



Monitoring Report

CARBON OFFSET UNIT (CoU) PROJECT



Title: 1 MW Solar Power Plant by Event Green Power Pvt Ltd, Tuticorin, Tamil Nadu.

Version 2.0

Date 01st DEC 2023

First CoU Issuance Period: 27th July 2022 to 30th Sep 2023

First Monitoring Period: 27th July 2022 to 30th Sep 2023

1st Crediting Period: 1 year 2 months



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

Monitoring Report	
Title of the project activity	1 MW Solar Power Plant by Event Green Power Pvt Ltd, Tuticorin, TamilNadu
UCR Project Registration Number	332
Version	1.0
Completion date of the MR	01 st DEC 2023
Monitoring period number and duration of this monitoring period	Monitoring Period Number: 01 Duration of this monitoring Period: (first and last days included (27 th July 2022 to 30 th Sep 2023)
Project participants	Project Proponent (PP): Event Green Power Private Limited. UCR Aggregator: eClouds Energy LLP. UCR ID: 980949808
Host Party	INDIA
Applied methodologies and standardized baselines	Type I (Renewable Energy Projects) UNFCCC Methodology Category AMS I.D.: “Grid connected renewable electricity generation” Ver 18
Sectoral scopes	01 Energy industries (Renewable/Non Renewable Sources)
Estimated amount of GHG emission reductions for this monitoring period in the registered PCN	2040 CoUs (2040 tCO _{2eq}).

SECTION A. Description of project activity

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

The project **M/s. Event Green Power Private Limited** is located in SF.NO.259/4,5A,5B1,5B2,6A,6B Village: Pasuvanthanai, Taluk: Ottapidaram, District: Tuticorin, State: Tamil Nadu, Country: India.

The details of the registered project are as follows:

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

Purpose of the project activity:

The ecology can benefit greatly from the usage of solar energy as a substitute energy source. Solar energy doesn't release any carbon emissions, in contrast to fossil fuels. This is a crucial element that makes it far more eco-friendly than conventional energy sources. As a result, it is far more environmentally friendly and can lessen the consequences of climate change.

The proposed project activity of 1.0 MW (i.e.,1000 kW) is the installation and operation of a solar power plant in Pasuvanthinai Village, Ottapidaram Taluk, Tuticorin District., Tamil Nadu.

Village	District	Type	Total installed capacity kW	Commissioning date
Pasuvanthinai	Tuticorin	Ground mounted	1000	27 th July 2022

This project will annually generate 1944 MWh of power, based on Plant Load Factor (PLF) of 20%. The project employs Mono Crystalline solar photovoltaic technology for clean energy production. This technology is environmentally friendly as it doesn't involve burning fossil fuels or emitting greenhouse gases. Solar photovoltaic power generation relies on photovoltaic modules, which consist of interconnected solar cells enclosed within a protective laminate. These modules form PV arrays when installed on frames. Consequently, the project reduces greenhouse gas emissions by substituting fossil-fuel-based grid electricity. Further technological details can be found in Section A.4.

The project activity is estimated to reduce CO₂ emissions by 1749 tCO₂e per year on average, with the actual emission reduction achieved during the first CoU term to be presented as part of the initial monitoring and verification.

Since solar energy, a clean renewable energy source is used to Generate power as part of the project activity, there will be no adverse environmental effects, which helps in the fight against climate change.

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

The project activity generates power using renewable clean solar energy. As opposed to conventional power plants, the solar photovoltaic system is one of the most environmentally beneficial technologies now in use because it produces no greenhouse gases during operation.

The main components of the entire PV generating unit, photovoltaic modules are made up of a number of solar cells coupled by circuits and sealed in an environmentally protective laminate. The term "PV Array" refers to a group of PV panels installed on a frame. The project activity has made use of dependable and tested technology to make sure that the proposed project activity will only use environmentally safe and sound technology.

Each power production unit will in general constitute the following equipment:

- Solar Photovoltaic modules
- Inverters
- Transformers Circuit breakers
- Mounting structures
- Cables and hardware.
- Junction box and distribution boxes.
- Earthing kit.
- Control room equipment.
- System for control and monitoring.
- Evacuation system

Parameter	Description
Total number of Photovoltaic Modules	2184
Rating of Photovoltaic Module	Axitec 550Wp
No. of Inverter	5
Inverter Capacity	1 MW
Inverter make	Sungrow SG 250HX-IN
Power Transformer	Supreme Power Equipment Pvt. Ltd
Make	Supreme Power Equipment Pvt. Ltd
Rating	1250KVA
Auxiliary Transformer	Intelle Isolation Transformer
Make	Intelle Isolation Transformer
Rating	16KVA

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 : 332
Start Date of Crediting Period : 27th July 2022
Project Commissioned : 27th July 2022

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:

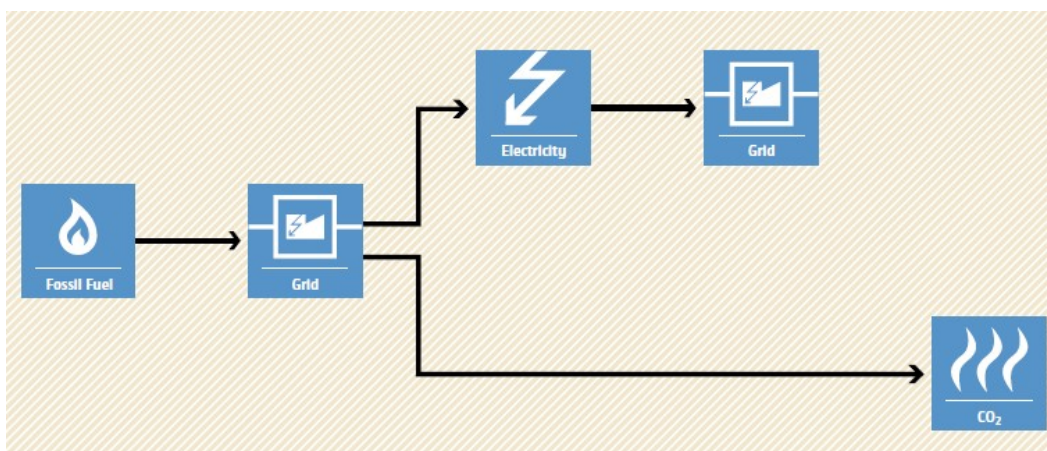
Summary of the Project Activity and ERs Generated for the Monitoring Period	
Start date of this Monitoring Period	27/07/2022
Carbon credits claimed up to	30/09/2023
Total ERs generated (tCO _{2eq})	1810 tCO _{2eq}
Leakage	NIL

Please note the emission reductions have been considered only from 01st Aug 2022.

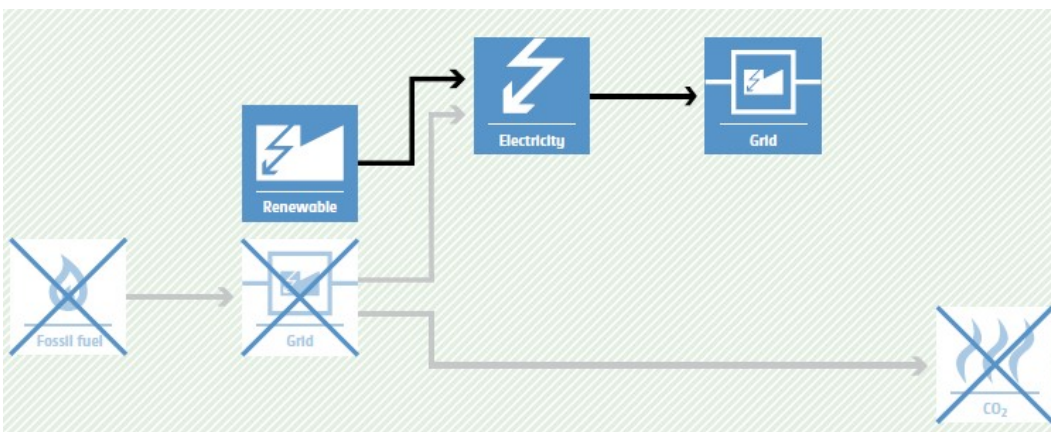
e) Baseline Scenario>>

Baseline Scenario:

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



Project Scenario:



A.2. Location of project activity>>

Country : India.
District : Tuticorin.
Village : Pasuvanthanai.
Taluk : Ottapidaram.
State : Tamil Nadu.
Pincode : 627011
Latitude : 8.99214438 N
Longitude : 77.97581188 E

Map showing the location of the project activity:



A.3. Parties and project participants >>

Party (Host)	Participants/Aggregator
India	Project Owner: M/s.Event Green Power Private Limited is located in SF.NO.259/4,5A,5B1,5B2,6A,6B Village: Pasuvanthanai, Taluk: Ottapidaram, District: Tuticorin, State: Tamil Nadu, Country: India. Project Aggregator: eClouds Energy LLP , #81 West Venkatasamy Road, R.S.Puram, Coimbatore 641002, Tamil Nadu INDIA Email: nocarbon@ecloudsenergy.com

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. (Title: “Grid connected renewable electricity generation”, version 18)

A.5. Crediting period of project activity >>

Duration of crediting period: - 27th July 2022 to 30th September 2023 (1 year 2 months)

Length of the crediting period corresponding to this monitoring period: 1 year 2 months

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

Name : Jayaprakash G

Contact No : +91 7397492517

E-Mail : jayaprakashgopal@ecloudsenergy.com, nocarbon@ecloudsenergy.com.

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 project **M/s. Event Green Power Private Limited** is located in SF.NO.259/4,5A,5B1,5B2,6A,6B Village: Pasuvanthanai, Taluk: Ottapidaram, District: Tuticorin, State: Tamil Nadu, Country: India.

The following are the key milestone dates of the project: -

- Duration of crediting period: 27th July 2022 to 30th September 2023 (: 1 year 2 months)
- The project is commissioned on 27th July 2022
- Put to use date: - 27th July 2022

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

The project activity generates power using renewable clean solar energy. As opposed to conventional power plants, the solar photovoltaic system is one of the most environmentally beneficial technologies now in use because it produces no greenhouse gases during operation.

The main components of the entire PV generating unit, photovoltaic modules are made up of a number of solar cells coupled by circuits and sealed in an environmentally protective laminate. The term "PV Array" refers to a group of PV panels installed on a frame. The project activity has made use of dependable and tested technology to make sure that the proposed project activity will only use environmentally safe and sound technology.

Each power production unit will in general constitute the following equipment:

- Solar Photovoltaic modules
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- Earthing kit.
- Control room equipment.
- System for control and monitoring.
- Evacuation system

B2. Do not harm or impact test of the project activity>>

• Social benefits:

The construction, installation, and ongoing maintenance of the solar plant are creating job opportunities for local residents. This includes roles in construction, engineering, operations, and maintenance. The solar industry is demanding a range of skills, from installation and maintenance to monitoring and management. Local workers are acquiring valuable technical skills that benefit them in their current roles and future employment opportunities. If the solar project involves partnerships with local landowners or property owners, they are receiving lease payments for hosting the solar panels. This additional income is contributing to the local economy and supporting landowners. It is serving as educational resources, providing opportunities for schools and the community to learn about renewable energy technologies and environmental sustainability.

• Environmental benefits:

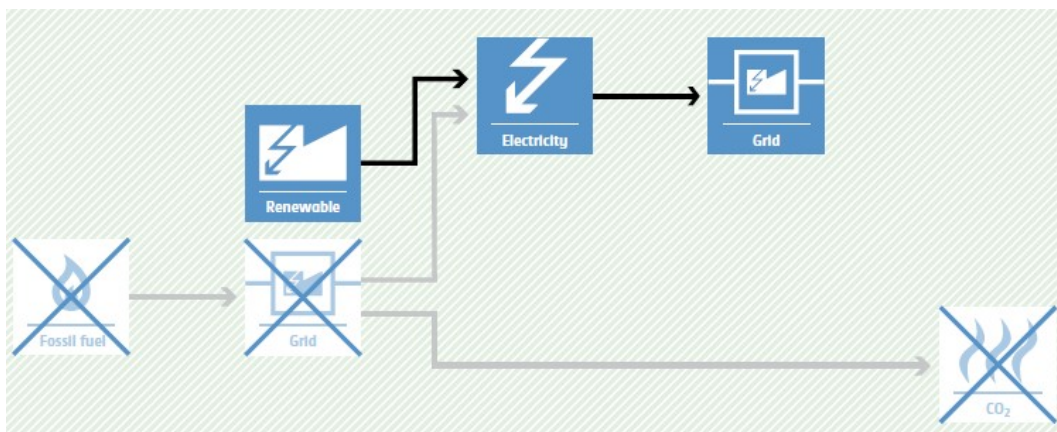
The endeavor is involving harnessing power from a solar-based facility that is producing no greenhouse gases (GHG) or specific pollutants like SO_x, NO_x, and SPM, which are typically linked

with traditional thermal power generation. Through the adoption of solar energy, a clean and renewable resource, the initiative is significantly aiding in diminishing environmental emissions. Additionally, utilizing solar energy to generate electricity is fostering the conservation of resources, lessening dependency on fossil fuels, and safeguarding rapidly depleting natural reserves. The project's impact on land, water, air, and soil is minimal, ensuring negligible adverse consequences on the surrounding environment and actively contributing to its overall health.

• Economic benefits:

The development, construction, installation, and ongoing operation of a solar power plant are requiring a workforce. This is creating job opportunities for local residents, ranging from construction workers and electricians to engineers and administrative staff. If the solar project involves leasing land or rooftops from local property owners, they are receiving lease payments. This additional income is injecting revenue into the local economy and providing property owners with a new income stream. If the solar power generated by the plant is being utilized within the community, it is offsetting the need to purchase electricity from external sources. This is leading to cost savings for local businesses, homes, and public facilities. Solar power plants have a relatively long operational lifespan, often spanning decades.

B3. Baseline Emissions>>



As a result of this project activity, an equivalent amount of electricity from the Indian grid was replaced.

As a result, the project activity would continue to replace fossil fuel-based power plants and combat the effects of climate change.

B.4. Debundling:

This project activity is not a component of a larger project activity.

Section C: Applicability 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. (Title: “Grid connected renewable electricity generation”, version 18)

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

Building and operating a new solar power facility that will provide grid-connected electricity are part of this project activity. Due to its installed capacity of 1.0 MW, the project activity will be categorized as a small-scale project activity under Type-I of the Small-Scale approach. The following discussion on how the project eligibility standard status meets the requirements of applied to the AMS-I.D., version 18 methodology:

Applicability Criterion	Project Case
1. 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 involves setting up of a grid connected renewable energy (solar) generation plant for selling it to the grid. Therefore, it meets the requirement of point (a) of criteria 1.
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 (e) 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.

<p>3. Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology:</p> <p>(a) The project activity is implemented in existing reservoir, with no change in the volume of the reservoir; or</p> <p>(b) The project activity is implemented in existing reservoir, where the volume of the reservoir(s) is increased and the power density as per definitions given in the project emissions section, is greater than 4 W/m².</p> <p>(c) 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</p>	<p>The project activity involves installation of Solar PV (SPV). Hence, this criterion is not applicable.</p>
<p>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.</p>	<p>The proposed project is 1.0 MW solar power project, i.e., only component is renewable power project below 15 MW, thus the criterion is not applicable to this project activity.</p>
<p>5. Combined heat and power (co-generation) systems are not eligible under this category</p>	<p>This is not relevant to the project activity as the project involves only solar power generating units.</p>
<p>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.</p>	<p>There is no other existing renewable energy power generation facility at the project site. Therefore, this criterion is not applicable.</p>

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.	No biomass is involved, the project is only a solar power project and thus the Criterion is not applicable to this project activity.

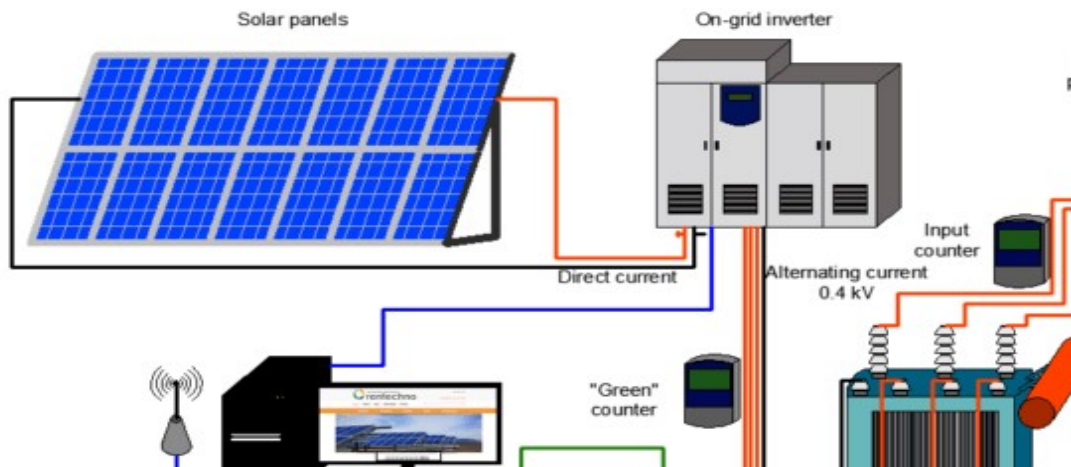
C.3 Applicability of double counting emission reductions >>

Due to the following factors, there is no double accounting of emission reductions in the project activity:

- Based on its geographic location, the project may be uniquely identified.
- The project has a specific connection point and commissioning certificate.
- The project is linked to energy meters that are devoted to the project developer's consumption point.

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

The physical location of the solar power plant, the energy metering hardware, and the associated local electrical infrastructure are all included in the project perimeter.



Thus, the project boundary includes the Solar PV systems and the Indian grid system.

Source		Gas	Included?	Justification/Explanation
Baseline	Grid-connected electricity generation	CO ₂	Yes	Main emission source
		CH ₄	No	Minor emission source
		N ₂ O	No	Minor emission source
		Other	No	No other GHG emissions were emitted from the project
Project	Greenfield Solar power project Activity	CO ₂	No	No CO ₂ emissions are emitted from the project
		CH ₄	No	Project activity does not emit CH ₄
		N ₂ O	No	Project activity does not emit N ₂ O
		Other	No	No other emissions are emitted from the project

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

Net GHG Emission Reductions and Removals

Thus, $ER_y = BE_y - PE_y - LE_y$

Where:

ER_y = Emission reductions in year y (tCO₂/y)

BE_y = Baseline Emissions in year y (t CO₂/y)

PE_y = Project emissions in year y (tCO₂/y)

LE_y = Leakage emissions in year y (tCO₂/y)

Baseline Emissions:

Baseline emissions include only CO₂ emissions from electricity generation in power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the

addition of new grid-connected power plants.

The baseline emissions are to be calculated as follows:

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

Where,

BE_y = Baseline emissions in year y (t CO₂)

$EG_{PJ,y}$ = 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)

$EF_{grid,y}$ = UCR recommended emission factor of 0.9 CO₂/MWh has been considered.

(Reference: General Project Eligibility Criteria and Guidance, UCR Standard, page 4).

Project Emissions:

Since the project activity is a solar power project, project emission for renewable energy plants is nil.

Thus, $PE_y = 0$.

Leakage:

As per paragraph 42 of AMS-I.D. version-18, 'If the energy generating equipment is transferred from another activity, leakage is to be considered.' In the project activity, there is no transfer of energy-generating equipment, and therefore the leakage from the project activity is considered zero.

Hence, $LE_y = 0$

The actual emission reduction achieved during the first CoU period shall be submitted as a part of The first is monitoring and verification. However, for an ex-ante estimation, the following calculation has been submitted:

Estimated annual baseline emission reductions (BE_y) as per PCN for the monitoring period:

$$= 1944 \text{ MWh/year} \times 0.9 \text{ tCO}_2/\text{MWh}$$

$$= 1,749 \text{ tCO}_2\text{e/year (i.e., 1,749 CoUs/year)}$$

C.6. Prior History>>

The project activity is a utility-scale ground-mounted solar project, and it has never been registered with UCR or under any other GHG mechanism.

C.7. Monitoring period number and duration>>

First Issuance Period: 1 year, 2 months – 27/Jul/2022 to 30/Sep/2023

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

There are no changes to the start date of the crediting period which is 27th July 2022.

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

The implemented technique and registered PCN monitoring plan have not undergone any long-term alterations.

Estimated Emission reduction for the monitoring period as per PCN – 2040 CoUs (2040 tCO_{2eq}).

Actual Emission reduction for the monitoring period – 1810 CoUs (1810 tCO_{2eq}).

C.10. Monitoring plan>>

The amount of net electricity supplied to the grid is one of the key metrics tracked.

Data and Parameters available at validation (ex-ante values):

Data / Parameter	UCR recommended emission factor
Data unit	tCO ₂ /MWh
Description	A "grid emission factor" refers to a CO ₂ emission factor (tCO ₂ /MWh) that will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission factor of 0.9 tCO ₂ /MWh for the 2014- 2020 years as a fairly conservative estimate. Emission factor for Indian Grid as per the CEA publication Version 18 is 0.915 (tCO ₂ /MWh). Hence the emission factor of 0.9(tCO ₂ /MWh) adopted for the monitoring period is conservative.
Source of data	UCR CoU Standard Aug 2022 (Updated Ver.6)
Value applied	As per recommendation by the UCR Standard for the 2014- 2020 years for Indian projects not previously verified under any GHG program, The same grid emission factor of 0.9 tCO ₂ /MWh has been considered for the entire monitoring period, as a conservative measure.
Measurement methods and procedures	-
Monitoring frequency	Ex-ante fixed parameter
Purpose of Data	For the calculation of the Emission Factor of the grid

Data and Parameters to be monitored (ex-post monitoring values):

Parameter	EG _{PJ,y}
Data unit	MWh

Description	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of this project activity in year y (MWh).
Source of data Value(s) applied	Joint Meter Reading (JMR) Bilateral meter reading 2012 MWh is the valued for the monitoring period.
Procedures	The Net electricity generation by the solar power plant is recorded by the project proponent in the record logs. At the end of every month, Energy bills generated based on the total monthly electricity exported to the grid.
Monitoring frequency	Monthly
Purpose of data	To estimate Baseline Emission
Energy Meter Make	SECURE
Energy Meter S No	TNW03746
Energy Meter Class	0.2s
Calibration details	Calibrated on 27.07.2022 issued by TANGEDCO Ref 1:Memo No:SE/TEDC/TTN/AEE/DVT/F.SOLAR/R.1073/22, Dt:27.07.2022.

Emission reduction details

Month	Import kWh	Export kWh	Net Generation kWh	Emission factor tCO2/MWh	CoUs tCO2
Aug-22	1,092	1,28,077	1,26,985	0.90	114.287
Sep-22	960	1,41,510	1,40,550	0.90	126.495
Oct-22	972	1,15,547	1,14,575	0.90	103.118
Nov-22	924	1,05,087	1,04,163	0.90	93.747
Dec-22	990	1,30,073	1,29,083	0.90	116.175
Jan-23	1,098	1,53,143	1,52,045	0.90	136.841
Feb-23	1,110	1,51,435	1,50,325	0.90	135.293
Mar-23	1,038	1,64,866	1,63,828	0.90	147.445
Apr-23	996	1,50,292	1,49,296	0.90	134.366
May-23	1,020	1,55,577	1,54,557	0.90	139.101
Jun-23	960	1,58,852	1,57,892	0.90	142.103
Jul-23	996	1,50,873	1,49,877	0.90	134.889
Aug-23	1,002	1,66,072	1,65,070	0.90	148.563
Sep-23	1,020	1,55,013	1,53,993	0.90	138.594
Total			20,12,239		1811.015