

GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG) REPORT

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DESIGN CERTIFICATION (VALIDATION)



Project Title: Clean Electricity Generation by Solar Power project in Rajasthan
GS project ID: GS 7760
Internal ID: 6520
Customer: Azure Power Forty Three Pvt. Ltd.
Date: 09/02/2021
Revision: 01

SUMMARY			
Reference No.	Date (first version)	Version No.	Date (last version)
GS 7760	09/02/2021	01	09/02/2021
Client	Azure Power Forty Three Pvt. Ltd.		
Project Title	Clean Electricity Generation by Solar Power Project in Rajasthan		
Project Participants	Azure Power Forty Three Pvt. Ltd.		
Project Location	Bikaner, Rajasthan		
Contact Person	Mr. Sunil Hansu		
GS4GG Version: GS4GG GS4GG Activity Requirements: RE Activity Requirements Applied Methodology Version: ACM 0002 Version 20.0 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 system¹ - Version 07.0 (EB 100, Annex 04) - Tool for the demonstration and assessment of additionality²- Version 07.0.0 (EB 70, Annex 08) - Methodological Tool- Investment analysis³ - Version 09.0.0 (EB 101, Annex 11) Current Methodology Version: ACM 0002 Version 20.0			GS4GG Principles and Requirements V 1.2 UNFCCC CDM Sectoral Scope: 1 Technical Area: 1.2
GS4GG First PDD Version: 02 Date: 23/11/2020			GS4GG Final PDD Version: 03 Date: 03/02/2021
Estimated SDG contributions:			
Sustainable Development Goals Targeted	SDG (defined in the methodology)	Impact (defined in the methodology)	Estimated Annual Average Units or Products
SDG 13- Climate Action	Emission reductions	1,144,924	tCO ₂ e/yr
SDG 7– Affordable and Clean Energy Contribution to Climate Security & Sustainable Development	MWh of renewable energy generated	1,215,547.30	MWh
SDG 8 – Decent Work and Economic Growth	Number of trainings and hiring through	1 training/annum and employment	Number of trainings and

¹ <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-07-v7.0.pdf>

² <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-01-v7.0.0.pdf>

³ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-27-v7.0.pdf>

	project	to 15 persons	Employment generated through project.
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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 Azure Power Forty Three Pvt. Ltd. to perform the GSVER validation of "Clean Electricity Generation by Solar Power Project in Rajasthan" applying the methodology ACM 0002 version 20.0

The management of Azure Power Forty Three Pvt. Ltd. is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions.

A desk review and a remote audit have been conducted to verify the data submitted in the GS4GG PDD. Applus+ Certification confirms the following have been reviewed:

- GS4GG PDD;
- The applied monitoring methodology;
- Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;
- The Gold Standard for Global Goals "Principles and Requirements" Version 1.2
- 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. remote 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 8 findings which include:

- 8 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 ⁴	Organization (for OEs)
Lead Auditor: Mr. Pankaj Kumar	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications private Limited

⁴ IR (Internal Resource); EI (External Individual); OE (Outsourced Entity)

ASSESSMENT TEAM		
Team Members	Type of Resource ⁴	Organization (for OEs)
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	-

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:

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

Appendix 2: Audit Team CVs.

1. INTRODUCTION

M/s Azure Power Forty Three Pvt. Ltd. has commissioned Applus+ Certifications to perform a validation of "Clean Electricity Generation by Solar Power Project in Rajasthan" (hereafter referred to as the project activity) in the state of Rajasthan in India. Azure Power Forty Three Pvt. Ltd. is the promoter and project participant of the proposed project activity.

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 purpose of the project activity is to generate power using renewable energy source (solar energy) and sell the power generated to the Indian grid. The project activity generates electricity using solar energy. The generated electricity is exported to the regional grid system which is under the purview of the Indian electricity grid of India.

The project activity replaces anthropogenic emissions of greenhouse gases estimated to be approximately 1,144,924 tCO₂e per year, thereon displacing 1,215,547.30 MWh/year amount of electricity from the generation-mix of power plants connected to the INDIAN GRID, which is mainly dominated by thermal/ fossil fuel based power plant.

The project activity 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:

Name of the SPVs	Project Capacity	State	Usage
Azure Power Forty Three Pvt. Ltd.	600 MW	Rajasthan	Sale Indian grid

Plant is not fully commissioned yet. The commissioning details of the project activity is given below:-

Name of the SPVs	Capacity	State	Commissioning date
Azure Power Forty Three Pvt. Ltd.	100 MW	Rajasthan	30/01/2021
	150 MW		15/12/2020
	350 MW		Yet to commission

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 20.0. The validation was based on the requirements in the Validation and Verification Standard version 02.0 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

As a result of the COVID-19 pandemic, taking into account the rules of relevant national and local authorities (local to the VVB offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the VVB and other relevant travel restrictions and guidance (for example, a requirement to self-isolate upon return from specific countries), the VVB has skipped the on site visit. As COVID -19 situation is going to stay for a while, and it seems that restoration of normal situation will take time and PP has requested to proceed with project validation as delay could have some financial implication on PP. Hence the site visit could not be postponed for this project activity.

However as per the COVID 19 Interim Measures by GS4GG, the VVB may use alternative measures for auditing like remote audits. As per para 4.1.1 (b) of COVID 19 Interim Measures, Validation team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of verification of the PA. Along with desk review, audit team has conducted remote audit interview corresponding to the PA as follows:

A complete desk review of the PDD as well as all applicable country legal requirement and supportive evidences have been checked by the validation team.

- Validation team has performed Skype interview with PP in order to check implementation, current situation, evaluation of data management, QA/QC system, project technology, training provided, monitoring, calibration etc. Interview questions were filled as per Validation team interview checklist. Cross checks between information provided by interviewed personnel (i.e. by checking sources) to ensure that no relevant information has been omitted.
- Validation team has performed interview with randomly selected Local stakeholders to check the monitoring of GS sustainable parameters like employment and training, environmental and other relevant issues.
- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in the PDD and supporting documents.

Details of interviewees, topics covered and additional information presented below:

Interviewed Personnel	Functions	Organization	Date	Subject
Mr. Sunil Hansu	PP representative	PP representative	12/10/2020 (Remote skype interview)	General aspects of the project, Quality management system, Monitoring data management, Data analysis, Implementation of the project,
Mr. Ali Khan	Teacher	Local stakeholder, Rajasthan		
Ms. Mahima	Villager	Local stakeholder, Rajasthan		

Mr. Kinshuk Das	Consultant	EKIESL		GHG emission reduction calculation, Involved personnel and responsibilities, Training and practice of the operational personnel, Monitoring data management, Maintenance, Compliance to regulatory requirements, Environmental and social issues, Projects contribution to sustainable development
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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 03 submitted on 03/02/2021 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 Azure Power Forty Three Pvt. Ltd. is 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 20. The total capacity of the solar power project is 600 MW as validated from the PPA and EPC contract, and thus qualifies under large scale projects. Assessment team also checked the requirement of latest applicable methodology ACM 0002 version 20.0 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 CO₂ 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 ₂ O	No	Minor emission source
		Other	No	No other emissions are emitted from the project
Project	Greenfield Solar	CO ₂	No	No CO ₂ emissions are emitted from the

Source	Gas	Included?	Justification/Explanation
Power Project Activity			project
	CH ₄	No	Project activity does not emit CH ₄
	N ₂ O	No	Project activity does not emit N ₂ O
	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.

3.6 Project Boundary

As per ACM 0002 version 20 (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 which is found to be correct.

3.7 Baseline Identification

Being a grid connected solar energy generation project, PP developed the project based on the Methodology ACM0002 version 20.0. As per methodology version 20.0:

"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. 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 15.0 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
$EF_{grid,CM,y}$	0.9419 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 15.0, DEC 2019 published by Central Electricity Authority (CEA), Government of India
$EF_{grid,OM,y}$	0.9622 tCO ₂ /MWh	Operating margin CO ₂ emission factor for the project electricity system in year y	Calculated as the last 3 year (2016-17, 2017-18, 2018-19) generation-weighted average, sourced from Baseline CO ₂ Emission Database, Version 15.0, Dec 2019 published by Central Electricity Authority (CEA), Government of India
$EF_{grid,BM,y}$	0.8811 tCO ₂ /MWh	Build margin CO ₂ emission factor for the project electricity system in year y	Baseline CO ₂ Emission Database, Version 15.0, Dec 2019 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 Methodology. The emission factor of grid, in the CDM PDD, has been calculated in-line with the provisions of applied methodology ACM 0002 version 20.0. 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) are 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 criteria 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 criteria 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 20.0 is applicable to the project activity.

DOE also confirms that the project activity complies with the requirement of baseline determination in ACM0002 version 20.0, 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 15 and the emission factor applied is 0.9419 tCO₂/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, Forest & Climate Change (MoEFCC), has mentioned four indicators for the sustainable development in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India. 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 from Manufacturer specification and confirm that the details as mentioned in the GS4GG PDD Version 03 are correct. The details are as below:

Technical specifications of the equipment installed at Azure Power Forty Three Pvt. Ltd. are as follows:

Equipment	Technical Specifications
PV Module	Make: Jinko
	Rating: 335 Wp or above
	PV Technology: Crystalline
	Number Of modules: Aprx. 2126656 Nos
	PV System Mounting Structure: Seasonal Tilt Jan/ Feb/ March: 30° April/May/ June/ July/Aug: 5° Sept/Oct/Nov/Dec: 30°
Inverter	Make: Sungrow
	Type: Central /String
	Rating: 3125 kW
	Number of Inverters: 96 Nos.

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.

Principle 2: Safeguarding Principles

The Safeguarding principles assessment is as below:

Assessment Questions/ Requirements	Assessment of relevance to the project (Yes/potentially/no)	Justification by the assessment team	Mitigation measure (if required)
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 2. The Project shall not discriminate with regards to participation and inclusion	No	1. The Project is not in conflict with the economic livelihood or other issue of the local community. Thus, the Project does not cause any human rights abuse and respects internationally proclaimed human rights issue. 2. Project activities are not expected to cause any human rights abuse. As a member of United Nations ⁵ and part of UN Agreement on Human Rights ⁶ , it is ensured by law in India that no action can be taken against human rights.	Not Required
Principle 2. Gender Equality			
1. The Project shall not directly or indirectly lead to/contribute to	No	1. The project does not decrease	Not required

⁵ <https://labour.gov.in/lcandilasdivision/india-ilo>

⁶ <https://www.ilo.org/newdelhi/lang-en/index.htm>

adverse impacts on gender equality and/or the situation of women 2. Projects shall apply the principles of nondiscrimination, equal treatment, and equal pay for equal work 3. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks 4. (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)		women's access to or control of resources. Being a renewable solar power generation project there is no direct or indirect adverse impact on gender equality. 2. No, the Project does not reduce women's access to or control of resources, entitlements and benefits. The project will benefit to local community regardless of gender. The Project does not create any adverse effect on the local community. 3. PP adheres to the government legislation and national labour laws. The Project does not consider the gender roles while engaging them and thereby provide equal rights to men and women ⁷. Local community meetings are scheduled	
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⁷ <https://labour.gov.in/sites/default/files/Equal%20Remuneration%20Rules,%201976.pdf>

		considering participation by both Men and Women. a) The project does not discriminate the local community on basis of gender or caste or religion and therefore equally serve to all.⁸ b) No, the Project design neither increase women's workload nor prevent them from engaging in other activities. c) There is no room for discrimination against women in this Project⁹. d) The Project will not limit women's ability regarding natural resources. The project is solely utilizing solar power and therefore does not impact natural resources of the region.	
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⁸ https://labour.gov.in/sites/default/files/equal_remuneration_act_1976.pdf

⁹

		e) No, the Project will not expose women and girls to further risks or hazards. 4. The project does not create any direct or indirect impacts on gender equality and/or the situation of women: a. The project proponent has a grievance cell which would investigate complaints. b. Project participation by women or girls is merely voluntary basis and there is no compulsion on them. The project proponent has a grievance cell which would investigate complaints. c. The Project will not restrict women's rights or access regarding natural resources. d. Marital status is completely irrelevant to the Project. The project proponent does not discriminate on gender, caste, religion etc.	
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		e. The project has applied the principles of non-discrimination and equal treatment, pay & work as follows: f. The Project has equal opportunity for women and men to contribute both in volunteer and working positions. g. The project proponent has a specified HR policy that considers participation by both men and women. h. There is no limit on the access to Project participation and benefits from either of these conditions. 4. PP does not involve in any form of discrimination in any kind. India also ratified relevant ILO core conventions on equality, namely Equal Remuneration Convention (Convention No 100) and Discrimination (Employment and Occupation) Convention	
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		(Convention No 111) in 1997 ¹⁰ .	
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	a. The project proponent is committed to the employee's workplace health & safety during all phases of the project. All employees will attend health & safety trainings. This is issued in the Labour code on Occupational Safety, Health and Working Conditions and UN Agreement on Human Rights ¹¹ .	Workplace Health & Safety trainings will be conducted regularly during the project operation.
Principle 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?	No	PP has conducted a detailed ESIA study for the project area and it is concluded that:	Not Required
>>		a. There are no protected archeological and cultural heritage sites are reported within the project footprint". Law on Cultural heritage is protected against alteration, damage or removal by the	

¹⁰ https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-new_delhi/documents/publication/wcms_650119.pdf

¹¹ <https://www.ohchr.org/EN/Countries/AsiaRegion/Pages/INIndex.aspx>

		"law on cultural heritage¹²". The project does not involve any settlement areas. Thus, this project does not cause the physical or economic relocation of peoples. The project activity does not involve any alteration of existing roads as well as it does not add additional traffic. Since the site located isolated area, the traffic volume is negligible. Hence, there is no additional burden to the existing traffic. In addition, the project proponent built new roads for those sites which do not have road access.	
Principle 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 activity does not involve any type of relocation of people.	Not required
>>		No cultural heritage/ indigenous people are replaced by the project. The project does not involve any	

¹² <https://cpwd.gov.in/Publication/ConservationHertBuildings.pdf>

		settlement areas. Thus, this project does not cause the physical or economic relocation of peoples. The project activity does not involve any alteration of existing roads as well as it does not add additional traffic. Since the site located isolated area, the traffic volume is negligible. Hence, there is no additional burden to the existing traffic. In addition, the project proponent built new roads for those sites which do not have road access.	
Principle 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)? >>		Project activity is a solar power plant installed in the Pavagada Solar Park which is very well planned by the government of India and the land acquired by the project activity is mostly barren and leased from KSPDCL after the proper agreement. Thus, there is no	

		physical or economic relocation of peoples (temporary or permanent, full or partial). Furthermore, PP has conducted the detailed ESIA study to ensure that there is adverse impact from the project activity.	
Principle 4.3 Land Tenure and Other Rights			
Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership?	No	There are no uncertainties regarding land tenure, access rights, usage rights or land ownership.	Not Required
>>		The Solar Panels are all developed on government land and some private land and all of them will belong to PP. Moreover, the project is not located with close proximity of any forest.	
Principle 5. Corruption			
1. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	No	PP does not involve and is not complicit in any kind of corruption. India has ratified UN convention	Not Required

		against Corruption in 2011 ¹³ .	
Principle 6.1 Labour Rights			
1. The Project Developer shall ensure that all employment is in compliance with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions 2. Workers shall be able to establish and join labour organisations 3. Working agreements with all individual workers shall be documented and implemented and include: a) Working hours (must not exceed 48 hours per week on a regular basis), AND b) Duties and tasks, AND c) Remuneration (must include provision for payment of overtime), AND d) Modalities on health insurance,	No	1. The project proponent is committed to the employee's workplace health & safety during all phases of the project. All employees will attend health & safety trainings. This is issued in the Labour code on Occupational Safety, Health and Working Conditions and UN Agreement on Human Rights¹⁴. 2. PP and appointed contractors will not involve in any form of forced or compulsory labour. India has ratified ILO "C029 – Forced Labour Convention"¹⁵ 3. PP and their subcontractors complying with all relevant national laws regarding child labor. PP will not employ	Not required

¹³ https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XVIII-14&chapter=18&clang=_en#EndDec

¹⁴ <https://www.ohchr.org/EN/Countries/AsiaRegion/Pages/INIndex.aspx>

¹⁵ https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102691

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. No child labour is allowed (Exceptions for children working on their families' property requires an Expert Stakeholder opinion) 5. 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		children in any shape or form for their works. India has ratified ILO "C138 – Minimum Age Conventions" and "C182 – Worst Forms of Child Labour Convention"¹⁶. PP and appointed contractors will not involve in any form of forced or compulsory labour. India has ratified ILO "C029 – Forced Labour Convention"¹⁷ 4. PP and their subcontractors complying with all relevant national laws regarding child labor. PP will not employ children in any shape or form for their works. India has ratified ILO "C138 – Minimum Age Conventions" and "C182 – Worst Forms of Child Labour Convention"¹⁸. 5. The project owner is committed to	
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¹⁶ https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102691

¹⁷ https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102691

¹⁸ https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102691

		the safe and healthy working conditions all phases of the project. All employees will attend trainings health & safety. This issue is protected by Labor code ¹⁹ and UN Agreement on Human Rights ²⁰ .	
Principle 6.2 Negative Economic Consequences			
1. Does the project cause negative economic consequences during and after project implementation?	No	The project activity is a renewable solar power generation project and generates various employment opportunity for the locals throughout its lifetime of 25 years. Thus, there is no negative economic consequences during and after project implementation.	Not Required
>>			
Principle 7.1 Emissions			
Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	The project reduces Greenhouse Gas (GHG) emissions and fossil fuel usage compared to the baseline	Not Required
>>			

¹⁹ <https://www.ohchr.org/EN/Countries/AsiaRegion/Pages/INIndex.aspx>

²⁰ <https://www.ohchr.org/EN/Countries/AsiaRegion/Pages/INIndex.aspx>

		scenario.	
Principle 7.2 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	No. The project activity is a grid connected renewable energy based Solar power generation project. There is no use of Wood or Biomass in the project activity. On the contrary the project generates renewable energy and supplies to the grid. Hence, it's not required to be monitored.	Not required
>>			
Principle 8.1 Impact on Natural Water Patterns/Flows			
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 being a solar power project thus there is no impact of water resources. The plant area does not have large rivers and streams, only small gaps flow. In the dry season, there is almost no water, only water in the rainy season.	Not Required
>>			
Principle 8.2 Erosion and/or Water Body Instability			
Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion?	No	No. The risk of erosion is unlikely by the project.	Not Required
>>			
Principle 9.1 Landscape Modification and Soil			

Does the Project involve the use of land and soil for production of crops or other products?	No	The project has been established at the desert/barren land which was not used for production of crops and other products for a long time.	Not Required
>>			
Principle 9.2 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 susceptible to decreased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme conditions.	Not Required
>>			
Principle 9.3 Genetic Resources			
Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	The solar plant does not affect the herbal life.	Not Required
>>			
Principle 9.4 Release of pollutants			
Could the Project potentially result in the release of pollutants to the environment?	No	Being a Solar power project activity, it falls under the list of White category projects declared by Central Pollution Control Board of India,	Not Required
>>			

		Govt of India. This means project activity does not potentially results in release of pollutants to the environment. Nevertheless, the project takes a precautionary approach regarding environmental challenges and is not complicit in practices contrary to the precautionary principle. The environment is protected by several Laws and Regulations in India. The purpose of the “Law on Environmental Protection” is to protect the environment with principles of sustainable development and environment ²¹. The project owner also follows necessary procedures for environmental safety at the project.	
Principle 9.5 Hazardous and Non-hazardous Waste			
Will the Project involve the	No	All hazardous and	Not Required

²¹ file:///C:/Users/hp/Downloads/The-Environment-Protection-Act-1986.pdf

manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?		non-hazardous wastes will be disposed as per the local regulations.	
>>		Thus, the minimum quantity of used Oil & lubricants waste generated at site is disposed to the agencies which are having authorization from state pollution control board for operating a facility for collection, Co-Processing, Disposal, Generation, Incineration, Pre-Processing, Reception, Recycling, storage, Transport, Treatment of Hazardous waste under Hazardous and other waste (Management and Transboundary Movement) Rules, 2016. Thus, the project owner follows necessary procedures for environmental safety at the project site to ensure safe disposal of oil and lubricants which is very minimum and below the limits categorized by government of India under "White Category".	
Principle 9.6 Pesticides & Fertilisers			

Will the Project involve the application of pesticides and/or fertilisers?	No	Not applicable for solar power plants.	Not Required
>>			
Principle 9.7 Harvesting of Forests			
Will the Project involve the harvesting of forests?	No	No, the project does not involve harvesting of forest. The Solar Panels are all developed on government & private land and all of them will belong to PP under the lease agreement for the project lifetime only. Moreover, the project is not located with close proximity of any forest.	Not Required
>>		ESIA study clearly reveals that project activity does not involve harvesting of forest.	
Principle 9.8 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	No. The project does not modify the quantity or nutritional quality of food available.	Not Required
>>			
Principle 9.9 Animal husbandry			
Will the Project involve animal husbandry?	No	No. Not applicable for solar project.	Not required
>>			

Principle 9.10 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	The projected area of the Project is saline soils, not located in sensitive ecological zones, biodiversity conservation areas, and there are no rare and valuable plant and animal species.	Not Required
>>			
Principle 9.11 Endangered Species			
Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? AND/OR Does the Project potentially impact other areas where endangered species may be present through transboundary affects?	No	No. There were no endangered species found in the project boundary. No. The project does not impact other areas where endangered species may be present.	Not required
>>			

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.

<https://smartnet.niua.org/sites/default/files/resources/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 remote audit observations and interview with PP.

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	Parameter: Quantity of net electricity generation supplied by the project plant/unit in year y in MWh 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	Parameter: Number of employment generation and better salary Measurement Method: Training and employment generation is monitored through training records, staff register or letter from O&M contractor for training and employment details or HSE/HR records. QA/QC Process: The number of persons employed would be mentioned in the plant register, which can be crossed checked with daily attendance register 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: Employment generated due to project activity i.e. atleast 10 persons and 1 training per year (8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities)

SDG 13 – Climate Action : Take urgent action to combat climate change and its impacts	Parameter: Emission reductions achieved per year 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 "CO₂ Baseline Database for Indian Power Sector" version 15, 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.
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Principle 3: Stakeholder Inclusivity

As per the CDM/GS requirements, it is necessary to invite the relevant stakeholders, before the validation process starts. The details of the stakeholder consultation meetings took are summarized as below:

Project SPV Name	Location	Capacity	LSHM Notice	LSHM Meeting
Azure Power Forty Three Pvt. Ltd.	Jamsar Village, Bikaner	600 MW	01-07-2019	10-07-2019

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 17/09/2020 was sent to all the stakeholder and comment are envisaged till 17/11/2020. The emails are 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 17/09/2020 to 2 months' time period 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 remote audit and concludes that stakeholders are overall happy with the implementation of the project activity.

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 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 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 generation 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 ABT 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. 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 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	Number of employment generation	Project participant have documentation pertaining to employment, attendance register and documentary details of training/capacity building. And the assessment team checked the attendance register and hence, the parameter for monitoring is acceptable to the assessment team.

SDG 8 : Decent Work and Economic Growth	Quality employment of	The training records are maintained on regular basis with annual consolidation. Assessment team checked onsite that at least 10 people are expected to be employed 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.

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 while construction of transmission lines. The project proponent does not have any role in the construction of transmission lines. The standard procedures 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 on 31/07/2019, 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 30/01/2020 which is the earliest purchase order date for the project activity. 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:

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 02 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 09 of methodological tool "Investment Analysis" (version 09) 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 101, Annex. 11 it was 9.79 % for group 1 project in India which was available at the time of investment decision i.e. 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. The default value of Return on Equity for Group-1 projects in India is 9.79 % as per EB 101, Annex 11²².

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:

Appendix 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:

$$\text{Nominal Benchmark}^{23} = \{(1 + \text{Real Benchmark}) * (1 + \text{Inflation rate})\} - 1$$

²² <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-27-v9.0.pdf>

²³ As per Pg. 320 of Corporate Finance, Second Edition of Aswath Damodaran

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 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 website²⁴:

Project Investor	Inflation Forecast	Benchmark
Azure Power Forty Three Private Limited	3.80 %	13.96 %

Parameters and assumptions used:

The project activity is a renewable source of electricity generation and supplies the electricity to the INDIAN Electricity grid. The key parameters which determine the Equity IRR of the project activity are project cost, PLF and profitability estimates.

In the revised GS4GG PDD Version 03, the project cost is based on the DPR. The details of the DPR are as below:

Project cost as per the DPR & RERC²⁵ order is given below:

Site Name	Name of the Investor/Owner/SPV	Capacity (MW)	DPR Date	Project Cost (In Million) as per DPR	Project Cost (In Million) As per RERC order	RERC order date
Jamsar	Azure Power Forty Three Pvt. Ltd	600	15-07-2019	21,501.60	21,501.6	09-10-2017

DPR has been submitted to validation team. The DPR was available during decision making and financial profitability of the project was decided based on this offer letter. Validation team checked the DPR of the project activity and found that consideration of the project cost in GS4GG PDD Version 03 is correct and it is in line with Appendix of Methodological tool

²⁴<https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=18965>

²⁵<https://rerc.rajasthan.gov.in/rerc-user-files/tariff-orders>

“Investment Analysis” Version 09 as well as in compliance to CDM Validation and Verification Standard for project activities version 02. Hence, the project cost consideration is justified. Assessment team checked the actual project cost and still the project do not breach the benchmark. The sensitivity analysis below confirms the same. Since the actual cost is considered there is no way the cost can go up and thus the same is assessed to be correct.

In India, infrastructure projects are generally entitled to a debt equity ratio of 70:30. However, depending on the relationship of the client with the bank, its credit rating and collaterals offered, banks consider higher debt equity ratio also. The debt equity ratio for the project is 70:30. Assessment team checked the order for the respective state regarding ratio of debt and equity which was available at the time of investment decision and found that the ratio of Debt to equity was considered correctly for the present validation condition.

The profitability of the project, which forms the basis for IRR calculation is based on installed capacity, PLF, electricity tariff, O&M cost, depreciation and taxation.

Assessment of Plant Load Factor (PLF):

PLF as per RERC²⁶ Tariff order and DPR

Site Name	Name of the Investor/Owner/SPV	Capacity (MW)	Actual PLF (%) as per RERC Tariff order	PLF(%) as per DPR
Jamsar	Azure Power Forty Three Pvt. Ltd.	600	20.0 %	23.15%

Assessment of Electricity Tariff:

Tariff rate as per PPA and RERC tariff order²⁷

Site Name	Name of the Investor/Owner/SPV	Capacity (MW)	Tariff Rate (as per PPA)	Tariff Rate (as per DPR)
Jamsar	Azure Power Forty Three Pvt. Ltd.	600	2.53	2.50

Validation team assessed the tariff and found that same value was available during decision making and in conformity with guidance Appendix of Methodological tool “Investment Analysis” Version 09. Furthermore, assessment team has also checked the tariff as mentioned in Detailed project report of the project activity. IRR is still below benchmark with the consideration of DPR which is valid for total operational lifetime of the project.

Assessment of O& M cost:

O&M as per Detailed Project Report and RERC order signed

Site Name	Name of the Investor/Owner/SP	Capacity (MW)	DPR Date	O&M (In Million)	O&M (In Million)
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²⁶ <https://rerc.rajasthan.gov.in/rerc-user-files/tariff-orders>

²⁷ <https://rerc.rajasthan.gov.in/rerc-user-files/tariff-orders>

	V			(Without tax) As per DPR	(Without tax) as per RERC order
Jamsar	Azure Power Forty Three Pvt. Ltd.	600	15-07-2019	270	444.6

The DPR has been used in the financial calculation as same was available during decision making and hence applicable. According to Appendix of Methodological tool "Investment Analysis" Version 09, the cost should be based on the input parameters available at the time of decision making and the PP has submitted DPR supporting this consideration. Therefore, considering the above assessment, validation team concluded that the O&M cost considered from respective DPR in the computation of financial indicator is in conformity with guidance Appendix of Methodological tool "Investment Analysis" Version 09.

Assessment of Tax computation:

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. The block of assets has been computed for depreciation purpose as per the accepted accounting principles. 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). Accelerated depreciation on plant and machinery is also sourced from IT act. The tax rates assumed corresponds to the tax rate prevailing at the time of taking decision (conformity to Appendix of EB 85, Annex 12). Hence, these assumptions are appropriate during decision making context.

Cross checking parameters:

Name of the parameter	DOE assessment																					
Project Cost	The Project cost has been considered from DPR and was available at the time decision made for the project activity. The project cost considered in the DPR is estimated value as the project is not fully commissioned and still undergoing commissioning.																					
	IRR value as per the assumptions from the Detailed Project Report is as below:																					
	<table><tr><th colspan="2">Name of the Investor/ Owner/ SPV</th><th>Project Capacity (MW)</th><th>Project Cost (In Million)</th><th>IRR</th><th>Benchmark</th><th>Breachin g Value</th><th>DPR Date</th></tr><tr><td>Azure Power Forty Three</td><td>600</td><td>21,501.6</td><td>8.64 %</td><td>13.96%</td><td>-27.63%</td><td>15-07-2019</td></tr></table>								Name of the Investor/ Owner/ SPV		Project Capacity (MW)	Project Cost (In Million)	IRR	Benchmark	Breachin g Value	DPR Date	Azure Power Forty Three	600	21,501.6	8.64 %	13.96%	-27.63%
Name of the Investor/ Owner/ SPV		Project Capacity (MW)	Project Cost (In Million)	IRR	Benchmark	Breachin g Value	DPR Date															
Azure Power Forty Three	600	21,501.6	8.64 %	13.96%	-27.63%	15-07-2019																

	Pvt. Ltd.																																
	The assessment team also checked the respective state tariff order and found that Project Cost considered for project is found to be appropriate. The DOE has also checked the Project Cost according to RERC order for the project activity and found that IRR values at the RERC Project Cost are within threshold limit. Thus, the project activity is still additional with RERC Project Cost²⁸ Value. <table><tr><th>Name of the Investor/Owner/SPV</th><th>Project Capacity (MW)</th><th>Project Cost (In Million)</th><th>IRR</th><th>Benchmark</th><th>RERC date</th></tr><tr><td>Azure Power Forty Three Pvt. Ltd.</td><td>600</td><td>21,501.6</td><td>8.64%</td><td>13.96%</td><td>09-10-2017</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 Project Cost as per RERC order is available to DOE and IRR is still within benchmark and thus the same is acceptable.							Name of the Investor/Owner/SPV	Project Capacity (MW)	Project Cost (In Million)	IRR	Benchmark	RERC date	Azure Power Forty Three Pvt. Ltd.	600	21,501.6	8.64%	13.96%	09-10-2017														
Name of the Investor/Owner/SPV	Project Capacity (MW)	Project Cost (In Million)	IRR	Benchmark	RERC date																												
Azure Power Forty Three Pvt. Ltd.	600	21,501.6	8.64%	13.96%	09-10-2017																												
O&M cost and Escalation in the operational expense =5(%)-Standard practice in India	The O&M cost and its escalation has been considered from DPR and was available at the time decision made for the project activity. IRR value as per the assumptions from the Detailed Project Report is as below: <table><tr><th>Name of the Investor/Owner/S PVs</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>Azure Power Forty Three Pvt. Ltd.</td><td>600 MW</td><td>270</td><td>8.64 %</td><td>13.96%</td><td>-178.58%</td><td>15-07-2019</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. The DOE has also checked the O&M cost as per the RERC order the each project activity and found that IRR values at the actual O&M value is within threshold limit. Thus, the project activity is still additional with O&M Value as per the RERC order. <table><tr><th>Name of the Investor/Owner/SP Vs</th><th>Project Capacity (MW)</th><th>O&M cost as per RERC order (In Million)</th><th>IRR</th><th>Benchmark</th><th>RERC Order Date</th></tr><tr><td>Azure Power Forty Three Pvt. Ltd.</td><td>600 MW</td><td>444.6</td><td>6.45%</td><td>13.96%</td><td>09-10-2017</td></tr></table>							Name of the Investor/Owner/S PVs	Project Capacity (MW)	O&M (In Million)	IRR	Benchmark	Breaching Value	DPR Date	Azure Power Forty Three Pvt. Ltd.	600 MW	270	8.64 %	13.96%	-178.58%	15-07-2019	Name of the Investor/Owner/SP Vs	Project Capacity (MW)	O&M cost as per RERC order (In Million)	IRR	Benchmark	RERC Order Date	Azure Power Forty Three Pvt. Ltd.	600 MW	444.6	6.45%	13.96%	09-10-2017
	Name of the Investor/Owner/S PVs	Project Capacity (MW)	O&M (In Million)	IRR	Benchmark	Breaching Value	DPR Date																										
	Azure Power Forty Three Pvt. Ltd.	600 MW	270	8.64 %	13.96%	-178.58%	15-07-2019																										
	Name of the Investor/Owner/SP Vs	Project Capacity (MW)	O&M cost as per RERC order (In Million)	IRR	Benchmark	RERC Order Date																											
Azure Power Forty Three Pvt. Ltd.	600 MW	444.6	6.45%	13.96%	09-10-2017																												

²⁸ <https://rerc.rajasthan.gov.in/rerc-user-files/tariff-orders>

	Based on sectoral scope expert and local knowledge, the project O&M cost and its escalation considered as per DPR for the proposed project activity is found to be appropriate for projects. Also since the O&M cost as per RERC order is available to DOE and IRR is still within benchmark and thus the same is acceptable.																										
Tariff	The Tariff rate has been considered from Power Purcahse Agreement made for the project activity IRR value as per the assumptions from the PPA is as below: <table><tr><th>Name of the Investor/Owner/S PVs</th><th>Project Capacity (MW)</th><th>Tariff Rate as PPA</th><th>IRR</th><th>Bench mark</th><th>Breac hing Value</th><th>DPR Date</th></tr><tr><td>Azure Power Forty Three Pvt. Ltd.</td><td>600 MW</td><td>2.53</td><td>8.64 %</td><td>13.96 %</td><td>25.66 %</td><td>31-10-2018</td></tr></table> The DOE has cross checked the DPR for this project activity and found that the tariff rate 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 DPR</th><th>IRR</th><th>Benchmark</th><th>DPR Date</th></tr><tr><td>Azure Power Forty Three Pvt. Ltd.</td><td>600 MW</td><td>2.50</td><td>8.41%</td><td>13.96%</td><td>31-10-2018</td></tr></table> Since the Actual Tariff rate is available to DOE and IRR is still within benchmark thus the same is acceptable	Name of the Investor/Owner/S PVs	Project Capacity (MW)	Tariff Rate as PPA	IRR	Bench mark	Breac hing Value	DPR Date	Azure Power Forty Three Pvt. Ltd.	600 MW	2.53	8.64 %	13.96 %	25.66 %	31-10-2018	Name of the Investor/Owner/SPVs	Project Capacity (MW)	Tariff Rate as per DPR	IRR	Benchmark	DPR Date	Azure Power Forty Three Pvt. Ltd.	600 MW	2.50	8.41%	13.96%	31-10-2018
Name of the Investor/Owner/S PVs	Project Capacity (MW)	Tariff Rate as PPA	IRR	Bench mark	Breac hing Value	DPR Date																					
Azure Power Forty Three Pvt. Ltd.	600 MW	2.53	8.64 %	13.96 %	25.66 %	31-10-2018																					
Name of the Investor/Owner/SPVs	Project Capacity (MW)	Tariff Rate as per DPR	IRR	Benchmark	DPR Date																						
Azure Power Forty Three Pvt. Ltd.	600 MW	2.50	8.41%	13.96%	31-10-2018																						

PLF

The PLF has been taken from the Detailed Project Report and acceptable to the assessment team.

Validation team assessed the Detailed Project Report 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 the DPR

Name of the Investor/Owner/SPVs	Project Capacity (MW)	PLF (%)	IRR	Benchmark	Breaching Value
Azure Power Forty Three Pvt. Ltd.	600 MW	23.15%	8.64%	13.96%	25.66%

As plant is not commissioned yet, the actual generation values not available, hence assessment with actual PLF not possible though sensitivity analysis carried out and it shows even if PLF increased by 10%, project is still additional.

The DOE has cross checked the PLF value as per RERC order found that the PLF is within threshold limit. Thus, the project activity is additional with this PLF value.

IRR against PLF value as per RERC order²⁹ are as follows:

Name of the Investor/Owner/SPVs	Project Capacity (MW)	PLF (%)	IRR	Benchmark
Azure Power Forty Three Pvt. Ltd.	600 MW	20.0%	5.99%	13.96%

Tax Rates

Income tax rate (%)	30.00%
Corporate tax/MAT (%)	33.00%
Service Tax (%)	18.00%

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). Accelerated depreciation on plant and machinery is also sourced from IT act.

²⁹ <https://rerc.rajasthan.gov.in/rerc-user-files/tariff-orders>

	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.
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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/SPV	Project Capacity (MW)	Project Cost as per DPR	Actual Project Cost	Variation in Project Cost	Breaching Value
Azure Power Forty Three Pvt. Ltd.	600 MW	21,501.6	21,501.6	0%	-27.63%

Name of the Investor/Owner/SPV	Project Capacity (MW)	O&M Cost as per DPR	O&M Cost as per RERC order	Variation in O&M Cost	Breaching Value
Azure Power Forty Three Pvt. Ltd.	600 MW	270	444.6	64.48%	-178.58%

Name of the Investor/Owner/SPV	Project Capacity (MW)	Tariff Rate as per PPA	Actual Tariff Rate as per DPR	Variation in Tariff Rate	Breaching Value
Azure Power Forty Three Pvt. Ltd.	600 MW	2.53	2.50	-1.19%	25.66%

Name of the Investor/Owner/SPV	Project Capacity (MW)	PLF as per DPR	PLF as per RERC order	Variation in PLF	Breaching Value
Azure Power Forty Three Pvt. Ltd.	600 MW	23.15%	20.0%	-13.60%	25.66%

Sensitivity analysis:

The Guidance on Appendix of Methodological tool "Investment Analysis" Version 09 requires the robustness of the conclusion arrived at to be proved through a sensitivity analysis by varying the critical assumptions to a reasonable variation. The project developer has identified Plant Load Factor (PLF), Project cost, Electricity tariff and O&M cost as critical assumptions. These critical parameters constitute more than 20% of either total project costs or total project revenues. The sensitivity analysis reveals that even under more favourable conditions, the IRR without CDM revenue would not cross the benchmark return as given in the following table:

Sensitivity Analysis	Equity IRR			
Variation %	-10%	Normal	10%	Breaching Value
PLF	6.65%	8.64%	10.63%	25.66%
O&M	8.95%	8.64%	8.32%	-178.58%

Project Cost	10.24%	8.64%	7.24%	-27.63%
Tariff Rate	6.65%	8.64%	10.63%	25.66%

The results of sensitivity analysis show that even with a variation of +10% & -10% in project cost, O&M cost, PLF and Tariff Rate Equity IRR is significantly lower than the benchmark. And it is evident from the results given above; the project remains additional even under the most favourable conditions.

Common Practice analysis:

The common practice analysis is proved by following points as per the requirement of Methodological tool "Common Practice", version 03.1 EB84, Annex 7³⁰:

Applicable Geographical Area (Para 9): The Rajasthan state has been considered as the applicable geographical area for this project. PP had considered the state of Rajasthan 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

³⁰<https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-24-v1.pdf>

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 policies 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 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 Rajasthan 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%	900	MW
Capacity of the proposed project activity	600	MW
-50%	300	MW

Since the project activity is 6000 MW, the output range of +/- 50% has been considered as 900 MW (Higher range for comparison) to 300 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 Rajasthan state of India, therefore, projects in the geographical area of Rajasthan have been chosen for analysis. Each state have different policies regarding renewable energy, hence Rajasthan 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 remote audit 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 remote audit that the project activity produces electricity; therefore, all power plants that produce electricity are candidates for similar projects.

e) Since the project activity is 600 MW, the output range of +/- 50% has been considered as 900 MW (Higher range for comparison) to 300 MW (Lower range for Comparison) which is assessed to be correct

f) The start date of the project activity is **30/01/2020**. Therefore projects, which have started commercial operation before **30/01/2020**, have been considered for analysis. DoE checked List of Solar Projects in Rajasthan (RRECL- Website) as on 31.10.2016. The projects of having capacity of 300 MW to 900 MW was being considered from publically available data till Oct

2016³¹. Validation team further checked Plant wise details of all India renewable energy projects as on 20.03.2020³²

Numbers of Similar projects identified, which fulfil above-mentioned conditioned are

N_{solar} = 2

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. The source of check for the same is cdm.unfccc.int

N_{all} = 0

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 N_{diff}.

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 these criteria, there are no any different technology project out of similar identified projects.
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} = 0

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

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

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 less 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.

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<http://energy.rajasthan.gov.in/content/dam/raj/energy/rrecl/pdf/Activities/Solar/4.37%20Details%20of%20commissioned%20Solar%20Projects.pdf>

32 <https://cea.nic.in/wp-content/uploads/2020/04/Plant-wise-details-of-RE-Installed-Capacity-merged.pdf>

Outcome of Common Practice analysis:

i. **F = 1; is not 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 20.0 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 20 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

$$ER_Y = BE_Y - PE_Y - LE_Y$$

Where,

ER_Y = Emission Reduction in tCO₂/year

BE_Y = Baseline emission in tCO₂/year

PE_Y = Project emissions in tCO₂/year

LE_Y = Leakage Emissions in tCO₂/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
 = 0.9419 tCO₂/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 23.15% for Azure Power Forty Three Private Limited. 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.

$BE_y = 1,215,547.30 \text{ MWh/annum} \times 0.9419 \text{ tCO}_2/\text{MWh}$
 = 1,144,924 tCO_{2e}/annum (round-down to nearest integer)

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

Therefore, $ER_y = 1,144,924 \text{ tCO}_2/\text{year}$

SDG 13 Climate Actions

Year	Baseline estimate	Project estimate	Net benefit
Year 1	1,146,070 tCO _{2e}	0	1,146,070 tCO _{2e}
Year 2	1,145,497 tCO _{2e}	0	1,145,497 tCO _{2e}
Year 3	1,144,924 tCO _{2e}	0	1,144,924 tCO _{2e}
Year 4	1,144,352 tCO _{2e}	0	1,144,352 tCO _{2e}
Year 5	1,143,780 tCO _{2e}	0	1,143,780 tCO _{2e}
Total	5,724,620 tCO_{2e}	0	5,724,620 tCO_{2e}
Total number of crediting years	5		
Annual average over the crediting period	1,144,924 tCO_{2e}	0	1,144,924 tCO_{2e}

SDG 7: Affordable and Clean Energy

Year	Baseline estimate	Project estimate	Net benefit
Year 1	1216763.99 MWh	0	1216763.99 MWh
Year 2	1216155.61 MWh	0	1216155.61 MWh
Year 3	1215547.53 MWh	0	1215547.53 MWh
Year 4	1214939.75 MWh	0	1214939.75 MWh
Year 5	1214332.28 MWh	0	1214332.28 MWh
Total	6,077,736.49 MWh	0	6,077,736.49 MWh

Total number of crediting years	5		
Annual average over the crediting period	1,215,547.30 MWh	0	1,215,547.30 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 10 persons at the site as checked during the remote audit. PP also intends to provide at least one trainings per year at the site as confirmed during interview with PP representatives during remote audit.

4. REFERENCE

S. No.	Document/Evidence/Reference/Web link, Version, Date
1.	Initial GS4GG PDD, version 02 dated 23/11/2020 Final GS4GG PDD, version 03 dated 03/02/2021 based on which final opinion was provided.
2.	Minutes of Meeting for Local Stakeholders' Consultation
3.	Emission Reduction Sheet for the project activity dated 03/12/2020, Version 02
4.	Methodology: ACM 0002 version 20.0
5.	Standard: CDM Project Standard Version 02.0
6.	Standard: CDM Validation & Verification Standard Version 02.0
7.	Procedure: CDM Project Cycle Procedure Version 02.0
8.	Tools: • Tool to calculate the emission factor for an electricity system, Version 07.0 • Tool for the demonstration and assessment of additionality, Version 07.0.0 • Methodological Tool- Investment analysis, Version 09.0 and 10.0
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 Azure Power Forty Three Pvt. Ltd.
30.	EHS Policy of Azure Power Forty Three Pvt. Ltd.

5. FINAL PROJECT DESIGN CERTIFICATION STATEMENT

Applus+ Certification have performed a validation of the "Clean Electricity Generation by Solar Power Project in Rajasthan". 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 CO₂ 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 1,144,924 tCO₂e per year.

The validation has been performed following the requirements of the latest version of the CDM VVS version 02.0, 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.

Date: 09/02/2021

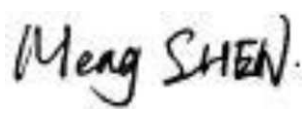
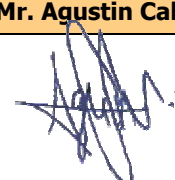
Lead Auditor: Mr. Pankaj Kumar

Tech. Expert: Mr. Pankaj Kumar

Auditor : Mr. Sukanta Das

Tech. Reviewer: Mr. Simon Shen

Approver (*Applus+ Certification VVB Technical Manager*)

ASSESSMENT TEAM	
Lead Auditor PANKAJ KUMAR	Technical Reviewer: SIMON SHEN
Signature: 	Signature: 
Approver: Mr. Agustin Calle de Miguel	
Signature: 	

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

Table 1. CL from this validation

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

Table 2. CAR from this validation

CAR ID	01	Section no.	Date : 13/10/2020
Description of CAR			
2. There is discrepancy in the expected date of commissioning in PDD, IRR sheet and ER sheet			
Project participant response			Date: 23/11/2020
1. The discrepancy observed in expected date of Commissioning in PDD, IRR and ER Sheet has now been rectified.			
Documentation provided by project participant			
GS PDD, IRR & ER sheet			
DOE assessment			Date: 05/12/2020
1. PP has modified the expected date of commissioning in revised PDD version 02 dated 23/11/2020, IRR sheet and ER sheet ,which is found correct. Hence, Comment closed.			

CAR ID	02	Section no.	A.3, A.4.4, A.5	Date : 13/10/2020
Description of CAR				
1. In sec. A.3 and A.4.4 of the PDD, name of villages are different 2. PP shall provide copy of EPC contract to establish legal ownership of the PP 3. In A.5, for PV module, many makes are mentioned. PP shall confirm which make is final one				
Project participant response				Date: 23/11/2020
1. Sec. A.4.3 of the PDD has now been updated with the correct name of the village which is now being consistent with section. 2. Purchase order has been provided in this submission. 3. In Section A.5 of the PDD, the final make is now being updated.				
Documentation provided by project participant				
GS PDD V02, purchase order				
DOE assessment				
1. PP has now corrected the name of the villages in section A.3 and A 4.4 in revised PDD version 02, dated 23/11/2020, which is checked by DOE.Hence, Comment closed. 2. PP has now submitted the copy of EPC contract to establish legal ownership of the PP. The document is checked by DOE. Hence, Comment closed. 3. PP has now confirmed the final name for the make of PV module in section A.5 of revised PDD version 02 dated 23/11/2020. Hence, Comment closed.				

CAR ID	03	Section no.	A.8	Date : 13/10/2020
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Description of CAR			
In section A.8, it is stated that project is applying retroactively for registration, which seems to be incorrect as LSC meeting conducted before project start date. Corrective action required.			
Project participant response			Date: 23/11/2020
The project is applying for regular GS registration and this information has now been updated in section A.8 of the PDD			
Documentation provided by project participant			
GS PDD V02			
DOE assessment			Date: 05/11/2020
PP has now explained that the project is applying for regular GS registration in section A.8 of revised PDD version 2 dated 23/11/2020, which is checked by DOE. Hence, Comment closed .			
CAR ID	04	Section no.	B.5
Date: 13/10/2020			
Description of CAR			
- Value of EIRR (9.79%) is not consistent with IRR sheet - PP is requested to provide all input parameters used to calculate equity IRR in section B.5 along with sensitivity analysis. - In common practice analysis, start date (29/01/2020) not consistent with start date (02/03/2020) in ER sheet - For common practice analysis, data till 31/03/2017 considered whereas start date is 29/01/2020. PP shall consider data till project start date for CPA			
Project participant response			Date: 23/11/2020
- The value of EIRR has been rectified in the PDD V02 and is now being made consistent with the IRR Sheet. - All input parameters has now been mentioned in the section B.5 of the PDD along with sensitivity analysis. - Start date of this project activity is 30.01.2020 which is the earliest date on which the purchase order was being issued. And, this has being made consistent with the ER sheet in this submission. - Common practice analysis has been revised in this submission.			
Documentation provided by project participant			
IRR Sheet, GS PDD V02, ER sheet			
DOE assessment			Date: 05/12/2020
- Value of EIRR in section B.5 of revised PDD version 02 dated 23/11/2020, mentioned as 8.73% which is not consistent with IRR sheet (8.64%). Hence, comment open. - Sensitivity analysis provided in PDD, ver. 2.0 dated 23/11/2020 not consistent with IRR sheet. Comment open - PP has now rectified the start date (30/01/2020) in section "Common practice analysis", which is consistent with ER sheet. Hence, comment closed. - PP has provided weblink of CEA database till 2019 to demonstrate the common practice analysis conducted. However, PP need to demonstrate explicitly, how they arrive the value of Nsolar, Nall and Ndiff as zero. Comment open			
Project participant response			Date: 03/02/2021
- Typo-error regarding the EIRR value in PDD have been regretted. And the value of EIRR is now being consistent with the PDD and IRR sheet in this submission. - Sensitivity analysis has now been made consisted with the PDD versión 3 dated 03/02/2021. - CEA database link has been revised according to the start date of the project activity. Also, Common practice analysis sheet has been separately provided in the submission for the justification of the revised values of Nsolar, Nall and Ndiff.			
Documentation provided by project participant			
Common practice analysis sheet, GS4GG PDD version 03, IRR sheet			
DOE assessment			Date: 04/02/2021

1. PD has now corrected the value of EIRR in sec. B.5 of revised PDD, ver. 03 dated 03/02/2021. **Comment closed.**
2. PD has now corrected the sensitivity analysis conducted in sec. B.5 of revised PDD, ver. 03, dated 03/02/2021 in consistent with IRR sheet. **Comment closed.**
3. Ok
4. PD has provided supporting references/ evidences for common practice analysis carried out and also made necessary changes in sec. B.5 of revised PDD, ver. 03 dated 03/02/2021. **Comment closed**

CAR ID	05	Section no.	B.6.3, B.7.3	Date:	13/10/2020
Description of CAR					
1. In B.6.3, value of SDG 7, 8 and 13 not consistent with ER sheet 2. It is mentioned that project is implemented in Telangana. Corrective action required					
Project participant response					Date: 23/11/2020
1. In B.6.3, the value of SDG 7,8 and 13 has now being made consistent with the ER sheet which is the estimated annual average values of these SDGs. 2. The observed discrepancy has now been rectified in this submission.					
Documentation provided by project participant					
ER Calculation Sheet & GS PDD V02S PDD V02					
DOE assessment					Date: 05/12/2020
1. PP has now mentioned the correct value of all SDG 7,8 and 13 in section B.6.3 in revised PDD version 02 dated 23/11/2020, which is checked by DOE. Hence, Comment closed. 2. PP has now rectified the name of the implementation location in section B.7.3 of revised PDD. Hence, comment closed.					

CAR ID	06	Section no.	C.2.1	Date:	13/10/2020
Description of CAR					
1. In C.2.1, revise start date of crediting period					
Project participant response					Date: 23/11/2020
C.2.1 has been revised according to the crediting period.					
Documentation provided by project participant					
GS PDD V02					
DOE assessment					Date: 05/12/2020
PP has now revised the start date of crediting period in section C.2.1 revised PDD ver. 2 dated 23/11/2020, which is checked by DOE. Hence, comment closed.					

CAR ID	07	Section no.	D.1	Date:	13/10/2020
Description of CAR					
1. In sec. D.1, for safeguarding principle 3.4.2, R&R Policy, 2007 referred which is superseded by R&R Act, 2013 2. For 4.3, PP has implemented EHS and social guideline, PP shall provide the copy of same					
Project participant response					Date: 23/11/2020
1. Sec. D.1, has been updated with the latest R&R Act, 2013 2. Copy of EHS and social guideline has been attached in this submission.					
Documentation provided by project participant					
R&R Act 2013, SEHS & CSR policy					
DOE assessment					Date: 05/12/2020

1. PP has now updated the R&R policy for safeguarding principle in section D.1 in revised PDD. Hence, **comment closed**.
2. PP has now attached the copy of social guideline and EHS, which is checked and confirmed by DOE. Hence, **comment closed**.

CAR ID	08	Section no.	E.1	Date: 13/10/2020
Description of CAR				
1. PP is requested to provide all supporting documents of Local stakeholder consultation conducted.				
Project participant response				Date: 23/11/2020
1. Documents for local stakeholder consultation has been submitted.				
Documentation provided by project participant				
Attendance sheet, Evaluation forms, local stakeholder consultation pics				
DOE assessment				Date: 05/12/2020
PP has now submitted the documents for local stakeholder, which is checked and confirmed by DOE. Hence comment closed .				

Table 3. FAR from this validation

FAR ID	xx	Section No.		Date: DD/MM/YYYY
Description of FAR				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				Date: DD/MM/YYYY

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	Mr. 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