



50 MW TSETSII WIND FARM IN MONGOLIA



Document Prepared By

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Summary:

Verification purpose: LGAI Technological Center S.A. (Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed^{/2/} by “Clean Energy Asia LLC” to perform the 4th verification of the “50 MW Tsetsii Wind Farm in Mongolia” (VCS ID 1898)^{/4/}. The main purpose of this verification activity is to have an independent third party for the assessment of the project design, monitoring report to ensure a thorough assessment of the proposed project activity against the applicable CDM and VCS requirements.

The purpose of the project activities to generate energy electricity by the utilization of wind energy and further selling the generated energy to the National Power Transmission Grid (NTPG) Limited. In this process there is no consumption of any fossil fuel and hence it does not lead to any greenhouse gas emissions. Thus, electricity would be generated through sustainable means without causing any negative impact on the environment.

Start date of the project activity is the 27-November-2017 (As per earliest date of commissioning of Project activity)^{/01/}. The monitoring period for this VCS verification is 01-April-2021 to 31-March-2022 (including both days) and the project activity achieved 148,874 tCO_{2e} emission reductions during this monitoring period thereon displaced 170,923.86 MWh amount of electricity from the generation-mix of power plants connected to the National Power Transmission Grid (NTPG) Limited, which is mainly dominated by thermal/fossil fuel-based power plant.

The scope of the verification is the independent and objective review of the Monitoring Report (MR)^{/6/}. The MR is reviewed against the relevant criteria (see above) and decisions by the CDM Executive Board and VCS executive board, including the approved baseline and monitoring methodology. The verification was based on the guidance given in the CDM validation and verification standard for project activities, version 03.0^{/16/}, review against registered PD^{/4/} and Final Validation report, VCS program guideline Version 4.2^{/10/} and VCS Standard Version 4.3^{/10/}

A risk-based approach has been followed to perform this verification activity. In the course of verification, 05 Corrective Action request (CAR) and 00 Clarification Requests (CLs) were raised and successfully closed. No FAR was raised during this verification. The review of the Monitoring report and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and PP have provided LGAI Technological Center S.A. (Applus+ Certification) with sufficient evidence to verify the fulfilment of the stated criteria of VCS.

The assessment team has employed a risk-based approach to assess the completeness and accuracy of the claims and conservativeness of the assumptions in the MR. The main focus of the assessment team is to identify the significant risks for the project implementation and the generation of VERs. The verification is not meant to provide any consulting towards the project participants. However, stated

requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring report combined.

The only purpose of the verification is its usage during the issuance process as part of the VCS project cycle. Therefore, LGAI Technological Center S.A. (Applus+ Certification) can't be held liable by any party for decisions made or not made based on the verification opinion, which will go beyond that purpose.

The verification has been planned and organized to achieve a Reasonable Level of assurance as per the requirement of VCS. No sampling procedure applied for document verifications. The entire documents checked/verification conducted to arrive at positive verification conclusions.

CONTENTS

1	Introduction.....	6
1.1	Objective.....	6
1.2	Scope and Criteria	6
1.3	Level of Assurance.....	7
1.4	Summary Description of the Project	7
2	Verification Process	8
2.1	Method and Criteria.....	8
2.2	Document Review	10
2.3	Interviews.....	11
2.4	Site Inspections.....	11
2.5	Resolution of Findings	13
2.6	Eligibility for Validation Activities	14
3	Validation Findings.....	14
3.1	Participation under Other GHG Programs.....	14
3.2	Methodology Deviations	14
3.3	Project Description Deviations	14
3.4	Grouped Project	14
4	Verification Findings.....	15
4.1	Project Implementation Status	15
4.2	Safeguards	16
4.3	AFOLU-Specific Safeguards.....	17
4.4	Accuracy of GHG Emission Reduction and Removal Calculations	17
4.5	Quality of Evidence to Determine GHG Emission Reductions and Removals	19
4.6	Non-Permanence Risk Analysis	20
5	VERIFICATION CONCLUSION	21
	APPENDIX 1: Documents Reviewed or Referenced (Verification).....	22
	APPENDIX 2: CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS AND FORWARD ACTION REQUESTS (CAR/CL/FAR).....	23
	APPENDIX 3: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS	27

APPENDIX 4: ABBREVIATIONS	29
APPENDIX 5: CALIBRATION DETAILS	29

1 INTRODUCTION

1.1 Objective

LGA Technological Center S.A. (Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed by “Clean Energy Asia LLC” to perform the 4th verification of the “50 MW Tsetsii Wind Farm in Mongolia” under guideline Version 4.2 and VCS standard Version 4.3. The objective of this verification activity is to have an independent third party for the assessment of the project design, Monitoring Report and Final Verification report and to ensure a thorough assessment of the proposed project activity against the applicable CDM and VCS requirements. In particular;

- The project's baseline is assessed against ACM0002 of version 19.0/20/
- The project's monitoring plan is assessed against “ACM0002 of version 19.0/20/
- the projects compliance with 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 legislation and sustainability criteria along with VCS guideline Version 4.2/10/ and standard Version 4.3/10/
- CDM validation and verification standard for project activities, Version 03.0/16/
- VCS program guideline v. 4.2/10/
- VCS standard v.4.3/10/

Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of verified emission reductions (VCUs).

1.2 Scope and Criteria

The scope is defined as an independent and objective review of the Monitoring report (MR)/6/ prepared as per the registered PD/4/ and registered approved methodology ACM0002 version 19.0/20/. The MR is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board and VCS standard Version 4.3/10/ and guideline Version 4.2/10/, including the approved baseline and monitoring methodology ACM0002 version 19.0/20/. The verification was based on the requirements in the CDM validation and verification standard for project activities, Version 03.0/16/ and VCS program guideline Version 4.2/10/ and VCS Standard Version 4.3/10/

The verification is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the Monitoring report. In line with Guidelines for Application of materiality in verifications, the verification team has conducted a complete verification of all the information presented in the monitoring report and data monitored as presented in the emission reduction

calculation spread sheet. It follows the paper trail back to the raw data such as meter reading records and invoices. There are no material errors, overestimation of ER, omission or misstatement. The verification team has reviewed all the documents like commissioning certificates/^{1/}, technical specification/^{3/}, O&M practices, JMR/^{11/}, invoices/^{11/}, grievance register/^{15/} etc.

1.3 Level of Assurance

Applus+ Certification has planned and performed the verification by obtaining evidence and other information and explanations that assessment team considers necessary to give reasonable assurance that reported estimated GHG emission reductions are fairly stated. All documentary evidences were checked, Remote audit was conducted to arrive at a verification conclusion by the assessment team.

In our opinion, the achieved GHG emissions reductions is calculated correctly on the basis of the approved baseline and monitoring methodology “ACM0002 of version 19.0”/^{20/} and the VCS Standard Version 4.3/^{10/}

1.4 Summary Description of the Project

The project activity is a wind-based power generation project. The project activity involves installation of 50 MW wind project in Tsetsii Wind Farm located at Tsogttsetsii Soum, South Gobi of Mongolia. The Project activity consists of 25 Wind Turbine Generators (WTGs) with capacity of 2.00 MW each located at below given GPS coordinates in country Mongolia. The commissioning details of the project and their location with WTGs are mentioned in the table below:

S.No.	Number of WTGs	Longitude	Latitude	Commissioning Date	Total Capacity
1	25 No's x 2 MW	105° 34' 50.16" to 105° 38' 28.0176" East	43° 33' 6.904" to 43° 33' 58.186" North	27-November-2017	50 MW

The monitoring period this VCS verification covered from 01-April-2021 to 31-March-2022 (inclusive of both dates) and the project activity achieved 148,874 tCO₂e emission reductions during this monitoring period.

Assessment team checked the Commissioning status of the project activity with the commissioning Certificates and found correct. The project is implemented as per the description in the registered PD. No event observed during the current monitoring period which can alter or deviate from the methodology requirement.

Below are the entities involved under project activity: -

PP name	Clean Energy Asia LLC
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Contact person	Turbold Enkhtuvshin
Title	PP Representative
Address	10F, Naiman Zovkhis Building, 21 Seoul Street, Ulaanbaatar, 14251, Mongolia
Telephone	Tel: +976 11 31383, +967 11 311967
Email	Turbold@cea.mn

Other entity name	EKI Energy Services Limited
Role in the Project	Project Consultant
Contact person	Anjali Rao
Title	Project Manager
Address	Office No 201, Plot No 48, Scheme 78, Part 2, Vijay Nagar, Indore-452010, Madhya Pradesh, India
Telephone	7489924003
Email	registry@enkingint.org

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification Process: The project assessment is based on the “CDM validation and verification standard for project activities, Version 03.0/^{16/} and “VCS standard Version 4.3/^{10/}, program guideline Version 4.2/^{10/}” and is conducted using standard auditing techniques to assess the correctness of the information provided by the project participants. Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the VCS project activity are appointed.

Once the project is received by the assessment team, the members of the assessment team carried out: -

1. A desk review of the Monitoring report^{/16/} against the registered PD^{/04/} and final validation report^{/17/};
2. Remote audit and interviews;
3. The resolution of outstanding issues and the issuance of the final verification report and opinion.

The prepared verification report and other supporting documents then undergo an internal quality control at the HQ (Accredited office) before being submitted to the VCS executive board.

In order to ensure transparency, assumptions must be clear and stated explicitly and background material must also be referenced. Applus+ Certification has developed a specific checklist customized for the project. The checklist demonstrates, in a transparent manner, the project criteria (requirements), discussion on each criterion by the assessment team, and the results from validating the identified criteria.

Appointment of the assessment team

According to the sectoral scope / technical area and experience in the sectoral or national business environment, Applus+ Certification as composed a project assessment team in accordance with the appointment rules in the internal Quality Management System of Applus+ certification. The composition of audit team shall be approved by the Applus+ Certification ensuring that the required skills are covered by the team.

The four qualification levels for team members that are assigned by formal appointment rules are as presented below:

- Lead Auditor (LA).
- Auditor (A) / Auditor in Training (AiT).
- Technical Expert (TE).
- Technical Reviewer (TR).

The sectoral scope / technical area knowledge linked to the applied methodology/ies shall be covered by the assessment team.

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Dr. Atul Takarkhede	LA/TE	YES	YES	NA	YES
Mr. Simon Shen	TR	YES	YES	NA	NA

The detail regarding the assessment team is provided below in this report as Appendix 3

Document review

The Monitoring report version 01^{/06/} submitted by the PP was reviewed against the approved methodology^{/20/}, registered PD & MR^{/04/}, final validation report and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore,

a cross-check between information provided and information from other sources has been done. A complete list of all documents and evidence material reviewed is included in this report below in Appendix 1.

Remote audit

A Remote audit is conducted by Applus+ Certification. Audit team performed remote audit with project stakeholders via video conferencing (Skype) to confirm selected information mentioned in monitoring report and to resolve issues identified in the document review. The detail is provided in this report.

Resolution of Clarification and Corrective Action Request

The objective of this phase of the Verification was to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for Applus+ Certification positive conclusion on the Monitoring report. The Corrective Action Requests and Clarification Requests raised by Applus+ Certification were resolved during communications between the Client and Applus+ Certification to guarantee the transparency of the verification process, the concerns raised and responses given are summarized below in the Appendix 2.

The final MR Version 02/06/ submitted by PP serves as the basis for the final assessment presented. Additional changes to the project during the verification process are not considered to be significant with respect to the main CDM/VCS objectives. The two CDM/VCS main objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country.

Internal quality control

As final step of a verification of the final documentation including the verification report and the checklist have to undergo an internal quality control by the technical review committee, i.e., each report has to be finally approved either by the head of the technical review committee or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one to avoid any conflict of Interest.

After confirmation of the PP the positive verification opinion and relevant documents are submitted to the VCS board through the VCS web-platform.

2.2 Document Review

The details of the document observed during the verification process are listed below in Appendix 1 of this report

2.3 Interviews

A remote audit was conducted for the project activity on 02-August-2022. No sampling procedures were adopted. Remote audit was conducted due to pandemic situation, restrictions on international travel and technical details and metering/monitoring systems verified through site photographs/nameplates & other documents shared by PP. All documents were crosschecked to ensure conservative estimation of emission reduction. The names of the persons interviewed (during remote audit through Skype) are given below;

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	-	Mr. Delgermurun	PP representative, Finance Manager	02-August-2022	Project Implementation, JMR & invoicing procedure, calibration, grievance mechanism, Management practices, data storage, QA/QC	Dr Atul Takarkhede (Team Leader)
2.	-	Mr. Balsanjams	Production Manager			
3.	-	Mr. Orchibat	Shift engineer			
4.	Rao	Ms. Anjali	EKI Energy		GHG calculations, MR and ER preparation, Data collection, data storage, QA/QC	
5.	.	Mr. G.Erdenetsogt	Local Stakeholder		Local Stakeholder consultation	
6.	Nyamjav	Mr. N.	Local Stakeholder			
7.	Nyamsuren	Ms. N.	Local Stakeholder			

During the remote audit, the PP representatives were questioned about the implementation of the project activity. Several topics like the verification of commissioning date, the generation, recording, and monitoring of the data were discussed. Various documents like the daily generation, invoices, on-site Photographs includes nameplates, monitoring meters, key technical specifications of the major equipments etc. provided to assessment team were verified to establish the current status and the implementation of the Project Activity.

2.4 Site Inspections

The verification team could not perform on-site inspection due to the ongoing COVID-19 pandemic taking into account the rules of relevant national and local authorities (local to the DOE offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the DOE and other relevant travel restrictions and guidance (for example, a during

such unprecedented circumstances, only that VVBs must achieve a reasonable level of assurance on all validations and verifications (per section 4.1.2 of the VCS Standard, v4.1). VVB has taken alternative measures to reach reasonable level of assurance and conducted remote audit through MS Teams with the site personal & consultant (refer section 2.3) to check the project design, implementation and monitoring of the project activity.

Duration of on-site inspection: 02-August-2022				
No.	Activity performed on-site	Site location	Date	Team member
1.	Assessment team checked the implementation of the project, Baseline emission, Emission reduction calculation, technical description of the project and Monitoring. Assessment team also checked that whether the monitoring plan as described in the VCS PD is actually practised onsite. Also, assessment team checked any change in host country criteria which may affect the baseline of the project activity.	Remote Audit through Skype	02-August-2022	Dr Atul Takarkhede (Team Leader)

During interview, the implementation of project activity and monitoring procedure and systems in place was confirmed. Technical specification of the plant was verified through the onsite photographs/name plates of WTGs shared by PP and the same was cross checked with the VCS validation report & first VCS verification report. Further, assessment team has also checked through interviewing O&M personal and confirmed that the monitoring plan as described in the VCS APPROVED JOINT PD & MR is actually practiced onsite.

After remote audit with O&M personals & PP and verifying the photographs of power plant, Single Line diagram of monitoring arrangement, verification team confirmed that monitoring procedure is followed as per registered VCS APPROVED JOINT PD & MR and there is no change in technical specifications of plant since installation and all the meters are in accordance with registered VCS APPROVED JOINT PD & MR..

A remote audit was conducted by the assessment team on 02-August-2022 to carry out the following;

- An assessment of the implementation and operation of the registered project activity as per the registered VCS APPROVED JOINT PD & MR or any approved revised PDD and Joint VCS PD & MR;
- A review of information flow for generating, aggregating and reporting the monitoring parameters;
- Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the Joint VCS PD & MR;

- d) A cross-check between information provided in the monitoring report and data from other sources such as plant logbooks, invoice slips, PPA agreement etc.;
- e) A check of the monitoring equipment and observations of monitoring practices against the requirements of the Joint VCS PD & MR, the applied methodology including applicable tool(s), and, where applicable, the applied standardized baseline;
- f) 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 was to resolve the requests for corrective actions and clarification and any other outstanding issues from verification which need to be clarified for Applus+ Certification's positive conclusion on the Monitoring report. The Corrective Action Requests and Clarification Requests raised by Applus+ Certification were resolved during communications between the Client and Applus+ Certification to guarantee the transparency of the verification process, the concerns raised and responses given are summarized below in the Appendix 2.

The final MR Version 02/06/ submitted by PP serves as the basis for the final assessment presented. Additional changes to the project during the verification process are not considered to be significant with respect to the main CDM/VCS objectives. The two CDM/VCS main objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country.

Areas of validation and verification findings	No. of CL	No. of CAR	No. of FAR
Project design document and Monitoring report	00	02	00
Description of project activity	00	00	00
Application of selected baseline and monitoring methodology and selected standardized baseline			
Applicability of methodology and standardized baseline	00	00	00
Deviation from methodology	00	00	00
Clarification on applicability of methodology, tool and/or standardized baseline	00	00	00
Project boundary	00	00	00
Establishment and description of baseline scenario	00	00	00
Demonstration of additionality	00	00	00
Emission reductions	00	01	00
Calibration details	00	01	00
Monitoring plan	00	00	00
No Net harm assessment	00	00	00
Local stakeholder consultation	00	01	00
Others (please specify	00	00	00

Areas of validation and verification findings	No. of CL	No. of CAR	No. of FAR
Total	00	05	00

The list of findings and the resolution is presented in Appendix 2 of this report.

2.5.1 Forward Action Requests

This is 4th verification of the project activity and no FAR was raised from validation and previous verification.

2.6 Eligibility for Validation Activities

This section is not applicable for present verification, as Applus+ Certification holds the accreditation for Validation of projects under this Sectoral Scope.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project is not applied under any other GHG program like CDM, GS. hence not applicable. Assessment team verified the same with other GHG mechanism's project interface. Moreover, PP has also submitted an officially attested declaration letter /¹²/ to assessment team regarding no participation in other GHG program for the concerned monitoring period. Found acceptable.

3.2 Methodology Deviations

This section is not applicable for present verification as no methodology deviation sought during this verification

3.3 Project Description Deviations

No deviation has been requested by PP. Thus, this section is not applicable.

3.4 Grouped Project

This is not a grouped project. Thus, this section is not applicable.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

During the Remote audit, it was concluded that the project is implemented as per the requirement of the registered VCS joint PD & MR and approved monitoring plan, during the current monitoring period; it was observed that no unforeseen incident/event evolved which can impact the operation of the project activity which was verified from breakdown records. The project undergone continuous operation and only scheduled maintenance is observed as per the manufactures specification which is acceptable to the assessment team and evident from JMRS.

The project activity is a 50 MW wind power project and locations of the same are confirmed by the verification team during the Remote audit. The Project activity consists of 25 Wind Turbine Generators (WTGs) with capacity of 2.00 MW in Mongolia.

Verification team confirmed from the registered PD/^{4/} and from previous verification reports/^{17/} that the location of the project activity including the coordinates is same as mentioned in the registered VCS PD/^{4/}.

Assessment team checked the commissioning certificates/^{1/} and confirmed that the dates of Commission for the Wind plants are correct. Assessment team also conform during remote audit with the PPs representatives that there is no change in project design and the project is implemented as per the description provided in the VCS PD & MR. The project boundary includes the electricity generation equipment at the project site, 110kV on-site substation and the National Power Transmission Grid (NTPG) Limited. Connected substations mentioned above are verified through document review and interview with PP during remote audit.

Assessment team also checked the technical details of the Wind plants installed onsite from documents submitted by PP and previous verification reports. The assessment team confirmed that there is no proposed or actual change to the project design during this monitoring period. The project design as mentioned in the registered PD is implemented and thus the same is acceptable to the assessment team. All required monitoring equipment's and procedures as mentioned in the registered PD are available and implemented in an appropriate manner.

The organisational role and responsibility as mentioned in the registered PD & MR/^{4/} is followed onsite confirmed during remote audit. All the emergency preparedness as mentioned in the registered PD/^{4/} is followed onsite and no discrepancies were found regarding the same. Meters are calibrated as per calibration frequency in registered VCS PD/^{4/}. All the emergency preparedness as mentioned in the registered VCS PD & MR is followed onsite and no discrepancies were found regarding the same. Thus, completeness of the monitoring plan confirmed and there are no any material discrepancies between the actual monitoring system and the plan provided in the registered joint PD& MR.

Moreover, since previous verification, the project is not applied under any other GHG program like CDM, GS etc. Assessment team verified the same with other GHG mechanism's project interface. Moreover, PP has also submitted an officially attested declaration letter ^{/12/} to assessment team regarding no participation in other GHG program for the concerned monitoring period. Found acceptable.

CAR 01 is raised for the inconsistency with respect to MR template guidelines and CAR 02 is raised for supporting evidences for No-Double counting and closed successfully after proper response of PP.

Assessment team confirms following during the verification Remote audit:

1. Start date of the project activity is 27-November-2017 as mentioned in the registered VCS PD^{/4/}.
2. An undertaking letter dated 06-June-2022 has been submitted by PP for no double counting with any other GHG program. PP also has given a written declaration that project has not claimed other form of GHG credit.
3. Assessment team confirms that this is the 4th monitoring under VCS and covers the activity from 01-April-2021 to 31-March-2022 (inclusive of both dates). The project activity adopts renewable crediting period of 10 years period and can be renewed for maximum 2 times. 27-November-2017 is the start date and 26-November-2027 will be end date of the crediting period^{/6/}.

The GHG credits from 01-April-2021 to 31-March-2022 will be claimed under VCS only. At any point of time during the crediting period, the project proponent will abide by the "No Double Counting"^{/12/}.

4. Assessment team checked and found that the Project proponent of the project activity mentioned in Section 1.3 of monitoring report is correct^{/6/}:
5. Assessment team also checked the details of other entity mentioned in Section 1.3 of monitoring report and found correct^{/6/}.
6. The quantified emission reduction calculation for the monitoring period is correct and conservative. Assessment team also compared actual VER with the estimated VER and found that the actual VER is 148,874 tCO₂e which is 15.30% lower than the estimated emission reductions 175,767 tCO₂e (365 days) during this monitoring period. Hence accepted^{/6/}.

Further, in line with para 3.16.1, "The project proponent must demonstrate that a project contributes to at least three SDGs by the end of the first monitoring period, and in each subsequent monitoring period." Thus, PP has provided project's contribution towards SDGs 7.2, 4.4 and 13.2 in table 1 of monitoring period. Verification team verified the same with the monthly metering report and Training attendance sheet^{/20/} submitted by PP along with the monitoring report and found both inline. Thus, accepted by VVB.

4.2 Safeguards

4.2.1 No Net Harm

No potential environment or socio-economic matter was found during the documents review of VCS PD & MR and grievance register etc. The project is renewable energy project and thus no negative impact observed due to project activity.

The project activity promotes environmental and socio-economic well-being as it results in zero GHG emissions due to installation and operation of clean, renewable energy technology for electricity generation. Moreover, PP also has Environmental Impact Assessment (EIA) approved by General Expert of Ministry of Environment and Green Development, Mongolia, which reflects that no significant impacts on air, water, soil quality and ambiance of environment due to the project activity. Hence accepted by VVB.

4.2.2 Local Stakeholder Consultation

Local stakeholder consultation has been conducted at the time of project registration. For on-going stakeholder's communication, PP have maintained grievance register^{/15/} at the site office. All the stakeholders are happy with the implementation and operation of the project activity and no negative comments envisaged for the project activity. Complaint/suggestion/feedback register is maintained at site as a part of ongoing communication with stakeholders in line with clause 3.16.17 of VCS Standard, ver. 4.3 ^{/10/} and appropriate actions taken time to time by PP.

Assessment team checked the grievance register^{/15/} provided by PP and found that local stakeholders can anytime lodge their grievances if any in the register over the operational life time of the project. During current monitoring period no grievance was received. Thus, assessment team is of the opinion that the ongoing stakeholder mechanism is adequate and appropriate. CAR 03 was raised during the verification process and closed successfully. Please refer Appendix 2 of this report for the detail closure of the CAR.

4.3 AFOLU-Specific Safeguards

This section is not applicable as this project activity is a non-AFOLU project activity.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

Means of verification	The verification team assessed whether the data and calculations of GHG emission reductions achieved resulting from the VCS joint PD & MR. The verification team has checked whether calculations of baseline GHG emissions, project GHG emissions and leakage GHG emissions have been carried out in accordance with the formulae and methods described in the monitoring plan of the VCS PD & MR.
Findings	CAR 04 was raised during the verification process and closed successfully. Please refer Appendix 2 of this report for the detail closure of the CAR.
Conclusion	Baseline Emissions: The baseline Emissions for a given year is calculated by multiplying the energy baseline with the grid emission factor. The grid in this case is 'National Power Transmission Grid (NTPG) Limited' Formula Used: - $BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$

	Where , BE_y = Baseline Emissions in year y, tCO₂ $EG_{PJ,y}$ = 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 CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (t CO₂/MWh) Ex-ante parameters: The baseline emission factors are taken ex-ante in line with the registered VCS PD as well as cross checked with section validation report and found correct^{4/}. The baseline emission factors are calculated using Standardized baseline¹: Grid emission factor for Mongolia’s national electricity grid. The data Combined margin CO₂ emission factor ($EF_{grid,CM,y}$) is equal to 0.871 tCO₂/MWh. The calculation approach was in line with the VCS joint PD & MR. Ex-post parameter: $EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant to the grid in year y = 170,923.86 MWh The verification team has checked the entire monthly Joint monthly electricity generation report between CEA & NTPG grid for net electricity generated & supplied to the grid and crosschecked same with the sales records^{11/} raised by PP towards State Utilities for the monitoring period. All values are found correct. All the parameters are monitored and recorded as per the monitoring plan in the MR. The calculations/measurement of net electricity supplied to grid is under purview of state electricity board and the PP/Project activity Instance owner has no role on it. PP/Project activity Instance owner gets value of net electricity supplied to grid and hence this parameter is mentioned as a part of monitoring plan The net electricity supplied the grid by the project activity during the monitoring period is 170,923.86 MWh. The generation values have been cross checked with the sales records and were found to be consistent. All relevant monitoring parameters have been verified with regard to the appropriateness of the applied measurement/determination method, the
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¹ https://cdm.unfccc.int/methodologies/standard_base/2015/sb99.htm

	correctness of the values applied for ER calculation^{7/}, the accuracy, and applied QA/QC measures. Baseline emission factor is calculated as combined margin, consisting of a combination of operating margin (OM) and build margin (BM) factors. BE_y (baseline emissions), tCO₂e BE_y = 170,923.86 MWh x 0.871 tCO₂e/MWh = 148,874 tCO₂e (round down values) As per applied methodology ACM0002, version 19.0, the VCS PD, project emission is considered zero as the project activity involved Wind power generation^{4/}. PE_y = As per ACM0002 - Version 19.0, all renewable energy power generation project activities, emissions due to the use of fossil fuels for the backup generator can be neglected. As the project activity involved wind power project emissions (PE_y) are taken as zero. Leakage: As per ACM0002 - Version 19.0, Leakage emissions are not considered for the project activity^{20/}. Hence, ER_y = BE_y – PE_y = 148,874 – 0 = 148,874 tCO₂e (round down values) Verification team confirms that the monitoring has been carried out in accordance with the monitoring plan contained in the registered VCS joint PD & MR^{4/}. Assessment team confirmed that the GHG emission reductions and removals have been quantified correctly in line with the registered VCS joint PD & MR^{4/}.
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4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

Means of verification	The verification team checked the Calibration details of the monitoring meters with the calibration certificates.
Findings	CAR 05 was raised during the verification process and closed successfully. Please refer Appendix 2 of this report for the detail closure of the CAR.
Conclusion	The verification team checked the break down log for the monitoring period^{13/}. During the remote verification audit and the feeder wise location of the wind plants is also checked. The metering arrangement is bi-directional energy meters (Main and Check) of accuracy class 0.2s at the Electricity Board sub-station. These electricity meters are being used by electricity board for Share certificate statements. These meters record several parameters including electricity exported & imported. These electricity meters are being used by state electricity board for

	Joint monthly electricity generation report ^{/11/}. The details like make, Serial number, Calibration dates etc.^{/5/}. are provided in appendix 05 of this report. Verification team confirms that all the energy meters (main and check meter) installed at the substation are of accuracy class of 0.2s and are calibrated as per the calibration frequency mentioned in monitoring plan in VCS joint PD & MR i.e. The calibration frequency of meters is once in 8 years^{/5/}. No delayed calibrations were observed in the project activity for this monitoring period. All the meters are of same accuracy class i.e., 0.2s as per the requirement of the registered PD. Interview during Remote audit with O&M personnel also confirms the same^{/5/}. The calculation of net electricity supplied to grid is under purview of state electricity board and PP does not have control on it. Calibration details of the monitoring meters checked with calibration certificates submitted by PP and found that calibration frequency of 8 years is compiled^{/5/}. Thus, no delayed calibration is observed and thus the same is found appropriate. The break down log is checked and there is no major breakdown during the monitoring period. No unforced error observed. No sampling procedure applied for monitoring of the data parameter and entire documents were checked by the assessment team to arrive at positive verification conclusions. The monitoring plan is followed at the project site. The monitoring meters were calibrated in line with the registered monitoring plan and there was no delay in calibration observed. Thus, assessment team concluded that the evidences are sufficient in quantity, and appropriate for the quality, to determine the GHG reductions and removals. Assessment team checked the calculation of estimated VER vs. Actual VER. As per the registered VCS joint PD & MR the amount of VERs annually is 175,767 tCO₂e. The days involved in present monitoring period are 365. Therefore, on pro-rata basis, the estimated VERs for the monitoring period is 175,767 tCO₂e. Actual VERs obtained for the monitoring period is 148,874 tCO₂e and thus the actual VER is 15.30% lower than the estimated VER. This variation is majorly due to low PLF (unfavourable wind pattern) which is a natural phenomenon and beyond the control of the Project Proponent. Hence confirms that decrease in VER by 15.30% in this monitoring period is acceptable.
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4.6 Non-Permanence Risk Analysis

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
NA	NA	NA	NA	NA

5 VERIFICATION CONCLUSION

Applus+ Certification has been engaged^{/02/} by Clean Energy Asia LLC to perform the 4th verification of the “50 MW Tsetsii Wind Farm in Mongolia”.

The project participants are responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project’s monitoring plan in the registered VCS joint PD & MR^{/4/} and the applied methodology ACM0002 version 19.0^{/20/}

Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakesh accord, as well as those defined by the CDM Executive Board. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. Further, the verification has been planned and organized to achieve a Reasonable Level of assurance as per the requirement of VCS. No sampling procedure applied for document verifications. The entire documents checked/Power plant verification conducted to arrive at positive verification conclusions. The verification team can confirm that:

- the project is operated as planned and described in the project document;
- the monitoring plan is as per the applied methodology;
- the monitoring process in Monitoring Report is as per the VCS approved joint PD & MR^{/4/};
- the development and maintenance of records and reporting procedures are in accordance with the monitoring plan;
- the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.
- A Reasonable Level of assurance was achieved as planned, during verification process.
- Verification period: 01-April-2021 to 31-March-2022 (inclusive of both days).

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

Year	Baseline emissions or removals (tCO ₂ e) ²	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
Year 2021 (01-April-2021 to 31-December-2021)	115,367	0	0	115,367
Year 2022 (01-January-2022 to 31-March-2022)	33,507	0	0	33,507
Total	148,874	0	0	148,874

²Rounddown values

APPENDIX 1: DOCUMENTS REVIEWED OR REFERENCED (VERIFICATION)

No.	Author	Title	References to the document	Provider
1.	NDC	Commissioning certificate issued by <i>National Dispatching Centre</i> ref. 2/1446 dated 24/11/2017.	-	PP
2.	Applus	Contract of the project participant with the DOE. Ref. No. A+SH_SYST_TQC_VCS_VER_23022	17-June-2022	PP
3.	Vestas	The operational lifetime of the project activity from the manufacturer (Technical specifications)	Manufacturer technical specifications	PP
4.	VERRA	Registered PD & MR https://registry.terra.org/app/projectDetail/VCS/1898	28-August-2019	PP
5.	Respective authority	Calibration Certificates of energy meters	-	PP
6.	NA	MR version 01 MR version 02	22-July-2022 01-September-2022	PP
7.	NA	Emission reduction sheet version 01 Emission reduction sheet version 02	22-July-2022 01-September-2022	PP
8.	PP	O & M Agreements	-	PP
9.	SPVs and state board	Power Purchase Agreements	-	PP
10.	NA	Tools/ guidelines used in the project activity - Glossary of CDM terms version 07 - VCS standard Version 4.3 - VCS Program Guide 4.2 - VCS verification report template Version 4.1	UNFCCC CDM/VCS web site	UNFCCC
11.	NA	Monthly statement- JMR & invoices for the complete monitoring period	-	PP
12.	PP	Declaration regarding no participation in other GHG program for the concerned monitoring period	06-June-2022	PP
13.	PP	Breakdown details for the monitoring period	-	PP
14.	PP	Employment records for plant persons	-	PP
15.	PP6	Grievance Register maintained at site	-	PP
16.	UNFCCC	CDM validation and verification standard for project activities, Version 03.0	-	UNFCCC
17.	RINA	Validation report. Ref. No. 2019-IQ-26-MD	Version 1.0 04-October-2019	VCS

No.	Author	Title	References to the document	Provider
18.	Carbon Check	Previous Verification Report, Report ID: CCIPL 921	03-August-2021	PP
19.	PP	Breakdown details of the power plant	-	PP
20.	UNFCCC	ACM0002 of version 19.0	version 19.0	UNFCCC

APPENDIX 2: CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS AND FORWARD ACTION REQUESTS (CAR/CL/FAR)

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

FAR ID	XX	Section no.	E.2	Date : DD/MM/YYYY
Description of FAR				
There is no FAR from the validation/previous verification of the project activity				
Project participant response				Date : DD/MM/YYYY
NA				
Documentation provided by project participant				
NA				
DOE assessment				Date: DD/MM/YYYY
NA				

Table 2. CL from this verification

CL ID		Section no.		Date:
Description of CL				
NA				
Project participant response				Date:
NA				
Documentation provided by project participant				
NA				
DOE assessment				Date:
NA				

Table 3. CAR from this verification:

Project Implementation Status

CAR ID	01	Section no.	4.1	Date: 23-August-2022
Description of CAR				

During review of monitoring report following inconsistencies observed:

1. Alteration in Monitoring report template found throughout MR.
2. Appendix section is found missing in Monitoring report.
3. Section 3 of this monitoring report is not found in line with version 4.1 of monitoring report template.
4. SLD of the project activity is found missing in Monitoring report provided to the assessment team.

Thus, **Corrective action sought.**

Project participant response	Date: 01-September-2022
1. Alteration observed in Monitoring report template has now been corrected in this submission. 2. Appendix is now being included in VCS MR V02 dated 01-September-2022 3. Section 3 of this monitoring report has been revised inline with version 4.1 of the monitoring report template. 4. SLD has now been included in section 4.3 of VCS MR dated 01-September-2022.	

Documentation provided by project participant

VCS MR V02 dated 01-September-2022

DOE assessment	Date: 06/09/2022
1. PP has revised monitoring report and found inline with the VCS MR Template v4.1. thus accepted. 2. Major breakdown details has been provided by PP under appendix I of revised MR. 3. PP has revised section 03 of monitoring report and found inline with template guidelines. Thus accepted. 4. Single line diagram representing project activity is now provided under section 4.3 of revised monitoring report. Found acceptable.	

CAR is closed.

CAR ID	02	Section no.	4.1	Date: 23-August-2022
Description of CL				
1. Commissioning Certificate of WTGs and project activity are not provided to the assessment team for further verification. 2. Breakdown details of project activity is found missing. 3. Technical Specification 4. PPA or Energy Purchase Agreement is not provided to assessment team. 5. Training certificate is found missing.				
Thus, kindly submit.				
Project participant response				Date: 01-September-2022
1. Commissioning 2. Break-down details are now being provided in this submission. 3. <i>WTG's technical specification</i> 4. PPA is now being provided. 5. Training certificates for this PA has been provided in this submission.				
Documentation provided by project participant				

Commissioning certificates, Technical details report, Break-down details, PPA, Training certificates and training certificates.	
DOE assessment	Date: 06-September-2022
1. PP has submitted following document to assessment team for verification: - - English translated copy of commissioning certificate issued by <i>National Dispatching Centre</i> ref. 2/1446 dated 24/11/2017. - WTGs breakdown sheet relevant to the current monitoring period. - Technical document issued by Vestas - Power Purchase Agreement signed between National Power Transmission Grid State Owned Stock Company and Clean Energy Asia LLC, dated 15/10/2014 - HSE Training attendance sheet of O&M employee of PP. Above document has been reviewed by verification team and observed inline with the revised monitoring report. Thus, accepted and CAR is closed.	

CAR ID	03	Section no.	4.2.2	Date: 23-August-2022
Description of CAR				
Details of any grievances recorded during current MP found missing in the section 2.2 of the MR in line with the VCS Standard, Version 04.3. Thus, Corrective action sought .				
Project participant response				Date: 01-September-2022
Grievance register placed at site is being submitted.				
Documentation provided by project participant				
Grievance register				
DOE assessment				Date: 06-September-2022
As per ongoing local stakeholder consultation mechanism, PP has submitted copy of grievance register to the verification team and observed no major grievance raised by local stakeholder against project activity during current monitoring period. Thus, accepted and CAR is closed .				

CAR ID	04	Section no.	4.4	Date: 23-August-2022
Description of CAR				
PP is requested to provide evidence of renewable electricity has been supplied to grid till now as mention in section 1.11; SDG reporting in MR. Kindly submit.				
Project participant response				Date: 01-September-2022
Renewable energy supplied to grid till now was a typo-error in previous submission and the same has been corrected in VCS MR V02 dated 01-September-2022				
Documentation provided by project participant				
VCS MR V02 dated 01-September-2022				
DOE assessment				Date: 06-September-2022

PP has rectified typo error from monitoring report. Hence accepted and CAR is closed.

CAR ID	05	Section no.	4.5	Date: 23-August-2022
Description of CAR				
1. During desk review it is found that Energy meter calibration details provided in monitoring report is not in line with the calibration certificate provided to the assessment team. Corrective action sought. 2. Monitoring date mention in sec. 4.4 of MR is not in line with MR actual date. 3. The Baseline Emission value provided in Emission Reduction sheet and same is mention in monitoring report is not round down. Thus, Corrective action sought.				
Project participant response				Date: 01-September-2022
1. During previous verification, actual calibration dated 19-July-2017 was considered but since the project commissioning took place on 27-November-2017, So as a conservative approach calibration date was considered from commissioning date (27-November-2017) during previous verification. However, during current verification actual calibration date (19-July-2017) has been considered. This will not affect current or previous verification. The calibration report with 8 year validity has been attached in this submission for further process 2. Monitoring report date is now being corrected in this submission. 3. Round down is now being applied in both monitoring report and Emission reduction sheet.				
Documentation provided by project participant				
Meter calibration reports, VCS MR V02 dated 01-September-2022, Emission reduction sheet dated 01-September-2022				
DOE assessment				Date: 06-September-2022
1. Clarification provided by PP for calibration date found accepted as the date matched with the date of calibration certificate. Thus accepted. 2. Monitoring period has been rectified by PP under revised monitoring report. Thus accepted. 3. PP has now provided round down value in the revised monitoring report and final ER sheet. Found acceptable. CAR is closed.				

Table 4. FAR from this verification

FAR ID	XX	Section No.		Date : DD-Month-YYYY
Description of FAR				
There is no FAR from this verification				
Project participant response				Date : DD-Month-YYYY
NA				
Documentation provided by project participant				
NA				
DOE assessment				Date: DD-Month-YYYY
NA				

APPENDIX 3: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Verification findings
1.	Lead Auditor/Technical Expert	OR	TAKARKHEDE	ATUL	TQC-Outsourced entity	Yes	No	Yes	Yes

Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer (TR) / Technical Expert (TE)	EI	Shen	Simon	Applus+ Certification
2.	Approver	IR	Calle de Miguel	Agustin	Applus+ Certification

Short CVs of the Team:

- Dr. Atul Takarkhede** is Ph.D. (Environmental Sciences) from Institute of Science, RTM Nagpur University, Nagpur, and he has already published different technical papers related to environmental sciences. He counts with more than 11 years of experience in field of Environmental Auditing, consulting and accreditation. He is an expert in ISO 9001-14001, CO2/GHG Reporting, Carbon Foot Print, Energy, Water and Waste Management reporting for organizations' environmental performance. His professional portfolio is mainly related with carrying out EIA, conducting QA/QC of EIA Reports; conducting environmental/water audits; NABET requirements appliance, functional area expert in Water Pollution & Solid & Hazardous Waste management among others. Furthermore, he counts with solid experience on CDM-VCS-GS consultancy and auditing. Currently he is associated with True Quality Certifications Private Limited and empanelled with Applus+ Certification to carry out GHG audits in the aforementioned schemes.
- Mr. Simon Shen** (Master's Degree in Thermal Energy Engineering, Bachelor's Degree in Environmental Engineering) is an Auditor appointed by Applus+ LGAI for the GHG project assessment, auditing and technical review. He has more than 6 years of work experience in

CDM/GS4GG/VCS project assessment and review with Applus+, apart from the years of experience working as GHG Auditor and ISO 9001/14001 in TUV SUD for 3.5 years before he joined Applus+. Mr. Simon Shen has extensive experience also as former Applus+ Shanghai CDM Technical Manager. Mr. Simon Shen is based in Shanghai, China. Mr. Simon Shen may participate in the project's technical review team.

APPENDIX 4: ABBREVIATIONS

Abbreviations	Full texts
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEA	Central Electricity Authority
CL	Clarification request
CM	Combined Margin
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GWP	Global Warming potential
PP	Project Participant
VCS	Verified Carbon Standards
VCU	Verified Carbon Unit(s)

APPENDIX 5: CALIBRATION DETAILS

Meters name	Meter Type	Meter serial number	Date of calibration	Calibration certificate no	Date of next calibration	Calibration Compliance
Main export/import meter at Tavantolgoi substation No 1	A1802RAL-P4GB-DW-4	1311267	19-July-2017	Mongolian Agency for Standardization and Metrology 54520	18-July-2025	No Delay in scheduled meter calibration has been observed during current monitoring period.
Main export/import meter at Tavantolgoi substation No 2	A1802RAL-P4GB-DW-4	1311265	19-July-2017	Mongolian Agency for Standardization and Metrology 54524	18-July-2025	
Backup export/import meter at Tavantolgoi substation no1	A1805RAL-P4GB-DW-4	1311263	19-July-2017	Mongolian Agency for Standardization and Metrology 54519	18-July-2025	
Backup export/import meter at Tavantolgoi substation no 2	A1805RAL-P4GB-DW-4	1311262	19-July-2017	Mongolian Agency for Standardization and Metrology 54522	18-July-2025	