المجلس العالمي للبصمة الكربونية
GLOBAL CARBON COUNCIL

Project Submission Form

V4.0- 2022

CONTENTS

COVER PAGE- Project Submission Form (PSF)	
Complete this form in accordance with the instructions attached at the end of this form.	
BASIC INFORMATION	
Title of the Project Activity as per LON/LOA	**22.5 MW Solar Project in Tamil Nadu**
PSF version number	2.0
Date of completion / Updating of this form	01/12/2022
Project Owner(s) as per LON/LOA (Shall be consistent with De-registered CDM Type B Projects)	Manikaran Power Limited
Country where the Project Activity is located	India
GPS coordinates of the project site(s)	11.092641°N 78.416819°E 11°5'33.5076" N 78°25'0.5484" E
Eligible GCC Project Type as per the Project Standard (Tick applicable project type)	☒ **Type A:** ☐ Type A1 ☒ Type A2 ☒ Sub-Type 1 ☐ Sub-Type 2 ☐ Sub-Type 3 ☐ Sub-Type 4 ☐ Type A3 ☐ **Type B – De-registered CDM Projects:**[1] ☐ Type B1

[1] Owners of Type B projects shall fill in the form provided in Appendix 7.

	☐ Type B2
Minimum compliance requirements	☒ Real and Measurable GHG Reductions ☒ National Sustainable Development Criteria (if any) ☒ Apply credible baseline and monitoring methodologies ☒ Additionality ☒ Local Stakeholder Consultation Process ☒ Global Stakeholder Consultation Process ☒ No GHG Double Counting ☒ Contributes to United Nations Sustainable Development Goal 13 (Climate Action)
Choose optional and additional requirements (Tick applicable label categories)	☒ Do-no-net-harm Safeguards to address Environmental Impacts ☒ Do-no-net-harm Safeguards to address Social Impacts ☒ Contributes to United Nations Sustainable Development Goals (in addition to Goal 13)
Applied methodologies including version No. (Shall be approved by the GCC or the CDM)	ACM0002: Grid-connected electricity generation from renewable sources - Version 20.0[2]
GHG Sectoral scope(s) linked to the applied methodology(ies)	GHG-SS # 1 - Energy (renewable / non-renewable sources)

[2] https://cdm.unfccc.int/methodologies/DB/XP2LKUSA61DKUQC0PIWPGWDN8ED5PG

Applicable Rules and Requirements for Project Owners

(Tick applicable Rules and Requirements)

Rules and Requirements		Version
☒ ISO 14064-2		
☒ Applicable host country legal requirements /rules		
☒ GCC Rules and Requirements[3]	☒ Project Standard	3.1
	☐ Approved GCC Methodology (XXXXX)	
	☒ Program Definitions	3.1
	☒ Environment and Social Safeguards Standard	3.0
	☒ Project Sustainability Standard	3.0
	☒ Instructions in Project Submission Form (PSF)-template	4.0
	☒ Clarification No. 01	1.3
	☐ Clarification No. 02	
	☐ Clarification No. 03	
	☐ Clarification No. 04	
	☐ Clarification No. 05	
	☐ Standard on avoidance of double counting	
	☐ Add rows if required	
☒ CDM Rules[4]	☒ Approved CDM Methodology (XXXXX)	ACM0002 version 20.0
	☒ TOOL 1- Tool for the demonstration and assessment of additionality	7.0.0
	☐ TOOL 02- Combined tool to identify the baseline scenario and demonstrate additionality	

[3] GCC Program rules and requirements: http://www.globalcarboncouncil.com/resource-centre/
[4] CDM Program rules: https://cdm.unfccc.int/Reference/index.html

		☒ TOOL 07- Tool to calculate the emission factor for an electricity system	07.0
		☐ TOOL 19- Demonstration of additionality of microscale project activities	
		☐ TOOL 21- Demonstration of additionality of small-scale project activities	
		☐ TOOL 23- Additionality of first-of-its-kind project activities	
		☒ TOOL 24- Common practice	3.1
		☒ TOOL 27- Investment analysis	11.0
		☐ TOOL 32- Positive lists of technologies	
		☐ Guidelines for objective demonstration and assessment of barriers	
		☐ Add rows if required	
Choose Third Party Project Verification by approved GCC Verifiers[5] (Tick applicable verification categories)	☒ GHG emission reductions (i.e., Approved Carbon Credits **(ACCs)**) ☒ Environmental No-net-harm Label (**E+**) ☒ Social No-net-harm Label (**S+**) ☒ United Nations Sustainable Development Goals (**SDG+**) ☐ Bronze SDG Label ☐ Silver SDG Label ☐ Gold SDG Label ☒ Platinum SDG Label ☐ Diamond SDG Label ☒ CORSIA requirements (**C+**)		

[5] **Note:** GCC Verifiers under the Individual Track are not eligible to conduct verifications for GCC Project Activities whose owners intend to supply carbon credits (ACCs) for use within CORSIA.

	☒ Host Country Attestation on Double counting
Declaration by the 'Authorized Project Owner[6] and focal point' (Tick all applicable statements[7])	The Project Owner(s) declares that: **Generic Requirements applicable to all Project Types:** ☒ We confirm that the Project Activity complies with the eligibility of the applicable project type (A1, A2, A3, B1 or B2) as stipulated by the Project Standard and relevant clarifications. ☒ We confirm that the Project Activity shall start or have started operations, and shall start or have started generating emission reductions, on or after 1 January 2016. ☒ We confirm that the Project Activity is eligible to be registered under the GCC program. We shall ensure the following for the Project Activity (tick at least one of the two options): ☒ No outcomes (e.g. emission reductions, environmental attributes) generated by the Project Activity under GCC will be claimed as carbon credits or environmental attributes under any other GHG/non-GHG[8] program, either for compliance or voluntary purposes, during the entire GCC crediting period; or ☒ If the project activity has been issued with carbon credits or environmental attributes of compensating nature[9] by any other GHG/ non-GHG program, either for compliance or voluntary purposes, the ACCs will be claimed only for the remaining crediting period (subject to a maximum of 10 years of crediting period including the periods under other programs and GCC program) for which carbon credits/ environmental attributes of compensating nature have not been issued by any other GHG/ non-GHG program. **Specific requirements applicable to respective Project Types:** ***For Project Type A1:*** ☐ For Project Type A1, we confirm that the Project Activity is NOT registered as a GHG Project Activity in any other GHG/non-GHG program or any other

[6] The Project Owner means the legal entity or organization that has overall control and responsibility for the Project Activity

[7] **Consequences in case of Non-compliance with declaration statements:**
If at any point of time non-compliance with the declared statements is established as a result of negligence, fraud or wilful misconduct of the GCC Project Owner/s the GCC project activity will be disqualified and the registration of the proposed Project Activity will be rejected.

[8] Non-GHG program could be such as I-REC facilitating reliable energy claims with Renewable Energy Certificate (REC) schemes

9 The environment attributes of compensating nature are those which are used by captive users (e.g. corporates/industries) for offsetting their GHG emissions

	voluntary program and has not issued or will not issue credits under any other program. ***For Project Type A2 (Sub-Type 1):*** ☒ For Project Type A2 Sub-Type 1, we confirm that the Project Activity is NOT registered as a GHG Project Activity in any other GHG/non-GHG program or any other voluntary program and has not issued or will not issue credits under any other program. ***For Project Type A2 (Sub-Type 2 or Sub-Type 3):*** For Project Type A2 Sub-Type 2 or Project Type A2 Sub-Type 3, we confirm that for Project Activity, which has been registered with CDM or any GHG/non-GHG Program and we shall (tick at least one of the two options): ☐ Submit a proof for deregistration from CDM; or ☐ Submit a signed & stamped public undertaking, stating that the Project Owner will never submit any request for Issuance of ACCs or request for renewal of crediting period to CDM-EB or under article 6.4 or any authority after submission to GCC Program and shall formally inform CDM-EB or authority under article 6.4 or any authority after submission to GCC Program. ☐ For Project Type A2 Sub-Type 2 or Project Type A2 Sub-Type 3, we confirm that the Project Activity is NOT included as a component Project Activity (CPA) in any registered GHG Programme of Activities (PoA) or any other functionally equivalent grouped/aggregated activities under any GHG program (such as the CDM or any other voluntary program). ***For Project Type A2 (Sub-Type 4):*** For Project Type A2 Sub-Type 4, we confirm that the Project Activity has been included in a registered CDM-POA and we shall (tick at least one of the two options): ☐ Submit the proof for exclusion of CPA(s) from registered CDM-POA prior to the date of initial submission to the GCC Program; or ☐ Submit the proof of exclusion of CPA(s) from the registered CDM-PoA after the request for registration has been submitted to GCC Program but before the final decision is made by the GCC Steering Committee. ***For Project Type A3:*** ☐ For Project Type A3, we confirm that the Project Activity is NOT registered as a GHG Project Activity in any other GHG/non-GHG program or any other voluntary program and has not issued or will not issue credits under any other program. ***For Project Type B1 or B2:***

	For Project Type B1 or Project Type B2, we confirm that for Project Activity, which has been registered with CDM or any GHG/non-GHG Program and we shall (tick at least one of the two options): ☐ Submit a proof for deregistration from CDM; or ☐ Submit a signed & stamped public undertaking, stating that the Project Owner will never submit any request for Issuance of ACCs or request for renewal of crediting period to CDM-EB or under article 6.4 or any authority after submission to GCC Program and shall formally inform CDM-EB or authority under article 6.4 or any authority after submission to GCC Program. **Requirements to avoid double counting:** We intend to submit or have submitted a written attestation[10] (Host Country Letter of Authorisation - HCLOA) from the host country's national focal point or focal point designee for CORSIA eligible units generated beyond 31 December 2020 at the following stages[11] (tick at least one of the three options): ☐ The initial submission for GSC; or ☐ Along with the submission for a request for registration (after Project Verification is completed); or ☒ Along with the submission for a request for the first or subsequent issuance of ACCs. **Project specific requirements:** ***CORSIA specific requirements:*** ☒ We confirm that bundled projects or grouped projects shall have registered crediting period starting on or after 1 Jan 2016 for the grouped/aggregated project as a whole. ☒ We confirm that the Project Activity meets all the requirement of the CORSIA Eligible Emissions Units[12] required for GCC projects and does not fall under the excluded unit types, methodologies, programme elements, and/or procedural classes. ☒ We confirm that the Project Activity aims to achieve at least Silver or higher SDG+ label (i.e. positively impact at least 3 or more United Nations Sustainability Development Goals). ☒ We confirm that the Project Activity will be implemented in a country which is UN member state[13].

10 In case of any change of Host Country Letter of Authorisation (HCLOA) the project owner shall inform the GCC operations team immediately

11 If the host country attestation is not submitted at the initial submission of GSC, the project can be tagged with an indicative CORSIA flag if its confirmed to be submitted later. If the host country attestation is not submitted at the request for registration, the project can be tagged with an indicative CORSIA flag if at least the PSF and Verification Report confirms to submit this letter, at first issuance. If the host country attestation is not submitted at request for first issuance, the ACCs will not be tagged as CORSIA (C+) compliant if this letter is not submitted.

12 CORSIA Eligible Emissions Units containing approval and conditions for GCC Program: https://www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-Emissions-Units.aspx

13 The list of UN member states countries can be found at https://www.un.org/en/about-us/member-states

	Provide details (if any) below for the boxes ticked above:
	The Project Owner(s) declares that: ☒ All of the information provided in this document, including any supporting documents submitted to the GCC or its registry operator IHS Markit at any time, is true and correct; ☒ They understand that a failure by them to provide accurate information or data, or concealing facts and information, can be considered as negligence, fraud or wilful misconduct. Therefore, they are aware that they are fully responsible for any liability that arises as a result of such actions. Provide details below for the boxes ticked above
Appendixes 1-9	Details about the Project Activity are provided in Appendixes 1 through 9 to this document.
Name, designation, date and signature of the Focal point (as per LON/LOA)	**Primary contact details-** **NEELABHRA PAUL** **Contact details: 9599184354** **Email ID: neel.paul@manikaranpowerltd.in** **Date- 01/12/2022** **Designation- President** **Secondary Contact Details-** **PIYUSH SHARMA** **Contact details: 8826966443** **Email ID: Piyush.s@manikaranpowerltd.in** **Date- 01/12/2022** **Designation- Asst. General Manager–Business Development**

1. PROJECT SUBMISSION FORM

Section A. Description of the Project Activity

A.1. Purpose and general description of the Project Activity

>>
The Purpose of this project activity is to generate clean electricity from installation of Solar Power Plants and feed the generated electricity to the Indian national grid. The proposed project activity falls under GCC project Category A2, Sub- Type 1 as it is an operational project, not submitted to any Program and have started operations **after 1st January 2016.**

The Project Activity involves the installation of a new grid-connected 22.5 MW solar power plant. The project was commisioned in a phase manner, each phase of equal capacity, i.e., 7.5 MW. The first phase of the project activity was commissioned on 20/01/2022, second phase was commissioned on 31/03/2022 and third phase is expected to be commissioned on 30/10/2022.The project is implemented in Tamil Nadu state of India by **GHCL Limited (Legal owner).**

The electricity generated from Project Activity is exported to the national Indian grid. The electricity generated by the Project Activity thus replaces equivalent amount of fossil fuel consumption in the existing/ grid connected power plants (mostly fossil fuel based power plants) and/or new generation sources that may get added into the grid. The Project Activity thus reduces equivalent anthropogenic emissions of greenhouse gases (GHGs).

The description of the project activity is as follows:

Phase	Installed capacity (MW)	Date of Commissioning	State	Purpose
Phase#1	7.5	20/01/2022	Tamil Nadu	Wheeling agreement with TANGEDCO
Phase#2	7.5	31/03/2022	Tamil Nadu	Wheeling agreement with TANGEDCO
Phase#3	7.5	Expected to be commissioned on 30/10/2022	Tamil Nadu	Wheeling agreement with TANGEDCO

Baseline Scenario
The baseline of the project activity is continued generation of electricity in the national grid of India. According to the latest data from Central Electricity Authority[14], the combined margin emission factor of the grid electricity is **0.9304 tCO_2e/MWh** and therefore, it is deemed fossil fuel/ emission intensive. The electricity generation from solar power in the project activity will result in emission reductions by offsetting equivalent fossil fuel electricity generation. The project activity is expected to reduce **37,896 tCO_2e** of emissions annually and **378,963 tCO_2e** of emissions over the crediting period, that would have otherwise occurred in the absence of project activity.

[14] https://cea.nic.in/cdm-co2-baseline-database/?lang=en

The project activity will also contribute to sustainable development in the host country in **Social, Economic and Environmental aspects** as explained below:

Social and Economic well-being
The Project Activity will result in creating job opportunities for the local population on temporary and permanent basis during construction and operation phase of the project.

Environmental well-being
The Project Activity utilizes renewable energy for generating electricity which otherwise would have been generated through alternate fuel (most likely - fossil fuel) based power plants, contributing to reduction in specific emissions (emissions /unit of energy generated) including GHG emissions. The project generates a low waste (no ash from fuel combustion, no air emissions etc.).

Technological well-being:
The project technology is well established and standardized with no negative hazards / risks.

A.2. Location of the Project Activity

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Address and geodetic coordinates of the physical site of the Project Activity		
Physical address	**Latitude***	**Longitude***
SF No: 328, Devanur and Serugudi Village, Musiri Taluk, Trichy District and Ottapiddaram Village, Tuticorin District	11.092641°N 11°5'33.5076" N	78.416819°E 78°25'0.5484" E

Figure 1: Location of Project

A.3. Technologies/measures

>>
The details of the technology deployed in the project activity are tabulated below[15]:

For Phase #1

PV module Manufacturer	**TRINA SOLAR**
Maximum Power (Pmax)	545 Wp
Open Circuit Voltage (Voc)	37.7 V
Short Circuit Current (Isc)	18.47 A
Maximum Power Point Current (Impp)	17.37 A
Maximum Power Point Voltage (Vmpp)	31.4 V
Dimensions (mm)	2384×1096×35mm/(93.86×43.15×1.38inches)
Qualification and Certificates	IEC 61215 (Ed2)/IEC 61730/ IEC61730-2
Weight	28.6 kg (63.1 lb)
No. of Cells	110 (5*22)
Inverter Specifications	**SUNGROW(SG250HX)**
DC input Voltage Range	860 – 1300 V
Nominal DC Voltage	600 V
Start Up Voltage	600 V
Efficiency	99.00 %
MPPT	12
String/MPPT	24
Output Power	250 kWp@30°C, 220 kWp@45°C & 200 kWp@50°C

For Phase #2

PV module Manufacturer	**ZNSHINE SOLAR**
Module per Plant	18349
Maximum Power (Pmax)	540 Wp
Open Circuit Voltage (Voc)	49.7 V
Short Circuit Current (Isc)	13.78 A
Maximum Power Point Current (Impp)	13.05 A
Maximum Power Point Voltage (Vmpp)	41.4 V
Weight	28.6 kg (63.1 lb)
No. of Cells	144（6×24）
Inverter Specifications	**SUNGROW(SG250HX)**
DC input Voltage Range	860 – 1300 V
Nominal DC Voltage	600 V
Start Up Voltage	600 V
Efficiency	99.00 %
MPPT	12
String/MPPT	24
Output Power	250 kWp@30°C, 220 kWp@45°C & 200 kWp@50°C

[15] The details of technology are sourced from DPRs of respective project phases, the actual technology deployed may vary from the details provided. For phase 3, the technology details will be added later, the phase #3 will be commissioned before the submission of complete GCC registration request thereby, all the phases fall in Project type A2 of GCC.

A.4. Project Owner(s)

Location/ Country	Project Owner(s)	Where applicable[16], indicate if the host country has provided approval (Yes/No)
India	Manikaran Power Limited	Not Applicable

A.5. Declaration of intended use of Approved Carbon Credits (ACCs) generated by the Project Activity

>> The Project Activity is expected to generate ACCs for a full 10-year crediting period and supply the credits to offset the following GHG emissions:

Period		Name of the Entities	Purpose and Quantity of ACCs to be supplied
From	To		
20/01/2022	19/01/2032	Manikaran Power Limited	378,963 ACCs over a period of 10 years would be generated by the project activity.

The project Owner(s) hereby confirms that the carbon credits (ACCs) generated from the Project Activity shall not be double counted.

A.6. Additional requirements for CORSIA

>>

CORSIA pilot phase vintage eligibility criteria require that first crediting period of Project must start on or after 1 January 2016. The proposed project activity starts operations after 1st January 2016 and thus complies with the requirement.

Additional CORSIA Criteria	Justification for the project
Comply with the Environment and Social Safeguards Standard to ensure that the Project Activity does not cause any net harm to the environment or society and provides an opportunity to demonstrate this achievement by obtaining the additional certification labels E+ and S+	Please refer section E of this PSF.
Comply with the Project Sustainability Standard to ensure that the Project Activity demonstrates the level of contribution towards achieving the United Nations Sustainability Development Goals (SDGs) and provides an opportunity to demonstrate this achievement by obtaining the additional SDG+ label (Bronze, Silver, Gold, Platinum, or Diamond)	Please refer section F of this PSF.

[16] For example, *Project Coordination Form* is to be filled-in by Project Owners for projects located in Qatar. A written attestation from the host country's national focal point or the focal point's designee, as required by CORSIA (Refer section A.5 of the PSF guidelines).

Obtain and provide to the GCC and its Registry (operated by IHS Markit), a written attestation from the host country's national focal point or the focal point's designee, as required by CORSIA Emissions Unit Eligibility Criteria[17] (paragraph 7 (c) of the Carbon Offset Credit Integrity Assessment Criteria) and Programme Application Form – Appendix A – Supplementary Information Form[18] (refer to section 3.7.8. with respect to the Host Country Attestation on Double Counting), which shall be made publicly available prior to the use of units from the host country under CORSIA.	Such attestation shall be provided at the earliest opportunity, prior to submission of requesting issuance to the GCC Program **when the host country will have a provision to provide written attestation.**

Section B. Application of selected methodology(ies)

B.1. Reference to methodology(ies) and tools applied in the project

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The project activity applies approved Large Scale Consolidated Methodology as below.

- ACM0002: Grid-connected electricity generation from renewable sources, Version 20.0

The methodology also refers to following approved versions of the tools-

- TOOL01: Tool for the demonstration and assessment of additionality, Version 7.0.0
- TOOL07: Tool to calculate the emission factor for an electricity system, Version 7.0
- TOOL24: Common practice, Version 3.1
- TOOL27: Investment analysis, Version 11.0

B.2. Applicability of methodology(ies) and tools applied in the project

>>

The project activity generates power through a renewable source of energy (solar) and supplies it to the Indian grid. This electricity would, otherwise, have been generated through fossil fuel-based power plants connected to the Indian grid.

The applicability of methodology **ACM0002, Version 20.0** has been justified in the table below.

Requirement	Justification
The methodology **ACM0002, Version 20.0** is applicable to the project activity under the following conditions: **Condition para 3:** This methodology is applicable to grid-connected renewable energy power generation project activities that: • Install a Greenfield power plant. • Involve a capacity addition to (an) existing plant(s); • Involve a retrofit of (an) existing operating plants/units;	The project activity involves a new installation of a Solar power generation plant. Hence the methodology is applicable to the project activity.

[17] ICAO document 'CORSIA Emissions Unit Eligibility Criteria': https://www.icao.int/environmental-protection/CORSIA/Documents/ICAO%20document%2009.pdf

[18] https://www.icao.int/environmental-protection/CORSIA/Pages/TAB.aspx

• Involve a rehabilitation of (an) existing plant(s)/unit(s); or • Involve a replacement of (an) existing plant(s)/unit(s).	
Condition para 4(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	The project activity is a Solar power generation plant and hence meets the applicability condition.
Condition para 4(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.	The project activity is a new project installation and hence this condition does not apply.
Condition para 5: 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/m^2; or c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (7), is greater than 4 W/m^2; or 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 (7), is lower than or equal to 4 W/m^2, 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 4W/m^2;	The project activity is NOT a hydro power project. Hence the condition does not apply.

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/m^2 shall be: a) Lower than or equal to 15 MW; and b) Less than 10 per cent of the total installed capacity of integrated hydro power project.	
Condition para 6: In the case of integrated hydro power projects, project proponent shall: a. 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 b. 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 of five years prior to the implementation of the CDM project activity.	The project activity is NOT a hydro power project. Hence the condition does not apply.
Condition para 7: The methodology is not applicable to: 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 neither a fossil fuel switch project nor a biomass fired power plant. Hence the condition does not apply.
Condition para 8: 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	The project activity is a new project installation. Hence the condition does not apply.

use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance".	

The tools used are applicable to the project activity under the following conditions:

Applicability Conditions as per Tool	Justification
TOOL01: Tool for the demonstration and assessment of additionality; Version 7.0.0, Paragraph 8 states "Project activities that apply this tool in context of approved consolidated methodology ACM0002, only need to identify that there is at least one credible and feasible alternative that would be more attractive than the proposed project activity. "	Refer to section B.5 of PSF for details where additionality of the project activity is demonstrated using TOOL1.
TOOL07: Tool to calculate the emission factor for an electricity system; Version 7.0 "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).	Since this project activity is grid connected and the emission factor is estimated using this tool (under section B.4) for calculating of the baseline emission. Hence this tool is applicable.
TOOL24. Common practice: Version 3.1 This methodological tool is applicable to project activities that apply the methodological tool "Tool for the demonstration and assessment of additionality", the methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality", or baseline and monitoring methodologies that use the common practice test for the demonstration of additionality.	Project activity applies "Tool for the demonstration and assessment of additionality". Please refer to section B.5 of PSF for details.
TOOL27. Investment analysis: Version 11.0 This methodological tool is applicable to project activities that apply the methodological tool "Tool for the demonstration and assessment of additionality", the methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality", the guidelines "Non-binding best practice examples to demonstrate additionality for SSC project activities", or baseline and monitoring methodologies that use the investment analysis for the demonstration of additionality and/or the identification of the baseline scenario.	As "Tool for the demonstration and assessment of additionality" is applied, TOOL27 is also applicable and complied with for investment analysis for the demonstration of additionality. Please refer to section B.5 of PSF for details.

B.3. Project boundary, sources and greenhouse gases (GHGs)

>>

According to the methodology, the spatial extent of the project boundary includes the solar power plant and all power plants / units connected physically to the electricity system that the project power plant is connected to. In India even though there is one national grid, but states have their own RE policies. Besides, solar insolation and other geographic conditions change from state to state which might make a state favourable than others for project implementation. Hence, the project boundary includes the project site where the power plant has been installed, associated power evacuation infrastructure, energy metering points, switch yards and other civil constructs. So, the state of **Tamil Nadu** is defined as the physical boundary of the project.

The table below provides an overview of the emissions sources included or excluded from the project boundary for determination of baseline and project emissions.

Source		GHG	Included?	Justification/Explanation
Baseline	CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity	CO_2	Included	Main source of emission
		CH_4	Excluded	Minor source of emission, so excluded for simplification
		N_2O	Excluded	Minor source of emission, so excluded for simplification
Project	CO_2 emissions from electricity generation in Project power plant	CO_2	Excluded	Project activity does not emit CO_2
		CH_4	Excluded	Project activity does not emit CH_4
		N_2O	Excluded	Project activity does not emit N_2O

B.4. Establishment and description of the baseline scenario

>>

The project activity is a Solar power generation plant and hence, according to the applied methodology, 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 "TOOL07: Tool to calculate the emission factor for an electricity system".

The combined margin of the electricity grid is sourced from" CO_2 Baseline database for the Indian Power Sector "Version 17.0 dated October 2021 of Central Electricity Authority of India[19] which follows Tool 07 to calculate the emission factor for an electricity system".

[19] https://cea.nic.in/cdm-co2-baseline-database/?lang=en

The baseline emission factor ($EF_{grid,CM,y}$) is calculated as a combined margin (CM), consisting of the combination of operating margin ($EF_{grid,OM,y}$) and build margin ($EF_{grid,BM,y}$) factors according to the following steps. Calculation for this combined margin is based on data from an official source publicly available.

Step 1: Identify the relevant electricity systems
Historically, the Indian power system was divided into five independent regional grids, namely Northern, Eastern, Western, Southern, and North-Eastern. Each grid covered several states. As of 31st December 2013, all regional grids had been integrated and were operating in synchronous mode, i.e., at same frequency, hence forming one unified Indian Grid. Hence, unified Indian Grid is the relevant electricity system for the purpose of estimating Grid Emission Factor.

Step 2: Choose whether to include off-grid power plants in the project electricity system (optional)
Option 1 is chosen and only grid connected power plants are included in the calculation.

Step 3: Select a method to determine the operating margin (OM)
There are four following methods prescribed which can be used for calculating OM.
(a) Simple OM, or
(b) Simple adjusted OM, or
(c) Dispatch Data Analysis OM, or
(d) Average OM.

Project owner follows option (a) i.e. Simple OM for estimation of Operating Margin emission factor. The Simple OM method can only be used where low-cost/must run resources constitute less than 50% of total grid generation in recent five years. As observed in the table below less than 20% is provided by low cost must run power plants. Simple OM has been selected also because the required disaggregated data is available in India.

Parameter	2016-17	2017-18	2018-19	2019-20	2020-21
Gross Generation Total (GWh)	1,151,479	1,201,877	1,247,575	1,244,853	1,227,904
Net Generation Total (GWh)	1,072,839	1,121,567	1,165,160	1,162,971	1,147,523
Share of Must-Run (Hydro/Nuclear) (% of Net Generation)	14.6%	14.3%	14.5%	17.0%	16.5%

Step 4: Calculate the operating margin emission factor according to the selected method

The simple OM emission factor is calculated as the generation-weighted average CO2 emissions per unit net electricity generation (t CO2/MWh) of all generating power plants serving the system, not including low-cost/must-run power plants/units.
The results of $EF_{grid,OM,y}$ calculation are as in the table below.

Parameter	2018-19	2019-20	2020-21
Simple Operating Margin	0.9603	0.955	0.941
Net Generation in Operating Margin (GWh)	995,957	965,009	958,218

Since ex-ante option of calculating OM is considered, a three-year weighted average based on the most recent available data is calculated**, thus no monitoring and recalculation of the emissions factor during the crediting period is required.**

So, $EF_{grid,OM,y}$ = 0.9522

Step 5: Calculate the build margin (BM) emission factor
Option 1 has been chosen to calculate BM. It says, calculate the build margin emission factor ex ante based on the most recent information available on units already built at the time of PSF submission to the DOE for validation. **This option does not require monitoring the emission factor during the crediting period.**

The results of $EF_{grid,BM,y}$ calculation are as in the table below.

Parameter	2020-21
Build margin (tCO_2/MWh)	0.8653

Step 6: Calculate the combined margin emissions factor
The calculation of the combined margin (CM) emission factor (EF) is based on Weighted Average CM. Since it is a solar power project and this is the first crediting period, following weights have been considered for the calculation of CM.
W_{OM} = 0.75 & W_{BM} = 0.25
The results of $EF_{grid,CM,y}$ calculation are as in the table below.

Parameter	OM	BM	CM
Combined margin (tCO_2/MWh)	0.9522	0.8653	0.9304

B.5. Demonstration of additionality

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The additionality of a GCC Project shall be demonstrated by applying the following approach having two components: (i) A Legal Requirement Test; and (ii) An Additionality Test either based on a Positive List test or a projects-specific additionality test.

The project activity is a **Type A project** and hence requires undergoing a Legal Requirement Test. Given, the project activity **is not mandated by law or regulations and is entirely a voluntary action, it is deemed additional as per paragraph 46 of GCC Project Standard V3.1.**

The project activity **does not fulfill the criteria of positive list** as provided in CDM Tool 32: "Methodological Tool – Positive List of Technologies" **and hence additionality of the project activity is demonstrated through a project specific additionality test.**
For the demonstration and assessment of additionality "Tool for demonstration and assessment of additionality", Version 07.0.0 has been applied.
The tool provides a step-wise approach to demonstrate and assess the additionality of a project. These steps are:

(a) Step 0 Demonstration whether the proposed project activity is the first-of-its-kind;
(b) Step 1 Identification of alternatives to the project activity;
(c) Step 2 Investment analysis;
(d) Step 3 Barriers analysis; and
(e) Step 4 Common practice analysis

Step 0: Demonstration whether the proposed project activity is the first-of-its-kind
The project activity is a large-scale Solar power project in India. This is not the first such project to be installed in the country or in the state and therefore project activity does not meet this criterion.

Sub-step 1a: Define alternatives to the project activity
The alternatives to the proposed project activity are either project being undertaken without being registered as a GCC project activity or continuation of the current situation and no project activity is undertaken. Therefore, continuation of the current situation (i.e., electricity generation in the grid) and the project being undertaken without being registered as a GCC project activity are the likely alternatives to the project activity.

Sub-step 1b: Consistency with mandatory laws and regulations
Installation of large-scale Solar power project is consistent with mandatory laws and regulations of India. Also, continuation of current situation is consistent with national laws and regulations.

The environmental regulations, legislations, and policy guidelines in respect to the project activity are governed by various regulatory agencies. The principal environmental regulatory agency in India is Ministry of Environment, Forest, and Climate Change (MoEF&CC), Delhi supported by Central Pollution Control Board (CPCB).

The Solar Photovoltaic Power Projects are not covered under the ambit of EIA Notification, 2006. Hence, it does not require preparation of Environmental Impact Assessment Report and pursuing Environmental Clearance from Ministry of Environment, Forest and Climate Change (MoEF&CC) (Annexure-II MOEF&CC, OM on J-11013/41/2006-IA. II (I) dated 7th July 2017)[20]. Further, MoEF&CC has included Solar PV Power Projects under "White category"[21] for Consent to Establish/Operate. There is no necessity of obtaining the Consent to Establish/Operate'' for White category of industries.
Additionally, the project activity is consistent with the following mandatory laws and regulations.

a. Electricity Act, 2003
b. Environmental (Protection) Act, 1986 and amendment(s)
c. Environmental Impact Assessment (EIA) Notification, 2006 and amendment(s)
d. The Air (Prevention and Control of Pollution) Act, 1981 including Rules 1982 and 1983 and amendment(s)
e. The Water Prevention and Control of Pollution), Cess Act, 1977 including Rules 1978 and 1991
f. Solid Waste Management Rules, 2016
g. E-waste (Management) Rules 2016 and amendment(s)
h. Batteries (Management and Handling) Rules, 2001

[20] https://mnre.gov.in/img/documents/uploads/4912cd8c044042cf80b00c4e756e16b2.pdf
[21] https://cpcb.nic.in/openpdffile.php?id=TGF0ZXN0RmlsZS9fMTU2NzgzOTg1OF9tZWRpYXBob3RvMTk2MDYucGRm

So, both the alternatives i.e., continuation of the current situation and project being undertaken without being registered as a GCC project activity are consistent with the laws and regulations of the country.

Step 2: Investment analysis
The alternative to the proposed project activity is a continuation of current situation that does not entail any investments. This is demonstrated in following sections as per "Investment Analysis" (Version 11.0).
The start date of proposed project activity is the date of issuing the purchase orders for major equipment. Prior to this, Project Owner had received the tariff order from the regulatory authority on **31/03/2021**. This was a key decision stage for the project proponent to start the project implementation despite inherent financial barriers.

Sub-step 2a: Determine appropriate analysis method
Since project activity generates revenue, Option III. Benchmark Analysis has been chosen to carry out investment analysis.

Sub-step 2b: Option III. Apply benchmark analysis
Since the project is funded through equity and debt funds, project IRR has been considered an appropriate financial indicator which will be tested against an appropriate benchmark cost of equity. These indicators are industry accepted indicators and are commonly used for financial analysis of similar kinds of projects.

Benchmark Cost of Equity:
As per "Investment Analysis" (Version 11.0), default value for cost of equity for different category of projects (that includes renewable energy projects) in different countries is provided. This value is in real terms and hence should be inflation adjusted to convert into nominal cost of equity.
As per para 19 of investment analysis, 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:

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

Where:
• Default value for Real Benchmark is the default value of expected return on equity in real terms for Energy Industries (Group 1) in India as provided in the Appendix
• Inflation forecast dated 4th December 2020 published by Reserve Bank of India for India for the period of 10 years (which is conservative value compared to inflation forecast for 5 years)

Default Value for cost of equity as per version of Investment Analysis Tool publicly available at the time of Investment Decision:
Table under investment analysis specifies default value of expected return on equity in real terms for Energy Industries (Group 1) in India = **10.55%**[22]. According to Reserve Bank of India (RBI), inflation forecasted for a period of 10 years is **4.00%**[23]**.**

[22] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v11.0.pdf

[23] https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=50747

So, nominal cost of equity or Benchmark value = (1+10.55%) *(1+4.00%)-1 = 14.97%.

Sub-step 2c: Calculation and comparison of financial indicators
GCC project activity has a less favourable Equity IRR than the benchmark, and hence the GCC project activity cannot be considered as financially attractive.

The key data parameters used to **calculate Equity IRR for Phase#1** are tabulated below:

Details of the project		**Source**
State where the project is situated	Tamil Nadu	As per DPR
Total Capacity (MW)	7.50	As per DPR
Date of Commissioning	20-Jan-22	COD certificate
Life of the plant (Yrs.)	25	As per CERC Order
Generation of electricity		
PLF (%)	23%	As per DPR
Annual generation (kWh)	1,47,82,500	Calculated Value
Annual Degradation per year	0.70%	As per DPR
Tariff rate - Transmission and Wheeling charges (INR/kWh)	4.59	Actual Rate as per Wheeling Agreement
Escalation in tariff rate	0.0%	
Transmission & Wheeling Losses (%)	5.81%	
Operation and maintenance cost and Insurance		
O & M Expenses (INR Mn.)	3.75	As per Wheeling Agreement
O & M free for (Yr.)	-	
Escalation in the operational expenses (%)	5.00%	As per CERC Order
Insurance (INR Mn.)	2.20	As per CERC Order
Financial parameters		
TOTAL COST (INR Mn.)	367.40	Actual project cost
Solar PV modules Cost	267.80	Actual project cost
Other depreciating Cost excluding Land	84.10	Actual project cost
Loan Amount (INR Mn.)	-	Calculated value
Equity Investment (INR Mn.)	367.40	Calculated value
Term loan		
Loan Amount (INR Mn.)	-	100% equity investment
Interest rate (%)	-	NA
Loan Tenure (Qtr.)	-	NA
Moratorium Period (Qtr.)	-	NA
Repayment Period (Qtr.)	-	NA
Repayment instalments value (INR Mn.)	-	NA
1st instalment from (Qtr. end)	-	NA
Book Depreciation (SLM Method)		

Land	15.50	
Gross Depreciable Value (INR Mn.)	351.90	Calculated Value
Salvage Value (%)	10.00%	As per CERC Order
Salvage value (INR Mn.)	35.19	Calculated Value
Net Depreciable Value (INR Mn.)	316.71	Calculated Value
Residual Value (INR Mn.)	50.69	Calculated Value
IT Depreciation (SLM method)		
IT Depreciation other depreciating plant part	15%	IT act
IT Depreciation Solar PV modules	20.00%	Project is eligible to claim half of accelerated depreciation of solar power plants
Income Tax		
Financial Year	**FY 2020-21**	
Income tax rate (%)	22.00%	As Per Income Tax Rule
Corporate Tax (%)	22.00%	As Per IT rule
GST (%)	15.00%	As Per Income Tax Rule
Surcharge (%)	10.00%	As Per Income Tax Rule
Health & Education cess (%)	4.00%	As Per Income Tax Rule
Final Tax rates		
Income tax rate (%)	25.1680%	Calculated Value
Corporate Tax (%)	25.17%	Calculated Value
GST (%)	15.6000%	Calculated Value

Based on the above values, Equity IRR is calculated as **10.88% without the consideration of ACC revenue.** This is compared with the benchmark value that is **14.97%.**

As evident, Equity IRR is less than benchmark value and making the project activity financially unviable.

Sensitivity Analysis:
Because the project activity's financial performance is dependent on several crucial parameters, this section does a sensitivity analysis to ensure that the financial performance is resilient to moderately favourable fluctuations in the essential assumptions.
Addressing **section 7** of investment analysis, following parameters have been chosen to conduct the sensitivity tests.
1. PLF
2. O&M Cost
3. Project Cost
4. Tariff Rate

The results of the sensitivity analysis are summarized below:

Sensitivity Analysis	Equity IRR

Variation %	-10%	Normal	10%	Breaching Value
PLF	9.38%	10.88%	12.36%	**+28.04%**
O&M	11.02%	10.88%	10.74%	**-326.00%**
Project Cost	12.38%	10.88%	9.65%	**-23.40%**
Tariff Rate	9.38%	10.88%	12.36%	**+28.04%**

From above, it can be safely concluded that project will remain financially unattractive despite positive changes in the key performance drivers. **Hence, it is additional.**

The key data parameters used to **calculate Equity IRR for Phase#2** are tabulated below:

Details of the project		**Source**
State where the project is situated	Tamil Nadu	As per DPR
Total Capacity (MW)	7.50	As per DPR
Date of Commissioning	31-Mar-22	COD Certificate
Life of the plant (Yrs.)	25	As per CERC Order
Generation of electricity		
PLF (%)	23%	As per DPR
Annual generation (kWh)	1,47,82,500	Calculated Value
Annual Degradation per year	0.70%	As per DPR
Tariff rate - Transmission and Wheeling charges (INR/kWh)	5.59	Actual Rate as per Wheeling Agreement
Escalation in tariff rate	0.0%	
Transmission & Wheeling Losses (%)	5.81%	
Operation and maintenance cost and Insurance		
O & M Expenses (INR Mn.)	3.75	As per Wheeling Agreement
O & M free for (Yr.)	-	
Escalation in the operational expenses (%)	5.00%	As per CERC Order
Insurance (INR Mn.)	2.42	As per CERC Order
Financial parameters		
TOTAL COST (INR Mn.)	403.90	Actual project cost
Solar PV modules Cost	293.82	Actual project cost
Other depreciating Cost excluding Land	94.58	Actual project cost
Loan Amount (INR Mn.)	-	Calculated value
Equity Investment (INR Mn.)	403.90	Calculated value
Term loan		
Loan Amount (INR Mn.)	-	100% equity investment
Interest rate (%)	-	NA
Loan Tenure (Qtr.)	-	NA
Moratorium Period (Qtr.)	-	NA
Repayment Period (Qtr.)	-	NA

Repayment instalments value (INR Mn.)	-	NA
1st instalment from (Qtr. end)	-	NA
Book Depreciation (SLM Method)		
Land	15.50	
Gross Depreciable Value (INR Mn.)	388.40	Calculated Value
Salvage Value (%)	10.00%	As per CERC Order
Salvage value (INR Mn.)	38.84	Calculated Value
Net Depreciable Value (INR Mn.)	349.56	Calculated Value
Residual Value (INR Mn.)	54.34	Calculated Value
IT Depreciation (SLM method)		
IT Depreciation other depreciating plant parts	15%	IT act
IT Depreciation Solar PV modules (%)	20.00%	Project is eligible to claim benefits of Accelerated depreciation on solar power generation units
Income Tax		
Financial Year	**FY 2020-21**	
Income tax rate (%)	22.00%	As Per Income Tax Rule
Corporate Tax (%)	22.00%	As Per IT rule
GST (%)	15.00%	As Per Income Tax Rule
Surcharge (%)	10.00%	As Per Income Tax Rule
Health & Education cess (%)	4.00%	As Per Income Tax Rule
Final Tax rates		
Income tax rate (%)	25.1680%	Calculated Value
Corporate Tax (%)	25.17%	Calculated Value
GST (%)	15.6000%	Calculated Value

Based on the above values, Equity IRR is calculated as **12.72% without the consideration of ACC revenue.** This is compared with the benchmark value that is **14.97%.**

As evident, Equity IRR is less than benchmark value and making the project activity financially unviable.

Sensitivity Analysis:
Because the project activity's financial performance is dependent on several crucial parameters, this section does a sensitivity analysis to ensure that the financial performance is resilient to moderately favourable fluctuations in the essential assumptions.
Addressing **section 7** of investment analysis, following parameters have been chosen to conduct the sensitivity tests.
1. PLF
2. O&M Cost
3. Project Cost
4. Tariff Rate

The results of the sensitivity analysis are summarized below:

Sensitivity Analysis	Equity IRR			
Variation %	**-10%**	**Normal**	**10%**	**Breaching Value**
PLF	11.07%	12.72%	14.34%	**+13.90%**
O&M	12.84%	12.72%	12.59%	**-198.00%**
Project Cost	14.40%	12.72%	11.32%	**-13.00%**
Tariff Rate	11.07%	12.72%	14.34%	**+13.90%**

From above, it can be safely concluded that project will remain financially unattractive despite positive changes in the key performance drivers. **Hence, it is additional.**

The key data parameters used to **calculate Equity IRR for Phase#3** are tabulated below:

Details of the project		**Source**
State where the project is situated	Tamil Nadu	As per DPR
Total Capacity (MW)	7.50	As per DPR
Expected Date of Commissioning	30-Oct-22	Expected date of Commissioning
Life of the plant (Yrs.)	25	As per CERC Order
Generation of electricity		
PLF (%)	23%	Assumed as per operational phases value
Annual generation (kWh)	1,47,82,500	Calculated Value
Annual Degradation per year	0.70%	Assumed as per operational phases value
Tariff rate - Transmission and Wheeling charges (INR/kWh)	5.59	Assumed rate as per operational phases
Escalation in tariff rate	0.0%	
Transmission & Wheeling Losses (%)	5.81%	Assumed as per operational phases value
Operation and maintenance cost and Insurance		
O & M Expenses (INR Mn.)	3.75	As per Wheeling Agreement
O & M free for (Yr.)	-	
Escalation in the operational expenses (%)	5.00%	As per CERC Order
Insurance (INR Mn.)	2.42	As per CERC Order
Financial parameters		
TOTAL COST (INR Mn.)	403.90	Assumed value as per recent phase value
Solar PV modules Cost	293.82	Assumed value as per recent phase value
Other depreciating Cost excluding Land	94.58	Assumed value as per recent phase value

Loan Amount (INR Mn.)	-	
Equity Investment (INR Mn.)	403.90	Assumed value
Term loan		
Loan Amount (INR Mn.)	-	100% equity investment
Interest rate (%)	-	NA
Loan Tenure (Qtr.)	-	NA
Moratorium Period (Qtr.)	-	NA
Repayment Period (Qtr.)	-	NA
Repayment instalments value (INR Mn.)	-	NA
1st instalment from (Qtr. end)	-	NA
Book Depreciation (SLM Method)		
Land	15.50	
Gross Depreciable Value (INR Mn.)	388.40	Calculated Value
Salvage Value (%)	10.00%	As per CERC Order
Salvage value (INR Mn.)	38.84	Calculated Value
Net Depreciable Value (INR Mn.)	349.56	Calculated Value
Residual Value (INR Mn.)	54.34	Calculated Value
IT Depreciation (SLM method)		
IT Depreciation other depreciating plant parts (%)	15%	IT act
IT Depreciation Solar PV modules (%)	20.00%	Project is eligible to claim benefits of Accelerated depreciation on solar power generation units
Income Tax		
Financial Year	**FY 2020-21**	
Income tax rate (%)	22.00%	As Per Income Tax Rule
Corporate Tax (%)	22.00%	As Per IT rule
GST (%)	15.00%	As Per Income Tax Rule
Surcharge (%)	10.00%	As Per Income Tax Rule
Health & Education cess (%)	4.00%	As Per Income Tax Rule
Final Tax rates		
Income tax rate (%)	25.1680%	Calculated Value
Corporate Tax (%)	25.17%	Calculated Value
GST (%)	15.6000%	Calculated Value

Based on the above values, Equity IRR is calculated as **12.47% without the consideration of ACC revenue.** This is compared with the benchmark value that is **14.97%.**

As evident, Equity IRR is less than benchmark value and making the project activity financially unviable.

Sensitivity Analysis:

Because the project activity's financial performance is dependent on several crucial parameters, this section does a sensitivity analysis to ensure that the financial performance is resilient to moderately favourable fluctuations in the essential assumptions.
Addressing **section 7** of investment analysis, following parameters have been chosen to conduct the sensitivity tests.
1. PLF
2. O&M Cost
3. Project Cost
4. Tariff Rate

The results of the sensitivity analysis are summarized below:

Sensitivity Analysis	**Equity IRR**			
Variation %	**-10%**	**Normal**	**10%**	**Breaching Value**
PLF	10.86%	12.47%	14.06%	**+15.80%**
O&M	12.60%	12.47%	12.36%	**-223.00%**
Project Cost	14.11%	12.47%	11.11%	**-14.50%**
Tariff Rate	10.86%	12.47%	14.06%	**+15.80%**

From above, it can be safely concluded that project will remain financially unattractive despite positive changes in the key performance drivers. **Hence, it is additional.**

Step 3: Barrier analysis
As per Tool for demonstration and assessment of additionality" (Version 07.0.0), Step 2 or Step 3 or both can be used to demonstrate additionality of the project activity. In this case, Step 3 is not being used for the purpose.

Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project activity
Not applicable.

Sub-step 3b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity)
Not applicable.

Step 4: Common practice analysis
As per para 57 of Tool for demonstration and assessment of additionality" (Version 07.0.0), Step 2 analysis shall be complemented with an analysis of extent to which the proposed project type (e.g., technology or practice) has already diffused in the relevant sector and region. This test is a credibility check to complement the investment analysis (Step 2).

Sub-step 4a: The proposed CDM project activity(ies) applies measure(s) that are listed in the definitions section above-
The project activity meets the following criteria for TOOL24 Common Practice; Version 03.1.
• **Applicable geographical area:** The state of Tamil Nadu has been considered as the geographical area. In India even though there is one national grid, but states have their own RE policies. Besides,

solar insolation and other geographic conditions change from state to state which might make a state more or less favourable than others for project implementation. Hence, a comparable area would be the state and not the host country.

• **Output:** It is the electricity generated by the project activity.

• **Technology:** Large scale solar power based on PV is the applicable technology.

Now, step wise approach as suggested in the tool is applied to the project activity:

Step 1: Calculate applicable capacity or output range as +/-50% of the total design capacity or output of the proposed project activity.
The installed capacity of the project is 22.5 MW hence the applicable output range is from 11.25 MW to 33.75 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.

Following large scale solar power projects in the state of Tamil Nadu are considered for analysis because:

(a) These fall in the applicable geographical location i.e., state of **Tamil Nadu** in India
(b) These apply the same measure i.e., utility scale **Solar power** generation
(c) These use the same source of input energy i.e., **Solar energy**
(d) These produce the same goods/services i.e., **electricity supplied to the connected grid**
(e) The capacity of these projects is in the range as defined in Step 1 i.e**., 11.25 MW to 33.75 MW**
(f) These projects started commercial operation before the start date of proposed project activity i.e., **20/01/2022.**

A total **of 10 solar projects**[24] excluding this project have been commissioned in the applicable geographical area, which falls in the desired capacity range. Out of which**, 7 projects** are different based on scale of proposed project activity, i.e., capacity of the power plant and **1 project** is entitled to a higher tariff due to promotional policies[25]. ***So, N_{all} = (10-7-1 = 2***).

[24] https://cea.nic.in/wp-content/uploads/2020/04/Plant-wise-details-of-RE-Installed-Capacity-merged.pdf
[25] https://cercind.gov.in/2015/orders/SO4.pdf

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}.
So, $N_{all} = 2$
As identified in Step 2, there is only one projects which is evaluated in this step.

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 as $N_{diff} = 0$
There is no project from the identified above that is different in technology. Hence, $N_{diff} = 0$

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.

Hence, F = 1-0 = 1
And $N_{all} - N_{diff} = 2$
Since $N_{all} - N_{diff} = 2$ which is not greater than 3, hence project activity is **not a common practice in the region.**

B.6. Estimation of emission reductions

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B.6.1. Explanation of methodological choices

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Baseline emissions:
Baseline emissions include only CO_2 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:

Emission reductions: $ER_y = BE_y - PE_y - LE_y$

Where,

ER_y	= Emission reduction in year y (t CO_2/yr)
$BE_{,y}$	= Baseline emissions in year y (t CO_2/yr)
$EF_{grid,CM,y}$	= Project emissions in year y (t CO_2/yr)
LE_y	= Leakage emission in year y (t CO_2/yr)

Project emissions:

Since the project activity is a solar power project with no direct GHG emissions during its operations, the project emissions are zero.

Hence, $PE_y = 0$

Leakage:

Leakage emissions are not considered as per the applicable methodology.

Hence, $LE_y = 0$

Therefore, the equation reduces to **Emission reductions: $ER_y = BE_y$**

$BE_y = EG_{p,j,y}$ X $EF_{grid,CM,y}$

Where:

BE_y	= Baseline emissions in year y (t CO2/yr)
$EG_{p,j,y}$	= Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the 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 "TOOL07: Tool to calculate the emission factor for an electricity system" (t CO2/MWh)

B.6.2. Data and parameters fixed *ex ante*

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Data / Parameter Table 1.

Data / Parameter:	**$EF_{grid,OM,y}$**
Methodology reference	ACM0002 (Version 20), Tool 7
Data unit	tCO_2/MWh
Description	Operating Margin CO_2 emission factor for the project electricity system in year y
Measured/calculated /default	Sourced from Baseline CO_2 Emission Database, Version 17.0, October 2021 published by Central Electricity Authority (CEA), Government of India
Data source	CO_2 Emission Database, Version 17.0, October 2021 published by Central Electricity Authority (CEA), Government of India
Value(s) of monitored parameter	0.9522

Measurement/ Monitoring equipment (if applicable)	<table><tr><td colspan="2"></td></tr><tr><td>Type of meter</td><td>Not Applicable</td></tr><tr><td>Location of meter</td><td>Not Applicable</td></tr><tr><td>Accuracy of meter</td><td>Not Applicable</td></tr><tr><td>Serial number of meter</td><td>Not Applicable</td></tr></table>
Calculation method (if applicable)	Calculated as the last 3-year (2018-19, 2019-20 and 2020-21) generation weighted average, sourced from Baseline CO_2 Emission Database, Version 17.0, October 2021 published by Central Electricity Authority (CEA), Government of India.
QA/QC procedures	Not Applicable
Purpose of data	For calculation of Baseline Emission
Additional comments	This parameter is fixed ex ante for the entire crediting period

Data / Parameter Table 2.

Data / Parameter:	**$EF_{grid,BM,y}$**
Methodology reference	ACM0002 (Version 20), Tool 7
Data unit	tCO_2/MWh
Description	Build Margin CO_2 emission factor for the project electricity system in year y
Measured/calculated /default	Sourced from Baseline CO_2 Emission Database, Version 17.0, October 2021 published by Central Electricity Authority (CEA), Government of India
Data source	CO_2 Emission Database, Version 17.0, October 2021 published by Central Electricity Authority (CEA), Government of India.
Value(s) of monitored parameter	0.8653

Measurement/ Monitoring equipment (if applicable)	<table><tr><td colspan="2"></td></tr><tr><td>Type of meter</td><td>Not Applicable</td></tr><tr><td>Location of meter</td><td>Not Applicable</td></tr><tr><td>Accuracy of meter</td><td>Not Applicable</td></tr><tr><td>Serial number of meter</td><td>Not Applicable</td></tr></table>
Calculation method (if applicable)	Sourced from Baseline CO_2 Emission Database, Version 17.0, October 2021 published by Central Electricity Authority (CEA), Government of India.
QA/QC procedures	Not Applicable
Purpose of data	For calculation of Baseline Emission
Additional comments	This parameter is fixed ex ante for the entire crediting period

Data / Parameter Table 3.

Data / Parameter:	**$EF_{grid,BM,y}$**
Methodology reference	ACM0002 (Version 20), Tool 7
Data unit	tCO_2/MWh
Description	Combined Margin CO2 emission factor for the project electricity system in year y
Measured/calculated /default	Calculated
Data source	CO_2 Emission Database, Version 17.0, October 2021 published by Central Electricity Authority (CEA), Government of India.
Value(s) of monitored parameter	0.9304

Measurement/ Monitoring equipment (if applicable)	<table><tr><td colspan="2"></td></tr><tr><td>Type of meter</td><td>Not Applicable</td></tr><tr><td>Location of meter</td><td>Not Applicable</td></tr><tr><td>Accuracy of meter</td><td>Not Applicable</td></tr><tr><td>Serial number of meter</td><td>Not Applicable</td></tr></table>
Calculation method (if applicable)	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%
QA/QC procedures	Not Applicable
Purpose of data	For calculation of Baseline Emission
Additional comments	This parameter is fixed ex ante for the entire crediting period

B.6.3. Ex-ante calculation of emission reductions

>>

Emission reductions are calculated as follows:

$ER_y = BE_y - PE_y - LE_y$

Where:

ER_y = Emission reductions in year y (t CO_2)
BE_y = Baseline Emissions in year y (t CO_2)
PE_y = Project emissions in year y (t CO_2)
LE_y = Leakage emissions in year y (t CO_2)

Baseline emissions:

$Be_y = EG_{PJ,y} X EF_{grid,CM,y}$

Where:

Be_y = Baseline emissions in year y (t CO_2)
$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the project activity in year y (MWh)

$EF_{grid,CMy}$ = Combined margin CO_2 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 CO_2/MWh)

Project emissions:
Since the project activity is a solar power project with no direct GHG emissions during its operations, the project emissions are zero. Hence, **$PE_y = 0$**

Leakage:
Leakage emissions are not considered as per the applicable methodology.
Hence**, $LE_y = 0$**

Therefore, **Emission reductions: $ER_y = BE_y$**

Expected Electricity Generation for the Project activity during crediting year (MWh) **(A)**	**407,309**
EF for Indian Grid (tCO2/MWh) **(B)**	**0.9304**
Emission Reductions for the whole crediting period **(A*B)**	**378,963**

B.6.4. Summary of ex ante estimates of emission reductions

>>

Year	Baseline emissions (t CO_2e)	Project emissions (t CO_2e)	Leakage (t CO_2e)	Emission reductions (t CO_2e)
Year 1	27,338	0	0	27,338
Year 2	40,152	0	0	40,152
Year 3	39,979	0	0	39,979
Year 4	39,591	0	0	39,591
Year 5	39,314	0	0	39,314
Year 6	39,040	0	0	39,040
Year 7	38,872	0	0	38,872
Year 8	38,495	0	0	38,495
Year 9	38,225	0	0	38,225
Year 10	37,957	0	0	37,957
Total	378,963	0	0	378,963
Total number of crediting years	10			
Annual average over the crediting period	37,896	0	0	37,896

B.7. Monitoring plan

>>

B.7.1. Data and parameters to be monitored *ex-post*

>>

Data / Parameter Table

Data / Parameter:	**$EG_{P\,j,\,y}$ (SDG7 and SDG9)**
Methodology reference	ACM002 (version 20.0)
Data unit	MWh/y
Description	Quantity of net electricity generated and supplied by the power plant to the grid in year y in MWh
Measured/calculated /default	Measured
Data source	JMR monthly report
Value(s) of monitored parameter	40,730 MWh per year (ex- ante estimations only)
Measurement/ Monitoring equipment	

For Phase-1	
Type of meter	Energy meter
Location of meter	Plant end
Accuracy of meter	To be verified during verification
Serial number of meter	Main Meter- 21009390 Check Meter- 21009392
Calibration frequency	Yearly
Date of Calibration/ validity	19/11/2021
Reference No. of Calibration Certificate	SCITPL/614/12-20
Calibration Status	Calibrated

For Phase-2	
Type of meter	Energy meter
Location of meter	Plant end
Accuracy of meter	To be verified during verification
Serial number of meter	Main Meter- 21008995 Check Meter- 21008996
Calibration frequency	Yearly
Date of Calibration/ validity	18/03/2022
Reference No. of Calibration Certificate	
Calibration Status	Calibrated

	For Phase-3
	Type of meter: To be verified
	Location of meter: To be verified
	Accuracy of meter: To be verified
	Serial number of meter: To be verified
	Calibration frequency: To be verified
	Date of Calibration/ validity: To be verified
	Reference No. of Calibration Certificate: To be verified
	Calibration Status: To be verified
Frequency of Measuring/reading	Continuous measurement
Recording frequency	Monthly recording
Calculation method (if applicable)	-
QA/QC procedures	Refer to section B.7.4
Purpose of data	To justify the impacts on SDG 7 and SDG 9
Additional comments	-

For Parameters to be monitored for E+/S+ assessments and SDG labels (positive impacts)

Environmental Safeguards

Data / Parameter:	**EA03**
Purpose:	*To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	CO2 emissions reductions per year
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	Parameter to be monitored: GHG emission reductions (tCO2/year) Frequency of monitoring: Annual Legal /regulatory / corporate limits (if any): - QA/QC: Monitored data will be stored and archived

Remarks	-

Data / Parameter:	**ENR07**
Purpose:	*To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	**Replacing fossil fuels with renewable sources of energy-** Net quantity of renewable energy generated from the power plant, which otherwise would have been generated from the combustion of fossil fuels**.**
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	<table><tr><td colspan="2"></td></tr><tr><td>Parameter to be monitored</td><td>Electricity generation by the project activity (MWh)</td></tr><tr><td>Frequency of monitoring</td><td>Monthly</td></tr><tr><td>Legal /regulatory / corporate limits (if any)</td><td>-</td></tr><tr><td>QA/QC</td><td>Energy meters will be calibrated as per schedule. Records will be maintained and archived till the end of the crediting period.</td></tr></table>
Remarks	-

Social Safeguards

Data / Parameter:	**SJ01**
Purpose:	*To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	**Long-term jobs (> 1 year) created-** Long term job opportunities created during the operation of the project activity.

Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	<table><tr><td colspan="2"></td></tr><tr><td>Parameter to be monitored</td><td>Employment records</td></tr><tr><td>Frequency of monitoring</td><td>Annual</td></tr><tr><td>Legal /regulatory / corporate limits (if any)</td><td>Employment is in compliance with the Labour Act</td></tr><tr><td>QA/QC</td><td>Records will be maintained and archived</td></tr></table>
Remarks	-

Data / Parameter:	**SJ03**
Purpose:	*To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	**Sources of income generation increased/reduced-** Additional employment and O&M services in the project region
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	<table><tr><td colspan="2"></td></tr><tr><td>Parameter to be monitored</td><td>Employee records, O&M contracts, Payroll records</td></tr><tr><td>Frequency of monitoring</td><td>Annual</td></tr><tr><td>Legal /regulatory / corporate limits (if any)</td><td>Minimum wages in compliance with the Labour Act</td></tr><tr><td>QA/QC</td><td>Records will be maintained and archived</td></tr></table>
Remarks	-

Data / Parameter:	**SHS02**
Purpose:	*To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*

<table>
<tr><td>Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.</td><td>Occupational health hazards- Cause of Physical hazards in project sites due to human intervention or technical failure or emergency</td></tr>
<tr><td>Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG</td><td>
<table>
<tr><td colspan="2"></td></tr>
<tr><td>Parameter to be monitored</td><td>Number of trainings</td></tr>
<tr><td>Frequency of monitoring</td><td>Annual</td></tr>
<tr><td>Legal /regulatory / corporate limits (if any)</td><td>OHSAS and OSHA standards</td></tr>
<tr><td>QA/QC</td><td>Records will be maintained and archived</td></tr>
</table>
</td></tr>
<tr><td>Remarks</td><td>-</td></tr>
</table>

<table>
<tr><td>Data / Parameter:</td><td>SHS03</td></tr>
<tr><td>Purpose:</td><td>To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.</td></tr>
<tr><td>Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.</td><td>Reducing / increasing accidents /Incidents/ fatality- Cause of accident in project sites due to human intervention or technical failure or emergency</td></tr>
<tr><td>Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG</td><td>
<table>
<tr><td colspan="2"></td></tr>
<tr><td>Parameter to be monitored</td><td>Number of trainings/ drills conducted</td></tr>
<tr><td>Frequency of monitoring</td><td>Annual</td></tr>
<tr><td>Legal /regulatory / corporate limits (if any)</td><td>OHSAS and OSHA standards</td></tr>
<tr><td>QA/QC</td><td>Records will be maintained and archived</td></tr>
</table>
</td></tr>
<tr><td>Remarks</td><td>-</td></tr>
</table>

Data / Parameter:	SE01
Purpose:	*To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	**Job related training imparted or not-** Technical and Non-Technical trainings provided to employees as per the training needs
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	<table><tr><td colspan="2"></td></tr><tr><td>Parameter to be monitored</td><td>Number of trainings</td></tr><tr><td>Frequency of monitoring</td><td>Annual</td></tr><tr><td>Legal /regulatory / corporate limits (if any)</td><td>-</td></tr><tr><td>QA/QC</td><td>Records will be maintained and archived</td></tr></table>
Remarks	-

SDGs Assessment

Data / Parameter:	Number of Employees having basic ICT skills (SDG4)
Purpose:	*To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	Number of employees working in the plant that are having basic ICT skills as defined under UN SDG
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	<table><tr><td colspan="2"></td></tr><tr><td>Parameter to be monitored</td><td>Number of persons trained</td></tr><tr><td>Frequency of monitoring</td><td>Annual</td></tr><tr><td>Legal /regulatory / corporate limits (if any)</td><td>-</td></tr><tr><td>QA/QC</td><td>Records will be maintained and archived</td></tr></table>

Remarks	To justify SDG Goal 4- : Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Data / Parameter:	**Employment Generation (SDG8)**
Purpose:	*To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	The number of persons employed is mentioned in the plant register, which can be crossed checked with daily attendance register and payroll records
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	<table><tr><td colspan="2"></td></tr><tr><td>Parameter to be monitored</td><td>Employment generated by project</td></tr><tr><td>Frequency of monitoring</td><td>Annual</td></tr><tr><td>Legal /regulatory / corporate limits (if any)</td><td>-</td></tr><tr><td>QA/QC</td><td>Employee logbook and Payroll records</td></tr></table>
Remarks	To justify SDG Goal 8 – Promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all

Data / Parameter:	**Annual Emission Reductions (SDG13)**
Purpose:	*To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	CO2 emissions reductions per year

Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	<table><tr><td colspan="2"></td></tr><tr><td>Parameter to be monitored</td><td>GHG emission reductions (tCO2/year)</td></tr><tr><td>Frequency of monitoring</td><td>Annual</td></tr><tr><td>Legal /regulatory / corporate limits (if any)</td><td>-</td></tr><tr><td>QA/QC</td><td>Monitored data will be stored and archived</td></tr></table>
Remarks	To justify SDG Goal 13 – Take urgent action to combat climate change and its impacts (same parameter is used to monitor EA03)

B.7.2. Data and parameters to be monitored for E+/S+ assessments (negative impacts)

>>

Data / Parameter:	**EL04**
Purpose:	*To demonstrate compliance of Environmental aspects to legal/regulatory/corporate requirements or to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	Improper disposal of generated e-waste may create soil contamination. To mitigate/reduce an environmental impact identified as harmful in the risk assessment and to develop a Program of Risk Management Actions plan to address the risk of EL04.
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	<table><tr><td colspan="2"></td></tr><tr><td>Parameter to be monitored</td><td>Quantity of E- waste</td></tr><tr><td>Frequency of monitoring</td><td>Annual</td></tr><tr><td>Legal /regulatory / corporate limits (if any)</td><td>NA</td></tr><tr><td>QA/QC</td><td>Record of E-waste will be maintained and summited during verification</td></tr></table>

Program of Risk Management Actions to mitigate risk related to aspect (if any for aspects assessed to be harmful)	

S.No.	Action and targets	Responsibility	Resource Requirement	Target to be Achieved by *(insert date)*	Key Performance Indicators (KPI)	Targets achieved on *(insert date)*
1	E-waste records of storage and disposal	Project Owner	1	-	E- waste Generated	To be verified
Date of Closing the Program:						

Data / Parameter:	**EL06**
Purpose:	*To demonstrate compliance of Environmental aspects to legal/regulatory/corporate requirements or to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.*
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	Improper disposal of generated e-waste may create soil contamination. To mitigate/reduce an environmental impact identified as harmful in the risk assessment and to develop a Program of Risk Management Actions plan to address the risk of EL06.
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	

Parameter to be monitored	Quantity of damaged products/ equipment handled safely
Frequency of monitoring	Annual
Legal /regulatory / corporate limits (if any)	NA
QA/QC	Record of damaged products/ equipment will be maintained and submitted during verification

Program of Risk Management Actions to mitigate risk related to aspect (if any for aspects assessed to be harmful)	

S.No.	Action and targets	Responsibility	Resource Requirement	Target to be Achieved by *(insert date)*	Key Performance Indicators (KPI)	Targets achieved on *(insert date)*
1	E-waste records of storage and disposal	Project Owner	1	-	E- waste Generated	To be verified
Date of Closing the Program:						

B.7.3. Sampling plan

>>

This is not applicable to the project activity.

B.7.4. Other elements of the monitoring plan

>>
The monitoring plan describes the parameters to be monitored, QA and QC procedures, data storage and archiving.

Parameters requiring Monitoring
The parameters will be monitored as per section B.7.1 and B.7.2 above.

QA/QC Procedures
In case Main meter or Check meter is found to be outside the acceptable limits of accuracy or faulty or not functioning properly, it will be repaired, recalibrated, or replaced as soon as possible. If the Main meter is not in service because of maintenance, repairs or testing, the Check meter will be used for readings.

Data recording & archiving

The Legal owner shall maintain data both in electronic form and/or hard copies. The monitored data shall be kept for two years after the end of crediting period or till the last issuance of ACCs for this project activity whichever occurs later. The monitored data will be presented to for future verifications**.**

Section C. Start date, crediting period type and duration

C.1. Start date of the Project Activity

>>
The start date of the project activity is 20/01/2022.

C.2. Expected operational lifetime of the Project Activity

>>

25 Years

C.3. Crediting period of the Project Activity

>>

C.3.1. Start and end date of the crediting period

>>

20/01/2022 to 19/01/2032

C.3.2. Duration of crediting period

>>

10 Years, fixed crediting period

Section D. Environmental impacts

D.1. Analysis of environmental impacts

>>

The project activity does not involve any major construction activity. It primarily requires the installation of the solar PV panels, interfacing the generators with the State Electricity Board by setting up HT transmission lines and installation of other accessories.
The report on "Developmental impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013[26]. This report clearly mentioned that solar PV project activity operations do not result in direct air pollution, noise pollution.
Thus, there is no significant impact due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity.

D.2. Environmental impact assessment and management action plans

>>

The guidelines on Environmental Impact Assessment have been published by Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India (GOI) under Environmental Impact Assessment notification 14/09/2006[27]. Further amendments to the notification have been done on 14/08/2018. As per notification:
"The following projects or activities shall require prior environmental clearance from the concerned regulatory authority, which shall herein after referred to be as the Central Government in the Ministry of Environment and Forests for matters falling under Category 'A' in the Schedule and at State level the State Environment Impact Assessment Authority (SEIAA) for matters falling under Category 'B' in the said Schedule, before any construction work, or preparation of land by the project management except for securing the land, is started on the project or activity:
1. All new projects or activities listed in the Schedule to this notification:
2. Expansion and modernization of existing projects or activities listed in the Schedule to this notification with addition of capacity beyond the limits given in the Schedule, after expansion or modernization:
3. Any change in product- mix in manufacturing unit included in Schedule beyond the specified range."

[26] https://smartnet.niua.org/sites/default/files/resources/report-on-developmental-impacts-of-RE.pdf
[27] http://www.environmentwb.gov.in/pdf/EIA%20Notification,%202006.pdf

As the solar energy projects are not listed in any of the categories in the Schedule, the project is considered environmentally safe and as per regulations in Host party-India no EIA is required.

Section E. Environmental and social safeguards

>>
The main purpose of the environment and social safeguard assessment is to identify, evaluate and manage environmental and social impacts that may arise due to implementation and operation of the project. The document has been made to comply with the requirements of Environmental and Social commitment, Environment & social safeguard standard (version.02) of GCC, Health and Safety (EHS) Guidelines of Project Owner, as well as applicable local and national regulations.
Further, with reference to the CPCB modified direction No. B29012/ESS(CPA)/2015-16[28], dated March 07, 2016 (Table G-5) solar power project falls in White category and it is mentioned in the notification that there shall be no necessity of obtaining the Consent to Operate'' for White category of industries. Furthermore, a clarification regarding the capacity of solar PV projects which would be eligible under the White Category was published by the CPCB, dated 18 January, 2017[29] which states that," Solar Power Generation through Solar Photovoltaic cell Plants of all capacities are included in the White Category of Industrial Sectors. Hence, as per below assessment, the solar power project is not likely to have significant adverse environmental and social impacts during the construction & operation period of the project activity.

[28] https://cpcb.nic.in/openpdffile.php?id=TGF0ZXN0RmlsZS9MYXRlc3RfMTE4X0ZpbmFsX0RpcmVjdGlvbnMucGRm
[29] https://cpcb.nic.in/openpdffile.php?id=TGF0ZXN0RmlsZS8xNDZfMTQ5MjQ4OTg4OF9tZWRpYXBob3RvMTMxOTgucGRm

E.1. Environmental safeguards

>>

Impact of Project Activity on		Information on Impacts, Do-No-Harm Risk Assessment and Establishing Safeguards								Project Owner's Conclusion		GCC Project Verifier's Conclusion (to be included in Project Verification Report only)
		Description of Impact *(positive or negative)*	**Legal/ voluntary corporate requirement / regulatory/ voluntary corporate threshold Limits**	**Do-No-Harm Risk Assessment (choose which ever is applicable)**			**Risk Mitigation Action Plans for aspects marked as Harmful**		**Performance indicator for monitoring of impact**	***Ex-ante* scoring of environmental impact**	***Explanation of the Conclusion***	**3rd Party Audit**
				Not Applicable	**Harmless**	**Harmful**	**Operational Controls**	**Program of Risk Management Actions**	**Monitoring parameter and frequency of monitoring**	**Ex- Ante scoring of the environmental impact (as per scoring matrix Appendix-02)**	**Ex- Ante description and justification/explanation of the scoring of the environmental impact**	**Verification Process**
Environmental Aspects on the identified categories [30] ***indicated below.***	*Indicators for environmental impacts*	*Describe and identify anticipated and actual significant environmental impacts, both positive and negative from all sources (stationary and mobile) during normal and abnormal/emergency conditions, that may result from the construction and operations of the Project Activity, within and outside the project boundary, over which the Project Owner(s) has/have control.*	*Describe the applicable national regulatory requirements /legal limits / voluntary corporate limits related to the identified risks of environmental impacts.*	*If no environmental impacts are anticipated, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as* ***Not Applicable***	*If environmental impacts exist, but are expected to be in compliance with applicable national regulatory /stricter voluntary corporate requirements and will be within legal/ voluntary corporate limits by way of plant design and operating principles, then the*	*If negative environmental impacts exist that will not be in compliance with the applicable national legal/ regulatory requirements or are likely to exceed legal limits, then the Project Activity is likely to cause*	*Describe the operational controls and best practices, focusing on how to implement and operate the Project Activity, to reduce the risk of impacts that have been identified as '****Harmfu'l*** *at least to a level that is in compliance with applicable legal/regulator requirements or industry best practice or stricter voluntary*	*Describe the Program of Risk Management Actions (refer to Table 3), focusing on additional actions (e.g., installation of pollution control equipment) that will be adopted to reduce or eliminate the risk of impacts that have been identified as* ***Harmful****.*	*Describe the monitoring approach and the parameters (KPI) to be monitored for each impact irrespective of whether it is harmless of harmful. The frequency of monitoring to be specified as well including the data source.*	*-1* *0* *+1*	*Confirm the score of environmental impact of the project with respect to the aspect and its monitored value in relation to legal /regulatory limits (if any) including basis of conclusion.*	*Describe how the GCC Verifier has assessed that the impact of the Project Activity against the particular aspect and in case of "harmful impacts" how has the project adopted Risk Mitigation Action Plans to mitigate the risks of negative environmental impacts to levels that are unlikely to cause any harm as well as the net positive impacts of the project with respect to the most likely baseline alternative.* .

[30] sourced from the CDM SD Tool and the sample reports are available (https://www4.unfccc.int/sites/sdcmicrosite/Pages/SD-Reports.aspx)

					Project Activity is unlikely to cause any harm (is safe) and shall be indicated as ***Harmless*** */If the project has an positive impact on the environment mark it as "harmless" as well.*	*harm (may be un-safe) and shall be indicated as* ***Harmful***	*corporate requirements*					
Reference to paragraphs of Environmental and Social Safeguards Standard		*Paragraph 12 (a)*	*Paragraph 13 (c)*	*Paragraph 13 (d) (i)*	*Paragraph 13 (d) (ii)*	*Paragraph 13 (d) (iii)*	*Paragraph 13 (e) (i)*	*Paragraph 13 (e) (ii)*	*Paragraph 12 (c) and Paragraph 13 (f)*	*Paragraph 22*		*Paragraph 24 and Paragraph 26 (a) (i)*
Environment - *Air*	*SO_x emissions (EA01)*	In India, majority of electricity is obtained from thermal power plants using coal, which is around 75% of the total power generation[31], since the electricity generated using coal is emission intensive and there is a production of fly ash (SPM) and other gaseous pollutants. The project activity **will reduce the emissions when compared with the baseline**, but this impact is not rated positive because the PO has opted not to quantify this impact	NAAQS, 2019	Not Applicable	-	-	-	-	-	0	-	-
	NO_x emissions (EA02)	In India, majority of electricity is obtained from thermal power plants using coal, which is around 75% of the total power generation, since	NAAQS, 2019	Not Applicable	-	-	-	-	-	0	-	-

[31] https://coal.nic.in/en/major-statistics/generation-of-thermal-power-from-raw-coal

		the electricity generated using coal is emission intensive and there is a production of fly ash (SPM) and other gaseous pollutants. The project activity **will reduce the emissions when compared with the baseline**, but this impact is not rated positive because the PO has opted not to quantify this impact										
	CO_2 emissions (EA03)	The project is expected to reduce CO2 emissions w.r.t. the baseline scenario of generation of equivalent amount of power in grid connected power plan	-	-	Harmless- The overall impact is positive with respect to the baseline alternative	-	-	-	GHG emission reduction (tonnes of CO2e / Yr.) The parameter will be monitored on monthly basis	+1	The overall impact is positive with respect to the baseline and hence the impact is harmless	
	CO emissions (EA04)	-	-	Not Applicable	-	-	-	-	-	-	-	-
	Suspended particulate matter (SPM) emissions (EA05)	In India, majority of electricity is obtained from thermal power plants using coal, which is around 75% of the total power generation, since the electricity generated using coal is emission intensive and there is a production of fly ash (SPM) and other gaseous pollutants. The project activity **will reduce the emissions when compared with the baseline**, but this impact is not rated positive because the PO has opted not to quantify this impact	NAAQS, 2019	Not Applicable	-	-	-	-	-	0	-	-
	Fly ash generation (EA06)	In India, majority of electricity is obtained from thermal power	-	Not Applicable	-	-	-	-	-	0	-	-

		plants using coal, which is around 75% of the total power generation, since the electricity generated using coal is emission intensive and there is a production of fly ash (SPM) and other gaseous pollutants. The project activity **will reduce the emissions when compared with the baseline**, but this impact is not rated positive because the PO has opted not to quantify this impact										
	Non-Methane Volatile Organic Compounds (NMVOCs) (EA07)	-	-	Not Applicable	-	-	-	-	-	-	-	-
	Odor (EA08)	-	-	Not Applicable	-	-	-	-	-	-	-	-
	Noise Pollution (EA09)	-	NAAQS, 2019	Not Applicable	-	-	-	-	-	-	-	-
	Others (EA10)	-	-	-	-	-	-	-	-	-	-	-
	Add more rows if required and corresponding notation with EA as prefix)	-	-	-	-	-	-	-	-	-	-	-
Environment - *Land*	*Solid waste Pollution from*	-	-	Not Applicable	-	-	-	-	-	-	-	-

	Plastics (EL-01)											
	Solid waste Pollution from Hazardous wastes (EL02)	-	-	Not Applicable	-	-	-	-	-	-	-	-
	Solid waste Pollution from Bio-medical wastes (EL03)	-	-	Not Applicable	-	-	-	-	-	-	-	-
	Solid waste Pollution from E-wastes (EL04)	E- waste generation from the Solar Power Project in terms of damaged solar panels, electronic equipment wires and computer auxiliary etc.	E-Waste Management Rules, 2018	-	-	Harmful- The lifetime of the project activity is 25 years. Project Owner will dispose the E-waste to the licensed vendors/ manufacturers at the end of life of products /equipment's in compliance to the E-waste Management rules.	Records all electrical & electronics waste of projects sites	Project owner is responsible to maintain records and filling of records as per applicable law	Quantity of waste discarded at the end of lifetime will be monitored and recorded	+1	The impact is unlikely to cause any harm.	

	Solid waste Pollution from Batteries (EL05)	No battery waste is anticipated throughout the operation of the project	-	Not Applicable	-	-	-	-	-	-	-	-
	Solid waste Pollution from end of life products/ equipment (EL06)	In the absence of the project activity no Solid waste Pollution from end-of-life products/ equipment will be generated. Project activity may result in the E-waste from the panels and other electronic products at the end of its lifetime.	E-Waste Management Rules, 2018	-	-	Harmful- The lifetime of the project activity is 25 years. Project Owner will dispose the E-waste to the licensed vendors/ manufacturers at the end of life of products /equipment's in compliance to the E-waste Management rules.	Records all electrical & electronics waste of projects sites	Project owner is responsible to maintain records and filling of records as per applicable law	Quantity of waste discarded at the end of lifetime will be monitored and recorded	+1	The impact is unlikely to cause any harm.	
	Soil Pollution from Chemicals (including Pesticides, heavy metals, lead, mercury) (EL07)	-	-	Not Applicable	-	-	-	-	-	-	-	-
	land use change (change	-	-	Not Applicable	-	-	-	-	-	-	-	-

	from cropland /forest land to project land) (EL08)											
	Others (EL09)	-	-	-	-	-	-	-	-	-	-	-
	Add more rows if required	-	-	-	-	-	-	-	-	-	-	-
Environment - *Water*	*Reliability/ accessibility of water supply (EW01)*	-	-	Not Applicable	-	-	-	-	-	-	-	-
	Water Consumption from ground and other sources (EW02)	Water will be consumed only for cleaning of modules	-	-	Harmless – Ground water will be consumed for the cleaning of PV modules. Project is not expected to impact the existing usage pattern. Project owner also obtained the required permissions for the use of groundwater as per the local rules and regulations	-	-	-	No Action required	0	No Action required	-

	Generation of wastewater (EW03)	-	-	-	-	-	-	-	-	-	-	-
	Wastewater discharge without/with insufficient treatment (EW04)	-	-	Not Applicable	-	-	-	-	-	-	-	-
	Pollution of Surface, Ground and/or Bodies of water (EW05)	-	-	Not Applicable	-	-	-	-	-	-	-	-
	Discharge of harmful chemicals like marine pollutants / toxic waste (EW06)	-	-	Not Applicable	-	-	-	-	-	-	-	-
	Others (EW07)	-	-	-	-	-	-	-	-	-	-	-
	Add more rows if required	-	-	-	-	-	-	-	-	-	-	-
Environment – *Natural Resources*	*Conserving mineral resources (ENR01)*	-	-	Not Applicable	-	-	-	-	-	-	-	-
	Protecting/ enhancing plant life (ENR02)	-	-	Not Applicable	-	-	-	-	-	-	-	-
	Protecting/ enhancing species	-	-	Not Applicable	-	-	-	-	-	-	-	-

	diversity (ENR03)											
	Protecting/ enhancing forests (ENR04)	-	-	Not Applicable	-	-	-	-	-	-	-	-
	Protecting/ enhancing other depletable natural resources (ENR05)	This is a renewable energy power project generating power through the solar energy which is renewable source of energy and hence there is no impact	-	Not Applicable	-	-	-	-	-	-	-	-
	Conserving energy (ENR06)	There is no scope for energy conservation since it is a solar power plant generating and supplying electricity through the grid. Hence not applicable.	-	Not Applicable	-	-	-	-	-	-	-	-
	Replacing fossil fuels with renewable sources of energy (ENR07)	The proposed project replaces fossil fuel with the renewable solar energy for the power generation by installing the solar power plant which would have been otherwise generated from the fossil fuel dominant	-	-	Harmless- The overall impact is positive compared to the baseline alternative	-	-	-	Considering the occurrence of emission reductions through the electricity generation form the Solar power project. This parameter will be monitored through the monthly Power generation from the proposed Solar Project. Monthly electricity generation will be monitored through the energy meters installed at the substation. Energy Generation reports will be provided for the verification of generation.	+1	The impact is unlikely to cause any harm.	

	Replacing ODS with non-ODS refrigerants (ENR08)	-	-	Not Applicable	-	-	-	-	-	-	-	-
	Others (ENR09)	-	-	-	-	-	-	-	-	-	-	-
	Add more rows if required	-	-	-	-	-	-	-	-	-	-	-
Net Score:			**+4**									
Project Owner's Conclusion in PSF:			The Project Owner confirms that the Project Activity will not cause any net harm to Environment.									
GCC Project Verifier's Opinion:			The GCC Verifier certifies that the Project Activity [is not likely to cause any] or [is likely to cause] net harm to the environment...									

E.2. Social Safeguards

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Impact of Project Activity on		Information on Impacts, Do-No-Harm Risk Assessment and Establishing Safeguards							Project Owner's Conclusion		GCC project Verifier's Conclusion (to be included in Project Verification Report only)
		Description of Impact (*positive or negative*)	**Legal requirement /Limit, Corporate policies / Industry best practice**	**Do-No-Harm Risk Assessment** (choose which ever is applicable)			**Risk Mitigation Action Plans (for aspects marked as Harmful)**	**Performance indicator for monitoring of impact.**	**Ex-ante scoring of environmental impact**	**Explanation of the Conclusion**	**3rd Party Audit**
				Not Applicable	**Harmless**	**Harmful**	**Operational / Management Controls**	**Monitoring parameter and frequency of monitoring (as per scoring matrix Appendix-02)**	**Ex- Ante scoring of social impact of the project**	**Ex- Ante description and justification/explanation of the scoring of social impact of the project**	**Verification Process** **Will the Project Activity cause any harm?**
Social Aspects on the identified categories[32] indicated below.	*Indicators for social impacts*	*Describe and identify actual and anticipated impacts on society and stakeholders, both positive or negative, from all source during normal and abnormal/emergency conditions that may result from constructing and operating of the Project Activity within or outside the project boundary, over which the project Owner(s) has/have control*	*Describe the applicable national regulatory requirements / legal limits or organizational policies or industry best practices related to the identified risks of social impacts*	*If no social impacts are anticipated, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as* ***Not Applicable***	*If social impacts exist, but are expected to be in compliance with applicable national regulatory requirements/ stricter voluntary corporate limits by way of plant design and operating principles then the Project Activity is unlikely to cause any harm (is safe) and shall be*	*If negative social impacts exist that will not be in compliance with the applicable national legal/ regulatory requirements or are likely to exceed legal limits then the Project Activity is likely to cause harm and shall be*	*Describe the operational or management controls that can be implemented as well as best practices, focusing on how to implement and operate the Project Activity, to reduce the risk of impacts that have been identified as* ***Harmful****.*	*Describe the monitoring approach and the parameters (KPI) to be monitored for each impact irrespective of whether it is harmless of harmful. The frequency of monitoring to be specified as well. Monitoring parameters can be quantitative or qualitative in nature along with the data source*	*-1* *0* *+1*	*Confirm the score of the social impacts of the project with respect to the aspect and its monitored value in relation to legal/regulatory limits (if any) including basis of conclusion*	*Describe how the GCC Verifier has assessed that the impact of Project Activity on social aspects (based on monitored parameters, quantitative or qualitative) and in case of "harmful aspects how has the project owner adopted Risk Mitigation Action / management actions plans and policies to mitigate the risks of negative social*

[32] sourced from the CDM SD Tool and the sample reports are available (https://www4.unfccc.int/sites/sdcmicrosite/Pages/SD-Reports.aspx)

					*indicated as **Harmless**), project having positive impact on society wrt. To the BAU / baseline scenario must also mark their aspect as **"harmless"***	*indicated as **Harmful***					*impacts to levels that are unlikely to cause any harm.* *Also describe the positive impacts of the project on the society as compared to the baseline alternative or BAU scenario.*
Reference to paragraphs of Environmental and Social Safeguards Standard		*Paragraph 12 (a)*	*Paragraph 13 (c)*	*Paragraph 13 (d) (i)*	*Paragraph 13 (d) (ii)*	*Paragraph 13 (d) (iii)*	*Paragraph 13 (e) (i)*	*Paragraph 12 (c) and Paragraph 13 (f)*	*Paragraph 23*		*Paragraph 24 and Paragraph 26 (a) (ii)*
Social - *Jobs*	*Long-term jobs (> 10 year) created/ lost (SJ01)*	*The project activity generates long term job opportunities during the operation the project activity.*	The project has ensured to meet the criteria and requirement defined in applicable Indian labor laws.	-	Harmless- As the impact is positive in nature	-	-	No. of Permanent Jobs to be monitored on an annual basis. Approximately 40 jobs are expected to be created	+1	The project is unlikely to cause any harm.	-
	New short-term jobs (< 1 year) created/ lost (SJ02)	*Project has created short term job opportunity which is less than a year to the skilled and unskilled people in the project region during the construction of the project activity through contractor.*	-	-	Harmless- This is a positive impact	-	-	Project is already commissioned and in operation. Hence this has already been achieved and need not be monitored further.	0	The project is unlikely to cause any harm.	-
	Sources of income generation increased / reduced (SJ03)	*By creating additional employment and O&M services in the project region it creates additional sources of income for the people employed for the project activity.*	None	-	Harmless- This is a positive impact	-	-	Payroll Records	+1	The project is unlikely to cause any harm.	-
	Avoiding discrimination when hiring	-	-	-	-	-	-	-	-	-	-

	people from different race, gender, ethnics, religion, marginalized groups, people with disabilities (SJ04) *(human rights)*										
Social - *Health & Safety*	*Disease prevention (SHS01)*	-	-	Not Applicable	-	-	-	-	-	-	-
	Occupational health hazards (SHS02)	*There is a possibility of physical hazards in project sites due to human intervention or technical failure or emergency*	EHS policy, OSHA and OHSAS	-	Harmless- By establishing EHS policy guidelines, and imparting periodic trainings and providing PPE kits to employees	-	Establishing EHS Guidelines Imparting Trainings, Keeping Sign boards Providing PPE Kits.	1. PPEs 2. Trainings to Employees	+1	By implementing Risk mitigation measures the project is unlikely to cause any harm	-
	Reducing / increasing accidents /Incidents/fatality (SHS03)	*There is a possibility of accidents in project sites due to human intervention or technical failure or emergency*	EHS policy and OHSAS	-	Harmless- By establishing SOPs, EHS policy guidelines, and imparting periodic trainings and providing PPE kits to employees	-	Establishing SOPs, EHS Guidelines Imparting Trainings, Keeping Sign boards Providing PPE Kits	1. PPEs 2.Trainings to Employees	+1	By implementing Risk mitigation measures the project is unlikely to cause any harm	-
	Reducing / increasing crime (SHS04)	-	-	Not Applicable	-	-	-	-	-	-	-

	Reducing / increasing food wastage (SHS05)	-	-	Not Applicable	-	-	-	-	-	-	-
	Reducing / increasing indoor air pollution (SHS06)	*This is a renewable energy power generation project through solar energy. Hence there is no impact on indoor air pollution*	-	Not Applicable	-	-	-	-	-	-	-
	Efficiency of health services (SHS07)	-	-	Not Applicable	-	-	-	-	-	-	-
	Sanitation and waste management (SHS08)	*Project will generate domestic waste during construction and operation of the project*	As per Factories Act, Solid waste management rules	-	Harmless- The project will have proper sanitation facilities (during construction portable toilets, during operation permanent toilets) as per factories act and domestic waste generated will be disposed as per local regulations.	-	-	-	0	The project is unlikely to cause any harm.	-
	Other health and safety issues (SHS09)	-	-	-	-	-	-	-	-	-	-
	Add more rows if required	-	-	-	-	-	-	-	-	-	-

Social - *Education*	*Specialized training / education to local personnel (SE01)*	*The local employees will receive on-the-job training as per their training needs.* *It imparts a positive impact by helping employees in all-round development*	None	-	Harmless- It has a positive impact.	-	-	No of Trainings	+1	This has a positive impact.	-
	Educational services improved or not (SE02)	-	-	-	-	-	-	-	-	-	-
	Project-related knowledge dissemination effective or not (SE03)	*The Project owner has conducted a Local Stakeholder Consultation in which project related information was disseminated to Local people.*	None	-	Harmless- As the local stakeholder consultation have already been conducted, so this parameter is not rated as positive	-	-	-	0	The project is unlikely to cause any harm	-
	Other educational issues (SE03)	-	-	-	-	-	-	-	-	-	-
	Add more rows if required (SE04)	-	-	-	-	-	-	-	-	-	-
Social - *Welfare*	*Improving/ deteriorating working conditions (SW01)*	*Project Owner will create and maintain the healthy and working conditions and try to maintain the work life balance for all the employees working for the project*	None	-	Harmless- Project Owner ensures and maintains the HR policy to ensure that all the employees are provided with healthy and non-	-	Taking the employee feedback on work life balance. Conducting the employee employer interactive sessions.	Policy of the company	0	The project is unlikely to cause any harm.	-

					deteriorating working conditions both at the corporate office and the project site as well.		Addressing the employee grievances, if any, on an immediate basis.				
	Community and rural welfare (indigenous people and communities) (SW02)	*Though there is a positive impact on the community and rural welfare from the implementation of project, but as such there are no additional community development activities undertaken by project owner*	-	-	-	-	-	-	-	-	-
	Poverty alleviation (more people above poverty level) (SW03)	*Though the project creates employment, the impact is not considerable in scale.*	-	-	-	-	-	-	-	-	-
	Improving / deteriorating wealth distribution/ generation of income and assets (SW04)	*Though the project creates employment, the impact is not considerable in scale.*	-	-	-	-	-	-	-	-	-
	Increased or / deteriorating municipal revenues (SW05)	-	-	Not Applicable	-	-	-	-	-	-	-
	Women's empower	-	-	Not Applicable	-	-	-	-	-	-	-

	ment (SW06) *(human rights)*										
	Reduced / increased traffic congestion (SW07)	-	-	Not Applicable	-	-	-	-	-	-	-
	Exploitation of Child labour *(human rights)* *(SW08)*	*No Impact*	Labour Act	-	Harmless- Child Labour and forced labour are strictly prohibited by law	-	-	Since none of the employed person is below the age of 16 years during construction or operational phase of the project so there is no chance of exploitation of child labour. As this activity is prohibited by law, so this parameter is not rated positive.	0	The project is unlikely to cause any harm.	-
	Minimum wage protection *(human rights) (SW09)*	-	-	-	-	-	-	-	-	-	-
	Abuse at work place.(with specific reference to women and people with special disabilities / challenges)	-	-	-	-	-	-	-	-	-	-

	(human rights) (SW10)										
	Other social welfare issues (SW11)	-	-	Not Applicable	-	-	-	-	-	-	-
	Avoidance of human trafficking and forced labour *(human rights)* *(SW12)*	-	-	Not Applicable	-	-	-	-	-	-	-
	Avoidance of forced eviction and/or partial physical or economic displacement of IPLCs *(human rights)* *(CW13)*	-	-	Not Applicable	-	-	-	-	-	-	-
	Provisions of resettlement and human settlement displacement *(human rights)*	-	-	Not Applicable	-	-	-	-	-	-	-

	(CW14)										
	Add more rows if required	-	-	-	-	-	-	-	-	-	-
Net Score:		**+5**									
Project Owner's Conclusion in PSF:		The Project Owner confirms that the Project Activity will not cause any net harm to society.									
GCC Project Verifier's Opinion:		The GCC Verifier certifies that the Project Activity [is not likely to cause any] or [is likely to cause] net harm to society.									

Section F. United Nations Sustainable Development Goals (SDG)

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UN-level SDGs	UN-level Target	Declared Country-level SDG	Defining Project-level SDGs				GCC Project Verifier's Conclusion (to be included in Project Verification Report only)	
			Project-level SDGs	**Project-level Targets/Actions**	**Contribution of Project-level Actions to SDG Targets**	**Monitoring**	**Verification Process**	**Are Goal/ Targets Likely to be Achieved?**
Describe UN SDG targets and indicators *See: https://unstats.un.org/sdgs/indicators/indicators-list/*	*Describe the UN-level target(s) and correspo-nding indicator no(s)*	*Has the host country declared the SDG to be a national priority? Indicate Yes or No*	*Define project-level SDGs by suitably modifying and customizing UN/ Country-level SDGs to the project scope or creating a new indicator(s). Refer to previous column of guidance.*	*Define project-level targets/actions in line with nee project level indicators chosen. Define the target date by which the project Activity is expected to achieve the project-level SDG target(s).*	*Describe and justify how actions taken under the Project Activity are likely to result in a direct positive effect that contributes to achieving the defined project-level SDG targets*	*Describe the monitoring approach and the monitoring parameters to be applied for each project-level SDG indicator and its correspondi ng target, frequency of monitoring and data source*	*Describe how the GCC Verifier has verified the claims that the project is likely to achieve the identified Project level SDGs target(s).*	*Describe whether the project-level SDG target(s) is likely to be achieved by the target date (Yes or No)*
Goal 1: End poverty in all its forms everywhere	-	-	-	-	-	-	-		
Goal 2: End hunger, achieve food security and improved nutrition and promote	-	-	-	-	-	-	-		

sustainable agriculture									
Goal 3. Ensure healthy lives and promote well-being for all at all ages	**-**	-	-	-	-	-	-		
Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	**4.4-** By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship **4.4.1-** Proportion of youth and adults with information and communi	Yes	Project activity contributes directly to SDG target by providing the relevant skill training to the employees	Installation of **22.5 MW** Solar Power generation capacity	To be verified during the verification	Project activity contributes directly to SDG target by providing skill training to the employees	Training records of the individuals		

	cation technology (ICT) skills, by type of skill								
Goal 5. Achieve gender equality and empower all women and girls	-	-	-	-	-	-	-		
Goal 6. Ensure availability and sustainable management of water and sanitation for all	-	-	-	-	-	-	-		
Goal 7. 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 **7.2.1-** Renewable energy share in the total final energy consumption	Yes	Project activity directly contributes to increase in share of renewable energy through generation of renewable electricity and exporting Net electricity generated to grid by the project	Installation of **22.5 MW** Solar Power generation capacity	Approximately **407,309 MWh** of renewable electricity is expected to be exported to national grid in over 10 years	Project activity contributes directly to SDG target by increasing the share of renewable energy in energy mix	Net electricity exported to grid by the project		
Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	**8.5-** By 2030, achieve full and productive employm	Yes	Project activity has generated employment during its construction phase (temporary jobs) as well as in operational phase (permanent jobs)	Construction of **22.5 MW** Solar Power plants and its operation and maintenance has resulted in	Approximately **25 jobs** created in operational phase	Project activity contributes directly to SDG target by providing employment and paying the	Maintaining record of staff employed/ pay roll records		

	ent and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value **8.5.1-** Average hourly earnings of female and male employees, by occupation, age and persons with disabilities			employment generation		individuals equally who are engaged in the work of equal value			
Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	**9.4-** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increase	Yes	Reductions in Emissions (TCO_2e) per unit of product due to project	Installation of **22.5 MW** Solar Power generation capacity	Approximately **37,896 tCO2e** annual reduction in the Greenhouse gas emissions. The project is generating zero	Project activity contributes directly to SDG target by reducing greenhouse gas emissions which are associated with the production of equivalent	Measurement of monthly energy generation from the project		

	d resource use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities **9.4.1-** Reduction in CO_2 emission per unit of value added				emission electricity", thereby, reducing the emissions per unit of electricity generated occurring in absence of project activity	amount of electricity			
Goal 10. Reduce inequality within and among countries	-	-	-	-	-	-	-		
Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable	-	-	-	-	-	-	-		
Goal 12. Ensure sustainable	-	-	-	-	-	-	-		

consumption and production patterns									
Goal 13. Take urgent action to combat climate change and its impacts	**13.2-** Integrate climate change measures into national policies, strategies and planning **13.2.2-** Total greenhouse gas emissions (reduced) per year	Yes	Project activity directly contributes to this SDG as Project is generating zero emission electricity in the Project scenario	Installation of **22.5 MW** Solar Power generation capacity	Approximately **37,896 tCO2e** annual reduction in the Greenhouse gas emissions. The project is generating zero emission electricity", thereby, aiding in combating the climate change	Project activity contributes directly to SDG target by reducing greenhouse gas emissions which are associated with the production of equivalent amount of electricity	As per the applied methodology		
Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development	-	-	-	-	-	-	-		
Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	-	-	-	-	-	-	-		

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	-	-	-	-	-	-	-		
Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development	-	-	-	-	-	-	-		

SUMMARY	**Targeted**	**Likely to be Achieved**
Total Number of SDGs	**5**	**5**
Certification label (Bronze, Silver, Gold, Platinum, or Diamond) for the ACCs as defined in the PSF	**Platinum**	**Platinum**

Section G. Local stakeholder consultation

G.1. MODALITIES FOR LOCAL STAKEHOLDER CONSULTATION

>>

A Public invitation for local stakeholder consultation was published in leading regional newspaper (DAILY THANTHI) and national newspaper (THE HINDU) inviting various stakeholders to attend the physical meeting on site. A physical stakeholder consultation meeting was conducted on 20th June 2022 at the project site.
An introductory briefing was given to the participating stakeholders (32 people). The objective of the local stakeholder consultation was explained to the audience explaining the advantages of the Renewable Energy (Solar) in comparison to other fossil fuels-based power generation. The stakeholders present were also explained about system of obtaining carbon credits from the generation of renewable electricity under GCC. Various features of the project activity along with associated SDG impacts were also discussed. A non-technical summary was circulated, including a questionnaire feedback form encouraging the participating stakeholders to share their feedback. Attendance was also recorded for participating stakeholders.

Figure 2: Newspaper Advertisements inviting Stakeholders in regional and national newspapers

Figure 3: Discussion and Consultation being carried out with local stakeholders

G.2. SUMMARY OF COMMENTS RECEIVED

>>

All the participating local stakeholders were aware about the solar power project and expressed their support and cooperation for the project activity. No objections or problem related to the power project was received during the stakeholder consultation. The Stakeholders were appreciative of the project in general.

G.3. CONSIDERATION OF COMMENTS RECEIVED

>>

No negative comments were received from the local stakeholders consulted. As comments received were positive, no further action is deemed required.

The comments received from the stakeholders are provided below-

Comment raised	Response provided
What is clean energy?	Clean energy is the energy that, when used, does not pollute the atmosphere.
Why solar energy is important for future?	The sun has produced energy for billions of years. It is the most important source of energy for life forms. It is a renewable source of energy unlike non-renewable sources such as fossil

	fuels. Solar energy technologies use the sun's energy to light homes, produce hot water, heat homes and electricity.
How the plant gets power when there is no Sun?	As the power plant is connected to the grid, so during the day hours the plant exports the electricity to the grid and during the nighttime the plant consume power from the grid.
Do solar panel generate any radiation or any health hazard to Human or birds?	The solar panels do not generate any radiation hazard and there are no health-related concerns associated with solar panels. There are no anticipated Hazards to birds, animals, or humans.

Section H. Approval and authorization

>>

Not applicable, as no clearance from the host country is required, at the time of submitting the PSF to the GCC. Such attestation shall be provided at the earliest opportunity, prior to submission of requesting issuance to the GCC Program **when the host country will have a provision to provide written attestation.**

APPENDIX 1. CONTACT INFORMATION OF PROJECT OWNERS

Project Owner name (as per LON/LOA)	Manikaran Power Limited
Country	India
Address	301, 3rd Floor, D-21, Corporate Park, Sector-21, Dwarka, New Delhi-110077
Telephone	+(91) 9599184354
Fax	+91-3340610166
E-mail	neel.paul@manikaranpowerltd.in
Website	www.manikaranpowerltd.in
Contact person	Neelabhra Paul

Project Owner name (as per LON/LOA)	Manikaran Power Limited
Country	India
Address	301, 3rd Floor, D-21, Corporate Park, Sector-21, Dwarka, New Delhi-110077
Telephone	(+91) 8826966443
Fax	+91-3340610166
E-mail	piyush.s@manikaranpowerltd.in
Website	www.manikaranpowerltd.in
Contact person	Piyush Sharma

APPENDIX 2. AFFIRMATION REGARDING PUBLIC FUNDING

>>
Not Applicable

APPENDIX 3. APPLICABILITY OF METHODOLOGY(IES)

>>
Please refer to the section B.2

APPENDIX 4. FURTHER BACKGROUND INFORMATION ON EX ANTE CALCULATION OF EMISSION REDUCTIONS

>>
Not Applicable

APPENDIX 5. FURTHER BACKGROUND INFORMATION ON MONITORING PLAN

>>

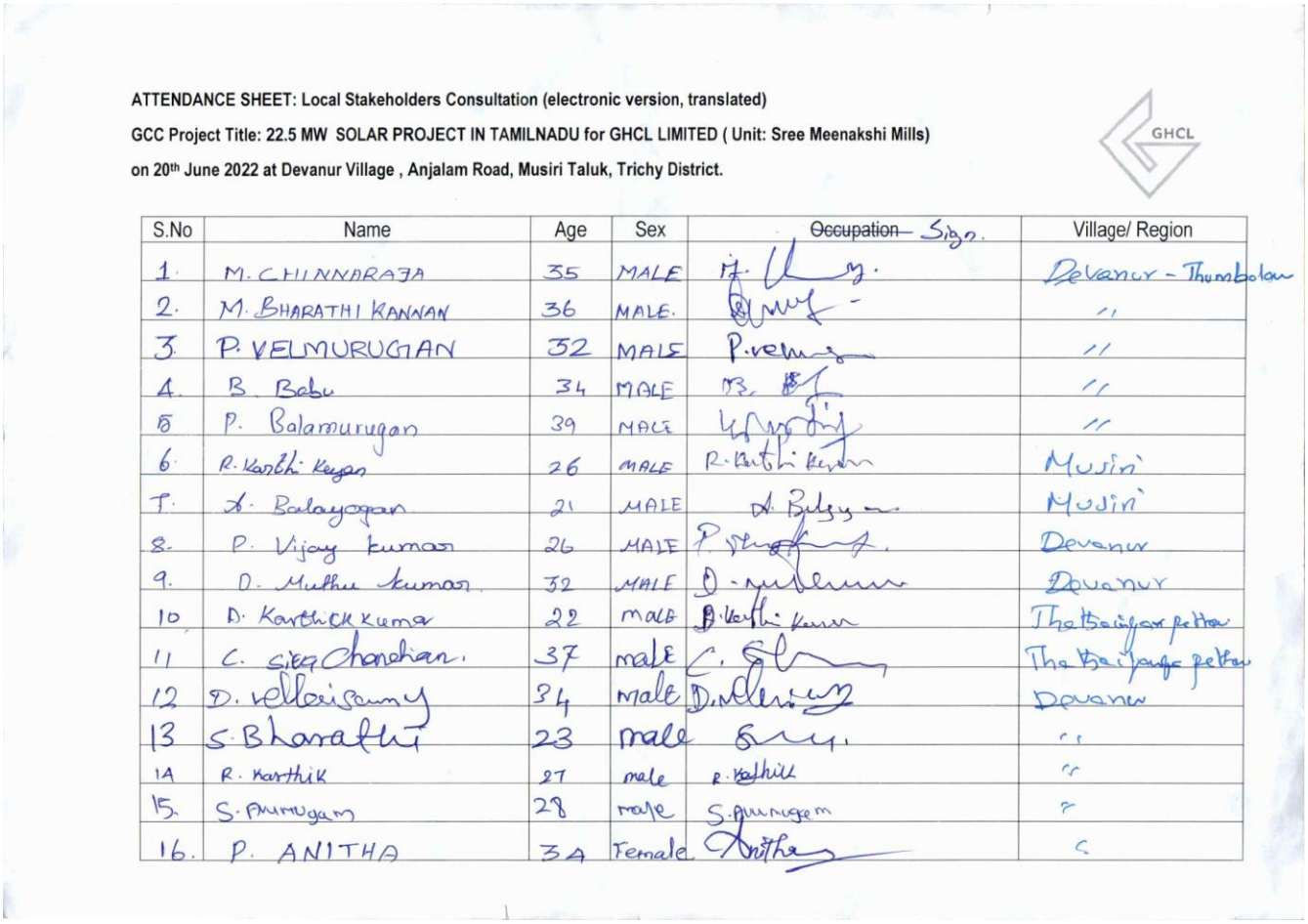
Not Applicable

APPENDIX 6. SUMMARY REPORT OF COMMENTS RECEIVED FROM LOCAL STAKEHOLDERS

>>

Please refer to the section G.2 for comments received from the stakeholders

List of stakeholders that attended the LSC on 20th June 2022



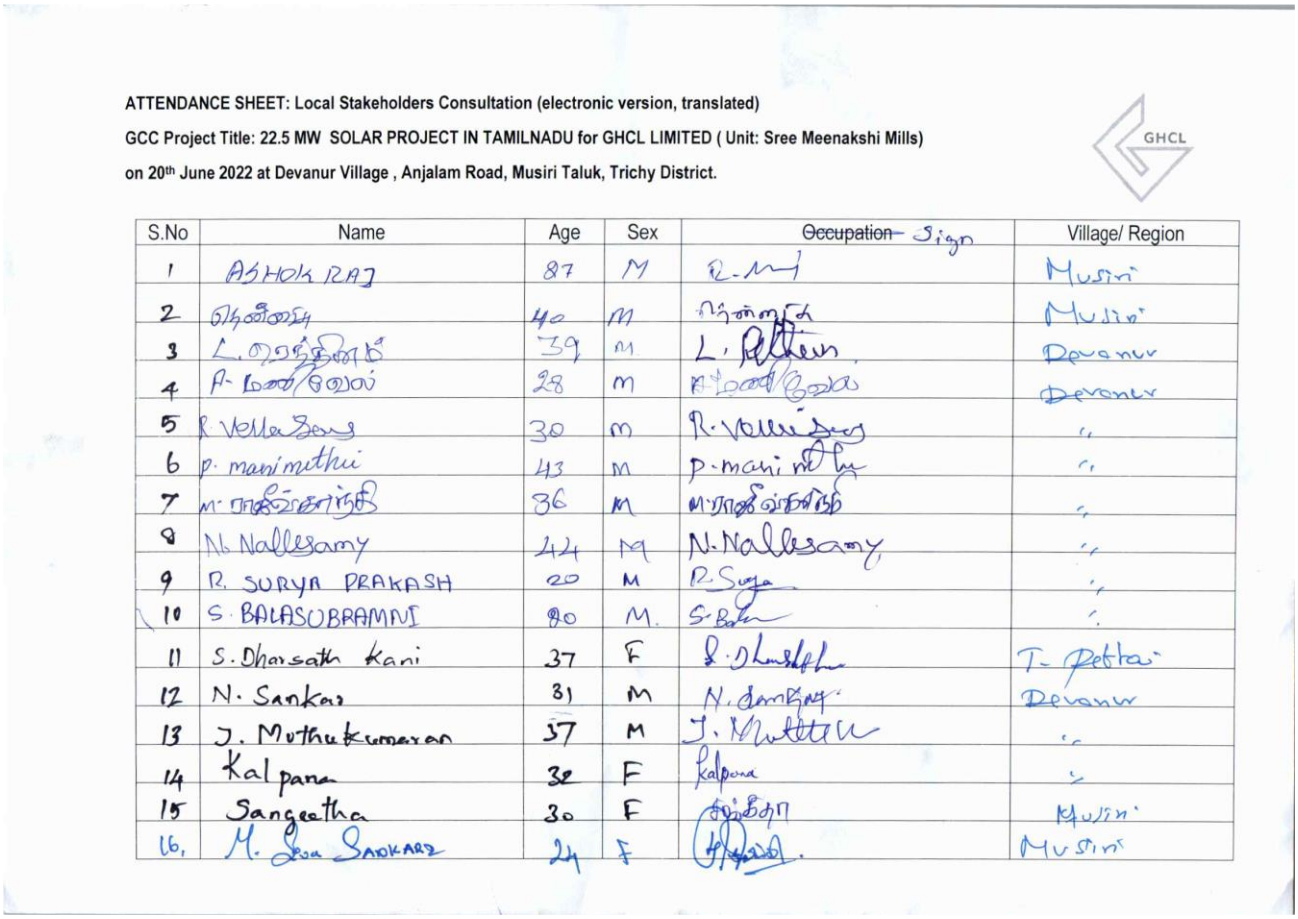
ATTENDANCE SHEET: Local Stakeholders Consultation (electronic version, translated)

GCC Project Title: 22.5 MW SOLAR PROJECT IN TAMILNADU for GHCL LIMITED (Unit: Sree Meenakshi Mills)

on 20th June 2022 at Devanur Village , Anjalam Road, Musiri Taluk, Trichy District.

S.No	Name	Age	Sex	~~Occupation~~ Sign.	Village/ Region
1.	M. CHINNARAJA	35	MALE		Devanur - Thambolam
2.	M. BHARATHI KANNAN	36	MALE.		"
3.	P. VELMURUGAN	32	MALE		"
4.	B. Babu	34	MALE		"
5	P. Balamurugan	39	MALE		"
6.	R. Karthi Kayan	26	MALE		Musiri
7.	A. Balayogan	21	MALE		Musiri
8.	P. Vijay kumar	26	MALE		Devanur
9.	D. Muthu kumar	32	MALE		Devanur
10	D. Karthick Kumar	22	male		Thottaiyar pettai
11	C. Siva Chandran.	37	male		Thottaiyar pettai
12	D. Velusamy	34	Male		Devanur
13	S. Bharathi	23	male		"
14	R. Karthik	27	male		"
15.	S. Murugan	28	male		"
16.	P. ANITHA	34	Female		"

List of stakeholders that attended the LSC on 20th June 2022 continued...-



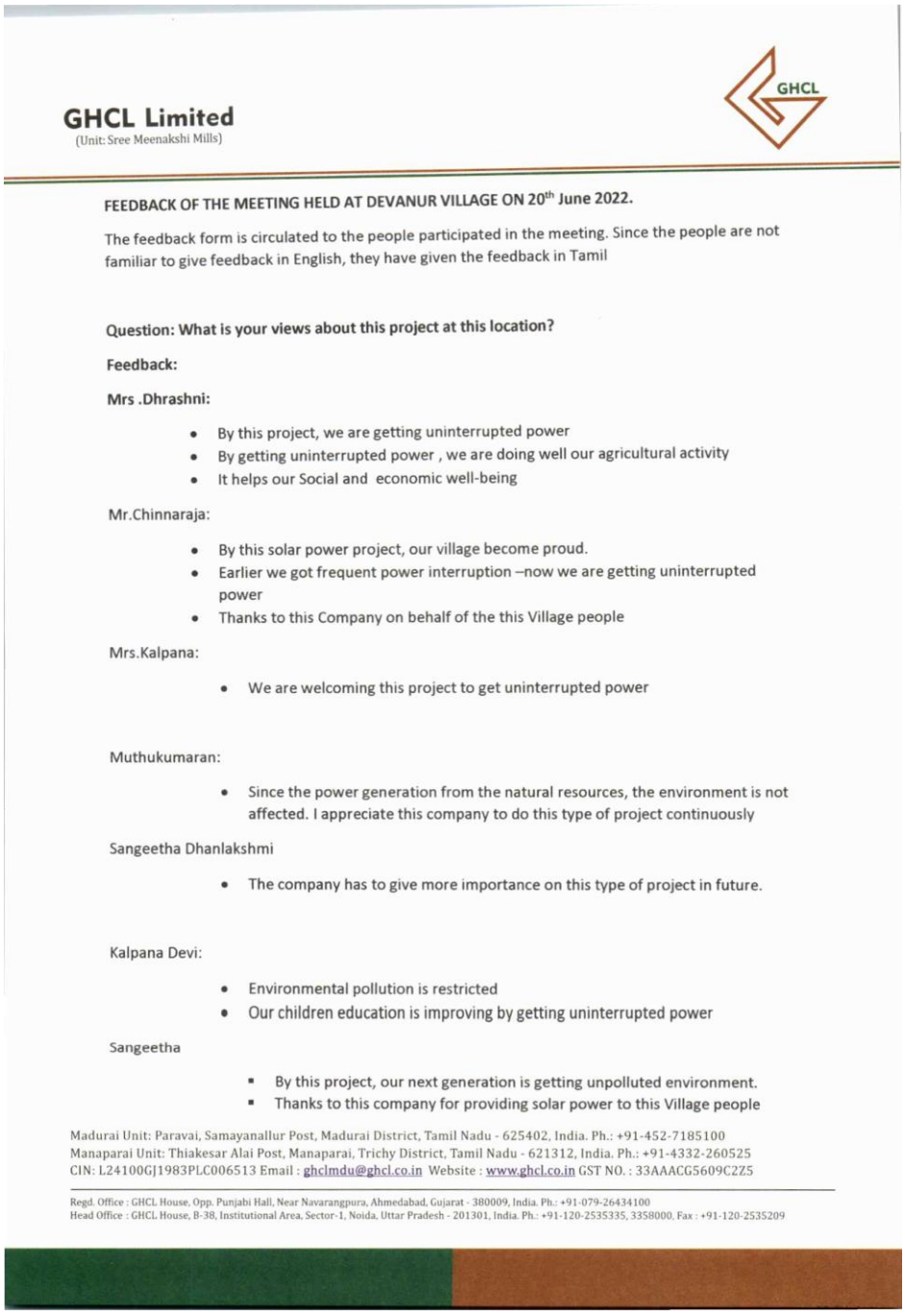
ATTENDANCE SHEET: Local Stakeholders Consultation (electronic version, translated)

GCC Project Title: 22.5 MW SOLAR PROJECT IN TAMILNADU for GHCL LIMITED (Unit: Sree Meenakshi Mills)

on 20th June 2022 at Devanur Village , Anjalam Road, Musiri Taluk, Trichy District.

S.No	Name	Age	Sex	~~Occupation~~ Sign	Village/ Region
1	ASHOK RAJ	87	M		Musiri
2		40	M		Musiri
3		39	M		Devanur
4		28	M		Devanur
5	R Vellaisamy	30	M	R. Vellaisamy	"
6	P. manimuthu	43	M	P. manimuthu	"
7		36	M		"
8	N. Nallesamy	44	M	N. Nallesamy	"
9	R. SURYA PRAKASH	20	M	R. Surya	"
10	S. BALASUBRAMANI	80	M.	S. Bala	"
11	S. Dharsath Kani	37	F	S. Dharsath	T. Pettai
12	N. Sankar	31	M	N. Sankar	Devanur
13	J. Muthukumaran	37	M	J. Muthu	"
14	Kalpana	32	F	Kalpana	"
15	Sangeetha	30	F		Musiri
16.	M. Siva Sankar	24	F		Musiri

Feedback received from the Stakeholders-



GHCL Limited
(Unit: Sree Meenakshi Mills)

FEEDBACK OF THE MEETING HELD AT DEVANUR VILLAGE ON 20th June 2022.

The feedback form is circulated to the people participated in the meeting. Since the people are not familiar to give feedback in English, they have given the feedback in Tamil

Question: What is your views about this project at this location?

Feedback:

Mrs .Dhrashni:

- By this project, we are getting uninterrupted power
- By getting uninterrupted power , we are doing well our agricultural activity
- It helps our Social and economic well-being

Mr.Chinnaraja:

- By this solar power project, our village become proud.
- Earlier we got frequent power interruption –now we are getting uninterrupted power
- Thanks to this Company on behalf of the this Village people

Mrs.Kalpana:

- We are welcoming this project to get uninterrupted power

Muthukumaran:

- Since the power generation from the natural resources, the environment is not affected. I appreciate this company to do this type of project continuously

Sangeetha Dhanlakshmi

- The company has to give more importance on this type of project in future.

Kalpana Devi:

- Environmental pollution is restricted
- Our children education is improving by getting uninterrupted power

Sangeetha

- By this project, our next generation is getting unpolluted environment.
- Thanks to this company for providing solar power to this Village people

Madurai Unit: Paravai, Samayanallur Post, Madurai District, Tamil Nadu - 625402, India. Ph.: +91-452-7185100
Manaparai Unit: Thiakesar Alai Post, Manaparai, Trichy District, Tamil Nadu - 621312, India. Ph.: +91-4332-260525
CIN: L24100GJ1983PLC006513 Email : ghclmdu@ghcl.co.in Website : www.ghcl.co.in GST NO. : 33AAACG5609C2Z5

Regd. Office : GHCL House, Opp. Punjabi Hall, Near Navarangpura, Ahmedabad, Gujarat - 380009, India. Ph.: +91-079-26434100
Head Office : GHCL House, B-38, Institutional Area, Sector-1, Noida, Uttar Pradesh - 201301, India. Ph.: +91-120-2535335, 3358000, Fax : +91-120-2535209

APPENDIX 7. SUMMARY OF DE-REGISTERED CDM PROJECT OR PROJECTS FROM OTHER GHG / NON-GHG PROGRAMS (TYPE B)

>> Not Applicable

Complete this form in accordance with the instructions attached at the end of this form.	
Program Name	
Project registration number	
Date of registration in the program	
Title of the Project Activity	
Projectde-registration reference number	
Date of de-registration of the Project	
Project Participants (authorized by the host / annex 1 country letter of approval)	
Country where the project is located	
Applied methodology(ies) (provide reference and version number(s))	

Pre-registration changes to the Project Activity

(Tick as applicable)

Pre-registration Changes	Reference number	Approved	Provide a summary of pre-registration changes
Deviations from approved baseline and monitoringmethodology		☐	
Deviations from applied Tool & Guidance		☐	
Deviations from the rules		☐	
Other…….		☐	

Post-registration changes to the Project Activity

(Tick as applicable)

Post registration Changes	Reference number	Approved	Provide a summary of post-registration changes
Change in project design		☐	
Request for revision of monitoring plan		☐	
Request for change in start date of crediting period		☐	
Renewal of crediting period		☐	
Temporary deviations		☐	
Other…….		☐	

Crediting Period(s)

Crediting period(s)			Period (start & end dates)	ERs as per registered PDD/MR/Project documents	Credits issued
Crediting Period (shall start on or after 1 Jan 2016)	Fixed 10 year				
	Renewable (7 years, with 2 approved renewals)	1st			
		2nd			
		3rd			
Period for which Credits have been issued					
Period for which Credits have been requested but not issued					-
Period for which Credits have never been requested for issuance (no monitoring reports submitted)					-
Period for which Credits have never been requested for issuance prior to CDM de-registration					-
Remaining Crediting period, after de-registration, for which Credits have not been issued by the program , subject to a ceiling of 10 years as allowed under the GCC Program					-

<table>
<tr><td>Details of Previous Issuance Requests</td><td>
<table>
<tr><th>Issuance Request</th><th>Period
(start & end dates)</th><th>ERs as per registered PDD</th><th>Quantity of Credits requested to be issued</th><th>Quantity of Credits issued</th></tr>
<tr><td>1st</td><td></td><td></td><td></td><td></td></tr>
<tr><td>2nd</td><td></td><td></td><td></td><td></td></tr>
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<tr><td>Total</td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>List any open issues in the Validation and last Verification Report (e.g., FARs, if any) and how they have been addressed</td><td></td></tr>
<tr><td>Any other relevant information that has not been reported in the registered documents and that may have adverse impacts on the environmental integrity of the Project Activity</td><td></td></tr>
<tr><td>Provide the list of all the registered documents related to this project, as available on the programs website and the</td><td></td></tr>
</table>

corresponding URLs.	

Appendix 8. FURTHER INFORMATION ON DETERMINATION OF BUNDLE IN PROJECT ACTIVITY.

>>
Not Applicable

Appendix 9. PUBLIC DECLARATION FOR A2 (Sub Type 2 and 3), B1 & B2 PROJECTS ON NON CONTINUATION FROM CDM/GHG/NON-GHG PROGRAMS.

>>

Not Applicable

DOCUMENT HISTORY

Version	Date	Comment
V 4.0	27/09/2022	▪ Revised version released on approval by Steering Committee as per GCC Program Process; ▪ Revised version contains following changes: ○ Introduced A3 type projects A2 project sub-types; ○ Included revised Declaration by the 'Authorized Project Owner and focal point' on GCC requirements; ○ Included modified format for E+/S+/ SDG assessment; ○ Revised instructions for filling in the PSF; ○ Editorial changes to the document.
V 3.2	31/12/2020	▪ The name of GCC Program's emission units has been changed from "Approved Carbon Reductions" or ACRs to "Approved Carbon Credits" or ACCs.
V 3.1	17/08/2020	▪ Editorial revisions made ○ Revised Table in section B.7.2 on Monitoring-program of risk management actions ○ Revised Table in section E.1 on Environmental Safeguards ○ Revised Table in section E.1 on Social Safeguards ○ Revised Table in section F on United Nations Sustainable Development Goals (SDG)
V 3.0	05/07/2020	▪ Revised version released on approval by Steering Committee as per GCC Program Process; ▪ Revised version contains following changes: ○ Change of name from Global Carbon Trust (GCT) to Global Carbon Council (GCC); ○ Considered and addressed comments raised by Steering Committee: ➢ during physical meeting (SCM 01, dated 29 Oct 2019, Doha Qatar); and ➢ electronic consultations EC01-Round 01 (15.09.2019 – 25.09.2019), EC01-Round 02 (27.03.2020 – 27.06.2020). ○ Feedback from Technical Advisory Board (TAB) of ICAO on GCC submission for

		approval under CORSIA[33];
V 2.0	25/06/2019	▪ Revised version released for approval by the GCC Steering Committee. ▪ Revised version includes additional details and instructions on the information to be provided, consequent to the latest developments world-wide (e.g., CORSIA EUC).
V 1.0	01/11/2016	Initial version released under the GCC Program Version 1

[33]See ICAO recommendation for conditional approval of GCC at https://www.icao.int/environmental-protection/CORSIA/Documents/TAB/Excerpt_TAB_Report_Jan_2020_final.pdf

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Gulf Organisation for Research & Development