GREEN ENERGY PROJECT AT KUTCH BY POWERICA LIMITED

By KBS Certification Services Pvt. Ltd.

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Summary:

KBS Certification Services Pvt. Ltd. has been contracted by, "EKI Energy Services Limited." to undertake verification and certification for the greenhouse gas (GHG) emission reductions reported from 'GREEN ENERGY PROJECT AT KUTCH BY POWERICA LIMITED' for the monitoring period 01/02/2020 to 31/12/2020 (Inclusive of both days), under the CDM Second crediting period 22-Oct-2019 to 21-Oct-2026, in the monitoring report version 01 dated 20/02/2021, with regard to the relevant requirements of VCS Standard Version 4.

The GREEN ENERGY PROJECT AT KUTCH BY POWERICA LIMITED with a total capacity of 21.6 MW is located in Kutch district, within state of Gujarat, India. The Wind power plant is designed to convert the wind potential energy into kinetic energy using Wind turbines. The electricity generated is exported to the regional grid system which is under the purview of the NEWNE grid [1]of India.

The project activity has been operational since commissioning (14-July-2011) and the project involves 12 Wind Turbine Generators located at the project site with capacity of 1.8MW each.

The verification is based on the VCS PD, CDM PDD Monitoring report (MR), Emission reduction calculation spread sheet (ER sheet), proof of title, proof of right, additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and supporting documents made available to the verification team by project proponent.

[1] NEWNE grid is now synchronisation with other regional grids now called Indian Grid

A risk based approach has been followed to perform the verification of the project activity. In the course of verification, 05 Corrective Action Requests (CARs) and 03 Clarification Requests (CLs) have been raised. All the CARs and CLs have been closed out successfully.

It is our responsibility to express an independent GHG verification opinion on the GHG emissions and on the calculation of GHG emission reductions from the project for the period 01/02/2020 to 31/12/2020 (Inclusive of both days) based on the reported emission reductions in the final monitoring report version 2 dated 10/03/2021 for the same period.

Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, KBS planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated.

As a result of the verification, the verification team confirms that:

- The project fulfils criteria of VCS Standard Version 4.
- The project is in line with all relevant VCS requirements /5/.
- Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board and VCS Association;
- All information and references relevant to the project activity resulting in emission reductions;

The monitoring is transparent, adequate and in line with applied baseline and monitoring methodology of ACM0002: Grid-connected electricity generation from renewable sources --- Version 12.3.0 /10/.

Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 36,725 tCO2e emission reductions during the monitoring period (01/02/2020 to 31/12/2020 (Inclusive of both days)), under the crediting period (22-Oct-2019 to 21-Oct-2026).

Contents

1 INTRODUCTION

1.1 Objective

KBS Certification Services Pvt. Ltd. has been contracted by, "EKI ENERGY SERVICES LIMITED." to undertake verification and certification for the greenhouse gas (GHG) emission reductions reported from 'GREEN ENERGY PROJECT AT KUTCH BY POWERICA LIMITED' for the monitoring period 01/02/2020 to 31/12/2020 (Inclusive of both days), under the CDM second crediting period 22-Oct-2019 to 21-Oct-2026, in the initial monitoring report version 01 dated 03/02/2021, with regard to the relevant requirements of VCS Standard Version 4. The VCS projects must undergo an independent third-party verification and certification of emission reductions as the basis for issuance of Voluntary Emission Reductions (VERs).

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

- The project activity has been implemented and operated as per the project description (PD) and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- Monitoring report and other supporting documents are complete;
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan.
- To confirm that the monitoring system is implemented and fully functional to generate Voluntary Emission Reductions (VERs/VCUs) without any double counting, and
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.

1.2 Scope and Criteria

The verification scope is defined as an independent and objective review of monitoring report, VCS project description (VCS PD and CDM PDD)/3/, including the monitored data, and other relevant documents made available to verifier and information collected through performing interviews during Remote assessment (interviews) of the project activity.

The project is assessed against the requirements of VCS standard version 4 and related rules and guidance /5/. KBS has, based on the recommendations in the latest version of Verified Carbon standard, and employed a rule-based approach (as criteria) in the verification, focusing on the identification of significant reporting rules and the reliability of project monitoring.

The aspects to be covered under the purview of verification are:

- Ensure that the project activity has been implemented and operated as per the registered VCS PD ,CDM PDD/3/ and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place as per the documents provided by the client and during remote audit;
- Ensure that the monitoring report and other supporting documents provided are complete
- Ensure that the practiced monitoring system and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved CDM methodology /10/;
- Evaluate the data recorded and stored are as per the monitoring methodology.

1.3 Level of Assurance

☑Reasonable level of assurance

The verification is based on the VCS PD, CDM PDD/3/, MR, proof of title, proof of right, additional documents related to baseline and monitoring methodology, the subsequent background investigation, monitoring plan, follow-up interviews and supporting documents made available to the verification team by project proponent. The information in these documents is reviewed against the requirements of VCS Standard Version 4.0. KBS has employed a risk-based approach in the verification, focusing on the identification of significant risks for project implementation and the generation of Emission Reductions.

The items covered in the verification are described below:

- Criteria of VCS Version 4 (VCS Program guide Version 4 & VCS Standard Version 4)
- Criteria of CDM approved methodology, ACM0002- Version 12.3.0
- VCS Monitoring Report/1/
- Monitoring Plan
- Background investigation and follow up interviews
- Stakeholder feedback
- Registered VCS-PD, CDM PDD and Validation Report/3/
- project's compliance with other relevant rules, including the project country (India) legislation and assurance to stakeholders of the quality

Furthermore, the verification team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data available on public domain. A desk review is carried out to assess the following:

- Compliance with relevant law and regulations

- Stakeholder comments (If any)
- Proof of title
- Single line diagram/7/ and site location map
- Technical specifications of turbines, meters etc./6/
- Power Purchase Agreement/8/
- Commissioning Certificate/9/
- Remote auditing (08/02/2021) for verification
- Invoices/14/
- Export/Import data records
- Calibration Certificates/13/

The Verification team has checked all the above-mentioned details and confirms that all the information provided is accurate.

Through the remote interviews host country rule and regulations related to project activity, Project description, technological measures, Implementation, Operation, Management of project activity and Training of personnel, Baseline and Monitoring plan, Stakeholder consultation etc. has been checked and found appropriate.

KBS applies the risk-based approach aimed at focusing on high risk issues to the verification results whilst not omitting any part of the mandatory processes. A few discrepancies were found during the verification and the findings were submitted to the project proponent, indicated under the titles corrective action requests (CARs) and clarification requests (CLs). CARs and CLs require the PP to take relevant actions.

Hence the above steps were followed for achieving the level of assurance in verification report. Based on the process and procedures conducted, KBS confirms that the information in the MR:

- is materially correct and is a fair representation of the actual project details, and
- is prepared in accordance with VCS requirements /4//5/ and the applied CDM methodology for information pertaining to GHG qualification, monitoring and reporting.

The verification work is carried out as per this requirement and the verification opinion is assured, provided the credibility of all above. Details are presented in the Verification statement in section 5 below.

1.4 Summary Description of the Project

The project activity with a total capacity of 21.6 MW is located, within the jurisdiction of Kutch district, state of Gujarat, India. The wind based power plant is designed to convert the wind potential energy into kinetic energy which produce electricity by generators this process includes Wind Turbine Generators (WTGs). The electricity generated is sold the regional grid system which is under the purview of the NEWNE[2] grid of India.

The project activity has been operational since commissioning (14/07/2011) and during the monitoring period i.e., from 01/02/2020 to 31/12/2020 (Inclusive of both days), it has generated 38,720.73 MWh net electricity, thereby resulting in emission reduction of 36,725 tCO2e. The monitoring period subject to this monitoring report is inclusive of first and last day of period

During the remote audit inspection /11/, location (as mentioned in section 1.7 of MR) and all the technical aspects of the project activity (equipment, serial no., type, date of calibration etc.) mentioned in the PD /03/ have been verified. The same was also crosscheck during the desk review of supporting documents /6//7//8//9/.

Project entity information as verified is presented below:

Item	Data
Project Entities	Powerica Limited (Project Owner)
	EKI Energy Services Limited (Project consultant)

[2] NEWNE grid is now synchronisation with other regional grids now called Indian Grid

2 VERIFICATIONPROCESS

2.1 Method and Criteria

The verification process was carried out in line with the requirements of VCS Version 4 /4/. In addition, the verification team followed the guidelines of the CDM Validation and Verification Standard. Standard auditing techniques and KBS's CDM Procedures were also applied during the verification. A risk-based approach was followed to carry out verification and access all the factors and concerns that relate to the issuance of emission reductions from a project activity. They include:

- Identification of all the sources contributing to the project emissions and emission reductions.
- Authenticity of the provided data is checked.
- A risk-based analysis is carried out to ensure a clear and transparent assessment. The risks involved in this process are mainly with the informational flows and data recording.

KBS follows a risk-based verification approach, wherein a desk review of the project documentation is undertaken, which is followed by a remote discussion/video inspection by the members of verification team. The verification protocol is filled by the verification team that is based on standard auditing practices and VCS requirements. The verification protocol provides transparent means to record the observations by the verification team members and the non-conformities, if any. The verification protocol is an internal document, and available on request.

Duration of Verification:

Verification Contract	03/02/2021
Remote audit	08/02/2021 (Justification section 2.4 below)
Draft Verification Report	02/04/2021
Final Verification Report	07/04/2021

2.2 Document Review

A desk review is undertaken, involving but not limited to,

- A review of the data and information presented to verify their completeness;
- A review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures;
- An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

The list of documents reviewed is included in the section 'References'.

2.3 Interviews

Please refer section 2.4, where complete list of interviewed personnel and key points discussed is provided.

2.4 Site Inspections

As a result of the COVID-19 pandemic, taking into account the rules of relevant national and local authorities (local to the VVB offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the VVB, email clarification for Verra guidance on site visits, notification of Covid-19 Travel Guidance for Projects https://verra.org/covid-19-travel-guidance/ and other relevant travel restrictions and guidance (for example, a requirement to self-isolate upon return from specific countries), the VVB has skipped the on-site visit. Further Email from VERRA dated 24/03/2020 from "Andrew Beauchamp" has been referred as per which "*The VCS Program VVBs not explicitly mandate site visits as part of the validation and verification process, only that VVBs must achieve a reasonable level of assurance on all validations and verifications (per Section 4.1.2 of the VCS Standard, v4.0). Therefore, where a VVB can achieve a reasonable level of assurance without conducting a site visit, or through a remote site visit, this is in conformance with the VCS rules, and no request for an exemption or pre-approval from Verra is required. However, where a validation/verification has been conducted without a site visit, or through a remote site visit, please ensure that the applicable section of the validation/verification report includes a discussion of how a reasonable level of assurance was achieved without an in-person site visit*".

Hence, the VVB has used other standard auditing techniques for validation or verification as referred to in VCS Rules/requirements, VCS Validation and Verification Manual version 3.2.

Verification team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of verification. Along with desk review, audit team has conducted remote audit interview as follows:

- A complete desk review of the MR, as well as all applicable country legal requirement and supportive evidences have been checked by the verification team.
- Verification team has performed Skype and Whatsapp interview with PP in order to check implementation, project boundary, current situation, monitoring and metering equipment, monitoring procedures, calibration etc.
- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in MR and supporting documents.
- A check of the monitoring equipment including performance and observations of monitoring practices against the requirements of the registered VCS PD, CDM PDD/3/ and the selected methodology/10/.

Details of interviewees, topics covered and additional information are presented below:

Dates:	08/02/2021 (Skype and Whatsapp)	
Key points discussed:	**Name of person, interviewed**	**Designation, Organization**

Operational data, Calibration, Data collection, QA/QC procedures, Calculation of ERs,	Mr. Prakash Kumar Sahu	Manager, Climate Change Operations EKI Energy Services Limited
	Mr. Murugesanr, Souvik Mitra, Rahul Kulkani	Manager Operations

2.5 Resolution of Findings

KBS applies the risk-based approach aimed at focusing on high risk issues to the verification results whilst not omitting any part of the mandatory processes. A few discrepancies were found during the verification and the verification report was submitted to the project proponent, indicated under the titles corrective action requests (CARs) and clarification requests (CLs). CARs and CLs require the PP to take relevant actions. Criteria for judging items as CAR or CL are as follows:

Corrective action request (CAR):

- the project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions
- the Voluntary Carbon Standard's requirements have not been met, or
- there is a risk that emission reductions cannot be monitored or calculated.

Clarification request (CL):

- Information is insufficient or not sufficiently clear to determine whether the applicable VCS requirements have been met.

FAR (Forward Action Request):

FARs is to be raised to highlight issues related to project implementation that require review during the first verification of the project activity. FARs VVBs not relate to VCS requirements for registration.

CARs and CLs are to be resolved or closed out if the PP modifies the project description, rectifies the MR or provides adequate additional explanations or evidence that satisfies the concerns. If this is not completed, the project activity cannot be recommended for issuance under VCS registry.

The monitoring report was revised addressing the CARs & CLs issued by KBS. After reviewing the revised and resubmitted MR/1.2/; resolving the CARs & CLs raised and outstanding concerns, KBS issues this final verification report and opinion.

03 CLs and 05 CARs were found during verification and closed satisfactorily. The list of CARs/CLs raised and the response provided, the means of verification, reasons for their closure and references to correction in the MR are provided in appendix 2 of this report. The revised MR/1.2/ with changes incorporated as per the issues raised were rechecked with the documentary evidences and found to be inline.

2.5.1 Forward Action Requests

No FAR has been raised during this Verification and previous verification/validation.

2.6 Eligibility for Validation Activities

KBS conducted the verification activity; the validation was performed by the other VVB. KBS has a valid UNFCCC accreditation in the sectoral scope from UNFCCC.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project is registered with UNFCCC under Clean Development Mechanism (CDM) program, registration reference number is 7671[3] , the undertaking has been provided for the same.

3.2 Methodology Deviations

The verification team confirms that the registered PDD complies with the requirements in the applied monitoring methodology ACM0002 version 12.3.0/10/.

Tool for the demonstration and assessment of additionality --- Version 06.0.0, EB 70, Annex 8

Tool to calculate the emission factor for an electricity system --- Version 02.2.1, EB 87, Annex 09

Guidelines for the reporting and validation of plant load factors", Version 01, EB 48

Therefore, no methodology deviations are applied during the monitoring period.

3.3 Project Description Deviations

There has been deviation in the project description, the calibration is considering five years as per CEA notification and as per deviation request in the previous verification

3.4 Grouped Project

The project is not a grouped project. Therefore, this section is not applicable.

[3] https://cdm.unfccc.int/Projects/DB/LRQA%20Ltd1349877556.69/view

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity is in operation stage as evidenced by the remote inspection /11/ of the site. All the physical components and project boundary are in conformity with the description in registered VCS PD CDM PDD/03/. The capacity of project equipment's have been confirmed during the remote inspection, also through the technical specifications /06/ and found in-compliance with the registered VCS PD CDM PDD/03/. The project activity was commissioned on 14/07/2011 as per commissioning certificates/09/.

On the basis of the remote inspection and the reviewed project documentation like the technical specification, photographs of meters, wind turbines/6/, single line diagram/7/, power purchase agreement/8/, commissioning certificates/9/, calibration certificates of energy meters/13/, and invoices/14/ etc. the verification team confirms that the project was implemented and operated as described in the registered VCS PD/3/ CDM PDD/3/. Further, the verification team confirms that-

-There is no any material discrepancy between project implementation and the project description in the registered VCS PD and CDM PDD.

- The monitoring plan is completely implemented and is suitable with actual monitoring system (i.e., process and schedule for obtaining, recording, compiling and analysing the monitored data and parameters)

- The project has not participated or been rejected under any other GHG programs and further has not received or sought any other form of environmental credit since validation or previous verification.

- There is no methodology deviation applied to this project.

The total generation capacity of the power plant due to 12 WTGs (each turbine is of 1.8 MW) is 21.6 MW which was verified during the remote audit.

Further it was noticed that during the monitoring period the project activity operated under normal conditions and no significant event that may have impact on monitoring of GHG emission reductions was observed. Same has been checked from the operational data during remote auditing.

Ownership and other programs:

PP has declared that the project is registered with UNFCC under Clean Development Mechanism (CDM) as declared in VCS-PD /03/ CDM PDD/03/. Thus emission reductions generated by project will be solely claimed by PP and PP has the right of use, which is acceptable. Net GHG emission reductions or removals generated by this project will not be used for compliance with an emissions trading program or to meet binding limits on GHG emissions as the host country i.e. India is not a participant in any emission trading programs or nor VVBs it have any binding limits.

PP will not claim any other the environmental/carbon credits under any other GHG emission reduction scheme for the crediting period under VCS and PP has provided declaration on the same during the validation. Hence, there is no possibility of double counting.

Sustainable Development Contributions:

As confirmed during the remote audit, the project displaces electricity produced in fossil fuel based power plants, by using clean renewable source to generate electricity and thereby contributes to sustainable development through reduction in greenhouse gas (GHG) emissions. It has also been confirmed that the project implementation has led in significant environmental and socio-economic benefits (as stated in section 1.11 of the submitted MR) and contributes to the social, economic, technological and environmental well-being. The project supplies clean, affordable and renewable energy without reliance on fossil fuels for generation of electricity to meet the growing demands in the region. Also, the implementation of project is providing employment to locals with a decent and secure work environment by reducing emissions otherwise generated by the operation of fossil fuel based power plants and would lead to promotion of wind based power generation and to encourage other entrepreneurs to participate in similar projects as well. The project also led to rural development and improvement of air quality with the region.

Management and operational system:

Verification team was able to verify that authorities and responsibilities /15/ for monitoring and reporting of all data related to the emission reductions were clearly defined for the monitoring period from 01/02/2020 to 31/12/2020 (Inclusive of both days).

The allocation of the responsibilities is documented in a written form and is followed as described in the registered VCS PD/03/ CDM PDD/3/. Routines for the archiving of data are defined and documented.

The monitoring plan described in section 4.3 of the MR/1.2/ is confirmed to be correct. All the parameters of the monitoring plan are monitored using appropriate metering system.

The verification team has interviewed the plant personnel /11/ who is involved in the monitoring of the parameters that are used to determine the emission reductions of the VER project. It is confirmed based on the interviews /11/ that the plant's team is competent enough to monitor the parameters as described in the monitoring plan.

As discussed above, the verification team concludes that management and operational system of the project is implemented and operated well. Thus, it ensures the quality of data which is required in calculating the emission reductions.

Implementation status of the monitoring plan:

Verification team confirms through remote inspection /11/ and from the document review /08//09//13//14/ the actual monitoring system complies with the monitoring plan mentioned in the registered VCS PD /3/ CDM PDD/3/ and there is no deviation in monitoring plan and procedures, equipments.

During the verification, all relevant monitoring parameters of the registered monitoring plan have been verified with regard to the appropriateness of the verification method; the correctness of

the values applied for ER calculation, the accuracy and applied QA/QC measures. All monitoring parameters have been measured / determined without material misstatements and are in line with all applicable standards and relevant requirements. It is confirmed that the monitoring mechanism is effective and reliable.

Therefore, from the document review and remote inspection, it is confirmed that all the parameters were monitored in accordance with the registered monitoring plan during the monitoring period. Following are the details of monitoring in accordance with the monitoring plan of the registered VCS PD/03/ CDM PDD/03/:

Data - Parameter	$EG_{facility, y}$
Data unit	MWh
Description	Quantity of net electricity generation supplied by the project (Wind) plant/unit to the grid during year Y
Source of data	Verification team confirms that the data has been measured directly from Certificate for share of electricity generated by Wind farm issued by GETCO
Description of measurement methods and procedures to be applied	During the remote inspection and through document review, it has been confirmed that the value of net electricity generation supplied to the grid as per invoices which has been cross checked from the invoice raised to GETCO. Net electricity supplied to grid was calculated as the difference of the measured values of “export” and “import” of electricity through the dedicated energy meter installed at the delivery point (i.e. the connected substation). Monthly meter readings are taken from the main and check meter installed at the substation and certified by the representatives of GETCO Officials and the representatives of the project proponent.
Frequency of monitoring-recording	Continuous monitoring and at least monthly recording, as verified by the verification team through remote assessment.
Value monitored	38,720.73 MWh
Monitoring equipment	During the remote inspection and through document review, it has been confirmed that the data has been monitored continuously by tri vector meters of accuracy class 0.2s of the meter at respective substations that are used for the exported electricity metering and 0.5s of the meter at respective WTG yards that would be used for the electricity metering. The Calibration dates of the meters and their validity is as follows for yard meters:

WTG No	Meter Serial No.	Year 2018	Next Due date of Calibration
JW27	GJU61847	09/03/2018	08/03/2023
NM04	GJU64200	07/03/2018	06/03/2023
VW21	GJU61844	14/03/2018	13/03/2023
VW32	GJU61845	14/03/2018	13/03/2023
NM03	GJU65938	07/03/2018	06/03/2023
NM06	GJU74496	07/03/2018	06/03/2023
NM07	GJU74498	07/03/2018	06/03/2023
JW09	GJU64145	09/03/2018	08/03/2023
JW10	GJU64174	09/03/2018	08/03/2023
JW12	GJU64152	09/03/2018	08/03/2023
JW13	GJU64146	09/03/2018	08/03/2023
JW30	GJU64165	09/03/2018	08/03/2023

The bulk meters located at the substation

Meter Sr. No. Make: Accuracy class:	GJ-2311- A L & T 0.2S	GJ-2363 – A L & T 0.2S
Meter Location (Vandhiya 220 KV Substation)	Line - 1	Line -2
Date of Calibration	15-Oct.-2018	15-Oct.-2018
Next due date	14-Oct.-2023	14-Oct.-2023
Meter Sr. No. Make: Accuracy class:	GJ-2369- A L & T 0.2S	GJ-2370 – A L & T 0.2S
Meter Location (Shikarpur 132 KV Substation)	Line - 1	Line -2
Date of Calibration	15-Oct.-2018	15-Oct.-2018

	<table><tr><td>Next due date</td><td>14-Oct.-2023</td><td>14-Oct.-2023</td></tr></table> The meters are calibrated once in five years by the GETCO. It is found to be in line as per CEA notification Both the meters are in compliance with the host country calibration regulations and had valid calibrations during the entire monitoring period.
QA-QC procedures to be applied	The values has been also cross-checked with the invoice and was found to be consistent.
Purpose of the data	Calculation of Baseline emissions
Calculation method	-
Comments	As confirmed during the remote inspection /11/, the collected data will be kept by Project party during the crediting period. The data would be archived electronically and maintained for the entire crediting period plus two years.

Remaining Issues from Validation or Previous Verification:

This verification of the registered project activity and from the review of validation report and the previous verification reports, verification team confirms that no FAR was to be addressed during this verification.

Finding: CL 01, CL 02, CL 03 and CAR 04 were raised and successfully closed. Refer to appendix 2 for further details.

Opinion:

The verification team confirms that

- The project activity has been implemented and operated as per the registered VCS PD and CDM PDD /3/ and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place, as per the documents provided by the PP and remote audit /11/;
- The monitoring complies with the requirement of the applied methodology /10/;
- The information inflow (from data generation, aggregation, to recording, calculation and reporting) is included above under each parameter and confirms to the requirement of the PD /3/;
- The values included in the monitoring report /1.2/ and corresponding emission reduction sheets /2.2/ are verified and included under each monitoring parameter.

4.2 Safeguards

4.2.1 No Net Harm

The project activity is grid connected wind power plant and VVBs not involve any negative impact. Assessment team confirms it based on its local and sectoral expertise.

4.2.2 Local Stakeholder Consultation

The local stakeholder consultation meeting for the project activity was conducted on project site and the process was validated during the registration of project activity in VCS. VCS and CDM validation report /3/ was verified to confirm the same. The PP had invited identified stakeholders well in advance in by invitation letters and newspaper advertisements to local villagers, panchayat members and representatives of PWEPL with details of venue and time of meeting. Also, PP has grievance register maintained at site for complaints (if any).

During the monitoring period there were no complaints about or demands from the project. The same was confirmed through the remote audit conducted during the monitoring period.

4.3 AFOLU-Specific Safeguards

This is not an AFOLU project.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The verification team has reviewed the emission reduction (ER) spread sheet /2.2/ and checked all the formulae and verified them to be correct and in line with the monitoring plan of the registered VCS PD , CDM PDD/3/ and the applied monitoring methodology /10/.

All the monitored parameters are described above in section 4.1. All the ex-ante parameters which are used in the calculation of emission reduction are presented in section 4.1 of the MR /1.2/ transparently. It is confirmed that all the ex-ante parameters have been correctly used in the emission reduction calculation.

Baseline emissions:

The baseline emissions (BEy) are calculated based on the following formula:

BEy =EG facility,y X EF grid,CM,y

Where:

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

EG facility,y = Net Electricity exported to grid (MWh)

EG facility,y = Net Electricity exported to grid (MWh)

EFgrid, CM, y: Baseline emission factor (tCO2e/MWh) in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO2e/MWh)

It is fixed ex-ante for the duration of the crediting period, and is 0.9486 tCO2e -MWh.

Therefore,

BEy =EG facility,y X EF grid,CM,y

BEy= 38,720.73 (MWh) * 0.9486 (tCO2/ MWh)

BEy= 36,725tCO2e

It is noted that the formula and calculation used for baseline emission calculation in the monitoring report and ER sheet /2.2/ is in compliance with the registered VCS PD/3/ CDM PDD/3/. The default values and data used in the monitoring report /1.2/ is in-line with the registered PD/3/. Hence, acceptable to the verification team.

Project Emissions:

As per the methodology /11/ the PEy in case of a wind power project is considered zero.

Hence, PEy= 0 is acceptable to the verification team.

Leakage:

As per the methodology ACM0002, version 12.3.0 /10/ and as defined in the registered VCS PD/3/ CDM PDD/3/ no leakage is considered in the project activity and the same is followed in this monitoring period also. Thus, it is in compliance with the registered VCS PD/3/ CDM PDD/3/.

The following are the ex-ante parameters used in the ER calculation which are in compliance with registered VCS PD and CDM PDD/3/:

Parameter	Description	Source/Justification
EFgrid,OM,y tCO2/MWh	Operating Margin CO2 emission factor in year y	Obtained from the CEA database on CO2 Baseline for Indian Power Sector, Version 06 as the weighted average of Operating Margin (incl. imports) for years 2007-08, 2008-09, 2009-10 The value 0.9941 (NEWNE[4] Grid) is used for calculation of baseline Emission and is found to be consistent with the registered VCS-PD and CDM PDD/3/.

[4] NEWNE grid is now synchronisation with other regional grids now called Indian Grid

EFgrid,BM,y tCO2/MWh	Build Margin CO2 emission factor in year y	Obtained from the CEA database on CO2 Baseline for Indian Power Sector, Version 06, March 2011 The value 0.8123 (NEWNE Grid) is used for calculation of baseline Emission and is found to be consistent with the registered VCS PD and CDM PDD/3/.
EFgrid,CM,y tCO2/MWh	Combines Margin CO2 emission factor in year y	The combined margin emissions factor is calculated as follows: EF grid,CM,y = EF grid,OM,y * wOM + EF grid,BM,y * wBM The following default values should be used for wOM and wBM: For Wind power generation project activities: wOM = 0.75 and wBM = 0.25 for the selected crediting period Data compiled in CEA CO2 CDM database is in line with the requirements Version 02.2.1 of "Tool to calculate the emission factor for an electricity system" The value 0.9486 (NEWNE[5]Grid) is used for calculation of baseline Emission and is found to be consistent with the registered VCS PD and CDM PDD/3/.

According to the applied methodology /10/, the conservativeness of the achieved emission reduction was checked and the detailed emission reduction calculation has been transparently provided in the ER sheet /2.2/. All the formulae and the calculation procedure were checked by the verification team. In the opinion of verification team, the assumptions, emission factors and default values that were applied in the calculations have been justified. Also, the verification team confirms that there were no manual transposition errors between the data sets in the ER Sheet/2.2/ during the current monitoring period. It is confirmed that the data has been measured directly from meters and it was cross checked from the credits notes and the invoices raised/14/ to GETCO and was able to verify the same.

Finding: *No finding*s was raised. Refer to appendix 2 for further details.

Opinion: The verification team confirms;

- The monitoring plan has been implemented as per the registered PD /3/;
- The monitoring complies with the requirement of the applied methodology/10/;
- The information inflow (from data generation, aggregation, to recording, calculation and reporting) is included above under each parameter and confirms to the requirement of the PD /3/;
- The values included in the monitoring report /1.2/ and corresponding emission reduction sheet /2.2/ are verified and included under each monitoring parameter, wherever appropriate.

[5] NEWNE grid is now synchronisation with other regional grids now called Indian Grid

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

All relevant documents were checked to assess the correctness and quality of data submitted by the project participants, which are used to determine emission reductions.

All records needed for monitoring are archived in line with the requirements of the registered monitoring plan /3/. No significant lack of evidence and missing data were detected during remote audit discussion and video inspection /11/. Hence, the verification team confirms that the monitoring system ensures required quality of the monitoring system to ensure the quality of the monitored data. All internal data are subjected to QA/QC measures. The monitoring parameters have been measured / determined without material misstatements and is in line with all applicable standards and relevant requirements. The information inflow (from data generation, aggregation, to recording, calculation and reporting) is included in section 4.1 under each parameter and confirms to the requirement of the PD /3/. The export and import data is measured by the electricity meters, recorded continuously on the registered VCS PD, CDM PDD/3/ and the invoices are generated monthly/14/. The data is then reported annually on the VCS Monitoring Report as verified by the verification team through remote assessment.

It was also verified through remote audit inspection/11/ that the plant's team involved in the monitoring of project activity is well experienced. Hence, the verification team concludes that competent staff is employed by the project proponent to carry out the relevant tasks with sufficient accuracy. Furthermore, it was confirmed during remote audit discussion that internal training program for the monitoring staff is conducted on regular basis.

4.6 Non-Permanence Risk Analysis

Not applicable to the project activity.

5 VERIFICATION CONCLUSION

KBS Certification Services Pvt. Ltd. has been commissioned by 'EKI ENERGY SERVICES LIMITED.' to perform verification of its registered VCS project 'GREEN ENERGY PROJECT AT KUTCH BY POWERICA LIMITED' for the monitoring period 01/02/2020 to 31/12/2020 (Inclusive of both days), under the CDM second crediting period 22-Oct-2019 to 21-Oct-2026, with regard to the relevant requirements of VCS Standard Version 4/4/.

The management of the 'EKI ENERGY SERVICES LIMITED.' is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project final Monitoring Report Version 2 and dated 10/03/2021. The calculation and determination of GHG emission reductions from the project is the responsibility of the management of the 'EKI ENERGY SERVICES LIMITED'. The development and maintenance of records and reporting procedures are in accordance with the Monitoring Report Version 2 and dated 10/03/2021.

It is our responsibility to express an independent GHG verification opinion on the GHG emissions and on the calculation of GHG emission reductions from the project for the period 01/02/2020 to 31/12/2020 (Inclusive of both days) based on the reported emission reductions in the final Monitoring Report Version 2 dated 10/03/2021 for the same period.

As a result of the verification, the verification team confirms that:

- All operations of the project are implemented and installed as planned and described in the project description.
- The monitoring system is in place and functional.
- The installed equipment essential for generating emission reductions runs reliably.
- The GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner.

- Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, KBS planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated.

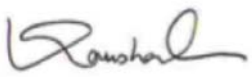
Verification period: From 01/02/2020 to 31/12/2020 (Inclusive of both days)

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

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
01/02/2020 to 31/12/2020	36,725	0	0	36,725

Location: Faridabad

Date: 07/04/2021



Authorized Signatory: Kaushal Goyal

Designation: Managing Director

KBS Certification Services Pvt. Ltd.

APPENDIX 1: REFERENCES

/1/	/1.1/ Monitoring Report, Version 01, dated 03/02/2021 (Initial Version) /1.2/ Monitoring Report, Version 2 dated 10/03/2021(Final Version)
/2/	/2.1/ Emission Reduction calculation sheet, Version 01 dated 03/02/2021(corresponding to initial Version of VCS MR) /2.2/ Emissions Reduction calculation Sheet, Version 2 dated 10/03/2021 (corresponding to final Version of VCS MR)
/3/	• Registered VCS-PD version 2 dated 13/01/2014 • VCS Validation report version 04.2 dated 24/09/2012 • Registered CDM-PDD version 8.1 dated 11/11/2019 • CDM validation report version dated 01 dated 11/11/2019
/4/	VCS Standard Version 4
/5/	VCS Programme guide Version 4
/6/	Technical specifications/photographs of turbines, electricity meters etc.
/7/	Single line diagram and meter location / Layout
/8/	Power purchase agreement for the 12 WTGs installed Operation and maintenance contract dated 07/03/2013
/9/	Commissioning Certificates for the 12 WTGs installed
/10/	ACM0002: Consolidated baseline methodology for grid-connected electricity generation from renewable sources --- Version 12.3.0
/11/	Remote auditing (08/02/2021) for verification of measuring and monitoring procedure, • Video recordings & snapshots of the project site/equipment's • Interviews and data/log review
/12/	Credit notes for the entire monitoring period 01/02/2020 to 31/12/2020
/13/	Calibration Certificates for main meters and check meters
/14/	Invoices raised during the monitoring period 01/02/2020 to 31/12/2020
/15/	Organization structure/chart

APPENDIX 2: FINDINGS

Summary of findings	CL	CAR	FAR
	03	05	00

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

~~FAR ID~~		~~Section no.~~	~~-~~	~~Date:~~ ~~DD/MM/YYYY~~
~~Description of FAR~~				
~~Project participant response~~				~~Date:~~ ~~DD/MM/YYYY~~
~~Documentation provided by project participant~~				
~~VVB assessment~~				~~Date:~~ ~~DD/MM/YYYY~~

Table 2. CL from this verification

CL ID	01	**Section no.**		**Date:** 09/02/2021
Description of CL				
The following documents are required as part of VCS verification process: 1. Photographs of monitoring equipment. 2. Supportive regarding avoidance of double counting. 3. Commissioning certificate 4. Calibration certificate for monitoring equipment 5. The document of the mentioned undertaking by the project proponent with UNFCCC-CDM shall be provided				
Project participant response				**Date:10/03/2021**

1. Submitting herewith photographs of monitoring equipment's (Energy meters) involved in the project activity. 2. Submitting herewith declaration regarding avoidance of double counting by the PP. 3. Submitting herewith commissioning certificate for each WTG (i.e.12 no.) under the project activity. 4. Submitting herewith calibration certificate for energy meters applicable to this monitoring period. 5. Submitting herewith duly signed undertaking by project proponent with UNFCCC CDM (reference number 7671) that PP will not claim any GHG credits for UNFCC CDM during the current monitoring period i.e. 01-February-2020 to 31-December-2020.
Documentation provided by project participant
1. Photographs of energy meters involved in the project activity. (at respective WTG yard & at substation) 2. Submitting herewith duly signed copy of declaration dated 17/02/2021 w.r.t. double counting and not availing any other forms of GHG credits. 3. Submitting herewith revised MR (Version 2 dated 10/03/2021)

VVB assessment	**Date:** 31/03/2021
The verification team confirms that the supportive has been now provided and was found to be acceptable. Hence, the finding is closed.	

CL ID	02	**Section no.**		**Date:** 09/02/2021
Description of CL				
As per the registered monitoring plan the accuracy of energy meters used for the monitoring of the parameter $EG_{facility,y}$ is 0.2s however the accuracy mentioned in section 4.2 of submitted MR is 0.5s. PP shall submit conclusive evidence for the confirmation of actual accuracy and confirm whether there has been any change in the monitoring plan.				
Project participant response				**Date:10/03/2021**

Accuracy class of energy meters installed at individual WTG yard is 0.5S & accuracy class of energy meters installed at substation end is 0.2S. (Photographs of energy meters attached herewith for verification of accuracy class). The energy meters installed and maintained (i.e calibration/replacement) by state utility (GETCO), and that is not in PP's control. Also, the accuracy class of energy meters installed are as per technical requirement of CEA metering regulations, 2019 (Ref. link : https://cea.nic.in/regulations-category/metering-regulations/?lang=en) Hence, deviation is requested to accept the accuracy class of the energy meters (0.5S) installed at respective WTG yard, against the accuracy class mentioned in registered CDM PDD.
Documentation provided by project participant
Photographs of all energy meters installed at WTG yard as well as substation end.

VVB assessment	**Date:** 31/03/2021
The verification team confirms that the photographs of main meter and check meter has been now provided and was found to be consistent with the MR and the deviation request.	

CL ID	03	**Section no.**		**Date:** 09/02/2021
Description of CL				
Verification team could not trace the details of 220 kV substation bulk meter details in submitted MR, moreover nether the calibration status of these meter is not reported in MR nor the calibration certificate provided.				
Project participant response				**Date:10/03/2021**

The project activity WTGs are connected to substation through Vandhya Line 1, Vandhya Line 2, Sikharpur Line 1 and Sikharpur Line 2 feeder lines. 0.2S accuracy class bulk meters (main & check meters) are installed at respective substation end , substation meter details are now mentioned in section 4.2 & Appendix 1 of revised MR. As per registered VCS PD, the calibration frequency is once in a year. The calibration of meters is not in control of PP and same is done by state electricity board. The state electricity board VVBs not follow any fixed calibration frequency, hence deviation is requested for change in calibration frequency as once in five years. This calibration frequency is as per CEA notification (Ref. link : https://cea.nic.in/regulations-category/metering-regulations/?lang=en) The deviation request for change in calibration frequency was approved in last monitoring period also. Considering five years calibration frequency as per CEA notification and as per deviation request, there is no any delay in calibration applicable for the project activity.
Documentation provided by project participant
Submitting herewith calibration certificate for all energy meters applicable to this monitoring period.

VVB assessment	**Date:** 31/03/2021
The calibration certificate are checked and were in line as per the requested deviation and CEA notification.	

Table 3. CAR from this verification

CAR ID	01	**Section no.**		**Date:** 09/02/2021
Description of CAR				
1. The crediting period mentioned under section 1.6 of the summited MR was found to be inconsistent with registered PD. 2. The duration (10 years) of CDM crediting period is inconsistently mentioned under section 1.6 as the maximum duration of CDM renewable crediting period is 7 years				
Project participant response				**Date:10/03/2021**

1. The project is registered under CDM and applied for pre CDM VCS verification (since commission date till start date of crediting period of the project under CDM. The earliest commissioning date of the WTG involved in the project is 14-July-2011 and start date of crediting period under CDM is 22-Octo-2012. The crediting period (for VCS): 14-July-2011 to 21-Oct-2012 (Length of crediting period for VCS 465 days) CDM registration date : 22-Oct-2012 CDM crediting period: 22-Oct-2012 to 21-Oct-2019 (Renewable) Subsequent crediting period: 22-Oct-2019 to 21-Oct-2026 (Ref. link https://cdm.unfccc.int/Projects/DB/LRQA%20Ltd1349877556.69/view?cp=1) All necessary details added in the section 1.6 of MR 2. Necessary corrections done for CDM crediting period under section 1.6 of MR.
Documentation provided by project participant
Submitting herewith revised MR (Version 2 dated 10/03/2021)

VVB assessment	**Date:** 31/03/2021
The corrections made are checked and found to be acceptable	

CAR ID	02	**Section no.**		**Date:** 09/02/2021
Description of CAR				
Under section 1.8 and 4.3 the methodology version is not consistent with registered PD				
Project participant response				**Date:10/03/2021**
Necessary corrections done in section 1.8 & 4.3 of MR w.r.t methodology version.				
Documentation provided by project participant				
Submitting herewith revised MR (Version 2 dated 10/03/2021)				
VVB assessment				**Date:** 31/03/2021
The corrections made are checked and found to be acceptable				

CAR ID	03	**Section no.**		**Date:** 09/02/2021
Description of CAR				
The following details are missing in the submitted MR: 1. Under section 3.1 PP shall also mention the ERs for current monitoring period 2. Under section 4.3 PP shall provide line diagram showing metering points				

Project participant response	**Date:10/03/2021**
1. Necessary information w.r.t emission reductions achieved for current monitoring period added to section 3.1 of revised MR. 2. Necessary information w.r.t line diagram added to section 4.3 of revised MR	
Documentation provided by project participant	
Submitting herewith revised MR (Version 2 dated 10/03/2021)	
VVB assessment	**Date:** 31/03/2021
The corrections made are checked and found to be acceptable	

CAR ID	04	**Section no.**		**Date:** 09/02/2021
Description of CAR				
The following shall be revised in the submitted MR 1. Under section 4.2 for the parameter $EG_{facility,y}$,according the registered PD the Measurement methods and procedures data type is Measured & Calculated, however it is mentioned only Measured in the submitted MR. 2. Under section 4.2 for the parameter $EG_{facility,y}$,PP shall apply calibration frequency in accordance with the requested deviation				
Project participant response				**Date: 10/03/2021**
1. Necessary corrections done in section 4.2 of the MR w.r.t. Measurement methods and procedures data type. 2. Necessary corrections done in section 4.2 of the MR w.r.t. calibration frequency in accordance with the requested deviation.				
Documentation provided by project participant				
Submitting herewith revised MR (Version 2 dated 10/03/2021)				
VVB assessment				**Date:** 31/03/2021
The corrections made are checked and found to be acceptable				

CAR ID	05	**Section no.**		**Date:** 09/02/2021
Description of CAR				
In the submitted ER the VCS ID is inconsistent with MR				
Project participant response				**Date:10/03/2021**
Necessary corrections w.r.t VCS ID done in ER sheet.				
Documentation provided by project participant				

VVB assessment	**Date:** 31/03/2021
The corrections made are checked and found to be acceptable	

Table 4. FAR from this verification

No FAR raised during current verification.

~~**FAR ID**~~		~~**Section No.**~~		~~**Date:**~~
~~**Description of FAR**~~				
~~**Project participant response**~~				~~**Date:** DD/MM/YYYY~~
~~**Documentation provided by project participant**~~				
~~**VVB assessment**~~				~~**Date:** DD/MM/YYYY~~

APPENDIX 3: COMPETENCE OF TEAM MEMBERS

Personnel Name:		Sanjay Kandari	
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☒
Technical Reviewer	☒	Local Expert (India)	☒
Area(s) of Technical Expertise			
Sectoral Scope	**Technical Area**		
Energy Industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Energy demand	TA 3.1. Energy Demand		
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal TA 13.2 Manure		
Approved by (Manager C & T)	Akhilesh Joshi		
Approval date:	11/12/2015		

Personnel Name:		Ms. Ananya Malik	
Qualified to work as:			
Team Leader (Trainee)	☐	Technical Expert	☐
Validator/Verifier- Trainee	☒	Financial Expert	☐

Technical Reviewer	☐	Local Expert	☐
Area(s) of Technical Expertise			
Sectoral Scope	**Technical Area**		
-	-		
Approved by (Manager C & T)	Sanjay Kandari		
Approval date:	07/12/2020		

Personnel Name:	**Tushar Chaudhari**		
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☒
Technical Reviewer	☒	Local Expert (India)	☒
Area(s) of Technical Expertise			
Sectoral Scope	**Technical Area**		
Energy Industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Energy demand	TA 3.1. Energy Demand		
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal		
Approved by	Manager Competency & Training		
Approval date:	02/09/2020		