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GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG) REPORT-VERIFICATION

Project Title:	2x50 MW Orange Suvaan Solar Photovoltaic Power Project in Maharashtra, India
Monitoring Period:	01/04/2021 to 31/12/2022 (Both days included)
GS project ID:	GS 5928
Internal ID:	9223
Customer:	Infinite Environmental Solutions LLP (PO: Orange Suvaan Energy Private Limited)
Date:	27/06/2024
Revision:	05

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SUMMARY			
Reference No.	**Date** *(first version)*	**Version No.**	**Date** *(last version)*
A+SH_SYST_TQC_GS_VER_9223	31/10/2023	05	27/06/2024

GS4GG Verification	
GS4GG Certified Product *(sought)*:	GS VER
GS4GG SDG Impact Statement *(sought)*:	Impact Certification
General Information	
Client	Infinite Environmental Solutions LLP
Project Title	2x50 MW Orange Suvaan Solar Photovoltaic Power Project in Maharashtra, India
Project Participants	Orange Suvaan Energy Private Limited
Project Location	Mhasale village of Dhule District in the state of Maharashtra, India.
Contact Person	Mr. Vishwas B. Kamle
Monitoring Period:	01/04/2021 to 31/12/2022 (Both days included)

GS4GG Version: GS4GG Principles and Requirements 1.2 GS4GG Activity Requirements: RE Activity Requirements, version 1.4 Applied Methodology Version: ACM0002 "Grid-connected electricity generation from renewable sources" Version 17.0	GS4GG Sectoral Scope: 2 UNFCCC CDM Sectoral Scope: 1 Technical Area: 1.2
Monitoring Report Version: 01 Date: 02/06/2023	Final Monitoring Report Version: 06 Date: 27/06/2024
Certified Project Design Document Version: Assessment team checked the registered GS PDD Version: 05 Date: 25/10/2018	

Estimated values for all SDG:

SDG	SDG	Values
7	Renewable Electricity Generated	168,630 MWh electricity generation (annual) 295,680.00 MWh electricity generation for current M.P.
8	Trainings provided to O&M staff	03 Trainings provided to O&M Staff (annual) 06 Trainings provided to O&M Staff for current M.P.
8	Number of Jobs generated	25 (annual) 44 (current M.P.)
8	Cost Spent on O&M	40,000,000.00 INR (annual) 70,136,986.30 INR (current M.P.)
13	Emission Reduction	164,869 tCO_2e (annual) 289,085 tCO_2e for current M.P.

Actual values for the Monitoring period for all SDG:

SDG	SDG	Actual values for this monitoring period
7	Renewable Electricity Generated	360,907.15 MWh electricity generation
8	Trainings provided to O&M staff	35 Trainings provided to O&M Staff
8	Number of Jobs generated	12 employments created
8	Cost Spent on O&M	157,875,809 INR

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SUMMARY		
13	Emission Reduction	317,993 tCO_2e emission reductions claimed[1]
Selected Sustainable Development Goals (SDGs): 7; 8; 13		

Verification Summary

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Orange Suvaan Energy Private Limited to perform the 4th verification of "2x50 MW Orange Suvaan Solar Photovoltaic Power Project in Maharashtra, India" (Ref. No. GS 5928) applying the methodology ACM0002 Version 17.0/4/.

The management of Orange Suvaan Energy Private Limited is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions.

A desk review and a site visit has been conducted to verify the data submitted in the monitoring report. Applus+ Certification confirms the following have been reviewed:

a. The registered PDD including the monitoring plan;
b. Monitoring report(s);
c. The applied monitoring methodology;
d. Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;
e. GS4GG guideline and related Annex.
f. All information and references relevant to the project activity's resulting in emission reductions.

Orange Suvaan Energy Private Limited is the promoter of the project activity and involves installation of 100 MW (50 MW X 2 phases) grid connected solar photovoltaic power plant in Mhasale village of Dhule District in the state of Maharashtra, India. Electricity generated from the project activity is sent to Indian grid. As per GS4GG PDD/3/, the project replaces anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 164,869 tCO_2e per annum and 289,085 tCO2e for current monitoring period there on displacing 168,630 MWh/year and 360,907.15 MWh for Current M.P. amount of electricity from the generation-mix of power plants connected to the Indian grid, which is mainly dominated by thermal/ fossil fuel-based power plant. The project activity was commissioned in two phases, Detail are as follows: -

Project Investor	Project Capacity	Date of Commissioning	Village/ Taluka	District	State
Orange Suvaan Energy Private Limited.	100 MW (2 x 50 MW)	16/06/2017	Mhasale	Dhule	Maharashtra

The monitoring of emission reduction and sustainable development indicators has been carried out in accordance to respective registered PDD/3/.

Applus+ Certification confirms that the project is implemented in accordance with the validated and registered PDD/3/. The monitoring plan complies with the applied methodology ACM0002 Version 17.0/4/ and the GS4GG guidelines the monitoring has been carried out in accordance with the monitoring plan. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information reviewed and evaluated Applus+ Certification confirms

[1] As per Rule Clarification - assessment approach for reporting higher ex-post emission reductions para 2.1.4 the emission reductions are capped to the upper bound of the sensitivity analysis range (+10%) for the monitoring period (annual emission reductions values) in which the higher ex-post emission reduction was reported so here 352,857 is actual emission reductions and Estimation ER with +10% variation of PLF for Current Monitoring Period is 317,993 therefore it is capped to 317,993 ER.

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SUMMARY
that the implementation of the project has resulted in 317,993 tCO_2e emission reductions claimed during period 01/04/2021 to 31/12/2022 (Both days included) All CARs /CRs/ FARs raised during verification shall be resolved prior to submitting a request for issuance. Forward Action Requests (FARs) may be raised during verification for actions where the monitoring and reporting require attention and/or adjustment for the next verification period. Please refer Appendix 1 of this report. Total numbers of CARs: 09, CLs: 01, FARs: 01 (Raised by Sustain Cert during Performance Review).

ASSESSMENT TEAM		
Team Members	**Type of Resource**[2]	**Organization** *(for OEs)*
Lead Auditor: Dr. Atul Takarkhede	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Auditor in Training: Ms. Anjali Singh	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Observer: Mr. Khagesh Sharma	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Technical Reviewer: Mr. David Lubanga	☐ IR ☒ EI ☐ OE	Applus+ Certification

Note: *In line with the GS Rule Update RU 2020 PR – PR V2 dated on 04/08/2020, the VVB hereby discloses that the VVB has performed Validation of this project with different team members than in this verification.*

[2] IR (Internal Resource); EI (External Individual); OE (Outsourced Entity)

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ABBREVIATIONS	
ACM	Approved Consolidated Methodology
AM	Approved Methodology
Applus+ LGAI / Applus+	LGAI Technological Center, S.A. (Applus+ Certification)
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction
CL / CR	Clarification Request
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
DNA	Designated National Authority
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GS4GG (or GS)	Gold Standard for Global Goals
IPCC	Intergovernmental Panel on Climate Change
JMR	Joint Meter Reading
KP	Kyoto Protocol
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-Governmental Organization
SDG	Sustainable Development Goal
TAC	Gold Standard Technical Advisory Committee
tCO_2e	Tonnes of Carbon Dioxide equivalent
OM	Operational Margin
PDD	Project Design Document
PP	Project Participant
MSEDCL	Maharashtra State Electricity Distribution Co. Ltd.
UNFCCC	United Nations Framework Convention for Climate Change
VER	Voluntary Emission Reductions
VVB	Validation and Verification Body
VVS	Validation and Verification Standard

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1. INTRODUCTION

1.1 Objective

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Orange Suvaan Energy Private Limited to perform the 4th verification of "2x50 MW Orange Suvaan Solar Photovoltaic Power Project in Maharashtra, India" applying the methodology ACM0002 Version 17.0[/4/] and GS4GG guideline. Gold Standard projects must undergo periodic audits and verification of emission reductions as the basis for issuance of Gold Standard VERs.

The objective of the verification work is to assess the compliance with the requirements of paragraph 62 of the CDM Modalities and Procedures as well as the GS4GG guidelines and relevant Principles and Requirements.

According to this assessment Applus+ Certification shall:

- Ensure that the project activity has been implemented and operated as per the registered PDD and that all physical features (technology, project equipment, monitoring and metering equipment) of the project are in place;
- Ensure that the published MR and other supporting documents provided are complete, verifiable and in accordance with applicable CDM validation and verification standard for project activities, Version 03.0[/5/] and GS4GG Validation and Verification Standard, version 1.0 for the project activities and Gold Standard (i.e., applicable GS4GG requirements);
- Ensure that the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology;
- Evaluate the data recorded and stored as per the ACM0002 Version 17.0[/4/].

1.2 Scope

The verification scope encompasses an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the VVB. The verification is based on the submitted monitoring report, registered PDD as well as its Verification report, the applied monitoring methodology, relevant decisions, clarifications and guidance from the CMP and the EB, GS4GG guideline and any other information and references relevant to the project activity's resulting emission reductions. These documents are reviewed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures, GS4GG guideline and relevant Principles and Requirements, as well as their related rules and guidance.

Based on the requirements in the CDM validation and verification standard for project activities, Version 03.0 and GS4GG Validation and Verification Standard, version 1.0 for the project activities as well as the GS4GG guidelines, Applus+ Certification has applied a rule-based approach for the verification of the project. The principles of accuracy, completeness, relevance, reliability, and credibility were combined with a conservative approach to establish a traceable and transparent verification opinion.

The verification considers both quantitative and qualitative information on emission reductions. The verification also considers the monitoring of SDG goals as per the requirement of GS4GG guideline.

The verification is not meant to provide any consultancy towards the client. However, stated requests for clarifications, corrective and/or forward actions may provide input for improvement of the monitoring activities.

1.3 Description of the project activity

Orange Suvaan Energy Private Limited are the promoter of the project activity and involves installation of 100 MW (2 x 50 MW) solar power project in Mhasale village of Dhule District in the state of Maharashtra, India. The total capacity of the project activity is 100 MW. Electricity generated from the project activity is sent to Indian grid of India. As per GS4GG PDD[/3/], the project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 164,869 tCO_{2e} per annum by exporting approximately 168,630.00 MWh/year to the unified Indian National Grid. The project activity is commissioned in the year 16/06/2017.
The total installed capacity of the project is 2x50 MW located in Mhasale village of Dhule district in Maharashtra, India. Technical specifications of 2x50 MW Solar PV Project by Orange Suvaan Energy Pvt. Ltd. found inline with the actual project site technical details, thus acceptable to VVB team.

The details of the project are mentioned in the table:

Project Investors' Name	**Capacity in MW**	**Village**	**District**	**Latitude**	**Longitude**
Orange Suvaan Energy Private Limited.	100 MW (2 x 50 MW)	Mhasale	Dhule	21° 06' 28.8"N	74°26'27.6''E

The monitoring of emission reduction and sustainable development indicators has been carried out in accordance to respective registered PDD.

2. METHODOLOGY

Applus+ Certification approach to the verification is a two-stage process. In the 1st stage, Applus+ Certification completed a strategic review and risk assessment of the project's activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and
- Compilation of the monitoring report.

Applus+ Certification used a periodical Verification Checklist which, based on the risk-based assessment of the parameters and data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan.

In the 2nd stage, Applus+ Certification verified the implementation of the monitoring plan and the data presented in the Monitoring Report for the period in question. This involved a Site Visit and a desk review of the Monitoring Report. This Verification Report describes the findings of this assessment.

2.1 Appointment of the assessment team

According to the sectoral scope / technical area and experience in the sectoral or national business environment, LGAI Technological Center, S.A. (Applus+ Certification) has composed a project assessment team in accordance with the appointment rules in the internal Quality Management System of LGAI Technological Center, S.A. (Applus+ Certification).

The composition of audit team shall be approved by the LGAI Technological Center, S.A. (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	N/A	YES
Ms. Anjali Singh	AiT	NA	NA	N/A	YES
Mr. Khagesh Sharma	Observer	NA	NA	N/A	YES
Mr. David lubanga	TR	YES	YES	N/A	N/A

The complete list of CVs is included as Appendix 03 of this report.

2.2 Document review

The Monitoring Report version 01/1/ was submitted to VVB before the verification activities started. The MR was assessed based on all the relevant documents. The aim of the assessment in the desk review was to:

- Verify the completeness of the data and the information presented in the MR;

- Check the compliance of the MR with respect to the monitoring plan depicted in the registered PDD, verify that the applied methodology was carried out. Particular attention to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures of the power plant was checked by the assessment team.
- Evaluate the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.
- Please check reference 4 of this report for detail of the documents checked.

2.3 On site assessment and follow up interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1	B. Kamble	Mr. Vishwas	PP representative	22/06/2023	Project implementation, Project implementation, Grievance mechanism etc.	Dr. Atul Takarkhede
2	V. Dhorekar	Mr. Amol	Manager (O&M)		Baseline emissions, ER calculations, Sustainable monitoring, Training and practice of the operational personnel, Monitoring data management, Maintenance, Compliance to regulatory requirements, Environmental and social issues, Projects contribution to sustainable development Stakeholder meeting- Employment opportunities, Standard of Livings etc.	
3	Patil	Mr. Avnish	Site personnel (MH)			
4	Gupta	Mr. Rajeev	Senior Analyst Infinite Solutions			
5	Koli	Mr. Mahendra	Local Villager			

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
6	Bodare	Mr. Kiran	Local stakeholder (MH)			

As per the para 3.1 of the Site Visit and Remote Audit Requirements v.02, 'Once within every three years after the first physical site visit date'.

Last site visit dated 16/03/2020 has occurred in the second verification. After this site visit, remote audit interview dated 30/07/2021 is performed during the 3rd monitoring period. During 3rd monitoring period, site visit did not occur due to Covid-19 pandemic occurred, VVB skipped the site visit and remote audit performed. During current monitoring period, Site visit is conducted on date 22/06/2023 where VVB team found project site is working as per the monitoring plan. Thus, found acceptable to VVB team.

The objective of the on-site assessment is to:

- Confirm the implementation and operation of the project;
- Review the data flow for generating, aggregating and reporting the monitoring parameters;
- Confirm the correct implementation of procedures for operations and data collection;
- Cross-check the information provided in the MR documentation with other sources;
- Check the monitoring equipment against the requirements of the PDD and the approved methodology, including calibrations, maintenance record, etc.;
- Review the calculations and assumptions used to obtain the GHG data and ER;
- Identify if the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters.
- Confirm the SDG goals/ Sustainable monitoring parameter as per the registered PDD.
- To understand grievance (if any) from the villagers during the monitoring period.
- Local stakeholder meeting details:

Name of the stakeholder	Mr. Kiran Bodare
Occupation	Villager
VVB QUESTION: Did PP provided employment opportunity to locals? Answer: Yes, employment is generated and the locals are given priority. Assessment team noted that locals were employed for the project activity for the current monitoring period. VVB also like to conclude that during the site visit it was observed that local people were employed for security and operation related work like vegetation improvement and other unskilled work. VVB	

also found that skilled local persons were also employed by the organization for the operation and maintenance of the power plant.

Name of the stakeholder	Mr. Mahendra Koli
Occupation	Villager
VVB questions: Did the power plant have any harmful impact on farming or vegetations? Answer: NO. The plant is implemented in barren land and there were no any fertile land or crop which is damaged.	

2.4 Quality of evidences

Sufficient evidence covering the full verification period in the required frequency is available to verify the figures stated in the final MR Version 05[/1/]. Specific cross-checks have been done in cases that further sources were available. The monitoring report's figures were checked by the assessment team against the raw data. The data collection system meets the requirements of the monitoring plan as per the methodology.

2.5 Reporting of findings

As an outcome of the verification process, the assessment team can raise different types of findings.

Where a non-conformance arises the assessment team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

- Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;
- Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

The assessment team shall raise a Clarification Request (CR) if information is insufficient or not clear enough to determine whether the applicable CDM/GS requirements have been met.

All CARs /CRs/ FARs raised during verification shall be resolved prior to submitting a request for issuance.

Forward Action Requests (FARs) may be raised during verification for actions where the monitoring and reporting require attention and/or adjustment for the next verification period.

Please refer Appendix 1 of this report. Total numbers of CARs: 09, CLs: 01, FARs: 01 (Raised by Sustain Cert during previous performance review).

2.6 Internal Quality Control

As a final step of verification, the final documentation including the verification report has to undergo an internal quality control by the Technical Reviewer. Each report has to be finally approved either by the VVB's Technical Manager or the Deputy. This approval process also includes another quality assurance check in terms of Administrative Review. In case one of these two persons is part of the assessment team, the final approval can only be given by the person who is not a part of the assessment team. If the documents have been satisfactorily approved, the Request for Issuance is submitted to the GS Registry along with the relevant documents.

3. VERIFICATION FINDINGS

3.1 FARs from Validation / Previous Verification

This is 4th Verification for the project activity. 01 FAR has been raised by Sustain Cert during previous performance review (3rd verification) which was resolved during this verification of the project activity. No FAR pending from the validation and previous verification of the project activity. Refer Appendix 1 of this report for details.

3.2 Project Implementation in accordance with the registered Project Design Document

The project activity was fully implemented according to the description presented in the registered PDD. The assessment team confirms, through the Site Visit that all physical features of the project activity including data collecting systems and storage have been implemented in accordance with the registered PDD for GS4GG.
The technical features of the equipment's have been verified by the assessment team by reviewing following documentation:
Interviews of onsite personnel during Site Visit Technical detail analysis of the power plant from the documents submitted by the manufacturer. Commissioning certificates of the plant, PPA/17/ for the project activity.
Orange Suvaan Energy Private Limited has installed solar power project at Mhasale village of Dhule District of Maharashtra State of India with capacity of 100 MW (2 x 50 MW).
Key Components Technical Specification for project activity

Solar PV modules (Make)	**JA Solar**	**JA Solar**
Technology	60-cell multi Crystalline	60-cell multi Crystalline
Model	JAP 6(K) 60 265 4BB	JAP 6(K) 60 270 4BB
Capacity	265 Wp	270 Wp
No. of Modules	208320	306720
Capacity, MW (DC)	55.20MWp	82.81MWp
Total Capacity, MW (DC)	138.00 MWp	
Total Capacity, MW (AC)	100 MW	

Inverters (Make)	**ABB**
Model	PVS800-57
Rated Capacity	1000 KW
No. of Inverters	100
Rated Input Voltage	1000 V DC

Transformers (Make)	**Prolec GE**	**Sudhir Power**	**Sudhir Power**
Model No.	ONAF	ONAN	ONAN
Capacity	50/60 MVA	4 MVA	2 MVA
No. of Transformers	02	24	02
Voltage Ratio	11/132 KV	4 x 380 V/ 11 kV	2x 380 V/ 11 kV

The generated power from the project is evacuated through 132 kV transmission line at 220/132 kV Shivajinagar substation located in district Dhule, Maharashtra. The cost of laying the transmission line from Project site up to the substation would be borne by the project company.

Technical specifications of the each SPV is provided in the section B.1 of the MR. Same are conformed during the onsite visit and commissioning certificates/11/, Verification report/3/ and found correct.

The project activity was in normal operational during the monitoring period and the same has been confirmed during site visit interviews with PP and crosschecked from review of Joint Meter Reading/9/ records submitted by PP. Power plant was working throughout the monitoring period and same have been conformed from JMR/9/ values. No unusual activates observed during the monitoring period and plant was undergone scheduled as well as emergency maintenance as per the recommendation of the manufacturers. No forced breakdown observed and the same is confirmed by the assessment team with the Joint meter reading/9/.

The verification team has reviewed the commissioning certificates & PPA to conclude that the capacity of the project is same as mentioned in the registered GS PDD and explained by PP during site visit interviews. The capacity of the project activity does not change after the registration of the project activity and same have been confirmed from the commission certificate, PPA/17/ and Joint meter reading issued by State Utility/9/ and Invoices raised by the PP towards state utility.

Also, from review of other documents such as Commissioning certificate/11/, PPA/17/ & JMR/9/, it was observed that the rated capacity of the project is 100 MW. The capacity of the project is more than 15 MW and thus the same qualifies as large-scale project activity.

Plant is located in Maharashtra states of India. Assessment team also checked the locations of the project activity in the registered PDD/3/, Verification report/3/. Thus, location provided in MR are found in line with registered documents of the project activity and are as stated in table above.

The project is connected to Indian grid (as per the grid structure of India) and the same is found correct by the assessment team during the review of commissioning certificate, PPA and site visit interviews with PP. The grid structure as mentioned in the PDD is still applicable for the project and ex-ante emission factor as in the PDD is used for emission reduction calculation. Assessment team noted that the project activity has entered a power purchase agreement with the MSEDCL/17/. The electricity is fed into the Indian grid.
Thus, assessment team confirms that the project is implemented as per the registered PDD/03/.

Assessment of actual emission reductions with the estimate emission reduction in PDD.

Estimated Emission Reduction as per registered PDD	289,085 tCO2e As per PDD V05, ER for 365 days -164,869 tCO2e and for this MP, total days are 640. Accordingly, emission reduction for this MP, estimated ER is 289,085 tCO2e. Please refer calculation in ER Spread sheet.
Actual Emission Reduction for the monitoring period	352,857 tCO2e
Emission Reduction claimed for the monitoring period	317,993 tCO2e

<table>
<tr><td>Is any increase of VERs occurred?</td><td>Yes</td></tr>
<tr><td>Reason for increase of VERs</td><td>During this monitoring period, a higher Plant Load Factor (PLF) was achieved, but this increase was not under the control of the Project Participant (PP). It was contingent on the variability in climatic factors. Remarkably, the emission reduction achieved during this monitoring period exceeded the estimated emission reductions by 22.06%.

The generation of electricity is heavily influenced by varying climatic conditions, higher radiation received, using higher efficient equipment's and majorly frequent cleaning of modules leads to the lower power generation losses and higher plant availability. These significantly impact the PLF. The actual PLF achieved surpassed the estimated PLF.

The increase in PLF has been crosschecked against the Internal Rate of Return (IRR) breaching value, and the IRR remains within an acceptable range. The IRR is projected to meet the benchmark when the PLF reaches 24.67 % however current monitoring PLF obtained is 23.50%.
Below is the vintage wise analysis of PLF value it has been observed by VVB team that since commissioning of the project it does not cross the benchmark i.e. 28.16%.

<table>
<tr><th>S.No.</th><th colspan="2">Vintage</th><th>Actual Generation (MWh)</th><th>PLF in Vintage</th></tr>
<tr><td>1</td><td>16/06/2017</td><td>31/12/2017</td><td>86,018</td><td>18.01%</td></tr>
<tr><td>2</td><td>01/01/2018</td><td>31/12/2018</td><td>214,451</td><td>24.48%</td></tr>
<tr><td>3</td><td>01/01/2019</td><td>31/12/2019</td><td>207,789</td><td>23.72%</td></tr>
<tr><td>4</td><td>01/01/2020</td><td>31/12/2020</td><td>191,142</td><td>21.76%</td></tr>
<tr><td>5</td><td>01/01/2021</td><td>31/12/2021</td><td>202,836</td><td>23.15%</td></tr>
<tr><td>6</td><td>01/01/2022</td><td>31/12/2022</td><td>213,312</td><td>24.35%</td></tr>
</table>

In conclusion, the Verification Body (VVB) has assessed the estimated IRR value based on the increased PLF and determined that it is below the benchmark. This finding suggests that there is no adverse impact on the project's additionality. The verification team also confirmed during a site visit that there have been no changes in the project's design since its inception.</td></tr>
</table>

Assessment team also checked the metering details of the connected solar plant and found the same to be appropriate. Feeder details were confirmed from the site visit interviews with PP, and commissioning certificate submitted by PP.
Assessment team also checked that the projects are not registered under the REC mechanism of India and the same can be cross-checked at https://recregistryindia.nic.in Also International REC (I-REC) registry (https://evident.services/device-register) is cross-checked and found that this project is not under I-REC as well. Thus, double counting for the current monitoring period is ruled out.

Assessment team also checked the other registry like UNFCCC and VCS and found that project is not registered with UNFCCC or VCS. GHG emissions reduction & sequestration product requirements" Version 2.1/20/ requirement are met. Thus, found acceptable to VVB team.

As transition review under GS4GG of mentioned project was approved on 01/09/2021 therefore, annual report for calendar year 2020 is not submitted. Whereas, combined annual report for calendar year 2021 and 2022 has been submitted. Furthermore, an annual report for calendar year 2023 is also submitted by PP and ensure to submit for each calendar years in future as well. Also, VVB team checked combined annual report for calendar year 2021 and 2022 and for the year 2023 which are publicly available on the GS-web site.[3] During site visit, PP ensures that annual reports will be submitted for each calendar years in future as well.

Grievance Mechanism:

During the Onsite visit, the verification team confirmed that there is a grievance book/15/ with GS contact information at the project site office and are accessible to local stakeholders. By checking grievance book/15/ submitted by PP, it was able to confirm there are no comments received from the local people for the present monitoring period towards project activity. Local people are happy with the implementation of the project activity as it entrusts employment and improve living standard of local people and villagers.

Materiality adopted in Verification:

Consideration of materiality in planning the verification

No.	Risk that would lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk levels	Justification	
1	Human errors: Readings from Meters (if not automatic)	LOW	Human error is likely to occur if the monitoring personnel are not trained well or inexperienced in data recording procedures and monitoring processes.	All the personal are well trained to monitor and collect data and thus risk associated with Human error is minimized. Assessment team checked the training records to confirm that all the personal are well trained to handle the activities related to monitoring. Assessment team checked the training records for the complete monitoring period and confirm that the personal are well trained to monitor and collect data for the project activity.
2	Human error: Quantification of emission reduction	LOW	Use of spread sheets without adequate data control, changes/updates, version tracking, traceability, and security	All the energy statement i.e., Monthly Joint Meter Reading sheets and the invoices for the complete monitoring period are checked and thus the assessment team confirms that the ER value is conservative and correct.

[3] GSF Registry (goldstandard.org)

Consideration of materiality in conducting the verification

In line with Guidelines for V1.0_PAR_Validation-and-Verification-Standard, 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 invoices 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.

Emission Reductions (tCO_2e)/year	500,000 or more	300,000 to 500,000	300,000 or less	Micro Scale projects
Materiality Threshold para (9.6.3) of Validation-and-Verification-Standard version 1.0	0.5%	1.0%	2.0%	10.0%

The applicable materiality threshold is 2.0% for project activity as estimated ERs 164,869 tCO_2e were less than 300,000 tCO_2e/year as per requirement of V1.0_PAR_Validation-and-Verification-Standard /5/.

Particulars / Monitoring Report	MR Version (Initial)	MR Version (Revised/Final)
Emission Reductions Achieved (tCO_2e) in this monitoring period	352,857 tCO_2e	317,993 tCO_2e
Applicable Threshold (%) as per para 9.6.3 of Validation-and-Verification-Standard version 1.0 /5/		

The verification team has identified the impact of error observed due to wrong emission reduction value mentioned in initial ER sheet and those were corrected by PP during verification for all monitoring parameters at the individual level. There is difference in initial generation and final revised value in revised ER sheet.

As per Rule Clarification - assessment approach for reporting higher ex-post emission reductions para 2.1.4 the emission reductions are capped to the upper bound of the sensitivity analysis range (+10%) for the monitoring period (annual emission reductions values) in which the higher ex-post emission reduction was reported so here 352,857 is actual emission reductions and Estimation ER with +10% variation of PLF for Current Monitoring Period is 317,993 therefore it is capped to 317,993 ER. Found acceptable to VVB team.

3.3 Compliance of the Monitoring Plan with the Monitoring Methodology

The verification team can confirm that the monitoring plan is in accordance with the approved methodology ACM0002 Version 17.0/4/, applied by the GS project activity.

No deviation or permanent change to the monitoring plan has been requested or observed.

3.4 Completeness of Monitoring

The monitoring has been carried out in accordance with the monitoring plan contained in the GS PDD/3/. All parameters were monitored and determined as per the monitoring plan of the GS PDD as follows:

a. Data and parameters fixed ex ante or at renewable of crediting period

$EF_{OM,y}$, $EF_{BM,y}$ & **$EF_{CM,y}$** were mentioned as ex-ante fixed parameter.

The values considered ex-ante for this monitoring period were cross-checked with registered PDD/3/, and their respective sources. The summary of all the ex-ante parameters has been given below:

Parameter/ Description	Value applied	MoV
SDG 13: Climate Action **$EF_{,OM,y}$** Operating Margin CO_2 emission factor in year y	0.9941 tCO_2/MWh	The value of the parameter was checked from registered PDD/3/. The value of the parameter was sourced from CEA database version 11[4].
SDG 13: Climate Action **$EF_{,BM,y}$** Build Margin CO_2 emission factor in year y	0.9285 tCO_2/MWh	The value of the parameter was checked from registered PDD. The value of the parameter was sourced from CEA database version 11.
SDG 13: Climate Action **$EF_{,CM,y}$** Combined Margin CO_2 emission factor in year y	0.9777 tCO_2/MWh	The value of the parameter was checked from registered PDD. The value of the parameter was sourced from CEA database version 11.

The value mentioned in the Monitoring Report/1/ and Emission Reduction Spreadsheet/2/ are consistent with the registered PDD. The applied value is correct and justified.

b. Data and parameters monitored

As per the registered monitoring plan and requirement of the registered methodology following parameters needs to be monitored:

Relevant SDG indicators = 7 Affordable and Clean Energy

1. **$EG_{facility,y}$** = Quantity of net electricity supplied to the grid (MWh) during the year y.
   = 360,907.15 MWh amount of electricity supplied to grid.

   The parameter $EG_{facility,y}$ is calculated based on The Net electricity supplied to the grid by the project activity will be calculated as a difference of electricity exported to the grid, electricity imported from the grid obtained from Monthly Meter reading reports provided by MSEDCL.
   Net Electricity = Export - Import
   Quantity of net electricity supplied to the grid presented in the Joint meter reading is cross checked from the Invoices Project Participants to MSEDCL. Calibration of all the meters is undertaken once in 5 years as per CEA guidelines. The meters is of accuracy class 0.2s. The QA/QC procedure is as per the requirement of the registered PDD/3/ and onsite practice. The same is thus acceptable to the assessment team and thus emission reduction calculation is correct.

2. **Relevant SDG indicator SDG 8: Quantitative employment and income generation**

[4] https://cea.nic.in/cdm-co2-baseline-database/?lang=en

Number of Trainings provided to employees & O&M staff

Number of project employees with Number of male/female, permanent/temporary, age and person with disabilities. Salary given to the employees of the project.

The parameter is taken as Quantitative employment, Quality of employment and Income generation. Same is found as total 119 Employees are working during the current monitoring period out of which 12 Employees are hired during this verification only in which 119 were Males and there are no females due to site is located in the rural area so female workers are not available to work. Total 35 trainings provided at both project sites in this monitoring period. Income generation of all Employees in the current monitoring period is 157,875,809 INR. The PP paying equal amount of money for equal work. The same is thus acceptable to the assessment team and verified using Salary slips submitted.

3. **Relevant SDG Indicator 13: Air Quality, ERy**

This parameter is described as Reduction in CO_2 emission reduction due to implementation of project activity.

The parameter is calculated from CEA database version 11.0, published by the Central Electricity Authority, Ministry of Power, Government of India and Energy Generation

The same demonstrated in Emission reduction sheet and the emission reduction claimed for the current monitoring period is **317,993 tCO_2e** the same is acceptable to the assessment team and the emission reduction calculation is correct.

c. Implementation of sampling plan

PP did not apply sampling plan to determine data and parameters monitored during this monitoring period. The verification team has checked all the documents such as Monthly Joint Meter Reading/9/ issued by State electricity board /Invoices etc. and hence sampling plan was not required. The verification team hereby confirms that has checked all the documents.

d. Compliance with the calibration frequency requirements for measuring instruments

The calibration details such as make, accuracy class serial number is as per the meter available onsite and checked during verification Site Visit interviews. The Calibration details are presented in Appendix 2 of this report. Calibration/10/ of meters carried out by a NABL accredited company for testing and calibration, Govt of India (*http://www.nabl-india.org/*) to carry out calibration.

Assessment team checked the same and found that the calibration is appropriate and correct as traceability is ensured. The meters were calibrated by the MSEDCL and the meters are within the permissible error limit.

3.5 SDG Outcomes Monitoring

In the Registered PDD/3/ indicators are chosen for the monitoring of sustainable monitoring:

Meth/tool	Relevant SDG indicator	GS PDD	MR	Compliance
Quantity of net electricity supplied to the grid	SDG 7: By 2030, increase substantially the share of renewable energy in the global	Quantity of net electricity delivered by the project plant/unit	Quantity of net electricity supplied to the grid during the year y(MWh)	Yes

Meth/tool	Relevant SDG indicator	GS PDD	MR	Compliance
	energy mix	in year y in MWh		
• Number of employment generation and Better Salary • Quality of Employment	SDG 8.5.1: Number of people employed directly due to the project activity	Quantitative employment Income generation and Quality of employment	Number of trainings provided to employees & O&M staff, Cost spent for O&M & Number of O&M staffs involved in the project.	Yes
Take urgent action to combat climate change and its impacts	SDG 13.2.1: Take urgent action to combat climate change and its impacts	Emission Reductions	Reduction in CO_2 emission reduction due to implementation of project activity	Yes

The verification of the parameters required by the monitoring plan is provided as follows:

Relevant SDG Indicator	**SDG 7.2.1: Affordable and Clean Energy**
Data/parameter:	$EG_{facility,y}$
Unit	MWh
Description	Quantity of net electricity supplied to the grid during the year y (MWh)
Source of data checked by the assessment team	Monthly energy generation statement issued by State Electricity Board. These are called JMR (Joint Meter Reading)
Value(s) of monitored parameter	360,907.15 MWh Year | $EG_{facility,y}$ 2021 | 147,595.37 MWh 2022 | 213,311.78 MWh
Means of verification:	Electricity exported/imported to the grid is in kWh. However, for the calculation purpose electricity exported is converted in MWh. The Net electricity supplied to the grid by the project activity will be calculated as a difference of electricity exported to the grid, electricity imported from the grid obtained from Monthly Meter reading reports provided by MSEDCL as per below equation: Net Electricity = Export – Import Net electricity supplied is calculated based on the difference between values of "export" and "import" on the EB energy meter at the Shivaji nagar substation. Calibration of all the meters will be undertaken once in 5 years as per CEA guidelines. The meters will be of accuracy class 0.2s. calibration records checked with the calibration certificate issued by state utility and found correct.
Cross check mechanism	Quantity of net electricity supplied to the grid cross checked from the Invoices Project Participants to MSEDCL. Emission reduction calculated in thus correct and accurate. The cross-check mechanism is presented in the emission reduction calculation sheet and the same is found correct.

Relevant SDG Indicator	**SDG 13: Climate Action**
Data/parameter:	**ER_y**
Unit	tCO_2

<table>
<tr><td>Description</td><td>Reduction in CO_2 emission reduction due to implementation of project activity</td></tr>
<tr><td>Source of data checked by the assessment team</td><td>Calculated as per "Tool to calculate the emission factor for an electricity system,". The data are obtained from "CO_2 Baseline Database for Indian Power Sector" version 11.0, published by the Central Electricity Authority, Ministry of Power, Government of India.</td></tr>
<tr><td>Value(s) of monitored parameter</td><td>317,993 tCO_2e Emission reduction claimed

<table><tr><th>Vintage date</th><th>Actual ER_y</th><th>Actual ER claimed (After capping as rule [5])</th></tr><tr><td>01/04/2021 to 31/12/2021</td><td>144,303 tCO_2e</td><td>136,638 tCO_2e</td></tr><tr><td>01/01/2022 to 31/12/2022</td><td>208,554 tCO_2e</td><td>181,355 tCO_2e</td></tr></table></td></tr>
<tr><td>Means of verification:</td><td>Assessment team checked that the parameter is calculated. The electricity exported & imported measured by Energy meter installed at substation. The Monthly Joint Meter Reading/ electricity generation data verified with the Joint meter reading /9/ issued by state electricity board and cross-checked with the invoice/9/ copies raised by PP to state electricity board. Emission reduction calculated in thus correct and accurate.</td></tr>
<tr><td>Cross check mechanism</td><td>All the formulas are applied in line with the registered GS4GG PDD.</td></tr>
</table>

Relevant SDG Indicator	**SDG 8.5.1: Decent Work and Economic Growth**
Data/parameter:	• Quantitative employment, • Income generation
Unit	• Number of O&M staffs involved in the project • Cost spent for O&M • Trainings provided to employees & O&M staffs
Description	• Total employment generated due to the implementation of project activity • The amount spent for O&M activities due to the project. • Number of trainings provided to employees & O&M staffs. The income to all the unskilled workers are made on day-to-day basis in line with the minimum wage requirements. Annual records of income paid to all the employees would be available. Employees data as follows as: Total 12 employees Bifurcation based on gender: Male – 12 Female – 0 [6]
Source of data checked by the assessment team	• Training Records (HSE) • Salary Slip of the project employees.

[5] As per Rule Clarification - assessment approach for reporting higher ex-post emission reductions para 2.1.4 the emission reductions are capped to the upper bound of the sensitivity analysis range (+10%) for the monitoring period (annual emission reductions values) in which the higher ex-post emission reduction was reported so here 352,857 is actual emission reductions and Estimation ER with +10% variation of PLF for Current Monitoring Period is 317,993 therefore it is capped to 317,993 ER)

[6] Since site is located in the rural area, female workers are not available to work.

<table>
<tr><td>Value(s) of monitored parameter</td><td>Assessment team checked that for Quantity of employment and income generation. Employment is given in office work, O&M, Security etc. 12 employees are employed in the current monitoring period. The employment records for the monitoring period are checked by the assessment team and found correct.
Breakup is as follows:
<table>
<tr><th>Monitoring Period</th><th>Employment generated</th><th>amount spent for O&M (INR)</th><th>Number of trainings</th></tr>
<tr><td>01/04/2021 to 31/12/2021</td><td>5</td><td>66,241,597</td><td>4</td></tr>
<tr><td>01/01/2022 to 31/12/2022</td><td>7</td><td>91,634,212</td><td>31</td></tr>
<tr><td>Total</td><td>12</td><td>157,875,809</td><td>35</td></tr>
</table>
During Monitoring period, total 35 Trainings were organized (details provided in final monitoring report) includes soft and HSE training. Training details is provided in monitoring report, Same is verified by assessment team with copies of training attendance sheet. Thus accepted.
Also, during current monitoring period, total INR 157,875,809 income has been generated by PP. Same is confirmed by Verification team thus accepted.</td></tr>
<tr><td>Means of verification:</td><td>The value for number of employments created is taken from Plant employment records, and PP declaration. The value for Cost Spent for salaries is taken from HR records. Verification team interviewed some employees and Local stakeholders.</td></tr>
<tr><td>Cross check mechanism</td><td>Not applicable</td></tr>
</table>

Relevant SDG outcome has been included in ER sheet and have been found correct. During the site visit interviews with PP, the verification team confirmed that there is a grievance book[/15/] at project site. Every stakeholder has access to the grievance register and can lodge grievance any time. Same if any is resolved as per the standard operating procedures of the company. By checking grievance book[/15/] submitted by PP, it was able to confirm there are no negative comments received from the local people for the present monitoring period. Staff complaints/grievances were addressed as per the company polices. Local people are happy with the implementation of the project activity as it entrusts employment and improve living standard of local people and villagers. Assessment team also checked the Indian domestic REC web site (https://recregistryindia.nic.in/) & International REC device registry (https://evident.services/device-register) and confirms that the project is not undertaking any REC benefits at present nor intended to take it in near future.
Assessment team also checked the other registry like UNFCCC and VCS and found that project is not registered with both mechanisms. Applus+ Certification conducted an interview with the project owner and local stakeholders please find the summary of the interview as below:

Sections	**Debriefing**
Trainings & salaries of the employees	During verification process Mr. Vishwas B. Kamble, PP representative team was interviewed. It was noted that regular technical & nontechnical trainings were conducted and the salaries are in line with the industry standard.

In Summary, it is Applus+ Certification's opinion that the monitoring of the project owner

regarding to sustainability is in line with requirement of the GS4GG guideline.

Summary of ex-post values of each SDG outcome for the current monitoring period

Item	Baseline estimate	Project estimate	Net benefit
SDG 7: Affordable and Clean Energy	0 MWh	360,907.15 MWh	360,907.15 MWh
SDG 8: Decent Work and Economic Growth	0 Trainings 0 Employees	35 Trainings 12 Employees (part of 119 total employee)	35 Trainings 12 Employees (part of 119 total employee)
SDG 13: Climate Action	317,993 tCO_2e	0 tCO_2e	317,993 tCO_2e

Comparison of actual value of outcomes with estimates in approved GS PDD

Item	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values achieved during this monitoring period
SDG 7: Affordable and Clean Energy	168,630 MWh (annual) 295,680 MWh for current M.P.	360,907.15 MWh
SDG 8: Decent Work and Economic Growth	06 Training provided to O&M Staff 44 employments generation 70,136,986.30 INR spent on O&M	35 Trainings provided to O&M Staff 12 employments generation 157,875,809 INR spent on O&M
SDG 13: Climate Action	164,869 tCO_2e/Year emission reduction(annual) 289,085 tCO_2e for current M.P.	317,993 tCO_2e emission reduction claimed

3.6 Assessment of Data and Calculation of Greenhouse Gas Emission Reductions

As a result of verification of the ER calculation process, the assessment team confirmed that all the parameters required for the determination of the emission reductions have been included in the Monitoring Report Version 01/1/ & Final Monitoring report Version 05/1/ and corresponding ER calculation spread-sheets/2/ and are consistent with the applied methodology ACM0002 Version 17.0/4/ and the monitoring plan contained in the registered PDD. The parameters are complete in this monitoring period.

After verifying the reported figures with the raw data sources, it's confirmed that the values of the parameters from the raw data sources are consistent with those quoted in the Monitoring Report Version 01 & Final Monitoring report Version 05/1/ and corresponding ER calculation spread-sheets/2/. The verification process for the same has been clearly described in above section of the report. See below for the detailed data:

Baseline Emissions for the amount of electricity supplied by project activity, BE_y is calculated as:

The baseline emission is estimated using equation below:

$$\mathbf{BE_y = EG\ facility,y \times EF_{grid,CM.y}}$$

BE_y = 360,907.15 x 0.9777= 352,857 tCO_2e (round down figure)

Vintage	Baseline emission (tCO_2)	
01/04/2021 to 31/12/2021	144,303	136,638
01/01/2022 to 31/12/2022	208,554	181,355
Total	**352,857 (vintage wise Round down values)**	**317,993 (vintage wise Round down values)**

Thus, the baseline value of each SDG outcome is summarised as follows;

Item	Baseline value
SDG 7: Affordable and Clean Energy	No Activities in the baseline
SDG 8: Decent Work and Economic Growth	No Activities in the baseline
SDG 13: Climate Action	317,993 tCO_{2e}

Project emissions:

The project is a solar power project, no fossil fuel is be consumed according to the methodology ACM0002 Version 17.0 & according to registered PDD, PE_y = 0 tCO_2e.

Leakage:

As per ACM0002 Version 17.0, No leakage emission needs to be considered.

Emission reductions:

Thus, the emission reductions are:

$ER_y = BE_y - PE_y$

= 317,993 tCO_2e – 0

= **317,993 tCO_2e**

The actual achieved emission reduction for this monitoring period is 22.06% higher than the estimated value in the GS PDD (317,993 tCO_2e against estimated 289,085 tCO_2e for 640 operational days with estimated 164,869 tCO_2e/annum). The increase in actual emission reduction are justified.

3.7 Management and Operational System

The responsibilities of data measurement, collection, verifying, archiving etc. have been clearly defined in the registered PDD[/3/]. The same practice is followed onsite and it is confirmed by the assessment team during the site visit interviews with PP. The data related to ER calculation as well as data monitoring, collection process etc. have been internally reviewed by the management of the Monitoring team regularly. The responsibility of each function is consistent with the monitoring plan in the registered PDD.

The information flow of each parameter has been verified by the assessment team via interviewing with responsible personnel.

It's verified during the site visit interviews with PP & document review, the monitoring procedure as well as the internal quality management and control procedures are stipulated in the PDD. The monitoring personnel have been interviewed by the assessment team and it's confirmed that the monitoring is implemented as per the procedure. Also, the training record has been checked by the assessment team and it is confirmed that the monitoring personnel are get sufficient train to perform the monitoring.

All the data and documents, either hard copies or soft copies, is kept for two years after the end of the last crediting period or the last issuance of GS VERs for this Project, whichever occurs later.

4. REFERENCE

LIST OF DOCUMENTS	
S. No.	**Document/Evidence/Reference/Web link, Version, Date**
1.	Monitoring Report Version 01 dated 02/06/2023, Final Monitoring report version 06 dated 27/06/2024
2.	ER sheets Version 01 dated 02/06/2023 ER Sheets version 05 dated 27/06/2024
3.	Registered PDD Version: 05 dated 25/10/2018, GS Verification report (3rd Verification) version 02 dated 21/10/2021 Performance review report (3rd Verification) GS Design documents
4.	ACM0002 Version 17.0, "Tool to calculate the emission factor for an electricity system Version no 7.0"
5.	CDM validation and verification standard for project activities, Version 03.0 and and GS4GG Validation and Verification Standard, version 1.0
6.	GS4GG guidelines
7.	Training records of the employees (both skilled/non-skilled)
8.	Employment records (Attendance register, Salary slips)
9.	Joint meter reading issued by state utility and Invoices raised by PP for the complete monitoring period for crosschecking electricity generation
10.	Calibration certificates of the complete monitoring period
11.	Commissioning certificates for power plant
12.	Technical manual from the Manufacturer
13.	Declaration of No double counting dated 21/08/2023
14.	CSR report
15.	Grievance register
16.	HSE procedures
17.	Power purchase agreement between Orange Suvaan Energy Private Limited and Solar Energy Corporation of India Limited. dated 07/06/2016
18.	O&M declaration
19.	PLF calculation sheet since commissioning to 2023
20.	"GHG emissions reduction & sequestration product requirements" Version 2.1

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5. FINAL VERIFICATION STATEMENT

Applus+ Certification has been engaged by Orange Suvaan Energy Private Limited to perform the 4th verification of the "2x50 MW Orange Suvaan Solar Photovoltaic Power Project in Maharashtra, India" (GS Ref. No. GS 5928).

The management of Orange Suvaan Energy Private 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's Monitoring Plan in the registered PDD version 5.0 and the applied methodology ACM0002 Version 17.0[4].

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 and Gold Standard. 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. A reasonable level of assurance has been achieved during this verification. The verification can confirm that:

- the project is operated as planned and described in the project design document and PDD approved by the EB and GS;
- the monitoring plan is as per the applied methodology;
- the monitoring in Monitoring Report is as per the PDD and the monitoring plan approved by the EB and GS;
- the development and maintenance of records and reporting procedures are in accordance with the registered 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.

In our opinion, the GHG emission reductions for "2x50 MW Orange Suvaan Solar Photovoltaic Power Project in Maharashtra, India" for the monitoring period 01/04/2021 to 31/12/2022 (Both days included) as reported in Monitoring Report, prepared on the basis of the project's Monitoring Plan are fairly stated.

Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period:	01/04/2021 to 31/12/2022 (Both days included)
Verified emissions in the above reporting period:	
Leakage emissions	0 tCO_2e equivalents
Project emissions	0 tCO_2e equivalents
Baseline emissions	317,993 tCO_2e equivalents

Emission reductions 317,993 tCO_2e equivalents

Vintage wise breakup of verified emission reduction is given below:

Year	**Baseline emission (tCO_2 e)**	**Project Emission (tCO_2 e)**	**Achieved Emission Reduction (tCO_2e)**
01/04/2021 to 31/12/2021	144,303	0	144,303
01/01/2022 to 31/12/2022	208,554	0	208,554
Total	**352,857**	**0**	**352,857**

Year	**Baseline emission (tCO_2 e)**	**Project Emission (tCO_2 e)**	**Actual Emission Reduction (tCO_2e) claimed**
01/04/2021 to 31/12/2021	136,638	0	136,638
01/01/2022 to 31/12/2022	181,355	0	181,355
Total	**317,993 (vintage wise Round down values)**	**0**	**317,993 (vintage wise Round down values)**

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Date: 27/06/2024

Lead Auditor: Dr. Atul Takarkhede
Tech. Expert: Dr. Atul Takarkhede
Tech. Reviewer: Mr. David lubanga

Approver *(Applus+ Certification VVB Technical Manager)*
Mr. Agustín Calle de Miguel

ASSESSMENT TEAM	
Lead Auditor: Dr. Atul Takarkhede	**Technical Reviewer:** Mr. David lubanga
Signature: 	Signature: 
Approver: Mr. Agustín Calle de Miguel	
Signature: 	

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Appendix 1: Corrective Action Request/Clarification Request/Forward Action Request resolution table

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	01
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	N/A
Description of the audit finding		Date:	06/07/2023
PP requested to provide Transition review and GS4GG Performance Review completed by GS in order to address the raised FARs by SustainCert.			
Project Participant's response		Date:	14/09/2023
Transition review and GS4GG Performance Review is submitted with the responses.			
Documentation provided as evidence by Project Participant			
Transition review and Performance Review			
Auditor's assessment comment		Date:	20/09/2023
PP has submitted the Transition review document in which VVB team found that No FAR has been raised. Also submitted Performance review document of the 3rd monitoring period of the 1st Crediting period in which FAR #1 is raised which has been addressed in this report. Thus, CL#01 is closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	01
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.2
Description of the audit finding		Date:	06/07/2023
PD is requested to update the MR based on below observation: 1) All sections of GS MR as per latest template guideline of GS4GG. 2) VVB team has observed the Editorial mistakes throughout the MR. Update Font and format all the sections of MR. 3) The section A.2 of the GS MR as per the template guide MR ver 1.1. Kindly include the Map which shows the exact location of the Project Activity. Thus, corrective action sought.			
Project Participant's response		Date:	14/09/2023
1) Monitoring report is updated as per TEMPLATE GUIDE Monitoring Report v. 1.1. 2) Editorial mistakes and Font and format are updated throughout the as per MR TEMPLATE GUIDE Monitoring Report v. 1.1. 3) The map showing the Project Activity exact location is added in section A.2.			
Documentation provided as evidence by Project Participant			
Monitoring report version 2.0.			
Auditor's assessment comment		Date:	20/09/2023

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	01
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.2
1) PP has updated the revised MR version 02.0 as per TEMPLATE GUIDE Monitoring Report v. 1.1. Hence accepted to the VVB team. 2) PP has not updated the editorial mistakes, font and format throughout the revised MR version 02.0 which is found incorrect to the VVB team. Hence comment 2 is open. 3) PP has updated the map showing the location of the project activity in the section A.2 of the revised MR. Thus, CAR#01 is open.			
Project Participant's response		Date:	27/09/2023
Editorial mistakes and Font and format are updated throughout the as per MR TEMPLATE GUIDE Monitoring Report v. 1.1.			
Documentation provided as evidence by Project Participant			
MR Version 3.0.			
Auditor's assessment comment		Date:	03/10/2023
PP has updated the editorial mistakes and font and format throughout the revised MR version 3.0 as per the TEMPLATE GUIDE Monitoring Report v. 1.1. Thus, CAR#01 is closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.2
Description of the audit finding		Date:	06/07/2023
PP is requested to provide double accounting declaration for current monitoring period to VVB team. Thus, corrective action sought.			
Project Participant's response		Date:	14/09/2023
No double accounting declaration is submitted with the responses.			
Documentation provided as evidence by Project Participant			
No double accounting declaration			
Auditor's assessment comment		Date:	20/09/2023
PP has submitted the declaration of no double counting certificate dated 21/08/2023. VVB team has verified that Project does not participate in any other REC/GHG program. Thus, CAR#02 is closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.2
Description of the audit finding		Date:	06/07/2023

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.2
Crediting period of Project in the Section A.4 of the MR is not inline with the Template guide, PP is requested to mention the start date and end dates and length of the crediting period as given in approved PDD.Thus, Corrective Action Sought.			
Project Participant's response		Date:	14/09/2023
Section A.4 is updated as per TEMPLATE GUIDE Monitoring Report v. 1.1			
Documentation provided as evidence by Project Participant			
Monitoring report version 2.0.			
Auditor's assessment comment		Date:	20/09/2023
PP has mentioned start date and end date of the crediting period and length of the crediting period of the project in the section A.4 of the revised GS MR version 02.0 which is inline with the GS Template guide Monitoring Report v.1.1. Thus, CAR#03 is closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.2
Description of the audit finding		Date:	06/07/2023
1) Section B.1 of the MR is not inline with the Template guide MR version 1.1. Kindly Provide information on the implementation and actual operation of the project including relevant dates. 2) Project Developer is requested to submit the copy of Technical Specifications of the Solar PV Modules, Inverters and Transformers for the project activity. 3) Project Developer is requested to provide the Single Line Diagram of the project site in the Section C of the MR. 4) Project Developer is requested to attach the web-link for the CEA database in the section D.1 of the MR. Thus, corrective action sought.			
Project Participant's response		Date:	14/09/2023
1) The section B.1 is updated as per TEMPLATE GUIDE Monitoring Report v. 1.1. 2) Technical Specifications of the Solar PV Modules, Inverters and Transformers for the project activity. 3) Single Line Diagram of the project site is incorporated in section C. 4) Web-link for the CEA database is added.			
Documentation provided as evidence by Project Participant			
Monitoring report version 2.0.			
Auditor's assessment comment		Date:	20/09/2023

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.2

1) PP has updated information related to the implementation and actual operation of the project including the commissioning dates of the project activity in the Section B.1 of the revised MR version 02.0 which is verified by the VVB and found correct.
2) PP has submitted the Technical Specifications of the Solar PV Modules, Inverters and Transformers for the project activity which are now inline with Section B.1 of the revised MR 2.0.
3) PP has incorporated the Single line diagram in the Section C of the revised MR version 02.0.VVB team observed the Single line diagram is as per the project site location.
4) PP has attached the web-link for the CEA database in the Section D.1 of the revised MR version 02.0. Web-link is showing the available CDM-CO_2 Baseline database version 11.0 which is inline with the registered PDD.

Thus, CAR#04 is Closed.

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	05
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.2
Description of the audit finding		Date:	06/07/2023

Following discrepancies observed during the review of monitoring report in the Section D.2, Data and Parameters monitored:

1) During Assessment of Monitoring report, it is found that details of SDG 13, details of ER parameter is missing.
2) Amount spent for O&M for the project activity mentioned in the Section SDG 08, Quantitative employment and income generation is not inline with the ER Sheet.

Thus, corrective action sought.

Project Participant's response	Date:	14/09/2023

1) Table for SDG 13 is added in section D.2.
2) The values for SDG 8 are updated as per ER sheet.

Documentation provided as evidence by Project Participant
Monitoring report version 2.0.

Auditor's assessment comment	Date:	20/09/2023

Under the Section D.2, Data and Parameters monitored of the revised monitoring report version 02,

1) PP has incorporated the Table of 'SDG 13' in the section D.2 of the revised MR version 02.0.
2) PP has updated the amount spent for O&M for the project activity mentioned in the Section SDG 08, Quantitative employment and income generation which is now inline with the ER sheet.

Thus, CAR#05 is Closed.

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	06
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.2
Description of the audit finding		Date:	06/07/2023

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	06
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.2

1) Project value of Net Electricity supplied to the grid (MWh) in the section E.2 of the MR is not consistent with the ER Sheet.
2) Number of trainings provided to O&M estimated value as per PDD and Actual value achieved during this monitoring period in the section E.5 of the MR is not inline with the ER Sheet.
3) PD is requested to submit the copy of Grievance register and Evidence for interview with local villagers to verify Involuntary Resettlement & expropriation parameter in the section F of the MR.
4) PD is requested to submit the copy of Evidences for Site Records of helmet and Records of safety training to verify Safety of workers parameter in the section F of the MR.

Thus, corrective action sought.

Project Participant's response	Date:	14/09/2023

1) Net Electricity supplied to the grid (MWh) is updated as per ER sheet in section E.2.
2) Number of trainings provided to O&M estimated value as per PDD and Actual value achieved during this monitoring period is updated as per ER sheet in section E.5.
3) Copy of Grievance register is submitted with the responses.
4) Records for Safety of workers are submitted with the responses.

Documentation provided as evidence by Project Participant

1) Monitoring report Version 2.0.
2) JMRs for monitoring period 01/04/2021 to 31/12/2022
3) Invoices for monitoring period 01/04/2021 to 31/12/2022
4) ER sheet
5) Grievance register
6) Records for Safety of workers.

Auditor's assessment comment	Date:	20/09/2023

1) PP has updated the Project value of Net Electricity supplied to the grid (MWh) in the section E.2 of the revised MR which is now inline with the ER sheet.
2) PP has provided the 06 trainings provided to O & M staff for this monitoring period as per the the registered PDD in the Section E.5 of the revised MR which is inline the ER Sheet.
3) PP has submitted the Grievance register in which no minor/ major grievances are found which is accepted to the VVB team. PP has submitted the documents for the interview with the local villagers and same is verified during the site visit of the plant site. Hence, accepted to the VVB team.
4) PP has submitted the documents related to the safety of workers. VVB found the documents correct and same has been observed during the site visit.

Thus, CAR#06 is closed.

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	07
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.2
Description of the audit finding		Date:	06/07/2023

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	07
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.2

1) PP is requested to submit the Commissioning certificates for the Project activity.
2) PP is requested to correct the unit of Accuracy class of Meters throughout the MR.
Thus, corrective action sought.

Project Participant's response	Date:	14/09/2023

1) Commissioning certificates are submitted with the responses.
2) Unit of Accuracy class of Meters is updated throughout the MR.

Documentation provided as evidence by Project Participant

1) Commissioning certificates
2) Monitoring report Version 2.0.

Auditor's assessment comment	Date:	20/09/2023

1) PP has submitted the Commissioning certificates dated 13/09/2017 issued by Maharashtra Energy Development Agency (MEDA). VVB team has verified that the commissioning date 16/06/2017 of the project activity is inline with section A.1 of the revised MR version 02.0.
2) PP has corrected the Unit of accuracy class 0.2s throughout the revised MR version 02.0 which is inline with the registered PDD.

Thus, CAR#07 is closed.

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	08
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.2
Description of the audit finding		Date:	06/07/2023

During assessment of ER sheet below inconsistencies observed:
1) BAY-102 Energy Export (kWh) value of Apr 21 month is not consistent with the JMR.
2) PP has submitted the JMR and Invoices of the current Monitoring Period for the Project Activity. However, Invoices of Apr 21 and May 21 of both the phase 1 and phase 2 of the project activity are found missing.
3) Energy Export values of both the phase 1, BAY-101 and phase 2, BAY-102 during this monitoring period is repeated in the 'Generation data and ER sheet.
Thus, corrective action sought.

Project Participant's response	Date:	14/09/2023

1) The all values of monthly generation (import and well as export) are crosschecked in ER sheet.
2) All the JMRs and Invoices for monitoring period 01/04/2021 to 31/12/2022 is submitted with the responses.
3) The all values of monthly generation (import and well as export) are crosschecked in ER sheet.

Documentation provided as evidence by Project Participant

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	08
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.2

1) Monitoring report Version 2.0.
2) JMRs for monitoring period 01/04/2021 to 31/12/2022
3) Invoices for monitoring period 01/04/2021 to 31/12/2022
4) ER sheet.

Auditor's assessment comment	Date:	20/09/2023

1) PP has corrected the BAY-102 Energy Export (kWh) value of Apr 21 month in the 'Generation data and ERs' Tab in the ER sheet which is now inline with the submitted JMR of the Apr 21 month issued by the Maharashtra State Electricity Distribution Company Ltd.
2) PP has Submitted the Invoices of Apr 21 and May 21 of both the phase 1 and phase 2 of the project activity which is found inline with the ER Sheet. Hence, accepted to the VVB team.
3) PP has removed the repetition of the Energy Export values of both the phase 1, BAY-101 and phase 2, BAY-102 during this monitoring period in the 'Generation data and ERs' sheet which is accepted to the VVB team.

Thus, CAR#08 is Closed.

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	09
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.4
Description of the audit finding		Date:	06/07/2023

The details of monitoring meters and calibration dates is provided in Monitoring report. Moreover, to verify the same kindly submit the calibration certificate for current monitoring period.

Project Participant's response	Date:	14/09/2023

Calibration certificate for current monitoring period is submitted with the responses.

Documentation provided as evidence by Project Participant

Calibration certificate

Auditor's assessment comment	Date:	20/09/2023

PP has submitted the Calibration certificates which are verified by the VVB and found correct. Details of monitoring meters and Calibration dates are inline with the Calibration certificates. Hence, accepted to the VVB team.

Thus, CAR#09 is closed.

Type:	☐ CAR ☐ CL/CR ☒ FAR	Number:	01
Raised by:	Sustaincert	Ref. to checklist in above tables:	Performance review
Description of the audit finding		Date:	20/09/2023

FAR # 1: During next verification, VVB shall verify whether the PLF goes down due to requirement degradation and reduction in plan availability.

Type:	☐ CAR ☐ CL/CR ☒ FAR	Number:	01
Raised by:	Sustaincert	Ref. to checklist in above tables:	Performance review
Project Participant's response		Date:	31/10/2023
The actual PLF in current monitoring period is 23.50% which is higher because of high radiation in the area and actual PLF is 23.03% from commissioning the project, the actual PLF is 16.42% higher than estimated PLF (19.25%) and IRR will breach the benchmark value at a PLF variation of 28.16% so the IRR is still not breaching the benchmark.			
Documentation provided as evidence by Project Participant			
PLF Sheet			
Auditor's assessment comment		Date:	29/09/2023
During the current monitoring period, PP has submitted the PLF sheet in which VVB verified that actual PLF value is 23.50% which is higher due to high radiation in the area whereas estimated PLF as per registered PDD is 19.25%. Actual PLF is 23.03% from commissioning the project, the actual PLF is 16.42% higher than estimated PLF (19.25%) and IRR will breach the benchmark value at a PLF variation of 28.16% so the IRR is still not breaching the benchmark. Thus, FAR 01 is closed.			

Type:	☐ CAR ☐ CL/CR ☒ FAR	Number:	01
Raised by:	Atul Takarkhede	Ref. to checklist in above tables:	
Description of the audit finding		Date:	16/04/2024
During current verification as per performance review comment for next verification audit team is requested to access additionality since during last MP achieved ERs were 19.4% higher and 19.9% higher for the MP before that considering it is a trend. The PLF is considerably higher than estimated in registered PDD for consecutive MPs and impact on additionality shall be assessed for all realized MPs. Thus FAR is raised.			

Appendix 2: Calibration details of monitoring meters

Details of Meter Calibration:

S.No.	Location	Meter type and Meter Number	Type	Make	Accuracy class	Date of calibration	Validity date[7]
1.	220KV Shivaji nagar substation Line I	Main 02831506	A1800	Elster	0.2s	07/11/2020	06/11/2025
2.		Check 02897647	A1800	Elster	0.2s	07/11/2020	06/11/2025
3.		Stand by 02831505	A1800	Elster	0.2s	07/11/2020	06/11/2025
1.	220KV Shivaji nagar substation Line II	Main 02831509	A1800	Elster	0.2s	07/11/2020	06/11/2025
2.		Check 02897648	A1800	Elster	0.2s	07/11/2020	06/11/2025
3.		Stand by 02831508	A1800	Elster	0.2s	07/11/2020	06/11/2025

VVB team found there is no delay in calibration of energy meters.

Appendix 3: Audit Team CVs

Name	SHORT CV. BACKGROUND INFORMATION
Dr. Atul Takarkhede	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.
Ms. Anjali Singh	Ms. Anjali Singh has done bachelor of engineering in Electronic and Communication Engineering from Rajiv Gandhi Proudyogiki Vishwavidyalaya, India. She has a year of working experience in Idea cellular limited, India as Graduate Engineer Trainee. She has further 3 years of experience with Gargee Energies, India as Assistant Engineer involve in the solar rooftop project design & consulting, Operation and maintenance activities. Currently, she is working in True Quality Certifications Pvt. Ltd. (An outsource entity for LGAI Technological Center, S.A. (Spain) "Applus+

[7] As per registered PDD calibration frequency is once in 5 years

	Certification") since 2021 and has been involved in supporting Audit teams for Verifications of Project Activities (Renewable and non-Renewable projects) under CDM/VCS/GS4GG programs.
Mr. Khagesh Sharma	Mr. Khagesh Sharma has done bachelor of engineering in Electronic and Communication Engineering from Rajiv Gandhi Proudyogiki Vishwavidyalaya (Bhopal), India. He has 3 years of experience as Engineer, involve in the solar project design & consulting, Operation and maintenance activities. Currently, he is working in True Quality Certifications Pvt. Ltd. (An outsource entity for LGAI Technological Center, S.A. (Spain) "Applus+ Certification") since 2022 and has been involved in supporting Audit teams for Verifications of Project Activities (Renewable and non-Renewable projects) under CDM/VCS/GS4GG programs.
Mr. David lubanga	Mr. David lubanga is a trained engineer with over 10-year experience as a GHG auditor. His experience in the field includes assessment of renewable energy projects, energy efficiency, energy audits and waste management and waste to energy. He is a certified auditor for ISO 50001 and 14064-2. He has successfully audited more than 300 GHG (CDM/VCS/GS) projects in different countries around the world. David holds a BSc. in Biochemical Engineering from Jacobs University Bremen (Germany), and a MSc in Environmental Resource Management from Brandenburg Technical University Cottbus (Germany), and Sheffield Hallam University (England). He has undergone additional professional training in Renewable energies, Renewable Energy and Finance, Energy Efficiency and waste management in Scotland, Germany and Austria.

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Appendix 4 : Audit technique sheet

AUDITING TECHNIQUES REPORT							
For Performance Certification							
Scope of assessment	**Auditing technique(s) used[1]**	**Has the audit technique(s) been sufficient to validate the aspect?[2]**	**Risk(s) identified[3]**	**Auditing tools usedas a part of mitigationof identified risks[4]**	**Findings raised[5] (if applicable)**	**Conclusion**	**Reference to the key evidence supporting the Conclusion**
DESCRIPTION OF PROJECT							
General description of project	On-site audit, Conducting site interviews of project developer representative, Documents shared by PD during on-site audit To review: - documentation/ documentary evidence(s)	Yes	No		N/A	Positive	Monitoring Report submitted documents
Location of project	On-site audit	Yes	No		CAR 01 was raised and was successfully closed.	Positive	Monitoring Report submitted documents
Reference of applied methodology	Document Review	Yes	No		N/A	Positive	MR and UNFCCC
Creditingperiod of project	Document Review	Yes	No		N/A	Positive	Monitoring Report
IMPLEMENTATION OF PROJECT							

Description of implemented project	On-site audit, conducting site interviews of project developer representative, Documents shared by PD during on-site audit To review: - documentation/ documentary evidence(s)	Yes	No		N/A	Positive	NA
Post-Design Certification changes	Document Review	Yes	No		CAR 01 was raised andclosed successfully.	Positive	NA
Description Of Monitoring System Applied byThe Project	On-site audit, Conducting site interviews of project developer representative, Documents shared by PD during on-site audit To review: - documentation/ documentary evidence(s)	Yes	no			Positive	MR, Calibration certificate
DATA AND PARAMETERS							
Data And Parameters Fixed Ex Ante Or At Renewal Of Crediting Period	Document Review	Yes	No		N/A	Positive	MR and Tool to calculate the emission factor for an electricity system

$EF_{grid,OM,y}$	Document Review	Yes	No		N/A	Positive	MR and Tool to calculate the emission factor for an electricity system
$EF_{grid,BM,y}$		Yes	No		N/A	Positive	MR and Tool to calculate the emission factor for an electricity system
$EF_{grid,CM,y}$	Document Review	Yes	No		N/A	Positive	MR and Tool to calculate the emission factor for an electricity system
Data and parameters monitored							
ERy	Document Review	Yes	No		N/A	Positive	NA
$EG_{PJ,grid,y}$	Document Review	Yes	No		N/A	Positive	N/A

Quantitative employment	Document Review	Yes	No		N/A	Positive	N/A
Quality of employment	Document Review	Yes	No	CAR 02 was raised and successfully closed.	N/A	Positive	N/A
Income Generation	Document Review	Yes	No		N/A	Positive	N/A
Hazardous Waste	Document Review	Yes	No		N/A	Positive	N/A
Comparison of monitored parameters with last monitoring period	NA	No	No		N/A	Positive	NA
Implementation on of sampling plan	Not Applicable	No	No		N/A	Positive	NA
CALCULATION OF SDG IMPACTS							
Calculation of baseline value or estimation of baseline situation of each SDG Impact	Documents shared by PD during on-site audit To review: documentation/ documentary evidence(s)	Yes	No		N/A		Applied methodology ACM0002: Grid-connected electricity generation from renewable sources - Version 20.0

Calculation of project value or estimation of projectsituation of each SDG Impact	NA	No	No		N/A		NA
Calculation of leakage	NA	No	No				NA
Calculation ofnet benefits or direct calculation for each SDGImpact	Documents shared by PD during on-site audit To review: documentation/ documentary evidence(s)	Yes	No		N/A	Positive	N/A
Comparison of actual SDG Impacts with estimates in approved PDD	Documents shared by PD during on-site audit To review: documentation/ documentary evidence(s)	Yes	No		N/A	Positive	N/A
Explanation of calculationof value estimated exante calculation of approved PDD for this monitoring period	Documents shared by PD during on-site audit To review: documentation/ documentary evidence(s)	Yes	No		N/A	Positive	N/A

Remarks on increase in achieved SDG Impactsfrom estimated value in approved PDD	Documents shared by PD during on-site audit To review: documentation/ documentary evidence(s)	Yes	No		N/A	Positive	N/A
Safeguards Reporting	Documents shared by PD during on-site audit To review: documentation/ documentary evidence(s)	Yes	No		N/A	Positive	NA
TAKEHOLDER INPUTS AND LEGAL DISPUTES							
All Inputs and Grievances which have been received viathe Continuous Input and Grievance Mechanism together with their respective responses/mi tigations.	Conducting interviews of project developer, staffsand end usersDocuments shared by PD during On-site audit To review: - documentation/ documentary evidence(s)	Yes	No		N/A	Positive	Grievance log sheet submitted and verified.
Report on any stakeholder mitigations that were agreed to be monitored	Conducting interviews of project developer, staffsand end usersDocuments shared by PD during On-site audit To review: - documentation/ documentary evidence(s)	Yes	No		N/A	Positive	PP is monitoring the parameters as per the GS4GG PDD and no deviation was found during the assessment.

Legal contest that has arisen with the project during the monitoring period	Conducting interviews of project developer, staffsand end usersDocuments shared by PD during On-site audit To review: documentation/ documentary evidence(s)	Yes	No		N/A	Positive	No, the project already obtained statutory clearances.