



MONITORING REPORT

CARBON OFFSET UNIT (CoU) PROJECT



Title : 990 kW Solar Ground Mounted Power Project By
M/s Sidwin Fabric Pvt. Ltd

Version : 3.0

MR Date : 30/12/2023

First CoU Issuance Period : 1 Year, 7 Months

First Monitoring Duration : 15/06/2021 to 31/12/2022



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

BASIC INFORMATION

Title of the project activity	990 kW Solar Ground Mounted Power Project By M/s Sidwin Fabric Pvt. Ltd
UCR Project Registration Number	262
Version	3.0
Completion date of the MR	30/12/2023
Monitoring period number and duration of this monitoring period	Monitoring Period Number: 01 Duration of this monitoring Period: (first and last days included (15/06/2021 to 31/12/2022))
Project participants	Creduce Technologies Private Limited (Aggregator) M/s Sidwin Fabric Pvt. Ltd (Project Proponent)
Host Party	India
Applied methodologies and standardized baselines	Applied Baseline Methodology: AMS-I. F: “Renewable electricity generation for captive use and mini-grid, Version 05.0”
Sectoral Scope	01 Energy industries (Renewable/Non-Renewable Sources)
Estimated amount of GHG emission reductions for this monitoring period	2021 : 669 CoUs (669 tCO _{2e}) 2022 : 1450 CoUs (1450 tCO _{2e})
Total:	2119 CoUs (2119 tCO _{2e})

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 “990 kW Solar Ground Mounted Power Project By M/s Sidwin Fabric Pvt. Ltd.”, is a grid connected renewable power generation activity which incorporates installation and operation ground mounted Solar Photovoltaic power generation project in the state of Gujarat in India. The project has aggregated installed capacity of 990 kW. 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 interconnection agreement has been made between PP and UGVCL (Uttar Gujarat Vij Company Limited). The promoter of the project activity is ‘M/s Sidwin Fabric Pvt Ltd.’ (herein after called as Project Proponent or PP). PP has the 100% ownership of the project activity. The project activity uses Mono Crystalline Axitec solar photovoltaic technology to generate clean energy. The generation of power from solar photovoltaic is a clean technology as there is no fossil fuel fired or no GHG gases are emitted during the process. 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. Thus, project activity leads to reduce the GHG emissions as it displaces power from fossil fuel-based electricity generation in the regional grid.

The annual and the total CO_{2e} 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 Monocrystalline Axitec Photovoltaic (PV) Plant having installed capacity of 990 kW. 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.

UCR Project ID	:	262
Start Date of Crediting Period	:	15/06/2021

Village	Taluka	District	Type	Total installed Capacity (DC)	Commissioning date
Dudhar	Himmatnagar	Sabarkantha	Ground Mounted	990 KW	15/06/2021

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	15/06/2021
Carbon credits claimed up to	31/12/2022
Total ERs generated (tCO ₂ e)	2119 tCO ₂ e
Leakage Emission	0
Project Emission	0

A.1.5 Baseline Scenario

As per the approved consolidated methodology AMS-IF. Version 05, 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”**.

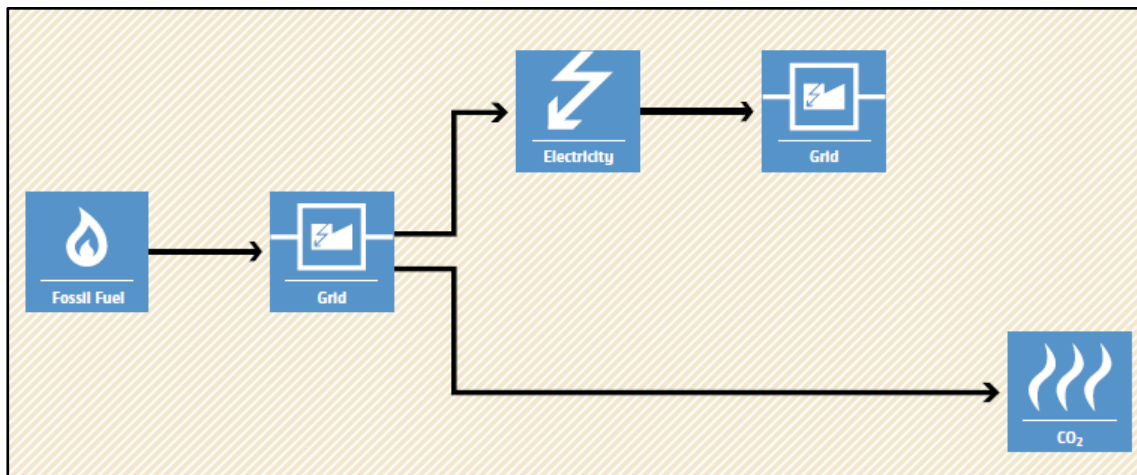


Figure 1 Baseline Scenario

A.2 Location of Project Activity

Country : India

State : Gujarat

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

Village	Taluka	District	Type	Project location
Dudhar	Himmatnagar	Sabarkantha	Ground Mounted	Latitude: 23°34'59.5"N Longitude: 73°06'01.9"E

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
India	<p>Creduce Technologies Private Limited (Aggregator) Contact person : Shailendra Singh Rao Mobile : +91 9016850742, 9601378723 Address : 2-O-13,14 Housing Board Colony, Banswara, Rajasthan -327001, India</p> <p>M/S Sidwin Fabric Pvt Ltd. in Gujarat, India (Project Owner) Address: Gambhoi- Harsol road, Vi - Dhundhar, Ta- Himmatnagar, District - Sabarkantha, Gujarat 383030 India.</p>

A.4 Methodologies and standardized baselines

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

Type : Renewable Energy Projects

Category : AMS-I. F: “Renewable electricity generation for captive use and mini-grid, Version 05.0”

A.5 Crediting period of project activity

Start date of the crediting period: 15/06/2021

Crediting period corresponding to this monitoring period: 15/06/2021 to 31/12/2022 (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 fitted Photo Voltaic solar Plant with aggregated installed capacity of 990kW. The plant was commissioned on different date by the respective authority of Government of Gujarat. Here the start date of generation will be called as commissioning date, and project wise commissioning date has been mentioned in Section A.1.3. The project generates clean energy by utilizing 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 990 KW Ground mounted solar power plant installed are mentioned below:

Parameter	Description
Total number of Photovoltaic Modules	2475
Rating of Photovoltaic Module	400 Wp
Module make	Axitec
Technology	Monocrystalline Farmson
No. of Inverter	10
Invertor make/Rating	Solar edge
Inverter capacity	82.8 kw
Optimizer	618/solar edge

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 990 kW 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 data-bbox="256 1444 344 1476">Goal 7</p> <div data-bbox="169 1509 437 1778" style="border: 1px solid black; padding: 5px; text-align: center;"> <p data-bbox="188 1529 395 1592">7 AFFORDABLE AND CLEAN ENERGY</p>  </div>	<ul style="list-style-type: none"> <li data-bbox="472 1429 1453 1570">➤ The project activity has generated 2355.37 MWh of clean energy, which with increased shared will increase the affordability at a cheaper rate to end user. <li data-bbox="472 1592 1453 1733">➤ 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 data-bbox="256 1832 344 1863">Goal 8</p>	<ul style="list-style-type: none"> <li data-bbox="472 1832 986 1863">➤ Decent work and economic growth. <li data-bbox="472 1906 1453 1995">➤ This project activity generates additional employment for skilled and unskilled, also the project situated in a remote area will provide

<p>8 DECENT WORK AND ECONOMIC GROWTH</p> 	<p>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>
<p>Goal 13</p> <p>13 CLIMATE ACTION</p> 	<ul style="list-style-type: none"> ➤ This 990 KW ground mounted solar power projects meets the SDG 13 goal by saving fossil fuel and producing clean energy. ➤ This project has avoided 2119 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.

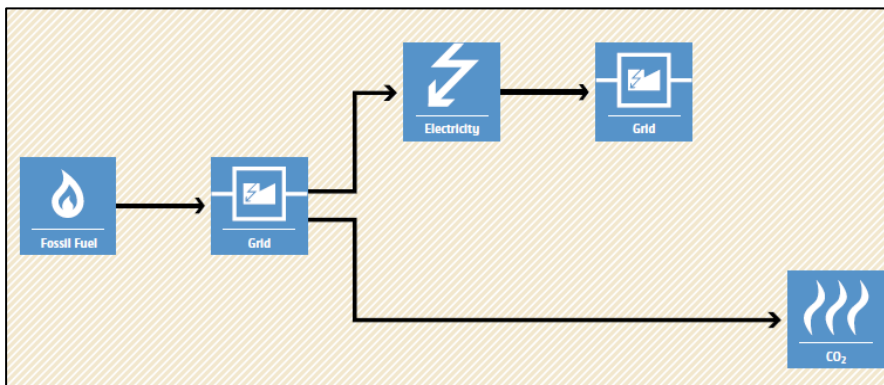
B.3 Baseline Emissions

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

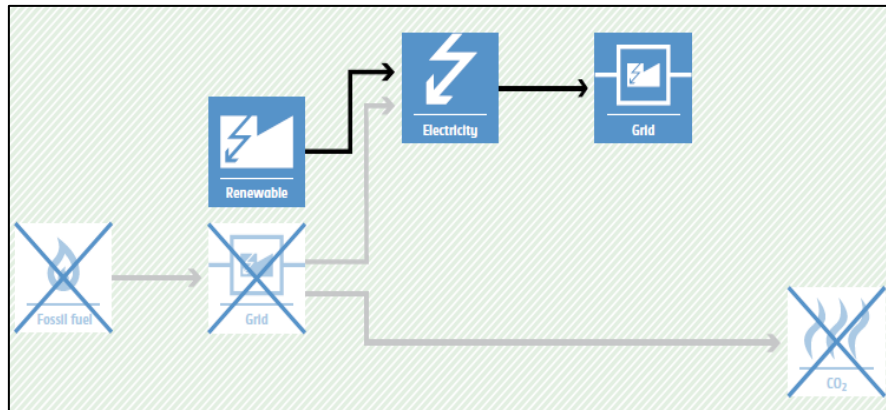
In the absence of the project activity, the equivalent amount of electricity would have been imported from the grid (which is connected to the unified Indian Grid system (NEWNE Grid)), which is carbon intensive due to being predominantly sourced from fossil fuel-based power plants. Hence, the baseline 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. F: “Renewable electricity generation for captive use and mini-grid, Version 05.0”

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 project for captive consumption.

The project activity has an installed capacity of 990 KW 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.F version , and the applicability of the methodology is discussed below:

Applicability Criterion	Project Case
<p>1. This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass that supply electricity to user(s). The project activity will displace electricity from an electricity distribution system that is or would have been supplied by at least one fossil fuel fired generating unit, i.e., in the absence of the project activity, the users would have been supplied electricity from one or more sources listed below:</p> <p>(a) A national or a regional grid (grid hereafter); (b) A fossil fuel fired captive power plant; (c) A carbon intensive mini-grid.</p>	<p>The project activity is a Renewable Energy Project i.e., a Rooftop Mounted solar power projects which falls under applicability criteria option 1 (a) i.e., “Consuming electricity generated and supplying excess to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling”.</p> <p>Hence the project activity meets the given applicability criterion.</p>
<p>2. This methodology is applicable for project activities that:</p> <p>(a) Install a new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant); (b) Involve a capacity addition, (c) Involve a retrofit of (an) existing plant(s); or (d) Involve a replacement of (an) existing plant(s).</p>	<p>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>

<p>3. Illustration of respective situations under which each of the methodology (“AMS-I.D.: Grid connected renewable electricity generation”, “AMS-I.F.: Renewable electricity generation for captive use and mini-grid” and “AMS-I.A.: Electricity generation by the user”) applies is included -</p> <ul style="list-style-type: none"> a) Project supplies electricity to a national/regional grid b) Project displaces grid electricity consumption (e.g., grid import) and/or captive fossil fuel electricity generation at the user end (excess electricity may be supplied to a grid) c) Project supplies electricity to an identified consumer facility via national/regional grid (through a contractual arrangement such as wheeling) d) Project supplies electricity to a mini grid system where in the baseline all generators use exclusively fuel oil and/or diesel fuel e) Project supplies electricity to household users (included in the project boundary) located in off grid areas 	<p>Option (a) and option (b) are applicable to AMS-1. F. methodology.</p>
<p>4. 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 990 kW (AC) Rooftop Mounted 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 990 kW (AC) Rooftop Mounted 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 or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement 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. If the unit added 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 unit added co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.</p>	<p>The proposed project is a greenfield 990 kW (AC) Rooftop Mounted solar power projects; hence, this criterion is not applicable to this project activity.</p>
<p>9. 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 an existing reservoir with no change in the volume of reservoir;</p> <p>(b) The project activity is implemented in an existing reservoir, where the volume of 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;</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>No biomass is involved, the project is a Rooftop Mounted solar power projects and thus the criterion is not applicable to this project activity.</p>
<p>10. If electricity and/or steam/heat produced by the project activity is delivered to a third party, i.e., another facility or facilities within the project boundary, a contract between the supplier and consumer(s) of the energy will have to be entered that ensures that there is no double counting of emission reductions.</p>	<p>The electricity generated by the Rooftop solar power plant is consumed by manufacturing facility of PO and injected to the grid of the distribution utility under the mechanism of net metering if any surplus electricity is available after meeting their own consumption.</p>
<p>11. In the case the project activities utilize biomass, the “TOOL16: Project and leakage emissions from biomass” shall be applied to determine the relevant project emissions from the cultivation of biomass and the utilization of biomass or biomass residues.</p>	<p>No biomass is involved, the project is a Rooftop Mounted solar power project and thus the criterion is not applicable to this project activity.</p>

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.F. Version 05, “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.F. Version 05, 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 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. Also, for the vintage 2021, the combined margin emission factor calculated from the CEA database in India results in higher emissions than the default value. Hence, the same emission factor has been considered to calculate the emission reduction under a conservative approach.

C.5.1 Net GHG Emission Reductions and Removals

$$\text{Thus, } ER_y = BE_y - PE_y - LE_y$$

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:

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

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 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

Baseline Emissions Calculation				
Sr.No	Year	EG _{py} (MWh)	EF _{grid,y}	BE _y
1	2021	743.435	0.9	669
2	2022	1611.937	0.9	1450
	BE (tCO ₂ e) for the period of 2021-2022			2119

Estimated baseline emission reductions for the monitoring duration 2021-2022(BE)

$$= 2355 \text{ MWh} * 0.9 \text{ tCO}_2/\text{MWh}$$

$$= 2119 \text{ tCO}_2$$

- ***Project Emissions***

As per Paragraph 25 of AMS-I.F. Version 05, only emissions associated with fossil fuel combustion, emissions from the operation of geothermal power plants due to the release of non-condensable gases, and emissions from a water reservoir of Hydro should be accounted for the project emission. Since the project activity is a Solar electric power project, project emission for renewable energy plants is nil.

Thus, PE = 0

- ***Leakage Emission***

As per paragraph 29 of AMS-I.F. Version 05, “For project activities utilizing biomass and/or biomass residues, the TOOL16 shall be applied to determine the leakage as zero”.

No biomass is involved, the project is a Rooftop Mounted solar power projects and thus the criterion is not applicable to this project activity.

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

LE = 0

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

Hence Net GHG emission reduction, = 2119-0-0 = 2119 tCO₂ (i.e., 2119 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 the crediting period.

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

Not applicable.

C.9 Monitoring period number and duration

Total Monitoring Period: 1 Year 7 Months

Date: 15/06/2021 to 31/12/2022 (inclusive of both dates).

C.10 Monitoring Plan

The project activity essentially involves the 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://a23e347601d72166dcd6-16da518ed3035d35cf0439f1cdf449c9.ssl.cf2.rackcdn.com//Documents/UCRCoUStandardAug2022updatedVer6_090822220127104470.pdf https://cea.nic.in/wp-content/uploads/baseline/2023/01/Approved_report_emission_2021_22.pdf
Value applied	0.9
Measurement methods and procedures	-
Monitoring frequency	Fixed parameter
Purpose of Data	For the calculation of the Emission Factor of the grid
Additional Comment	The combined margin emission factor as per CEA database (current version 18, December 2022) results into higher emission factor. Hence for 2022 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 15/06/2021 to 31/12/2022.
Source of data	Generation data provided by the client.
Measurement	Data Type: Measured

<p>procedures (if any):</p>	<p>Monitoring equipment: Energy Meters are used for monitoring Recording Frequency: Continuous monitoring and Monthly recording from Energy Meters, Summarized Annually</p> <p>Archiving Policy: Paper & Electronic</p> <p>Calibration frequency: 5 years (as per CEA provision)</p> <p>The total electricity generation by the Solar power plant is recorded at the plant facility at the end of every month.</p> <table border="1" data-bbox="491 544 1066 701"> <thead> <tr> <th data-bbox="491 544 778 622">Meter Sr no</th> <th data-bbox="778 544 1066 622">Calibration Date</th> </tr> </thead> <tbody> <tr> <td data-bbox="491 622 778 701">UHM042B</td> <td data-bbox="778 622 1066 701">30/01/2021</td> </tr> </tbody> </table> <p>The above mentioned ABT meter records the total electricity imported from the grid and total electricity exported from the solar plant to the grid.</p>	Meter Sr no	Calibration Date	UHM042B	30/01/2021
Meter Sr no	Calibration Date				
UHM042B	30/01/2021				
<p>Measurement Frequency:</p>	<p>Monthly</p>				
<p>Value applied:</p>	<p>2355.37 (Ex-post estimate)</p>				
<p>QA/QC procedures applied:</p>	<p>Continuous monitoring, hourly measurement monthly recording. Tri-vector (TVM)/ABT energy meters with accuracy class 0.2s</p>				
<p>Purpose of data:</p>	<p>The Data/Parameter is required to calculate the baseline emission.</p>				
<p>Any comment:</p>	<p>Data will be archived electronically for a period of 36 months beyond the end of crediting period.</p>				

ANNEXURE I (Emission Reduction Calculation)

990 kW Solar Ground Mounted Power Project By M/s Sidwin Fabric Pvt. Ltd												
Month - Wise Energy Delivered to Grid (in kWh)												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	-	-	-	-	-	64909.33	1,32,232.34	113975.9671	42701.354	137746	129576	122294
2022	153610	141287	154047	169338	153038	132489	87060	95365	124484	145752	135323	120144
Year-Wise Emission reduction calculation for the project activity												
Year	Total No. of Electricity delivered in kWh				Recommended emission factor tCO ₂ /MWh				Total CoUs generated			
2021	7,43,435				0.9				669			
2022	16,11,937				0.9				1450			
Total CoUs to be issued for the first monitoring period (Year: 2021 to 2022)									2,119			