



MONITORING REPORT

CARBON OFFSET UNIT (CoU) PROJECT



Title : Bundled Small Scale Solar Power Project by M/s Puneet Syntex Private Limited

Version : 2.0

MR Date : 26/06/2024

First CoU Issuance Period : 09 Years 05 Months

First Monitoring Duration : 25/08/2014 to 31/12/2023



Monitoring Report (MR)

CARBON OFFSET UNIT (CoU) PROJECT

BASIC INFORMATION

Title of the project activity	Bundled Small Scale Solar Power Project by M/s Puneet Syntex Private Limited
UCR Project Registration Number	353
Version	2.0
Completion date of the MR	26/06/2024
Monitoring period number and duration of this monitoring period	Monitoring Period Number: 01 Duration of this monitoring Period: (first and last days included (25/08/2014 to 31/12/2023)
Project participants	Creduce Technologies Private Limited (Aggregator) M/s Puneet Syntex Private Limited (Developer)
Host Party	India
Applied methodologies and standardized baselines	Applied Baseline Methodology: AMS-I. D: “Grid connected renewable electricity generation”, version 18
Sectoral Scope	01 Energy industries (Renewable/Non-Renewable Sources)
Estimated amount of GHG emission reductions for this monitoring period	2014 : 200 CoUs (200 tCO ₂ e) 2015 : 609 CoUs (609 tCO ₂ e) 2016 : 585 CoUs (585 tCO ₂ e) 2017 : 543 CoUs (748 tCO ₂ e) 2018 : 1118 CoUs (1327 tCO ₂ e) 2019 : 1154 CoUs (1353 tCO ₂ e) 2020 : 882 CoUs (1070 tCO ₂ e) 2021 : 854 CoUs (1016 tCO ₂ e) 2022 : 938 CoUs (1050 tCO ₂ e) 2023 : 574 CoUs (696 tCO ₂ e)

Total:	7457 CoUs (7457 tCO ₂ e)
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SECTION - A -Description of project activity

A.1 Purpose and General description of Carbon offset Unit (CoU) project activity

The proposed project activity with title under UCR “Bundled Small Scale Solar Power Project by M/s Puneet Syntex Private Limited”, is a grid connected renewable power generation activity which incorporates installation and operation ground mounted and rooftop Solar Photovoltaic power generation project in the state of West Bengal, Tamil Nadu. The project has aggregated installed capacity of 1.003MW DC. The project is an operational activity with continuous reduction of GHG, currently being applied under “Universal Carbon Registry” (UCR).

A.1.1 Purpose of the project activity:

The project activity aims to harness Solar radiation of sun which is a renewable source, to generate electricity. The net generated electricity from the project activity is consumed by the manufacturing facility of the PP. The promoter of the project activity is ‘M/s Puneet Syntex Private Limited.’ (herein after called as Project Proponent or PP). PP has the 100% ownership of the project activity. The Power Purchase Agreements of three projects (Everest Industries Limited, Godrej Industries Limited and ABP Private Limited) have been done with Puneet Syntex Private Limited. In pre-project scenario the State utility was importing the required electricity from the NEWNE grid to meet its requirement of electrical energy. Currently, NEWNE grid is connected to large numbers of fossil fuel-based power plants. Hence, project activity is displacing the gross electricity generation i.e., 8289.62MWh from the NEWNE grid, which otherwise would have been imported from the grid. The project activity doesn’t involve any GHG emission sources.

The annual and the total CO₂e emission reduction by the project activity over the defined monitoring period is as per **Annexure I**.

A.1.2 Description of the installed technology and equipment:

The project activity involves Ground Mounted & Rooftop Polycrystalline Photovoltaic (PV) Plant having installed capacity of 1.003MW DC. The project activity uses Polycrystalline solar photovoltaic technology to generate clean energy. Solar radiation is converted directly into electricity by solar cells (photovoltaic cells). In such cells, a small electric voltage is generated when light strikes the junction between a metal and a semiconductor (such as silicon) or the junction between two different semiconductors. 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.

A.1.3 Relevant dates for the project activity (e.g., construction, commissioning, continued operation periods, etc.)

The duration of the crediting period corresponding to the monitoring period is covered in this monitoring report. Here the start date of generation has been considered as commissioning date of project.

Start Date of Crediting Period : 25/08/2014

Village	District	Type	Total installed Capacity (DC)	Commissioning date
Barbaria	Kolkata	Ground Mounted & Roof Top	0.481 MW	10/01/2018
Podanur	Tamil Nadu	Ground Mounted	0.522 MW	25/08/2014

A.1.4 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 are as follows:

Summary of the Project Activity and ERs Generated for the Monitoring Period	
Start date of this Monitoring Period	25/08/2014
Carbon credits claimed up to	31/12/2023
Total ERs generated (tCO ₂ e)	7457 tCO ₂ e
Leakage Emission	0
Project Emission	0

A.1.5 Baseline Scenario

As per the approved consolidated methodology AMS-I.D. Version 18, 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”.**

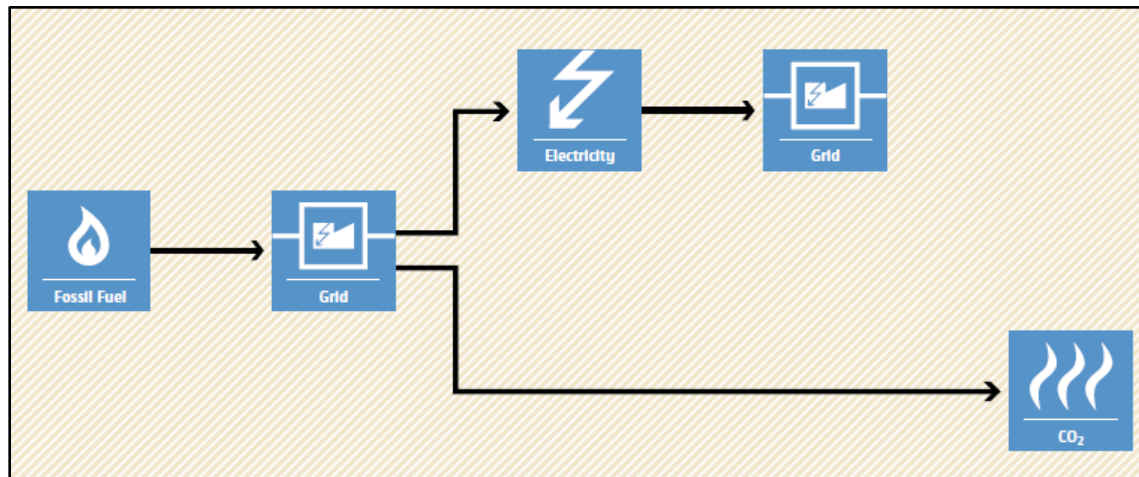


Figure 1 Baseline Scenario

A.2 Location of Project Activity

Country	:	India	India
State	:	West Bengal	Tamil Nadu
Village	:	Barbaria	Podanur
Latitude	:	22°44'22.4"N	10°56'56.9"N
Longitude	:	88°27'22.1"E	76°59'07.2"E

The project sites are well connected from airport and railway station. The geographic co-ordinates of the project location have been given below:

Village	District	Type	Total installed Capacity (DC)	Commissioning date
Barbaria	Kolkata	Roof Top & Ground Mounted	0.481MW	10/01/2018
Podanur	Tamil Nadu	Ground Mounted	0.522 MW	25/08/2014

The representative location map is included below:



Figure-1- Location of the project activity (courtesy: google images and www.mapofindia.com)

A.3 Parties and project participants

Party (Host)	Participants
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India	<p>Creduce Technologies Private Limited (Aggregator)</p> <p>Contact person : Shailendra Singh Rao</p> <p>Mobile : +91 9016850742, 9601378723</p> <p>Address : 2-O-13,14 Housing Board Colony, Banswara, Rajasthan -327001, India</p> <p>M/s Puneet Syntex Privet Limited (Project Owner)</p> <p>Address: 216, Jaffebhoy Ind'I Premises Coop, Society Limited, 111-H, Andheri Kurla Road, Moral Naka, Andheri (East), Mumbai - 400059</p>
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A.4 Methodologies and standardized baselines

Sectoral Scope : 01 Energy industries (Renewable/Non-Renewable Sources)

Type : Renewable Energy Projects

Category : AMS-I. D: “Grid connected renewable electricity generation”,
Version 18

A.5 Crediting period of project activity

Start date of the crediting period: 25/08/2014

Crediting period corresponding to this monitoring period: 25/08/2014 to 31/12/2023 (Both dates are inclusive)

A.6 Contact information of responsible persons/entities

Contact person : Shailendra Singh Rao

Mobile : +91 9016850742, 9601378723

Address : 2-O-13,14 Housing Board Colony,
Banswara, Rajasthan -327001, India

SECTION - B - Implementation of project activity

B.1 Description of implemented registered project activity

B.1.1 Provide information on the implementation status of the project activity during this monitoring period in accordance with UCR PCN

The project consists of Ground mounted & Roof top fitted Photo Voltaic solar Plant with aggregated installed capacity of 1.003MW. The promoter of the project activity is 'M/s Puneet Syntex Private Limited.' (herein after called as Project Proponent or PP). PP has the full ownership of the project activity. This project is an operational activity with continuous reduction of GHG, currently being applied under "Universal Carbon Registry" (UCR). The project generates clean energy by utilizing the Solar Radiations.

B.1.2 For the description of the installed technology, technical process, and equipment, include diagrams, where appropriate

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 from supplier to ensure that an environmentally safe and sound technology is only being implemented in the proposed project activity leading to the GHG reduction.

Technical details of the 1.003MW Ground mounted & Roof top solar power plant installed are mentioned below:

Salient features of the Everest industries Limited:

Parameter	Description
Total number of Photovoltaic Modules	1740
Rating of Photovoltaic Module	300 Wp per module
Module make	Yingli Energy Co. Limited
Technology	Polycrystalline
No. of Inverter	01
Invertor make/Rating	500 kWp (Hitachi)
Rated frequency	50/60 Hz
Inverter phases – wires	3 Phases and 3 wires
Energy meter make	Schneider
Transformer/Capacity	DYM – 11/60 KVA, 11KV/300V

Salient features of the ABP Private Limited:

Parameter	Description
Total number of Photovoltaic Modules	1480 No's
Rating of Photovoltaic Module	325 Wp
Module make	Trina Solar
Technology	On-Grid
No. of Inverter	16 (total capacity 496 kW)
Invertor make/Rating	Fronius (27 kW) & Sungrow (33 kW)
Rated frequency	50 HZ
Energy meter make	Schneider Electric

Transformer/Capacity	NA
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B.2 Do no harm or impact test of the project activity

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)’, final document on revised classification of Industrial Sectors under Red, Orange, Green and White Categories (07/03/2016), 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 Regulation, Environmental and Social Impact Assessment is not required for Solar Projects.

The Government of India has stipulated the following indicators for sustainable development in the interim approval guidelines for such projects which are contributing to GHG mitigations. The Ministry of Environment, Forests & Climate Change, has stipulated economic, social, environmental, and technological well-being as the four indicators of sustainable development. It has been envisaged that the project shall contribute to sustainable development using the following ways:


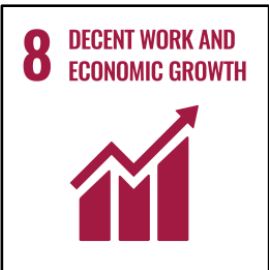

Social well-being: The project would help in generating direct and indirect employment benefits accruing out of ancillary units for installing and maintenance during operation of the project activity. It will lead to the development of infrastructure around the project area in terms of improved road network etc. and will also directly contribute to the development of renewable infrastructure in the region.

Environmental well-being: The project utilizes Solar energy for generating electricity which is a clean source of energy. The project activity will not generate any air pollution, wind pollution or solid waste to the environment which otherwise would have been generated through fossil fuels. Also, it will contribute to the reduction of GHG emissions. Thus, the project causes no negative impact on the surrounding environment contributing to environmental well-being.

Economic well-being: Being a renewable resource, using Solar energy to generate electricity contributes to the conservation of precious natural resources. The project contributes to economic sustainability through the promotion of decentralization of economic power, leading to the diversification of the national energy supply, which is dominated by conventional fuel-based generating units. Locally, improvement in infrastructure will provide new opportunities for industries and economic activities to be set up in the area. Apart from getting better employment opportunities, the local people will get better prices for their land, thereby resulting in overall economic development.

Technological well-being: The project activity leads to the promotion of 9621.13MW PV power generation project into the region and will promote practice for small scale industries to reduce the dependence on carbon intensive grid supply to meet the captive consumption requirement of electrical energy and also increasing energy availability and improving quality of power under the service area. Hence, the project leads to technological well-being.

The project activity contributes to the following SDGs;

SDG	Description
<p>Goal 7</p> 	<ul style="list-style-type: none"> ➤ The project activity has generated 8289.62MWh of clean energy, which with increased shared 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.
<p>Goal 8</p> 	<ul style="list-style-type: none"> ➤ Decent work and economic growth. ➤ This project activity generates additional employment for skilled and unskilled, also the project situated in a remote area will provide employment opportunities to unskilled people from villages. Training on various aspects including safety, operational issues, and developing skill sets will also be provided to employees.
<p>Goal 13</p> 	<ul style="list-style-type: none"> ➤ This 1.003MW ground mounted solar power projects meets the SDG 13 goal by saving fossil fuel and producing clean energy. ➤ This project has avoided 7457 tons of CO₂ emissions during this monitoring period. ➤ SDG 13 on clean energy is closely related and complementary. ➤ 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 associated emissions with this project it contributes to the reduction of greenhouse gases (GHG) emissions.

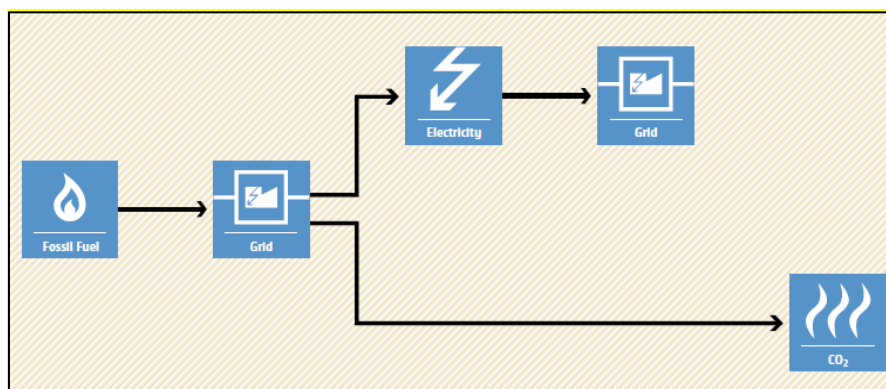
B.3 Baseline Emissions

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

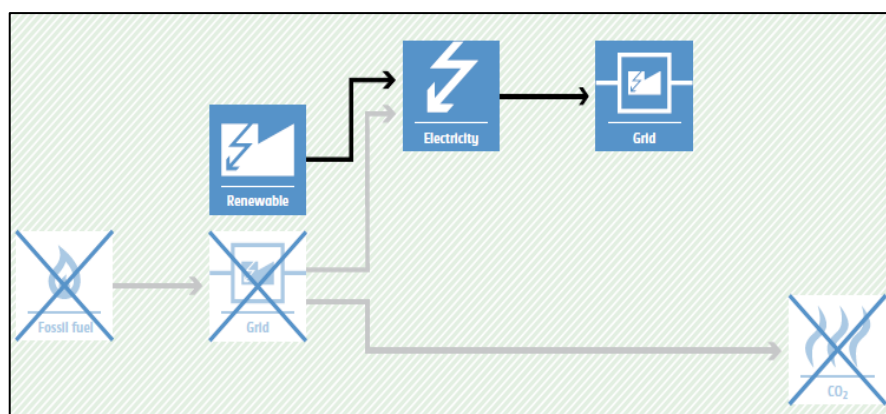
In the absence of the project activity, the equivalent amount of electricity would have been imported from the grid (which is connected to the unified Indian Grid system (NEWNE Grid)), which is carbon intensive due to being predominantly sourced from fossil fuel-based power plants. Hence, the baseline scenario of the project activity is the grid-based electricity system, which is also the pre-project scenario.

Schematic diagram showing the baseline scenario:

Baseline Scenario:



Project Scenario:



Thus, this project activity was a voluntary investment that replaced an equivalent amount of electricity from the Indian grid. The project proponent was not bound to incur this investment as it was not mandatory by national and sectoral policies. Thus, the continued operation of the project activity would continue to replace fossil fuel-based power plants and fight against the impacts of climate change. The Project Proponent hopes that revenues from the carbon credits generated will help repay the loans and help in the continued maintenance of this project activity.

B.4. De-bundling

This project activity is not a debundled component of a larger 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. (Title: “Grid connected renewable electricity generation”, version 18)

C.2 Applicability of methodologies and standardized baselines

The project activity involves the generation of grid-connected electricity from the construction and operation of a Solar Power based project for captive consumption.

The project activity has an installed capacity of 1.003MW which will qualify for a small-scale project activity under Type-I of the Small-Scale methodology. The project status is corresponding to the methodology AMS-I.D., version 18, and the applicability of the methodology is discussed below:

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 is a Renewable Energy Project i.e., a ground mounted solar power projects which falls under applicability criteria option 1 (b) i.e., “Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling”. Hence the project activity meets the given applicability criterion.
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 the existing reservoir, with no change in the volume of the reservoir; or</p> <p>b) The project activity is implemented in the 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 1.003MW ground mounted & roof top solar power projects, 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 distinct from the existing units.</p>	<p>The proposed project is a greenfield 1.003MW ground mounted & Roof top solar power projects, i.e., the only component is a renewable power project below 15 MW, thus the criterion is not applicable to this project activity.</p>
<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.</p>	<p>This is a green field project and no expansion and retrofitting were carried out. Hence this criterion is not applicable.</p>
<p>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</p>	<p>The proposed project is a greenfield 1.003MW ground mounted & roof top solar power projects; hence, this criterion is not applicable to this project activity.</p>

heat generation or cogeneration other applicable Type-I methodologies such as “AMS-I.C.: Thermal energy production with or without electricity” shall be explored.	
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 a ground mounted solar power projects and thus the criterion is not applicable to this project activity.

C.3 Applicability of double counting emission reductions

The project was not applied under any other GHG mechanism. Hence the project will not cause double accounting of carbon credits (i.e., CoUs).

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

As per applicable methodology AMS-I.D. Version 18.0, “The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system.”

Thus, the project boundary includes the Solar Photovoltaic Plant 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 Electric 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 the baseline scenario

As per the approved consolidated methodology AMS-I.D. Version 18, 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”.

The project activity involves setting up of a new Solar power plant to harness the solar energy and use it for captive consumption i.e., the Indian grid system through wheeling and banking arrangement. In the absence of the project activity, the equivalent amount of power would have been generated by the operation of grid-connected fossil fuel-based power plants and by the addition of new fossil fuel-based generation sources into the grid. The power produced from other conventional sources which are predominantly fossil fuel-based. Hence, the baseline for the project activity is the equivalent amount of power produced at the Indian grid.

A "grid emission factor" refers to a CO₂ emission factor (tCO₂/MWh) that 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 - 2020 years as a fairly conservative estimate for Indian projects not previously verified under any GHG program. Emission factors for the post 2020 period are to be selected as the most conservative estimate between the national electricity/power authority published data set and UCR default of 0.9 tCO₂/MWh.

C.5.1 Net GHG Emission Reductions and Removals

Thus, $ER_y = BE_y - PE_y - LE_y$

Where:

ER_y = Emission reductions in year y (tCO₂)

BE_y = Baseline Emissions in year y (t CO₂)

PE_y = Project emissions in year y (tCO₂)

LE_y = Leakage emissions in year y (tCO₂)

- **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:

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

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 CDM project activity in year y (MWh)

$EF_{grid,y}$ = UCR recommended emission factor of 0.9 tCO₂/MWh has been considered.
(Reference: General Project Eligibility Criteria and Guidance, UCR Standard, page 4)

Hence

Bundled Small Scale Solar Power Project by M/s Puneet Syntex				
Baseline Emissions Calculation				
Sr.No	Year	EG _{py} (MWh)	EF _{grid,y}	BE _y
1	2014	222.44	0.9	200
2	2015	677.48	0.9	609
3	2016	650.45	0.9	585
4	2017	603.45	0.9	543
5	2018	1243.33	0.9	1118
6	2019	1282.33	0.9	1154
7	2020	980.43	0.9	882
8	2021	949.69	0.9	854
9	2022	1042.26	0.9	938
10	2023	637.78	0.9	574
BE (tCO _{2e}) for the period of 2014 to 2023				7457

Estimated annual baseline emission reductions (BE_y)

$$= 8289.62 \text{ MWh} * 0.9 \text{ tCO}_2/\text{MWh}$$

$$= 7457 \text{ tCO}_2\text{e}$$

• **Project Emissions**

As per paragraph 39 of AMS-I.D. version-18, “For most renewable energy project activities, PE_y = 0. However, for the following categories of project activities, project emissions have to be considered following the procedure described in the most recent version of “ACM0002: Grid-connected electricity generation from renewable sources”:

1. Emissions related to the operation of geothermal power plants (e.g., noncondensable gases, electricity/fossil fuel consumption);
2. Emissions from water reservoirs of hydro power plants.

As per paragraph 40 of AMS-I.D. version-18 - CO₂ emissions from on-site consumption of fossil fuels

due to the project activity shall be calculated using the latest version of the “Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion”.

As per paragraph 41 of AMS-I.D. version-18 - In case biomass is sourced from dedicated plantations, the procedures in the tool “Project emissions from cultivation of biomass” shall be used.

This is a solar power project, there is no project emission occurring from biomass and fossil fuel consumption.

Thus, PE = 0

- ***Leakage Emission***

As per paragraph 42 of AMS-I.D. version-18, General guidance on leakage in biomass project activities shall be followed to quantify leakages pertaining to the use of biomass residues.

Hence, all projects other than Biomass projects have zero leakage.

Hence, LE = 0

The actual emission reduction achieved during the first CoU period is calculated below:

Hence Net GHG emission reduction, = 7457-0-0 = 7457 tCO₂ (i.e., 7457 CoUs)

C.6 Prior History

The project was not applied under any other GHG mechanism. Hence the project will not cause double accounting of carbon credits (i.e., CoUs).

C.7 Changes to the start date of crediting

The crediting period under UCR has been considered from the date of the generation of electricity. There is no change in the start date of crediting period.

C.8 Permanent changes from MR monitoring plan, applied methodology, or applied standardized baseline

The Power Purchase Agreements of three projects (Everest Industries Limited, Godrej Industries Limited and ABP Private Limited) have been done with Puneet Syntex Private Limited. Since Godrej Industries Limited plant is not in working condition that's why we are not considering the generation part of that plant.

C.9 Monitoring period number and duration

Total Monitoring Period: 09 Years 05 Months

Date: 25/08/2014 to 31/12/2023 (inclusive of both dates).

C.10 Monitoring Plan

The project activity essentially involves generation of electricity from solar radiations, the employed SPV can only convert Solar energy into electrical energy and cannot use any other input fuel for

electricity generation, thus no special ways and means are required to monitor leakage from the project activity. The recording of the electricity fed to the state utility grid is carried out jointly at the incoming feeder of the state power utility.

Data and Parameters available:

Data / Parameter	UCR recommended emission factor
Data unit	tCO ₂ /MWh
Description	As per UCR CoU Standard Aug 2022 (Updated Ver.6), Clause – Emission Factors “The UCR recommends an emission factor of 0.9 tCO ₂ /MWh for the 2013-2020 years as a fairly conservative estimate for Indian projects not previously verified under any GHG program. Emission factors for the post 2020 period are to be selected as the most conservative estimate between the national electricity/power authority published data set and UCR default of 0.9 tCO ₂ /MWh.”
Source of data	https://cea.nic.in/wp-content/uploads/baseline/2024/01/User_Guide_Version_19.0.pdf https://a23e347601d72166dcd6-16da518ed3035d35cf0439f1cdf449c9.ssl.cf2.rackcdn.com//Documents/UCRCoUStandardAug2022updatedVer6_090822220127104470.pdf
Value applied	0.9
Measurement methods and procedures	-
Monitoring frequency	Fixed parameter
Purpose of Data	For the calculation of Emission Factor of the grid
Additional Comment	The combined margin emission factor as per CEA database (current version 19, December 2023) results into higher emission factor. Hence for 2023 vintage UCR default emission factor remains conservative.

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

Data / Parameter	EG _{PJ,facility, y}
Data unit	MWh
Description	Net electricity supplied to the grid facility by the project activity during 28/08/2014 to 31/12/2023.
Source of data	Monthly energy bill generated through State Energy Account under ABT
Measurement	Data Type: Measured

procedures (if any):	<p>Monitoring equipment: Energy Meters are used for monitoring</p> <p>Recording Frequency: Continuous monitoring and Monthly recording from Energy Meters, Summarized Annually</p> <p>Archiving Policy: Paper & Electronic</p> <p>The total electricity generation by the Solar power plant is recorded at the plant facility, at the end of every month.</p>										
Measurement Frequency:	Monthly										
Value applied:	8200.19(Ex-post estimate)										
QA/QC procedures applied:	<p>Calibration frequency: 5 years (as per CEA provision)</p> <p>Based on the joint meter reading certificates/credit notes, and energy generation report.</p> <p>As per Central Electricity Authority (Installation and Operation of Meters) (Amendment) Regulations, 2019, dated 23rd December, 2019.</p> <p><i>Clause 14, point 1, (b)</i> “All Interface Meters shall be tested on-site using accredited test laboratory for routine accuracy testing at least once in five years and recalibrated if required”. And</p> <p>Point 2, (iii) Energy Accounting and Audit Meters: Energy Accounting and Audit Meters shall be tested at site through accredited test laboratory at least once in five years or whenever the accuracy is suspected or whenever the readings are inconsistent with the readings of other meters, e.g., Check Meters, Standby Meters and defective meters shall be recalibrated, if required: Provided that the testing shall be carried out</p> <table border="1"> <thead> <tr> <th>Meter no</th><th>Make</th><th>Calibration date</th></tr> </thead> <tbody> <tr> <td>34164931742</td><td>Schneider</td><td>20/05/2017</td></tr> <tr> <td>04016573</td><td>Inesh Smart Energy Meter</td><td>29/11/2023</td></tr> </tbody> </table> <p>without removing the Instrument Transformers connection.”</p>		Meter no	Make	Calibration date	34164931742	Schneider	20/05/2017	04016573	Inesh Smart Energy Meter	29/11/2023
Meter no	Make	Calibration date									
34164931742	Schneider	20/05/2017									
04016573	Inesh Smart Energy Meter	29/11/2023									
Purpose of data:	The Data/Parameter is required to calculate the baseline emission.										
Any comment:	Data will be archived electronically for a period of 36 months beyond the end of crediting period.										

ANNEXURE I (Emission Reduction Calculation)

Bundled Small Scale Solar Power Project by M/s Puneet Syntex												
Month - Wise Energy Delivered to Grid (in kWh)												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	-	-	-	-	-	-	-	36,578	52,857	45,949	38,866	48,185
2015	60,776	63,775	68,986	63,777	59,183	55,278	55,077	55,999	59,919	50,408	35,350	48,953
2016	55,795	49,556	61,577	60,673	59,549	49,904	54,737	62,167	62,683	48,127	51,035	34,644
2017	53,193	54,682	59,796	57,934	58,305	54,488	53,313	45,168	44,097	40,765	33,700	48,005
2018	78,386	1,00,388	1,17,543	1,19,894	1,12,364	91,782	94,079	1,05,485	1,18,992	1,10,652	92,643	1,01,120
2019	1,15,319	1,07,618	1,22,624	1,21,703	1,23,571	1,13,270	98,589	96,039	87,801	1,02,254	1,02,450	91,087
2020	85,943	92,514	1,00,570	58,001	58,187	84,096	87,695	85,510	72,619	96,389	81,553	77,353
2021	79,274	96,361	99,280	94,809	72,755	75,140	73,006	77,419	73,129	74,958	68,731	64,830
2022	83,352	90,347	1,04,978	94,975	96,602	95,060	93,696	81,287	81,083	80,623	82,608	57,653
2023	73,207	81,013	50,698	57,260	59,539	45,127	47,915	41,167	40,353	52,101	47,119	42,282
Year-Wise Emission reduction calculation for the project activity												
Year	Total No. of Electricity				Recommended emission factor				Total CoUs generated			
2014	2,22,435				0.9				200			
2015	6,77,481				0.9				609			
2016	6,50,447				0.9				585			
2017	6,03,446				0.9				543			
2018	12,43,328				0.9				1,118			
2019	12,82,325				0.9				1,154			
2020	9,80,430				0.9				882			
2021	9,49,692				0.9				854			
2022	10,42,264				0.9				938			
2023	6,37,781				0.9				574			
Total CoUs to be issued for the first monitoring period (Year: 2014 to 2023)												7,457
Electricity Generation (kWh)												
Year	ABP		Everest		Total							
2014	-		2,22,435		2,22,435							
2015	-		6,77,481		6,77,481							
2016	-		6,50,447		6,50,447							
2017	-		6,03,446		6,03,446							
2018	5,76,576		6,66,752		12,43,328							
2019	6,12,375		6,69,950		12,82,325							
2020	5,48,962		4,31,468		9,80,430							
2021	4,82,214		4,67,478		9,49,692							
2022	5,14,255		5,28,009		10,42,264							
2023	5,75,901		61,880		6,37,781							
Total					82,89,629							