Monitoring Report

CARBON OFFSET UNIT (CoU) PROJECT

Title: 10 MW solar Power plant in Karnataka by M/s Bhoruka Power Corporation Limited

Version 4.0

Date 27/05/2025

First CoU Issuance Period: 10 years, 1 month, and 19 days

Date: 12/11/2014 to 31/12/2024

Monitoring Report (MR)
CARBON OFFSET UNIT (CoU) PROJECT

Monitoring Report	
Title of the project activity	10 MW solar Power plant in Karnataka by M/s Bhoruka Power Corporation Limited
UCR Project Registration Number	493
Version	3.0
Completion date of the MR	27/05/2025
Monitoring period number and duration of this monitoring period	Monitoring Period Number: 1 Duration of this monitoring Period: (first and last days included (12/11/2014 to 31/12/2024)
Project participants	Bhoruka Power Corporation Limited, Bangalore.
Host Party	India
Applied methodologies and standardized baselines	AMS.I-D Grid-connected electricity generation from renewable sources ---Version 18.0
Sectoral scopes	01 Energy industries (Renewable/Non-renewable Sources)
Estimated amount of GHG emission reductions for this monitoring period in the registered PCN	**2014:** 2114 CoUs/yr (2114 tCO2eq/yr) **2015:** 16912 CoUs/yr (16912 tCO2eq/y) **2016:** 16814 CoUs/yr (16814 tCO2eq/yr) **2017:** 15914 CoUs/yr (15914tCO2eq/yr) **2018:** 16168 CoUs/yr (16168 tCO2eq/yr) **2019:** 13566 CoUs/yr (13566 tCO2eq/yr) **2020:** 14123 CoUs/yr (14123 tCO2eq/yr) **2021:** 13688 CoUs/yr (13688 tCO2eq/yr) **2022:** 12153 CoUs/yr (12153 tCO2eq/yr) **2023:** 11809 CoUs/yr (11809 tCO2eq/yr) **2024:** 11610 CoUs/yr (11610 tCO2eq/yr)
Total:	**144,871**CoUs (144,871tCO2eq)

SECTION A. Description of project activity

A.1. Purpose and general description of project activity >>

The Project activity titled, "10 MW Solar Power Plants in Karnataka by Bhoruka Power Corporation Limited, Bangalore." is a Solar power Project located in located in Rangenahalli, Sidlayyanakotte and Bidarakere Village, Hiriyur Taluk, Chitradurga Dist, Karnataka.

It has been operational since 12 Nov 2014, owned by Bhoruka Power Corporation Limited (hereinafter referred to as the Project Proponent or PP).

Company Name	Plant Capacity (MW)	Location	Commissioning Date
Bhoruka Power Corporation Limited	10	Rangenahalli, Sidlayyanakotte and Bidarakere Village, Hiriyur Taluk, Chitradurga Dist, Karnataka	12/11/2014

The power produced by the 10MW is evacuated at the 66 KV Rangenahalli substation located at Rangenahalli, Hiriyur Taluk, Chitradurga Dist, Karnataka.

a) Purpose of the project activity and the measures taken for GHG emission reductions >>

The core objective of this project activity is to displace an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid. The estimated lifetime of the project activity is considered as 25 years for solar technology. In the Pre- project scenario the entire electricity, consumed by the customers or delivered to the grid by, would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources.

The generation of power from solar photovoltaics is a clean technology as there is no fossil fuel-fired or no GHG gases are emitted during the process. A photovoltaic module consists of several photovoltaic cells connected by circuits and sealed in an environmentally protective laminate, which forms the fundamental building blocks of the complete PV generating unit. Several PV panels mounted on a frame are termed PV Array. Thus, project activity leads to a reduction the GHG emissions as it displaces power from fossil fuel-based electricity generation in the regional grid. The technological details have been provided in Section A.4. Since the project activity generates electricity through solar energy, a clean renewable energy source it will not cause any negative impact on the environment and thereby contributes to climate change mitigation efforts.
The electricity generation for the current monitoring period is 163,410.721284 MWh and total GHG emission reduction is 144,871 tCO_2e.

b) Brief description of the installed technology and equipment>>

The project consists of ground mounted photo voltaic solar plant with aggregated installed capacity of 10 MW. The plant was commissioned by the respective authority of government of Karnataka. The project generates clean energy by utilizing the solar Radiations.

The applied technology is considered to be one of the most environment friendly technologies available as the operation of the Solar photovoltaic does not emit any GHGs or any other harmful gases unlike the operation of conventional power plants. Photovoltaic module consists of several photovoltaic cells connected by circuits and sealed in an environmentally protective laminate, which forms the fundamental building blocks of the complete PV generating unit. Several PV panels mounted on a frame are termed as PV Array.

The project activity has used the reliable and proven technology to ensure that an environmentally safe and sound technology has been implemented.

c) Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods, etc.)>>

Provide the duration of the crediting period corresponding to the monitoring period covered in this monitoring report.

UCR Project ID or Date of Authorization: **493**
Start Date of Crediting Period: **12/11/2014**

d) Total GHG emission reductions achieved or net anthropogenic GHG removals by sinks achieved in this monitoring period>>

The total GHG emission reductions achieved in this monitoring period is as follows:

Summary of the Project Activity and ERs Generated for the Monitoring Period	
Start date of this Monitoring Period	12/11/2014
Carbon credits claimed up to	31/12/2024
Total ERs generated (tCO2eq)	144,871tCO2eq
Leakage	0

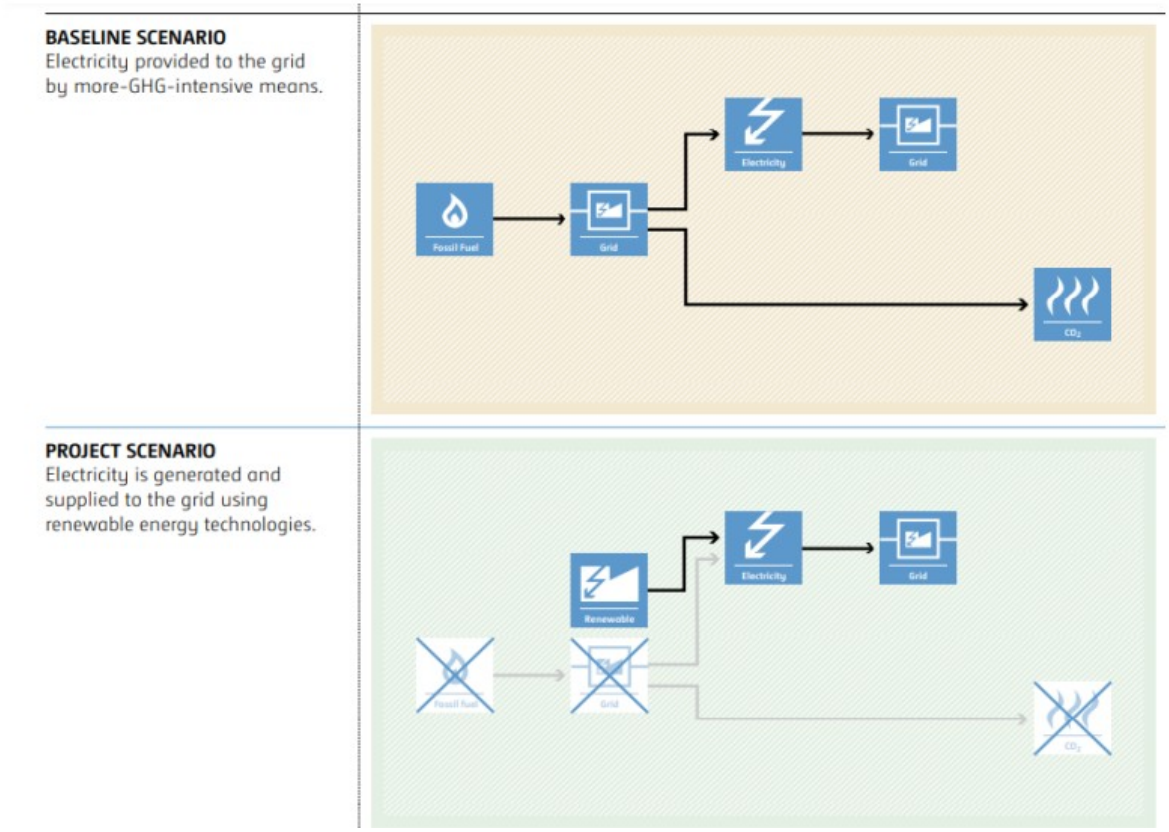
e) Baseline Scenario>>

The baseline scenario identified at the PCN stage of the project activity is:

The scenario existing prior to the implementation of the project activity, is electricity delivered to the facility by the project activity that would have otherwise been generated by the operation of grid connected power plants and by the addition of new generation sources. This is a green field project activity. There was no activity at the site of the project participant prior to the implementation of this project activity. Hence pre-project scenario and baseline scenario are the same.

As per the approved AMS-I.D.: “Grid connected renewable electricity generation”, version 18 if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following: “If the project activity is the installation of a Greenfield power plant, the baseline scenario is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources to the grid”.

Schematic diagram showing the baseline scenario.

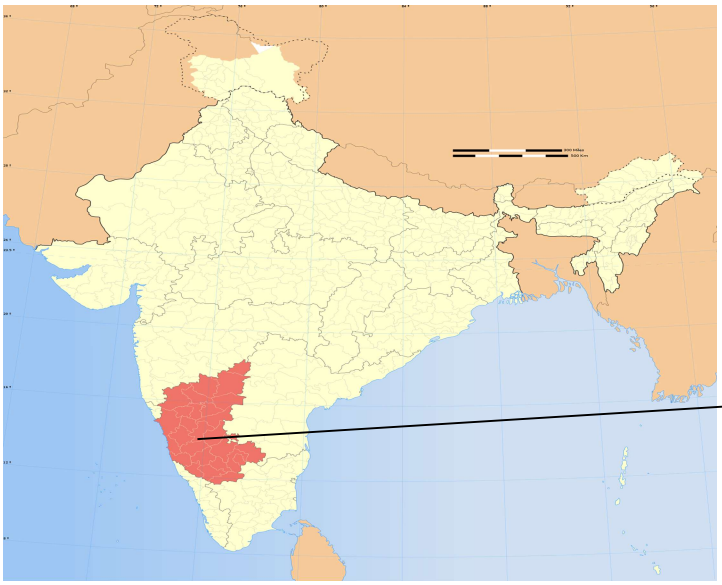


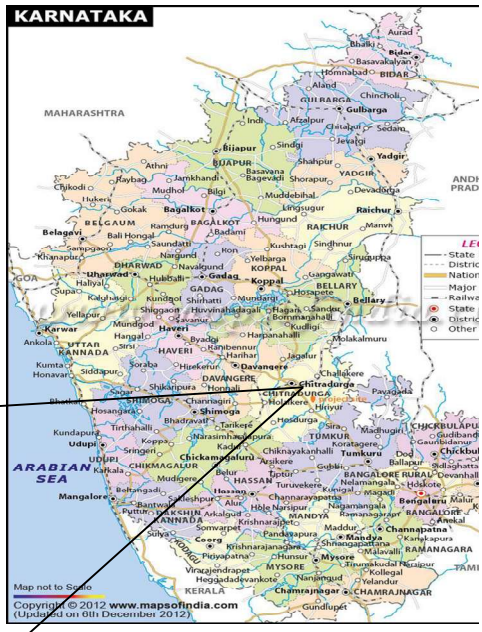
A.2. Location of project activity>>

Country: India
District: Chitradurga
Village: Rangenahalli
Tehsil: Hiriyur
State: Karnataka.

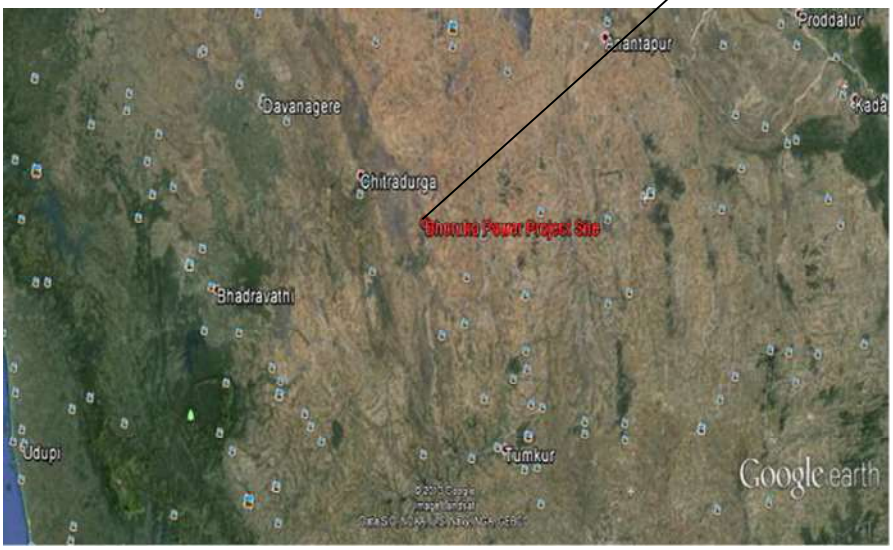
The geographic co-ordinates of the project location have been given below:
Latitude: 14° 4.7’ N
Longitude: 76°43.2’ E

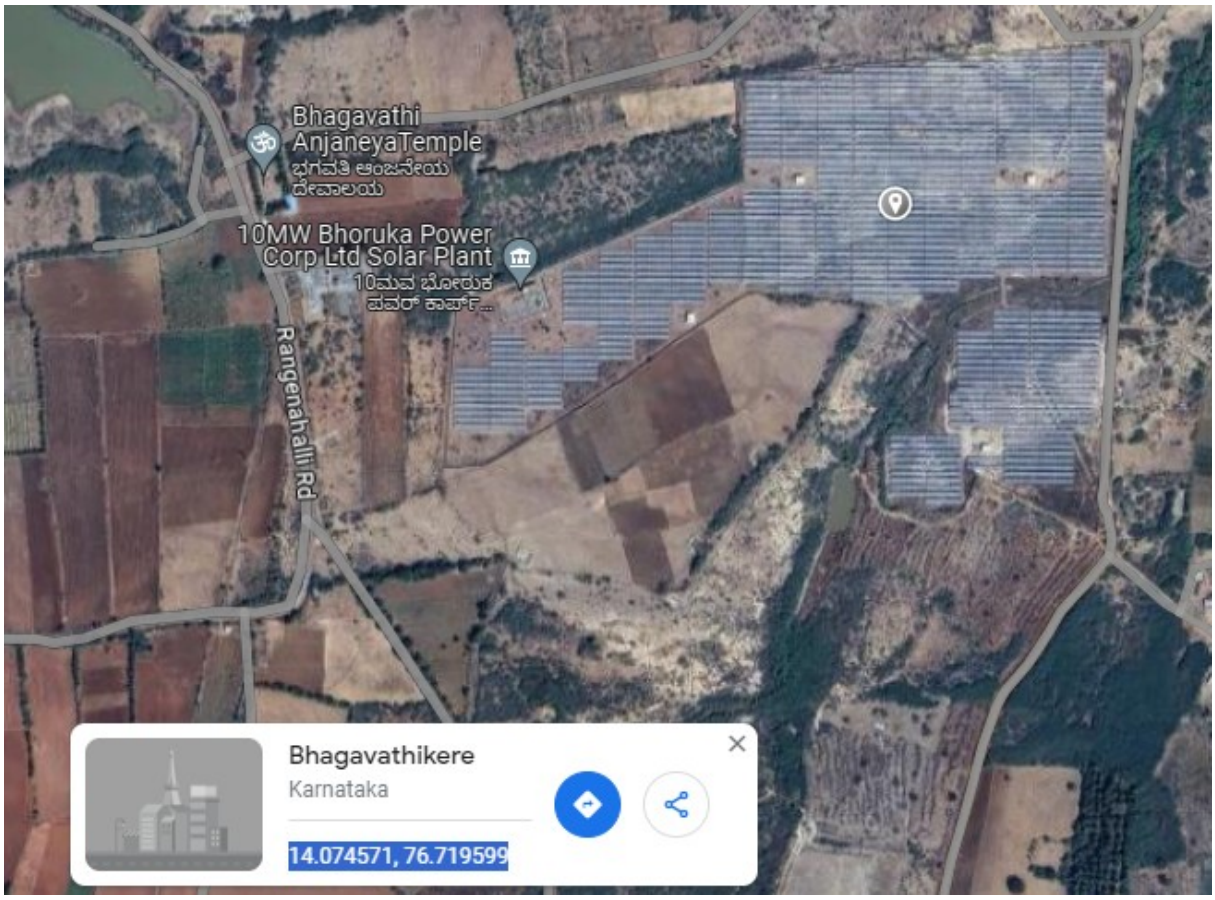
The representative Location of map is included below:





Project Activity




Bhagavathi AnjaneyaTemple
ಭಗವತಿ ಆಂಜನೇಯ ದೇವಾಲಯ
10MW Bhoruka Power Corp Ltd Solar Plant
10ಮವ ಭೋರುಕ ಪವರ್ ಕಾರ್ಪ್...
Rangenahalli Rd
Bhagavathikere
Karnataka
14.074571, 76.719599

A.3. Parties and project participants >>

Party (Host)	Participants
India	BHORUKA POWER CORPORATION LTD

A.4. References to methodologies and standardized baselines >>

SECTORAL SCOPE: 01, Energy industries (Renewable/Non-renewable sources)

TYPE: I - Renewable Energy Projects

CATEGORY: AMS-I.D.: “Grid connected renewable electricity generation”, version 18

A.5. Crediting period of project activity >>

Start date:12/11/2014
Length of the crediting period corresponding to this monitoring period: 10 years, 1 month, and 19days.
Date: 12/11/2014-31/12/2024

A.6. Contact information of responsible persons/entities >>

Contact Person- Lokesh Jain
Email- lokesh.jain@viviidgreen.com
Phone no- 91 89208 56146
Address- Sri Krishna Complex, New Link Road, Opp. Laxmi Industrial Estate, Andheri (West), Mumbai - 400053

SECTION B. Implementation of project activity

B.1. Description of implemented registered project activity >>

a) Provide information on the implementation status of the project activity during this monitoring period in accordance with UCR PCN>>

The primary objective of the project is to establish and operate a 10 MW Solar project in regions of Karnataka to generate clean electricity. Bhoruka Power Corporation Ltd serves as the Project Proponent for these solar farms. The project was commissioned on various dates as approved by the relevant authorities in Karnataka. The technology utilized is among the most environmentally friendly options available, as solar power generation does not emit greenhouse gases (GHGs) or other harmful emissions, unlike conventional power plants. The project employs reliable and proven technology to ensure the implementation of a safe and sustainable energy solution.

b) For the description of the installed technology(ies), technical process and equipment, include diagrams, where appropriate>>

The project activity is using clean renewable solar energy to produce electricity. The applied technology is one of the most environment friendly technologies available as the operation of the Solar photovoltaic does not emit any GHGs or any other harmful gases unlike the operation of conventional power plants.

The Project Activity is a new facility (Greenfield) and the electricity generated by the project is exported to the national grid of India to be purchased by Bangalore Electricity Supply Company Ltd (BESCOM).

The project activity displaces an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid. The estimated lifetime of the project activity is considered as 25 years for solar technology. In the Pre- project scenario the entire electricity, consumed by the customers or delivered to the grid by, would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources.

Technology used in Project Activity

The main components include:

Solar PV modules: – Solar PV modules convert solar radiation directly into electricity through the photovoltaic effect in a silent and clean process that requires no moving parts. The photovoltaic effect is a semiconductor effect whereby solar radiation falling onto the semiconductor PV cells generates electron movement. The output from a solar PV cell is direct current (DC) electricity. A PV power plant contains many cells connected together in modules and many modules connected together in strings to produce the required DC power output.

Inverters – Invertors are required to convert the DC electricity to alternating current (AC) for connection to the utility grid. Many modules in series strings and parallel strings are connected to the inverters

Step-up transformers: – The output from the inverters generally requires a further step-up in voltage to reach the AC grid voltage level. The step-up transformer takes the output from the inverters to the required grid voltage (33 kV)

Module mounting systems: Fixed mounting systems keep the rows of modules at a fixed tilt angle while facing a fixed angle of orientation for maximising the energy incident on the collector plane. The optimum tilt angle is generally between 10º and 35º, facing true south

Parameter	
Project Capacity	10MW
Type of system	PV Ground mounted
Expected annual generation	19,648
Project Capacity	10MW
Invertor Make	ABB
Invertor rating	1000kW
Number of Invertor	10
Capacity of Module	250Wp
Tilt angle	18º
Transformer Make	Shilcher Technologies Ltd, Vododara
Transformer details	2 MVA, 400 V / 11 kV
Number of Transformer	5
Efficiency of Panels	14%-16%
Number of modules	42,208
Solar panel make	Canadian Solar Inc.
Capacity of modules	250 Wp
Type of modules	Multi-crystalline
Type of Mounting Structure	Fixed Tilt
Expected life of Power Plant	25 Years

B.2 Do no harm or impact test of the project activity>>

There are social, environmental, economic and technological benefits which contribute to sustainable development.

This project is a greenfield activity where grid power is the baseline. Indian grid system has been predominantly dependent on power from fossil fuel powered plants. The renewable power generation is gradually contributing to the share of clean & green power in the grid; however, grid emission factor is still on higher side which defines grid as distinct baseline.

There was no harm identified from the project and hence no mitigation measures are applicable. Rational: as per 'Central Pollution Control Board (Ministry of Environment & Forests, Govt. of India)', the final document on the revised classification of Industrial Sectors under Red, Orange, Green, and White Categories, it has been declared that Solar project activity falls under the "White category". White Category projects/industries do not require any Environmental Clearance such as 'Consent to Operate' from PCB as such project does not lead to any negative environmental impacts. Additionally, as per Indian regulations, Environmental and Social Impact Assessment is not required for Solar Projects. Additionally, there are social, environmental, economic, and technological benefits that contribute to sustainable development. The key details have been discussed below:

Social Benefits:

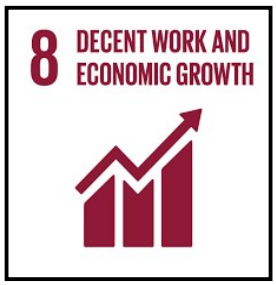
- The project activity will lead to the development of supporting infrastructure such as road network etc., in the solar park location, the access to which is also provided to the local population.
- The project will create job opportunities for local residents, both temporary during construction and permanent during operation. This will boost income and improve the standard of living in the community.

- **Economic benefits:**
- The project activity requires temporary and permanent, skilled and semi-skilled manpower at the Solar Park; this will create additional employment opportunities in the region.
- The generated electricity will be fed into the Indian grid through local grid, thereby improving the grid frequency and availability of electricity to the local consumers (villagers & sub- urban habitants) which will provide new opportunities for industries and economic activities to be set up in the area thereby resulting in greater local employment, ultimately leading to overall development.

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

- **Environmental benefits:**
- The project activity employs renewable energy source for electricity generation instead of fossil fuel- based electricity generation which would have emitted gaseous, liquid and/or solid effluents/wastes.

- Being a renewable resource, using solar energy to generate electricity contributes to resource conservation. Thus, the project causes no negative impact on the surrounding environment and contributes to environmental well-being.

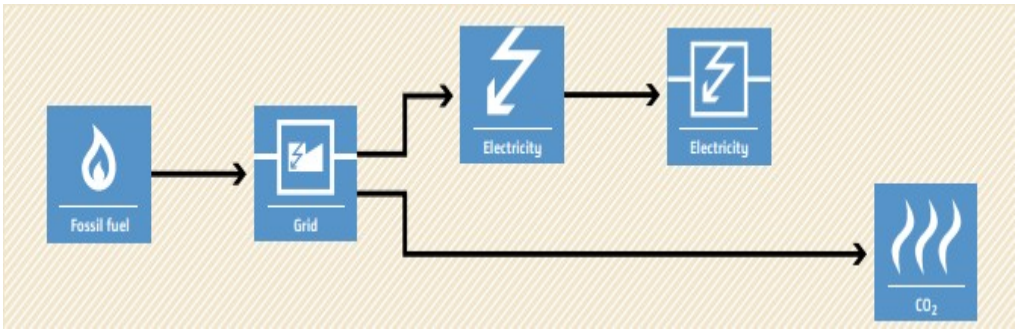
SDG Goals	Description
Goal 7 	➢ The project activity will generate clean energy, which with increased sharing will increase the affordability at a cheaper rate to end user. The project activity will utilize solar energy (renewal resource) to generate power. The project activity will increase the share of renewable resource-based electricity to global mix of energy consumption
Goal 8 	➢ This project activity generates additional employment in the operations and maintenance of the Solar Plant for the local people. This project will achieve full and productive employment and decent work.
Goal 13 	➢ This 10 MW Solar power project meets the SDG 13 goal by saving fossil fuel and producing clean energy. This project is expected to reduce CO_2 emission **144,871**tCO_2e**.** ➢ In a Greenfield project, electricity delivered to the grid by the project would have otherwise been generated by the operation of grid connected power plants. Thereby the project activity reduces the dependence on fossil fuel-based generation units and as there are no emissions associated with this project it contributes to the reduction of greenhouse gases (GHG) emissions.

B.3. Baseline Emissions>>

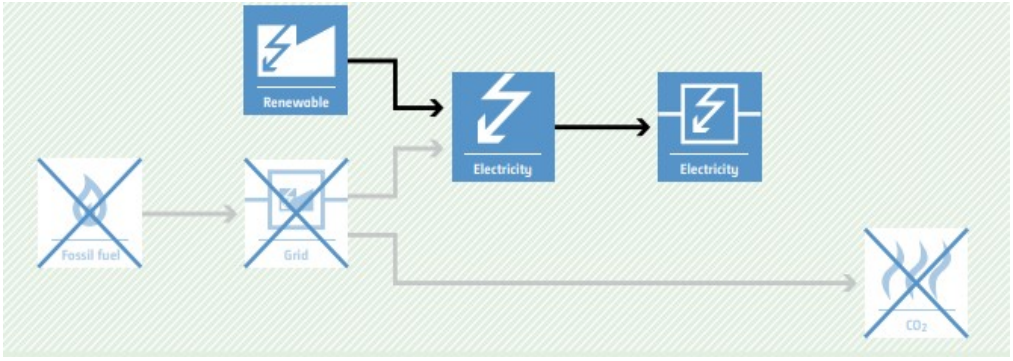
The baseline scenario identified during the PCN stage of the project activity entails the following:
• Grid:
If the project activity had not been implemented, an equivalent amount of electricity would have been generated from fossil fuel-based power plants and supplied to the southern regional grid, which is part of the unified Indian Grid system. This is because the national grid primarily relies on electricity generated from fossil fuel-based power plants. Therefore, the baseline scenario of the project activity corresponds to the grid-based electricity system, which aligns with the pre-project scenario.

The Schematic diagram showing the baseline scenario:

Baseline Scenario:



Project Scenario:



B.4. Debundling>>

This project is not a debundled component of a larger registered carbon offset project activity.

SECTION C. Application of methodologies and standardized baselines

C.1. References to methodologies and standardized baselines >>

SECTORAL SCOPE: 01, Energy industries (Renewable/Non-renewable sources)

TYPE: I – Renewable Energy Projects

CATEGORY: AMS-I.D.: "Grid connected renewable electricity generation", version 18

C.2. Applicability of methodologies and standardized baselines >>

Applicability Criterion	Project Case
C) This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass: (a) Supplying electricity to a national or a regional grid; or (b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.	The project activity is a Renewable Energy Project i.e., solar power project which falls under applicability criteria option 1 (a) i.e., "Supplying electricity to a national or a regional grid"
2)This methodology is applicable to project activities that: (a) Install a Greenfield plant; (b) Involve a capacity addition in (an) existing plant(s); (c) Involve a retrofit of (an) existing plant(s); (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or I Involve a replacement of (an) existing plant(s)	The option (a) of applicability criteria 2 is applicable as project is a Greenfield plant /unit. Hence the project activity meets the given applicability criterion
3) Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: (a) The project activity is implemented in an existing reservoir with no change in the volume of the reservoir; (b) The project activity is implemented in an existing reservoir, where the volume of the reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m2 ; I The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m2	The project activity involves the installation of a Solar Power Plant Hence, this criterion is not applicable.

4) If the new unit has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	The proposed project is a 10MW solar power project, i.e., the only component is renewable power project below 15 MW, thus the criterion does not apply to this project activity.
5) Combined heat and power (co-generation) systems are not eligible under this category.	This is not relevant to the project activity as the project involves only solar power generating units.
6) In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct1 from the existing units	There is no other existing renewable energy power generation facility at the project site. Therefore, this criterion is not applicable.
7) In the case of retrofit, rehabilitation or replacement, to qualify as a small-scale project, the total output of the retrofitted, rehabilitated or replacement power plant/unit shall not exceed the limit of 15 MW.	The project activity is a new installation, it does not involve any retrofit measures nor any replacement and hence is not applicable for the project activity.
8) In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid then the baseline for the electricity component shall be in accordance with procedure prescribed under this methodology. If the recovered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as "AMS-I.C.: Thermal energy production with or without electricity" shall be explored.	This is not relevant to the project activity as the project involves only solar power generating units.
9. In case biomass is sourced from dedicated plantations, the applicability criteria in the tool "Project emissions from cultivation of biomass" shall apply.	Not biomass is involved, the project is only a solar power project and thus the criterion is not applicable to this project activity.

C.3 Applicability of double counting emission reductions >>

To avoid double counting of emission reductions in the project, the following measures are implemented:

• The project can be distinctly identified through its precise location coordinates.

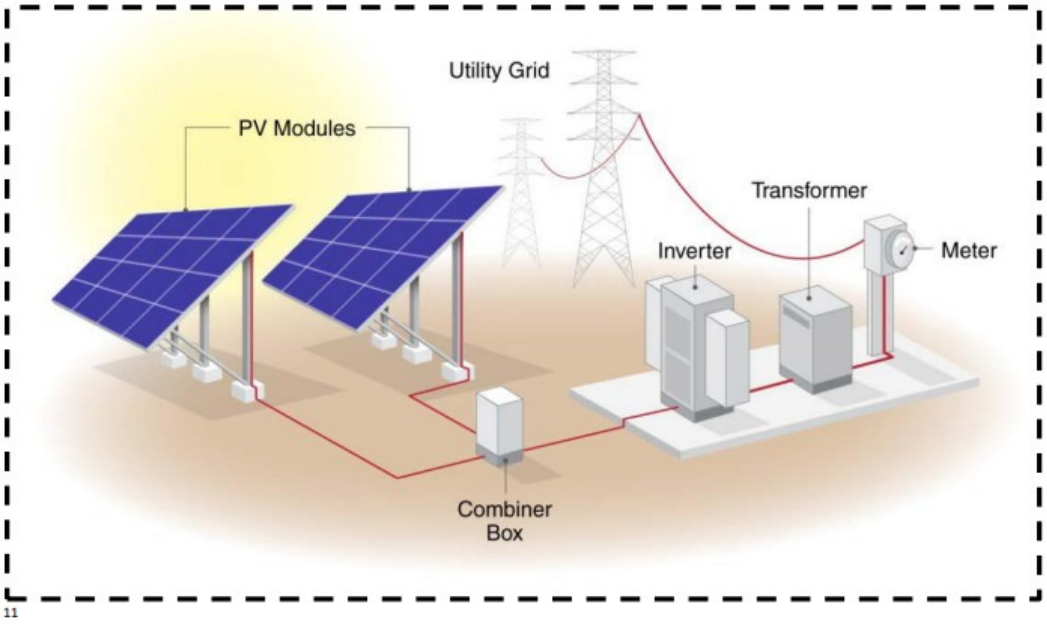
• It is equipped with a dedicated commissioning certificate and connection point.

• Energy meters specifically assigned to the project developer's consumption point are linked with the project.

C.4. Project boundary, sources and greenhouse gases (GHGs)>>

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	CO2 emissions from electricity generation in grid-connected power plants that are displaced due to the project activity	CO_2	Yes	Major source of emission
		CH_4	No	Minor source of emission
		N_2O	No	Excluded for simplification. This emission source is assumed to be very small
Project Activity	Emissions from on-site electricity use in the project activity	CO_2	No	The quantity of electricity delivered to the project plant/unit from the grid has been deducted from the quantity of electricity supplied by the project plant/unit to the grid when calculating the baseline emission, hence onsite electricity use in the project does not need to be considered as project emission
		CH_4	No	Excluded for simplification. This emission source is assumed to be very small
		N_2O	No	Excluded for simplification. This emission source is assumed to be very small



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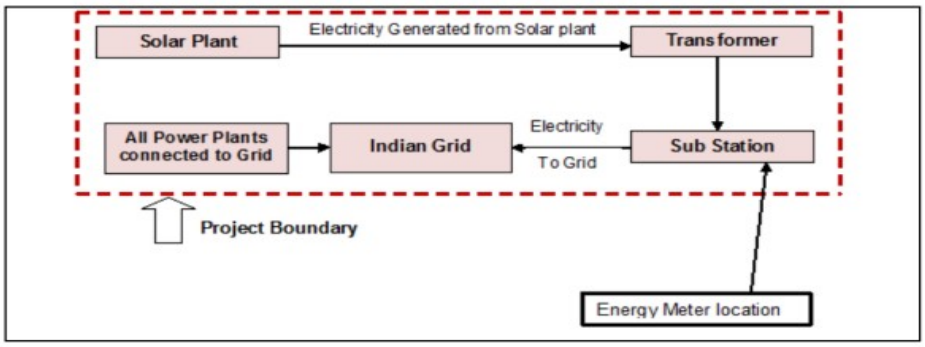
Project Boundary



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C.5. Establishment and description of baseline scenario (UCR Protocol) >>

As per the approved AMS-I.D.: "Grid connected renewable electricity generation", version 18, paragraph 19, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following:

"The baseline scenario is that the 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 into the grid.

[1]A "grid emission factor" refers to a CO_2 emission factor (tCO_2/MWh) which will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission

[1] https://a23e347601d72166dcd6-16da518ed3035d35cf0439f1cdf449c9.ssl.cf2.rackcdn.com//Documents/UCRCoUStandardAug2022updatedVer6_090822220127104470.pdf

factor of 0.9 tCO_2/MWh for the 2013-2023 years and 0.757 for year 2024[2] as a fairly conservative estimate for Indian projects not previously verified under any GHG program. Also, for the vintage 2021, the combined margin emission factor calculated from CEA database in India results into higher emission than the default value. Hence, the same emission factor has been considered to calculate the emission reduction under conservative approach.

As per approved consolidated AMS-I.D.: "Grid connected renewable electricity generation", version 18, Paragraph 43, emission reduction is estimated as difference between the baseline emission and project emission after factoring into leakage.

Thus, $ER_y = BE_y - PE_y - LE_y$

Where:

ERy	= Emission reductions in year y (t CO2)
BEy	= Baseline Emissions in year y (t CO2)
PEy	= Project emissions in year y (t CO2)
LEy	= Leakage emissions in year y (t CO2)

Baseline Emission

As per the CDM approved AMS-I.D.: "Grid connected renewable electricity generation", version 18, paragraph 22, Baseline emissions include only CO2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated as existing grid-connected power plants and the addition of new grid-connected power plants.

The baseline emissions are to be c"lcul'ted as follows:

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

Where;

BE_y : Baseline emissions in year y (tCO_2/year)
$EG_{PJ,\,y}$: Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the GCC project activity in year y (MWh/year)
$EF_{grid,CM,\,y}$: Combined margin CO_2 emission factor for grid connected power generation in year y (tCO_2/MWh)

Project Emission

As per paragraph 39 of AMS-I.D. version-18, only emission associated with the fossil fuel combustion, emission from operation of geo-thermal power plants due to release of non-condensable gases, emission from water reservoir of Hydro should be accounted for the project emission. Since the project activity is a solar power project, project emission for renewable energy plant is nil.

$PE_y = 0.$

[2] UCR CoU Standard Update: 2024 Vintage UCR Indian Grid Emission Factor Announced | by Universal Carbon Registry | Jan, 2025 | Medium

Leakage Emission

The Leakage emissions potentially arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, transport etc.) are neglected According to the applied methodology AMS-I.D Paragraph 42, Version 18 guidance on leakage, there is no leakage emission from this project activity has been considered.
Thus, $LE_y = 0$.
Hence no other leakage emissions are considered.

Actual Emission Reduction

The actual emission reduction (annualized average) achieved during the first CoU period (12/11/2014 to 31/12/2024) are estimated as follows.

Year	Net Quantity of net electricity generation supplied by the project activity to the grid in year y	Emission Factor	Baseline Emissions	Project emissions or actual net GHG removals by sink	Leakage	Emission reductions or net anthropogenic GHG removals by sinks
	[MWh]	(tCO2e/MWh)	(tCO2e)	(tCO2e)	(tCO2e)	(tCO2e)
		[EFy]	[Bey]= [EGfacility, y]* [EFy]	[PEy]	[LEy]	[ERy]=[Bey]-[Pey]-[Ley]
2014	2349.075	0.9	2114.168	0	0	2114
2015	18791.400	0.9	16912.260	0	0	16912
2016	18683.063	0.9	16814.756	0	0	16814
2017	17683.313	0.9	15914.981	0	0	15914
2018	17964.825	0.9	16168.343	0	0	16168
2019	15073.875	0.9	13566.488	0	0	13566
2020	15692.900	0.9	14123.610	0	0	14123
2021	15209.850	0.9	13688.865	0	0	13688
2022	13503.450	0.9	12153.105	0	0	12153
2023	13121.378	0.9	11809.240	0	0	11809
2024	15337.594	0.757	11610.558	0	0	11610
Total	**163410.721**		**144876.373**	**0**	**0**	**1,44,871**

C.6. Prior History>>

1. The[3] project activity initially submitted a Prior Consideration under the Clean Development

[3] https://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html?s=1340

Mechanism (CDM) of the UNFCCC for registration on 03/04/2015 However, the project proponent did not pursue CDM registration afterward. Another project activity was submitted for prior consideration under CDM for registration on 01/10/2015, which is different from the current project activity. The project is now being applied under UCR to issue carbon credits and receive carbon financing.

2. The project has not been applied under any other greenhouse gas (GHG) mechanism except for CDM. Additionally, for any period under UCR, CDM validation and verifications have not been conducted, and no credits have been issued. Therefore, the project will not cause double accounting of carbon credits (i.e., COUs).

C.7. Monitoring period number and duration>>

Issuance Period :10 years, 1 month, and 19 days.
Monitoring Period :12/11/2014 to 31/12/2024

C.8. Changes to start date of crediting period >>

The start date of crediting under UCR is considered as 12/11/2014 and no GHG emission reduction has been claimed so far.

C.9. Permanent changes from PCN monitoring plan, applied methodology or applied standardized baseline >>

There are no permanent changes from the registered PCN monitoring plan and applied methodology.

C.10. Monitoring plan>>

Data/Parameter	$EF_{Grid,y}$
Data unit	tCO2 /MWh
Description	A "grid emission factor" refers to a CO2 emission factor (tCO2/MWh) which will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission factor of 0.9 tCO2/MWh for the 2013 – 2023 and 0.757 for the year 2024 as a fairly conservative estimate for Indian projects not previously verified under any GHG program. Hence, the same emission factor has been considered to calculate the emission reduction under conservative approach.
Source of data Value(s) applied	UCR CoU Standard Update: 2024 Vintage UCR Indian Grid Emission Factor Announced | by Universal Carbon Registry | Jan, 2025 | Medium https://a23e347601d72166dcd6-16da518ed3035d35cf0439f1cdf449c9.ssl.cf2.rackcdn.com//Documents/UCRCoUStandardAug2022updatedVer6_090822220127104470.pdf

[3] https://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html?s=1220

Measurement methods and procedures	-
Monitoring frequency	Ex-ante fixed parameter
Purpose of data	For the calculation of Emission Factor of the grid

Data / Parameter:	EGpj,y
Data unit:	MWh
Description:	Net electricity supplied to the NEWNE grid facility by the project activity.
Source of data:	Joint Meter Reading Report
Measurement procedures (if any):	Data Type: Measured Monitoring equipment: Energy Meters are used for monitoring Calibration frequency: once in [4]five years (as per CEA Indian provision) Cross checking: Quantity of net electricity supplied to or consumed at PP's facility will be cross checked from the monthly bills or invoices raised. The Net electricity supplied to the grid will be calculated by the values of Electricity export to the grid.The Net electricity is recorded as following: Thus, $EG_{PJ,y} = EG_{Net,Export}$
Value Applied	**163410.721 MWh**
Monitoring frequency:	Monthly The net energy exported to the grid is measured every month using calibrated energy meter by the State Electricity Board authorities in the presence of the project implementer or its representatives. The meter/s shall be jointly inspected and sealed by authorised representatives of the company and the state utility. Measuring procedure: Will be measured by an export-import energy meter. The net electricity exported by the project plant would either be directly sourced as a measured parameter or be calculated by deducting the amount of imported electricity from the total amount of exported electricity. Accuracy class of energy meter: 0.2s Calibration Frequency: As per the Central Electricity Authority the testing and calibration frequency should be once in five years.
QA/QC procedures:	Continuous monitoring, hourly measurement monthly recording. Tri-vector (TVM)/ABT energy meters with accuracy class 0.2s.
Any comment:	-

[4] meter_reg.pdf (cea.nic.in)

Appendix> Meter Details

The old meters (Main: 14190843, Check: 14192949) were replaced with new meters (Main: 23003083, Check: 23004246) in June 2023 due to a KERC notification. The older meters were functioning satisfactorily at the time of replacement.

Main Meter

Check Meter

Appendix> Calibration Details

Meter Details (old)	Calibration date	Calibration validity	Calibration delay
(14190843- Main Meter) & (14192949-Check Meter)	12/11/2014	11/10/2016	Calibration has been performed annually; therefore, no delay period was considered
	08/01/2015	07/01/2017	
	27/04/2015	26/04/2017	
	15/02/2017	14/02/2019	
	16/11/2017	15/11/2019	
	23/02/2018	22/02/2020	
	25/09/2018	24/09/2020	
	24/12/2018	23/12/2020	
	01/09/2020	31/08/2022	
	19/03/2021	18/03/2023	

Site	Meter Details (New)		Calibration Date	Calibration validity
	Main Meter	Check Meter		
Hiriyur	23003083	23004246	1/07/2023	30/06/2025
			30/01/2024	29/01/2026