

TEMPLATE

KEY PROJECT INFORMATION & PROJECT DESIGN DOCUMENT (PDD)

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VERSION **v. 1.2**

RELATED SUPPORT

– **TEMPLATE GUIDE Key Project Information & Project Design Document v.1.2**

This document contains the following Sections

Key Project Information

Section A – Description of project

Section B - Application of approved Gold Standard Methodology (ies) and/or demonstration of SDG Contributions

Section C – Duration and crediting period

Section D – Summary of Safeguarding Principles and Gender Sensitive Assessment

Section E – Outcome of Stakeholder Consultations

Appendix 1 – Safeguarding Principles Assessment (mandatory)

Q - Contact information of Project participants (mandatory)

Q - LUF Additional Information (project specific)

Q - Summary of Approved Design Changes (project specific)

KEY PROJECT INFORMATION

GS ID of Project	GS 7761
Title of Project	250 MW Solar Power Project by Clean Solar Power (Jodhpur) Pvt. Ltd
Time of First Submission Date	21/01/2020
Date of Design Certification	NA
Version number of the PDD	02.3
Completion date of version	05/12/2023
Project Developer	Clean Solar Power (Jodhpur) Pvt. Ltd
Project Representative	EKI Energy Services Limited
Project Participants and any communities involved	Project Participant: Clean Solar Power (Jodhpur) Pvt. Ltd Communities Involved: Not Applicable
Host Country (ies)	India
Activity Requirements applied	☐ Community Services Activities ☒ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Scale of the project activity	☐ Micro scale ☐ Small Scale ☒ Large Scale
Other Requirements applied	Not Applicable
Methodology (ies) applied and version number	ACM0002- Grid-connected electricity generation from renewable sources - Version 21
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A
Project Cycle:	☐ Regular ☒ Retroactive

Land-use & Forest Key Project Information¹

¹ Please refer to 0 for detailed information on LUF projects

Not Applicable

Table 1 – Estimated Sustainable Development Contributions

Sustainable Development Goals Targeted	SDG Impact (defined in B.6.)	Estimated Annual Average	Units or Products
SDG 7– Ensure access to affordable, reliable and modern energy for all	MWh of renewable energy generated	643,926 MWh	MWh
SDG 8 – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	Number of trainings and hiring through project	1 training/annum and employment to 10 persons	Number of trainings and Employment generated through project
SDG 13- Take urgent action to combat climate change and its impact	Emission reductions	599,494 tCO ₂ e	GS-VERs

SECTION A. DESCRIPTION OF PROJECT

A.1. Purpose and general description of project

Purpose of the Project activity

The purpose of the project activity is to generate power using renewable energy source (solar energy) and sell the power generated to the state 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 total installed capacity of the current project activity is 250 MW; which involves operation of Solar PV Project in the state of Rajasthan in India. The project is developed by Clean Solar Power (Jodhpur) Pvt Ltd.

Project Investor	Project Type	Project Capacity	State	Usage	Commissioning Date
Clean Solar Power (Jodhpur) Pvt Ltd.	Solar PV	250 MW	Rajasthan	Sale to Grid	115 MW commissioned on 14/03/2022
					135 MW commissioned on 21/04/2022

The project activity replaces anthropogenic emissions of greenhouse gases estimated to be approximately 599,173 tCO₂e per year, thereon displacing 643,926 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 a new facility (Greenfield) and the purpose of the project activity is to generate energy electricity by the utilization of renewable solar energy and further selling the generated energy to the Indian Grid. In this process there is no consumption of any fossil fuel and hence the project does not lead to any greenhouse gas emissions.

Thus, electricity would be generated through sustainable means without causing any negative impact on the environment.

In the Pre- project scenario the entire 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.

Contribution to sustainable development

Ministry of Environment and Forest and Climate Change, has stipulated economic, social, environment and technological well-being as the four indicators of sustainable development. The project contributes to sustainable development using the following ways.

Social well-being: The project helps in generating employment opportunities during the construction and operation phases. The project activity leads to development in infrastructure in the region like development of roads and also promotes business with improved power generation.

Economic well-being: The project is a clean technology investment in the region, which would not have been taken place in the absence of the carbon credit benefits the project activity also helps to reduce the demand supply gap in the state.

Technological well-being: The successful operation of project activity leads to promotion of solar based power generation and would encourage other entrepreneurs to participate in similar projects.

Environmental well-being: Solar project being a renewable source of energy, it reduces the dependence on fossil fuels and conserves natural resources which are on the verge of depletion. Due to its zero emission the Project activity also helps in avoiding significant amount of GHG emissions.

A.1.1. Eligibility of the project under Gold Standard

The project activity meets the eligibility criteria as per section 3.1.1 of GS4GG Principles & Requirements document, V1.2², as described below:

- (a) **Project Type:** Solar power is an approved project type and does not require any specific approval from Gold Standard. The project applies methodology ACM0002, Version 21³, Sectoral Scope: 01, which is an approved methodology under Gold Standard.
- (b) **Project Location:** The project is located in India. The project is therefore eligible. The geo-coordinates of the project can be referred section A.2.
- (c) **Project Area, Boundary and Scale:** The project activity follows the UNFCCC approved methodology and project Area and Boundary is defined in line with

² https://globalgoals.goldstandard.org/standards/101_V1.2_PAR_Principles-Requirements.pdf

³ <https://cdm.unfccc.int/methodologies/DB/HF3LP6O41YY0JIP1DK6ZRJO9RSCX3S>

methodological requirement. The project activity is a 250 MW solar project and thus qualifies under large scale projects (Non-Micro Scale). This Renewable project estimates issuing emission reductions greater than 10,000 tCO₂e, thus the project falls under non-Microscale categories.

- (d) Host Country Requirements:** The project has obtained all the requirement for the commissioning of the project from the Government of India.
- (e) Contact Details:** Please refer Appendix 2 for the contact details. Clean Solar Power (Jodhpur) Pvt. Ltd. is acting as project proponent (PP) of project activity.
- (f) Legal ownership:** please refer section A.1.2 for the legal ownership details.
- (g) Other Rights:** The legal ownership of the project lies with the PP and the same has been demonstrated in section A.1.2. There are no any disputes in regard to this project activity.
- (h) Official Development Assistance (ODA) Declaration:** Refer Section A.5 for the information of funding sources of projects.

The project also confirms that:

- ☐ The project is not registered in any other GHG mechanism. PP declaration is provided to confirm the same.
- ☐ The project activity is located in Host Country India, which do not have any emission reduction cap enforced nor it has possibility to trade emissions that include the scope of the proposed project. PP declaration is provided for the same.
- ☐ There shall be no double counting of the impacts and also the project area does not overlap with that of another Gold Standard or other voluntary or compliance standard programme of a similar nature. PP declaration is provided to confirm the same.
- ☐ The project activity is in compliance with all applicable legal, environmental, ecological and social regulations of India.

The project activity results in displacement of electricity from thermal power stations while contributing to sustainable development of India. Hence, the project contributes to the Gold Standard Vision and Mission.

As per section 1 Scope and Applicability of GS4GG-Renewable-Energy-Activity-Requirements-v1.4, the project activity conforms (a) Gold Standard for the Global Goals Principles & Requirements (and associated documents) AND (b) Gold Standard Renewable Energy Activity Requirements.

As per the GS4GG-Renewable-Energy-Activity-Requirements-v1.4⁴, section 2 Eligible Project Types is described below:

- ☐ As per criteria 2.1.1 of Renewable Energy Activity Requirements-v1.4, the project activity fulfills the requirements as set out in Renewable Energy Activity Requirements-v1.4 and in other GS guideline documents.

⁴ <https://globalgoals.goldstandard.org/202-ar-renewable-energy-activity-requirements/>

- As per the section 2.1.2 (a), this project is generating electricity using renewable energy sources i.e. from solar energy.
- As per the section 2.1.2 (b), this project is electricity generation through solar energy and supplying energy to the INDIAN grid.
- The project type is power generation from solar energy. Hence, criteria 2.1.4 of Renewable Energy Activity Requirements-v1.4 is not applicable for this project.
- As per criteria 2.1.5, of Renewable Energy Activity Requirements-v1.4, the criteria 2.1.3 is not applicable because the project was submitted for preliminary review on 21/01/2020 which is before 24/01/2020. Therefore, this project is eligible.
- The criteria 2.1.6 and 2.1.7 of Renewable Energy Activity Requirements-v1.4 is not applicable for this project activity.

A.1.2. Legal ownership of products generated by the project and legal rights to alter use of resources required to service the project

Clean Solar Power (Jodhpur) Pvt. Ltd is the project proponent (PP) of project activity and have the legal right to control and operate the project activities.

The project ownership has been demonstrated through below supporting documents:

1. **Power Purchase Agreement** – The PPA between SECI and Clean Solar Power (Jodhpur) Pvt. Ltd. for sale of power from the project activity indicates that PP have the legal right to control and operate the project activities.
2. **Contract with EPC contractor** – The purchase order on the name of Clean Solar Power (Jodhpur) Pvt. Ltd. indicates that PP have the legal right to control and operate the project activities.

Based on above evidences, the project ownership is with Clean Solar Power (Jodhpur) Pvt. Ltd.

It is to be noted that, the ownership of the entire 250 MW solar project solely lies with Clean Solar Power (Jodhpur) Pvt Ltd. as the PPA, commissioning documents and Purchase orders are in the name of Clean Solar Power (Jodhpur) Pvt Ltd. and further, the ownership of the carbon credits will also be with Clean Solar Power (Jodhpur) Pvt Ltd.

A.2. Location of project

Host Country: India

State: Rajasthan

District: Jodhpur

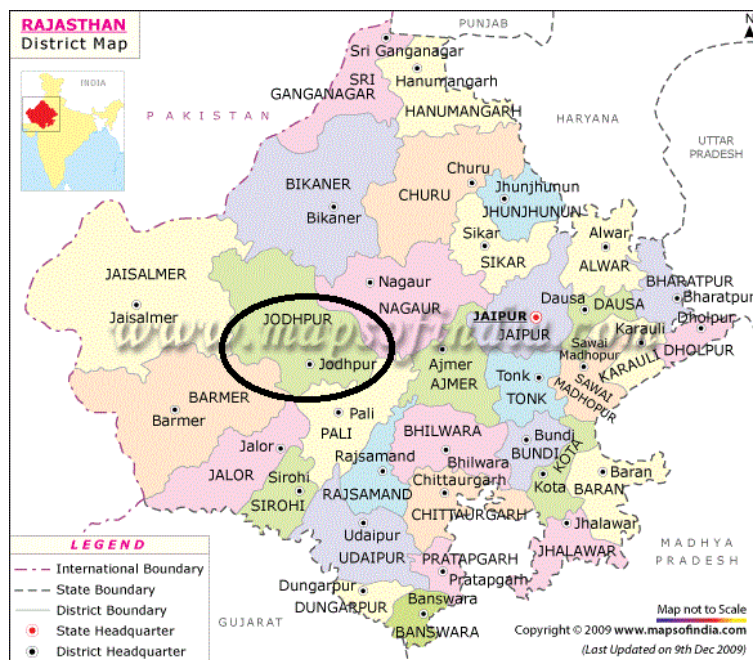
Village: Kushalram Ki Basti, Ismail Khan Ki Dhani & Dedasari

Tehsil: Baap

Physical/Geographical location

Project Investor	Project Capacity	Latitude	Longitude
Clean Solar Power (Jodhpur) Pvt Ltd	250	27° 23' 41.6139" N	72° 01' 15.6068" E

The location of the project activity has been highlighted in the map shown below



A.3. Technologies and/or measures

The total installed capacity of the project is 250 MW, which comprises of Solar PV project owned by Clean Solar Power (Jodhpur) Pvt Ltd in Rajasthan. The technical specifications of 250 MW Solar PV project is provided below.

Equipment	Details
Module	Make: ZN shine, HT saac, Longi, Trina solar Capacity: 330Wp – 540Wp Type: Mono/Poly PERC Nos- 930,000
Module Mounting Structures	Make: Purushotam Profiled Pvt Ltd, New Delhi Type: 2 potrait Nos- 35,000
String Inverter	Make: Sungrow/SG250HX Capacity: 200 KVA Nos- 1050
Central Inverter	Make: Sungrow/SG2000HV-20 Capacity: 2500 KVA Nos- 16
Inverter Duty Transformer	Make: Voltamp and T&R Capacity: 5 MVA; 9.6 MVA Nos- 30

This is a solar PV project, and the technical lifetime of the project is of 25 years.

Technology Transfer

No technology transfer from other countries is involved in the project.

The project activity is a Voluntary initiative by the PP and is contributing to the SDG goals set forth by GS as detailed below:

1- SDG 7– Ensure access to affordable, reliable and modern energy for all- 643,926 MWh/year

2- SDG 8– Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all- 1 training/annum and employment to 10 persons shall be provided.

3- SDG 13- Take urgent action to combat climate change and its impact- 599,494 tCO₂e

A.4. Scale of the project

As per para 3.1.3 of GS4GG “Renewable Energy Activity Requirements” V 1.4, the project above microscale threshold are considered as Non microscale project.

This is a large-scale project activity and it falls under the category of non-microscale project utilizing Solar PV modules to generate electricity, with an installed capacity of 250 MW.

A.5. Funding sources of project

There is no public funding from Annex 1 countries and no diversion of Official Development Assistance (ODA) involved in the project activity.

SECTION B. APPLICATION OF APPROVED GOLD STANDARD METHODOLOGY (IES) AND/OR DEMONSTRATION OF SDG CONTRIBUTIONS

B.1. Reference of approved methodology (ies)

Title: Grid-connected electricity generation from renewable sources

Reference: The project activity meets the eligibility criteria of large-scale project as it is more than 15 MW

Methodology: ACM0002: Grid-connected electricity generation from renewable sources - Version 21.0⁵

Type I: Energy industries (renewable / non-renewable sources)

Category: Approved Consolidated Methodology (ACM0002)

Tools referred with above methodology and applicable for project activity are:

- ☐ Tool to calculate the emission factor for an electricity system⁶- Version 07.0 (EB 100, Annex 04)
- ☐ Tool for the demonstration and assessment of additionality⁷- Version 07.0.0 (EB 70, Annex 08)

⁵ <https://cdm.unfccc.int/methodologies/DB/HF3LP6O41YY0JIP1DK6ZRJO9RSCX3S>

⁶ <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-07-v7.0.pdf>

⁷ <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-01-v7.0.0.pdf>

□ Investment Analysis⁸– Version 12.0 (EB 112, Annex 2)

B.2. Applicability of methodology (ies)

The project activity is Grid connected renewable power generation and meets the applicability conditions of the chosen methodology as follows:

The project activity involves generation of grid connected electricity from renewable solar energy. The project activity has an installed capacity of 250 MW which will qualify for a large GS project activity under large scale methodologies. The project status is corresponding to the methodology ACM0002 Version 21.0 and applicability of methodology are discussed below:

Applicability	Project activity vis-à-vis applicability conditions
This methodology is applicable to grid-connected renewable power generation project activities that: a. Install a Greenfield power plant; b. Involve a capacity addition to (an) existing plant(s); c. Involve a retrofit of (an) existing operating plants/units; d. Involve a rehabilitation of (an) existing plant(s)/unit(s) or e. Involve a replacement of (an) existing plant(s)/unit(s).	The project activity is a Renewable Energy Project i.e. Solar Power Project which falls under applicability criteria option 1 (a) i.e., "Install a Greenfield power plant". Hence the project activity meets the given applicability criterion.
In case the project activity involves the integration of a BESS, the methodology is applicable to grid-connected renewable energy power generation project activities that: a. Integrate BESS with a Greenfield power plant; b. Integrate a BESS together with implementing a capacity addition to (an) existing solar photovoltaic or wind power plant(s)/unit(s); c. Integrate a BESS to (an) existing solar photovoltaic or wind power plant(s)/unit(s) without implementing any other changes to the existing plant(s); d. Integrate a BESS together with implementing a retrofit of (an)	This criteria is not applicable for this project activity as it does not use battery Energy Storage System.

⁸ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v12.pdf>

existing solar photovoltaic or wind power plant(s)/unit(s).	
The methodology is applicable under the following conditions: a. The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit; b. In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity; c. In case of Greenfield project activities, the project participants shall demonstrate that the BESS was an integral part of the design of the renewable energy project activity (e.g. by referring to feasibility studies or investment decision documents); d. The BESS should be charged with electricity generated from the associated renewable energy power plant(s). Only during exigencies may the BESS be charged with electricity from the grid or a fossil fuel electricity generator. In such cases, the corresponding GHG emissions shall be accounted for as project emissions. The charging using the grid or using fossil fuel electricity generator should not amount to more than 2 per cent of the electricity generated by the project renewable energy plant during a	The project activity is an installation of a new grid connected renewable energy solar power plant and hence condition (a) is met. The conditions (b) to (d) are not applicable for this project activity.

monitoring period. During the time periods (e.g. week(s), months(s)) when the BESS consumes more than 2 per cent of the electricity for charging, the project participant shall not be entitled to issuance of the certified emission reductions for the concerned periods of the monitoring period.	
In case of hydro power plants, one of the following conditions shall apply: a. The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or b. The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density calculated using equation (7), is greater than 4 W/m²; or c. The project activity results in new single or multiple reservoirs and the power density, calculated using equation (7), and is greater than 4 W/m². d. The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (3), is lower than or equal to 4 W/m², all of the following conditions shall apply: i) The power density calculated using the total installed capacity of the integrated project, as per equation (8), is greater than 4 W/m²; ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity; iii) Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m² shall be; a. Lower than or equal to 15 MW; and	The project activity is a grid connected renewable solar energy project. This condition is applicable only for hydro power plants and not applicable for solar projects. Therefore, this condition is not applicable for project activity.

b. Less than 10 per cent of the total installed capacity of integrated hydro power project.	
In the case of integrated hydro power projects, project participant shall: i) Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or ii) Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore, this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum five years prior to implementation of CDM project activity.	The project activity is a grid connected renewable energy solar PV energy project. This condition is applicable only for hydro power plants and not applicable for solar projects. Therefore, this condition is not applicable for project activity.
Methodology is not applicable to the following: a. Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; b. Biomass fired power plants/units	The project activity is an installation of a new grid connected renewable energy project and does not involve switching from fossil fuel to renewable energy and hence this criterion is not relevant to the project activity.
In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, that is to use the power generation equipment that was already in use prior to the implementation of the project activity	The project activity is a new grid connected renewable solar energy plant and not a retrofits, replacement or capacity additions and therefore this criterion is not applicable to the project activity.

and undertaking business as usual maintenance”.	
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Tool to calculate the emission factor for an electricity system⁹- Version 07.0 (EB 100, Annex 04)

Applicability Criterion (with Para number reference)	Project Case
This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity that is where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects).	The project is a grid connected Greenfield solar power project and thus the tool is applicable.
Under this tool, the emission factor for the project electricity system can be calculated either for grid power plants only or, as an option, can include off-grid power plants. In the latter case, two sub-options under the step 2 of the tool are available to the project participants, i.e. option IIa and option IIb. If option IIa is chosen, the conditions specified in “Appendix 2: Procedures related to off-grid power generation” should be met. Namely, the total capacity of off-grid power plants (in MW) should be at least 10 per cent of the total capacity of grid power plants in the electricity system; or the total electricity generation by off-grid power plants (in MWh) should be at least 10 per cent of the total electricity generation by grid power plants in the electricity system; and that factors which negatively affect the reliability and stability of the grid are primarily due to constraints in generation and not to other aspects such as transmission capacity.	Steps involved in calculation of Emission Factor is included in section B.6.3 of the PDD as per the requirement of the tool
In case of CDM projects the tool is not applicable if the project electricity system is located partially or totally in an Annex I country.	Project is located in non-Annex I country and hence the tool is applicable

⁹ <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-07-v7.0.pdf>

Applicability Criterion (with Para number reference)	Project Case
Under this tool, the value applied to the CO ₂ emission factor of biofuels is zero.	The project is a solar project and there is no involvement of biofuels.

Methodological Tool- Tool for the demonstration and assessment of additionality- Version 07.0.0 (EB 70, Annex 08).

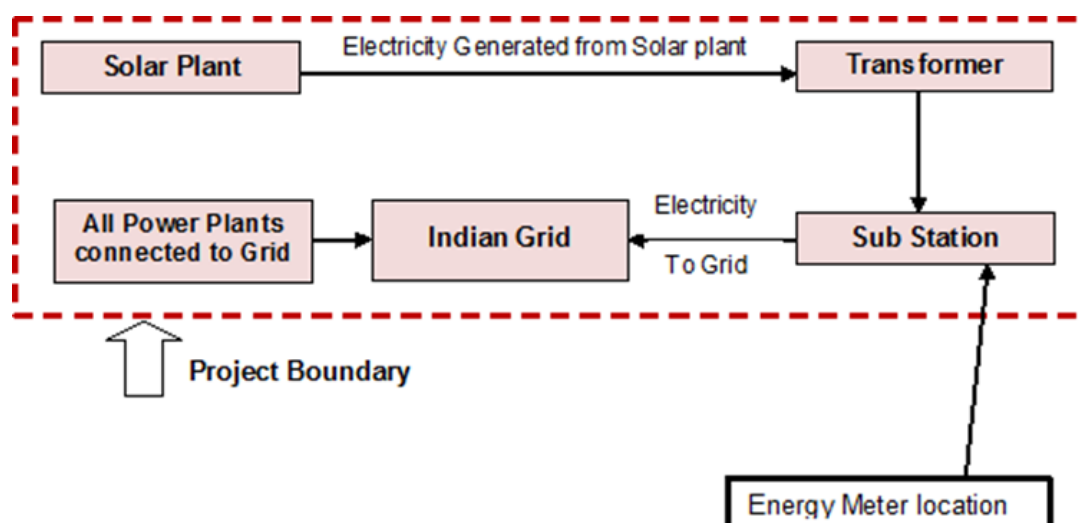
The Applicability Criteria of the above methodological tool has been demonstrated in the additionality section below.

The project activity qualifies as Type I during every year of the crediting period in accordance with applicable provisions for project activity eligibility as discussed above. Also, the total installed capacity of project activity is 250 MW which is applicable as per large scale project activities methodology ACM0002: Grid-connected electricity generation from renewable sources Version 21.0. The project capacity will always remain the same and hence the project activity will always be large scale project activities throughout the crediting period and thereafter.

B.3. Project boundary

As per ACM0002 Version 21.0 - "The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to".

The project boundary includes the Solar PV Plant, 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 GS4GG project activity



Source		GHGs	Included?	Justification/Explanation
Baseline e	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 CO ₂ emissions are emitted from the project
Project scenario	Greenfield Solar Power Project Activity.	CO ₂	No	No CO ₂ emissions are emitted from the project
		CH ₄	No	Project activity does not emit CH ₄
		N ₂ O	No	Project activity does not emit CH ₄
		Other	No	Project activity does not emit other forms of GHG emissions

B.4. Establishment and description of baseline scenario

Baseline Scenario

As per the approved consolidated Methodology ACM0002 (Version 21) para 22: "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 project to harness the power of Solar to produce electricity and supply to the grid. In the absence of the project activity, the equivalent amount of power would have been supplied by the Indian grid, which is fed mainly by fossil fuel fired plants.

In the absence of the project activity, the equivalent amount of power would have been drawn from the Indian grid. Hence, the baseline for the project activity is the equivalent amount of power from the Indian grid.

Annexure 3 of the EB 22 states that national and/or sectoral policies and circumstances have to be accounted for when considering the baseline scenario.

Para 7(a) of the same states that, only those national and/or sectoral policies or regulations under paragraph 6(a) i.e. type E+ policy that increase GHG emissions, that have been implemented before adoption of the Kyoto Protocol by the COP (decision 1/CP.3, 11 December 1997), shall be taken into account when developing a baseline scenario. The Electricity Act of 2003 promoted cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity (Refer Section 86(1) of Electricity Act 2003). Therefore, it could be seen that the provincial and sectoral policies are E- i.e., policies that decrease GHG emissions and are after November 2001. Hence the baseline scenario is the electricity generation by grid connected fossil fuel dominated power plants confirming to Annex 3 of EB 22.

Further, the baseline alternative mentioned above is in compliance with all the applicable regulatory policies and laws. Additionally, the project participant is under no compulsion to opt for any particular technology or even a renewable mode of power generation. There is no governmental body or EB policy which requires a particular kind of fuel to be chosen and there is no legal requirement to which the above alternative does not conform.

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 publically available. The CEA database version 18 is the latest available data at the time of PD 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
$EF_{grid,CM,y}$	0.9310 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 18.0, December 2022 published by Central Electricity Authority (CEA), Government of India
$EF_{grid,OM,y}$	0.9518 tCO ₂ /MWh	Operating margin CO ₂ emission factor for the project electricity system in year y.	Calculated as the last 3 year (2019-20, 2020-21, 2021-22) generation-weighted average, sourced from Baseline CO ₂ Emission Database, Version 18.0, December 2022 published by Central Electricity Authority (CEA), Government of India
$EF_{grid,BM,y}$	0.8687 tCO ₂ /MWh	Build margin CO ₂ emission factor for the project electricity system in year y.	Baseline CO ₂ Emission Database, Version 18.0, December 2022 published by Central Electricity Authority (CEA), Government of India

Calculation of Baseline Emission

As per the approved consolidated Methodology ACM0002 (Version 21.0) para 39:

Baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants. The baseline emissions are to be calculated as follows:

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

Where:

BE_y = Baseline emissions in year y (t CO₂/yr)

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)

$EF_{grid,CM,y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (t CO₂/MWh)

As per methodology, combined grid emission factor as per the “Tool to calculate the emission factor for an electricity system” version 07 is calculated as below.

CO₂ Baseline Database for the Indian Power Sector, Version 18.0, December 2022¹⁰ published by Central Electricity Authority (CEA), Government of India has been used for the calculation of emission reduction.

As per Methodological tool: Tool to calculate the emission factor for an electricity system (Version 07.0, EB 100, Annex 4), following six steps have been followed:

- (a) **Step 1:** Identify the relevant electricity systems;
- (b) **Step 2:** Choose whether to include off-grid power plants in the project electricity system (optional);
- (c) **Step 3:** Select a method to determine the operating margin (OM);
- (d) **Step 4:** Calculate the operating margin emission factor according to the selected method;
- (e) **Step 5:** Calculate the build margin (BM) emission factor;
- (f) **Step 6:** Calculate the combined margin (CM) emission factor.

Step 1: Identify the relevant electricity systems

As described in tool “For determining the electricity emission factors, identify the relevant project electricity system. Similarly, identify any connected electricity systems”. It also states that “If the DNA of the host country has published a delineation of the project electricity system and connected electricity systems, these delineations should be used”. Keeping this into consideration, the Central Electricity Authority (CEA), Government of India has divided the Indian Power Sector into five regional grids viz. Northern, Eastern, Western, North-eastern and Southern.

However since August 2006, however, all regional grids except the Southern Grid had been integrated and were operating in synchronous mode, i.e. at same frequency. Consequently, the Northern, Eastern, Western and North-Eastern grids were treated as a single grid named as NEWNE grid from FY 2007-08 onwards for the purpose of this CO₂ Baseline Database. As of 31 December 2013, the Southern grid has also been synchronised with the NEWNE grid, hence forming one unified Indian Grid. Since the project supplies electricity to the Indian grid, emissions generated due to the electricity generated by the Indian grid as per CM calculations will serve as the baseline for this project.

Table: Geographical Scope of Indian Electricity Grid

¹⁰ https://cea.nic.in/wp-content/uploads/baseline/2023/01/Approved_report_emission_2021_22.pdf

Northern	Eastern	Western	North-Eastern	Southern
Chandigarh	Bihar	Chhattisgarh	Arunachal Pradesh	Andhra Pradesh
Delhi	Jharkhand	Gujarat	Assam	Karnataka
Haryana	Orissa	Daman & Diu	Manipur	Kerala
Himachal Pradesh	West Bengal	Dadar & Nagar Haveli	Meghalaya	Tamil Nadu
Jammu & Kashmir	Sikkim	Madhya Pradesh	Mizoram	Telangana
Punjab	Andaman & Nicobar	Maharashtra	Nagaland	Puducherry
Rajasthan		Goa	Tripura	Lakshadweep
Uttar Pradesh				
Uttarakhand				

Step 2: Choose whether to include off-grid power plants in the project electricity system (optional)

Project participants may choose between the following two options to calculate the operating margin and build margin emission factor:

Option I: Only grid power plants are included in the calculation.

Option II: Both grid power plants and off-grid power plants are included in the calculation.

The Project Participant has chosen only grid power plants in the calculation.

Step 3: Select a method to determine the operating margin (OM)

The calculation of the operating margin emission factor ($EF_{grid,OM,y}$) is based on one of the following methods, which are described under Step 4:

- (a) Simple OM; or
- (b) Simple adjusted OM; or
- (c) Dispatch data analysis OM; or
- (d) Average OM.

The data required to calculate Simple adjusted OM and Dispatch data analysis OM is not possible due to lack of availability of data to project developers. The choice of other two options for calculating operating margin emission factor depends on generation of electricity from low-cost/ must-run sources. In the context of the methodology low cost/must run resources typically include hydro, geothermal, wind, low-cost biomass, nuclear and solar generation.

Share of Must-Run (Hydro/Nuclear) (% of Net Generation)

	2017-18	2018-19	2019-20	2020-21	2021-22
India	14.3%	14.5%	17.0%	16.5%	15.8%

Data Source: Central Electricity Authority (CEA) database Version 18, December 2022¹¹

The above data clearly shows that the percentage of total grid generation by low-cost/must-run plants (on the basis of average of five most recent years) for the Indian grid is less than 50% of the total generation. Thus, the Average OM method cannot be applied, as low cost/must run resources constitute less than 50% of total grid generation.

The simple OM emission factor is calculated as the generation-weighted average CO₂ emissions per unit net electricity generation (tCO₂/MWh) of all generating power plants serving the system, not including low-cost/must-run power plants/units.

For the simple OM, the simple adjusted OM and the average OM, the emissions factor can be calculated using either of the two following data vintages:

Ex-ante option: If the ex-ante option is chosen, the emission factor is determined once at the validation stage, thus no monitoring and recalculation of the emissions factor during the crediting period is required.

OR

Ex-post option: If the ex-post option is chosen, the emission factor is determined for the year in which the project activity displaces grid electricity, requiring the emissions factor to be updated annually during monitoring.

PP has chosen ex-ante option for calculation of Simple OM emission factor using a 3-year generation-weighted average, based on the most recent data available at the time of submission of the PD to the DOE for validation.

OM determined at validation stage will be the same throughout the crediting period. There will be no requirement to monitor & recalculate the emission factor during the crediting period.

Step 4: Calculate the operating margin emission factor (EF_{grid,OM,Simple,y}) according to the selected method

The operating margin emission factor has been calculated using a 3 year data vintage:

Net Generation in Operating Margin (GWh) (incl. Imports)			
	2019-20	2020-21	2021-22
INDIAN Grid	965,009	958,218	1,035,672

Simple Operating Margin (tCO ₂ /MWh) (incl. Imports)			
	2019-20	2020-21	2021-22
INDIAN Grid	0.9541	0.9402	0.9605

¹¹ https://cea.nic.in/wp-content/uploads/baseline/2023/01/Approved_report_emission_2021_22.pdf

Weighted Generation Operating Margin	
INDIAN Grid	0.9518

Step 5: Calculate the build margin (BM) emission factor ($EF_{grid,BM,y}$)

As per Methodological tool: "Tool to calculate the emission factor for an electricity system" (Version 07.0, EB 100, Annex 4) para 70:

In terms of vintage of data, project participants can choose between one of the following two options:

(a) Option 1- for the first crediting period, calculate the build margin emission factor ex ante based on the most recent information available on units already built for sample group m at the time of PD submission to the DOE for validation. For the second crediting period, the build margin emission factor should be updated based on the most recent information available on units already built at the time of submission of the request for renewal of the crediting period to the DOE. For the third crediting period, the build margin emission factor calculated for the second crediting period should be used. This option does not require monitoring the emission factor during the crediting period.

(b) Option 2- For the first crediting period, the build margin emission factor shall be updated annually, ex post, including those units built up to the year of registration of the project activity or, if information up to the year of registration is not yet available, including those units built up to the latest year for which information is available. For the second crediting period, the build margin emissions factor shall be calculated ex ante, as described in Option 1 above. For the third crediting period, the build margin emission factor calculated for the second crediting period should be used.

Option 1 as described above is chosen by PP to calculate the build margin emission factor for the project activity. BM is calculated ex-ante based on the most recent information available at the time of submission of PD and is fixed for the entire crediting period.

Build Margin (tCO ₂ /MWh) (not adjusted for imports)	
	2021-22
INDIAN Grid	0.8687

Step 6: Calculate the combined margin (CM) emission factor ($EF_{grid,CM,y}$)

As per Methodological tool: "Tool to calculate the emission factor for an electricity system" (Version 07.0, EB 100, Annex 4) para 79:

The calculation of the combined margin (CM) emission factor ($EF_{grid,CM,y}$) is based on one of the following methods:

- (a) Weighted average CM; or
- (b) Simplified CM.

PP has chosen option (a) i.e weighted average CM to calculate the combined margin emission factor for the project activity.

The combined margin emissions factor is calculated as follows:

$$EF_{grid,CM,y} = EF_{grid,OM,y} * W_{OM} + EF_{grid,BM,y} * W_{BM}$$

Where:

$EF_{grid,BM,y}$	= Build margin CO ₂ emission factor in year y (t CO ₂ /MWh)
$EF_{grid,OM,y}$	= Operating margin CO ₂ emission factor in year y (t CO ₂ /MWh)
W_{OM}	= Weighting of operating margin emissions factor (per cent)
W_{BM}	= Weighting of build margin emissions factor (per cent)

The following default values should be used for W_{OM} and W_{BM} :

Wind and solar power generation project activities: W_{OM} = 0.75 and W_{BM} = 0.25 (owing to their intermittent and non-dispatchable nature) for the first crediting period and for subsequent crediting periods. Since project activity is of solar power generation, the above weightage has been considered for OM and BM.

$$\begin{aligned}\text{Therefore, } EF_{grid,CM,y} &= 0.9518 * 0.75 + 0.8687 * 0.25 \\ &= 0.9310 \text{ tCO}_2/\text{MWh}\end{aligned}$$

Baseline emission factor (EF_y)

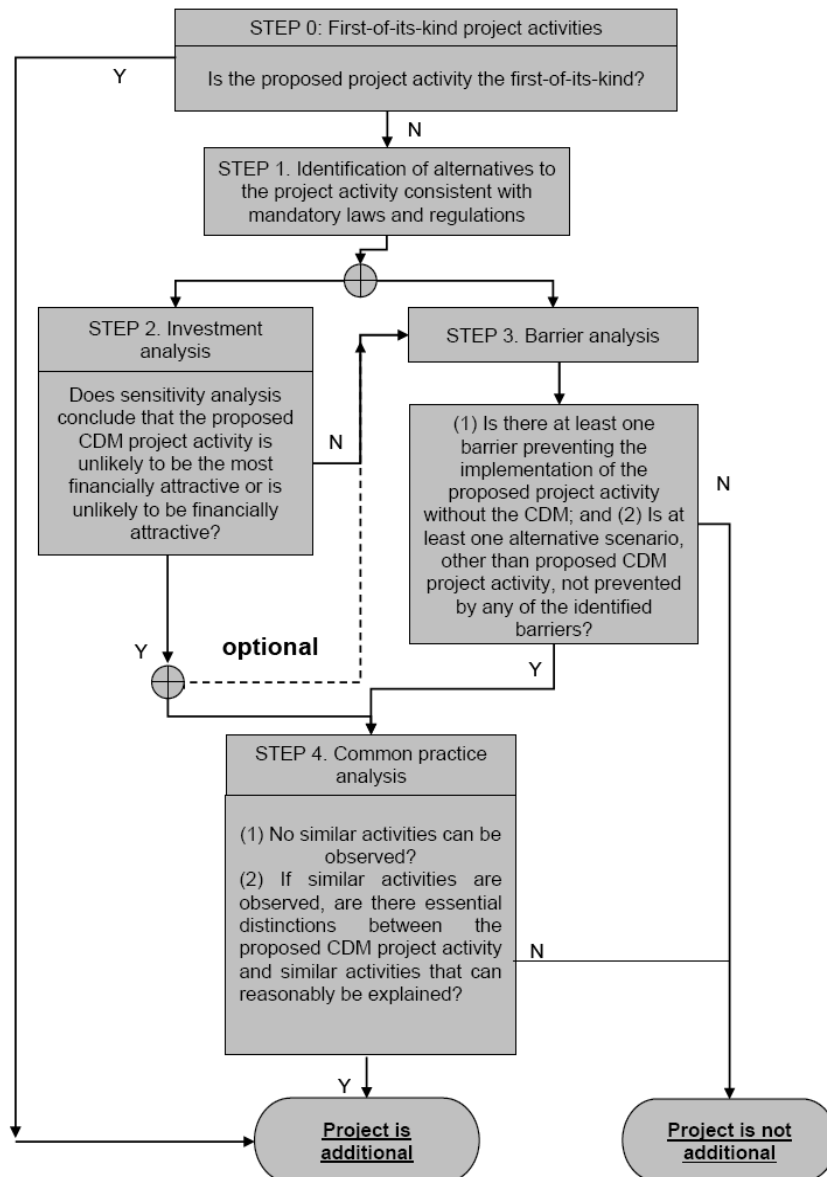
The baseline emission factor is calculated using the combined margin approach as described in Step 6 above:

$$\text{Therefore, } EF_y = EF_{grid,CM,y} = 0.9310 \text{ t CO}_2/\text{MWh}.$$

$$\begin{aligned}BE_y &= 643,926 \times 0.9310 \\ &= 599,494 \text{ tCO}_2\text{e (Round down value)}\end{aligned}$$

B.5. Demonstration of additionality

The project generates power using solar energy which is a renewable, zero emission source of energy. Baseline considerations for the project are based on approved consolidated baseline methodology ACM0002 (Version 21.0). The methodology requires the project investor to determine the additionality based on "Methodological Tool- Tool for the demonstration and assessment of additionality", Version 7.0.0. The step-wise approach to establish additionality of the project activity has been followed, details of which are provided in the following paragraphs:



The additionality of the Project activity is ascertained in line with the applicable guidance from the UNFCCC. The demonstration of additionality for the proposed Project activity is being carried out in accordance with the additionality tool provided by the UNFCCC i.e. "Tool for demonstration and assessment of Additionality" Version 07.0.0. The tool provides a step-wise approach to demonstrate additionality which is displayed below:

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

As per the applied methodology ACM0002 Version 21.0; Para 22, if the project activity is the installation of a Greenfield power plant, the baseline scenario is electricity

generated by the project activity would have otherwise been generated by the operation of grid connected power plant and by the addition of new generation sources.

As the baseline scenario is prescribed by applied methodology, hence no further analysis is carried out to identify alternatives.

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

As per "Tool for the demonstration and assessment of additionality" (version 07.0.0, EB 70 annex 08), for financial analysis of the project, the following three options are available:

Option I: Simple Cost Analysis

Option II: Investment Comparison Analysis

Option III: Benchmark Analysis

The project will generate revenues from savings accrued from electricity generation from Solar PV plant being a captive project, therefore Option I is not applicable. Option II also does not apply since there is no comparable investment alternative available to the project participant. The most appropriate financial analysis method is therefore option III: the benchmark analysis, where the returns on investment in the project activity are compared to benchmark returns that are available to any investors in the country.

Sub-step 2b (Option III): Apply benchmark analysis

Project participant has considered Post-Tax Equity IRR for investment analysis at the time of decision-making. As Project participant is only interested in the returns project is generating on the portion of investment costs, which is financed by them in the form of equity.

The guidance of Investment Analysis is used for project activity. As per guidance Required/expected returns on equity are appropriate benchmarks for an equity IRR. 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 Investment Analysis.

Choice of Financial Indicator:

As per Investment Analysis tool, Required/expected returns on equity are appropriate benchmarks for equity IRR. The Equity IRR is considered as the financial indicator and the benchmarks used is cost of equity. Hence the benchmarks used are applicable to the project activity and the type of IRR calculation presented

PP has used Methodological Tool for Investment Analysis version 12 (EB 116, Annex 2). The default value as mentioned in version 12 is 9.77% for group 1 project in India.

Hence, the default value of Return on Equity for Group-1 projects in India is 9.77 % as per EB 116, Annex 2.

Appropriateness of using benchmark analysis for additionality demonstration and its conformity to guidance 16 of Annex 2, EB 116¹²

Considering the fact that the alternative to the project is the supply of electricity from the grid & the choice of the developer is to invest or not to invest, benchmark analysis has been considered appropriate to circumstances where the baseline does not require investment or is outside the direct control of the project developer, i.e. cases where the choice of the developer is to invest or not to invest. Benchmark analysis has been considered appropriate for demonstration of additionality, which is in conformity with guidance 16 of Annex 2 EB 116

Benchmark Calculation

As per the guidelines of Methodological Tool- Investment Analysis para 15, "The applied benchmark shall be appropriate to the type of IRR calculated. Local commercial lending rates or weighted average costs of capital (WACC) are appropriate benchmarks for a project IRR. Required/expected returns on equity are appropriate benchmarks for an equity IRR. Benchmarks supplied by relevant national authorities are also appropriate". Since in this project activity, equity IRR has been considered as financial indicator, hence as per guidance 16, Required/expected returns on equity are considered as appropriate benchmarks and benchmark supplied by relevant national authorities has been used.

Since the choice of benchmark is based upon parameters that are standard in the market, hence as per Guidance 19 of EB 116 Annex 2, "the cost of equity should be determined either by: (a) selecting the values provided in the Appendix; or by (b) calculating the cost of equity using CAPM". Hence as per option (a), the default value for India is being considered as per the value provided in Appendix of EB 116 Annex 2¹³. The benchmark thus selected complies as per the relevant guidelines on Investment Analysis.

Further as per guidance 16 of EB 116 Annex 2, "In situations where an investment analysis is carried out in nominal terms and the available IRR benchmarks are in real terms, project participants shall convert the real term values of benchmarks to nominal values by adding the inflation rate. The inflation rate shall be obtained from the inflation forecast of the central bank of the host country for the duration of the crediting period". Following the above guidance, the default value is being converted to nominal values by adding inflation rate for 10 years, as per the inflation forecast rate provided by Reserve Bank of India.

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

¹² <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v12.pdf>

¹³ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v12.pdf>

Appendix A in EB 116, Annex 2 specifies default value of expected return on equity in real terms for Energy Industries (Group 1) in India= 9.77%

The Required return on equity (benchmark) was computed in the following manner:
 Nominal Benchmark¹⁴ = $\{(1 + \text{Real Benchmark}) * (1 + \text{Inflation rate})\} - 1$

Where:

- Default value for Real Benchmark = 9.77%
- Inflation Rate forecast for by Reserve Bank of India (RBI) (i.e. Central Bank of India) for India & in case where RBI Inflation forecast is not available Average Inflation rate forecast for India can be sourced from IMF web site. For this project, the inflation rate was considered from the Inflation rate forecast published by Reserve bank of India.

Benchmark estimation:

Appendix A in EB 116, Annex 2 specifies default value of expected return on equity in real terms for Energy Industries (Group 1) in India= 9.77%

Inflation Forecast for India as per RBI website¹⁵:

Since RBI publishes the inflation forecast for 5 years and 10 years, PP has considered the maximum 10 year inflation as PP has selected the crediting type of the project activity to be renewable crediting period.

Benchmark Calculations	Value	Sources Link	Document Date	Decision making Date
Default Value for India as per UNFCCC guidelines	9.77%	EB 116 annex 2	02/11/2022	09/02/2018
Inflation forecast (WPI Mean) as per RBI for 10yrs	3.90%	https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=18092	07/02/2018	
Benchmark	14.05%	Calculated		

Thus, benchmark of 14.05% has been selected for this project activity.

Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III):

The Post tax Equity IRR is evaluated for the entire lifetime of the project activity, i.e. 25 years. It is calculated based on the cash outflows from and cash inflows into the project activity.

¹⁴ As per Pg. 320 of Corporate Finance, Second Edition of Aswath Damodaran

¹⁵ <https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=18092>

Key Assumptions supporting financial projections are provided in excel spreadsheet to the DOE and the same has been summarized below.

Details of the project		Source
State where the project is situated	Rajasthan	As per DPR
Total Capacity (MW)	250.00	As per DPR
Expected Date of Commissioning	31-May-22	As per DPR
Life of the plant (Yrs.)	25	As Rajasthan Tariff Order dated 09/10/2017 ¹⁶
Generation of electricity		
PLF (%)	29.70%	As per DPR
Annual generation (kWh)	650,430,000	Calculated Value
Annual Degradation per year	0.50%	As Rajasthan Tariff Order dated 09/10/2017 ¹⁷
Tariff rate at the decision making (INR/kWh)	2.53	As per DPR
Escalation in tariff rate	0.0%	
Transmission & Wheeling Losses (%)	0.0%	
Operation and maintenance cost and Insurance		
O & M Expenses (INR Mn.)	210.25	As per DPR
O & M free for (Yr.)	-	
Escalation in the operational expenses (%)	5.85%	As per DPR
Insurance (INR Mn.)	158.69	CERC order
Financial parameters		
TOTAL COST (INR Mn.)	15,869.20	As Per DPR
Loan Amount (INR Mn.)	-	
Equity Investment (INR Mn.)	15,869.20	As Per DPR
Term loan		
Loan Amount (INR Mn.)	-	
Interest rate (%)	-	
Loan Tenure (Qtr.)	-	
Moratorium Period (Qtr.)	-	
Repayment Period (Qtr.)	-	
Repayment instalments value (INR Mn.)	-	
1st instalment from (Qtr. end)	-	
Book Depreciation (SLM Method)		
Land	-	
Gross Depreciable Value (INR Mn.)	15,869.20	Calculated Value

¹⁶ <https://rerc.rajasthan.gov.in/rerc-user-files/tariff-orders>

¹⁷ <https://rerc.rajasthan.gov.in/rerc-user-files/tariff-orders>

Salvage Value (%)	10.00%	
Salvage value (INR Mn.)	1586.92	Calculated Value
Net Depreciable Value (INR Mn.)	14,282.28	Calculated Value
Residual Value (INR Mn.)	1586.92	Calculated Value
IT Depreciation		
Depreciation Rate (upto 12-yrs)	5.83%	As Rajasthan Tariff Order dated 09/10/2017 ¹⁸
Depreciation Rate (after 12-yrs)	1.54%	
Income Tax		
Financial Year	FY 2022-23	
Income tax rate (%)	30.00%	As Per Income Tax Rule ¹⁹
Corporate Tax / MAT (%)	33.00%	As Per IT rule ²⁰
GST (%)	18.00%	As Per GST Rule ²¹
Surcharge (%)	12.00%	As Per Income Tax Rule ²²
Cess (%)	4.00%	As Per Income Tax Rule ²³
Final Tax rates		
Income tax rate (%)	34.94%	Calculated Value
MAT (%)	38.44%	Calculated Value
Service Tax (%)	18.72%	Calculated Value

Sub-step 2d: Sensitivity Analysis

Addressing Guidance 28 & 29 of EB 116, Annex 2, following factors has been subjected to sensitivity analysis:

1. PLF
2. O&M Cost
3. Project Cost
4. Tariff

The rationale of sensitivity is, "The ultimate objective of the sensitivity analysis is to determine the likelihood of the occurrence of a scenario other than the scenario presented, in order to provide a cross-check on the suitability of the assumptions used in the development of the investment analysis."

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 favorable conditions.

¹⁸ <https://rerc.rajasthan.gov.in/rerc-user-files/tariff-orders>

¹⁹ <https://cleartax.in/s/income-tax-slabs>

²⁰ <https://www.bankbazaar.com/tax/corporate-tax.html>

²¹ <https://taxguru.in/goods-and-service-tax/solar-power-plants-gst.html>

²² <https://cleartax.in/s/income-tax-slabs>

²³ <https://cleartax.in/s/income-tax-slabs>

Probability to breach the benchmark:
Sensitivity Parameter 1: PLF
PLF considered in financials for is as per the DPR submitted by PP to financial institutions which is in line with " Guidelines for the reporting and validation of Plant load factors " stated in EB48 Annex11 option 3(a) . Hence, variation in PLF of more than 10% is unlikely to happen as the PLF has been reported as per the third-party report based on long term data.
Sensitivity Parameter 2: O&M
The sensitivity analysis reveals that O&M will breach the benchmark at negative values and is hypothetical case. Since the O&M cost is generally subject to escalation and also subject to inflationary pressure, any reduction in the O&M costs is highly unlikely. Hence, the reduction in the O&M cost is highly unlikely.
Sensitivity Parameter 3: Project Cost
Project Cost for financial analysis is considered from DPR of the project activity, being available at the time of investment making decision to go ahead with the project activity. The actual project cost is lower within 10% than the DPR cost. Since the Purchase Order cost is firm, there is no possibility of project cost going below this level. However, Sensitivity is carried out for threshold level below which benchmark is not breached.
Sensitivity Parameter 4: Tariff Rate
The tariff is determined by PPA which is fixed for entire lifetime of the project activity. Hence, there is no probability to get variation for the same. However, Sensitivity is carried out for +/-10% even then the benchmark is not breached.

Result of Sensitivity Analysis

Sensitivity Analysis	Equity IRR			
Variation %	-10%	Normal	10%	Breaching Value
PLF	0.74%	1.94%	3.04%	142.09%
O&M	2.26%	1.94%	1.60%	-708.27%
Project Cost	2.82%	1.94%	1.19%	-64.00%
Tariff Rate	0.74%	1.94%	3.04%	142.09%

Outcome of Step 2:

Final Result

Equity IRR without CDM	Benchmark (Equity IRR)
1.94%	14.05%

This substantiates that the investment is not financially attractive i.e. the (Equity IRR for the project activity (1.94%) is less than the Benchmark Equity IRR (14.05%) for any of the investor. Thus, it can be easily concluded that project activity is additional & is not business as usual scenario.

Step 3: Barrier analysis

Barrier analysis has not been used.

Step 4: Common practice analysis

For the concerned project activity, Common Practice Analysis has been carried out for 250 MW capacity Solar Project by **Clean Solar Power (Jodhpur) Pvt. Ltd.**

Stepwise approach for common practice analysis has been carried out as per Methodological tool "Common Practice", version 03.1 EB 84, 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%	375	MW
Capacity of the proposed project activity	250	MW
-50%	125	MW

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) As the project is located in Rajasthan state of India, therefore, projects in the geographical area of Rajasthan have been chosen for analysis. The project activity involves generation of electricity from solar energy. The project activity are located in the states of Rajasthan in India and the policy applicable for the solar projects is regulated by respective state policy. The policies/tariff for each state is regulated by State Electricity Regulatory Commissions of respective states and they differ for respective states. The project implemented in different states are claimed as different since the policies and regulations differ in each state. Each state has different policies regarding renewable energy, hence Rajasthan state is considered as geographical region for common practise analysis.

b) 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) The energy source used by the project activity is Solar. Hence, only solar energy projects have been considered for analysis.

d) The project activity produces electricity; therefore, all power plants that produce electricity are candidates for similar projects

e) The capacity range of the projects is within the applicable capacity range from 125 MW to 375 MW.

f) The start date of the concerned project activity is 04-August-2021 (estimated). Therefore projects, which have started commercial operation before 04-August-2021, have been considered for analysis.

Numbers of Similar projects identified from the list of projects published by CEA²⁴, which fulfil above-mentioned conditions is summarized below

N_{solar} = 8

Sl. No	Owner name	State	Commissioning Date	capacity (MW)	CDM Reference No./weblink
1	Mahoba Solar (UP) Pvt Ltd	Rajasthan		200	-
2	ACME Chittorgarh Energy Pvt. Ltd.	Rajasthan		250	
3	Azure Power India Pvt. Ltd.	Rajasthan	27/04/2019	200	https://registry.goldstandard.org/projects/details/1983
4	Azure Power Thirty Four Pvt. Ltd.	Rajasthan	06/09/2019	130	https://registry.goldstandard.org/projects/details/1983
5	Clean Solar Power (Bhadla)	Rajasthan	10/12/2019	300	https://registry.goldstandard.org/projects/details/2571
6	Renew Solar Power Pvt Ltd.	Rajasthan		250	
7	SB Energy Four Pvt Ltd	Rajasthan	03/05/2019	200	https://registry.goldstandard.org/projects/details/1972

²⁴ <https://cea.nic.in/wp-content/uploads/2020/04/Plant-wise-details-of-RE-Installed-Capacity-merged.pdf>

8	Tata Power Renewable Energy	Rajasthan	30/08/2019	150	https://project.s.globalcarboncouncil.com/project/439
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Step (3): Within the projects identified in Step 2, identify those that are neither registered CDM project activities, project activities submitted for registration, nor project activities undergoing validation. Note their number N_{all} .

The project activities, which have got registered or are under validation have been excluded in this step. The list of the power plants has been identified above. After excluding the registered and under validation projects the total number of projects are

$N_{all} = 3$

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 this criteria, there are no any different technology project out of similar identified projects.

2. Investment climate on the date of the investment decision – For proposed project activity, there are no any different technology project considered 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 $F = 1 - N_{diff}/N_{all}$

$$F = 1 - (0/3) = 1$$

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 greater than 3.

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

Outcome of Common Practice analysis:

As,

i. $F = 1$; is greater than 0.2

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

The project activity does not satisfy second condition. Hence, project activity is 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.

B.5.1. Prior Consideration

The Purchase Order date of the project activity is 04/08/2021. The project was submitted for preliminary review on 21/01/2020.

As per prior consideration guideline, the major milestone of Project activity are as below:

1. The board decision date was on 09/02/2018, which is also the investment decision date for the project activity.
2. The Power Purchase agreement for the project activity was signed on 15/11/2018.
3. The invitation for local stakeholder meeting was sent through public notice on 15/11/2019 and the stakeholder meeting was conducted on 23/12/2020.
4. The purchase order for the project activity was signed on 04/08/2021, which is also the project start date.
5. 115 MW capacity out of the total 250 MW was commissioned on 14/03/2022 and the remaining 135 MW capacity was commissioned on 21/04/2022.
6. The O&M contract for the project activity was signed on 16/05/2022.
7. The project initial documents like GS4GG PDD, Cover Letter, ODA letter and Terms and conditions were submitted to GS on 21/01/2020 for preliminary review purpose.
8. The project attained listed status on 01/07/2021.
9. The stakeholder feedback round for 2 months was conducted from 06/07/2021 to 05/09/2021.
10. The site visit for the project was conducted by the VVB on 22/10/2021.

B.5.2. Ongoing Financial Need

As per the template guide, this section is mandatory at the time of Design Certification Renewal. Hence, this section is not applicable now, as the project is applying for Design Review Certification.

B.6. Sustainable Development Goals (SDG) outcomes

Relevant Target/Indicator for each of the three SDGs

Sustainable Development Goals Targeted	Most relevant SDG Target	SDG Impact
		Indicator (Proposed or SDG Indicator)

SDG 7 – Affordable and Clean Energy: Ensure access to affordable, reliable, sustainable and modern energy for all	7.2- By 2030, increase substantially the share of renewable energy in the global energy mix	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	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 8.6: By 2020, substantially reduce the proportion of youth not in employment, education or training	Employment generated due to project activity (8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities) No. of trainings provided to the employees (8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training)
SDG 13 – Climate Action: Take urgent action to combat climate change and its impacts	13.2: Integrate climate change measures into national policies, strategies and planning	The project is helping in Emission reductions in tCO ₂ by implementing renewable energy projects in host country i.e. in India. (13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)

B.6.1. Explanation of methodological choices/approaches for estimating the SDG Impact

SDG Goal	Methodological choices/approaches for estimating the SDG outcome
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SDG 7 –Affordable and Clean Energy: Ensure access to affordable, reliable, sustainable and modern energy for all.	Measurement Method: Electricity produced and supplied to the grid is monitored through energy meter. The net electricity supplied to the grid is obtained from the REA statement issued by Northern Region Power Committee (NRPC) which contains the information of the Scheduled Power, Actual Power and the Deviation between actual & scheduled power. For ER calculations, the values of Actual power will be considered. 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.
SDG 8 –Decent Work and Economic Growth: Promote inclusive and sustainable economic growth, employment and decent work for all.	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: This parameter is based on records, data and no any QA/QC procedure required. The DOE can confirm this parameter with interview with PP or Site in charge or employees for training and employment generation.
SDG 13–Climate Action: Take urgent action to combat climate change and its impacts.	Measurement Method: The emission reduction parameter is calculated as product of net electricity supplied to grid and grid emission factor. The grid emission factor is ex-ante parameter and determined based on data obtained from “CO₂ Baseline Database for Indian Power Sector” version 18.0, 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 7.0”. The emission reductions are calculated as per registered PDD and as per methodology requirement. The emission reductions will be calculated as per the formula below: $BE_y = EG_{PJ,y} \cdot EF_{grid,CM,y}$ QA/QC Process: This parameter is calculated, and no any QA/QC procedure required.

B.6.2. Data and parameters fixed ex ante

SDG13 (Indicators 13.2.1)

Data/parameter	EF_{grid,OM,y}
Unit	tCO ₂ /MWh
Description	Operating Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 18, December 2022 ²⁵
Value(s) applied	0.9518
Choice of data or Measurement methods and procedures	Calculated as per "Tool to calculate the emission factor for an electricity system, version 07" as per the latest data available for the most three recent years 2019-20, 2020-21 and 2021-22. The data is obtained from "CO ₂ Baseline Database for Indian Power Sector" version 18, published by the Central Electricity Authority, Ministry of Power, and Government of India.
Purpose of data	For the calculation of the Baseline Emission
Additional comment	This parameter is fixed ex-ante for the entire crediting period.

Data/parameter	EF_{grid,BM,y}
Unit	tCO ₂ /MWh
Description	Build Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 18, December 2022 ²⁶
Value(s) applied	0.8687
Choice of data or Measurement methods and procedures	Calculated as per "Tool to calculate the emission factor for an electricity system, version 07" as per the latest data available for the most recent year 2021-22. The data is obtained from "CO ₂ Baseline Database for Indian Power Sector" version 18, published by the Central Electricity Authority, Ministry of Power, and Government of India.
Purpose of data	For the calculation of the Baseline Emission
Additional comment	This parameter is fixed ex-ante for the entire crediting period.

Data/parameter	EF_{grid,CM,y}
Unit	tCO ₂ /MWh

²⁵ https://cea.nic.in/wp-content/uploads/baseline/2023/01/Approved_report_emission_2021_22.pdf

²⁶ https://cea.nic.in/wp-content/uploads/baseline/2023/01/Approved_report_emission_2021_22.pdf

Description	Combined Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 18, December 2022 ²⁷
Value(s) applied	0.9310
Choice of data or Measurement methods and procedures	The combined margin emissions factor is calculated as follows: $EF_{grid,CM,y} = EF_{grid,OM,y} * W_{OM} + EF_{grid,BM,y} * W_{BM}$ Where: EF_{grid,BM,y}= Build margin CO₂ emission factor in year y (tCO₂/MWh) EF_{grid,OM,y}= Operating margin CO₂ emission factor in year y (tCO₂/MWh) W_{OM} = Weighting of operating margin emissions factor (%) = 75% W_{BM}= Weighting of build margin emissions factor (%) = 25%
Purpose of data	For the calculation of the Baseline Emission
Additional comment	This parameter is fixed ex-ante for the entire crediting period.

B.6.3. Ex ante estimation of SDG Impact

SDG 7: Affordable and Clean Energy

The estimated net electricity generated from the project activity is calculated as below.

Project capacity = 250 MWh

PLF of the project = 29.70%

Therefore, the net electricity generated can be calculated as

$$\begin{aligned}
 EG_{PJ,y} &= \text{Project capacity} * \text{PLF} * 8760 \\
 &= 250 * 29.70\% * 8760 \\
 &= 650,430 \text{ MWh}
 \end{aligned}$$

Degradation of 0.5% has been considered annually from second year onwards. Therefore, the annual average value for net electricity generated over the crediting period is 643,926 MWh/annum (considering the degradation factor).

Therefore, **EG_{PJ,y} = 643,926 MWh/annum**

²⁷ https://cea.nic.in/wp-content/uploads/baseline/2023/01/Approved_report_emission_2021_22.pdf

SDG 8: Decent Work and Economic Growth

The project leads to employment opportunities and provides employment to around 10 persons.

Also, project activity improves the quality of employment by giving training to employee. Thus, 1 training per year will be conducted by the project activity.

SDG 13: Climate Action

For a given year, the emission reductions contributed by the project activity (ER_y) is calculated as follows:

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

Where:

BE_y	=	Baseline emissions in year y (t CO ₂)
$EG_{PJ,y}$	=	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y in MWh
$EF_{grid,CM,y}$	=	Combined margin CO ₂ emission factor for grid connected power generation in year y

$$\begin{aligned} BE_y &= 643,926 \text{ MWh/annum} \times 0.9310 \text{ t CO}_2/\text{MWh} \\ &= 599,494 \text{ t CO}_2\text{e/annum (round down value)} \end{aligned}$$

$$ER_y = BE_y - PE_y$$

Where:

$$\begin{aligned} ER_y &= \text{Emission reductions in year y (t CO}_2\text{e)} \\ BE_y &= \text{Baseline emissions in year y (t CO}_2\text{e)} \\ PE_y &= \text{Project emissions in year y (t CO}_2\text{e)} \end{aligned}$$

$$\begin{aligned} \text{Therefore, } ER_y &= 599,494 - 0 \\ &= 599,494 \text{ t CO}_2\text{e/annum (round down value)} \end{aligned}$$

B.6.4. Summary of ex ante estimates of each SDG Impact

SDG 7: Affordable and Clean Energy

Year	Baseline estimate	Project estimate	Net benefit
01/11/2020 to 31/10/2021	0	650,430	650,430
01/11/2021 to 31/10/2022	0	647,178	647,178
01/11/2022 to 31/10/2023	0	643,926	643,926
01/11/2023 to 31/10/2024	0	640,674	640,674
01/11/2024 to 31/10/2025	0	637,421	637,421
Total	0	3,219,629	3,219,629
Total number of crediting years	5		

Annual average over the crediting period	0	643,926	643,926
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Since project activity is renewable electricity generation, the quantity of Affordable and Clean Energy is mentioned under project estimate. In baseline, no any renewable energy generation, hence mentioned as zero.

SDG 8: Decent Work and Economic Growth

The project leads to employment opportunities and will provide employment to around 10 persons.

Also, project activity improves the quality of employment by giving training to employee. Thus, 1 training per year will be conducted by the project activity.

SDG 13: Climate Action

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.

Year	Baseline estimate	Project estimate	Net benefit
01/11/2020 to 31/10/2021	605,550	0	605,550
01/11/2021 to 31/10/2022	602,522	0	602,522
01/11/2022 to 31/10/2023	599,494	0	599,494
01/11/2023 to 31/10/2024	596,467	0	596,467
01/11/2024 to 31/10/2025	593,439	0	593,439
Total	2,997,472	0	2,997,472
Total number of crediting years	5		
Annual average over the crediting period	599,494	0	599,494

B.7. Monitoring plan

B.7.1. Data and parameters to be monitored

SDG 7 (Indicators 7.2.1)

Data / Parameter	$EG_{PJ,y}$
Unit	MWh/year
Description	Quantity of net electricity generation supplied by the project plant/unit in year y in MWh
Source of data	Monthly joint meter reading reports
Value(s) applied	643,926 MWh (estimated)
Measurement methods and procedures	The REA statement issued by Northern Region Power Committee (NRPC) contains the information of the Scheduled Power, Actual Power and the Deviation

	between actual & scheduled power. The scheduled power being feed into the grid can be cross-checked from the monthly Invoices raised by the PP. For ER calculations, the values of Actual power will be considered. The REA statements cannot be crosschecked with the monthly invoices because, the invoices are raised as per the scheduled generation. The NRPC is a credible government body, and the REA statement is publicly available at the website of NRPC.
Monitoring frequency	Continuous measurement & monthly recording
QA/QC procedures	Electricity exported by the project to the grid at project site switch yard is the actual generation recorded and monitored by the metering system installed at the project site switch yard. The energy meters are special energy meters which are installed and sealed by the Power Grid Corporation of India Limited in the presence of the representatives of the power producer. The check meter shall be used during the period the main metering system is not in service. The calibration frequency of the energy meters is once in five year²⁸.
Purpose of data	To Monitor the SDG 7 Indicator
Additional comment	Data will be archived in paper & electronic form for two years after the end of crediting period or of the last issuance of GS-VERs for this project activity, whichever occurs later.

SDG 13 (Indicators 13.2.1)

Data / Parameter	ER_y
Unit	tCO ₂ e/year
Description	Emission reductions achieved per year
Source of data	As per Estimated ER sheet. During the verification, the results shall be obtained from the Actual ER sheet.
Value(s) applied	599,494 (estimated)
Measurement methods and procedures	The baseline emissions are the product of electrical energy baseline EG _{PJ,y} expressed in MWh of electricity

²⁸ <http://www.cbip.org/MIR/1%20DATA/CEA%201.pdf>

	produced by the renewable generating unit multiplied by an emission factor.
Monitoring frequency	As per monitoring period
QA/QC procedures	Not Applicable
Purpose of data	To Monitor the SDG 13 Indicator
Additional comment	Data will be archived in paper & electronic form for two years after the end of crediting period or of the last issuance of GS-VERs for this project activity, whichever occurs later.

SDG 8 (Indicators 8.5.1)

Data / Parameter	Number of employment generation
Unit	Number
Description	Number of people employed directly due to the project activity
Source of data	Plant records or the training records for all the employees/Letter from O&M contractor for employment generation/ DOE interview with employees, local stakeholders etc
Value(s) applied	10
Measurement methods and procedures	The total number of persons working in the plant would be checked from the daily attendance sheet available at site. This parameter also monitors number of men/women employed by the project activity. The project activity ensures that "equal pay for work of equal value" for both men and women and there is no any discrimination against women. "The employment covers number of men and number of women employed by the project activity. The job is of type temporary/permanent or skilled/unskilled, etc. The actual breakup of the type of employment provided shall be provided at the time of verification. Also, it is ensued that peoples will get equal payment for equal work. The payment will be based on work and no any gender inequality for payment for work of equal value". The average hourly earnings of a person is calculated by considering 8 hours per day working as per Indian standards and is depicted below. For e.g, a person is getting a monthly salary of INR 18,566; then his hourly earnings will be calculated as follows:

	Hourly Income = $18,566 / (30 \times 8) = \text{INR } 77.36$. The hourly wages can be checked from the notification from the order published by the Chief Labour Commissioner (Central)²⁹. As per the notification from Chief Labour Commissioner, for semi-skilled workers working in B Category of cities, the daily wage is 357, and accordingly the average hourly earnings come out to be INR 44.62. Thus, it can be justified that, PP is providing the employees/workers with salary/wages higher than the minimum wages as determined by the minimum wages order published by Chief Labour Commissioner (Central). The same can be checked from the salary slips provided.
Monitoring frequency	Monthly monitoring and annual compilation
QA/QC procedures	The number of persons employed would be mentioned in the plant register, which can be crossed checked with attendance register.
Purpose of data	To Monitor the SDG 8 Indicator
Additional comment	-

SDG 8 (Indicators 8.6.1)

Data / Parameter	Quality of Employment
Unit	-
Description	Number of trainings provided per year
Source of data	Plant records or the training records for all the employees/Letter from O&M contractor for employment generation/ DOE interview with employees, local stakeholders etc
Value(s) applied	1 training per year
Measurement methods and procedures	Together with the technology supplier, the Project organise training for the staff on the technology and the monitoring of the plant operation, and the emergency and safety procedures.
Monitoring frequency	Annual
QA/QC procedures	The training records for all the employees
Purpose of data	To Monitor the SDG 8 Indicator
Additional comment	-

²⁹ <https://clc.gov.in/clc/min-wages>

B.7.2. Sampling plan

No sampling is required

B.7.3. Other elements of monitoring plan

Aim of monitoring:

The monitoring methodology specified in the methodology requires that the project-monitoring plan to consist of monitoring of quantity of net electricity supplied to the grid in the year y . In order to monitor the mitigation of GHG due to the project activity, the total energy exported needs to be measured. The net energy supplied to grid by the project activity multiplied by emission factor for Indian grid, would form the baseline for the project activity.

Since the baseline emission factor is based on an ex-ante determination, monitoring of this parameter is not required. The sole parameter for monitoring is the net electricity exported to the grid.

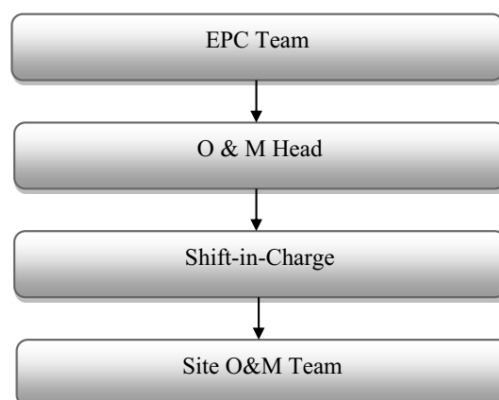
Monitoring roles and responsibilities

The operational and management structure implemented for data monitoring is as follows:

The monitoring plan is developed in accordance with the modalities and procedures for project activities and is proposed for grid-connected solar power project being implemented within India territory. The monitoring plan, which will be implemented by the project proponent describes about the monitoring organization, parameters to be monitored, monitoring practices, quality assurance, quality control procedures, data storage and archiving.

The authority and responsibility for monitoring, measurement, reporting and reviewing of the data rests with the project proponent. PP proposed the following structure for data monitoring, collection, data archiving and calibration of equipment's for this project activity.

The team comprises of the following members:



Responsibilities of O & M Head: Overall functioning and maintenance of the project activity and overall responsibility of compliance with the Monitoring Plan.

Responsibilities of Plant In-charge: Responsibility for maintaining the data records, ensures completeness of data, and reliability of data. Regularly verifying the monthly energy generation date with installed meters reading for identification of any discrepancies in data collection and taking suitable action to rectify them.

Responsibilities of Shift In-charge: Responsibility for day to day data collection and maintains day to day log book for monitored data. Responsibility for monthly and annual report generation. Quality assurance of the data/reports and preliminary check of data for any discrepancies.

QA/QC procedures: Electricity exported by the project to the grid at project site switch yard is the actual generation recorded and monitored by the metering system installed at the project site switch yard. The energy meters are special energy meters which are installed and sealed by the Power Grid Corporation of India Limited in the presence of the representatives of the power producer. The check meter shall be used during the period the main metering system is not in service. The calibration frequency of the energy meters is once in five year³⁰.

Data Measurement: The REA statement issued by Northern Region Power Committee (NRPC) contains the information of the Scheduled Power, Actual Power and the Deviation between actual & scheduled power. The scheduled power being feed into the grid can be cross-checked from the monthly Invoices raised by the PP. For ER calculations, the values of Actual power will be considered.

The REA statements cannot be crosschecked with the monthly invoices because, the invoices are raised as per the scheduled generation. The NRPC is a credible government body, and the REA statement is publicly available at the website of NRPC.

Apportioning: In case of mismatch of date between the start date or end date of the billing cycle and the start date or end date of monitoring period the data will be apportioned in line to the daily generation values for the said mismatch period.

Data Archiving: Monthly/weekly data shall be archived electronically and in paper form and stored for the entire crediting period and two years thereafter.

Emergency preparedness: The project activity will not result in any unidentified activity that can result in substantial emissions from the project activity. No need for emergency preparedness in data monitoring is visualized.

In the event that the main meter, which is used to record the net electricity exported by the project, is found to be faulty it will be repaired or replaced and the data from the check meter will be used in its place. In the unlikely event that the check meter fails it will also be repaired or replaced.

³⁰ <http://www.cbip.org/MIR/1%20DATA/CEA%201.pdf>

Training and maintenance requirements: Each and every site personnel is provided with proper training to meet the requirements of the Operations and maintenance. This ultimately leads to creativity in problem solving.

Personnel training: In order to ensure a proper functioning of the project activity and a properly monitoring of emission reductions, the staff will be trained. The plant helpers will be trained in equipment operation, data recording, reports writing, operation and maintenance and emergency procedures in compliance with the monitoring plan.

SECTION C. DURATION AND CREDITING PERIOD

C.1. Duration of project

C.1.1. Start date of project

04/08/2021. This date corresponds to the earliest date of supply agreement for the solar PV project.

C.1.2. Expected operational lifetime of project

25 Years 00 Months

C.2. Crediting period of project

C.2.1. Start date of crediting period

01/11/2022 (The crediting period start date is from 2 years back from GS registration date. The crediting period start date is estimated and will be changed as per the design certification date obtained from GS.)

C.2.2. Total length of crediting period

5 Years 00 Months (First crediting period).

5 years Renewable cycle is adopted for project activity.

SECTION D. SUMMARY OF SAFEGUARDING PRINCIPLES AND GENDER SENSITIVE ASSESSMENT

D.1. Safeguarding Principles that will be monitored

A completed Safeguarding Principles Assessment is in [Appendix 1](#). There is no continued monitoring required for the safeguarding practices.

D.2. Assessment that project complies with GS4GG Gender Sensitive requirements

Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	As per Gold Standard Gender Policy, para 4.2, point (i) "Foundational gender-sensitive requirement – This strengthens Gold Standard's 'do no harm' approach and addresses safeguards to prevent or mitigate adverse impacts on women or men and girls and boys. Such action is mandatory for all projects seeking Gold Standard certification and
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	includes compliance with the gender 'do no harm' safeguards, gender gap analysis and gender sensitive stakeholder consultations." The project is a renewable energy solar project and it is not a gender sensitive project because the project does not adversely impact women or men. PP have HR policy which mention that, they do not differentiate between women and men. PP also conducted stakeholder meeting which was open for participation by all and both men and women had participated in the stakeholder meeting conducted. The HR policy of PP and the stakeholder meeting documents are submitted. Hence, it is established that, there is no gender discrimination by PP and that PP is strictly adhering with their policies.
Question 2 - Explain how the project aligns with existing country policies, strategies and best practices	India is party to "Convention on the Elimination of All Forms of Discrimination against Women" and the project is aligned with the labour policy. PP have HR policies in place which demonstrate that there is no gender discrimination.
Question 3 - Is an Expert required for the Gender Safeguarding Principles & Requirements?	Expert is not required for the gender safeguarding principles & requirements. As per Gender equality requirements and guidelines V.1.1 and Gender Policy of Gold Standard, the project completes the following gender assessment questions below: 1. Is there a possibility that the Project might reduce or put at risk women's access to or control of resources, entitlements and benefits? No, the project being a solar project does not reduce access to or control of resources for women. Also, the PP have HR policy which clearly mention that women are treated equally. 2. Is there a possibility that the Project can adversely affect men and women in marginalised or vulnerable communities (e.g., potential increased burden on women or social isolation of men)? No, the project does not adversely affect men and women in marginalised or vulnerable communities. Employment opportunities have been provided by the PP to the local people from the nearby villages around the project site which in turn has improved the livelihood and living standards of the local people. 3. Is there a possibility that the Project might not take into account gender roles and the abilities of women or men to participate in the

	decisions/designs of the project's activities (such as lack of time, child care duties, low literacy or educational levels, or societal discrimination)? No, the HR policy of PP mentions that all employees are given equal opportunities for betterment irrespective of the gender. The HR policy of PP is submitted. 4. Does the Project take into account gender roles and the abilities of women or men to benefit from the Project's activities (e.g., Does the project criteria ensure that it includes minority groups or landless peoples)? Yes, the project takes into account gender roles and abilities of women/men. PP has provided employment to both the genders without any discrimination. Also, the HR policy of PP mentions that all employees are given equal opportunities for betterment irrespective of the gender. 5. Does the Project design contribute to an increase in women's workload that adds to their care responsibilities or that prevents them from engaging in other activities? No, the project activity does not contribute to increase in women's workload. The HR policy of PP mentions that all employees are given equal opportunities and also there is no discrimination. Thus it can be justified that the project contribute towards increased participation of women workload and promotes their active participation. 6. Would the Project potentially reproduce or further deepen discrimination against women based on gender, for instance, regarding their full participation in design and implementation or access to opportunities and benefits? No, the project will not potentially reproduce or it will not deepen discrimination against women based on gender. The HR policy of PP mentions that all employees are given equal opportunities for betterment irrespective of the gender. Thus it can be justified that, the project contribute towards increased participation of women workload and promotes their active participation. 7. Would the Project potentially limit women's ability to use, develop and protect natural
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	resources, taking into account different roles and priorities of women and men in accessing and managing environmental goods and services? No, the project will not limit women's ability to use, develop and protect natural resources. The HR policy of PP mentions that all employees are given equal opportunities for betterment irrespective of the gender. 8. Is there a likelihood that the proposed Project would expose women and girls to further risks or hazards? No, the project activity will not expose women and girls to further risk or hazards. The project does not involve in generation of Hazardous and Non-hazardous Waste. Standard health & safety procedures are followed at site during operation and maintenance. PP follows the National Policy on Safety, Health and Environment at work³¹, published by Ministry of Labour and Employment, Government of India.
Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	Expert was not required to assist with Gender issues at the stakeholder consultation. As per para 4.4 of the Gender Policy, the PP had organised a stakeholder consultation meeting for which the local people were invited irrespective of the gender and the locals were invited for the stakeholder meeting through public notice which was accessible for both the genders. The stakeholder consultation documents are provided from which it can be seen that there was participation from both the genders. In order to get continuous feedback from the local stakeholders, PP has also placed a grievance register at the site, which is accessible to all irrespective of gender, for recording any grievance/feedback about the project. The comments received in the grievance register, shall be resolved by the team of PP at the earliest.

SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION

³¹ <https://labour.gov.in/sites/default/files/SafetyHealthandEnvironmentatWorkPlace.pdf>

The below is a summary of the 2 step GS4GG Consultation for monitoring purposes. Please refer to the separate Stakeholder Consultation Report for a complete report on the initial consultation and stakeholder feedback round.

E.1. Summary of stakeholder mitigation measures

The details of the Stakeholder Meetings are as follows:

For 250 MW Solar Project at Rajasthan by Clean Solar Power (Jodhpur) Pvt Ltd

Date of invitation – 15/11/2019

Date of Meeting – 23/12/2019

Location of Meeting - Project site, Rajasthan

In the introductory speech, the representative of **Clean Solar Power (Jodhpur) Pvt Ltd** (Project Investor), welcomed the gathering and given a brief about the climate mitigation project activity. Subsequent to the introductory speech, stakeholders were explained about the electricity generation from solar project is an environment friendly power generation technology contributing to reduction in GHG emissions. They were also explained about the benefits of the solar power projects like, increasing energy availability and improving quality of power and its assistance to the local population by providing employment opportunities to both skilled & unskilled labours.

The Minutes of meeting with commenting sheet from LSH, invitation letter receipt copy is submitted to the DOE during validation.

Meeting started with opening speech by representative of project participant. He introduced all guests on dais. The representative of project participant explained technical aspects of project to stakeholders. He also explained about social, environmental & economic benefits of the project. He also elaborated about carbon mechanism & its requirement for the current project. After the detailed discussions, the session was open for questions from stakeholders.

Summary of comments received

Most of the questions were related to employment opportunities, economic development, benefits from project to villagers and other development activities. The question raised by the villagers are summarised below:

Q: Will the project provide employment opportunities or improve economic development of the area?

A: Yes, the project will provide economic development of the area and will provide employment opportunities to the local people depending upon their skill and qualification.

Q: Will the operation of the plant result in increased temperature in the surroundings?

A: There will be no impact on ambient temperature due to operation of the plant.

Q: How the project activity benefit the villages around the project site and their residents?

A: The project activity will benefit the nearby villagers by providing employment opportunities to local or nearby people and also provides immense opportunity for

economic development of the area like increase in business opportunities, improvement in transportation; and various social activities shall help to uplift the standard of living.

Report on consideration of comments received

There were no further comments raised by the stakeholders and they were totally in support for setting up of these kinds of projects in the region. The local stakeholders expressed their support to the project.

The meeting was concluded by vote of thanks to all the participants.

Also, the stakeholder feedback round was initiated after the listing of the project activity at GS4GG.

Stakeholder feedback Round:

The SFR was planned for 60 days (from 06/07/2021 to 05/09/2021) after listing project with GS. The email was sent to relevant stakeholders like NGOs, DNA officials, Gold Standard officials along with project documents.

The process for the SFR is as follows;

- ☐ E mail and Invitations send to relevant stakeholders
- ☐ The non-technical summary of project activity, draft GS4GG PDD submission to relevant stakeholders, GS Public view section web link.
- ☐ Grievance Mechanism Feedback/Questions from Stakeholders
- ☐ Answers for questions received from stakeholders during online SFR process.

Identification of Stakeholders:

The Stakeholder feedback round was conducted to consider and receive feedback from the possible stakeholders to the project, i.e. NGOs. Apart from these, the stakeholders as identified by Gold Standard Board, i.e. Gold Standard partnered NGOs in India and DNA of India (MoEFCC).

Invitations to Stakeholders:

As per GS toolkit, for SFR process physical meeting is not mandatory. Thus, online e mail will be sent to NGOs, Govt officials, GS personnel etc.

For local stakeholders, public notice was put at project site on 13/07/2021 and stakeholder meeting was conducted on 12/08/2021. The local stakeholders were totally in support of the project in the region and also there were no negative comments.

Also, SFR process are mainly to cover the issues raised during local stakeholder consultation and there were no any negative comments raised during initial physical local stakeholder consultation.

Thus, public notice was put at project site village and the local stakeholders were requested the feedback for this project activity as a part of SFR was sufficient and meets the requirement as per GS4GG. This public notice covers all local stakeholders for feedback during SFR process. The public notice has mentioned different feedback

methods like the grievance register, telephone access, internet access so that local stakeholders can give their feedback for the project activity.

Question/Comments session:

No comments/queries were received during the 60 days SFR round from 06/07/2021 to 05/09/2021. Also, there were no comments from the local people during the SFR round of 60 days.

Conclusion:

The SFR round of 60 days was completed and there were no comments received from the stakeholders. Also, there were no comments from the local people during the SFR round of 60 days. Hence, the project meets the requirement as per GS4GG guidelines.

E.2. Final continuous input / grievance mechanism

Method	Method Chosen (include all known details e.g. location of book, phone, number, identity of mediator)
Continuous Input / Grievance Expression Process Book (mandatory)	Grievance register is placed at the site for the local stakeholders. The stakeholders can log their grievances through the grievance register provided. A dedicated committee is formulated to handle the grievances at top priority.
Telephone access	NA
Internet/email access	NA
GS Contact (mandatory)	help@goldstandard.org
Other	NA

APPENDIX 1 - SAFEGUARDING PRINCIPLES ASSESSMENT

Complete the Assessment below and copy all Mitigation Measures for each Principle into [SECTION D](#) above. Please refer to the instructions in the [Guide to Completing](#) this Form below.

Assessment Questions/ Requirements	Justification of Relevance (Yes/potentiall y/no)	How Project will achieve Requirements through design, management or risk mitigation.	Mitigation Measures added to the Monitoring Plan (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	The Project is not in conflict with the economic livelihood of the local community. The Project does not cause any human rights abuse and respects internationally proclaimed human rights issue. Further, the Project meets the local labor law requirements thus does not cause any human rights abuse. India has ratified the United Nations Human Rights Rules and regulations. The India ratified the same as per web link³² given below.	Not applicable

³² http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?CountryID=79&Lang=EN

		The project adheres to the host country's commitment to: Universal Declaration of Human Rights (UDHR) International Covenant on Economic, Social and Cultural Rights, India Accession 10/04/79³³ International Covenant on Civil and Political Rights India Accession 10.04.79³⁴	
Principle 2. Gender Equality			
1. The Project shall complete the following gender assessment questions in order to inform Requirements 2-4, below: ☐ Is there a possibility that the Project might reduce or put at risk women's access to or control of resources, entitlements and benefits? ☐ Is there a possibility that the Project can adversely affect men and women in	No	The Project is not in conflict with the economic livelihood of the local community. No, the project being a solar project does not reduce access to or control of resources for women. Also, the PP have HR policy which clearly mention that women are treated equally. No, the project does not adversely affect men and women in marginalised or vulnerable communities. Employment opportunities have	Not Applicable

³³ <http://hrlibrary.umn.edu/research/ratification-india.html> and http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?CountryID=79&Lang=EN

³⁴ <http://hrlibrary.umn.edu/research/ratification-india.html> and http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?CountryID=79&Lang=EN

marginalised or vulnerable communities (e.g., potential increased burden on women or social isolation of men)? □ Is there a possibility that the Project might not take into account gender roles and the abilities of women or men to participate in the decisions/designs of the project's activities (such as lack of time, child care duties, low literacy or educational levels, or societal discrimination)? □ Does the Project take into account gender roles and the abilities of women or men to benefit from the Project's activities (e.g., Does the project criteria ensure that it includes minority groups or landless peoples)? □ Does the Project design contribute to an increase in women's workload that adds to their care responsibilities or that prevents them from		been provided by the PP to the local people from the nearby villages around the project site which in turn has improved the livelihood and living standards of the local people. No, the HR policy of PP mentions that all employees are given equal opportunities for betterment irrespective of the gender. The HR policy of PP is submitted. Yes, the project takes into account gender roles and abilities of women/men. PP has provided employment to both the genders without any discrimination. Also, the HR policy of PP mentions that all employees are given equal opportunities for betterment irrespective of the gender. No, the project activity does not contribute to increase in women's workload. The HR policy of PP mentions that all employees are given equal opportunities and also there is no discrimination. PP also have Anti sexual harassment policy for prevention of any sexual harassment and thus it can be justified that the project contributes	
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engaging in other activities? □ Would the Project potentially reproduce or further deepen discrimination against women based on gender, for instance, regarding their full participation in design and implementation or access to opportunities and benefits? □ Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and priorities of women and men in accessing and managing environmental goods and services? □ Is there a likelihood that the proposed Project would expose women and girls to further risks or hazards?		towards increased participation of women workload and promotes their active participation. No, the project will not potentially reproduce or it will not deepen discrimination against women based on gender. The HR policy of PP mentions that all employees are given equal opportunities for betterment irrespective of the gender. Thus it can be justified that, the project contribute towards increased participation of women workload and promotes their active participation. No, the project will not limit women's ability to use, develop and protect natural resources. The HR policy of PP mentions that all employees are given equal opportunities for betterment irrespective of the gender. No, the project activity will not expose women and girls to further risk or hazards. The project does not involve in generation of Hazardous and Non-hazardous Waste. Standard health & safety procedures are followed at site during operation and maintenance. PP follows the National Policy	
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2. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women. Specifically, this shall include (not exhaustive): □ Sexual harassment and/or any forms of violence against women – address the multiple risks of gender-based violence, including sexual exploitation or human trafficking. □ Slavery, imprisonment, physical and mental drudgery,		on Safety, Health and Environment at work³⁵, published by Ministry of Labour and Employment, Government of India. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women for • Sexual harassment and/or any forms of violence against women – address the multiple risks of gender-based violence, including sexual exploitation or human trafficking. • Slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls. • Restriction of women’s rights or access to resources (natural or economic). • Recognise women’s ownership rights regardless of marital status – adopt project measures where possible to support to women’s access to inherit and own land, homes, and other assets or natural resources.	
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³⁵ <https://labour.gov.in/sites/default/files/SafetyHealthandEnvironmentatWorkPlace.pdf>

punishment or coercion of women and girls. □ Restriction of women's rights or access to resources (natural or economic). □ Recognise women's ownership rights regardless of marital status – adopt project measures where possible to support to women's access to inherit and own land, homes, and other assets or natural resources. 3. Projects shall apply the principles of nondiscrimination, equal treatment, and equal pay for equal work specifically: □ Where appropriate for the implementation of a Project, paid, volunteer work or		Projects applies the principles of non-discrimination, equal treatment, and equal pay for equal work. The equitable participation of men and women is followed in the identified tasks/activities. The project activity ensures the participation of women or men in Project activities and they are getting benefits based on pregnancy, maternity/paternity leave, or marital status. These conditions do not limit the access of women	
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community contributions will be organised to provide the conditions for equitable participation of men and women in the identified tasks/activities. □ Introduce conditions that ensure the participation of women or men in Project activities and benefits based on pregnancy, maternity/paternity leave, or marital status. □ Ensure that these conditions do not limit the access of women or men, as the case may be, to Project participation and benefits. 4. The Project shall refer to the country's national gender strategy or		or men, as the case may be, to Project participation and benefits. The project activity follows country's national gender strategy or equivalent national commitment to aid in assessing gender risks.	
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equivalent national commitment to aid in assessing gender risks (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)			
Principle 3. Community Health, Safety and Working Conditions			
The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community	No	The project is renewable energy technology (solar power-based power generation Technology) and does not have exposure to increased health risks and shall not adversely affect the health of the workers and the community. Necessary health and safety measures are taken during construction and operation phase, as well as throughout the operational lifetime of the project activity, also staffs are trained to be able to work with high voltages and occupational health and safety. PP follows the National Policy on Safety, Health and Environment at work³⁶, published by Ministry of Labour and Employment, Government of India.	Not Applicable

³⁶ <https://labour.gov.in/sites/default/files/SafetyHealthandEnvironmentatWorkPlace.pdf>

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	No cultural heritage is observed on the project site, thus no harm observed. Compliance with India's commitment to International Covenant on Economic, Social and Cultural Rights 10.04.79 will ensure no damage to critical cultural heritage. As per the list of cultural heritage sites in India³⁷ by UNESCO, it is clear that the project site is not a cultural heritage site	Not Applicable
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 has received the necessary approvals from the local authorities and does not lead to any resettlement. India (the Ministry of Rural development have the "Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act", 2013³⁸	Not Applicable
Principle 4.3 Land Tenure and Other Rights			

³⁷ <http://whc.unesco.org/en/statesparties/in>

³⁸ <https://dolr.gov.in/sites/default/files/Right%20to%20Fair%20Compensation%20and%20Transparency%20in%20Land%20Acquisition%2C%20Rehabilitation%20and%20Resettlement%20Act%2C%202013.pdf>

1. Does the Project require any change to land tenure arrangements and/or other rights? 2. For Projects involving land-use tenure, are there any uncertainties with regards land tenure, access rights, usage rights or land ownership? Examples include, but are not limited to water access rights, community-based property rights and customary rights.	No	No Expropriation has been conducted on any private land involved in project activity. Land has been utilised by PP directly from the owner of the land through direct negotiation of commercial terms. There has not been involvement of any government agency in the acquiring the land. The land is acquired on mutual consent between private land owner and PP, thus there are no any issues of dissatisfaction of private land owner. The Project Developer hold uncontested land title for the entire Project Boundary to complete Project Design Certification. The land rights are with project developers.	Not Applicable
Principle 5. Corruption			
1. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	No	The project is renewable energy technology (solar power-based power generation Technology) and does not contribute to or reinforce corruption of any kind. Indulgence in corruption is an illegal activity in the host country and the local labor compliance takes into account of the same.	Not Applicable

		The project abides by the United Nations Convention Against Corruption. India ratification 09.05.11 ³⁹	
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 where these are contradictory and a breach of one or other cannot be avoided, then guidance shall be sought from Gold Standard. 2. Workers shall be able to establish and join labour organisations 3. Working agreements with all individual workers shall	No	Forced labor is an illegal activity in the host country and the local labor compliance takes into account of the same. Further, India is a party to ILO and forced labour is illegal in India. The project does not employ any form of forced or compulsory labour. Employees can quit their Services at any time. The project complies with the Factories Act in India that prohibits forced or compulsory labour⁴⁰. The project activity does not involve any child labour. There are number of trainings (soft and technical skills) planned for the employees. The agreements are in place for permanent employees.	Not Applicable

³⁹ <http://www.unodc.org/unodc/en/treaties/CAC/signatories.html>

⁴⁰ <http://www.ilo.org/dyn/natlex/docs/WEBTEXT/32063/64873/E87IND01.htm>

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, AND e) Modalities on termination of the contract with provision for voluntary resignation by employee, AND f) Provision for annual leave of not less than 10 days per year, not including sick and casual leave. 4. The Project Developer shall justify that the employment model		The project prefers the local employment and culture is maintained at project site. The country has strict prohibition for child labour⁴¹. Thus, project does not involve child labour during construction and operation of project activity.	
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⁴¹ http://www.indianchild.com/child_labour_law_in_india.htm

applied is locally and culturally appropriate. 5. Child labour, as defined by the ILO Minimum Age Convention is not allowed. The Project Developer shall use adequate and verifiable mechanisms for age verification in recruitment procedures. Exceptions are children for work on their families' property as long as: (a) Their compulsory schooling (minimum of 6 schooling years) is not hindered, AND (b) The tasks they perform do not harm their physical and mental development, AND (c) The opinions and recommendations of an Expert Stakeholder shall be sought and demonstrated as being included in the Project design. 6. The Project Developer shall ensure the use of		The project follows the health, safety and environment guidelines at project site. The project ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures.	
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appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures.			
Principle 6.2 Negative Economic Consequences			
1. The Project Developer shall demonstrate the financial sustainability of the Projects implemented, also including those that will occur beyond the Project Certification period. 2. The Projects shall consider economic impacts and demonstrate a consideration of potential risks to the local economy and how these have been taken into account in Project design, implementation, operation and after the Project. Particular focus shall be given to vulnerable and marginalised social groups in targeted communities and that	No	The financial sustainability is demonstrated in registered PDD and these calculations are for entire lifetime of project activity. The project does not involve any negative impacts and no any potential risk to local economy.	Not applicable

benefits are socially-inclusive and sustainable.			
Principle 7.1 Emissions			
Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	The project is renewable energy technology (solar power-based power generation Technology) and does not lead any increase in greenhouse gas emissions over the Baseline Scenario.	Not applicable
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	The project activity supplies energy to national grid and project activity displaces equivalent quantity of electricity which would have been generated by fossil fuel dominated grid connected power plants.	Not applicable
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 is renewable energy technology (solar power-based power generation Technology) and does not affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s).	Not applicable
Principle 8.2 Erosion and/or Water Body Instability			
1. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? If 'Yes' or	No	The project is renewable energy technology (solar power-based power generation Technology) and does not affect Erosion and/or water body stability.	Not applicable

'Potentially' proceed to question 2. 2. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?			
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 proponent has implemented Environment Health Safety and Social guideline which takes into account the same. The technology supplier for the project also has the environment health safety and social guideline. The project activity involves barren land and does not involve use of land and soil for production of crops or other products. The project does not involve any landscape modification or soil. Hence there is no any impact of this principle.	Not applicable
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 renewable energy technology (solar power-based power generation Technology). The Project will not be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions. Thus, this section is Not Applicable.	Not Applicable
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 project is renewable energy technology (solar power-based power generation Technology). The Project not be negatively impacted by the use of genetically modified organisms or GMOs. Thus, this section is Not Applicable	Not Applicable
Principle 9.4 Release of pollutants			
Could the Project potentially result in the release of pollutants to the environment?	No	The Power generation from solar project is considered in white category that need not required any consent from the Pollution Control Board⁴², as it having zero pollutant release to environment. Further the EHSS guidelines takes into account the same. The project does not lead to release of any hazardous substances that pose threat to the environment. Rather it aims at reducing the air pollution that is prevalent due to use of fossil fuel power plants. The project promotes environmental protection through the use of cleaner technology. The project abides by the	Not Applicable

⁴² http://chocmms.nic.in/SPCB_DOCUMENTS/Categorisation.pdf page 3

		stipulations of the Indian Environment Protection Act 1986 ⁴³ .	
Principle 9.5 Hazardous and Non-hazardous Waste			
Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	The project is renewable energy technology (solar power-based power generation Technology). The project does not involve generation of Hazardous and Non-hazardous Waste. Standard procedure is followed at site during operation and maintenance.	Not Applicable
Principle 9.6 Pesticides & Fertilisers			
Will the Project involve the application of pesticides and/or fertilisers?	No	The project is renewable energy technology (solar power-based power generation Technology) power generation. There are no any involvement of pesticides and/or fertilisers. Thus, this principle is Not Applicable.	Not Applicable
Principle 9.7 Harvesting of Forests			
Will the Project involve the harvesting of forests?	No	The project is renewable energy technology (solar power-based power generation Technology) power generation. The project activity developed on barren land and this is not forest area, thus project does not involve any harvesting of forests. Thus, this principle is Not Applicable.	Not Applicable
Principle 9.8 Food			

⁴³ <http://envfor.nic.in/legis/env/env1.html>

Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	The project is renewable energy technology (solar power-based power generation Technology) power generation. The Project does not modify the quantity or nutritional quality of food available. Thus, this principle is Not Applicable	Not Applicable
Principle 9.9 Animal husbandry			
Will the Project involve animal husbandry?	No	The project is renewable energy technology (solar power-based power generation Technology) power generation. The Project does not involve animal husbandry. Thus, Not Applicable	Not Applicable
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 Project does not affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified. The project is not located in any HCV areas as per the list of approved HCV areas of India⁴⁴.	Not Applicable
Principle 9.11 Endangered Species			
1. Are there any endangered species identified as potentially being present within the Project boundary	No	There are no any endangered species identified at project site and also no species have the route through area.	Not Applicable

⁴⁴ <http://natureconservation.in/state-wise-list-of-conservation-reserves-of-india-updated/>

(including those that may route through the area)? 2. Does the Project potentially impact other areas where endangered species may be present through transboundary affects?		The project activity does not impact other endangered species through transboundary affects.	
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APPENDIX 2- CONTACT INFORMATION OF PROJECT PARTICIPANTS

Organization name	Clean Solar Power (Jodhpur) Pvt. Ltd
Registration number with relevant authority	-
Street/P.O. Box	201 & 202, Third Floor, Okhla Industrial Estate Phase 3 Rd
Building	Okhla Phase III, Okhla Industrial Area,
City	New Delhi
State/Region	New Delhi
Postcode	110020
Country	India
Telephone	+919971050109
E-mail	Naveen.khandelwal@herofutureenergies.com
Website	
Contact person	Mr. Naveen Khandelwal
Title	Chief Investment & Strategy Officer
Salutation	Mr.
Last name	Khandelwal
Middle name	-
First name	Naveen
Department	-
Mobile	-
Direct tel.	-
Personal e-mail	Naveen.khandelwal@herofutureenergies.com

APPENDIX 3- LUF ADDITIONAL INFORMATION

Not Applicable as this project is generating electricity by using solar energy.

APPENDIX 4-SUMMARY OF APPROVED DESIGN CHANGES

Not Applicable

Revision History

Version	Date	Remarks
1.2	14 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Inclusion criteria table added Gender sensitive requirements added Prior consideration (1 yr rule) and Ongoing Financial Need added Safeguard Principles Assessment as annex and a new section to include applicable safeguards for clarity Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on Stakeholder Consultation information required Provision of an accompanying Guide to help the user understand detailed rules and requirements
1.1	24 August 2017	Updated to include section A.8 on 'gender sensitive' requirements
1.0	10 July 2017	Initial adoption