VC S	VKU Certificat ion Pvt. Ltd.	00 Years 08 Months 00 Days
	Verific ation	01- January- 2023 to 31- Decemb er-2023 ⁴	VC S	VKU Certificat ion Pvt. Ltd.	01 Year 00 Months 00 Days

⁴ Current verification i.e., 7th verification of the second crediting period and overall periodic 13th verification

Total	06-June-2008 to 31-December-2023	=	=	16 Years 06 Months 26 days
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Evidence gathering activities: Keeping in line with the requirements stated in ISO 14064-3: 2019 (E) section 6.1.3 & program requirement/38/, the assessment team has performed desk-review to confirm the duration of the current monitoring period, the last monitoring period & the crediting period of this project activity. Apart from the desk-review the VVB also confirmed the audit history while performing the personnel interview & focussed grouped discussion with PP during onsite audit/36/.

Evidence Checked: While contracting VKU to perform this verification, PP shared the details for the project activity including audit history i.e., (Details of crediting period, monitoring period & number of verification) thus initially itself VKU confirmed the audit history by cross-checking with the registered VCS Joint PD&MR /03/ & Joint Validation and Verification report/04/ already approved by Verra and are accessible to the VVB on [Verra's webpage/13/](#).

Assessment team conclusion: Assessment team would like to conclude that the above stated activities performed and evidences collected to confirm the audit history is in-line with the ISO 14064-03 /38/& VCS standard version 4.6 requirements/09/ which is deemed accurate and satisfactory to VKU's assessment team.

Item	Evidence gathering activities, evidence checked, and assessment conclusion:
Double counting and participation under other GHG programs	Evidence Gathering Activities: Project's GHG Program Status, Cross-Verification of GHG Benefits & Rejection by other GHG programs: The project has not applied under any other GHG program except VCS for current monitoring period, 01-January-2023 to 31-December-2023 (inclusive of both the dates). The project is registered under VCS only with project ID 706. This was

	confirmed by checking VERRA registry website/13/ and similar exercise was performed for CDM/GS/GCC/UCR registries with similar project title/capacity and Project Proponents but the assessment team was not able to trace any such project registered under any of the above stated registries or under any other similar mechanisms. Similarly, an exercise of independently searching for such project registration or claim for current monitoring period was performed for other GHG related benefits & based on both independent assessment and declaration submitted by PP/24/, the assessment team accepted the claim that there is no double counting from this project activity for current monitoring period. Evidence Checked: The Project is not rejected by other GHG programs. A declaration/24/ for the same is checked and found correct by the assessment team. Assessment team's Conclusion: The assessment team has also cross-checked the issuance records available on the Verra website/13/ and thus confirmed & ensured that the emission reduction generated from the project activity are not & will not be double counted hence accepted by the assessment team.
No double claiming with emissions trading programs or binding emission limits	Evidence Gathering Activities: The project is not included in an emissions trading program or any other mechanism that includes GHG allowance trading. Evidence Checked: Verification through Declaration: The PP declares through the declaration/24/ that Net GHG emission reductions generated by the Project will not be used for compliance with an emissions trading program or to meet binding limits on GHG emissions in any Emission Trading program or other binding limits any specific monitoring period under two mechanisms. Assessment team's Conclusion: The assessment team confirms that 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.
No double claiming with other forms of environmental credit	Evidence Gathering Activities: The project has not sought or received another form of GHG-related environmental credit.

	Issuance Records Confirmation: The assessment team cross-checked the issuance records available on the Verra website and thus confirmed & ensured that the emission reduction generated from the project activity are not & will not be double counted hence accepted by the assessment team Evidence Checked: Self Declaration- Assessment team cross-checked the self- declaration/24/ submitted by PP for no double claiming. Assessment team's Conclusion: The assessment team confirms that there is No double claiming with other forms of environmental credit by the project activity.
Supply chain (scope 3) emissions double claiming	Evidence Gathering Activities: Since, 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. Evidence Checked: Verification through Declaration: The PP declares through the declaration /24/ that the project does not involve any supply chain (scope 03) emissions. Assessment team's Conclusion: As per clause 3.24.7 of VCS standard version 4.6 "Where the project proponent(s) or authorized representative is a buyer or seller of a product (i.e., a good or service) that is in a supply chain and whose product emissions footprint is changed by the project activities specified in the project description, ..." assessment team concluded that the project activity is wind power project for which the product is electricity, which does not affect the emission footprint of any product that are part of a supply chain. This is deemed acceptable to the VVB.
Sustainable development contributions	Evidence Gathering Activities: As per the VCS Standard Version 4.6 of Appendix 03/09/: Document History and Effective dates, For V4.2, serial number 04 states that "it is required by project proponents to demonstrate contributions to a minimum of three SDGs in all monitoring reports verified after the effective date. Effective immediately for all projects that request registration

on or after 20-January-2023. Projects that request registration before 20-January-2023 shall demonstrate contributions to at least three SDGs by 20- January-2025” This is the seventh verification of second crediting period and overall periodic thirteenth verification for the monitoring period 01-January-2023 to 31-December-2023 (Inclusive of both the dates), Since this project is registered before 20-January-2023, so the Project Proponent (PP) must demonstrate contributions to at least three SDGs by 20-January-2025. For the current monitoring period, the PP is voluntarily showing contributions to 02 SDGs, as indicated below:

SDG Target: 7.2.1; Renewable energy share in the total final energy consumption: As a part of this project activity

Audit type	Period	No. of Years	Electricity exported
Verification	06-June-2008 to 30-June-2010	02 Years 00 Months 25 Days	61267.447 MWh
Verification	01-July-2010 to 30-September-2012	02 Years 03 Months 00 Days	242,144.74 MWh
Verification	01-October-2012 to 31-December-2013	01 Years 03 Months 00 Days	137,740.97 MWh
Verification	01-January-2014 to 29-February-2016	02 Years 02 Months 00 Days	202,478 MWh
Verification	01-March-2016 to 31-October-2017	01 Years 08 Months 00 Days	159,376 MWh
Verification	01-November-2017 to 05-	00 Years 07 Months 05 Days	37,119 MWh

		June-2018		
	Joint Validation & Verification	06-June-2018 to 30-September-2018	00 Years 03 Months 25 Days	50,657 MWh
	Verification	01-October-2018 to 31-October-2019	01 Years 01 Months 00 Days	70,165 MWh
	Verification	01-November-2019 to 31-October-2020	01 Years 00 Months 00 Days	60,248 MWh
	Verification	01-November-2020 to 31-August-2021	00 Years 10 Months 00 Days	57,411.957 MWh
	Verification	01-September-2021 to 30-April-2022	00 Years 08 Months 00 Days	15,914.767 MWh
	Verification	01-May-2022 to 31-December-2022	00 Years 08 Months 00 Days	39,530.874 MWh
	Verification	01-January-2023 to 31-December-2023 ⁵	01 Year 00 Months 00 Days	74,969.772 MWh
	Total		16 Years 06 Months 26 days	1,209,022.996 MWh

⁵ Current verification i.e., 7th verification of the second crediting period and overall periodic 13th verification

1,209,022.996 MWh Net renewable electricity has been exported to Indian grid that helps to strengthen the renewable energy share in the energy mix. In the current monitoring period i.e. 01- January-2023 to 31-Decemeber-2023 (Inclusive of both the dates) project has exported 74,969.772 MWh energy to the grid. VKU Assessment Team has referred monitoring report for current monitoring period/01/ and checked previous verification reports/05/ for cross verifying monitoring report. Further emission reduction sheet/02/ which were cross verified from JMRs/B-Forms/22/ & cross verified via Invoices/23/submitted to the VKU Assessment Team and thus found that the above claimed renewable electricity supplied to Indian grid is correct.

Evidence Checked: VVB has referred previous verification reports approved by VERRA /05/, JMRs/22/, Invoices/23/

Assessment team's Conclusion: VKU found the above claimed renewable electricity supplied to Indian grid is correct and deemed satisfactory.

SDG Target: 8.5.1; Employment Generation from the project

Activity: Due to installation of the project activity PP has provided direct employment to more than 10 people in project implemented area. VKU Assessment Team has referred the employment records submitted by the PP and focused group discussions/interviews/35/. However, project proponent is not claiming this SDG benefit. Hence, PP did not quantify the same in MR/01/ which is found to be correct by VKU.

SDG Target: 13.2.1; Tonnes of greenhouse gas emissions avoided or removed:

Due to installation of this project activity i.e., Wind Turbine generators (WTGs) PP has prevented the release of 71,033 tCO₂e – into the atmosphere during current monitoring period i.e. 01-January-2023 to 31-December-2023 (Inclusive of both the dates).

Audit type	Period	No. of Years	Emission Reduction
Verification	06-June-2008 to 30-June-2010	02 Years 00 Months 25 Days	57,893 tCO ₂ e
Verification	01-July-2010 to 30-	02 Years 03 Months 00	228,851.00 tCO ₂ e

		September-2012	Days	
	Verification	01-October-2012 to 31-December-2013	01 Year 03 Months 00 Days	130,179 tCO2e
	Verification	01-January-2014 to 29-February-2016	02 Years 02 Months 00 Days	191,361 tCO2e
	Verification	01-March-2016 to 31-October-2017	01 Year 08 Months 00 Days	150,626 tCO2e
	Verification	01-November-2017 to 05-June-2018	00 Years 07 Months 05 Days	35,081 tCO2e
	Joint Validation & Verification	06-June-2018 to 30-September-2018	00 Years 03 Months 25 Days	47,875 tCO2e
	Verification	01-October-2018 to 31-October-2019	01 Years 01 Months 00 Days	66,481 tCO2e
	Verification	01-November-2019 to 31-October-2020	01 Years 00 Months 00 Days	57,085 tCO2e
	Verification	01-November-2020 to 31-August-2021	00 Years 10 Months 00 Days	54,397 tCO2e
	Verification	01-	00 Years 08	24,802

		September-2021 to 30-April-2022	Months 00 Days	tCO2e
	Verification	01-May-2022 to 31-December-2022	00 Years 08 Months 00 Days	37,455 tCO2e
	Verification	01-January-2023 to 31-December-2023 ⁶	01 Year 00 Months 00 Days	71,033 tCO2e
	Total		16 Years 06 Months 26 days	1,153,119 tCO2e
Thus, proving that the project generates eco-friendly, GHG free power which contributes to sustainable development of the region. Evidence Checked: VVB referred previous verification reports (05), monitoring report for the current period (01), and emission reduction sheet (02). They cross-checked these with JMRs (22) and Invoices (23) submitted. Assessment team's Conclusion: VKU concluded that the claimed tonnes of greenhouse gas emissions avoided is correct.				
Additional information relevant to the project		The assessment team confirms that as per information provided in the monitoring report/01/ submitted by the PP to the VVB no commercially sensitive information has been excluded from the public versions of project documents & thus conforms with the VCS Program requirements on what may be excluded. The information was cross-checked by interviewing the PP representative during the personal interviews.		

4.2 Safeguards and Stakeholder Engagement

⁶ Current verification i.e., 7th verification of the second crediting period and overall periodic 13th verification

4.2.1 Stakeholder Identification

There has been no change in the stakeholder's make up since validation. Hence, as per the filling guideline of VCS verification report v4.6 “(the stakeholder makeup table below is describing i) the evidence gathering activities for each item, ii) the evidence checked, and iii) the conclusion of the assessment of the project's conformance with the relevant VCS Program requirements. The below table is not applicable for the current monitoring period.

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Stakeholder identification	At the time of validation, the stakeholders were identified. NSL identified the following local stakeholders to be associated with the project activities, directly or indirectly. The typical groups of the stakeholders identified are • Karnataka State Pollution Control Board • Employees of the KPTCL • Local people • Farmers • WEG Contractors All the stakeholders were informed about the agenda, venue and date of the meeting through notices issued 15 days prior to the meeting. Further, a project concept note, which gives a clear idea on the project activity including the measures taken under the project and the benefits achieved by the project, was also issued along with the notice as information to the concerned stakeholders. Evidence Gathering Activities: Onsite audit by performing site personnel and stakeholder interview /34/ Evidence Checked: The accuracy and comprehensiveness of the information gathered through the Stakeholder Identification were verified by cross-checking with interview/focussed group discussions /35/ with relevant stakeholder volunteered during the onsite audit conducted by the VVB. Onsite audit was conducted to corroborate the findings from desk-based research with the registered PD. Assessment Conclusion: Based on the verification through the Stakeholder Interviews, the Validation and Verification Body (VVB) has identified and documented the key stakeholders associated with

	the project. The analysis undertaken by PP during validation has provided insights into the interests, concerns, potential risks, and conflicts of interests surrounding the stakeholders, as well as the relationships and mechanisms that may influence their involvement or impact on the project. The VVB has evaluated the potential impacts of the project on the identified stakeholders and their respective interests. Recommendations have been made to address the concerns and mitigate the risks associated with the stakeholders, including measures to facilitate effective communication, consultation, and collaboration with the relevant stakeholder groups throughout the project lifecycle. The VVB's conclusion ensures compliance with applicable regulations, standards, and best practices related to stakeholder engagement and management, aiming to promote transparency, inclusivity, and the responsible consideration of stakeholder interests in the project implementation.
Legal or customary tenure/access rights	There is no legal or customary tenure/access rights to territories and resources, including collective and conflicting rights, held by stakeholders, indigenous people (IPs), local communities (LCs), and customary rights holders. Evidence Gathering Activities: Onsite audit by performing site personnel and stakeholder interview /35/ Evidence Checked: Interviews/35/, As it's now the thirteenth verification year, the evidence from initial verification regarding land tenure and stakeholder consultations has been reviewed for continued validity at the time of project validations, VVB could only confirm the above stated information with the project proponent & stakeholders during the interview process and discussions conducted with them. Assessment Conclusion: Based on initial verification evidence and subsequent review, the VVB concludes: • No legal or customary tenure/access rights over territories and resources exist for stakeholders, IPs, LCs and rights holders for this VCS project. • The 51 MW wind plant uses mainly private land. No forest land is involved.

	Specific evidence on land parcel sales may not be available in the tenth verification year, as land acquisition was completed earlier at the time of validation. The VVB confirms ongoing compliance with VCS 4.6 standards on stakeholder engagement, land acquisition and tenure rights consideration based on evidence from initial verification
Stakeholder diversity and changes over time	The social, economic, and cultural diversity within stakeholder groups remained stable over time. Interactions between groups were consistent, and there were no significant changes in the composition of each group observed during the monitoring period. Evidence Gathering Activities: Onsite audit by performing site personnel and stakeholder interview /35/ Evidence Checked: interviews and focussed group discussion /35/ with PP and stakeholders related to changes in stakeholder diversity over time were conducted. AT also checked the data of <u>2011 census</u> of India to cross verify population of the area. While the 2021 Census of India data is not yet publicly available, the PP has relied on the continuous interactions and ongoing communication with stakeholders to monitor any significant changes in the composition of stakeholder groups during the monitoring period. Assessment Conclusion: The VVB acknowledges that the PP has maintained continuous interactions and ongoing communication with stakeholders to monitor any changes in the composition of stakeholder groups during the monitoring period. According to the information provided by the PP, the social, economic, and cultural diversity within stakeholder groups has remained stable over time, with no significant changes observed in the composition of each group during the monitoring period. The VVB's conclusion is based on the PP's ongoing stakeholder engagement efforts, ensuring compliance with relevant standards and best practices for monitoring and addressing potential changes in stakeholder dynamics.
Expected changes in well-being	In the baseline scenario, there are no alterations to the well-being or other characteristics of stakeholders. This includes the preservation of ecosystem services that stakeholders deem important.

	Evidence Gathering Activities: Onsite audit by performing site personnel and stakeholder interview /35/. Continuous stakeholder interactions and ongoing communication: The project proponent (PP) has maintained regular interactions and communication with stakeholders to monitor any changes during the project's operational phase. Evidence Checked: Interviews and group discussions Assessment Conclusion: Based on the evidence gathered and verified, the VVB concludes the following: No significant changes in stakeholder well-being and characteristics, including changes to ecosystem services identified as important to stakeholders, have been recorded during the current monitoring period. The PP's continuous stakeholder engagement efforts, ensures compliance with relevant standards and best practices for monitoring and addressing stakeholder well-being, characteristics, and ecosystem services.
Location of stakeholders	Stakeholders, which include local communities, indigenous peoples, and customary rights holders, are primarily located within the project area and its immediate vicinity. Areas beyond the project boundary that do not experience indirect impacts, such as environmental changes or socio-economic shifts, are not considered due to the nature of the wind project. Evidence Gathering Activities: Onsite audit by performing site personnel and stakeholder interview /35/ and Grievance Records /29/. Evidence Checked: Grievance Register /29/ and Consultation records with local authorities and community representatives. Assessment Conclusion: PP has not identified any areas outside the project boundary that are predicted to experience indirect impacts, such as environmental changes or socio-economic shifts, due to the nature of the solar project. Assessment team concludes that the information about the Location of stakeholders is cross-checked for the project activity and is in compliance with the registered VCS Joint PD&MR/03/ and VCS Standard V4.6 para 3.18.1./09/.

Location of resources	Evidence Gathering Activities: Since wind projects usually occupy small physical footprints, stakeholders' territories and resources typically do not directly overlap with the project area. However, stakeholders may have customary access to land or resources located in nearby regions. These territories might encompass agricultural lands, grazing areas, or culturally significant sites. Recognizing and respecting these territories are crucial for ensuring effective stakeholder engagement and project planning. Onsite audit by performing site personnel and stakeholder interview /35/ Evidence Checked: Focussed Group Discussion and Personnel interviews with PP & local stakeholders /35/ Assessment Conclusion: Assessment team concludes that the information about the Location of resources is cross-checked for the project activity and in compliance with the registered VCS Joint PD&MR/03/ and VCS Standard V4.6 para 3.18.1./09/
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4.2.2 Stakeholder Consultation and Ongoing Communication

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Ongoing consultation	The project proponent has organized Local Stakeholder Consultation (LSC) meetings at the time of validation (14-November-2008) in accordance with the approved communication plan. These meetings served as a forum for stakeholders to express their concerns, stay informed about project developments, and offer feedback. During this monitoring period no LSC was organized however grievance record book has been kept at the plant site to record any concerns from the nearby stakeholders. Additionally, stakeholders have the opportunity to submit their comments and grievances through a dedicated grievance register. In the current monitoring period as well grievance register was kept in place for recording the comments. Evidence Gathering Activities: Onsite audit: by performing site personnel and stakeholder interview /35/. Implementation of the validated communication plan: The project proponent has followed the communication plan that was validated

	during the initial project validation, ensuring appropriate channels for stakeholder engagement. Maintenance of an Input/Grievance Register: An Input/Grievance Register is maintained at the project site, with copies available at the administrative office and the main entrance of the plant. This register provides a publicly accessible location for local stakeholders to record their feedback, concerns, or grievances related to the project. Comment/feedback Box: A comment/suggestion box has been placed at the main gate of the plant, allowing stakeholders to submit their comments, suggestions, or feedback anonymously or confidentially. Evidence Checked: Interviews/35/, Grievance register/, Comment/feedback Box/29/. Assessment Conclusion: Assessment team concludes that the information about the Ongoing consultation is cross-checked via evidences provided for the project activity and is in compliance with the registered VCS Joint PD&MR/03/and VCS Standard V4.6 para 3.18.2./09/
Date(s) of stakeholder consultation	14-November-2008 (at time of validation) at the project site located near Bhimasamudra in Chitradurga district, Karnataka, Country India. Evidence Gathering Activities: Onsite audit: by performing stakeholders' interviews /35/. The date of stakeholder consultation was obtained through the following sources: • Review of the registered Project Description (PD): The VVB cross-checked the date of stakeholder consultation mentioned in the registered PD. • Interview discussions with the project proponent (PP) and site in-charge: During the onsite visit AT conducted interviews with the PP representatives and the site in-charge to verify the date of stakeholder consultation. • For ongoing stakeholder communication PP has place grievance register on site and there is a comment/feedback box in place to facilitate open communication and ensure

	that stakeholders' voices are heard and considered. Evidence Checked: Interviews/35/, and Grievance register/29/. Assessment Conclusion: Assessment team concludes that the information about the Date of stakeholder consultation is cross-checked for the project activity and is in compliance with the registered VCS Joint PD&MR/03/ and VCS Standard V4.6 para 3.18.2./09/
Communication of monitored results	The grievance register was verified and there was no grievance received during current monitoring period. Evidence Gathering Activities: Onsite audit: by performing stakeholder interviews/35/by verifying grievance register/29/ Evidence Checked: Interviews/35/ and Grievance register/29/ Assessment Conclusion: For ongoing communication, the project proponent (PP) maintains a grievance register and a complaint box for stakeholder feedback, and utilizes stakeholder engagement platforms to ensure transparency and accountability.
Consultation records	The results of stakeholder consultations were documented using a variety of methods, including meeting minutes, reports, surveys, and feedback forms at the time validation. Evidence Gathering Activities: Onsite audit: by performing stakeholder interviews/35/ - Reviewed the process for documenting and recording the outcomes of ongoing communication related to comments or grievances received. - Verified the procedure for acknowledging and storing comments or grievances in the Grievance register. Evidence Checked: Interviews/35/, Grievance Register /29/. Assessment Conclusion: Assessment team confirmed that the Grievance register is placed at the project site/29/. All grievances received by the local stakeholders is recorded on the grievance register. The process for documenting and addressing comments or grievances received were verified via interviews and grievance register at the time of onsite visit.
Stakeholder input	All input received during the consultation are thoroughly reviewed and analysed to ensure that stakeholders' perspectives are duly

	considered. However, as confirmed from verifying grievance register no inputs were received during the current monitoring period. Evidence Gathering Activities: Onsite audit: by performing stakeholder interviews/35/, by verifying Grievance register/29/ Evidence Checked: Interviews/35/, Grievance register/29/. Assessment Conclusion: Assessment team concludes that there has been no grievance received for the current monitoring period. as verified from the grievance register/29/and stakeholders interview/35/
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4.2.3 Free, Prior, and Informed Consent

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Consent	Evidence Gathering Activities: Onsite audit: by performing stakeholders' interviews/35/ and focussed GD. - Reviewed the documentation of the process and agreements reached to assess transparency and stakeholder understanding. - Checked for any ongoing or unresolved conflicts during the current monitoring period and the project's influence on such conflicts. - Reviewed the process and documentation related to obtaining consent from concerned parties, including local communities (LCs). - Verified the measures taken to ensure a transparent and inclusive process, such as engaging in meaningful dialogue, providing relevant information in accessible formats, and addressing concerns or questions raised. Evidence Checked: Interviews/35/, and focussed group discussion with the PP and site in-charge. Assessment Conclusion: Consent from concerned parties, including local communities (LCs) was obtained through a transparent and inclusive process at the time of validation. This involved engaging in meaningful dialogue, providing relevant information in accessible

	formats, and addressing any concerns or questions raised. Agreements were reached through consensus-building and ensuring that all parties had the opportunity to express their views and negotiate terms. Transparency was maintained by documenting the process and agreements reached and ensuring that all stakeholders understood the implications of their consent. During the current monitoring period there are no ongoing or unresolved conflicts and the project neither exacerbate nor influence the outcomes of unresolved conflicts.
Outcome of FPIC discussion	The Free, Prior, and Informed Consent (FPIC) process culminated in a Local stakeholder consultation and feedback of the local stakeholders has been recorded and PP is having transparent FPIC with the concerned. Before finalizing this agreement, the project provided comprehensive information about its scope, potential impacts, and mitigation measures in accessible formats and local languages during Local Stakeholder Consultation (LSC) at the time of validation. Thus, it can be said that the project has not encroached on land, relocated people without consent, and forced physical or economic displacement. Evidence Gathering Activities: Onsite Audit: by performing stakeholder interviews/35/ Evidence Checked: Interviews/35/, and focussed group discussion with the PP and site in-charge. Assessment Conclusion: Assessment team concludes that the information about the free prior and informed consent is cross-checked for the project activity and is in compliance with the registered VCS Joint PD&MR/03/ and VCS Standard V4.6 para 3.18.7/09/. The project proponent has declared that the project has not encroached on any land, does not relocate people, or cause forced physical or economic displacement. All project activities have been conducted in accordance with regulatory norms and terms outlined in the transparent agreement, ensuring the protection of rights and interests of all stakeholders involved.

4.2.4 Grievance Redress Procedure

No grievance was received during the current monitoring period as verified from the grievance register placed on site at an accessible location for the local stakeholders.

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Grievance received and steps taken to resolve the grievance including the outcomes of the resolution	There has been no grievance recorded for the current monitoring period as verified from the grievance register placed on site. Evidence Gathering Activities: Onsite Audit: by verifying grievance register placed on site/29/ Evidence Checked: Grievance Register/29/ Assessment Conclusion: As per the Onsite audit and grievance register/29/submitted by PP, it is concluded that there was no grievance recorded for the current monitoring period.
Grievance redress procedure	The stakeholders are encouraged to provide ongoing feedback/grievance as part of continuous ongoing stakeholder communication. For ongoing communication with the local stakeholders, the community members can go to the project site and share their complain/feedback/comments et. In a dedicated grievance register. The comments if found genuine will be addressed immediately and necessary actions are taken. However, in the current monitoring period there is no input/ grievance/ comments/ complaints received in the grievance register/29/. Evidence gathering activity: Onsite audit: by performing stakeholders' interviews/35/ and by verifying grievance register/29/. Desk Review: - By verifying Registered VCS Joint PD&MR/03/. Evidence checked: Grievance records/29/Interview and registered VCS Joint PD&MR /03/. Assessment conclusion: It is concluded that the grievance redress procedure is as per the registered VCS Joint PD&MR/03/ and deemed to be transparent as observed during onsite audit/34/.

4.2.5 Public Comments

Comments received	Actions taken by the project proponent	Evidence gathering activities, evidence checked, and assessment conclusion
No comments received during the stakeholder consultation and the 30	NA	As this is the seventh verification of second crediting period and overall, thirteenth periodic verification of the

days listing period.		project activity, it is concluded that para 4.1.5, 4.1.6, 4.1.7 are not applicable for the current monitoring period for the given project activity.
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4.2.6 Risks to Local Stakeholders and the Environment

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Risks to stakeholder participation	Evidence Gathering Activity: Onsite audit: by performing stakeholders' interviews/35/. - Assessed the potential risks to stakeholder participation in the project activities. - Verified the measures taken by the project proponent (PP) to ensure open and transparent dialogue with stakeholders. - Confirmed the inclusion and participation of women in the consultation process. - Reviewed the documentation of meaningful consultations with affected local communities, especially project-affected persons. Evidence Checked: Interviews/35/, Grievance process /29/ Assessment conclusion: Based on the evidence gathered and reviewed, it is confirmed that: - No risks to stakeholder participation were identified in the project activities. - The PP ensured open and transparent dialogue with stakeholders. - Women's participation in the consultation process was ensured. - Meaningful consultations were conducted with affected local communities, including project-affected persons. - All aspects of the project, environmental and social impacts, and mitigation measures were discussed during these consultations. The audit team verified the PP's efforts to mitigate risks to stakeholder participation, promote open and transparent dialogue, ensure women's participation, and conduct meaningful consultations with affected communities, adhering to the required processes and information disclosure.
Working conditions	Evidence Gathering Activity: Onsite audit: by performing stakeholders' interviews/35/ health and safety policy, HR Policy/31/

	• Reviewed the working conditions, safety protocols, training programs, and provision of personal protective equipment (PPE) for employees. • Assessed the employment practices, including fair wages, job security, and skill development opportunities. • Verified compliance with internationally accepted human and labour rights standards and labour laws. • Evaluated the project's contribution to socio-economic development in the region. Evidence Checked: Grievance register/29/, interviews/35/, HR Policy, health and safety policy/31/ During audit, assessment team conducted focussed group discussion and Personnel interviews with the designated team heads to conclude the following: • Safety protocols and risk mitigation measures • Training records and materials • PPE records and inventories • Employment contracts and wage records • Skill development and training programs Assessment conclusion: Based on the evidence gathered during the onsite visit and reviewed, it is confirmed that: The project proponent (PP) has diligently maintained exemplary working conditions, ensuring the safety, health, and well-being of all employees involved. The same was observed during physical site observation by AT. Robust safety protocols, comprehensive training programs, and the provision of adequate personal protective equipment have been implemented to effectively mitigate potential risks associated with working conditions. The PP complies with fair employment practices and honours internationally accepted human and labour rights and labour standards. As per the grievance register/29/ submitted by PP and onsite interviews with local stakeholders/35/, it is concluded that there is no risk associated with the working conditions during the operation of project activity.
Safety of women and girls	Evidence Gathering Activity: Onsite audit: by performing stakeholders' interviews/35/ and site observation.

	• Reviewed the safety protocols, workplace safety regulations, and their implementation by the project proponent (PP). • Evaluated the training programs and initiatives to promote a culture of respect, equality, and safety for women and girls. • Verified the measures taken to mitigate potential risks related to the safety of women and girls in the workplace. Evidence Checked: Interview • Safety protocols and risk mitigation measures • Training records and materials related to workplace safety and gender equality • Compliance records with relevant laws and regulations • Policies and initiatives promoting a respectful and inclusive work environment • Workplace safety assessments and incident reports • Employment records and participation levels of women and girls Assessment conclusion: Based on the evidence gathered and reviewed, it is confirmed that: The PP offers a safe and healthy workplace for all employees, including women and girls, by maintaining stringent safety protocols and adhering to relevant Indian regulations governing workplace safety. Compliance with The Factories Act, 1948, and the Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013, has been ensured, effectively mitigating potential risks related to the safety of women and girls. AT has verified the PP's efforts in maintaining a safe and secure workplace, particularly for women and girls, through adherence to regulations, implementation of safety protocols, promotion of a respectful and inclusive culture, and enabling the active participation and contribution of women and girls in the project's success.
Safety of minority and marginalized groups, including children	Evidence Gathering Activity: Onsite audit: by performing stakeholders' interviews/35/ and site observation. • Reviewed the project proponent's (PP) equal rights and non-discrimination policies and practices. • Assessed the measures taken to prevent and address any forms of harassment or discrimination in the project. • Evaluated the PP's appreciation and promotion of diversity within

	the project. • Verified the proactive engagement with local communities, stakeholder consultations, and sensitivity to cultural diversity. • Assessed the creation of a safe and supportive environment for the participation and empowerment of minority and marginalized groups, including children. • Reviewed the project's social responsibility and ethical practices contributing to the safety and security of all individuals. Evidence Checked: Onsite interview /35/ while conducting personnel interviews and focussed group discussion with PP & representatives following was cross-confirmed: • Equal rights and non-discrimination policies • Harassment prevention and reporting mechanisms • Diversity and inclusion initiatives and records • Community engagement and stakeholder consultation records • Cultural sensitivity training and awareness programs Assessment conclusion: All types of harassment are prohibited, and measures are in place to eliminate any such instances immediately. The PP appreciates and promotes diversity within the project, considering it a competitive advantage. Through proactive engagement with local communities, stakeholder consultations, and sensitivity to cultural diversity, the PP has created a safe and supportive environment that promotes the participation and empowerment of minority and marginalized groups, including children. It is concluded by assessment team that as per the onsite interviews the project has no potential risk associated with the safety of children, minority and marginalized groups.
Pollutants (air, noise, discharges to water, generation of waste, release of hazardous materials)	Evidence Gathering Activity: Onsite audit: by performing stakeholders' interviews/35/ and site observations made by assessment team/34/. • Assessed the potential risks related to pollutants, including air emissions, noise pollution, water discharges, waste generation, and hazardous material releases. • Evaluated the environmental footprint of the solar power project in comparison to traditional power plants. • Verified the project's plans and procedures for end-of-life management, including decommissioning, component removal,

	and site restoration.
	Evidence Checked: Onsite interview/35/, EHS policy and site observation/34/.
	• Technical specifications /26/ and operational data of the wind power project • Regulatory compliance records related to environmental aspects
	Assessment conclusion: Wind energy generation is a clean and renewable energy source that does not produce air pollutants such as carbon dioxide, sulphur dioxide, or nitrogen oxides during operation. The project does not discharge pollutants to water bodies, generate significant amounts of waste, or release hazardous materials during its lifecycle.
	The environmental footprint of the wind power project is significantly lower compared to traditional power plants, making it a sustainable and environmentally friendly energy option with minimal risks related to pollutants.
	As per the onsite interview, the project improves air quality and produces no pollution as compared to the baseline. Hence, it is concluded that there is no risk associated with pollutant emissions caused by project activity.

4.2.7 Respect for Human Rights and Equity

4.2.7.1 Labor and Work

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Discrimination and sexual harassment	Evidence Gathering Activity: Onsite audit: by performing site personnel and stakeholders' interviews/35/ focussed group discussions. Checked monitoring data for any reported instances during the period Evidence Checked: Site personnel and stakeholder interviews during onsite audit/34/ Assessment conclusion: There have been no reports of such incidents during the monitoring period. This commitment to maintaining a respectful and inclusive environment underscores the project's dedication to upholding ethical standards and ensuring the well-being of all stakeholders involved. As per the onsite interview taken by the assessment team, local

	stakeholders are happy with the renewable power project. Assessment team concludes that the information about the Discrimination and sexual harassment is cross-checked for the project activity and is in compliance with the VCS Standard V4.6 para.3.19.11/09/.
Management experience	Evidence Gathering Activity: Onsite audit: by performing site personnel interviews/35/ and focussed GD Evidence Checked: Onsite interview /35/ No new entity has been involved in project design or implementation, hence not applicable. Assessment conclusion: As verified from the monitoring plan and section 2.3.1 of MR/01/- No new entities are involved in project design or implementation. The initially engaged management is experienced enough to handle the implementation of the project activity and the same was confirmed via the personnel interviews/35/ conducted onsite.
Gender equity in labor and work	Evidence Gathering Activity: Onsite audit: by performing stakeholders' interviews/35/. Checked monitoring data for any reported instances of gender discrimination or pay disparity Desk Review: - By verifying Registered VCS Joint PD&MR/03/and HR policy/31/. Evidence Checked: Interviews/35/and HR policy/31/. Confirmation of zero instances of gender discrimination or pay disparity reported in monitoring period. Assessment conclusion: As per the observation assessment team concluded that Equal opportunities have been provided in the context of gender equity and pay for labor and work. Assessment team concludes that the information about the Gender equity in labor and work is cross-checked for the project activity and is in compliance with the VCS Standard V4.6 para.3.19.13/09/
Human trafficking, forced labor, and child labor	Evidence Gathering Activity: Onsite audit: by performing stakeholders' interviews/35/ & focussed grouped discussion, HR Policy/31/. Noted compliance with Bonded Labour System (Abolition) Act, 1976, Child Labour (Prohibition and Regulation) Act, 1986, and Factories Act, 1948. Evidence checked: Interviews/35/, HR policy/31/

Assessment Conclusion: The Project Proponent (PP) strictly follows Indian laws prohibiting human trafficking, forced labour, and child labour. Specifically, the project complies with the Immoral Traffic (Prevention) Act, 1956, which prohibits human trafficking for the purpose of commercial sexual exploitation or forced labour. Additionally, the project adheres to the Child Labor (Prohibition and Regulation) Act, 1986, which prohibits the employment of children in certain occupations and processes. There have been no reports of human trafficking, forced labour, or child labour during the current monitoring period, highlighting PP's commitment to upholding these laws and ensuring the protection of vulnerable populations. Thus, Assessment team concludes that the information about the Human trafficking, forced labor, and child labor is cross-checked for the project activity and is in compliance with the VCS Standard V4.6 para.3.19.15/09/.

4.2.7.2 Human Rights

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Human rights	Evidence Gathering Activities: Onsite audit: by performing stakeholders' interviews /35/and site observations made by Assessment team/34/. Evidence Checked: Interviews/35/, Site Observation/34/, and Grievance Register/29/ Assessment Conclusion: Assessment team concludes that the project activity maintained a commitment to upholding the rights of IPs, LCs, and customary rights holders, aligning with international human rights standards, including the UN Declaration on the Rights of Indigenous Peoples and ILO Convention 169. The information about the Human rights is cross-checked for the project activity during onsite visit and interviews with stakeholders and found that the same is in compliance with VCS Standard V4.6 para.3.19.16/09/.

4.2.7.3 Indigenous Peoples and Cultural Heritage

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Preservation	Evidence gathering activities: Onsite audit: by performing stakeholders'

and protection of cultural heritage	interviews/35/. Focussed Group discussion with nearby stakeholders that volunteered during the site audit & potentially affected by the project were carried out, ensuring their free, prior, and informed consent. Engagement with stakeholders regarding knowledge holders to understand their cultural practices, traditional lands, and sacred sites. Assessment of the potential impacts on Indigenous Peoples' livelihoods, access to resources, traditional land use patterns and traditional knowledge systems. Evidence Checked: interview/35/ and Group discussions. Assessment Conclusion: It is concluded that the given project activity area has not involve the Indigenous People and any cultural Heritage. Since, the project activity involves the renewable electricity generation and the land used for the installation of Wind power plant is owned by the project proponent also the land ownership document is checked during the onsite audit. Hence, no tangible cultural heritage has been hampered for the project activity. Also, there has been no negative impacts of the project activity on the non-tangible cultural heritage of the stakeholders, instead it fosters cultural harmony by involving diverse groups, without affecting their customs, traditions or beliefs. Hence, the project continues to preserve and protect cultural heritage as part of their project activity.
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4.2.7.4 Property Rights

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Disputes over rights to territories and resources	N/A
Respect for property rights	Evidence gathering activities: Onsite audit: by performing stakeholders' interviews/35/ and focussed grouped discussion. Evidence checked: Interviews/35/ Assessment Conclusion: No property rights are violated due to this

project activity as per the interviews conducted and land ownership document was checked during the onsite visit. Hence, no land/property of the stakeholders, IPs, LCs, and customary rights holders has been incorporated. Additionally, the project activity has obtained the free, prior and informed consent of the local stakeholders (stakeholders including the IPs, LCs, and customary rights holders). This ensures that their lands are property rights are protected and respected.

4.2.7.5 Benefit Sharing

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Summary of the benefit sharing plan	N/A
Benefit sharing during the monitoring period	N/A

4.2.8 Ecosystem Health

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Impacts on biodiversity and ecosystems	No risk Identified Evidence Gathering Activities: Onsite audit: by performing site personnel and stakeholders' interviews/35/. Evidence Checked: Interviews/35/ Assessment Conclusion: Throughout the monitoring period, no adverse effects on biodiversity or ecosystems were observed in the project. Wind projects are generally recognized as environmentally benign, with minimal impact on surrounding ecosystems. Assessment team concludes that the Impacts on biodiversity and ecosystems is cross-checked during

		the onsite visit/34/ and it is in compliance with the VCS Standard para 3.19.25/09/
Soil degradation and soil erosion	No risk Identified	Evidence Gathering Activities: Onsite audit: by performing site personnel and stakeholders' interviews/35/. Evidence Checked: Interviews/35/ Assessment Conclusion: Throughout the monitoring period, no instances of soil degradation or erosion were identified in the project area. Wind projects typically employ land management practices that minimize soil disturbance, ensuring the preservation of soil health and stability.
Water consumption and stress	No risk Identified	Evidence Gathering Activities: Onsite audit: by performing site personnel and stakeholders' interviews/35/. Evidence Checked: Interviews/35/ Assessment Conclusion: Assessment team concludes that no concerns regarding water consumption or stress were identified within the project. Wind installations generally have minimal water requirements, reducing strain on local water resources and ecosystems.
Usage of fertilizers	No risk Identified	Evidence Gathering Activities: Onsite audit: by performing site personnel and stakeholders' interviews/35/. Evidence Checked: Interviews/35/ Assessment Conclusion: Assessment team concludes that no adverse effects linked to the use of fertilizers were noted in the wind project. Wind installations generally do not necessitate fertilizers, thus removing the possibility of environmental contamination or disruption to ecosystems.

4.2.8.1 Rare, Threatened, and Endangered species

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Species or habitat	Evidence Gathering Activities: Onsite audit: by performing site personnel

and stakeholders' interviews/35/.

Evidence Checked: Interviews/35/

Assessment Conclusion: The given project is renewable power project which falls under sub sectoral scope 1.2. therefore, do not include any harm to rare, threatened and endangered species. Hence, it is concluded that this section is not applicable as per para 3.19.27 of VCS Standard v4.6/09/ for the given project activity.

4.2.8.2 Introduction of Species

As the given project activity is about the wind power project activity, verification team confirmed during site visit that there is no involvement of Introduction of species. Hence, below tables are not applicable.

Species introduced	Evidence gathering activities, evidence checked, and assessment conclusion
N/A	N/A

Existing invasive species	Evidence gathering activities, evidence checked, and assessment conclusion
N/A	N/A

4.2.8.3 Ecosystem conversion

Item	Evidence gathering activities and evidence checked
Ecosystem conversion	Evidence gathering activities: Not Applicable Evidence Checked: Not Applicable Assessment Conclusion: Since the project activity is not an Afforestation and Reforestation (ARR) project, Agroforestry and Agro-silvopastoral Systems (ALM) project, Wetland Restoration and Conservation (WRC) project, nor an Avoided Conversion of Grasslands and Shrublands (ACOGS) project, The information related to these specific project types is not applicable. This means that the project does not fall under any of these categories and therefore does not need to be evaluated based on the criteria specific to these types of projects.

4.3 Accuracy of Reduction and Removal Calculations

The equations and choices provided in the methodology /12/ and all other methodological tools are correctly quoted in the MR /01/. The emission reductions of the project activity are calculated using the formulae mentioned in the applied methodologies i.e., ACM0002 Version 19.0 /12/. The assessment team has reviewed the emission reduction spread sheets (ER sheets) /02/ and checked all the formulae and found they are correct and are in accordance with the monitoring plan of the joint PD & MR /03/ and the applied monitoring methodology /12/.

The monitoring plan laid in the registered VCS Joint PD& MR/03/ is being followed at the site/3/4. 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 based on the net electricity generated and exported from the project. 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 is used in deriving the GHG emission reduction. Data in MR could be very well correlated between the data sets and ER spreadsheet/02/ provided by PP. The verification of monitoring parameter has been discussed later in section 4.5 of this report.

The project monitoring plan involves total O2 parameter to be monitored;

- 1) **EG_y** (Electricity supplied by the plant to the grid);
- 2) **TEG_y** (Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y)

All monitored parameters are according to the registered monitoring plan as per the Joint PD&MR /03/ and monitoring report/01/.

The parameter **EG_y** value is sourced from Tariff JMRs/B-forms /22/, Proper calibrated meters of 0.2s accuracy class installed at each bulk metering point located at 66 kV substation, KN Halli and regularly monitor the Electricity supplied by the plant to the grid, the parameter **TEG_y** value is sourced from Joint Meter Reading (JMRs)/ B-Forms certificate issued /22/and Invoices/23/, Proper calibrated meters of 0.2s accuracy class installed at metering point at group controller station, Hirekandavadi regularly monitor the export value which is aggregated on a monthly basis in JMRs & invoices, mentioned in ER sheet/02/ prepared by PP has been reviewed by assessment team thoroughly by cross checking the values of JMRs/B-Forms/22/ submitted by PP and found correct including all the formulae and conversions and aggregations.

The WTGs of capacity load 13.5 MW (9X1.5 MW) are connected to metering point NSLC III, and WTGs of capacity load 12 MW (8X1.5 MW) are connected to metering point NSCL IV and WTGs of capacity load 12.6 MW (7X1.5 MW, 1X2.1 MW) are connected to the metering point NSLC V and WTGs of capacity load 12.3 MW (4X1.5 MW, 3X2.1 MW) are connected to metering point at NSLC VI located at group controller station, Hirekandavadi. Energy is fed to grid from NSLC III,

NSLC IV, NSLC V, NSLC VI through bulk metering points NSLC I, NSLC II located at 66 kV substation, KN Halli.

Actual power generated by WTGs of project activity is measured using energy meters (Main & Check) located at group controller station, Hirekandavadi. The main meter and check meter are installed at group controller station, Hirekandavadi. The energy meters are 0.2s accuracy class and regularly calibrated. The details of calibration along with respective energy meter are checked by the assessment team.

Net electricity exported to grid by the wind farm is measured using KPTCL meters installed at HT end of the 33/66 KV substation at KN Hali. The main meter and check meter are installed at the substation. Both of these are joint meter readings and are taken on monthly basis in the presence of KPTCL/BESCOM and representative of the project proponent.

KPTCL & BESCOM is issued a certificate for the share of electricity generated every month. Monthly share of electricity certificate is prorated by KPTCL/BESCOM based on actual generation of WTGs and the net total electricity supplied by the Wind Farm. Reading recorded in this certificate for the WTGs in the project activity is used for actual estimations.

The monitoring plan specified in the registered VCS joint Project Description & Monitoring Report version 03, dated 05-February-2019 /03/, is diligently being followed at the site. The assessment team has conducted a thorough verification of the entire information flow, starting from data generation and aggregation to recording, calculation, and reporting of the relevant parameters in the Monitoring Report /01/. The emission reductions are based on the net electricity generated and exported from the project.

The project proponent (PP) has provided all the necessary data for the current monitoring period, ensuring a comprehensive and accurate assessment. The values of the parameter "Electricity supplied by the plant to the grid", which were used in deriving the greenhouse gas (GHG) emission reduction, have been found to be well correlated between the data sets and the Emission Reduction (ER) spreadsheet/02/ provided by the PP.

The appropriateness of default values used in the monitoring report is elaborated below:

Table No: 08 Data and Parameters Available at Validation or Ex-ante parameters:

Parameter	Unit	Description	Value
EF _{OM,y}	tCO ₂ /MWh	Operating margin emission factor of Indian Grid	0.9726 tCO₂/MWh is consistent with the registered VCS Joint PD & MR Version 03 dated 05-February-2019/03/ Calculated from <u>CEA database, Version 13, June-2018/20/</u>

$EF_{BM,y}$	tCO ₂ /MWh	Build Margin Emission Factor of Southern Regional Electricity Grid	0.8723 tCO₂/MWh is consistent with the registered VCS Joint PD & MR- Version 03 dated 05-February-2019/03/ Calculated from <u>CEA database, Version 13, June-2014/20/</u>
$EF_{CO_2, grid,y}$	tCO ₂ /MWh	Combined Margin Emission Factor of Southern Regional Electricity Grid	0.9475 tCO₂/MWh is consistent with the registered VCS Joint PD & MR Version 03 dated 05-February-2019/03/ Combined Margin Emission Factor ($EF_{CM,y}$) is calculated as the weighted average of Operating Margin Emission Factor ($EF_{OM,y}$) and Build Margin Emission Factor ($EF_{BM,y}$) In case of wind power projects default weights of 0.75 for EFOM and 0.25 for EFBM are applicable as per ACM0002.

According to applicable methodology ACM0002; Version 19.0⁷ /12/ under section 5 of Baseline Methodology Procedure with further description under section 5.4 and paragraph number 34-page 13 about Project emissions & under section 5.6 and paragraph number 56-page 20 about Leakage emissions that since project activity is a Wind power project and no other kind of fossil fuel has been used in the current monitoring period on site thus no leakage emission is considered according to the methodology used/12/ & since this is a renewable project activity no project emissions from the project activity are considered.

Leakage emissions: $LE_y = 0 \text{ tCO}_2$

Project Emissions: $PE_y = 0 \text{ tCO}_2$

Methods and formulae set out in the project description for calculating actual emissions for current monitoring period.

The calculation of emission reduction has been done in accordance with the applied methodology used i.e., ACM0002 Version 19.0 /12/. As per the applied methodology, the

⁷ [0X6IERWMG92J7V3B80TKFSL1QZH5PA \(unfccc.int\)](http://unfccc.int/0X6IERWMG92J7V3B80TKFSL1QZH5PA)

values of project emission and leakages are considered as zero for the project activity. The equation used for calculation of baseline emission is given below:

The calculation of $EG_{PJ,y}$ for Greenfield plants Equation (12)

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

Baseline emissions are calculated as follows: Equation (11)

Where,

$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$	
$BE_y =$	Baseline Emissions (tCO ₂ /year)
$EG_{PJ,y} =$	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)
$EF_{grid,CM,y} =$	Combined margin CO ₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool 07: Tool to calculate the emission factor for an electricity system” (t CO ₂ /MWh)

Methods and formulae set out in the project description for calculating estimated emissions for current monitoring period.

Estimated Emission Reduction as in VCS Joint PD & MR for the equivalent period of the current Monitoring period, 01-January-2023 to 31-December-2023(Inclusive of both the days):	
Monitoring Period Start Date	01-January-2023
Monitoring Period End Date	31-December-2023
Days in Current Monitoring period	365
Annual VCUs as per VCS Joint PD & MR-	127,993 (tCO ₂ e)
Estimated Emission Reduction as in VCS Joint PD & MR- for the equivalent period of the current Monitoring period	= (Annual Estimated GHG emission reductions as per revised VCS Joint PD & MR- /Total days in a year) *days in current monitoring period = (127,993 /365) * 365 = 127,993 (tCO₂e)
Actual Emission Reduction as per MR and ER during current Monitoring period	71,033 (tCO₂e)

Percent difference	-44.50% lower than the estimated
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The estimated emission reduction for the present monitoring period is 127,993 tCO₂e, however the achieved emission reductions are 71,033 tCO₂e (round down value), or around 44.50% lower than the estimated emission reductions.

Section 5.4 of the Monitoring Report (MR/01/) presents detailed calculations, which have been cross-checked and verified through the compiled Emission Reduction (ER/02/) spreadsheet. The assessment team ensured the accuracy of these calculations by referencing the Joint Meter Readings (JMRs/22/) and cross-checking the data with invoices (/23/).

Hence VKU Assessment Team can state that the calculation method and formulae used in calculating baseline emission is following the methodology used i.e., ACM0002: "Grid-connected electricity generation from renewable sources - version 19.0" /12/. 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.

4.4 Quality of Evidence to Determine Reductions and Removals

When verifying the reported emission reduction, VKU ensured that there was a clear audit trail that contained the evidence and records that validate the stated figures. All source documents that form the basis for assumptions and other information underlying the GHG data are shown above.

When assessing the audit trails, VKU also examined:

1. Whether sufficient evidence was available, both in terms of frequency and in covering the full monitoring period
2. The source and nature of the evidence
3. If comparable information was available from sources other than that used in the monitoring report/01/, VKU cross-checked the monitoring report against the other sources to confirm that the stated figures were correct. The sources and the data referenced are shown in Section 2.2 above.

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 assessment team confirms that the monitoring system ensures required quality of the monitoring plan to ensure the quality of the monitored data. All internal data are subjected to QA/QC measures.

There are total 02 parameters to be monitored;

- 1) **EG_y** (Electricity supplied by the plant to the grid);
- 2) **TEG_y** (Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y)

The below table describe how the parameter **EGy (Electricity supplied by the plant to the grid)**, that 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: -

Table No: 09 Assessment of Parameter EGy (Electricity supplied by the plant to the grid)

Parameter	EGy (Electricity supplied by the plant to the grid)	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Monthly electricity export and import data for all 32 WTGs in the project are recorded at four metering points (NSLC III, NSLC IV, NSLC V, NSLC VI) by representatives from BESCO and the Project Participant. The WTGs of capacity load 13.5 MW (9X1.5 MW) are connected to metering point NSLC III, and WTGs of capacity load 12 MW (8X1.5 MW) are connected to metering point NSCL IV and WTGs of capacity load 12.6 MW (7X1.5 MW, 1X2.1 MW) are connected to the metering point NSLC V and WTGs of capacity load 12.3 MW (4X1.5 MW, 3X2.1 MW) are connected to metering point at NSLC VI located at group controller station, Hirekandavadi. Energy is fed to grid from NSLC III, NSLC IV, NSLC V, NSLC VI through bulk metering points NSLC I, NSLC II located at 66 kV substation, KN Halli. BESCO calculates transmission line losses using the monthly electricity export data from both the group controller station meter and the substation meter (TEGy), as specified in their signed PPA. Subsequently, BESCO provides line loss calculation sheets on a monthly basis. These calculations are summarized in Joint Meter Reading Statements (Form B), which BESCO submits to the Project Participant. These statements include details on electricity

		export, electricity import, transmission line losses, and the net electricity exported value at each grid controller station.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology mentioned in registered joint PD & MR version 03 dated 05-February-2019 /03/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and during onsite visit via interviews/35/ with site personnel.
	Monitoring equipment	Electricity exported and imported from the grid is recorded using metering points located at grid controller stations, specifically NSLC III, NSLC IV, NSLC V, and NSLC VI. These controller stations collectively measure the net electricity supplied to the grid by all 32 WTGs. Notably, not every WTG has an individual metering location; hence, each controller station measures electricity supplied by multiple WTGs. All meters employed in this process are of the bi-directional tri-vector type, possessing an accuracy class of 0.2s. Utilizing these readings from the group controller points and the substation, the state electricity utility prepares a monthly statement, referred to as "Form B."
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or	Yes, the accuracy of the monitoring equipment used to measure the input values used to calculate EG, i.e., import, export and Transmission losses is 0.2s, which is as per the registered joint PD&MR /03/ which is as per the norm defined in PPA/28/.

	as per the manufacturer's specification?	
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, the accuracy is valid for the entire current monitoring period i.e., 01-January-2023 to 31-December-2023 (Inclusive of both the dates)
	Calibration frequency /interval:	As per section 4.2 of VCS Joint PD & MR /03/, the calibration frequency is annually. This was verified by the assessment team by checking calibration certificates/27/.
	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, it is in line with the monitoring plan & registered methodology. Outlined in the registered VCS Joint PD & MR dated 05-February-2019/03/ The calibration frequency is annually as per PPA/28/
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, Calibration certificates /27/ of the measuring equipment's is carried out by State DISCOM i.e., BESCO (Bangalore Electricity Supply Company Limited).
	Is(are) calibration(s) valid for the whole reporting period?	Yes, the calibration is valid throughout the reporting period i.e., from 01-January-2023 to 31-December-2023 (Inclusive of both the dates). The calibration certificate /27/ issued by state entity is verified to confirm the same.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. The calibration is carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS manual version 3.2/10/& as per PPA/28/ The calibration is carried out for a measuring

		range i.e., CTR: 300/1-1A, PTR: 66kV/110V & MF: 1,80,000 with accuracy class 0.2s for NSLC – 01 & NSLC – 02 and CTR: 300/1-1A, PTR: 33kV/110V & MF: 90,000 with accuracy class 0.2s for NSLC – 03, NSLC – 04, NSLC – 05 & NSLC – 06.
	How were the values in the monitoring report verified?	Cumulative value of EG_y for entire monitoring period 01-January-2023 to 31-December-2023 (inclusive of both the dates) is reported in the monitoring report/01/, and monthly values in the ER calculation sheet/02/ in kWh. The monthly values were verified from the JMRs/B-forms/22/ and cross checked from invoices/23/ thus found to be consistent. Value of this parameter for the current monitoring period was verified as 74,969,772 kWh.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of EG_{y,y} in JMRs/B-forms/22/ were further cross checked with the monthly invoices /23/ raised by the PP to BESCO (Bangalore Electricity Supply Company Limited) which is found to be consistent with the PPA/28/
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Details provided in MR/01/ is cross verified on site visit during personnel interview/35/ and this confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable
	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 have been observed during current monitoring period

Findings	CL#02 was 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 the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.

The below table describe how the parameter **TEGy** (Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y), that 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:

Table No: 10 Assessment of Parameter TEGy (Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y)

Parameter	TEGy (Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads, in year y)	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measuring frequency – Continuous Recording frequency – Monthly Using the monthly electricity export data recorded at both the group controller station meter and the substation meter (TEGy), BESCOM calculates the transmission line loss in strict compliance with the terms outlined in the signed Power Purchase Agreement (PPA) between BESCOM and the Project Participant. Subsequently, BESCOM generates monthly line loss calculation sheets. These calculation sheets detail the losses incurred in the transmission of electricity. Subsequently, BESCOM compiles the Joint Meter Reading Statements, referred to as "Form B." These statements are then

		submitted by BESCO to the Project Participant. Form B provides a comprehensive breakdown of key information, including electricity export, electricity import, transmission line losses, and the net electricity exported value at each individual grid controller station.
	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 Joint PD&MR/03/ and monitoring methodology/12/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit/34/ and interviews/35/ with site personnel.
	Monitoring equipment	Electricity export/import is recorded at 4 grid controller stations: NSLC III, NSLC IV, NSLC V, and NSLC VI, covering all 32 WTGs. As not all WTGs have dedicated meters, each controller station records electricity from multiple WTGs. Meters used are bi-directional tri-vector type with 0.2s accuracy. In addition to group controller readings, export data is also collected at grid interconnection points NSLC I and NSLC II. The state utility compiles a monthly statement (Form B) for each WTG, factoring in transmission loss and imported electricity. Transmission loss is computed by BESCO/KPTCL based on export readings from both group controllers and the 66 kV substation.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does	The accuracy of the monitoring equipment used to measure the input values used to calculate TEG_y i.e., import, export and Transmission losses is 0.2s, which is as per the registered joint PD&MR/03/ which is as per the norm defined in PPA /28/.

	the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, the accuracy is valid for the entire current monitoring period i.e., 01-January-2023 to 31-December-2023 (Inclusive of both the days)
	Calibration frequency /interval:	As per section 4.2 of VCS Joint PD & MR /03/, the calibration frequency is annually.
	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, it is in line with the monitoring plan/03/ & registered methodology /12/. Outlined in the registered VCS Joint PD & MR dated 05-February-2019/03/ The calibration frequency is annually as per PPA/28/
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, Calibration certificates /27/ of the measuring equipment's is carried out by State DISCOM i.e., BESCO (Bangalore Electricity Supply Company Limited Limited). All the meters are tested by Bangalore Electricity Supply Company Limited on a periodic basis. In case of any faulty readings observed appropriate corrective action will be taken. If the error is found beyond the permissible limits, the PP will inform the respective agency so as to immediately rectify the error in the instrument, which was confirmed during onsite visit while interviewing/35/ the site personnel at project site/PP/Consultant.

	Is(are) calibration(s) valid for the whole reporting period?	Yes , the calibration is valid throughout the reporting period i.e., from 01-January-2023 to 31-December-2023 (Inclusive of both the days).
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. The calibration is carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS manual version 3.2/10/& as per PPA/28/ The calibration is carried out for a measuring range i.e., CTR: 300/1-1A, PTR: 66kV/110V & MF: 1,80,000 with accuracy class 0.2s for NSLC – 01 & NSLC – 02 and CTR: 300/1-1A, PTR: 33kV/110V & MF: 90,000 with accuracy class 0.2s for NSLC – 03, NSLC – 04, NSLC – 05 & NSLC – 06.
	How were the values in the monitoring report verified?	Cumulative value of TEG_y for entire monitoring period 01-January-2023 to 31-December-2023 (inclusive of both the dates) is reported in the monitoring report/01/, and monthly values in the ER calculation sheet/02/ in kWh. The monthly values were verified from the JMRs/B-forms/22/ and cross checked from invoices/23/ thus found to be consistent. Value of this parameter for the current monitoring period was verified as 80,371,620 kWh.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of TEG_y were verified from JMRs/B-forms /22/ issued to PP by state entity i.e., BESCO which were further cross checked with the monthly invoices /23/ raised by the PP to respective captive user as specified in PPA/28/ and thus found to be consistent
	Does the data management ensure correct transfer of data and reporting of emission reductions and are	Details provided in MR/01/ is cross verified on site visit during personnel interview/35/ and this confirms that the necessary QA/QC procedures are in place and the data

	necessary QA/QC processes in place?	management system is effective and reliable.
	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 have been observed during current monitoring period
Findings	CL#02 was 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 the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Calibration of meters/27/:

During the verification assessment of the project activity, accuracy of all the metering have been checked and found appropriate by assessment team during onsite visit/34/. The installation and working conditions of the meters were checked during the site inspection/34/ and were found to be satisfactory as compared to the provision of calibration/testing frequency, prescribed under the VCS Joint PD & MR/03/, the meters are supposed to undergo testing/calibration once in a year. The meter calibration is not under the purview of PP.

KPTCL is the sole authority to conduct the meter calibration. Details of meters are provided in below table:

Table No: 11 Calibration details of meters: The calibration details of meters installed by Karnataka Power Transmission Corporation Limited (KPTCL) for measurement of **EG_y**, and **TEG_y** are as below.

Metering Points	Meter Details				Previous Calibration Date	Previous Calibration Validity	Previous Calibration Date	Previous Calibration Validity	Latest Calibration Date	Validity Date	Test Result
	Serial no	Make	Type	Accuracy							

				class		Date		Date			
NSLC I	Old Main meter – 11071857	L & T	3P4W	0.2s	11-Feb-22	10-Feb-23	23-Nov-22	22-Nov-23	NA	NA	Meters has been Replace d on 07-Nov-2023
	Old Check meter – 15195281										
	New Main meter – 23011553	L & T	3P4W	0.2s	NA	NA	NA	NA	07-Nov-23	06-Nov-24	Satisfactory
	New Check meter – 23011578										
NSLC II	Main meter – 21004960	L & T	3P4W	0.2s	11-Feb-22	10-Feb-23	23-Nov-22	22-Nov-23	11-Jul-23	10-Jul-24	Satisfactory
	Check meter – 21005001										
NSLC III	Old Main meter – 07022896	L & T	3P4W	0.2s	11-Feb-22	10-Feb-23	NA	NA	NA	NA	Metes has been Replace d on 03-Dec-2023
	Old Check meter – 07022921										
	Old Main meter – 19000010	L & T	3P4W	0.2s	NA	NA	03-Dec-22	02-Dec-23	NA	NA	Metes has been Replace d on 07-Nov-2023
	Old Check meter – 19000236										

	New Main meter – 23007020	L & T	3P4W	0.2s	NA	NA	NA	NA	07-Nov-23	06-Nov-24	Satisfactory
	New Check meter – 23007040										
NSLC IV	Old Main meter – 07022985	L & T	3P4W	0.2s	11-Feb-22	10-Feb-23	23-Nov-22	22-Nov-23	NA	NA	Metes has been Replaced on 07-Nov-2023
	New Check meter – 07022986										
	Main meter – 07022985	L & T	3P4W	0.2s	NA	NA	NA	NA	07-Nov-23	06-Nov-24	Satisfactory
	Check meter – 07022986										
NSLC V	Old Main meter – 09142342	L & T	3P4W	0.2s	11-Feb-22	10-Feb-23	23-Nov-22	22-Nov-23	NA	NA	Metes has been Replaced on 07-Nov-2023
	Old Check meter – 13191365										
	New Main meter – 23006909	L & T	3P4W	0.2s	NA	NA	NA	NA	07-Nov-23	06-Nov-24	Satisfactory
	New Check meter – 23006910										
NSLC VI	Old Main meter – 11071865	L & T	3P4W	0.2s	11-Feb-22	10-Feb-23	23-Nov-22	22-Nov-23	NA	NA	Metes has been

	Old Check meter - 11071863										Replaced on 07-Nov-2023
	New Main meter - 23013561	L & T	3P4W	0.2s	NA	NA	NA	NA	07-Nov-23	06-Nov-24	Satisfactory
	New Check meter - 23013561										

Metering Arrangement

There are thirty-two WTGs connected to four feeders at the plant site i.e., NSLC III, NSLC VI, NSLC V and NSLC VI which are further connected to two bulk metering point i.e., NSLC I and NSL II located at substation involved for the measurement of electricity import and export. The provision of calibration/testing frequency is annually as prescribed under the VCS Joint PD & MR /03/. This is verified by assessment team from the calibration certificates/27/ submitted by the PP. As per VCS Joint PD & MR /03/ the meters in use are two-way devices that measure both electricity import and export, providing the net electricity consumption data. According to the Power Purchase Agreement /28/ with the electricity distribution utility, there are a set two meters each: a main meter and a backup meter. Both function as two-way export-import meters, calculating both exported and imported electricity to the grid. O and M is done in-house only by project proponent confirmed via interviews during site visit.

If the meters operate outside permissible limits, they will either be replaced or calibrated. When the main meter malfunctions, the consumption recorded by the backup meter is used. If both metering systems fail, malfunction details, timestamps, parameters, and load survey data will be retrieved from the main meter. The nature of the malfunction is then determined, and the recorded consumption in the main meter is adjusted accordingly.

The electricity generated by the project activity WTGs is metered at Group controller stations and further measured at HT end of the 33/66 KV substation at KN Halli. Each metering point comprises a main meter and a check meter, both having an accuracy of 0.2s. These meters measure parameters such as export and import for all connected WTGs. As specified in the registered VCS Joint Project Design and Monitoring Report/03/ and MR/01/, the net electricity supplied to the grid by the wind farm is measured using BESCOM meters installed at HT end of the 33/66 KV substation at KN Halli.

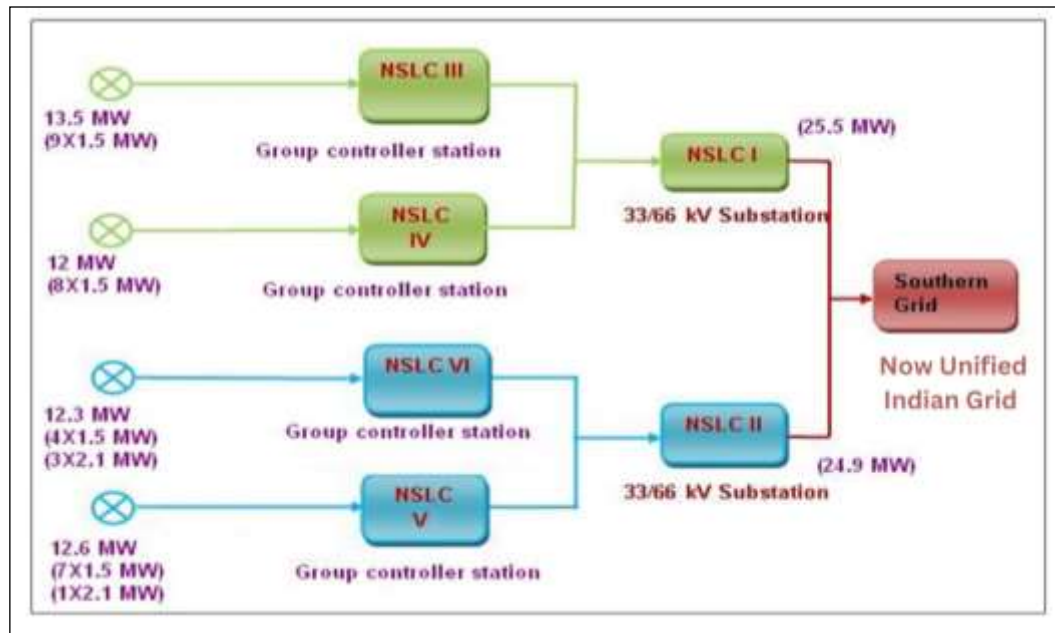
Table no.12: Commissioning of WTG's

Metering points	WTGs No	Capacity of WTGs (MW)	Commissioning date
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NSLC III	HK 1	1.5	29-September-2008
	HK 2	1.5	01-July-2008
	HK 3	1.5	06-June-2008
	HK 4	1.5	09-September-2008
	HK 5	1.5	09-September-2008
	HK 6	1.5	29-September-2008
	HK 7	1.5	08-December-2009
	HK 8	1.5	08-December-2009
	HK 9	1.5	08-December-2009
NSLC IV	HK 10	1.5	15-December-2009
	HK 11	1.5	15-December-2009
	HK 12	1.5	21-January-2010
	HK 13	1.5	15-December-2009
	HK 14	1.5	21-January-2010
	HK 15	1.5	15-December-2009
	HK 22	1.5	21-January-2010
	HK 23	1.5	21-January-2010
NSLC V	HK 25	1.5	30-September-2011
	HK 27	1.5	30-September-2011
	HK 29	1.5	30-September-2011
	HK 30	1.5	30-September-2011
	HK 31	1.5	30-September-2011
	HK 32	1.5	30-September-2011
	HK 33	1.5	30-September-2011
	HK 26	2.1	30-September-2011
NSLC VI	HK 16	1.5	30-September-2011
	HK 17	1.5	30-September-2011
	HK 18	1.5	30-September-2011
	HK 24	1.5	30-September-2011
	HK 19	2.1	30-September-2011
	HK 20	2.1	30-September-2011

	HK 21	2.1	30-September-2011
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Figure 03: Current Metering arrangements



Power is generated & directly sent to substation through 33kV line, Billing meters are installed in between substation and GCS towards generators.

Voltage Transformation is taking place as:

- Substation to WTG DP Yard: 33kV/1800KVA.
- WTG DP Yard to WTG Input ACB: 1800KVA/690V
- WTG Input ACB to Converter panel: 690V/420V
- Converter Panel to Hub: 420V/420V

The registered VCS Project Description & Monitoring Report version 03 dated 05-February-2019/03/ & MR /01/ and site audit observations confirm that the metering equipment are sealed and maintained by the Karnataka Power Transmission Corporation Limited (KPTCL)/BESCOM. Each metering point have a dedicated set of main and check meter to record frequency quantities of active and reactive energy for energy exported to and imported from the grid during settlement periods. All meters are sealed in the presence of the BESCOM (Bangalore Electricity Supply Company Limited) and the Company Representative, with the seal remaining intact unless broken for testing and calibration by a testing laboratory. Measuring instrument accuracy class requirements are 0.2% for kWh measurement of meters, 0.2% for KVArh measurement of meters, and 0.5% for current and voltage transformers. The meter calibration is not under the purview of PP. BESCOM is the sole authority to conduct the meter calibration.

During onsite visit /34/ the assessment team checked all the meters and confirmed that the meters were working satisfactorily. Also, the calibration of meters is completely under purview

BESCOM (Bangalore Electricity Supply Company Limited) and PP has no control over the same as confirmed through interviews of site personnel /35/ and PPA /28/. The project adheres to all the mandatory regulatory and statutory requirements at the state as well as national level & hence acceptable to VKU assessment team. The energy meter calibration certificates/27/ are checked and found that the calibration details provided in the MR /01/ are correct. From the verification of above table, assessment team also confirms that the energy meter calibrations are valid for the complete monitoring period i.e., from 01-January-2023 to 31-December-2023, including both the dates.

Data Collection and Archiving:

The daily generation schedule is prepared by the plant team, and the Power is sold to DICOM i.e., BESCOM (Bangalore Electricity Supply Company) according to the PPA /28/. The operational and Maintenance team is responsible for monitoring the generation of the Wind Turbine Generators (WTGs) daily and maintains a log book recording daily generation details for each WTG within the project, as measured at the wind farm. The VKU assessment team verified these records during their on-site visit /34/.

The assessment team has verified the B-Forms/JMRs /22/ issued by BESCOM to PP & Invoices/23/ issued to BESCOM by NSL Renewable Power Private Limited 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 VKU 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 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:

$$BE_y = EG_{PJ,y} * EF_{grid,CM,y} \dots\dots\dots \text{Equation (11) of ACM0002 V.19}$$

Where:

BE_y	=	Baseline emissions in year y (tCO ₂ e/yr)
$EG_{PJ,y}$	=	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the VCS project activity in year y (MWh/yr)
$EF_{grid,CM,y}$	=	Combined margin CO ₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (t CO ₂ /MWh)

Calculation of $EG_{PJ,y}$

The project activity being a greenfield project,

$$EG_{PJ,y} = EG_{facility,y} \dots\dots\dots \text{Equation (12) of ACM0002 V.19}$$

Where:

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

And

$$EF_{CO_2} = EF_{Grid,CM,y}$$

EF_{CO_2}	=	CO ₂ Emission Factor in year y (tCO ₂ e/MWh)
$EF_{Grid,CM,y}$	=	Combined margin CO ₂ Emission Factor of Indian Grid (tCO ₂ e/MWh)

Parameter	Unit	Value
$EG_{PJ,y}$	MWh	74,969.772
EF_{Co2}	tCO ₂ e	0.9475
BE_y	tCO ₂ e)	74,969.772* 0.9475
BE_y	tCO ₂ e)	71,033 (Round down value)
PE_y	tCO ₂ e)	0
LE_y	tCO ₂ e)	0

Net GHG emission reductions or removals tCO ₂ e	tCO ₂ e	71,033 (tCO ₂ e)
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The estimated emission reduction for the present monitoring period is **127,993 tCO₂e**, however the achieved emission reductions are **71,033 tCO₂e** (round down value), or around **44.50%** lower than the estimated emission reductions.

Emission Reduction Achievement:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
01-January-2023 to 31-December-2023	71,033	0	0	71,033
Total	71,033	0	0	71,033

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 44.50% Lower than the estimated ERs in the registered VCS Joint PD & MR/03/.

We as VKU Assessment Team accepted this as this is mainly due to the variations in low PLF, low wind speed and major shutdown & Breakdown periods during the monitoring period. The assessment team further performed the analysis of the achieved PLF for this MP i.e., 16.98 % against the ex-ante PLF i.e., 30.60%.

Table No: 13 Variation of PLF from ex-ante estimation for current monitoring period i.e., from 01-January-2023 to 31-December-2023 (Inclusive of both the dates)

Month		Capacity (MW)	Generation (kWh)	Ex-Ante PLF (%)	PLF (%)	PLF % achieved for monitoring period
01-January-2023	31-January-2023	50.4	4990.11	30.60%	13.31%	16.98%
01-February-2023	28-February-2023	50.4	4485.36	30.60%	13.24%	
01-March-2023	31-March-2023	50.4	5379.79	30.60%	14.35%	
01-April-2023	30-April-2023	50.4	1994.70	30.60%	5.50%	
01-May-2023	31-May-2023	50.4	3257.72	30.60%	8.69%	
01-June-2023	30-June-2023	50.4	7916.64	30.60%	21.82%	
01-July-2023	31-July-2023	50.4	12303.17	30.60%	32.81%	
01-August-2023	31-August-2023	50.4	6720.26	30.60%	17.92%	
01-September-2023	30-September-2023	50.4	8734.96	30.60%	24.07%	
01-October-	31-October-	50.4	4836.26	30.60%	12.90%	

2023	2023				
01-November-2023	30-November-2023	50.4	6309.93	30.60%	17.39%
01-December-2023	31-December-2023	50.4	8040.88	30.60%	21.44%

Based on the data in table, it is clear that the monthly trend of PLF is lower than the estimated. This is reflected in lower emission reductions for the current monitoring period at 44.50%.

The lower generation during the current verification period is hence due low wind flow, grid unavailability, low PLF & high scheduled & unscheduled breakdown as verified and traced through evidences and calculative computation by VKU assessment team during desk review, onsite visit and interview with site personnel confirmed the reasons of lower emissions reduction as compared with registered VCS Joint PD & MR Version 03 dated 05-February-2019/03/ & hence acceptable to VKU.

Hence the 44.50% actual lower emission reduction achieved during the current monitoring period neither affects additionality nor there is any deviation from the registered monitoring plan, which was verified by the VKU Assessment Team during onsite visit/34/.

Wind is the main source of power generation. The power generated from the wind turbine generators (WTGs) was exported to previously under southern grid (as project is implemented in southern state Karnataka) which falls now under Unified under Indian Grid system. The Project WTGs are currently operational and had successfully completed 10 years of first crediting period (from 06-June-2018 to 05-June-2028) under VCS (end date of first crediting period was 05-June-2018) and during the current monitoring period (01-January-2023 to 31-December-2023; Inclusive of both the dates) under second crediting period, no unforeseen incidents or events occur that could significantly impact the operation of the project activity were identified, with the exception of scheduled maintenance and service breakdowns.

The total duration of these breakdowns was calculated to be breakdown along with lull hours contributes a total of **66592.10 (Breakdown Hours: 59,634.43 Lull Hours: 6957.67 Hours)** hours in this monitoring period due to non-availability of wind and some scheduled shutdown for the maintenance. This downtime is approx. **21.27%** of total available hours of operation of the WTGs, during the current monitoring period. It is important to note that these breakdowns did have considerable impacts on the project activity's reduction of greenhouse gas (GHG) emissions.

Table no: 14: Breakdown Hours for the current Monitoring Period

MONITORING PERIOD	TOTAL HOURS FOR THE MONTH	TOTAL HOURS	PRODUCTION HOURS	PERCENTAGE OF PRODUCTION HOURS	BREAKDOWN HOURS	PERCENTAGE OF BREAKDOWN HOURS	LULL HOURS	PERCENTAGE OF LULL HOURS
01-January-2023 to 31-								

December-2023								
Jan-23	744	23808	13329.29	55.99%	10220.01	42.93%	258.7	1.09%
Feb-23	672	21504	13554.29	63.03%	7678.61	35.71%	271.1	1.26%
Mar-23	744	23808	16269.95	68.34%	6569.75	27.59%	968.3	4.07%
Apr-23	720	23040	14725.14	63.91%	7047.36	30.59%	1268	5.50%
May-23	744	23808	17722.76	74.44%	4931.14	20.71%	1154.1	4.85%
Jun-23	720	23040	19001.87	82.47%	3918.73	17.01%	119.4	0.52%
Jul-23	744	23808	20767.37	87.23%	3038.64	12.76%	2	0.01%
Aug-23	744	23808	18179.06	76.36%	5616.05	23.59%	12.81	0.05%
Sep-23	720	23040	20041.46	86.99%	2934.07	12.73%	64.36	0.28%
Oct-23	744	23808	18927.62	79.50%	2902.98	12.19%	1977.38	8.31%
Nov-23	720	23040	20303.16	88.12%	2338.82	10.15%	397.72	1.73%
Dec-23	744	23808	20905.75	87.81%	2438.28	10.24%	463.8	1.95%
TOTAL	8760	280320	213727.73	76.24%	59634.43	21.27%	6957.67	2.48%

The electricity produced by a wind plant relies on the amount of wind passing through it, and changes in wind availability can have an impact on its output. The flow of wind is a natural phenomenon and nobody have control over it, which can, in turn, affect the amount of electricity generated. The fluctuation in the wind flow is not under the control of the project proponent. Hence, it is acceptable to the VKU Assessment Team.

All the data were made available to the assessment team by PP during site visit/34/ and as supporting evidences which 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.

The assessment team has checked and confirmed the emission reduction calculations in the spreadsheet and found to be accurate. The monitoring report/01/ is supported by emission reduction spreadsheet/02/. The consistency and formula were verified and found to be accurate.

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 4.6 /09/ and that the verification of the GHG statement was conducted in accordance with ISO 14064-3; 2019/37/.

4.5 Non-Permanence Risk Analysis

There is no non-permanence risk that could lead to material errors, omissions or misstatements rating determined by the project proponent for the project activity and no risk was identified in the audit/verification plan hence not applicable.

5 VERIFICATION OPINION

5.1 Verification Summary

VKU Certification Pvt. Ltd. has performed the seventh verification and overall thirteenth verification for Monitoring period from 01-January-2023 to 31-December-2023 (Inclusive of both the dates) of the second crediting period (06-June-2018 to 05-June-2028, which is inclusive of both the dates) for the project activity “51 MW Wind Power Project at Chitradurga.” in India, VCS Registry Project ID 706, with regard to the relevant requirements for VCS activities. The project proponents of the “51 MW Wind Power Project at Chitradurga” amounts to **71,033** tCO₂e. These reported reductions have been assessed in accordance with the relevant requirements outlined in the VCS Standard, version 4.6/09/.

The project proponents of the “51 MW Wind Power Project at Chitradurga” project 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 Joint PD & MR version 3.0 dated 05-February-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 4.6/09/ 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 monitoring plan in the registered VCS Joint PD & MR version 3.0 dated 05-February-2019 /03/
- The monitoring is in place as per the applied baseline and monitoring methodology;
- The monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Standard version 4.6/09/ requirements;

VKU Certification 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 assurance** that reported GHG emission reductions are fairly stated.

5.2 Verification Conclusion

As per VCS Standard Version 4.6, clause 4.1.23, 4.1.24 and 4.1.25, VKU is of opinion that GHG emission reduction stated in the **monitoring report version 1.2 dated 22-June-2024** for the “51 MW Wind Power Project at Chitradurga” in India for the period 01-January-2023 to 31-December-2023(inclusive of both the dates) **are fairly and correctly stated**.

Verification period: 01-January-2023 to 31-December-2023 (Inclusive of both the dates)

Table No 15: Opinion/Conclusion by Validation-Verification Body

Opinion	Final Documents	Monitoring Period	Emission Reductions achieved	Remarks
Positive opinion ☒ Negative Opinion ☐	Monitoring Report Version 1.2 dated 22-June-2024 Emission	01-January-2023 to 31-December-2023 (Inclusive	71,033 tCO_{2e}	The GHG emission reductions are calculated on the basis of approved methodology ACM0002: Grid-connected electricity generation from renewable

Adverse Opinion ☐ Unmodified Opinion ☒ Modified Opinion ☐	Reduction Sheet Version 1.0 dated 08-February-2024	of both the dates)		sources --- Version 19/12/ and the monitoring plan included in the registered VCS Joint PD & MR /03/
Hence VKU is able to certify that the emission reduction from the project during the current monitoring period 01-January-2023 to 31-December-2023 (inclusive of both the dates) amounts to 71,033 tCO₂e assessed in line with the applicable VCS requirements set out in section 3.15 of VCS Standard version 4.6/09/ The VVB hereby issues a resolutely positive and unmodified opinion meticulously drafted in strict accordance with ISO 14064-3:2019, /37/ Section 09, and the precise provisions of Clause 9.7.1.6 & 9.7.2 of ISO 14065:2020. /38/ This opinion stands in full alignment with the exacting requirements delineated in ISO/IEC 17029:2019, Section 9.7./39/ Our verification process provides a robust and reasonable level of assurance regarding the veracity of the reported GHG emission reduction data. This data is devoid of any material misstatements and is steadfastly supported by the evidence furnished by the Project Proponent (PP), comprehensively presented in <u>Table 04</u> of this report.				

Verified GHG emission reductions and carbon dioxide removals in the above verification period:

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCU (tCO ₂ e)	Removal VCU (tCO ₂ e)	Total VCU (tCO ₂ e)
01-January-2023 to 31-December-2023	71,033	0	0	0	0	71,033
Total	71,033	0	0	0	0	71,033

5.3 Ex-ante vs Ex-post ERR Comparison

Vintage period	Ex-ante estimated reductions/	Achieved reductions /	Percent difference	Explanation for the difference
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	removals	removals		
01-January-2023 to 31-December-2023	127,993	71,033	-44.50%	The actual ER achieved is lower than the PD estimated ER for the comparable period. This is mainly due to low PLF during the current monitoring period. There was unexpected downtime/breakdown due to wind unavailability and also due to routine maintenance etc.
Total	127,993	71,033	-44.50%	

APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

This section is Not Applicable as per the onsite interview with Project Proponent.

Section	Information	Justification	Assessment method and conclusion
NA	NA	NA	NA

APPENDIX 2: <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
EB	Executive Board
EF	Emission Factor
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
HH	Household
IPCC	Intergovernmental Panel on Climate Change
KCM	Korea Carbon Management
MoV	Means of Verification
MR	Monitoring Report
N/A	Not Applicable
OSV	On Site Visit
PAI	Project Activity Activitys
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)
UNFCCC	United Nations Framework Convention on Climate Change
VCU	Verified Carbon Unit
VCS	Verified Carbon Standard
VKU	VKU Certification Private Limited
VVS	Validation and Verification Standard
VVB	Validation and verification body

APPENDIX 3: AUDIT FINDINGS

Type	Date	07-March-2024
CL01	Reference	Section 1.1, 1.5, 1.9, 1.10, 2.2 of Val/Ver protocol
Description of the Non-Conformance		
1. Section 1.1 of MR: PP to clarify Are the dates inclusive of both dates? 2. Section 1.5 of MR: PP to provide document to substantiate the claim to the VVB 3. Section 1.9 of MR: PP to provide document to substantiate the claim to the VVB 4. Section 1.10 of MR: PP to provide document to substantiate the claim to the VVB 5. Section 2.2 of MR: PP to provide document to substantiate the claim to the VVB		
1 st Response from PP	Date	16-April-2024
1. Section 1.1 of MR: PP has clarified that the monitoring period dates are inclusive of both start and end dates. 2. Section 1.5 of MR: PP has provided the required document. 3. Section 1.9 of MR: PP has provided the required document. 4. Section 1.10 of MR: PP has provided the required document. 5. Section 2.2 of MR: PP has provided the required document.		
1 st Assessment by Audit Team	Status	Closed
	Date	18-April-2024
1. Section 1.1 of MR: PP has clarified that the monitoring period dates are inclusive of both start and end dates. Hence accepted. 2. Section 1.5 of MR: PP has provided the required document. Hence Accepted 3. Section 1.9 of MR: PP has provided the required document. Hence Accepted 4. Section 1.10 of MR: PP has provided the required document. Hence Accepted 5. Section 2.2 of MR: PP has provided the required document. Hence Accepted		
#CL01 is Closed		

Type	Date	07-March-2024
CL02	Reference	Section 3.1, 4.2, 4.3, Appendix of Val/Ver protocol
Description of the Non-Conformance		
- Section 3.1 of MR: PP to provide evidence to verify the same - Section 4.2 of MR: - PP to provide document for the same - PP to provide document for the sale of electricity - PP to provide document for the same - Section 4.3 of MR: PP to provide documents to verify the same - Appendix section of MR: PP to provide documents for the same		

1 st Response from PP		Date	16-April-2024	
1. Section 3.1 of MR: PP has provided the required document to the VVB 2. Section 4.2 of MR: PP has provided the required document to the VVB, as requested. 3. Section 4.3 of MR: PP has provided the required document to the VVB 4. Appendix section of MR: PP has provided the required document to the VVB				
1 st Assessment by Audit Team	Status	Closed	Date	18-April-2024
1. Section 3.1 of MR: PP has provided the required document to the VVB. Hence Accepted 2. Section 4.2 of MR: PP has provided the required document to the VVB, as requested. Hence Accepted 3. Section 4.3 of MR: PP has provided the required document to the VVB. Hence Accepted 4. Appendix section of MR: PP has provided the required document to the VVB. Hence Accepted.				
#CL02 is Closed				

Type	Date	21-June-2024		
CL03	Reference	Section 1.1, 1.10.2, 1.12, 2.2 of Ver protocol		
Description of the Non-Conformance				
1. Section 1.1 of MR: So, what is the current status of this project w.r.t to CDM registration 2. Section 1.10.2 of MR: Include current status of the project w.r.t CDM registration 3. Section 1.12 of MR: Incorrect Version in footnote 4. Section 2.2 of MR: Could not find any evidence of same in supporting documents				
1 st Response from PP		Date	22-June-2024	
1. The status of project in CDM has been described in the MR. The project in CDM has not been registered and no credits has been claimed in any other GHG programme except VCS. 2. Already answered above for the same clarification 3. The version of standard has been updated in footnote. 4. Noe provided. Also the condition of site condition was witnessed by VVB during the onsite visit.				
1 st Assessment by Audit Team	Status	Closed	Date	24-June-2024
1. Section 1.1 of MR: The status of project in CDM has now been described in the MR. Hence Accepted. 2. Section 1.10.2 of MR: PP has clarified the scenario. Hence Accepted. 3. Section 1.12 of MR: The version of standard has now been updated by PP. Hence Accepted. 4. Section 2.2 of MR: Now provided. Also, the condition of site condition was witnessed by VVB during the onsite visit. Hence Accepted.				

#CL03 is Closed

Type	Date	07-March-2024
CAR01	Reference	Section 1.1, 1.11, 4.3 of Val/Ver protocol
Description of the Non-Conformance		
1. MR Template- PP to Refer Version 4.3 of VCS MR since this version of MR is not applicable now. 2. Section 1.1 of MR- PP has not mentioned verification period no. 3. Section 1.11 of MR: As per MR Template PP to provide evidences for SD Contributions as appendices in MR. 4. Section 4.3 of MR: During site visit it was observed that meters were replaced on 7/11/2023. But the details of the same is not included in MR. PP to incorporate the details in MR.		
1 st Response from PP	Date	16-April-2024
1. MR Template- PP has updated the monitoring report. 2. Section 1.1 of MR- As per VCS MR template the verification number is not required to be stated. 3. Section 1.11 of MR: The instructions in the monitoring report states “Evidence of the project’s SD contributions shall be provided as appendices to this report.” The PP is claiming three SDG’s one pertaining to Net electricity exported to the grid, evidences to which includes the JMR’s Invoices, DGR data etc, PP cannot add the same to the appendices, however has submitted to the VVB as supporting documents the other one PP has voluntary declared but not claimed, and for the third SDG, which is calculated value, PP is not required to add any appendices. PP has already stated the VCS standard requirements. No further justification is needed from PP. 4. Section 4.3 of MR: The revised meter details are provided by PP.		
1 st Assessment by Audit Team	Status	Closed
	Date	18-April-2024
1. MR Template- Monitoring report is now updated by PP. Hence Accepted 2. Section 1.1 of MR- Verification no. is specified in footnote. Hence Accepted 3. Section 1.11 of MR: PP has provided relevant justification for the claims. Hence Accepted. 4. Section 4.3 of MR: Meter replacement details are now added by PP. Hence Accepted.		
#CAR01 is Closed		

Type	Date	21-June-2024
CAR02	Reference	Section 1.1, 2.1.2, 4.1 of Ver protocol
Description of the Non-Conformance		

1. Section 1.1 of MR: 2nd crediting period need to be included here along with MP 2. Section 2.1.2 of MR: How Monitoring results are shared through grievance register????? 3. Section 4.1 of MR: • Not as per registered PDD Inconsistency observed • Operating margin pertains to Indian Grid while Build margin is from Southern Regional Grid. CEA calculation data base does not describe this for southern region.				
1 st Response from PP		Date	22-June-2024	
1. The requirement to state the crediting period is not there in MR template however PP has provided the crediting period span in the footnote as requested by VVB. 2. Monitoring results were shared through the grievance register by documenting grievances, conducting investigations, and documenting resolutions. The results of stakeholder consultations were documented using a variety of methods, including meeting minutes, reports, surveys, and feedback forms. 3. There is no inconsistency with the registered PD version 03 dated 05/02/2019 4. As per CEA database version 13 (released in June 2018) In previous years before April 2016, the Indian electricity system was divided into two grids, the NEWNE and Southern Grid. These are now integrated as a single “Indian Grid” covering all the states. Thus, the project activity earlier was considered under Southern Grid which is now referred as Indian Grid.				
1 st Assessment by Audit Team	Status	Closed	Date	24-June-2024
1. Section 1.1 of MR: PP has now mentioned details about crediting period in footnote. Hence Accepted. 2. Section 2.1.2 of MR: PP has now updated the statement. Hence Accepted. 3. Section 4.1 of MR: • No inconsistency is observed as per the Registered PD. Hence Accepted • PP has now mentioned the details pertaining to southern grid. Hence Accepted.				
#CAR02 is Closed				

APPENDIX 4: COMPETENCE STATEMENT

Team Leader and Technical Expert T.A. 1.2 (Local Expert)



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Vivek Kumar Ahirwar
Nationality	Indian
Countries of Experience	India, Madagascar, Thailand, Nepal, South Africa, Vietnam, Mozambique, Kenya, Ethiopia, Spain, Singapore, Zimbabwe, Columbia, Zambia, Libya, Indonesia, Myanmar
Education Qualification	B.E.(Mechanical) M.Tech.(Energy Management)
Year of Experience	15 Years +
Area of Expertise	Climate Change & Environment & Industry
Eligible Sectoral Scope	TA 1.1 Thermal Energy & Biomass TA 1.2 Renewables/Non-renewables TA 2.1 Energy Distribution TA 3.1 Energy Demand TA 13.1 Solid waste and Wastewater

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 (TA 1.1, 1.2, 2.1, 3.1, 13.1)	YES
Financial Expert	YES

Reviewed by	Apoorva Gupta (Quality Manager)	Date	11/10/2023
Approved by	Barun Kumar (Technical Manager)	Date	11/10/2023

Validator/Verifier Trainee



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Monika Jha
Nationality	India
Countries of Experience	India
Education Qualification	M.Sc. - Environmental Sciences PG Diploma - Environmental Sciences and Sustainable Development B.Sc. – CBZ
Year of Experience	2 Years
Area of Expertise	Climate Change & Environment Industry
Eligible Sectoral Scope	N/A

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	Apoorva Gupta (Quality Manager)	Date	23/10/2023
Approved by	Barun Kumar (Technical Manager)	Date	23/10/2023

Technical Reviewer cum Technical Expert TA 1.2



VKU 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