LGAI Technological Center, S.A.
Campus UAB – Ronda de la Font del Carme, s/n
08193 Bellaterra – Barcelona
(Spain)
Tel.:+34 93 567 20 08
Fax.:+34 93 567 20 01
www.appluscertification.com

GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG) REPORT
-
DESIGN CERTIFICATION (VALIDATION)

Project Title: 100 MW Solar Power Plant in Maharashtra
GS project ID: GS 7533
Internal ID: 1419
Customer: Juniper Green Energy Private Limited
Date: 04/08/2020
Revision: 03

SUMMARY			
Reference No.	**Date** *(first version)*	**Version No.**	**Date** *(last version)*
A+SH_SYST_TQC_1419	01/04/2020	03	04/08/2020
Client	Infinite Solutions		
Project Title	100 MW Solar Power Plant in Maharashtra		
Project Participants	Juniper Green Energy Private Limited		
Project Location	The project is located District: Nashik, Jalgaon and Dhule State: Maharashtra, India		
Contact Person	Mr. Jimmy Shah		
GS4GG Version: GS4GG, Ver. 1.2 GS4GG Activity Requirements: RE Activity Requirements Applied Methodology Version: ACM 0002 Version 19.0 https://cdm.unfccc.int/methodologies/DB/XP2LKUSA61DKUQC0PIWPGWDN8ED5PG The following tools and guidance's have been followed (References): • Tool to calculate the emission factor for an electricity system[1] - Version 07.0 (EB 100, Annex 04) • Tool for the demonstration and assessment of additionality- Version 07.0.0 • Combined tool to identify the baseline scenario and demonstrate additionality[2] – Version 7.0 (EB 93, Annex 3) • Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion[3]- Version 3.0 (EB 96 Annex 4) • Tool to determine the remaining lifetime of equipment[4]- Version 1.0 (EB 50, Annex 15) • Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period[5]- Version -03.0.1 (EB 66, Annex 47) • Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation[6]- Version 3.0 (EB 96 Annex 5) Current Methodology Version: ACM 0002 Version 19.0			GS4GG Principles and Requirements V 1.2 UNFCCC CDM Sectoral Scope: 1 GS4GG Scope : 2 Technical Area: 1.2
GS4GG First PDD Version: 02 Date: 19/09/2019			GS4GG Final PDD Version: 05 Date: 04/08/2020
Estimated Annual Emission Reductions: 224,617 tCO_2e per year			

[1] http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf

[2] http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-02-v7.0.pdf

[3] http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-03-v3.pdf

[4] http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-10-v1.pdf

[5] http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-11-v3.0.1.pdf

[6] http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-05-v3.0.pdf

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Selected Sustainable Development Goals (SDGs): 7; 8; 13
Design Certification Summary
LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Juniper Green Energy Pvt. Ltd. to perform the GSVER validation of "100 MW Solar Power Plant in Maharashtra" applying the methodology ACM 0002 version 19.0. The management of Juniper Green Energy Pvt. Ltd. is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions. A desk review and a site visit have been conducted to verify the data submitted in the GS4GG PDD. Applus+ Certification confirms the following have been reviewed: a. The GS4GG PDD; b. The applied monitoring methodology; c. Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board; d. The Gold Standard for Global Goals "Principles and Requirements" Version 1.2 e. All information and references relevant to the project activity's resulting in estimated emission reductions. The scope of the validation is defined as an independent and objective review of the project design document, against the Kyoto Protocol requirements, UNFCCC rules, applicable CDM requirements and requirement of Gold Standard. The validation report is finalized based on the assessment of the Gold Standard GS4GG PDD, and applying standard auditing techniques including but not limited to document reviews, follow up actions (e.g. site visit, telephone or e-mail interviews) and also the review of the applicable approved methodology and underlying formulae and calculations. The report and the annexed validation checklist describe a total of 6 findings which include: • 6 Corrective Action Requests (CARs); • 0 Clarification Requests (CLs/CRs); • 0 Forward Action Requests (FARs). The PP has responded these findings by modifying the Gold Standard GS4GG PDD and providing adequate additional explanations and evidences. Applus+ Certification confirm that all the findings have been "closed out" before submitting the request for registration to GS board. As a summary of the validation, the review of the Gold Standard GS4GG PDD and the subsequent follow-up interviews have provided Applus+ Certification with sufficient evidence for the determination of the project's fulfillment with all stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM and requirement of Gold Standard. Therefore, Applus+ Certification recommend the project for registration by the GS Registry as GS VERs project.

ASSESSMENT TEAM		
Team Members	**Type of Resource[7]**	**Organization** *(for OEs)*
Lead Auditor: Mr. Pankaj Kumar	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications private Limited
Auditor: Mr. Sukanta Das	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications private Limited
Technical Expert: Mr. Pankaj Kumar	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications private Limited
Technical Reviewer: Mr. Simon Shen	☐ IR ☒ EI ☐ OE	-

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

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ABBREVIATIONS	
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
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
GHG	Greenhouse Gas(es)
GS4GG (or GS)	Gold Standard for Global Goals
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
MP	Monitoring Plan
NGO	Non-Governmental Organization
SDG	Sustainable Development Goal
TAC	Gold Standard Technical Advisory Committee
OM	Operational Margin
PP	Project Participant
PS	Project Standard
UNFCCC	United Nations Framework Convention for Climate Change
VVB	Validation and Verification Body
VVS	Validation and Verification Standard

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

Appendix 2: Audit Team CVs.

1. INTRODUCTION

Juniper Green Energy Private Limited has commissioned Applus+ Certifications to perform a validation of "100 MW Solar Power Plant in Maharashtra" (hereafter referred to as the project activity) in the state of Maharashtra in the republic of, India. This validation report summarizes the findings of the validation of the project, performed on the basis of UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures and the subsequent decisions by the CDM/GS Executive Board as well as requirement of Gold Standard.

The project activity primarily aims at reducing Green House Gas (GHG) emissions through utilization of renewable energy technology for generation of electrical energy. The electricity generated from the project activity (approximately 239,771 MWh annually) will displace equivalent electricity generation in grid connected power plants. The project activity will reduce the anthropogenic GHG emissions (approximately 224,617 tCO2 annually and 1,123,087 tCO2 through the crediting period) associated with the equivalent amount of electricity generation from Indian grid connected power plants predominantly fossil fuel based.

The project activity involves installation and operation of 100 MW solar panels in the state of Maharashtra. The cumulative capacity of the project activity is 100 MW. The electricity generated from the project activity will be exported to regional Grid.

The project activity is the installation of a new grid connected renewable power plant/ unit and this is not a CPA that has been excluded from a registered CDM PoA as a result of erroneous inclusion of CPAs.

The details of the project are mentioned in the table:

The total installed capacity of the current project activity is 100 MW; which involves operation of Solar PV Project in the state of Maharashtra in India. The project is promoted by Juniper Green Energy Pvt Ltd.

The details of the total capacity commissioned is as below:

Project Investors' Name	Commissioning Date	Capacity in MW	Village/Taluka	District
Nisagra Renewable Energy Pvt. Ltd.	31/12/2019	10 MW	Indave, Sindhkheda	Dhule
	30/12/2019	10 MW	Varul, Shirpur	Dhule
	07/01/2020	10 MW	Chhail, Sakri	Dhule
	29/03/2020	10 MW	Mukti	Dhule
	08/01/2020	10 MW	Bahirane, Baglan (Satana)	Nashik
	16/01/2020	10 MW	Dahidi, Malegaon	Nashik
	07/03/2020	10 MW	Vichkheda, Parola	Jalgaon
Juniper Green Energy Pvt. Ltd.	22/01/2020	10 MW	Vahelgaon, Nandgaon	Nashik
	23/01/2020	10 MW	Rajapur, Yeola	Nashik
	21/03/2020	10 MW	Dahiwad, Deola	Nashik

Commissioning dates confirmed with commissioning certificates and also cross checked during site visit.

1.1 Objective

The purpose of a validation is to have an independent third-party assessment of the GS4GG PDD and compliance with the GS requirements as described in the Gold Standard documentation and supporting documents by the client. Validation is part of the GS VER project cycle and will finally result in a conclusion by Applus+ Certifications whether a project activity is valid and should be submitted for registration of a proposed project activity rests at the GS and the Parties involved.

1.2 Scope

The validation scope is defined as an independent and objective review of the project PDD, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against all applicable CDM and GS requirements including the approved baseline and monitoring methodology ACM0002 Version 19.0. The validation was based on the requirements in the Validation and Verification Standard version 02 and Gold Standard GS4GG requirement.

The validation is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the PDD.

2. METHODOLOGY

The project assessment is based on the Clean Development Mechanism Validation and Verification Standard version 2.0, Gold Standard requirement for GS4GG and is conducted using standard auditing techniques to assess the correctness of the information provided by the project participants. Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the project activity are appointed. Once the project is made available for Applus+ Certification, the members of the assessment team carried out:

1. A desk review of the PDD;
2. Follow-up interviews with project stakeholders;
3. The resolution of outstanding issues and the issuance of the final validation report and opinion.

The prepared validation report and other supporting documents then undergo an internal quality control before being submitted to the GS Registry.

The GS overview documents which is referred as DVR is as below

Validation Checklist Table 3: Resolution of Audit Findings				
Type:	☒ **CAR** ☐ **CL/CR** ☐ **FAR**		**Number:**	
Raised by:		*Pankaj Kumar*		
Description of the audit finding			**Date:**	

The description of the audit finding should be clearly included here.		
Project Participant's response	**Date:**	
The responses given by the project participants during the communications with the validation team should be included here.		
Documentation provided as evidence by Project Participant		
The evidences provided by the project participants should be included here.		
Auditor's assessment comment	**Date:**	
This section should include how the audit finding is assessed by the assessment team.		

The Complete List of CAR/CL/FAR is included as Appendix 1 of this report.

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
Mr. Pankaj Kumar	LA/TE	YES	YES	YES	YES
Mr. Sukanta Das	A	YES	YES	YES	YES
Mr. Simon Shen	TR	YES	YES	YES	NA

The complete list of CVs is included as Appendix 2 of this report.

2.2 Document review

The Gold Standard PDD submitted by the Client was reviewed against the approved methodology and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done. A complete list of all documents and evidence material reviewed is included in Section 4 of this report.

2.3 Follow up Interviews

Interviewed Personnel	**Functions**	**Organization**
Mr. Ankush Malik	PP representative	PP
Mr. Mahendra Patil	Villager	Local stakeholder
Ms. Yogita Prakash Sawale	Villager	Local stakeholder
Ms. Richa Shah	Consultant	Infinite Solutions

The details activity done during the onsite visit is as below:

Duration of on-site inspection: 17/02/2020 – 18/02/2020				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	Assessment team checked the implementation of the project, Baseline emission, Emission reduction calculation, technical description of the project and Monitoring.	The project is located District: Nashik, Jalgaon and Dhule, Maharashtra, India	17/02/2020 – 18/02/2020	Mr. Pankaj Kumar

The stakeholder interaction during onsite visit is described below:

Name of the stakeholder	Laxman Wagh
Occupation	Villager
DOE QUESTION: Did this Solar power plant cause any pollution? Answer: No, the plant does not cause any pollution. DOE QUESTION: Did PP promised employment opportunity? Answer: Yes, employment is generated for local people.	

DOE also like to conclude that during the site visit it was observed that local people were employed for security and operation related work like water spraying, vegetation improvement and other unskilled work. DOE 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	Sudhakar Patil
Occupation	Villager
DOE questions: Did the power plant discharge any harmful pollutants? Answer: NO the plant does not discharge any harmful pollutants. DOE questions: Did the power plant destroy any crop fields? Answer: The plant is implemented in barren land and there were no any fertile land or crop which is damaged. DOE thus conclude that stakeholders are happy with the implementation of the project activity.	

2.4 Resolution of Clarification and Corrective Action requests

The objective of this phase of the validation was to resolve the requests for corrective actions and clarification and any other outstanding issues which needs to be clarified for Applus+ Certifications positive conclusion on the PDD. The Corrective Action Requests and Clarification Requests raised by Applus+ Certifications were resolved during communications between the Client and Applus+ Certifications to guarantee the transparency of the validation process, the concerns raised and responses given are summarized in Appendix 1 below.

The Gold Standard GS4GG PDD version 05 submitted on 04/08/2020 serves as the basis for the final assessment presented.

2.5 Internal Quality Control

As final step of a validation the final documentation including the validation report and the protocol have to undergo an internal quality control by the technical review committee. Each report has to be finally approved either by the head of technical review committee or the deputy. In case one of these two persons is part of the audit team, approval can only be given by the other one.

After confirmation of the PP the validation opinion and relevant documents are submitted to the GS Registry.

3. PROJECT DESIGN CERTIFICATION ASSESSMENT

3.1 Approval

This section is not applicable as this is a GS VER project

3.2 Participation

M/s Juniper Green Energy Private Limited and Nisagra Renewable Energy Pvt. Ltd.

are the project proponent from the host party India. The host country involved is parties to the Kyoto Protocol and meet and requirements to participate in the Gold Standard.

3.3 Scale of the project

The project activity is identified as a Large-scale project in section A.6 of the GS4GG PDD applying a large-scale methodology ACM 0002 version 19. The total capacity of the power project is 100 MW as validated from the PPA and EPC contract. Since the design capacity of the project activity is more than 15 MW, which is stipulated limit for small scale projects by GS/CDM, the project is correctly classified as large-scale project. Assessment team also checked the requirement of latest applicable methodology ACM 0002 version 19.0 and confirms that the project qualifies the requirement of the latest methodology also (I.e. scale, applicability, baseline, additionality and monitoring)

a) Type of project: The project activity involves electricity generation using solar power to reduce atmospheric CO_2 emission by replacing equivalent amount of electricity from the grid of India. The project type is identified as renewable energy project in section A.6 of the GS4GG PDD. The project activity complies with the requirement of 'the generation and delivery of energy services (e.g. electricity) from non-fossil and non-deployable energy sources' as defined in GS4GG. The project activity generates and supplies renewable electricity to the regional grid thereby displacing the electricity which would have generated in fossil fuel based power plants connected to the grid.

3.4 Greenhouse Gases

The project activity leads to displacement of electricity generation from fossil fuel based power plants connected to the regional grid by renewable energy generated using solar power. The operation of the project activity will result in reduction of carbon-dioxide from the atmosphere due to displacement of electricity in grid by the renewable energy. Hence, the greenhouse gas identified in the PDD is carbon dioxide which is duly validated by the DOE.

The GHG emission sources considered for the project boundary and their explanations are as follows:

Source		Gas	Included?	Justification/Explanation
Baseline	Grid connected electricity generation.	CO_2	Yes	Main emission source
		CH_4	No	Minor emission source
		N_2O	No	Minor emission source
		Other	No	No other emissions are emitted from the project

Source		Gas	Included?	Justification/Explanation
Project	Greenfield Solar Power Project Activity.	CO_2	No	No CO_2 emissions are emitted from the project
		CH_4	No	Project activity does not emit CH_4
		N_2O	No	Project activity does not emit N_2O
		Other	No	Project activity does not emit other forms of GHG emissions

3.5 Project timeframe

- ***Other certification scheme:*** The project activity has not applied, confirmed by project developer, for any other certification like Green or White certification. Therefore, the validation team concluded that the project activity meets the applicability criteria of Gold Standard. Assessment team checked the double counting clarification vide GS guideline on double counting in the context of Green Certificate Schemes, 22 January 2015. A declaration from PP confirms that the project activity is not taking any REC Benefits under REC mechanism. The project is applied for GSVER retroactive validation. Assessment team also checked the REC web site (https://recregistryindia.nic.in/) and confirms that the project is not undertaking any REC benefits at present nor intended to take it in near future. PP has provided an undertaking and confirmed that project developer has not participated in any other GHG mechanism (CDM/VCS) and neither registered nor rejected under any other voluntary GHG mechanism.

3.6 Project Boundary

As per ACM 0002 version 19 (Latest methodology applied as available on CDM web site) - "The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the GS project power plant is connected to".
The project boundary includes the solar project, sub-stations, grid and all power plants connected to grid. The proposed project activity will evacuate power to the INDIAN grid. Therefore, the entire INDIAN grid and all connected power plants have been considered in the project boundary for the proposed CDM project activity. The same is checked by the assessment team during the validation site visit and found correct.

3.7 Baseline Identification

Being a grid connected Solar energy generation project, PP developed the project based on the Methodology ACM0002 version 19.0. As per methodology version 19.0:

"If the project activity is the installation of a Greenfield power plant, the baseline scenario is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".
The project activity involves setting up of solar power projects to harness the power of solar energy to produce electricity and supply to the grid. In the absence of the project activity, the equivalent amount of power would have been supplied by the Indian grid, which is fed mainly by fossil fuel fired plants. In the absence of the project activity, the equivalent amount of power would have been drawn from the Indian grid. Hence, the baseline for the project activity is the equivalent amount of power from the Indian grid. As the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline and pre-project scenario is same.

The combined margin ($EF_{grid,CM,y}$) is the result of a weighted average of two emission factor pertaining to the electricity system: the operating margin (OM) and build margin (BM). Calculations for this combined margin must be based on data from an official source (where available) and made publicly available. The CEA database version 14 was the latest available data at the time of PDD submission to DOE for validation, hence same is considered for emission factor calculations.

The combined margin of the Indian grid used for the project activity is as follows:

Parameter	Value	Nomenclature	Source
$EF_{grid,CM,y}$	0.9368 tCO_2/MWh	Combined margin CO_2 emission factor for the project electricity system in year y	Calculated as the weighted average of the operating margin (0.75) & build margin (0.25) values, sourced from Baseline CO_2 Emission Database, Version 14.0, December 2018 published by Central Electricity Authority (CEA), Government of India
$EF_{grid,OM,y}$	0.9610 tCO_2/MWh	Operating margin CO_2 emission factor for the project electricity system in year y	Calculated as the last 3-year (2015-16, 2016-17 & 2017-18) generation-weighted average, sourced from Baseline CO_2 Emission Database, Version 14.0, December 2018 published by Central Electricity Authority (CEA), Government of India
$EF_{grid,BM,y}$	0.8644 tCO_2/MWh	Build margin CO_2 emission factor for the project electricity system in year y	Baseline CO_2 Emission Database, Version 14.0, December 2018 published by Central Electricity Authority (CEA), Government of India

3.8 Eligibility Principles Assessment

- **Principle 1. Contribution to Climate Security & Sustainable Development**

The baseline scenario and the emission reduction calculations have been performed as per the PDD. The emission factor of grid, in the CDM PDD, has been calculated in-line with the provisions of applied methodology ACM 0002 version 19.0. The latest applicable version of "Tool to calculate the emission factor for an electricity system" is version 07.

The applicability criteria are now detailed out in the report as below:

> Applicability 1: Assessment team checked that the project activity is installation of a new grid connected Solar power plant/ unit at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield plant) and hence this criterion is applicable.
>
> Applicability 2: Assessment team checked that the proposed project activity is an installation of a new grid connected solar power plant/ unit and hence criteria under point (a) is met. The project does not involve any capacity additions, retrofits or replacements and therefore this criterion under point (b) is not applicable.

Applicability 3: Assessment team checked that the proposed project activity is an installation of a new grid connected solar power plant/ unit and not Hydro power plant, therefore this criterion is not applicable for this project activity.

Applicability 4: Assessment team checked that the proposed project activity is an installation of a new grid connected solar power plant/ unit and not Hydro power plant, therefore this criterion is not applicable for this project activity.

Applicability 5: Assessment team checked that the project activity is installation of a new grid connected solar power project/ unit and does not involve switching from fossil fuel to renewable energy, therefore criterion described in point (a) is not relevant to the project activity.

This is a solar power plant/ unit and not a biomass fired plant, therefore criterion described in point (b) is not applicable to the project activity

Applicability 6: Assessment team checked that the project activity is a new grid connected solar power plant/ unit and not a retrofits, replacement or capacity additions and therefore this criterion is not applicable to the project activity.

Applicability conditions of "Tool to calculate the emission factor for an electricity system"

- OM, BM and CM are estimated using the tool under section B.6.3 of the PDD for calculating baseline emissions.
- The project activity is grid connected and thus emission factor is calculated and thus OM, BM and CM are estimated using the tool under section B.6.3 of the PDD for calculating baseline emissions.
- The project activity is located in India, a non-Annex I country. Therefore, this criterion is not applicable for the project activity.
- The project activity is a grid connected Solar power project and not a hydro power plant. Therefore, this criterion is not applicable for the project activity.

Applus+ Certification confirms that the application of the baseline methodology is transparent and conservative and confirms that the chosen baseline and monitoring methodology i.e. ACM0002 version 19.0 is applicable to the project activity.

DOE also confirms that the project activity complies with the requirement of baseline determination in ACM0002 version 19.0, which is the latest applicable methodology available to the project participant. The project activity applies grid emission factor as per the latest available CEA database version 14 and the emission factor applied is 0.9368tCO_2/MWh. This calculated emission factor is conservative as per tool.

The National CDM Authority (NCDMA), which is the Designated National Authority (DNA) for the Government of India (GOI) under the Ministry of Environment, Forests & Climate Change (MoEF&CC), has mentioned four indicators for the sustainable development in the interim approval guidelines for Clean Development Mechanism (CDM) projects from

India[8]. Thus the project's contribution towards sustainable development has been addressed based on the following sustainable development aspects:

I. Social well-being:

The project activity provided / provides job opportunity to local people during erection, commissioning and maintenance of the solar panels. Frequency of visiting villages and nearby areas by skilled, technical and industrialist increase due to installation /site visit/operation and maintenance work related to Solar panels. This directly and indirectly positively effects the economy of villages and nearby area.

II. Economic well-being:

The CDM project activity generates permanent and temporary employment opportunity within the vicinity of the project. The electricity supply in the nearby area improves which directly and indirectly improves the economy and life style of the area.

III. Environmental well-being:

The solar power is one of the cleanest renewable energy powers and does not involve any fossil fuel. There are no GHG emissions. The impact on land, water, air and soil is negligible. Thus the project activity contributes to environmental well-being without causing any negative impact on the surrounding environment.

IV. Technological well-being:

The project activity is step forward in harnessing the untapped solar potential and further diffusion of the solar PV technology in the region. The project activity leads to the promotion of solar projects and demonstrates the success of solar PVs in the region which further motivate more investors to invest in solar power projects. Hence, the project activity leads to technological well-being.

Assessment team checked the technical parameters of the project equipment onsite and confirm that the details as mentioned in the GS4GG PDD, Ver. 05 dated 04/08/2020 are correct. The details are as below:

The project activity aims to harness solar energy through installation of PV with total installed capacity of 100 MWac (corresponding to 145 MWp). The solar PV power plant will have solar PV modules, inverters, transformers and other protection system and supporting components.

Technical Specifications at the time of commissioning:

A. Solar PV modules:

Module Make	Trina Solar
Module Model	Poly C-Si
Technology Used	Multi Crystalline
Capacity (p)	330Wp, 325 Wp
SwitchGear Panel	
Make	Technocraft

[8] https://cdm.unfccc.int/Projects/DB/PJR%20CDM1509426236.44/view

Capacity	11 Kv
Quantity	2 Nos
Serial No.	18102989 (04)_02/01

Number of Modules installed :

S. No.	Village	Number of Modules installed of each type
Juniper Green Energy Pvt. Ltd.		
1.	Dahiwad	325 Wp= 32310 Nos 330 Wp=11370 375 Wp= 633 Total: 44,313
2.	Yeola, Rajapur	325/330 Wp Total 44100
3.	Vahelgaon	325/330 Wp Total 44064 Nos.
Nisagra Renewable Energy Pvt. Ltd.		
4.	Indave	325 Wp= 11193 Nos 330 Wp= 33039 Nos Total: 44232
5.	Kasare	325 Wp= 11193 Nos 330 Wp= 33039 Nos Total: 44,232 Nos
6.	Mukti	325 Wp= 11370 Nos 330 Wp= 33030 Nos Total: 44,400 Nos
7.	Parola	325 Wp= 11193 Nos 330 Wp= 32391 Nos Total: 43,584 Nos
8.	Tembhe, Malegaon	325 & 330 Wp Total: 44232 Nos
9.	Tingri	325 & 330 Wp Total: 44232 Nos
10.	Varul	325 Wp= 11160 Nos 330 Wp= 32904 Nos Total: 44064 Nos.

B. Inverters:

S.No.	Make	
1.	Manufacturer	Huawei
2.	Rated Capacity	160 KW
3.	No. of Inverters	63

C. Transformers

S.No.	Make	
1.	Manufacturer	Sudhir
2.	Type	ONAN Step up
3.	Capacity	5 MVA Each
4.	No. of Transformers	2
5.	Serial Numbers	SPL-949, SPL-951

D. Metering Equipment Details

S.No.	Make	Solar Plant End
1.	Manufacturer	Secure Make
2.	Type	ABT meters
3.	Accuracy Level	0.2s
4.	Total no of meter	3*2 =6

The solar PV modules have a useful life of 25 years as confirmed with technical specification provided by technology supplier.

Assessment team checked the latitude and longitude of the project activity using GPS meter and also cross checked from the Google earth and found the detail to be correct. The same is defined below:

The Projects will be located in various villages of Nashik, Jalgaon & Dhule districts in Maharashtra state of India. The unique identification for the implemented 100 MW of this project are as below:

Project Investors' Name	Capacity in MW	Village/Taluka	District		
Nisagra Renewable Energy Pvt. Ltd.	10 MW	Indave, Sindhkheda	Dhule	20° 19' 59.009" N	74° 40' 13.13" E
	10 MW	Varul, Shirpur	Dhule	21° 24' 25.565" N	74° 44' 15.691" E
	10 MW	Chhail, Sakri	Dhule	20° 53' 44.233" N	74° 16' 26.768" E
	10 MW	Mukti	Dhule	20° 52' 19.656" N	74° 56' 42.761" E
	10 MW	Bahirane, Baglan (Satana)	Nashik	20° 35' 56.762" N	74° 12' 7.588" E
	10 MW	Dahidi, Malegaon	Nashik	20° 42' 37.157" N	74° 33' 29.097" E
	10 MW	Vichkheda, Parola	Jalgaon	20° 53′ 60″ N	75° 5' 59.999" E
Juniper Green Energy Pvt. Ltd.	10 MW	Vahelgaon, Nandgaon	Nashik	20° 25' 23.7" N	74° 16' 49.7" E
	10 MW	Rajapur, Yeola	Nashik	20° 2' 58.1280" N	74° 29' 11.8248" E
	10 MW	Dahiwad, Deola	Nashik	20° 25' 12.110" N	74° 17' 59.999" E

Principle 2: Safeguarding Principles

The Safeguarding principles assessment is as below:

Safeguarding principles	**Assessment questions**	**Assessment of relevance to the project (Yes / potentially / no)**	**Justification of the Assessment team**	**Mitigation measure (if required)**
3.0 SOCIAL & ECONOMIC SAFEGUARDING PRINCIPLES AND REQUIREMENTS 3.1 Principle 1 – Human Rights	1. The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights.	No	The Project is not in conflict with the economic livelihood of the local community. The Project does not cause any human rights abuse and respects internationally proclaimed human rights issue. Further, the Project meets the local labour law requirements thus does not cause any human rights abuse. The India has ratified the United Nations Human Rights Rules and regulations. The	Not applicable

	2. The Project shall not discriminate with regards to participation and inclusion.		India ratified the same as per web link[9] given below The project adheres to the host country's commitment to: Universal Declaration of Human Rights (UDHR) International Covenant on Economic, Social and Cultural Rights, India Accession 10/04/79[10] International Covenant on Civil and Political Rights India Accession 10.04.79[11]	
3.2 Gender Equality and Women's Rights	The Project shall complete the following gender assessment questions in order to inform Requirements, below: 1. Is there a possibility that the Project might reduce or put at risk women's access to or control of resources, entitlements and benefits? 2. Is there a possibility that the Project can adversely affect men and women in marginalised or vulnerable	No	1. The project does not decrease women´s access to or control of resources. 2. No, there is no possibility of adverse effect.	Not applicable

9 http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?CountryID=79&Lang=EN

10 http://hrlibrary.umn.edu/research/ratification-india.html and http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?CountryID=79&Lang=EN

11 http://hrlibrary.umn.edu/research/ratification-india.html and http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?CountryID=79&Lang=EN

	communities (e.g., potential increased burden on women or social isolation of men)? 3. Is there a possibility that the Project might not take into account gender roles and the abilities of women or men to participate in the decisions/designs of the project's activities (such as lack of time, child care duties, low literacy or educational levels, or societal discrimination)? 4. Does the Project take into account gender roles and the abilities of women or men to benefit from the Project's activities (e.g., Does the project criteria ensure that it includes minority groups or landless peoples)? 5. Does the Project design contribute to an increase in women's workload that adds to their care responsibilities		3. No, the Project does not consider gender roles and in fact actively engages both women and men. Community meetings are scheduled considering participation by both Men and Women. 4. The project does not discriminate on basis of gender, caste or religion. 5. No the Project was not designed to increase women´s workload nor add care responsibilities.	

	or that prevents them from engaging in other activities?			
	6. Would the Project potentially reproduce or further deepen discrimination against women based on gender, for instance, regarding their full participation in design and implementation or access to opportunities and benefits?		6. There is no place for discrimination against women in this Project. The project does nto discriminate on basis of gender, caste or religion.	
	7. Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and priorities of women and men in accessing and managing environmental goods and services?		7. The Project will not limit women´s ability regarding natural resources. The project being solar power project thus does not have any major impact on natural resources of the region.	
	8. Is there a likelihood that the proposed Project would expose women and girls to further risks or hazards?		8. No the Project will not expose women and girls to further risks or hazards.	
	The Project shall not directly or indirectly lead to/contribute to adverse impacts on		The project proponent has a grievance cell which look into complaints. Verification team checked the grievance	

	gender equality and/or the situation of women. 1. Sexual harassment and/or any forms of violence against women - address the multiple risks of gender-based violence, including sexual exploitation or human trafficking. 2. Slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls. 3. Restriction of women's rights or access to resources (natural or economic). 4. Recognise women's ownership rights regardless of marital status - adopt project measures where possible to support women's access to inherit and own land, homes, and other assets or natural resources. Projects shall apply the principles of nondiscrimination,		register and found that no grievance recorded so far. 1. There is no such risk for the project. Participation in the project is 100% voluntary. The project proponent has a grievance cell which would look into complaints. 2. The project does not involve in slavery, imprisonment or coercion of women and girls. 3. The Project will not restrict women´s rights or access regarding natural resources. The project proponent does not discriminate on gender, caste, religion etc. 4. Marital status is completely irrelevant to the Project. The project proponent does not discriminate on gender, caste, religion etc. Yes, the Project has equal opportunity for women and men to contribute both in volunteer and working positions	

	equal treatment, and equal pay for equal work, specifically: 1. Where appropriate for the implementation of a Project, paid, volunteer work or community contributions will be organised to provide the conditions for equitable participation of men and women in the identified tasks/activities. 2. Introduce conditions that ensure the participation of women or men in Project activities and benefits based on pregnancy, maternity/paternity leave, or marital status. 3. Ensure that these conditions do not limit the access of women or men, as the case may be, to Project participation and benefits.		1. The project proponent has a stipulated CSR policy, Appointment Policy, Domestic travel policy, Leave Policy and Timekeeping/ Attendance Policy that takes into account participation by both men and women. Further, the CSR projects designed are implemented for equal participation of both men and women. 2. There is no limit on the access to Project participation and benefits from either of these conditions. 3. There are no such conditions that limit the access of women or men for participation.	
	The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks.		The project is aligned to India's strategy for elimination of all discrimination. India ratified the International Convention on the Elimination of All Forms of Racial Discrimination on	

			03/12/1968 with certain reservation[12].	
3.3 Principle 3 – Community Health, Safety and Working Conditions	1. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community.	No	The project is renewable energy technology (solar Technology) and does not have exposure to increased health risks and shall not adversely affect the health of the workers and the community. Necessary health and safety measures are taken during construction and operation phase, relevant staff will be trained to be able to work with high voltages.	Not applicable
3.4 Principle 4 – Cultural Heritage, Indigenous Peoples, Displacement and Resettlement 3.4.1 Sites of Cultural and Historical Heritage	Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g., knowledge, innovations, or practices)?	No	No cultural heritage is observed on the project site, thus no harm observed. Compliance with India's commitment to International Covenant on Economic, Social and Cultural Rights 10.04.79 will ensure no damage to critical cultural heritage.	Not applicable
3.4.2 Forced Eviction and Displacement	Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	The project has received the necessary approvals from the local authorities and does not lead to any resettlement. India (the Ministry of Rural development have the "The National Rehabilitation and Resettlement Policy, 2007 http://www.dolr.nic.in/nrrp2007.pdf The project activity does not have any major impact on	Not applicable

12 http://nhrc.nic.in/documents/india_ratification_status.pdf

			land use patterns. In accordance with Article 1 of the International Covenant on economic, Social and Cultural Rights the program does not complicit in involuntary resettlement. No Expropriation has been conducted on any private land involved in project activity. Land has been purchased by PP directly from the owner of the land through direct negotiation of commercial terms. There has not been involvement of any government agency in the acquiring the land. The land is acquired on mutual consent between private land owner and PP, thus there are no any issues of dissatisfaction of private land owner.	
3.4.3 Land Tenure and Other Rights	1. Does the Project require any change to land tenure arrangements and/or other rights? 2. For Projects involving land-use tenure, are there any uncertainties with regards land tenure, access rights, usage rights or land ownership? Examples include, but are not limited to water access rights, community-	No	The project has received the necessary approvals from the local authorities and does not lead to any resettlement. There are no any uncertainties with regards land tenure, access rights, usage rights or land ownership. Thus land tenure and other rights are with PPs.	Not applicable

	based property rights and customary rights.			
3.4.4 Indigenous Peoples	Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples	No	The project is located at site where there are no any peoples residing. The project is located at barren land.	Not applicable
3.5 Principle 5 – Corruption	(a) Does not recognise Projects that engage in, contribute to or reinforce corruption of any kind.	No	The project is renewable energy technology (solar PV Technology) and does not contribute to or reinforce corruption of any kind. Indulgence in corruption is an illegal activity in the host country and the local labor compliance takes into account of the same. The project abides by the United Nations Convention Against Corruption. India ratification 09.05.11[13]	Not applicable
3.6 Principle 6 – Economic Impacts 3.6.1 Labour Rights	**1.** The Project Developer shall ensure that there is no forced labour and that all employment is in compliance with national labour and occupational health and safety laws, with obligations under international law,	No	Forced labor is an illegal activity in the host country and the local labor compliance takes into account of the same. Further, India is a party to ILO and forced labour is illegal in India. The project does not employ any form of forced or compulsory labour. Employees can quit their	Not applicable

[13] http://www.unodc.org/unodc/en/treaties/CAC/signatories.html

	and consistency with the principles and standards embodied in the International Labour Organization (ILO) fundamental conventions. Where these are contradictory and a breach of one or other cannot be avoided, then guidance shall be sought from Gold Standard. 2. Workers shall be able to establish and join labour organisations. 3. Working agreements with all individual workers shall be documented and implemented. These shall at minimum comprise: (a) Working hours (must not exceed 48 hours per week on a regular basis), AND		Services at any time. The project complies with the Factories Act in India that prohibits forced or compulsory labour [14]. The project activity does not involve any child labour. The project respects fundamental right of employee. There is law in India since 1926 by The Trade Unions Act, 1926 15 which protects rights of industrial trade unions and their members. The agreements are in place for permanent employees The project prefers the local employment and culture is maintained at project site. The country has strict prohibition for child labour16. Thus project does not involve child labour during construction and operation of project activity. The project follows the health, safety and environment guidelines at project site. The project ensures the use of appropriate equipment,	

[14] http://www.ilo.org/dyn/natlex/docs/WEBTEXT/32063/64873/E87IND01.htm
[15] http://ncw.nic.in/acts/TheTradeUnionsAct1926.pdf
[16] http://www.indianchild.com/child_labour_law_in_india.htm

	(b) Duties and tasks, AND (c) Remuneration (must include provision for payment of overtime), AND (d) Modalities on health insurance, AND (e) Modalities on termination of the contract with provision for voluntary resignation by employee, AND (f) Provision for annual leave of not less than 10 days per year, not including sick and casual leave. 4. The Project Developer shall justify that the employment model applied is locally and culturally appropriate. 5. Child labour, as defined by the ILO Minimum Age Convention is not allowed. The Project Developer shall use adequate and verifiable mechanisms for age verification in		training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures.	

	recruitment procedures. Exceptions are children for work on their families' property as long as: (a) Their compulsory schooling (minimum of 6 schooling years) is not hindered, AND (b) The tasks they perform do not harm their physical and mental development, AND (c) The opinions and recommendations of an Expert Stakeholder shall be sought and demonstrated as being included in the Project design. 6. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and			

	response measures.			
3.6.2 Negative Economic Consequences	Is project involves Negative Economic Consequences 1. The Project Developer shall demonstrate the financial sustainability of the Projects implemented, also including those that will occur beyond the Project Certification period. 2. The Projects shall consider economic impacts and demonstrate a consideration of potential risks to the local economy and how these have been taken into account in Project design, implementation, and operation and after the Project. Particular focus shall be given to vulnerable and marginalised social groups in targeted communities and that benefits are socially-inclusive and sustainable.	No	No potential risks to the local economy. The financial sustainability of the Projects implemented, also including those that will occur beyond the Project Certification period. The financial sustainability is demonstrated in registered PDD and these calculations are for entire lifetime of project activity. The project does not involve any negative impacts and no any potential risk to local economy.	Not applicable
4.1.1 Emissions	Will the Project increase greenhouse gas	No	The project is renewable energy technology (Solar Technology) and does not lead any increase in	Not applicable

	emissions over the Baseline Scenario?		greenhouse gas emissions over the Baseline Scenario.	
4.1.2 Energy Supply	Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	The project activity supplies energy to national grid and project activity displaces equivalent quantity of electricity which would have been generated by fossil fuel dominated grid connected power plants.	Not applicable
4.2.1 Impact on natural water patterns and flow	Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	No	The project is renewable energy technology (solar Technology) and does not affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s).	Not applicable
4.2.2 Erosion and/or water body stability	1. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? If 'Yes' or 'Potentially' proceed to question 2. 2. Is the Project's area of influence susceptible to excessive erosion	No	The project is renewable energy technology (solar Technology) and does not affect Erosion and/or water body stability.	Not applicable

	and/or water body instability?			
4.3.1 Landscape modification and soil	Does the Project involve the use of land and soil for production of crops or other products?	No	The project proponent has implemented Environment Health Safety and Social guideline which takes into account the same. The project activity involves barren land and does not involve use of land and soil for production of crops or other products. The project does not involve any landscape modification or soil. Hence there is no any impact of this principle.	Not applicable
4.3.2 Vulnerability to Natural Disaster	Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	The project is renewable energy technology (Solar PV Technology). The Project will not be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions. Thus this section is Not Applicable.	Not Applicable
4.3.3 Genetic Resources	Could the Project be negatively impacted by the use of genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development)?	No	The project is renewable energy technology (Solar Technology). The Project not be negatively impacted by the use of genetically modified organisms or GMOs. Thus this section is Not Applicable	Not Applicable

4.3.4 Release of pollutants	Could the Project potentially result in the release of pollutants to the environment?	No	The project has received environmental clearance from the State Pollution control Board. Further the EHSS guidelines takes into account the same. The project does not lead to release of any hazardous substances that pose threat to the environment. Rather it aims at reducing the air pollution that is prevalent due to use of fossil fuel power plants. The project promotes environmental protection through the use of cleaner technology. The project abides by the stipulations of the Indian Environment Protection Act 1986[17] .	Not applicable
4.3.5 Hazardous and Non-hazardous Waste	Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	The project is renewable energy technology (solar Technology). The project does not involve generation of Hazardous and Non-hazardous Waste. Standard procedure is followed at site during operation and maintenance.	Not Applicable
4.3.6 Pesticides and fertilizers	Will the Project involve the application of pesticides and/or fertilisers?	No	The project is renewable energy technology (solar Technology) power generation. There is no any involvement of pesticides and/or fertilisers. Thus this principle is Not Applicable.	Not Applicable

[17] http://envfor.nic.in/legis/env/env1.html

LGAI Technological Center, S.A.
Campus UAB – Ronda de la Font del Carme, s/n
08193 Bellaterra – Barcelona
(Spain)
Tel.:+34 93 567 20 08
Fax.:+34 93 567 20 01
www.appluscertification.com

4.3.7 Harvesting of forests	Will the Project involve the harvesting of forests?	No	The project is renewable energy technology (solar Technology) power generation. The project activity does not involve any harvesting of forests. Thus this principle is Not Applicable.	Not Applicable
4.3.8 Food	Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	The project is renewable energy technology (solar Technology) power generation. The Project does not modify the quantity or nutritional quality of food available. Thus this principle is Not Applicable	Not Applicable
4.3.9 Animal Husbandry	Will the Project involve animal husbandry?	No	The project is renewable energy technology solar PV Technology) power generation. The Project does not involve animal husbandry. Thus Not Applicable	Not Applicable
4.3.10 High Conservation Value Areas and Critical Habitats	Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No	No cultural heritage is observed on the project site, thus no harm observed. Compliance with India's commitment to International Covenant on Economic, Social and Cultural Rights 10.04.79 will ensure no damage to critical cultural heritage.	Not Applicable
4.3.11 Endangered Species	1. Are there any endangered species identified as potentially being present	No	There are no any endangered species identified at project site and also no species have the	Not Applicable

	within the Project boundary (including those that may route through the area)? 2. Does the Project potentially impact other areas where endangered species may be present through trans boundary affects?		route through area. The project activity does not impact other endangered species through trans boundary affects.	

The safeguarding principles relevant to the project activity are justified by PP based on supporting web links, references wherever applicable.

Also the report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013 is submitted to DOE. This report clearly mentioned that Solar PV operations do not result in direct air pollution, noise pollution. Please refer below web link for the same.

http://mnre.gov.in/file-manager/UserFiles/report-on-developmental-impacts-of-RE.pdf

These safeguarding principles assessment is validated through references given by PP, MNRE report as mentioned above and based on site visit observations and interview during the site visit.

The SDG goals are also described below:

SDG Goal	Assessment of Methodological choices/approaches for estimating the SDG outcome
SDG 7 –Affordable and Clean Energy: Ensure access to affordable, reliable, sustainable and modern energy for all	**Measurement Method:** - Electricity produced and supplied to the grid is monitored through energy meter. Net electricity will be calculated by state electricity board and O&M operator on monthly basis and provided in the share certificate/monthly report or equivalent. The other parameters used for net electricity supplied to grid are mentioned in monitoring plan. **QA/QC Process:** This parameter is monitored monthly and value of parameter will be cross checked with invoices. The meters will be calibrated on regular frequency. **Relevant SDG Target:** 7.2 -By 2030, increase substantially the share of renewable energy in the global energy mix. **Corresponding indicator:** Electricity produced and supplied to the grid. (7.2.1 Renewable energy share in the total final energy consumption)
SDG 8 – Decent Work and Economic Growth: Promote inclusive and sustainable economic growth, employment and decent work for all 1. **Quantitative employment and income generation** 2. **Quality of employment**	**1. Quantitative employment and income generation** **2. Quality of employment** **Measurement Method:** - Together with the technology supplier, the Project organise training for the staff on the technology and the monitoring of the plant operation, and the emergency and safety procedures. **QA/QC Process:** The number of persons employed would be mentioned in the plant register, which can be crossed checked with daily attendance register, employee records, salary slips of employee or letter from O&M contractor for number of peoples employed. **Relevant SDG Target:** 8.5 - By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value **Corresponding indicator:** 1. No. of trainings provided to the employees (1 training will be provided/year) 2. Employment generated due to project activity (67 persons) (8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training)

SDG 13 – Climate Action : Take urgent action to combat climate change and its impacts	**Measurement Method:** - The emission reduction parameter is calculated as product of net electricity supplied to grid and grid emission factor. The grid emission factor is ex-ante parameter and determined based on data obtained from "CO_2 Baseline Database for Indian Power Sector" version 14, published by the Central Electricity Authority, Ministry of Power, and Government of India. This is in line with "Tool to calculate the emission factor for an electricity system, version 7". The emission reductions are calculated as per registered PDD and as per methodology requirement. **QA/QC Process:** This parameter is calculated, and no any QA/QC procedure required. **Relevant SDG Target:** 13.2: Integrate climate change measures into national policies, strategies and planning **Corresponding indicator:** Emission reductions in tCO_{2e} from the project activity.

- **Principle 3: Stakeholder Inclusivity**

As per the CDM/GS requirements, it is necessary to invite the relevant stakeholders, before the validation process starts. The stakeholder consultation meeting took place between 31/01/2019 to 01/02/2019. All the stakeholders have been invited through public notice to attend the stakeholders meeting. The local stakeholders' consultation meeting was attended by local persons including local villagers, local vendors and technology suppliers.

The stakeholders identified by the project participant were local villagers who are the major population of the particular area, local communities and gram panchayat (Village head), Solar PV EPC Contractor, project proponent representatives, O&M Team and other people involved in the project. Validation team verified the list of participants who attended the stakeholder meeting and feedback questionnaire and confirms the stakeholders identified are relevant. Validation team verified the list of participants who attended the stakeholder meeting and feedback questionnaire and confirms the stakeholders identified are relevant. The validation team also verified the minutes of meeting to note that no negative comments were received and the same was cross checked with the information obtained during follow up interviews with the stakeholders.

Thus, Validation team is of the opinion that the stakeholder meeting was adequate and appropriate.

The project activity is a GS VER project and therefore PP was required to conduct a Stakeholder Feedback Round (SFR) covering the issues (if any) related to the project activity. An email dated 30/12/2019 was sent to all the stakeholder and comment are envisaged from 28/01/2020 to 25/02/2020. The sample of the emails is also submitted to the DOE. The email attachment is also checked by the assessment team and found correct. Following observations are made by the DOE:

- Different representative of stakeholders like local villagers, head of panchayat, NGOs, PP employees were invited for their comments via emails during stakeholder's feedback round
- No negative comments were received during the period starting from 28/01/2020 to 25/02/2020 and local stakeholders were very satisfied with the project activity implementation and operation in their area.

Assessment team asked following queries to the stakeholders during the validation site visit and concludes that stakeholders are overall happy with the implementation of the project activity.

Some of the questions asked to the stakeholders mentioned in section above of this report are reported below:

<table>
<tr><td>Name of the stakeholder</td><td>Mr. Laxman Wagh</td></tr>
<tr><td>Occupation</td><td>Villager</td></tr>
<tr><td colspan="2">DOE QUESTION: Did this Solar PV power plant cause any pollution?
Answer: No, the plant does not cause any pollution.
DOE QUESTION: Did PP promised employment opportunity?
Answer: Yes, PP told us that employment will be generated and the locals will be given priority.
DOE also like to conclude that during the site visit it was observed that local people were employed for security and operation related work like water spraying, vegetation improvement and other unskilled work. DOE also found that skilled local persons were also employed by the organization for the operation and maintenance of the power plant.</td></tr>
<tr><td>Name of the stakeholder</td><td>Mr. Sudhakar Patil</td></tr>
<tr><td>Occupation</td><td>Villager</td></tr>
<tr><td colspan="2">DOE questions: Did the power plant discharge any harmful pollutants?
Answer: NO the plant does not discharge any harmful pollutants.
DOE questions: Did the power plant destroy any crop fields?
Answer: The plant is implemented in barren land and there were no any fertile land or crop which is damaged.
DOE thus conclude that stakeholders are happy with the implementation of the project activity.</td></tr>
</table>

Principle 4: Demonstration of real outcomes

The Sustainable monitoring plan is described below:

SDG Parameter	Indicator	Monitoring
SDG 7 : Affordable and Clean Energy	Quantity of net electricity generation supplied by the project plant/unit for captive purpose in year y in MWh	The available parameter to Project owner is net electricity supplied to grid and same is mentioned as monitoring parameter. The net electricity generation is calculated based on Export, import to the meters connected at the sub-station. The calculation of net electricity generation is in the hand of state electricity board and PP has no role to play in the same. At the end of each billing month a Generation statement provided by State utility is created which mentions the value of export and import by individual PP and thus the same is used as primary source of data for emission reduction. The Net electricity is thus calculated based on the values of export and import for the particular billing month. Quantity of net electricity supplied to the grid will be cross checked from the invoices raised by the project proponent to the State Electricity Board. The energy meters used are tri-vector meters which are of accuracy class 0.2. The meters are monitored continuously & cumulative readings are taken at the end of the month by joint meter reading procedure.

		These are sealed by State Electricity board to avoid malfunctioning with meter readings. The officials frequently check the meters for tampering and malfunctioning with the meters. Meter is calibrated once in 5 years by the authority in the presence of O&M Contractor / investors representatives and State Electricity board officials to ensure the working of meter within permissible limits. The calculation of net electricity supplied to grid is under purview of state electricity board and Project owner do not have control on it. The onsite practice is thus acceptable to the assessment team as the same is as per the requirement of the approved methodology.
SDG 8 : Decent Work and Economic Growth	Quantitative employment and income generation	Project participant have Documentation pertaining to employment, attendance register and documentary details of training/capacity building. Assessment team also checked the salary slips and confirms that due to project activity peoples are getting more than minimum wages as a salary and this salary is better than local level salary. Based on the roles and responsibility of employee, the salary will be higher than the minimum salary of the region and hence the

		parameter monitoring is acceptable to the assessment team.
SDG 8 : Decent Work and Economic Growth	Quality of employment	The training records are maintained on regular basis with annual consolidation. Assessment team checked onsite that at least more than 67(56 local employees) people are expected to be employed at site during crediting period. The employment opportunities generated are local or temporary or permanent as checked and confirmed by the assessment team. The training related to O&M, Safety, emergency procedure, fire safety etc. are provided to employees. Since local people are employed due to project activity, the training given to employees improves the quality of employment. Apart from these training to employees, the PP organizes few events which will be beneficial to society as a part corporate social responsibility (CSR) activities as per their policy. As the parameter is subjected to monitoring the same will be checked during the verification of the project activity. It will be ensured that safe working condition and safety equipment's has

		been provided for all skilled and unskilled Labour. It will be checked during verification through site visit observations and interview with people if noise level is maintained within permissible limit. Safety equipment to be provided to workers both skilled and unskilled will be checked during the verification of the project activity. Assessment team however checked the same is already provided to the workers as part of companies CSR (EHS) policy
SDG 13: Climate Action	Emission Reductions	The emission reduction calculation will be done as per the formula mentioned in the GS4GG PDD. As the parameter is subjected to monitoring the same will be checked during the verification of the project activity.
Safeguarding principle 4.3.5	Hazardous and non-hazardous waste	Quantity of any hazardous waste generated will be recorded in plant record and will be dispatched to authorized waste handlers in line with the host country regulations. During site visit, VVB confirmed during interview with site manager that generation of hazardous waste will be maintained at site will be reported for

		every monitoring period if applicable.

Transmission line effect: The project activity is exporting the generated electricity to grid. The EPC contractor and state electricity board is responsible for the construction of transmission line. They are following safety guidelines while construction of transmission lines. The project proponent do not have any role in the construction of transmission lines. The standard procedure are followed at site while commissioning the transmission lines

- **Principle 5: Financial Additionality & Ongoing Financial Need**

During conceptualization of the project activity, board of directors of the project proponents considered the CDM/GS revenue to improve the project financials. During the board meeting dated 01/10/2018 for board of Directors decided that they would consider going ahead for the project activity. In continuation to the board decision, PP issued the respective purchase order for the supply of solar panels.

The start date of the project activity is 10/07/2019 (earliest date when the EPC contracts signed with technology supplier for erection and commissioning of project) and the listing date is 30/07/2019, within 1 year of start date. The first submission of project activity to GS is within one year of start date, thus project activity qualifies as retroactive GSVER project activity. Thus prior consideration of carbon revenue for current project activity is checked by the assessment team and found correct.

In the above background Validation Team concludes that the additionality justification regarding the serious CDM consideration given by the project developer is in accordance with the requirements derived from CDM Validation and Verification Standard version 02.0 for the project activity.

PDD mentioned that the project would not be economically or financially feasible without the revenue from the sale of carbon revenue. The claim of the project developer has been assessed by the Validation Team through the following steps as per the requirement of "Tool for the demonstration and assessment of additionality", Version 07.0.0:

Step 0: Demonstration whether the proposed project activity is the first-of-its-kind

The proposed project activity is not the first-of-its-kind. Hence not applicable.

Step 1: Identification of alternatives to the project activity consistent with current laws and regulations

Sub-step 1a: Define alternatives to the project activity:

Identify realistic and credible alternative(s) available to the project participants or similar project developers that provide outputs or services comparable with the proposed GS4GG project activity.

The purpose of the project activity is to generate electrical power using solar energy and feed the electricity generated to the grid. Hence, the following alternatives are considered:

LGAI Technological Center, S.A.
Campus UAB – Ronda de la Font del Carme, s/n
08193 Bellaterra – Barcelona
(Spain)
Tel.:+34 93 567 20 08
Fax.:+34 93 567 20 01
www.appluscertification.com

Alternative 1: The proposed project activity without GS benefit;

Alternative 2: Continuation of the current situation, i.e., electricity will continue to be generated by the existing generation mix operating in the grid

Having regard to the fact that the project activity under consideration is a solar power project, validation team is convinced that there are no other realistic and credible alternatives. Both the alternatives are in compliance with all applicable legal and regulatory requirements as;

- the implementation of project activity is a voluntary initiative and is not mandatory or a legal requirement;
- the applicable environmental regulations do not restrict the use of solar energy; and
- There is no legal requirement on the choice of a particular technology.

Assessment team noted that the project fulfils the norms put down by Central pollution control board norms. As per Central Pollution Control Board (Ministry of Environment & Forests, Govt. of India), final document on revised classification of Industrial Sectors under Red, Orange, Green and White Categories (February 29, 2016).

Being a renewable power project, it falls under the category of White and thus this project do not need clearance for Consent to operate and only needs to inform the relative State pollution control board. The same is done for the project and thus it can be confirmed that it follows the local laws of the host country.

However, of the two alternatives identified, alternative (i) cannot be considered realistic as further analysis in the following paragraph reveals that it is not economically feasible option. Hence, alternative (ii) alone could be justified as realistic, credible and plausible alternative to the PP.

Validation team is, therefore, convinced that the project developer has taken into consideration all realistic and credible alternatives (having regard to the governing methodologies) including the project being undertaken as a non-GS activity and continuation of current scenario. The identification of alternatives is in conformity with the guidance given by the tool.

Outcome of Sub-step 1a: All the realistic alternatives for the project activity have been enlisted above.

Sub-step 1b: Consistency with mandatory laws and regulations:

The alternative(s) shall be in compliance with all applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution. (This sub-step does not consider national and local policies that do not have legally-binding status.)

Both the alternatives are in compliance with all applicable legal and regulatory requirements as;

- the implementation of project activity is a voluntary initiative and is not mandatory or a legal requirement;
- the applicable environmental regulations do not restrict the use of solar energy; and
- There is no legal requirement on the choice of a particular technology.

Moreover, Outcome of Sub-step 1b: Hence, both the alternatives enlisted above are found to comply with the mandatory laws and regulations taking into account the enforcement of the legislations in the region or country and EB decisions on national and/or sectoral policies and regulations. However, Alternative 2 has been selected as the appropriate baseline alternative for this project activity.

Step 2: Investment analysis

Determine whether the proposed project activity is economically or financially less attractive than at least one other alternative, identified in step 1, without the revenue from the sale of emission reductions credits. To conduct the investment analysis, use the following sub-steps:

Sub-step 2a: Determine appropriate analysis method and Sub-step 2b (Option III): Apply benchmark analysis

a) Suitability of investment analysis, financial indicator and benchmark:

Project developer had demonstrated that the financial returns of the proposed GS4GG project activity would be insufficient to justify the required capital investment as per CDM Validation and Verification Standard version 02.0 for the project activity. In the Initial PD version 01 PP has adopted a conservative approach to identify the benchmark for the project activity. The project is earning revenue from the installation of the project activity. Thus simple cost analysis (Option I) is not appropriate. Also in the absence of the project activity grid electricity would have been the obvious choice for the Project which requires no investment. Hence investment comparison analysis (Option II) is also not appropriate for the project activity. Therefore, benchmark analysis (Option III) is used for the project activity as per project type and decision-making context. Therefore, the Expected return on equity is considered appropriate benchmark. Accordingly, the post-tax Equity IRR has been considered as the relevant financial indicator for the project activity which is acceptable to the assessment team. Moreover, the financial indicator selected by the PP is correct based on the fact that tool do not restrict the PP to either use project IRR or Equity IRR. This is under the prerogative of the PP to select appropriate indicator based on his preferences to know the IRR based on his equity investment or debt investment. The same is this acceptable to the assessment team. Assessment team however checked the Equity IRR calculation and thus found that input assumptions used for the calculation of Equity IRR is applicable at the time of investment decision of the project and thus is in accordance with the relevant guideline of the tool.

DoE checked that a. the time of decision made of project activity, Version 07 of methodological tool "Investment Analysis" (version 7) were the latest available tools to the PP. PP has used Methodological Tool for Investment Analysis version 09 (EB 101, Annex 11). The default value as mentioned in the EB 97, Annex. 08 it was 10.73% for group 1 project in India which was available at the time of investment decision. However, Request for registration under version 8 was to be submitted until 26 July 2019. Hence, version 09 is used which is appropriate and more conservative for benchmark calculation and PP has considered the same tool for default value of return on equity for the respective SPVs. The default value of Return on Equity for Group-1 projects in India is 9.79 % as per EB 101, Annex 11[18].

Default Value Benchmark

The cost of equity is determined by selecting the values provided in the Appendix, i.e. Default values for cost of equity (expected return on equity) is presented below:

[18] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v9.0.pdf

Appendix A in EB 101, Annex 11 specifies default value of expected return on equity in real terms for Energy Industries (Group 1) in India = 9.79%

The Required return on equity (benchmark) was computed in the following manner:

Nominal Benchmark[19] = {(1+Real Benchmark)*(1+Inflation rate)}-1

Where:

- Default value for Real Benchmark = 9.79%

- Inflation Rate forecast for by Reserve Bank of India (RBI) (i.e. Central Bank of India) for India & in case where RBI Inflation forecast was not available Average Inflation rate forecast for India has been sourced from IMF web site.

Benchmark estimation

The Cost of Equity has been considered using the "Methodological tool: Investment analysis" available at the time of decision making as well as the latest available value. As a conservative approach, the minimum value of benchmark has been considered as calculated using these 2 approaches.

Appendix A in EB 101, Annex 11 specifies default value of expected return on equity in real terms for Energy Industries (Group 1) in India = 9.79%

Inflation Forecast for India as per RBI website[20]:

Project Investor	Inflation Forecast WPI Median value from RBI	Benchmark
Juniper Green Energy Pvt. Ltd.	4.50 %	14.73%
Nisagra Renewable Energy Pvt. Ltd.	4.50 %	14.73%

Even at actual parameters the Equity IRR is still below the benchmark:

<table>
<tr><td>Name of the parameter</td><td>DOE assessment</td></tr>
<tr><td>Project Cost</td><td>The Project cost has been considered from 3rd party DPR, and was available at the time decision made for the project activity.

IRR value as per the assumptions from the DPR is as below:
<table>
<tr><th>Name of the Investor/Owner/SPVs</th><th>Project Capacity (MW)</th><th>Project Cost (In Million)</th><th>IRR</th><th>Benchmark</th><th>Breaching Value</th><th>DPR Date</th></tr>
<tr><td>Juniper Green Energy Pvt Ltd</td><td>30 MW</td><td>1622.30</td><td>9.40%</td><td>14.73%</td><td>-17.59%</td><td>Sep-2018</td></tr>
<tr><td>Nisagra Renewable Energy Pvt Ltd</td><td>70 MW</td><td>3751.40</td><td>9.60%</td><td>14.73%</td><td>-16.83%</td><td>Sep-2018</td></tr>
</table></td></tr>
</table>

[19] As per Pg. 320 of Corporate Finance, Second Edition of Aswath Damodaran

[20] https://rbi.org.in/Scripts/PublicationsView.aspx?id=17759

<table>
<tr><td></td><td>
The assessment team also checked the respective state tariff orders and found that Project Cost considered to be appropriate.
The DOE has also checked the Actual Project Cost for each project and found that IRR values at the actual Project Cost is within threshold limit. Thus, the project activity is still additional with actual Project Cost Value.
<table>
<tr><th>Name of the Investor/Owner/SPVs</th><th>Project Capacity (MW)</th><th>Actual Project Cost (In Million)</th><th>IRR</th><th>Benchmark</th><th>Purchase Order Date</th></tr>
<tr><td>Juniper Green Energy Pvt Ltd</td><td>30 MW</td><td>1622.30</td><td>9.40%</td><td>14.73%</td><td>10/07/2019</td></tr>
<tr><td>Nisagra Renewable Energy Pvt Ltd</td><td>70 MW</td><td>3751.40</td><td>9.60%</td><td>14.73%</td><td>10/07/2019</td></tr>
</table>
Based on sectoral scope expert and local knowledge, the project cost considered as per DPR for the proposed project activity is found to be appropriate for projects. Also, since the Actual Project Cost is available to DOE and IRR is still within benchmark and thus the same is acceptable.
</td></tr>
<tr><td>O&M cost and Escalation in the operational expense =5(%)-Standard practice in India</td><td>
The O&M cost and its escalation has been considered from 3rd party DPR and was available at the time decision made for the project activity.
IRR value as per the assumptions from the 3rd party DPR is as below:
<table>
<tr><th>Name of the Investor/Owner/SPVs</th><th>Project Capacity (MW)</th><th>O&M (In Million)</th><th>IRR</th><th>Benchmark</th><th>Breaching Value</th><th>DPR Date</th></tr>
<tr><td>Juniper Green Energy Pvt Ltd</td><td>30 MW</td><td>13.50</td><td>9.40%</td><td>14.73%</td><td>-200.75%</td><td>Sep-2018</td></tr>
<tr><td>Nisagra Renewable Energy Pvt Ltd</td><td>70 MW</td><td>31.50</td><td>9.60%</td><td>14.73%</td><td>-190.48%</td><td>Sep-2018</td></tr>
</table>
The assessment team also checked the respective state tariff orders and found that O&M cost and its escalation considered for project is found to be appropriate.
</td></tr>
<tr><td>Tariff</td><td>
The Tariff rate has been considered from DPR which was available at the time decision made for the project activity.
IRR value as per the assumptions from the DPR is as below:
<table>
<tr><th>Name of the Investor/Owner/SPVs</th><th>Project Capacity (MW)</th><th>Tariff Rate</th><th>IRR</th><th>Benchmark</th><th>Breaching Value</th><th>DPR Date</th></tr>
<tr><td>Juniper Green Energy Pvt Ltd</td><td>30 MW</td><td>3.15</td><td>9.40%</td><td>14.73%</td><td>19.37%</td><td>Sep-2018</td></tr>
<tr><td>Nisagra Renewable Energy Pvt Ltd</td><td>70 MW</td><td>3.15</td><td>9.60%</td><td>14.73%</td><td>18.36%</td><td>Sep-2018</td></tr>
</table>
The DOE has cross checked the Power Purchase Agreement and found there are no changes in tariff rate and is within threshold limit. Thus, the project activity is additional with actual Tariff rate.
<table>
<tr><th>Name of the Investor/Owner/SPVs</th><th>Project Capacity (MW)</th><th>Tariff Rate as per PPA</th><th>IRR</th><th>Benchmark</th><th>PPA Date</th></tr>
</table>
</td></tr>
</table>

<table>
<tr>
<td></td>
<td>
<table>
<tr><td>Juniper Green Energy Pvt Ltd</td><td>30 MW</td><td>3.15</td><td>9.40%</td><td>14.73%</td><td>27-Dec-2018</td></tr>
<tr><td>Nisagra Renewable Energy Pvt Ltd</td><td>70 MW</td><td>3.15</td><td>9.60%</td><td>14.73%</td><td>27-Dec-2018</td></tr>
</table>
Since the Actual Tariff rate is available to DOE and IRR is still within benchmark thus the same is acceptable
</td>
</tr>
<tr>
<td>PLF</td>
<td>
The PLF has been taken from the 3rd party DPR which included PLF estimation which is in line with Para 3 (b) Annex 11, EB 48 and acceptable to the assessment team.
Validation team assessed the 3rd party DPR and found that PLF estimation value as per report has been used in the financials and the emission reduction calculation. PLF estimation value has been checked and found that PLF considered for the project activity in within the range of sensitivity analysis and found to be appropriate.
IRR for PLF value as per 3rd party report, Annex 11 EB 48
<table>
<tr><th>Name of the Investor/Owner/SPVs</th><th>Project Capacity (MW)</th><th>PLF (%)</th><th>IRR</th><th>Benchmark</th><th>Breaching Value</th><th>DPR Date</th></tr>
<tr><td>Juniper Green Energy Pvt Ltd</td><td>30 MW</td><td>27.75%</td><td>9.40%</td><td>14.73%</td><td>19.37%</td><td>Sep-2018</td></tr>
<tr><td>Nisagra Renewable Energy Pvt Ltd</td><td>70 MW</td><td>27.76%</td><td>9.60%</td><td>14.73%</td><td>18.36%</td><td>Sep-2018</td></tr>
</table>
Since the actual generation values for last 12 months of operation is not available, the assessment team also checked the respective state tariff orders and found that PLF considered for project is found to be appropriate.
</td>
</tr>
</table>

<table>
<tr><td>Tax Rates</td><td>
<table>
<tr><td>Income tax rate (%)</td><td>30.00%</td></tr>
<tr><td>MAT (Minimum Alternate tax) (%)</td><td>18.50%</td></tr>
<tr><td>Surcharge (%)</td><td>12.00%</td></tr>
<tr><td>Health and Education Cess (%)</td><td>4%</td></tr>
</table>
The above table shows the tax rate considered for individual project Owner and the same is found suitable.
Assessment team noted that the project developer has adopted book depreciation rates as per Schedule XIV of the Companies Act, 1956 for computing book profit and Income Tax Act 1961 stipulated for income tax calculation, which are in conformity with the accepted accounting principles adopted by the company and income tax laws in the host country i.e. INDIA. Tax liability has been calculated as per the income tax rules and the rulings given. In computing the income tax liability, the project developers have considered Tax holiday (u/s 80IA of the Income Tax Act, 1961). The tax rates assumed corresponds to the tax rate prevailing at the time of taking decision. Hence, these assumptions are appropriate during decision making context and thus acceptable to the assessment team.
No further assessment is required as the Values are directly procured from Income Tax Act, 1961 which is standard guideline for Tax value in India.
</td></tr>
</table>

Assessment team also confirmed the breaching values for individual parameters (=Individual project owners) and thus confirms that the project is still additional

Name of the Investor/Owner/SPVs	Project Capacity (MW)	Project Cost as per Offer	Actual Project Cost	Variation in Project Cost	Breaching Value
Juniper Green Energy Pvt Ltd	30 MW	1622.30	1622.30	0%	-17.59%
Nisagra Renewable Energy Pvt Ltd	70 MW	3751.40	3751.40	0%	-16.83%

Name of the Investor/Owner/SPVs	Project Capacity (MW)	O&M Cost as per DPR	Breaching Value
Juniper Green Energy Pvt Ltd	30 MW	13.50	-200.75%
Nisagra Renewable Energy Pvt Ltd	70 MW	31.50	-190.48%

Name of the Investor/Owner/SPVs	Project Capacity (MW)	Tariff Rate as per ERC	Actual Tariff Rate from Electricity Bill	Variation in Tariff Rate	Breaching Value
Juniper Green Energy Pvt Ltd	30 MW	3.15	3.15	0%	19.37%
Nisagra Renewable Energy Pvt Ltd	70 MW	3.15	3.15	0%	18.36%

Name of the Investor/Owner/SPVs	Project Capacity (MW)	PLF as per DPR	Breaching Value
Juniper Green Energy Pvt Ltd	30 MW	27.75%	19.37%
Nisagra Renewable Energy Pvt Ltd	70 MW	27.76%	18.36%

<u>Common Practice analysis:</u>

The common practice analysis is proved by following points as per the requirement of Methodological tool "Common Practice", version 03.1 EB84, Annex 721:

Applicable Geographical Area (Para 9): The Maharashtra state has been considered as the applicable geographical area for this project. PP had considered the state of Maharashtra as geographical area due to regulatory regime since applicable power tariff structure for renewable energy projects is unique for all the states across national boundary of India; which is based on Electricity Act 2003 (EA 2003), section 82 which clearly mentions "Every State Government shall, within six months from the appointed date, by notification, constitute for the purposes of this Act, a Commission for the State to be known as the (name of the State) Electricity Regulatory Commission" Appropriateness of the same has been checked and confirmed from EA 2003 (http://www.cercind.gov.in/08022007/Act-with-amendment.pdf/40/).

Furthermore, following significant points on the State specific policy & regulatory framework on the renewable energy projects with special emphasis to solar power projects have been validated:

Electricity Act 2003 (EA 2003) has changed the legal and regulatory framework for the renewable energy sector in India. The EA 2003 mandates policy formulation to promote renewable sources of energy by the federal government, the State governments and the State Electricity Regulatory Commissions (=SERCs) within their jurisdictions.

The Electricity Act 2003 introduced some enabling provisions conducive to accelerated development of grid connected renewable energy sources. Under Section 61(h), promotion of cogeneration and generation of electricity from renewable sources of energy has been made the explicit responsibility of SERCs, which are bound by law to take these considerations into account while drafting their terms and conditions for tariff regulations. Nearly all SERCs have issued their tariff regulations incorporating suitable clauses, which will enable them to provide a preferential treatment to renewable energy (RE) during the tariff determination process. The SERCs determine the tariff for all renewable energy projects across the States, and the state-owned power Distribution Companies (DISCOMs) ensure grid connectivity to the renewable energy project sites.

EA 2003 has initiated the adoption of the National Tariff Policy, 2006 as one of the key policies, National Tariff Policy (2006) framed under the Section 3 of the EA 2003. As per the excerpt from National Tariff Policy, 2006; pursuant to provisions of section 86(1)/ of the EA 2003, the Appropriate Commission shall fix a minimum percentage for purchase of energy from such sources taking into account availability of such resources in the region and its impact on retail tariffs. Such percentage for purchase of energy should be made applicable for the tariffs to be determined by the SERCs latest by 01/04/2006.

As mandated under section 86(1)(e) of the Electricity Act (2003), by 26/06/2012 SERCs had fixed quotas (in terms of % of electricity being handled by the power utility) to procure power from renewable energy sources. The mandate, which is called a Renewable Purchase Specification (RPS), varies from 0.5% to 14% in various states over varying time-scales. Few states have come out with technology specific RPSs. Besides, the state regulators determine the tariff for all RE projects in the states and ensure connectivity to the grid through extension of power evacuation from the RE project sites.

At present thirteen SERCs have declared preferential feed–in tariffs (FITs) for purchase of electricity generated from solar power projects established in respective states, which varies from state to state in India. All the SERCs have adopted a 'cost plus' methodology to fix the feed–in tariff, which varies across the states depending upon the state resources, project cost and more importantly the tariff regulations of SERCs. Solar power related tariff polices in different states also has difference in regulatory and policy incentives. Several states have implemented fiscal and financial incentives for renewable energy generation, including; energy buy back (i.e. a

[21]https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-24-v1.pdf

guarantee from an electricity company that they will buy the renewable power produced); preferential grid connection and transportation charges and electricity tax exemptions.

Therefore, the investment climate for the renewable energy projects varies from State to State within India due to state specific local policy & regulatory framework as outlined by the State Electricity Regulatory Commissions of the respective state. This difference in investment condition leads to essential distinction among solar energy projects between different States of the host country India.

Thus, the specific geographical area i.e. state of Maharashtra for the common practice analysis of the proposed project activity is considered and thus the same is acceptable to the assessment team.

Measure (Para 10): The project activity reduces greenhouse gas emissions by generating electricity using renewable energy source-solar. Therefore, the project activity falls under the following measure:

(b) Switch of technology with or without change of energy source including energy efficiency improvement as well as use of renewable energies.

Output (Para 11): The project activity produces electricity. Therefore, electricity is considered as output of the project activity.

Different Technologies (Para 12): The project activity uses solar energy for producing electricity and hence as per Para 12(a), the technologies which use energy source/ fuel other than solar will be considered as the different technologies for the project activity.

The step wise approach to provide common practice analysis as per the guideline is as follows:

Stepwise approach for common practice analysis has been carried out as per Methodological tool "Common Practice", version 03.1 EB84, Annex 7:

Step (1): Calculate applicable capacity or output range as +/-50% of the total design capacity or output of the proposed project activity.

Range	Capacity	Unit
+50%	150	MW
Capacity of the proposed project activity	100	MW
-50%	50	MW

Since the project activity is 100 MW, the output range of +/- 50% has been considered as 150 MW (Higher range for comparison) to 50 MW (Lower range for Comparison) which is assessed to be correct.

Step (2): Identify similar projects (both CDM and non-CDM) which fulfil all of the following conditions:

(a) The projects are located in the applicable geographical area;

(b) The projects apply the same measure as the proposed project activity;

(c) The projects use the same energy source/fuel and feedstock as the proposed project activity, if a technology switch measure is implemented by the proposed project activity;

(d) The plants in which the projects are implemented produce goods or services with comparable quality, properties and applications areas (e.g. clinker) as the proposed project plant;

(e) The capacity or output of the projects is within the applicable capacity or output range calculated in Step 1;

(f) The projects started commercial operation before the project design document (CDM-PDD) is published for global stakeholder consultation or before the start date of proposed project activity, whichever is earlier for the proposed project activity.

Identification of the similar projects (CDM and non-CDM) is carried out as per sub-steps of Step (2) as follows:

a) Assessment team noted that as the projects are located in Maharashtra state of India, therefore, projects in the geographical area of Maharashtra have been chosen for analysis. Each state have different policies regarding renewable energy, hence Maharashtra state is considered as geographical region for common practice analysis. The distinction from choosing the state to entire geographical boundary is already explained above in the report and thus the applied geographical area is acceptable to the assessment team.

b) Assessment team noted that the project activity is a green-field solar power project and uses measure (b) "Switch of technology with or without change of energy source including energy efficiency improvement as well as use of renewable energies". Therefore, projects applying same measure (b) are candidates for similar projects.

c) Assessment team confirms during the site visit that the energy source used by the project activity is solar. Hence, only solar energy projects have been considered for analysis.

d) Assessment team confirms during the site visit that the project activity produces electricity; therefore, all power plants that produce electricity are candidates for similar projects.

e) Since the project activity is 100 MW, the output range of +/- 50% has been considered as 150 MW (Higher range for comparison) to 50 MW (Lower range for Comparison) which is assessed to be correct

f) The start date of the project activity is **10/07/2019**. Therefore projects, which have started commercial operation before **10/07/2019**, have been considered for analysis. DoE checked the project status from State wise commissioning status of grid connected Solar Power Projects (As on 17/12/2019)- Mahaurja, publically available data for solar projects in Maharashtra till March 2019[22].
Numbers of Similar projects identified, which fulfil above-mentioned conditioned are

N_{solar}= 8

Step (3): Within the projects identified in Step 2, identify those that are neither registered CDM/GS project activities, project activities submitted for registration, nor project activities undergoing validation. Note their number N_{all}.

As per the requirement of step 3, CDM project activities, which have got registered or are under validation have been excluded in this step. After excluding the registered and under validation projects the total number of projects is 8. The source of check for the same is cdm.unfccc.int

N_{all} = 8

Step (4): Within similar projects identified in Step 3, identify those that apply technologies that are different to the technology applied in the proposed project activity. Note their number Ndiff.

As per the tool on Common Practice, the project activities have been separated from the different technologies on the basis two criteria:

1. Size of Installation – Since project activity is large scale project, small and micro scale projects are considered as different technology project. Based on this criteria, there are no any different technology project out of similar identified projects.

[22] https://www.mahaurja.com/meda/data/grid_solar_power/SPPCommissioned.pdf

2. Investment climate on the date of the investment decision – The solar projects developed under different phases and different batches of National Solar Mission (NSM) can considered as different technology projects. For proposed project activity, none of the project identified as different technology projects out of similar identified projects.

Hence, projects where either of the conditions is satisfied those projects are counted for calculating N_{diff} projects.

N_{diff} = 8

Step (5): Calculate factor $F=1-N_{diff}/N_{all}$ representing the share of similar projects (penetration rate of the measure/technology) using a measure/technology similar to the measure/technology used in the proposed project activity that deliver the same output or capacity as the proposed project activity.

Calculate $F=1-N_{diff}/N_{all}$

$F = 1-(8/8) = 0$

As per methodological tool "common practice" version 03.1, the proposed project activity is a "common practice" within a sector in the applicable geographical area if the factor F is greater than 0.2 and N_{all} - N_{diff} is greater than 3.

Thus if both conditions are fulfilled, then project activity will be a common practice otherwise, the project activity is treated as not a common practice.

Outcome of Common Practice analysis:

i. **F = 0; is less than 0.2**

ii. N_{all} - N_{diff} = 0; is not greater than 3

Hence, project activity is not a common practice.

Thus if both conditions are fulfilled, then project activity will be a common practice otherwise, the project activity is treated as not a common practice.

Thus, the proposed project activity is not a "common practice" within a sector in the applicable geographical area.

The above discussions show that solar power development is not a common practice and the project activity is not financially attractive; hence the project activity is additional. Thus common practice analysis is acceptable to assessment team.

3.9 Calculation algorithm and/or formula used to determine emission reductions

The GS4GG PDD of the project activity is checked by the assessment team and found that ACM 0002 version 19.0 is used which is latest methodology by UNFCCC. As the GS tool kit recommends the application of the latest version of the applied methodology along with the conservative argument of the approach followed. The latest version is ACM 0002 version 19 and DOE confirm that the project activity is in line with the latest methodology as well.

The formula used in the GS4GG PDD was used for the calculation of emission reduction and same is found to be correct. Hence emission reduction calculation at this time of validation is conservative and appropriate.

Assessment team checked that Formula used to calculate the net emission reduction for the project activity is

LGAI Technological Center, S.A.
Campus UAB – Ronda de la Font del Carme, s/n
08193 Bellaterra – Barcelona
(Spain)
Tel.:+34 93 567 20 08
Fax.:+34 93 567 20 01
www.appluscertification.com

$ER_Y = BE_Y – PE_Y$

Where,

ER_Y = Emission Reduction in tCO_2/year

BE_Y = Baseline emission in tCO_2/year

PE_Y = Project emissions in tCO_2/year

Baseline Emission (BE_Y)

The baseline emissions are the product of electrical energy baseline $EG_{PJ,y}$ expressed in MWh of electricity produced by the renewable generating unit multiplied by an emission factor.

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

Where,

$EG_{PJ,y}$ = Total quantity of net electricity delivered to the recipient facility

$EF_{grid,CM,y}$ = Baseline emission factor

= 0.9368 tCO_2/MWh

Plant Load Factor

The expected plant load factors for the project activity as determined by independent third party. The expected plant load factor for the project activity as determined by independent third party assessment (DPR) is 24 %. The plant load factor is applied in accordance with paragraph 3(b) of the "Guidelines for the reporting and validation of plant load factors" for ex-ante estimation of emission reductions. However, for the investment analysis, the PLF available the time of investment decision is applied.

ER calculation - Juniper Green Energy Pvt Ltd	
Project capacity	30.0
PLF	27.75%
Annual Generation (MWh)	72,927
Annual degradation from 2nd year onwards (%)	0.70%
Annual Emission Reductions	67,368

ER calculation - Nisagra Renewable Energy Pvt Ltd	
Project capacity	70.0
PLF	27.76%
Annual Generation (MWh)	170,224
Annual degradation from 2nd year onwards (%)	0.70%
Annual Emission Reductions	157,249

BE_y = 239,771 MWh * 0.9368 = 224,617 tCO_2/year (round down to nearest integer)

Since $ER_y = BE_y$ (As PE_y=0)

Therefore, ER_y = 224,617 tCO_2/year

LGAI Technological Center, S.A.
Campus UAB – Ronda de la Font del Carme, s/n
08193 Bellaterra – Barcelona
(Spain)
Tel.:+34 93 567 20 08
Fax.:+34 93 567 20 01
www.appluscertification.com

SDG 13 Climate Actions

Year	Baseline estimate	Project estimate	Net benefit
Year 1	227,784 tCO2	0 tCO2	227,784 tCO2
Year 2	226,190 tCO2	0 tCO2	226,190 tCO2
Year 3	224,606 tCO2	0 tCO2	224,606 tCO2
Year 4	223,034 tCO2	0 tCO2	223,034 tCO2
Year 5	221,473 tCO2	0 tCO2	221,473 tCO2
Total	1,123,087 tCO2	0 tCO2	1,123,087 tCO2
Total number of crediting years			
Annual average over the crediting period	224,617 tCO2	0 tCO2	224,617 tCO2

SDG 7: Affordable and Clean Energy

Year	Baseline estimate	Project estimate	Net benefit
Year 1	0 MWh	243,151 MWh	243,151 MWh
Year 2	0 MWh	241,449 MWh	241,449 MWh
Year 3	0 MWh	239,759 MWh	239,759 MWh
Year 4	0 MWh	238,081 MWh	238,081 MWh
Year 5	0 MWh	236,414 MWh	236,414 MWh
Total	0 MWh	1,198,855 MWh	1,198,855 MWh
Annual average over the crediting period	0 MWh	239,771 MWh	239,771 MWh

SDG 8: Decent Work and Economic Growth

The project leads to employment opportunities which would not have been possible in the baseline scenario. The project provides employment to at least 67 persons (56 local employee) as checked during the onsite visit. PP also intend to provide at least one training per year as confirmed during interview with PP representatives during site visit.

4. REFERENCE

S. No.	Document/Evidence/Reference/Web blink, Version, Date
1.	Initial GS4GG PDD, version 02 dated 12/09/2019 Final GS4GG PDD, version 03 dated 16/04/2020 based on which final opinion was provided.
2.	Minutes of Meeting for Local Stakeholders' Consultation
3.	Emission Reduction Sheet for the project activity dated 12/09/2019, Version 01 Revised Emission reduction sheet dated 19/02/2020, version 02
4.	Methodology: ACM 0002 version 19.0
5.	Standard: CDM Project Standard Version 02
6.	Standard: CDM Validation &Verification Standard Version 02
7.	Procedure: CDM Project Cycle Procedure Version 02
8.	Tools: • Tool to calculate the emission factor for an electricity system, Version 7.0
9.	GS4GG guideline
10.	Stakeholders consultation process in CDM-PDD
11.	Training Records of project staff at site
12.	Declaration for non-receiving of ODA for project
13.	Universal declaration of Human Rights http://mha.nic.in/Human_Rights_Division
14.	Ministry of Labor http://labour.gov.in/upload/uploadfiles/files/footergallery_pdf/List%20ofILO%20Conventions%20Ratified%20by%20India.pdf
15.	National Prevention of Corruption Act of Government of India http://www.persmin.gov.in/DOPT/EmployeesCorner/Acts_Rules/PCAct/pcact.pdf
16.	Ministry of Environment ,Forest & Climate Change- http://moef.nic.in/division/environment-
17.	Minutes of Meeting for Stakeholders' Feedback Meeting
18.	Emails sent to NGO, Stakeholders, villagers for stakeholder feedback round
19.	Commissioning certificates
20.	UNFCCC Website for CDM mechanism–http://cdm.unfccc.int/
21.	HR employment records of the project staff on site

22.	Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects Ministry of New and Renewable Energy (MNRE) , September 2013
23.	Declaration of not participating in REC mechanism
24.	Detailed project reports
25.	Copies of EPC Contract
26.	Power Purchase Agreement
27.	Board resolutions
28.	Technical specifications
29.	CSR Policy of Juniper Green Energy Pvt. Ltd.
30.	EHS Policy of Juniper Green Energy Pvt. Ltd.

LGAI Technological Center, S.A.
Campus UAB – Ronda de la Font del Carme, s/n
08193 Bellaterra – Barcelona
(Spain)
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Fax.:+34 93 567 20 01
www.appluscertification.com

5. FINAL PROJECT DESIGN CERTIFICATION STATEMENT

Applus+ Certification have performed a validation of the "100 MW Solar Power Plant in Maharashtra". The validation was performed on the basis of UNFCCC criteria VVS version 02, Gold Standard GS4GG guideline and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the GS4GG PDD and the subsequent follow-up interviews has provided Applus+ Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project meets all relevant UNFCCC and Gold Standard requirements for the Gold Standard and all relevant host country criteria. The project will hence be recommended by Applus+ Certification for registration with the Gold Standard Registry.

By displacing fossil fuel-based electricity with electricity generated from a renewable source, the project results in reductions of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of annual emission reductions of 224,617 tCO_2e per year.

The validation has been performed following the requirements of the latest version of the CDM VVS version 02, Gold Standard GS4GG guideline and on the basis of the contractual agreement.

In detail the conclusions can be summarized as follows:

- The project does not result in negative social, environmental and/or economic impacts.

- The project contribution to Environment, Social Development and Economic and technological development

- The project additionality is sufficiently justified in the Gold Standard PDD

- The project does not result in diversion of ODA.

- Conservative assumptions were applied in the project description.

- The monitoring plan of SD parameters is transparent and adequate.

- The project meets the stakeholder consultation requirements.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

LGAI Technological Center, S.A.
Campus UAB – Ronda de la Font del Carme, s/n
08193 Bellaterra – Barcelona
(Spain)
Tel.:+34 93 567 20 08
Fax.:+34 93 567 20 01
www.appluscertification.com

Date: 04/08/2020

Lead Auditor: Mr. Pankaj Kumar
Tech. Expert: Mr. Pankaj Kumar
Auditor : Mr. Sukanta Das
Tech. Reviewer: Mr. Simon Shen

Approver *(Applus+ Certification Business Unit Managing Director)*
Mr. Juan Sendín Caballero

ASSESSMENT TEAM	
Team Leader PANKAJ KUMAR	**Technical Reviewer:** SIMON SHEN
Signature: Pankaj Kumar	Signature: Meng SHEN.
Approver: Mr. Juan Sendín Caballero	
Signature:	

LGAI Technological Center, S.A.
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(Spain)
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Fax.:+34 93 567 20 01
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Appendix 1: Corrective Action Request/Clarification Request/Forward Action Request resolution table

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	01
Raised by:	Mr. Pankaj Kumar	Ref. to checklist in GS4GG PDD:	A.3, A.5. A.7
Description of the audit finding		Date:	18/02/2020
• As two PPs involved in proposed project activity, PP shall provide incorporation certificates of both the PPs. The Installed capacity has been divided to two parts, 30MW and 70MW, invested by two Project Developers, the PD shall clarify whether it is a standalone project. • Commissioning certificate provided but commissioning details not provided in PDD. • In section A.5, PP shall provide technical details along with the supporting documents for technical details of the solar plants. • In section A.7, it is mentioned that project has not used any ODA. However, the supporting of the same is also missing.			
Project Participant's response		Date:	29/02/2020
• The CIN of both the PPs shall be submitted along with this submission. Further the project activity is not separate, rather it is connected project. • The Commissioning details are incorporated no in the revised section A.1 of the GS4GG PDD • The section A.5 is now revised by including the technical details; the same can be checked with the commissioning certificates of the power project. • The Official Development Assistance Declaration shall be submitted along with this.			
Documentation provided as evidence by Project Participant			
• Incorporation certificates of both the PPs • Revised PD • Commissioning Certificates • ODA Declaration			
Auditor's assessment comment		Date:	23/03/2020
• PP has provided incorporation certificate of both the SPVs involved in this proposed project and it was also confirmed with shareholding pattern of the company that Juniper Green Energy Private Limited is parent company and the proposed project activity is stand alone by Juniper Green Energy Pvt. Ltd**.** **Comment closed** • PP has provided commissioning details of 100 MW capacity in section A.1 of revised PDD, ver. 3.0 dated 29/02/2020**. Comment closed.** • Technical details of the project provided in sec**.** A.5 of the revised PDD, ver. 3.0 dated 29/02/2020 which also checked by VVB from commissioning certificates**. Comment closed.** • PP has provided ODA declaration submitted to GS which was checked and found to be correct. **Comment closed.**			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Mr. Pankaj Kumar	Ref. to checklist in GS4GG PDD:	A.4.3
Description of the audit finding		Date:	18/02/2020

• In sec. A.4.3, PP shall provide geographical coordinates as plants has been commissioned now. • An undertaking regarding no double counting to be provided by PP		
Project Participant's response	Date:	29/02/2020
• The geographical coordinates are provided in the revised PDD. • A declaration with no double counting shall be provided to the assessment team.		
Documentation provided as evidence by Project Participant		
Revised PDD Undertaking letter		
Auditor's assessment comment	Date:	23/03/2020
• Geographical coordinates of already commissioned projects provided in sec. A.4.3 of revised PDD, ver. 3.0 dated 29/02/2020. Comment closed. • An undertaking regarding participation in other GHG mechanism dated 27/02/2020 provided by both the project developers which was found to be appropriate. **Comment closed**.		

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Mr. Pankaj Kumar	Ref. to checklist in GS4GG PDD:	B.5
Description of the audit finding		Date:	18/02/2020
Following observation is noticed by DOE for the additionality assessment: 1. The IRR sheet and Input assumptions documents are not submitted to the DOE. Key assumptions also provided in PDD. The IRR is thus reserved. 2. The prior consideration documents are missing. 3. Common practice analysis is not detailed out with supporting documents. 4. Project start date mentioned in common practice assessment section as 10/07/2019 which is not consistent with the start date mentioned in sec. C.1.1. 5. As two PPs involved and accordingly two benchmarks and IRR value calculated but common practice assessment carried for 100 MW. PP shall provide supporting evidence to demonstrate that both the PPs belong to same parent company. Corrective action is sought.			
Project Participant's response		Date:	29/02/2020
1. IRR sheets, including the input assumptions as well as supporting documents, for both PPs being provided now. 2. The prior consideration documents are being provided now. 3. Supporting documents for Common practice analysis are now being provided. 4. Project start date mentioned in in section C.1.1 is being revised now to make it consistent with the start date mentioned in common practice assessment section. 5. Shareholding structure of both companies is now being provided which demonstrates that both the PPs belong to same parent company.			

Documentation provided as evidence by Project Participant		
• Revised IRR Sheets • Prior Consideration Documents • Supporting documents for Common practice analysis and additionality in general • Shareholding Pattern • Revised PDD		
Auditor's assessment comment	Date:	23/03/2020
• PP has provided IRR sheets and DPR for both the project developers which is the source of input parameters for calculation of investment analysis. **Comment closed.** • Copies of Board meeting note provided which confirms the prior CDM consideration. **Comment closed.** • Supporting documents / web links for common practice analysis provided by PP. **Comment closed.** • PP has corrected the project start date in sec. C.1.1. of revised PDD, ver. 3 dated 29/02/2020 which is in consistent with the dates mentioned in additionality section. **Comment closed.** • It was confirmed with share holding pattern provided by PP that both the project developers (Juniper Green Energy Pvt. Ltd. And Nisagra Renewable Energy Pvt. Ltd.) belong to same parent company. **Comment closed.**		

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Mr. Pankaj Kumar	Ref. to checklist in GS4GG PDD:	B.6.1, B.6.2 and B.6.5
Description of the audit finding		Date:	18/02/2020
1. The supporting's to the indicator mentioned relevant to SDG is missing. Corrective action is sought for the same. 2. PP shall provide copy of HSE Policy of the company 3. As per **SDG 8: Decent Work and Economic Growth :** The project leads to Trainings & workshops which are conducted for the O&M staff of Manufacturer as well as for the O&M staff of the PP, by their respective companies. Moreover, PDD claims equal pay for equal work. The statements is not backed by proper evidences. • No. of trainings provided to the employees – **Supporting missing** • Employment generated due to project activity - **Supporting missing** • The employment records/Salary slips- **Supporting missing** 4. The PLF compliance as per Annex 11 EB 48 is not provided.			
Project Participant's response		Date:	29/02/2020
1. The supporting's to the indicator mentioned relevant to SDG 8 i.e. Salary Slip and Appointment letter shall be submitted along with this submission. Further it is under validation process and the training documents will be submitted during verification. 2. The HSE Policy of the company shall be submitted to the assessment team. 3. The supporting's to the indicator mentioned relevant to SDG 8 i.e. Salary Slip and Appointment letter for the employment generated due to project activity shall be submitted along with this submission. Further it is under validation process and the training documents will be submitted during verification.			

4. The PLF is taken as per third party DPR which is in line with Annex 11 EB 48.		
Documentation provided as evidence by Project Participant		
Salary Slip and Appointment letter HSE Policy DPR		
Auditor's assessment comment	Date:	23/03/2020
1. Supporting documents for SDG 8 (Salary slip and appointment letters along with attendance sheet provided) which was checked and confirmed to be ok. **Comment closed.** 2. Copy of HSE policy provided by PP**. Comment closed.** 3. Supporting documents like salary slips, attendance sheet and copies of appointment letters for SDG 8 provided by PP and also confirmed during site visit**. Comment closed** 4. Copy of DPR dated September, 2018 provided by PP to support the PLF considered for the project which is in compliance with Annex. 11, EB 48**. Comment closed.**		

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	05
Raised by:	Mr. Pankaj Kumar	Ref. to checklist in GS4GG PDD:	E
Description of the audit finding		Date:	18/02/2020
1. Local stakeholder consultation conducted between 31/01/2019 to 01/02/2019 but no supporting documents provided. 2. SFR details need to be updated in PDD.			
Project Participant's response		Date:	29/02/2020
1. The documents of Local stakeholder consultation conducted on 31/01/2019 and 01/02/2019 shall be provided along with this submission. 2. The SFR details are now provided in revised section E of the PDD.			
Documentation provided as evidence by Project Participant			
3. LSHC Documents 4. SFR Documents			
Auditor's assessment comment		Date:	23/03/2019
1. Invitation notice, Summary of comments and attendance sheet of local stakeholder consultation conducted between 31/01/2019 and 01/02/2019 provided by PP. **Comment closed.** 2. SFR conducted between 28/01/2020 to 25/02/2020 and supporting emails communications checked. Details also provided in sec. E of revised PDD, Ver. 3.0 dated 29/02/2020. **Comment closed.**			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	06
Raised by:	Mr. Pankaj Kumar	Ref. to checklist in GS4GG PDD:	E
Description of the audit finding		Date:	18/02/2020

LGAI Technological Center, S.A.
Campus UAB – Ronda de la Font del Carme, s/n
08193 Bellaterra – Barcelona
(Spain)
Tel.:+34 93 567 20 08
Fax.:+34 93 567 20 01
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1. In B.6.5, average annual value of emission reduction is not consistent with ER sheet. PP shall maintain consistency of emission reduction value in PDD and ER sheet.		
Project Participant's response	Date:	29/02/2020
1. The average annual value of emission reduction is 224,617 tCO2e per annum as is now made consistent with the ER sheet.		
Documentation provided as evidence by Project Participant		
Revised PDD		
Auditor's assessment comment	Date:	23/02/2020
Average annual value of emission reductions in sec. B.6.5 of revised PDD, ver. 3 dated 29/02/2020 is now consistent with ER sheet. **Comment closed.**		

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Campus UAB – Ronda de la Font del Carme, s/n
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(Spain)
Tel.:+34 93 567 20 08
Fax.:+34 93 567 20 01
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Appendix 2: Audit Team CVs

Name	**SHORT CV. BACKGROUND INFORMATION**
Mr. Pankaj Kumar	**Mr. Pankaj Kumar** worked as team leader – Bihar for South Asia Climate Proofing and Growth Development(CPGD) – Climate Change Innovation Programme (CCIP) supported by DFID that seeks to mainstream climate change resilience into planning and budgeting at the national and sub-national level in India,Pakistan, Nepal, and Afghanistan. Pankaj Kumar has worked previously with IL&FS Infrastructure Development Corporation and BUIDCO(Bihar Urban Infrastructure Development Corporation), Govt. of Bihar as Environmental Specialist for WB & ADB funded projects. Prior to this, he worked with Carbon Check (UNFCCC accredited DoE), Johannesburg, RSA as Team Leader for validation, verification of around 100 GHG projects in Asia, Africa, USA, Asia Pacific & Americas. Pankaj is accredited Lead Auditor, Validator, Verifier and Technical Expert for Sectoral Scope/Technical Area – 1.1, 1.2, 3.1 & 13.1 by UNFCCC DoE (Designated Operational Entity), APPLUS, Spain. He is also member of task force on climate change & human health, Health Department, GoB. He is an experienced, qualified and result oriented Environment Professional having more than 14 yrs. of relevant experience in Climate Change (Mitigation & Adaptation), Environmental Due Diligence, Disaster Risk Reduction, Validation and Verification of GHG project under CDM, Verified Carbon Standard, Gold Standard & Social Carbon Standard, Brazil. He provides technical support for environmental investigative, consultative and remedial projects involving air, water and soil, Waste management, EIA, Environmental Compliance, ISO 14001, OHSAS 18001, GHG accounting (ISO 14064) and Carbon foot printing Pankaj Kumar is Masters in Environment Management from Forest Research Institute (University), I.C.F.R.E, Dehradun, which is Centre of Excellence in South East Asia for Forestry education & research and PGDEL from National Law School of India University, Bangalore (India).
Mr. Sukanta Das	Mr. Sukanta DAS, has done M. SC in (Electronics and Photonics) and M. Tech in (Energy technology) from Tezpur Central University/ Indian Institute of technology Bombay in India. He is a certified lead auditor for ISO 14001 EMS LA and ISO 9001 QMS LA from International registry for Certified Auditors (IRCA) and Certified Lean Management practitioner from Quality Council of India (QCI). He has more than Nine (9) years of working experience at TUV NoRD/ Re-consult/CRA/APPLUS certifications under various categories of projects stating from Renewable to waste to supercritical projects. He was JI/ CDM Lead Assessor in TUV NoRD and was involved in more than 100 CDM validation and verifications activities in Gold Standard, VCS, CDM projects as a team leader/technical reviewer / validator / verifier covering the sectoral scope 1, 13 technical areas 1.2/1.1/13.1. Currently he is associated with True Quality Certifications Private Limited and is empanelled with APPLUS certification to carry out GHG audit.
Mr. Simon Shen	Meng (Simon) Shen (Master Degree in Thermal Energy Engineering, Bachelor Degree in Environmental Engineering) is a Lead Auditor appointed by Applus+ LGAI for the GHG project assessment. He is based in Shanghai. He has several years of work experience in environmental protection field. Before he joined Applus+ LGAI, he had been worked for TÜV SÜD as a GHG Validator/Assessment team and ISO 9001/14001 Lead Auditor for 5 years