

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



Project Title:	150 MW Solar PV Plant by Juniper Green Field Pvt. Ltd. in Maharashtra
Monitoring Period:	01/06/2022 to 31/03/2023 (Both days included)
GS project ID:	GS7627
Internal ID:	8123
Customer:	Juniper Green Field Private Limited
Date:	09/08/2023
Revision:	03

SUMMARY			
Reference No.	Date (first version)	Version No.	Date (last version)
A+SH_SYST_TQC_GS_VER_8123	24/05/2023	03	09/08/2023
GS4GG Verification			
GS4GG Certified Product (sought):		GS VER	
GS4GG SDG Impact Statement (sought):		Impact Certification	
General Information			
Client	Juniper Green Field Private Limited		
Project Title	150 MW Solar PV Plant by Juniper Green Field Pvt. Ltd. in Maharashtra		
Project Participants	Juniper Green Field Private Limited		
Project Location	Yavatmal and Buldhana districts in Maharashtra state of India.		
Contact Person	Mr. Pavan Kumar Gupta		
Monitoring Period:	01/06/2022 to 31/03/2023 (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: 04/04/2023		Final Monitoring Report Version: 04 Date: 05/08/2023	
Certified Project Design Document Version: Assessment team checked the registered GS PDD Version: 06 Date: 19/09/2022			
Estimated values for all SDG:			
SDG	SDG	Values	
7	Renewable Electricity Generated	355,030 MWh electricity generation (annual) 295,696 MWh for current M.P.	
8	Trainings provided to O&M staff	02 Trainings (1 training at each site) provided to O&M Staff (annual)	
8	Number of Jobs generated	20 (10 Employees at each) (annual)	
13	Emission Reduction	330,355 tCO ₂ e (annual) 275,145 tCO ₂ e 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	200,595.90 MWh electricity generation	
8	Trainings provided to O&M staff	33 Trainings (7 at Malkapur site and 26 at Arni site) provided to O&M Staff	
8	Number of Jobs generated	41 employments created	
13	Emission Reduction	186,654 tCO ₂ e emission reduction	
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 Juniper Green Field Private Limited to perform the 1st verification of "150 MW Solar PV Plant by Juniper Green Field Pvt. Ltd. in Maharashtra" (Ref. No. GS7627) applying the methodology ACM0002 Version 20.0^{4/}.

The management of Juniper Green Field 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:

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

Juniper Green Field Private Limited is the promoter of the project activity and involves installation of 150 MW (80 MW + 70 MW) grid connected solar photovoltaic power plant in Yavatmal and Buldhana districts in Maharashtra state of 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 330,355 tCO₂e per annum and 275,145 tCO₂e for current monitoring period thereon displacing 355,030 MWh/year and 295,696 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
Juniper Green Field Private Limited.	80 MW _{AC} / 107.6 MW _{DC} MW	01/06/2022	Shirpur /Arni	Yavatmal	Maharashtra
	70 MW _{AC} / 99.5 MW _{DC} MW	08/08/2022	Tighra /Malkapur	Buldhana	

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 20.0^{4/} and the GS4GG guideline 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 that the implementation of the project has resulted in **186,654 tCO₂e** emission reductions during period 01/06/2022 to 31/03/2023 (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: 04, CLs: 02, FARs: 00 (Raised by Sustain Cert during Performance Review).

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
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 (Lead Auditor: Mr. Ravi Kant Soni) than in this verification.

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

ABBREVIATIONS	
ACM	Approved Consolidated Methodology
AM	Approved Methodology
AMS	Approved Methodology Small Scale
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
KP	Kyoto Protocol
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-Governmental Organization
SDG	Sustainable Development Goal
TAC	Gold Standard Technical Advisory Committee
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
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 Juniper Green Field Private Limited to perform the 1st verification of "150 MW Solar PV Plant by Juniper Green Field Pvt. Ltd. in Maharashtra" applying the methodology ACM0002 Version 20.0^{/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/} 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 20.0^{/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 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 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.

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

Juniper Green Field Private Limited are the promoter of the project activity and involves installation of 150 MW (80 MW_{AC} + 70 MW_{AC}) solar power project in Yavatmal and Buldhana districts in Maharashtra state of India. The total capacity of the project activity is 150 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 330,355 tCO_{2e} per annum and 275,145 tCO_{2e} for the current M.P., thereon displacing 355,030 MWh/year and 295,696MWh for the current M.P. 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 in the year 01/06/2022.

The details of the project are mentioned in the table:

Project Investors' Name	Capacity in MW	Village	District	Latitude	Longitude
Juniper Green Field Private Limited.	80 MW	Shirpur, Taluka-Arni	Yavatmal	20.127428°N	77.920963°E
	70 MW	Tighra, Taluka-Malkapur	Buldhana	20.951549°N	76.123278°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, 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 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	NA	YES
Mr. David lubanga	TR	YES	YES	NA	N/A

The complete list of CVs is included as Appendix 3 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	Gupta	Mr. Pavan kumar	PP representative	17/04/2023 and 18/04/2023	Project implementation,	Dr. Atul Takarkhede
2	Kandan	Mr. Mani	Manager (O&M)		Project implementation, Grievance mechanism etc. Baseline emissions, ER calculations, Sustainable monitoring,	
3	Patil	Mr. Manish	Local stakeholder (MH)		Stakeholder meeting- Employment opportunities, Standard of Livings etc.	
4	Bornare	Mr. Sumit	Local stakeholder (MH)			

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, 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 registered PDD
- To understand grievance (if any) from the villagers during the monitoring period.
- Local stakeholder meeting details:

Name of the stakeholder	Manish Patil
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	Sumit Bornare
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 03^{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: 04, CLs: 02, FARs: 00 (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 1st verification for the project activity and no FARs were raised during design review. No FAR pending from the validation 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 and Passport.

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 for the project activity.

Juniper Green Field Private Limited has installed solar power project at Yavatmal and Buldhana, District of Maharashtra State of India with capacity of 150 MW.

Key Components Technical Specification for project activity (150 MW_{ac})

Site -1: Arni (80 MW_{AC}) Solar PV modules:

Site Name	Module Make	Type	Capacity (p)	Number of Module	Total DC Capacity (MWp)
Arni - 80 MW _{AC}	Trina Solar	DEG19C.20	545	60,944	33.4521
	Trina Solar	DEG19C.20	540	62,689	33.9
	JA Solar	JAM72D30	540	37,828	20.4
	JA Solar	JAM72D30	535	37,212	19.9
	JA Solar	JAM72D30	545	308	0.2
	Total			198,981	107.6

Inverters:

S.No.	Parameter	Details
1.	Make	HUAWEI
2.	Model	SUN2000-200KTL-H2/ SUN2000-200KTL-H3
3.	Rated Capacity	185 kW
4.	No. of Inverters	432

Grid Connected substation Details: MSETCL ARNI 132/33kV Substation Feeder Details: 1 No's 132 kV dedicated feeders connected from solar project substation (PSS) (located within Solar Power Plant) having 2 nos. 40/50 MVA Power 33/132 kV Step-up Power Transformer.

Site -2 : Malkapur 70 (MW_{AC}) Solar PV modules:

Site Name	Module Make	Type	Capacity (p)	Number of Module	Total DC Capacity (MWp)
Malkapur – 70 MW _{AC}	JA Solar	DEG19C.20	535	86,620	46.3
	JA Solar	DEG19C.20	540	89,208	48.2
	Trina Solar	DEG19C.20	545	4,572	2.5
	Trina Solar	DEG19C.20	540	4,572	2.5
	Total			184,972	99.5

Inverters:

S.No.	Parameter	Details
1.	Make	HUAWEI
2.	Model	SUN2000-200KTL-H2
3.	Rated Capacity	185 kW
4.	No. of Inverters	378

Grid Connected substation Details: LILO on Malkapur – Khadka MSETCL Substation 132kV Line.

Feeder Details: 1 No's 132 kV dedicated feeders connected from solar project substation (PSS) (located within Solar Power Plant) having 2 nos. 40/50 MVA Power 33/132 kV Step-up Power Transformer.

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/}, validation report 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 credit note^{/9/} & breakdown^{/12/} records submitted by PP. Power plant was working throughout the monitoring period and same have been conformed from credit note^{/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^{/12/} observed and the same is confirmed by the assessment team with the plant log details and credit notes^{/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 credit notes 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/} & credit note^{/9/}, it was observed that the rated capacity of the project is 150 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/}, validation 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 in the Indian grid.

Thus, assessment team confirms that the project is implemented as per the registered PDD^{/17/} and there is correction in the Solar PV module details in the current monitoring report as compared to the registered PDD since at time of design review, commissioning of the project was on going, so at that time the complete solar PV module details were not available PP has submitted the declaration^{/20/} for details of the Solar PV modules dated 16/04/2023 which verifies the same and found inline with the current monitoring report. This change does not affect the total capacity of the project, Additionality, Baseline and applicability of methodology.

no change in project design is envisaged for the present monitoring period.

The amount of GS-VERs achieved during the present monitoring period are 32% lower than the estimated value in the PDD. This is not in control of PP due to the lower PLF months during the monitoring period. The PLF achieved during this monitoring period is 27.40 % & same is found within the sensitivity analysis, thus do not have impact on additionality.

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.

Grievance Mechanism:

During the Onsite visit, 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 people for the present monitoring period towards project activity. However, some complaints raised by the on-roll & contract labours are recorded and resolved. 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.

Consideration of materiality in conducting the verification

In line with Guidelines for Application of materiality in verifications Version 02, 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.

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 20.0^{4/}, applied by the GS project activity.

Solar PV module details have been corrected in the current monitoring report as compared to the registered PDD since at time of design review, commissioning of the project was going on, so at that time the complete solar PV module details were not available. This change does not affect the capacity of the project, Additionality, Baseline and applicability of methodology.

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

$EF_{OM,y}$, $EF_{grid,y}$ & $EF_{grid,y}$ 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	0.9522 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 17.
SDG 13: Climate Action $EF_{BM,y}$ Build Margin CO ₂ emission factor in year y	0.8653 tCO ₂ /MWh	The value of the parameter was checked from registered PDD. The value of the parameter was sourced from CEA database version 17 ^{14/} .
SDG 13: Climate Action $EF_{CM,y}$ Combined Margin CO ₂ emission factor in year y	0.9305 tCO ₂ /MWh	The value of the parameter was checked from registered PDD. The value of the parameter was sourced from CEA database version 17.

The value mentioned in the Monitoring Report and Emission Reduction Spreadsheet 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 = 7.2 Affordable and Clean Energy

1. $EG_{PJ,y}$ = Quantity of net electricity supplied to the grid (MWh).
 = **200,595.90 MWh** amount of electricity supplied to grid.

The parameter $EG_{PJ,y}$ 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 as per below equation:

$$EG_{PJ,y} = EG_{Export, Malkapur} + EG_{Export, Arni}$$

Quantity of net electricity supplied to the grid presented in the Credit notes 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 8.5.1 : Decent Work and Economic Growth

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 41 Employees in which 41 were Males and there is no females due to site is located in the rural area so female workers are not available to work. Total 33 trainings provided at both project sites in this monitoring period where 7 trainings are provided at Malkapur site and 26 trainings are provided at Arni Site. Income generation of the total 41 Employees in the current monitoring period is 6,300,000 INR. 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 13.2.1: Air Quality

This parameter is described as Reduction in CO₂ emission reduction due to implementation of project activity.

The parameter is calculated from CEA database version 17.0, published by the Central Electricity Authority, Ministry of Power, Government of India and Energy Generation

The same demonstrated in Emission reduction sheet and the achieved value of the emission reduction for the current monitoring period is **186,654 tCO₂e**. The same is acceptable to the assessment team and the emission reduction calculation is correct.

4. Relevant SDG indicators = 4.3.5 Hazardous and Non-hazardous Waste

The manufacture, trade, release and use of hazardous and non-hazardous chemicals and/or materials. This parameter is measured once in a monitoring period. The waste has been disposed to the waste handlers and the firm has comply with all the local laws for monitoring and disposal. Value applied 0.

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 as per the norms of NABL 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 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 delivered by the project plant/unit in year y in MWh	Quantity of net electricity supplied by the project plant/unit to the grid in year y (MWh)	Yes
- 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	Quantitative employment and Income generation Quality of employment	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 _{PJ,y}						
Unit	MWh						
Description	Quantity of net electricity supplied by the project plant/unit to the grid in year y (MWh)						
Source of data checked by the assessment team	Statement of net export of power to the grid at the plant site ^{9/} (Credit Notes)						
Value(s) of monitored parameter	200,595.90 MWh <table border="1"> <tr> <th>Year</th><th>EG_{PJ,y}</th></tr> <tr> <td>2022</td><td>111,072.90 MWh</td></tr> <tr> <td>2023</td><td>89,523 MWh</td></tr> </table>	Year	EG _{PJ,y}	2022	111,072.90 MWh	2023	89,523 MWh
Year	EG _{PJ,y}						
2022	111,072.90 MWh						
2023	89,523 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:						

	$EG_{PJ,y} = EG_{Export, Malkapur} + EG_{Export, Arni}$ 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 will be 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 13.2.1: Climate Action				
Data/parameter:	Air quality				
Unit	tCO ₂				
Description	Reduction in CO ₂ emission reduction due to implementation of project activity				
Source of data checked by the assessment team	Calculated as per "Tool to calculate the emission factor for an electricity system,". The data are obtained from "CO2 Baseline Database for Indian Power Sector" version 17.0, published by the Central Electricity Authority, Ministry of Power, Government of India.				
Value(s) of monitored parameter	186,654 tCO ₂ e <table border="1"> <thead> <tr> <th>Vintage date</th><th>ER_y</th></tr> </thead> <tbody> <tr> <td>01/06/2022 to 31/03/2023</td><td>186,654 tCO₂e</td></tr> </tbody> </table>	Vintage date	ER _y	01/06/2022 to 31/03/2023	186,654 tCO ₂ e
Vintage date	ER _y				
01/06/2022 to 31/03/2023	186,654 tCO ₂ e				
Means of verification:	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 Credit notes ^{/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.				
Cross check mechanism	All the formulas are applied in line with the registered GS4GG PDD.				

Relevant SDG Indicator	SDG 8.5.1: Decent Work and Economic Growth
Data/parameter:	- Quantitative employment, - Quality of employment - Income generation
Unit	- Number (Trainings) - Number (employees) - INR (salary)
Description	- 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 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 41 employees Bifurcation based on gender: Male – 41

	Female – 0 ² Bifurcation based on skills: Skilled – 41 (Permanent) Unskilled - 0 (temporary)										
Source of data checked by the assessment team	• Training Records (HSE & HR) • Salary Slip of the project employees.										
Value(s) of monitored parameter	Assessment team checked that for Quantity of employment and income generation. Employment is given in office work, O&M, Security etc. 41 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>SPVs</th><th colspan="2">Values (Nos)</th></tr><tr><td rowspan="3">Juniper Green Field Private Limited. &</td><td>Skilled</td><td>41 (Permanent)</td></tr><tr><td>Unskilled</td><td>00 (Temporary)</td></tr><tr><td>Total</td><td>41 Employees</td></tr></table> During Monitoring period, total 33 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 6,300,000 income has been generated by PP. Same is confirmed by Verification team thus accepted.	SPVs	Values (Nos)		Juniper Green Field Private Limited. &	Skilled	41 (Permanent)	Unskilled	00 (Temporary)	Total	41 Employees
SPVs	Values (Nos)										
Juniper Green Field Private Limited. &	Skilled	41 (Permanent)									
	Unskilled	00 (Temporary)									
	Total	41 Employees									
Means of verification:	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.										
Cross check mechanism	Not applicable										

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 policies. 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
-----------------	-------------------

² Since site is located in the rural area, female workers are not available to work.

Trainings & salaries of the employees	During verification process Mr. Pavan Kumar Gupta, 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.
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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	200,595.90 MWh	200,595.90 MWh
SDG 8: Decent Work and Economic Growth	0 Trainings 0 Employees	33 Trainings 41 Employees	33 Trainings 41 Employees
SDG 13: Climate Action	186,654 tCO ₂ e	0 tCO ₂ e	186,654 tCO ₂ e

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

Item	Values estimated in ex ante calculation of approved PDD	Actual values achieved during this monitoring period
SDG 7: Affordable and Clean Energy	355,030 MWh/Year 295,696 MWh for current M.P.	200,595.90 MWh
SDG 8: Decent Work and Economic Growth	02 Trainings (1 training at each site) provided to O&M Staff 20 employment generation	33 Trainings provided to O&M Staff 41 employments generation
SDG 13: Climate Action	330,355 tCO ₂ e/Year 275,145 tCO ₂ e for current M.P.	186,654 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^{/1/} & Final Monitoring report Version 03^{/1/} and corresponding ER calculation spread-sheets^{/2/} and are consistent with the applied methodology ACM0002 Version 20.0^{/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 03^{/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 using equation below:

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

$$BE_y = 200,595.90 \times 0.9305 = 186,654 \text{ tCO}_2\text{e (round down figure)}$$

Year	Baseline emission (tCO ₂)
2022	103,353
2023	83,301
Total	186,654

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	Emission of 186,654 tCO _{2e}

Project emissions:

The project is a solar power project, no fossil fuel is be consumed according to the methodology ACM0002 Version 20.0 & according to registered 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:

$$ER_y = BE_y - PE_y$$

$$= 186,654 \text{ tCO}_2\text{e} - 0$$

$$= \mathbf{186,654 \text{ tCO}_2\text{e}}$$

The actual achieved emission reduction for this monitoring period is 32% lower than estimated value in the GS PDD (186,654 tCO_{2e} against estimated 275,145 tCO_{2e} for 304 operational days with estimated 330,355 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 04/04/2023, Final Monitoring report version 04 dated 05/08/2023
2.	ER sheets Version 01 dated 04/04/2023 ER Sheets version 02 dated 09/05/2023
3.	Registered PDD Version: 06 dated 19/09/2022, Final GS Validation report version 01 dated 04/05/2022 GS Design documents
4.	ACM0002 Version 20.0, "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
6.	GS4GG guideline
7.	Training records of the employees (both skilled/non-skilled)
8.	Employment records
9.	Credit Notes 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.	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.	CSR report
15.	Grievance register
16.	HSE procedures
17.	Power purchase agreement
18.	O&M declaration
19.	Technical manual from the Manufacturer
20.	Declaration for details of latest solar Modules
21.	Trina Modules data sheet and JA Solar Data sheet
22.	Declaration of No double counting dated 10/03/2023

5. FINAL VERIFICATION STATEMENT

Applus+ Certification has been engaged by Juniper Green Field Private Limited to perform the 1st verification of the "150 MW Solar PV Plant by Juniper Green Field Pvt. Ltd. in Maharashtra" (GS Ref. No. GS7627).

The management of Juniper Green Field 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 and the applied methodology ACM0002 Version 20.0^{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 "150 MW Solar PV Plant by Juniper Green Field Pvt. Ltd. in Maharashtra" for the monitoring period 01/06/2022 to 31/03/2023 (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: 01/06/2022 to 31/03/2023 (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	186,654 tCO ₂ e equivalents

Emission reductions

186,654 tCO₂e equivalents

Vintage wise breakup of verified emission reduction is given below:

Year		Baseline emission (tCO ₂ e)	Project Emission (tCO ₂ e)	Emission Reduction (tCO ₂ e)
01/06/2022	to	103,353	0	103,353
31/12/2022				
01/01/2023	to	83,301	0	83,301
31/03/2023				
Total		186,654	0	186,654

Date: 09/08/2023

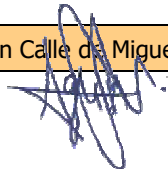
Lead Auditor: Dr. Atul Takarkhede

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: 	

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:	24/04/2023
1. VVB team observed that, estimated emission reduction for the current monitoring period is found inconsistent. However, VVB team observed that monitoring period is found inconsistent in monitoring report. PP needs to clarify the same.			
Project Participant's response		Date:	09/05/2023
1. Estimated emission reduction and monitoring period for the current monitoring period is updated in monitoring report.			
Documentation provided as evidence by Project Participant			
1. MR Version 2.0			
Auditor's assessment comment		Date:	22/05/2023
Estimated emission reduction for the current monitoring period is now found consistent in the revised Monitoring report and ER sheet. Thus, CL#01 is closed.			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	02
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	N/A
Description of the audit finding		Date:	24/04/2023
During review VVB team observed that, Solar SPV module at the malkapur site is of Tirana made which is found Inconsistent with GS PDD. PP needs to clarify the same.			
Project Participant's response		Date:	09/05/2023
The solar PV module details are different as compared to registered PDD because at the time of design review, commissioning was going on, so at that time the complete solar PV module details were not available, so in the current monitoring report, PV module details have been corrected.			
Documentation provided as evidence by Project Participant			
declaration certificate for Solar modules dated 16/04/2023			
Auditor's assessment comment		Date:	22/05/2023
PP has updated the Solar SPV module at the malkapur site is of Tirana make and 545 & 540 Wp capacity and at the Arni site is of JA Solar make and 545 Wp capacity in the Monitoring Report. The solar PV module details are different as compared to registered PDD because at the time of design review, commissioning was going on, so at that time the complete solar PV module details were not available, so in the current monitoring report, PV module details have been corrected. PP has submitted the declaration certificate for Solar modules dated 16/04/2023 which is consistent with the Current Monitoring report. Hence, VVB accepted the same. Thus, CL#02 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:	24/04/2023
1. PP is requested to reframe the language throughout the monitoring report as the project is already commissioned and contributing towards emission reduction. 2. VVB team observed that, Starting date of monitoring period in section E.6 of monitoring report. Correction sought for the same. 3. PP is request to submit the commissioning certificate of project activity. 4. Technical specification evidence of the module is not submitted to the VVB team. 5. In order confirm the sale of generated electricity and relation between PP and respective DISCOM, Power Purchase Agreement is missing. Kindly submit. 6. O&M Agreement for project activity is also found missing. 7. VVB team found that, PP has not provided the details about breakdown during current monitoring period. However, to verify the same breakdown log sheet is not submitted.			
Project Participant's response		Date:	09/05/2023
1. The language throughout the monitoring report is reframed. 2. It is a typographical error; the date is updated in section E.6. 3. Commissioning certificates are submitted with responses. 4. Technical specification is submitted with responses. 5. Power Purchase Agreement is submitted with responses. 6. O&M document is submitted with responses. 7. Breakdown log sheet is submitted with responses and the breakdown details is incorporated in appendix 2 of MR.			
Documentation provided as evidence by Project Participant			
1. MR version 2.0. 2. Commissioning certificate. 3. Technical specification. 4. Power Purchase Agreement. 5. O&M Declaration. 6. Breakdown log sheet.			
Auditor's assessment comment		Date:	22/05/2023

1. PP has reframed the language throughout the revised monitoring report as project is already commissioned and contributing towards emission reduction. Hence, Comment#01 is closed.
 2. PP has now updated the starting date of the Monitoring Period in the section E.6 of the Monitoring Period. Now it's consistent throughout revised MR and contract. Hence, Comment#02 is closed.
 3. PP has submitted the Commissioning certificates of the project activity.
 - a. Commissioning certificate for site 1(80MW capacity) dated 01/06/2022 is found inline with the Commissioning date provided in revised Monitoring Report.
 - b. Commissioning certificates for site 2(70MW capacity) dated 08/08/2022 is found inline with the Commissioning date provided in revised Monitoring Report. Hence, Comment#03 is closed.
 4. PP has submitted the Technical specification documents of Solar PV modules at Site -1: Arni (80 MW_{AC}) and Site -2: Malkapur 70 (MW_{AC}) and details found consistent with revised MR. Hence, Comment#04 is closed.
 5. PP has submitted the Power Purchase Agreement dated 10th February 2020 between Juniper Green Field Pvt. Ltd. and Maharashtra Electricity Distribution Company Limited. Hence, Comment#05 is closed.
 6. PP has submitted the O & M the declaration. Hence, Comment#06 is closed.
 7. PP has submitted Breakdown log sheet and the breakdown details is incorporated in appendix 2 of MR. Hence, Comment#07 is closed.
- Thus, CAR#01 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:	24/04/2023
Following observation is made by the assessment team regarding monitoring parameter; For SDGs 7: 1. VVB team observed that, PP has not submitted the Monthly meter reading for complete monitoring period, moreover to crosscheck the same invoice is also found missing. Correction sought. For SDG 8.5: Decent work and Economic Growth; • VVB team found that, PP has not submitted the employment generation records for current monitoring period. • Employment contract and Salary slips are missing. • PP needs to bifurcate the training details in monitoring report. Moreover, to verify the same PP needs to submit training records for complete monitoring period. Thus, Corrective Action Sought			
Project Participant's response		Date:	09/05/2023
For SDGs 7: 1. The JMRs and invoices has been already shared at the time of initial submission however it is resubmitted with the responses. For SDG 8.5: 1. Employment generation records for current monitoring period are submitted with the responses. 2. Employment Offer letter along with salary slips are submitted with the with the responses. 3. Training details bifurcated in MR and records of same are submitted with the responses.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	NA
Documentation provided as evidence by Project Participant			
1. JMRs. 2. Invoices. 3. Employment contract. 4. Salary slips. 5. Training records.			
Auditor's assessment comment		Date:	22/05/2023
For SDGs 7: 1. PP has submitted the credit notes and Invoices for the Current Monitoring Period. the net generation value in emission reduction sheet is found consistent with monthly Credit Note, moreover to verify the same PP has submitted the invoice. No error has been observed in this section. Hence, Comment#01 is closed. For SDG 8.5: VVB team verified that, PP has submitted following document: 1. The Employment generation records for current monitoring period. 2. The Employment contract and Salary slips for current monitoring period. Salary slip has been submitted to verify income of the employee. 3. Training details is now bifurcated in revised monitoring report. Same has been verified through training records for complete monitoring period. Hence, CAR#02 is closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	
Description of the audit finding		Date:	24/04/2023
PP requested to submit; no double accounting declaration for current monitoring period to the VVB team.			
Project Participant's response		Date:	09/05/2023
No double accounting declaration for current monitoring period is submitted with the responses.			
Documentation provided as evidence by Project Participant			
Auditor's assessment comment		Date:	22/05/2023
PP has submitted the no double accounting declaration dated 10/03/2023 for current monitoring period. VVB team found that project is not participating in any other GHG program and there is no double counting of credits for this Monitoring period which is accepted by VVB team. Thus, CAR#03 is closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Atul Takarkhede	Ref. to checklist in above tables:	3.4

Description of the audit finding	Date:	24/04/2023
1. The details of monitoring meters and calibration dates is found inconsistent in the Monitoring report. However, PP is requested to submit complete details in monitoring report. 2. PP needs to submit calibration certificate for complete period.		
Project Participant's response	Date:	09/05/2023
1. The meter details are updated in appendix 1 of MR. 2. Calibration certificates are submitted with responses for complete monitoring period.		
Documentation provided as evidence by Project Participant		
MR version 2.0. Calibration certificates		
Auditor's assessment comment	Date:	22/05/2023
VVB team verified that, submitted details of the meter calibration is found consistent and no delay is observed in calibration period. Which is verified through the submitted copy of the calibration certificate. Thus, CAR#04 is closed.		

Type:	☐ CAR ☐ CL/CR ☒ FAR	Number:	00
Raised by:	N/A	Ref. to checklist in above tables:	
Description of the audit finding	Date:	XX/XX/XXXX	
N/A			
Project Participant's response	Date:	XX/XX/XXXX	
Documentation provided as evidence by Project Participant			
Auditor's assessment comment	Date:	XX/XX/XXXX	

Appendix 2: Calibration details of monitoring meters

Details of Meter Calibration:
 For 70 MW solar Malkapur site³:

S.No.	Meter Number	Type	Make	Accuracy class	Date of calibration	Due date ⁴
1	22004105	Main	L&T	0.2s	21/06/2022	20/06/2027
2	22004106	Check	L&T	0.2s	21/06/2022	20/06/2027

For 80 MW Arni site⁵:

S.No.	Meter Number	Type	Make	Accuracy class	Date of calibration	Due date
1	22001180	Main	L&T	0.2s	18/04/2022	17/04/2027
2	22001181	Check	L&T	0.2s	20/04/2022	19/04/2027

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.
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

³ Commissioning date is 08/08/2022 so meter has been calibrated before the Commissioning.

⁴As per PDD Calibration frequency is once in 5 years as per CEA guidelines

⁵ Commissioning date is 01/06/2022 so meter has been calibrated before the Commissioning.

	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. Mr. David Lubanga is based in Nairobi, Kenya. Mr. David Lubanga may participate in the project assessment as Technical Expert.
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