

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



Project Title:	120 MW Solar PV Plant by Juniper Green Sigma Private Ltd. in Gujarat
Monitoring Period:	01/01/2022 to 30/06/2022 (Both days included)
GS project ID:	GS 7572
Internal ID:	A+SH_SYST_TQC_GS_VER_45122
Customer:	M/s Juniper Green Sigma Private Limited
Date:	21/04/2023
Revision:	03

SUMMARY			
Reference No.	Date (first version)	Version No.	Date (last version)
A+SH_SYST_TQC_GS_VER_45122	04/01/2023	03	21/04/2023
GS4GG Verification			
GS4GG Certified Product (sought):		GS VER	
GS4GG SDG Impact Statement (sought):		Impact Certification	
General Information			
Client	M/s Juniper Green Sigma Private Ltd.		
Project Title	120 MW Solar PV Plant by Juniper Green Sigma Private Ltd, in Gujarat		
Project Participants	M/s Juniper Green Sigma Private Ltd.		
Project Location	35 MW- Village Babsar, Taluka – Vadali, District Sabarkantha, Gujarat 40 MW- Village Bhordu, Taluka- Tharad, District Banaskantha, Gujarat 45 MW- Village Bilvania and Vatakasuka, Taluka-Dhansura, District Aravali, Gujarat		
Contact Person	Mr. Ankush Malik		
Monitoring Period:	01/01/2022 to 30/06/2022 (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 20.0		GS4GG Sectoral Scope: 2 UNFCCC CDM Sectoral Scope: 1 Technical Area: 1.2	
Monitoring Report Version: 01 Date: 06/09/2022		Final Monitoring Report Version: 03 Date: 10/04/2023	
Certified Project Design Document: Assessment team checked the registered GS4GG PDD Version 06 dated 11/01/2021 /03/			
Estimated values for the Monitoring period for all SDG:			
SDG	SDG	Values estimated for period	
7	Renewable Electricity Generated	147,811 MWh for the Monitoring period (181 days)	
8	Trainings provided to O&M staff	01 Trainings/annum provided to O&M Staff	
8	Number of Jobs generated	08 employments/annum	
13	Emission Reduction	136,521 tCO ₂ for the monitoring period (181 days)	
Actual values for the Monitoring period for all SDG:			
SDG	SDG	Actual values for this monitoring period	
7	Renewable Electricity Generated	164,054 MWh electricity generation	
8.6.1	Trainings provided to O&M staff	17 Trainings provided to O&M Staff	
8.5.1	Number of Jobs generated	02 employments generated during current monitoring period Currently 22 people employed at project site.	
8.5	Income Generated (INR)	4.65 Lakh/- for all 2 employees	
13	Emission Reduction	154,519 tCO ₂ e	
Selected Sustainable Development Goals (SDGs): 7; 8; 13			

SUMMARY

Verification Summary

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by M/s Juniper Green Sigma Private Limited. to perform the 3rd verification of "120 MW Solar PV plant by Juniper Green Sigma Private Ltd. In Gujarat" (Ref. No. GS7572) applying the methodology ACM0002 Version 20.0.

The management of M/s Juniper Green Sigma Private Ltd. is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions.

A desk review and an interview have been conducted to verify the data submitted in the monitoring report. Applus+ Certification confirms the following have been reviewed:

- The registered GS4GG PDD including the monitoring plan; ^{/03/}
- Monitoring report(s); ^{/01/}
- The applied monitoring methodology; ^{/04/}
- Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;
- GS4GG guidelines and related Annexes of GS guidelines; ^{/06/}
- All information and references relevant to the project activity's resulting in emission reductions.

M/s Juniper Green Sigma Private Limited. is the promoter of the project activity and involves installation of installation of 120 MW grid connected solar PV plant in Gujarat, India. Electricity generated from the project activity is sent to Indian grid of India. As per GS4GG registered PDD^{/03/}, the project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 275,305tCO₂e per annum, thereon displacing 298,072MWh/year amount of electricity from the generation-mix of power plants connected to the Indian electricity grid, which is mainly dominated by thermal/ fossil fuel-based power plant. The project activity is commissioned phase wise on following dates^{/11/}: -

S. No	Project location	Capacity (MW)	Commissioning Date	Purpose
1.	Village-Bilvaniya, Vantda Suka, Taluk-Dhansura, District- Aravalli	25 MW _{AC} /36.247 MW _{DC}	17/10/2020	Sale to Grid
2.	Village-Babsar, Taluk-Vadalli, District-Sabarkantha	25 MW _{AC} /36.41 MW _{DC}	19/10/2020	
3.	Village-Babsar, Taluk-Vadalli, District-Sabarkantha	10 MW _{AC} /14.696 MW _{DC}	28/11/2020	
4.	Village-Bilvaniya, Vantda Suka, Gadha Kot, Taluk-Dhansura, District-Aravalli	20 MW _{AC} /29.459 MW _{DC}	28/11/2020	
5.	Village-Bhordu, Taluk-Tharad, District-Banaskantha	25 MW _{AC} /36.541 MW _{DC}	09/12/2020	
6.	Village-Bhordu, Taluk-Tharad, District-Banaskantha	15 MW _{AC} /21.86 MW _{DC}	17/12/2020	

The monitoring of emission reduction and sustainable development indicators has been carried out in accordance with respective registered PDD^{/03/}. Applus+ Certification confirms that the project is implemented in accordance with the validated and registered GS4GG PDD. The monitoring plan complies with the applied methodology ACM0002 Version 20.0^{/04/} and the GS4GG guideline^{/06/} 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

SUMMARY

project baseline and monitoring and its associated documents. Based on the information reviewed and evaluated Applus+ Certification confirms that the implementation of the project has resulted in 154,519 tCO₂e emission reductions during period 01/01/2022 to 30/06/2022 (Both days included).

During the current monitoring period VVB team has raised 01: CL, 4: CAR, & 1 FAR is raised in this verification.

ASSESSMENT TEAM

Team Members	Type of Resource ¹	Organization (for OEs)
Lead Auditor: Dr. Atul Takarkhede	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Technical Expert: Dr. Atul Takarkhede	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Auditor-in-Trainee: Mr. Ishan Shrivastava	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Technical Reviewer: Mr. Denny Xue	☐ IR ☒ EI ☐ OE	Applus+ Certification

Note: In line with the GS Rule Update RU 2020 PR – PR V1.2 dated on 02/04/2020, the VVB hereby discloses that the VVB has performed Validation of this project with different team members than in this verification. During Validation of project activity Mr. Pankaj Kumar (Team leader) was the member of assessment team.

¹ IR (Internal Resource); EI (External Individual); OE (Outsourced Entity)

ABBREVIATIONS	
ACM	Approved Consolidated Methodology
AM	Approved Methodology
AMS	Approved Small Scale 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
CDM VVS version 03	CDM validation and verification standard for project activities, Version 03.0
CEA	Central Electricity Authority
CERs	Certified Emission Reductions
CL / CR	Clarification Request
CM	Combined Margin
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GETCO	Gujarat Electricity Transmission Corporation Limited
GHG	Greenhouse Gas(es)
GS4GG (or GS)	Gold Standard for Global Goals
GUVNL	Gujarat Urja Vikas Nigam Limited
INR	Indian Rupees
IPCC	Intergovernmental Panel on Climate Change
JGSPL	Juniper Green Sigma Private Limited
JMR	Joint Metering Reports
KP	Kyoto Protocol
kV	Kilo Volt
MP	Monitoring Plan
MR	Monitoring Report
MW/MWh	Mega Watt / Mega Watt Hour
N/A	Not Available
NGO	Non-Governmental Organization

O&M	Operation and Maintenance
OM	Operational Margin
PDD	Project Design Document
PP	Project Participant
PV	Photo Voltaic
QA/QC	Quality Assurance / Quality Control
SDG	Sustainable Development Goal
SEB	State Electricity Board
TAC	Gold Standard Technical Advisory Committee
tCO₂e	Tonnes of Carbon Di Oxide equivalent
UNFCCC	United Nations Framework Convention for Climate Change
VER	Verified 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 **M/s Juniper Green Sigma Private Limited.** to perform the 3rd verification of “120 MW Solar PV Plant by Juniper Green Sigma Private Ltd., in Gujarat” applying the methodology ACM0002 Version 20.0^{/04/} and GS4GG guideline^{/06/}. 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^{/06/} 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^{/05/} and Gold Standard^{/06/} (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^{/04/};
- Evaluate the data recorded and stored as per the ACM0002 Version 20.0^{/04/}.

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^{/03/} as well as its validation 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^{/06/} 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 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^{/06/}.

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

M/s Juniper Green Sigma Private Limited. is the promoter of the project activity and involves installation of installation of 120 MW solar PV plant in Gujarat. Electricity generated from the project activity is sent to Indian grid of India. As per GS4GG PDD^{/03/}, the project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 275,305 tCO_{2e} per annum, thereon displacing 298,072 MWh/year amount of electricity from the generation-mix of power plants connected to the Indian electricity grid, which is mainly dominated by thermal/fossil fuel-based power plant.

The monitoring of emission reduction and sustainable development indicators has been carried out in accordance to respective registered GS4GG PDD^{/03/}.

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, using the Verification Checklist, 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 Remote Audit^{/14/} 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	NA	YES
Mr. Ishan Shrivastava	AiT	No	No	NA	YES
Mr. Denny Xue	TR	YES	YES	NA	NA

The complete list of CVs is included as Appendix 3 of this report.

2.2 Document review

The Monitoring Report version 01 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 GS4GG 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 Remote assessment and follow up interviews

No Physical verification was conducted by the VVB during the current GS verification as during previous verification of monitoring period (01/07/2021 to 31/12/2021), Site visit was conducted by VVB team and there is no such requirement of site visit as per "Site Visit and Remote Audit

Requirement and Procedure”². Thus, complied against minimum requirement of site visit of the project activity

Assessment team have conducted remote audit and used verification techniques & advanced communication technology solutions to verify information and compliance with applicable requirements to the extent possible, to ensure the completeness and credibility of the audit.

All the material impact can be confirmed by verifying the supporting documents such as State Electricity Account (SEA), Invoice, employment records, Training records, CSR records, grievance register, HSE records etc. which are submitted by PP and the implementation and monitoring procedures can be confirmed through interview with PP representative, O&M team and local stakeholders & consultant. Hence, the assessment team can achieve the reasonable level of assurance through remote audit.

Thus, following means of verification have been implemented by assessment team:

- Cross checks between information provided in the PDD/Passport/Transition Annex/Monitoring report and information.
- The VVB’s sectoral & local expertise.
- Telephone & Skype video call Interviews with PP representative, O&M team and local stakeholders & consultant.
- Cross checks between the information provided by interviewed personnels & information provided in registered documents as well as previous verification documents;

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Malik	Mr. Anshul	PP Representative	21/11/2022	Project implementation, O&M, Management practices, trainings, salaries etc.	Dr. Atul Takarkhede (Lead Auditor) & Mr. Ishan Shrivastava (Auditor-in-Trainee))
2.	Negi	Mr. Ratan	O&M Site-in-Charge, Juniper Green	21/11/2022 (through Skype)	Project implementation, O&M, JMR, Calibration, Sustainable monitoring, LSC etc. Management practices, trainings, salaries etc.	

² https://globalgoals.goldstandard.org/standards/112_V1.0_PAR_Site-Visit-and-Remote-Audit-Requirements.pdf

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
3.	Mishra	Mrs. Dhriti	Consultant, Infinite Solutions		Monitoring report and Emission reduction calculations etc.	
4.	Patel	Mr. Rakesh Bhai	Local Stakeholder	21/11/2022 (through Skype)	Stakeholder meeting- Employment opportunities, Pollution aspects, Standard of Livings etc.	
5.	Bhai	Mr. Purushotam	Local Stakeholder	21/11/2022 (through Skype)		

The objective of the remote audit 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, 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 revised PDD.
- To understand grievance (if any) from the villagers during the monitoring period.
- Local stakeholder interviews.

To verify the implementation of project activity, onsite operation & maintenance, monitoring & management practices; assessment team has conducted Skype video call/telephonic interviews with onsite in-charge, O&M team and also had a detail discussion with the PP representative and reviewed third party statutory documents i.e. Commissioning certificates, Power Purchase Agreement, Complete set of SEA covering monitoring period, Invoice (for cross check of Net electricity supplied to the grid as per revised PDD and approved methodology), employment & training records, Salary records, CSR records, breakdown log, O&M schedule, complaint/feedback register, bird strike register and other relevant records.

After telephonic/Skype interviews with concerned onsite persons, document reviews & site videos/photographs submitted by PP; assessment team concluded that the project activity is still

implemented and operated in-line with the revised PDD & Transition Annex. There is no change in the project design or operation and monitoring practices at site which can alter the applicability or additionality of the project activity. In addition to the interviews with PP, assessment team have checked the commissioning certificate, PPA and JMRs and found that the project activity is implemented as per the PDD, Transition Annex and Monitoring report submitted by the PP for current monitoring period. Assessment team therefore of the opinion that project is implemented as described in the revised PDD and there is no change in monitoring practices as well as all monitoring parameters as envisaged in the PDD. All the monitored values are supported by the evidences i.e., SEAs and found that information provided in the MR is in line with the submitted evidences.

Some snapshots of the remote audit through Skype and photographs of the project activity are provided in Appendix 4 of this report.

Interview summary of some of the questions asked to the local stakeholders is also given below:

Name of the stakeholder	Rakesh Bhai Patel
Occupation	Villager
VVB QUESTION: Did PP/vendors have employed locals in the operation and maintenance of the project activity? Answer: Yes. PP as well as vendors have given preference to the local peoples residing in the vicinity of the area for various employment. Assessment team noted that locals were employed for the project activity and same is verified from the list of local employees submitted by PP. VVB also during the interviews with site incharge noted that that local people were employed for security and operation related work like vegetation improvement and other unskilled work and operation and electrical work. VVB QUESTION: Please provide the details of Hazardous waste/waste oil generated, disposed, any spillages and Leakage of any diesel or waste oil during the period 01/01/2022 to 30/06/2022 Answer: No such waste generation or leakage occurred during the period. Please refer the HSE records submitted. VVB also verified HSE records submitted and confirmed that no Hazardous waste/waste oil generated, disposed, any spillages and Leakage of any diesel or waste oil during the monitoring period.	

Name of the stakeholder	Purshottam Bhai
Occupation	Local stakeholder
VVB QUESTION: In which area you belong to? Answer: Residing in the village near to the plant substation. VVB questions: In which department you are working? Answer: Working as office staff. VVB question: Did company pays salary regularly? Answer: Yes. PP paying salary regularly.	

VVB interviewed stakeholder on CSR activities by company, employment for locals, grievance filing & redressal mechanism of company, bird deaths due to WTGs & other SDG parameters. Assessment team verified grievance register, HSE records submitted and confirmed that no Hazardous waste/waste oil generated, disposed, any spillages and Leakage of any diesel or waste oil during the monitoring period.

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 03^{01/}. 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: 04, CLs: 01, FARs: 01 (from performance review) FARs: 01 (during this verification)

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 the 3rd verification for the project activity and 01 FAR was raised during Design certification by Sustain Cert during design review of the project activity and successfully closed. While one FAR was raised by as part of assessment during this monitoring period. Detailed information mentioned in [Appendix 1](#) below.

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 GS4GG PDD^{/03/}. The assessment team confirms, through the interview with the PP representative during remote audit and document review that all physical features of the project activity including data collecting systems and storage have been implemented in accordance with the registered GS4GG PDD^{/03/}.

The technical features of the equipment's have been verified by the assessment team by reviewing following documentation:

- Interviews of onsite personnel's during remote audit^{/14/}.
- Technical detail analysis (operational manual document) of the power plant from the documents submitted by the manufacturer^{/19/}
- Commissioning certificates of the plant^{/11/}
- PPA for the project activity^{/17/}

M/s Juniper Green Sigma Private Limited. has installed Solar PV project at, Sabarkantha, Banaskantha and Aravalli districts in Gujarat State, India with capacity of 120 MW.

- Technical details are as follows:

Technical specifications of the equipment installed at project activity are provided in the section B.1 of the MR^{/01/}. Same are confirmed during the remote interviews with PP and Specification document^{/19/}, commissioning certificates^{/11/} & validation report^{/03/} found correct.

The project activity was commissioned as stated in table above and same was verified from the commissioning certificate issued by Gujarat Energy Development Agency^{/11/}.

The project activity was in normal operational during the monitoring period and the same has been confirmed during interviews with PP and crosschecked from review of Invoices^{/09/} raised by JGSPL to GUJNL submitted by PP. Power plant was working throughout the monitoring period and same have been confirmed from Plant Log Book records relevant to the monitoring period. No unusual activities were observed during the monitoring period and the 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 plant log details and invoices raised to GUVNL.

The verification team has reviewed the commissioning certificates^{/11/} & PPA^{/17/} to conclude that

the name plate capacity of the project activity is 120 MW. Moreover, during the remote audit, assessment team checked the technical details as part of the JGSPL operational manual and found that the rated capacity of the project is 120 MW_{AC} (25 MW_{AC} + 25 MW_{AC} + 10 MW_{AC} + 20 MW_{AC} + 25 MW_{AC} + 15 MW_{AC}). Also, the name plate capacity of the project is checked during the verification, which was again checked during remote audit which also confirms the rated capacity to be 120 MWe. Thus, accepted by VVB.

During Remote Audit, VVB team observed that the actual capacity of the project is 120 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 Gujarat state of India. Assessment team also checked the locations of the project activity in the registered GS4GG PDD, validation report as well as through google maps tool to check the coordinates. 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^{/17/} (as per the grid structure of India) and the same is found correct by the assessment team during the review of commissioning certificate^{/11/}, PPA^{/17/} and interviews with PP. The grid structure as mentioned in the GS4GG PDD^{/03/} is still applicable for the project and ex-ante emission factor as proposed in the GS4GG PDD^{/03/} is used for emission reduction calculation. Assessment team noted that the project activity has entered a power purchase agreement with the Gujarat Urja Vikas Nigam Limited. ^{/17/}. The electricity is fed in the Integrated Indian grid.

Thus, assessment team confirms that the project is implemented as per the registered GS4GG PDD^{/03/} and no change in project design is envisaged for the present monitoring period.

The amount of GS-VERs achieved during the present monitoring period are 11.65%^{/02/} higher than the estimated value in the GS4GG PDD^{/03/}. This is due to the peak season of solar radiation availability during the monitoring period. If we contextualise this higher PLF achievement against the PLF sensitivity analysis performed as part of additionality, two points are noticeable. First is the actual PLF achieved is 31.47% as against the 28.36% (an increase of 10.99%) mentioned in registered PDD. Next is at the time of additionality assessment, the maximum PLF that could result in breach of IRR is 22.30%

So, when seen under these circumstances, it can be concluded that even though a higher PLF was achieved than the stated PLF in registered PDD, the increase is not significant enough to change the additionality. Based on this data analysis, the assessment concludes that higher achievement of PLF achieved is consistent with the claims made in registered PDD. Thus accepted.

Assessment team also checked the metering details of the connected Solar PV plant and found the same to be appropriate. The meters placed at sub stations were confirmed from the interviews with PP during remote audit., and commissioning certificate submitted by PP.

Assessment team also checked that the project is 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 registries like UNFCCC and VCS and found that project is not registered with VCS. However, project activity has submitted prior consideration of CDM to UNFCCC on 09/08/2020. The PP further provided a declaration^{21/} stating that PP will not be claiming the credits accrued from this monitoring period into other registries.

The assessment team independently checked the claims by logging into CDM UNFCCC site for any project with the same capacity under the same PP. No such projects were shown in the website; hence the claims of the PP were accepted regarding the ERs generated from this monitoring period being used only under GS4GG.

Grievance Mechanism:

During the interviews with PP, the verification team confirmed that there is a grievance book/form with GS contact information at the project site office and are accessible to local stakeholders. By checking grievance book submitted by PP, it was able to confirm there are no comments received from the local residents for the present monitoring period towards project activity. Local residents are happy with the implementation of the project activity as it entrusts employment and improve living standard of local residents 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,	All the energy statement i.e., invoices as well as JMR for the complete monitoring period are checked and thus the assessment

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	
			traceability and security	team confirms that the ER value is conservative and correct.

Consideration of materiality in conducting the verification

In line with Guidelines for Application of materiality Version 02 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.

3.3 Compliance of the Monitoring Plan with the Monitoring Methodology

The verification team is able to confirm that the monitoring plan is in accordance with the approved methodology ACM0002 Version 20.0^{04/}, applied by the GS project activity. No deviation, correction 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 GS4GG PDD. All parameters were monitored and determined as per the monitoring plan of the GS4GG PDD as follows:

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

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

The values considered ex-ante for this monitoring period were cross-checked with registered GS4GG PDD^{1/} 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	0.9622 tCO ₂ /MWh	The value of the parameter was checked from registered GS4GG PDD ^{1/} . The value of the parameter was sourced from CEA database version 15 ^{3/} .
SDG 13: Climate Action $EF_{BM,y}$ Build Margin CO ₂ emission factor in year y	0.8811 tCO ₂ /MWh	The value of the parameter was checked from registered GS4GG PDD ^{1/} . The value of the parameter was sourced from CEA database version 15 ^{3/} .
SDG 13: Climate Action $EF_{CM,y}$ Combined Margin CO ₂ emission factor in year y	0.9419 tCO ₂ /MWh	The value of the parameter was checked from registered GS4GG PDD ^{1/} . The value of the parameter was calculated using CEA database version 15 ^{3/} .

The value mentioned in the Monitoring Report and Emission Reduction Spreadsheet are consistent with the registered GS4GG 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 = 7.2.1 Affordable and Clean Energy

1. **EG_{facility, y}**: Quantity of net electricity supplied to the grid (MWh/y)

The parameter is calculated using the difference of export and import value measured from the tri-vector meter and recorded net generation values in state energy account on monthly basis by GETCO SLDC. The parameter also forms the part of invoices raised by JGSPL to GUVNL and is in line with the registered PDD. Assessment team checked the value of Net electricity exported calculated from State Electricity Account (SEA) records and found the same to be correct. The Net electricity supplied to the grid was consistent with the invoice statements and found correct. Thus, it is confirmed that the values are correct. Assessment team thus confirm that the value of 164,054 MWh as mentioned in the MR version 02 and emission sheet is correct and the same is in compliance with the requirement of Para 364 and 395 (e) of "CDM validation and verification standard for project activities, Version 03.0".

The Assessment team performed analysis of the JMR's issued by the State Utility. The Assessment team also cross-verified the Power Exported values with the help of invoices raised by PP and found to be consistent as per the JMR issued. Calibration of the meter is carried out once in 3 years, and the calibration from last verification is still applicable. Thus, calibration is in line with para 369 & 370 of the "CDM validation and verification standard for project activities, Version 03.0". Detail of installed monitoring meters are as follows: -

Substation-Babsar						
Particular	Main Meter		Check Meter		Standby Meter	
Type of Instrument	3P4W Static Energy Meter (KWh), 0.2s class		3P4W Static Energy Meter (KWh), 0.2s class		3P4W Static Energy Meter (KWh), 0.2s class	
Serial No.	GJ4583A		GJ4584A		GJ4585A	
Make	Secure R3E		Secure R3E		Secure R3E	
Calibration Frequency	Conducted Date/Due date	Certificate No	Conducted Date/ Due Date	Certificate No	Conducted Date/ Due Date	Certificate No
	26/06/2020 25/06/2023	HML/T/20-06/5076/01	26/06/2020 25/06/2023	HML/T/20-06/5076/03	26/06/2020 25/06/2023	HML/T/20-06/5076/05
Substation-Bhordu						
Type of Instrument	3P4W Static Energy Meter (KWh), 0.2s class		3P4W Static Energy Meter (KWh), 0.2s class		3P4W Static Energy Meter (KWh) 0.2s class	
Serial No.	GJ4603A		GJ4604A		GJ4605A	
Make	Secure R3E		Secure R3E		Secure R3E	

Calibration Frequency	Conducted Date/Due date	Certificate No	Conducted Date/Due Date	Certificate No	Conducted Date/Due Date	Certificate No
	21/07/2020 20/07/2023	HML/T/20- 07/5159/01	21/07/2020 20/07/2023	HML/T/20- 07/5159/03	21/07/2020 20/07/2023	HML/T/20- 07/5159/05
Substation-Khadol						
Type of Instrument	3P4W Static Energy Meter (KWh), 0.2s class		3P4W Static Energy Meter (KWh), 0.2s class		3P4W Static Energy Meter (KWh) 0.2s class	
Serial No.	GJ4606A		GJ4607A		GJ4608A	
Make	Secure R3E		Secure R3E		Secure R3E	
	Conducted Date/Due date	Certificate No	Conducted Date/Due Date	Certificate No	Conducted Date/Due Date	Certificate No
	18/08/2020 17/08/2023	HML/T/20- 08/5215/01	18/08/2020 17/08/2023	HML/T/20- 08/5215/03	18/08/2020 17/08/2023	HML/T/20- 08/5215/05
Calibrating Agency	Hi-Tech Meter Laboratory, Ahmedabad, NABL (TC-5914)					
Calibration Compliance	The validity of the calibration certificate from last verification still prevails as the frequency is once in 3 years and the last calibration was performed in 2020 (as per the different dates mentioned above)					

Relevant SDG indicators = 13: Take urgent action to combat climate change and its impact consumption

2. **Air Quality:** Reduction in CO₂ emission reduction due to implementation of project activity (tCO₂e)

The parameter is calculated using product of electrical energy baseline $EG_{\text{facility},y}$ expressed in MWh of electricity produced by the renewable generating unit multiplied by an emission factor. Same is demonstrated in Emission reduction sheet and achieved a value of emission reduction for the current monitoring period is 154,519 tCO₂e. The same is thus acceptable to the assessment team and thus emission reduction calculation is correct.

Relevant SDG indicators = 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities

3. **Quantitative employment & Income generation:** 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 the total number of people employed directly due to the project activity and better salary given and salary from the O&M contract during current monitoring period. Same is found as 22 employees (14 Skilled{permanent} + 08 semi-skilled {temporary} employed in this monitoring period) and 13,00,000 INR salary given to them. The same is thus acceptable to the assessment team and verified using Salary slips submitted.

Relevant SDG indicators = 8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training

4. Quality of Employment: Number of Trainings provided to employees & O&M staff

The parameter is taken as the total number of trainings conducted during the current monitoring period for the employees. Same is found as 17 trainings.

Details of training provided during current monitoring period mentioned in appendix 02 of final monitoring report version 03, same is thus acceptable to the assessment team and verified using training records submitted.

5. Safeguarding principal 4.3.5: Hazardous and Non-hazardous Waste.

The Parameter is referred as the monitoring of manufacture, trade, release, and use of hazardous and non-hazardous chemicals and/or materials. VVB team verified that, no Hazardous waste/waste oil generated, disposed, any spillages and Leakage of any diesel or waste oil during the monitoring period. Same has been verified. The value for this parameter is taken from Plant records, HR and PP declaration. Verification team interviewed employee during the remote audit.

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 JMR statement issued by GETCO / Invoices raised to JGSPL. 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 remote audit interviews. The Calibration details^{10/} are presented in [section 3.4 \(b\)](#) of this report. Calibration^{10/} of meters carried out by a M/s Hi-Tech Meter Laboratory, Ahmedabad (NABL Certified TC-5914) to carry out calibration.

Assessment team checked the same and found that the calibration done during commissioning is valid for the present monitoring period and traceability is ensured. The meters were calibrated as per the norms of NABL and the meters are within the permissible error limit.

3.5 SDG Outcomes Monitoring

In the Registered GS4GG PDD indicators are chosen for the monitoring of sustainable monitoring:

Meth/tool	Relevant indicator	SDG	GS PDD	MR	Compliance
Quantity of net electricity supplied to the grid	SDG 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix		Quantity of net electricity generation supplied by the project plant/unit to the grid in year y in MWh	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y in MWh	Yes

Meth/tool	Relevant indicator	SDG	GS PDD	MR	Compliance
- Number of employment generation and better salary, - Quality of employment	8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities SDG 8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training Quality of Employment		- Training of Staff - Number of employment generation and better salary	- Training of Staff - Number of employment generation and better salary	Yes
Take urgent action to combat climate change and its impacts	SDG 13: Take urgent action to combat climate change and its impacts		Emission reductions achieved per year	Emission reductions achieved per year	Yes

The verification of the parameters required by the monitoring plan is provided in [section 3.4 \(b\)](#) above

Relevant SDG outcome has been included in ER sheet and have been found correct.

During the 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. If any grievance was observed or received is resolved as per the standard operating procedures of the company. By checking grievance book^{15/} submitted by PP, the assessment team was able to confirm that there are no negative comments received from the local residents for the present monitoring period. Staff complaints/grievances were addressed as per the company policies. Local residents are happy with the implementation of the project activity as it entrusts employment and improve living standard of local residents 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 VVBs not benefit from REC mechanism nor intends to take it in near future.

Assessment team also checked the other registries 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. Anshul Malik, 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 short, it is Applus+ Certification's opinion that the monitoring of the project owner with respect to sustainability parameters are 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	164,054 MWh	164,054 MWh
SDG 8: Decent Work and Economic Growth	0 Training provided to O&M Staff 20 employments	22 Employees, 17 training conducted. Salary provided to 02 employees hired during current Monitoring Period – 4.65 Lakhs INR/year.	No. of trainings conducted: 17 Trainings No. of employment opportunities created: 2 employments INR 4.65 Lakh
SDG 13: Climate Action	154,159 tCO ₂ e	0 tCO ₂ e	154,159 tCO ₂ e

Comparison of actual value of outcomes with estimates in approved GS4GG PDD

Item	Values estimated in ex ante calculation of approved PDD	Actual values achieved during this monitoring period
SDG 7: Affordable and Clean Energy	298,072 MWh/year 147,811 MWh for current MP	164,054 MWh
SDG 8: Decent Work and Economic Growth	01 trainings provided to O&M Staff 8 employment generation	17 Trainings provided to O&M Staff 22 employments generation INR 4.65 Lakh /-
SDG 13: Climate Action	275,305 tCO ₂ e/year 136,521 tCO ₂ e for current MP	154,159 tCO ₂ e

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^{/01/}, Version 02 & version 03^{/01/} and corresponding ER calculation spread-sheets and are consistent with the applied methodology ACM0002 Version 20.0 and the monitoring plan contained in the registered GS4GG PDD. The parameters are complete in this monitoring period.

After verifying the reported figures with the raw data or primary sources, it's confirmed that the values of the parameters from the raw data sources/primary sources are consistent with those quoted in the Monitoring Report Version 01^{/01/}, Version 02 & version 03^{/01/}, and corresponding ER calculation spread-sheets. The verification assessment and the means of verification for the same has been stated unambiguously in the relevant sections of the report above. 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 using equation below:

$$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$$

;

$$EG_{PJ, y} = EG_{\text{facility}, y}$$

$$\begin{aligned} BE_y &= 164,054 \times 0.9419 \\ &= 154,519 \text{ tCO}_2\text{e (round down figure)} \end{aligned}$$

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	154,519 tCO ₂ e

Project emissions:

The project is a Solar PV project, no fossil fuel is be consumed according to the methodology ACM0002 Version 20.0 & according to registered GS4GG PDD, $PE_y = 0 \text{ tCO}_2\text{e}$

Leakage:

As per ACM0002 Version 20.0, No leakage emission needs to be considered.

Emission reductions:

Thus, the emission reductions are:

$$\begin{aligned} ER_y &= BE_y - PE_y \\ &= 154,519 - 0 \\ &= 154,519 \text{ tCO}_2\text{e} \end{aligned}$$

The amount of GS-VERs achieved (154,519 tCO₂e) during the present monitoring period are 11.65%^{/02/} higher than the estimated value (136,521 tCO₂e) for the current monitoring period as per the PDD^{/03/}. This is due to the peak season of solar radiation availability during the monitoring period. If we contextualise this higher PLF achievement against the PLF sensitivity analysis performed as part of additionality, two points are noticeable. First is the actual PLF achieved is 31.47% as against the 28.36% (an increase of 10.99%) mentioned in registered PDD. Next is at the time of additionality assessment, the maximum PLF that could result in breach of IRR is 22.30%.

The amount of GS-VERs achieved during the present monitoring period are 11.65% higher than the estimated value in the GS4GG PDD. This is due to the monitoring period falling under peak season solar radiation during the monitoring period. Same is not in control of project participants. However, this 11.65% increase in higher emission reductions achieved falls within the range of sensitivity analysis performed at the time of validation towards additionality check and VVBs not breach benchmark. Hence accepted by assessment team.

3.7 Management and Operational System

The responsibilities of data measurement, collection, verifying, archiving etc. have been clearly defined in the registered GS4GG PDD. The same practice is followed onsite and it is confirmed by the assessment team during the interviews with PP. The data related to ER calculation^{/02/} 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 GS4GG PDD^{/03/}.

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

It's verified during the interviews with PP & through document review, that the monitoring procedure as well as the internal quality management and control procedures are stipulated in the GS4GG PDD^{/03/}. 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 06/09/2022, Monitoring report version 02 dated 14/12/2022, Monitoring report version 03 dated 10/04/2023
2.	ER sheets Version 01 dated 06/09/2022 ER Sheets version 02 dated 14/12/2022
3.	Registered GS4GG PDD Version 06 dated 11/01/2022, Final GS Validation report version 02 dated 11/09/2020 GS Design review documents
4.	ACM0002: Grid-connected electricity generation from renewable sources, Version 20.0
5.	CDM validation and verification standard for project activities, Version 03.0
6.	GS4GG guideline
7.	Training records of the employees (both skilled/non-skilled)
8.	O & M policy
9.	Monthly reports issued by state utility and invoices raised by PP for the complete monitoring period
10.	Calibration certificates of the complete monitoring period
11.	Commissioning certificate of Solar PV Power plant issued by Gujarat Energy Development Agency with ref. No. GEDA/SOL-26414/2020/OW/9405, Dated 28/10/2020
12.	Log book records for scheduled maintenance of the power plant for the complete monitoring period
13.	Sample work contract for both skilled and non-skilled manpower
14.	Remote audit
15.	Grievance register
16.	HSE procedures
17.	Power purchase agreement
18.	O&M agreement
19.	Technical manual from the Manufacturer
20.	Employment records
21.	No Double Counting Declaration by PP dated 15/05/2022

5. FINAL VERIFICATION STATEMENT

Applus+ Certification has been engaged by M/s Juniper Green Sigma Private Limited. to perform the 3rd verification of the “120 MW Solar PV Plant by Juniper Green Sigma Private Ltd. in Gujarat” (GS Ref. No. GS7572).

The management of M/s Juniper Green Sigma 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 GS4GG PDD and the applied methodology ACM0002 Version 20.0.

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 GS4GG 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 GS4GG 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 “**120 MW Solar PV plant by Juniper Green Sigma Private Limited in Gujarat**” for the monitoring period 01/01/2022 to 30/06/2022 (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: 01/01/2022 to 30/06/2022 (Both days included)

Verified emissions in the above reporting period:

Leakage emissions	0 tCO ₂ e equivalents
Project emissions	0 tCO ₂ e equivalents
Baseline emissions	154,519 tCO ₂ e equivalents

Emission reductions

154,519 tCO₂e equivalents

Month wise breakup of the verified emission reduction is given below:

Year	Baseline emission (tCO ₂)	Project Emission (tCO ₂)	Emission Reduction (tCO ₂)
01/01/2022 to 30/06/2022	154,519	0	154,519
Total	154,519	0	154,519

Date: 21/04/2023

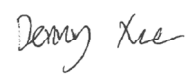
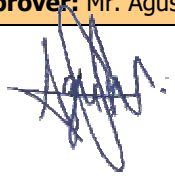
Lead Auditor: Dr. Atul Takarkhede

Tech. Expert: Dr. Atul Takarkhede

Tech. Reviewer: Mr. Denny Xue

Approver (*Applus+ Certification VVB Technical Manager*)

Mr. Agustín Calle de Miguel

ASSESSMENT TEAM	
Lead Auditor: Dr. Atul Takarkhede	Technical Reviewer: Mr. Denny Xue
Signature: 	Signature: 
Approver: Mr. Agustín Calle de Miguel	
Signature: 	

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

Type:	☐ CAR ☐ CL/CR ☒ FAR	Number:	01
Raised by:	Sustain-Cert	Ref. to checklist in above tables:	Performance Review Document
Description of the audit finding		Date:	06/12/2022
FAR#01: 'All stakeholders invited to participate in the first consultation should be invited to the Stakeholder Feedback Round.' This requirement is not met during stakeholder feedback round. VVB shall interview local villagers, panchayat members and landowners in next verification and check whether there is any feedback/comments on the project activity			
Project Participant's response		Date:	14/12/2022
All stakeholders who invited to participate in the first consultation were also invited during Stakeholder Feedback Round. The feedback of local villagers, panchayat members and landowners were also submitted by PP.			
Documentation provided as evidence by Project Participant			
-			
Auditor's assessment comment		Date:	14/12/2022
Remote audit conducted by PP, during remote audit VVB team has interviewed the panchayat member of all district, local villagers reside near the project location. VVB verified that, during interview no negative comment/feedback received regarding the project activity. Hence, This FAR 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:	06/12/2022
During document review VVB has observed that, No. of days and monitoring period mention in section A.4 of monitoring report is not in line with monitoring period mention in signed contract. PP, needs to clarify the same.			
Project Participant's response		Date:	14/12/2022
No. of days and monitoring period is corrected in section A.4 of monitoring report in line with the signed contract.			
Documentation provided as evidence by Project Participant			
Revised MR			
Auditor's assessment comment		Date:	14/12/2022
Start date of current monitoring periods now corrected in section A.1 of revised monitoring report by PP. Thus, is accepted by VVB. Hence, CAR 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:	06/12/2022
Following discrepancies observed during the review of monitoring report: VVB team has found that, submitted copy of no double accounting declaration in not consistent with current monitoring period. CAR raised.			
Project Participant's response		Date:	14/12/2022
The revised declaration for no double counting for current monitoring period is submitted with the responses.			
Documentation provided as evidence by Project Participant			
Declaration of no double accounting			
Auditor's assessment comment		Date:	14/12/2022
VVB team has verified that, PP has submitted no double accounting declaration dated 15/05/2022 to the VVB team. Hence, CAR is closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	NA
Description of the audit finding		Date:	06/12/2022
Following observation is made by the assessment team regarding monitoring parameter; For SDG 8.5: Decent work and Economic Growth; PP have to provide details about, employment provided by PP without any gender discrimination, equal amount of pay to each employee, same was not provide in monitoring period, to verify the same supporting found missing. Thus, Corrective Action Sought			
Project Participant's response		Date:	14/12/2022
The employment details like offer letter and salary slips of two employees hired during current monitoring period along with attendance record are submitted to VVB with the responses. As plant is situated at remote location which is not safe for women's hence there are no female employees working in the project activity.			
Documentation provided as evidence by Project Participant			
Offer letters Salary Slips Copy of Attendance register			
Auditor's assessment comment		Date:	14/12/2022
For SDG 8.5: Decent work and Economic Growth; PP has provided; employment contract, Salary Slip, Attendance registers of the project activity to VVB team. VVB team has found that, employee receive equal pay for equal work, as per labour code, without any discrimination. VVB also found that, women employee was employed at head office of the company. Due to remote location of project activity, there was no female employee at project site. Hence, CAR is closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	NA
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:	06/12/2022
During document review VVB team has observed that, PP has claimed that Grievance register is placed at project site and was continuously monitored. However, to verify the same PP has not provided the copy of grievance register to the VVB team. Hence, Correction is sought,			
Project Participant's response		Date:	14/12/2022
The Grievance register is placed at project site for continuously monitoring but no grievances received during current monitoring period. The copy of grievance register is provided with the responses.			
Documentation provided as evidence by Project Participant			
Grievance Register			
Auditor's assessment comment		Date:	14/12/2022
PP has provided the copy of grievance register to the VVB team. No Major Grievance found Thus accepted, CAR is closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.4A
Description of the audit finding		Date:	06/12/2022
1. PP has submitted JMRs & invoices covering the monitoring period and values mentioned in the ER sheet found matching with JMR & invoice values. However, actual emission reduction are found 11.65% higher than estimated. Thus, Correction sought for the same. 2. PP needs to explain the reason for higher estimated emission. Also, needs to explain the higher emission reduction is not causing impact on additionality of the project, & it's not crossing the breaching point. Correction is sought for the same.			
Project Participant's response		Date:	14/12/2022
1. The actual emission reduction is 11.65% higher than estimated emission reduction which is justified, as this monitoring period includes winter and summer season only which are most favorable time in terms of solar energy. The detailed explanation is also added in the Section E.6 of the MR. 2. The reason for higher emission reductions is higher PLF achieved because this monitoring period includes winter and summer season only which are most favorable time in terms of solar energy. The higher emission reduction is not causing impact on additionality of the project, as breaching value of PLF is 34.68% as per registered PDD whereas the actual PLF achieved during this verification is 31.47% which is still lower than the PLF which breaches the benchmark. This clearly demonstrates that there is no adverse impact on additionality. Please refer section E.6 of MR for detailed explanation.			
Documentation provided as evidence by Project Participant			
Revised MR			
Auditor's assessment comment		Date:	14/12/2022

VVB team observed that, higher emission reduction during the current monitoring period is due to the variation in solar radiation during the current monitoring period, which is found to most favourable time for solar energy. VVB team has observed that, achieved PLF is 31.47% which is still found lower with respect to actual PLF of PDD is 34.68%. VVB team has verified that higher emission reduction and increasing PLF for this monitoring period is not causing any effect on additionality of the project activity. Which is found conservative in nature, hence accepted by VVB team. **Thus, CAR is closed.**

Type:	☐ CAR ☐ CL/CR ☒ FAR	Number:	01
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	NA
Description of the audit finding		Date:	06/12/2022
VVB team observed higher emission reduction than estimated from last verification of project, thus In accordance with para 2.1.3. (b), Rule Clarification "Treatment of projects overachieving emission reduction, FAR has been raised for next verifying VVB to check whether project continuously achieving emission reduction than estimation. If yes, PP needs to perform root cause analysis of the variation to determine whether the variation is systematic or not.			
Project Participant's response		Date:	XX/XX/20XX
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Documentation provided as evidence by Project Participant			
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Auditor's assessment comment		Date:	XX/XX/20XX
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Appendix 2: 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.
Mr. Ishan Shrivastava	Mr. Ishan Shrivastava, has done bachelor of engineering in Mechanical Engineering from Rajiv Gandhi Proudhyogiki Vishwavidyalaya, India. He has a year of working experience in India's one of the Maharatna Company i.e. GAIL (India) Limited in the area of Natural Gas, Energy & Environment. Currently, he is working in True Quality Certifications Pvt. Ltd. (An outsource entity for LGAI Technological Center, S.A. (Spain) "Applus+ Certification") since 2019 and has been involved as Auditor (Validator/Verifier) for Validation and Verifications of Project Activities (Renewable and non- renewable projects) under CDM/VCS/GS4GG/GCC programs.
Mr. Denny Xue	Mr. Denny Xue (Master's Degree in Environmental Engineering, Bachelor's Degree in Thermal 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 technical review with Applus+. Before he joined Applus+ LGAI, he has been working for Shanghai Chuanji Investment and Management which is a CDM consultancy company as a project manager for CDM project development. Mr. Denny Xue is based in Shanghai, China.