PROJECT CONCEPT NOTE

CARBON OFFSET UNIT (CoU) PROJECT

Title: 0.33 MW Bundled Solar Power Project by FE LLC «Birinchi rezinotexnika zavodi»

Version 1.0

Date 22/09/2025

First CoU Issuance Period: 20 years, 7 months

Monitoring Duration: 31/05/2022 to 31/12/2042

Project Concept Note (PCN)
CARBON OFFSET UNIT (CoU) PROJECT

BASIC INFORMATION	
Title of the project activity	0.33 MW Bundled Solar Power Project by FE LLC «Birinchi rezinotexnika zavodi»
Scale of the project activity	Small Scale
Completion date of the PCN	22/09/2025
Project participants	FE LLC «Birinchi rezinotexnika zavodi»
Host Party	Republic of Uzbekistan
Applied methodologies and standardized baselines	AMS-I.F.: Renewable electricity generation for captive use and mini-grid (Version 5.0)
Sectoral scopes	01 Energy industries (Renewable/NonRenewable Sources)
Estimated amount of total GHG emission reductions	To be estimated during verification [An ex-ante estimate is 206 CoUs per year]

SECTION A. Description of project activity

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

The 0.33 MW Bundled Solar Power Project by FE LLC «Birinchi rezinotexnika zavodi» is located at 110200, Republic of Uzbekistan, Tashkent Region, Angren siti, Gulbog MFY, Industrial Zone.

The details of the registered project are as follows:

Purpose of the project activity:
The objective of this project is to generate electricity using an environmentally clean and renewable source – solar energy. The project involves the planned installation of three photovoltaic (PV) power plants on the territory of an existing factory. The electrical energy produced by the solar power plants will be consumed for the factory's own needs.

Implementation Timeline:
- 2022: A 150 kW solar power plant was commissioned on the roofs of the canteen and fire station buildings.
- 2023: A 180 kW solar power plant was installed and commissioned.

The project implementation schedule is placed below:

Capacity	Location	Supplier	Date of Commissioning
150 kW	FE LLC «Birinchi rezinotexnika zavodi»	«TOSHELECTROAPPARAT» LLC	31.05.2022
180 kW		«Max Expert» LLC	13.11.2023

The primary equipment of the PV plants includes photovoltaic modules, grid-tie inverters, and electricity metering devices.

The baseline scenario prior to the project's implementation assumed that the power supply for the enterprise's administrative and amenity buildings was fully provided by purchasing electricity from the Angren City Electric Grid Enterprise, whose generation is based on fossil fuels.

Feeding electricity into the grid is not planned.

Electricity production using photovoltaic systems is an environmentally clean process, as it does not require the combustion of fossil fuels and is not accompanied by greenhouse gas emissions. Thus, the project contributes to climate change mitigation by displacing carbon-intensive generation in the regional energy system.

The environmental effect of the project consists of the displacement of anthropogenic greenhouse gas emissions, estimated at approximately 206 tons of CO_2-equivalent per year, by displacing 368.66 MWh/year of grid electricity generated from fossil fuels.

Contribution of project activity to sustainable development:
Within the framework of its updated commitments under the Paris Agreement (NDC), the Republic of Uzbekistan has adopted the ambitious goal of reducing greenhouse gas emissions per unit of GDP by 35% by 2030 compared to the 2010 level. Key avenues for achieving this goal, as defined

in the NDC, are improving energy efficiency, large-scale introduction of renewable energy sources (RES), and decarbonization of the economy.

The implementation of «green» energy projects by the private sector is a critical component of the national strategy. A prime example of this approach is the project being implemented at FE LLC «Birinchi rezinotexnika zavodi».

This project involves the deployment of new renewable energy technology (“Greenfield”) at an existing production facility. Its implementation directly contributes to achieving the targets of Uzbekistan's NDC, specifically:

- Increasing the share of RES in the country's energy balance.
- Reducing the energy intensity of GDP.
- Diversifying energy consumption and reducing dependence on fossil fuels.

The baseline scenario prior to the project's implementation was the power supply for the plant's administrative and amenity buildings through purchased electricity from the regional grid, which largely depends on carbon-intensive generation from fossil fuels.

The project's contribution to achieving national goals and ESG principles:

1. **Environmental well being**
By generating electricity from solar power stations, the project directly displaces the volume of electricity that would otherwise be produced through the combustion of fossil fuels. This leads to a reduction in greenhouse gas emissions, as well as a decrease in emissions of other pollutants (such as SOx, NOx, and particulate matter). The electricity generation process is environmentally clean, requires no water for cooling, and has no negative impact on air, soil, and water quality.

2. **Social well-being**
During the construction and installation phase of the photovoltaic stations, the project creates demand for the local workforce. Throughout its operational lifetime, the project ensures the creation of new permanent jobs for the maintenance and monitoring of the solar power plants. By enhancing the environmental efficiency of the main enterprise, the project also contributes to improving the plant's image as a socially responsible employer in the eyes of the local community, which corresponds to the principles of inclusive development.

3. **Economic well being**
The economic effect is manifested in a significant reduction of the plant's operational expenses for purchasing electricity from the external grid. The freed-up financial resources can be redirected to core production and social needs of the enterprise. Furthermore, the project fosters the development of the regional renewable energy market, setting a precedent for the replication of similar solutions by other industrial companies in Uzbekistan.

4. **Technological well being**
The implementation of the project serves as a clear example of the successful integration of RES facilities into industrial infrastructure, which is one of the objectives of state policy. This contributes to the dissemination of knowledge and experience in solar power generation, stimulating interest in similar technologies among other enterprises in the region.

Thus, the project by FE LLC «Birinchi rezinotexnika zavodi» is a concrete example of how the private sector in Uzbekistan can effectively contribute to fulfilling the country's ambitious climate goals, as outlined in its NDC. It vividly demonstrates the combination of economic feasibility with

environmental responsibility and makes a direct contribution to the transition of the Republic of Uzbekistan onto a path of «green» and low-carbon development.

A.2 Do no harm or Impact test of the project activity>>

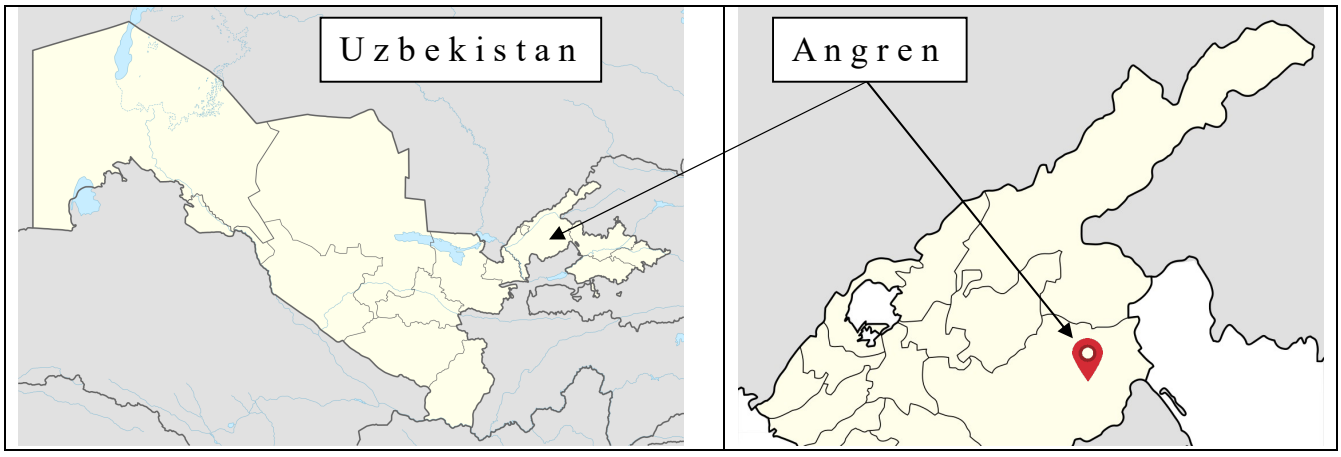
There are social, environmental, economic and technological benefits which contribute to sustainable development.

Rational: Project activities are not associated with a negative impact on the environment, and therefore an environmental impact assessment was not required. According to Article 3 of Law No. ZRU-1036 dated February 24, 2025 «On Environmental Expertise, Environmental Impact Assessment, and Strategic Environmental Assessment» the subject of environmental expertise (and, consequently, mandatory EIA) is «planned and/or envisaged or ongoing economic and other activities – any activity that may have a negative impact on the environment» Activities related to the construction of solar power plants and the production of renewable electrical energy do not have a negative impact on the environment, do not alter the core production technology of FE LLC «Birinchi rezinotexnika zavodi» and do not require the allocation of additional land for construction. Thus, the application of any mitigation measures is not required.

There are social, environmental, economic and technological benefits which contribute to sustainable development. The key details have been discussed in the previous section

A.3. Location of project activity >>

Country: Republic of Uzbekistan
District: Tashkent Region
Village: Angren siti, Gulbog MFY, Industrial Zone,
Tehsil: N/A
State: N/A
Code: 110200
Latitude: 40°58'21.9»N
Longitude: 70°02'40.8»E



A.4. Technologies/measures >>

The project activity involves the installation of solar photovoltaic (PV) power generation systems by «TOSHELECTROAPPARAT» LLC (150 kW) and «Max Expert» LLC (180 kW). The total installed capacity of the project is a 0.33 MW AC solar PV power plant located in Industrial Zone, Gulbog MFY of Angren siti, Tashkent Region of the Republic of Uzbekistan. The project activity constitutes a new facility (greenfield), and the electricity generated by the project is consumed for the internal needs of FE LLC «Birinchi rezinotexnika zavodi». In the pre-project scenario, all electricity produced by the project would have been generated through the operation of grid-connected power plants predominantly fueled by fossil fuels, along with the addition of new generation sources.

Technical specifications of the photovoltaic power stations are provided in the table below:

Parameter	150 kW	180 kW
Total number of Photovoltaic Modules	330	328
Rating of Photovoltaic Module	455 W	550 W
Module make & Technology	Bisol	Lesso

Parameter	150 kW	180 kW
No. of Inverters	2	4
Inverter make & Model	SMA Solar Technology AG	SHENZHEN GROWATT NEW ENERGY TECHNOLOGY CO., LTD
Voltage DC, IP	500-800 V DC, IP65	Growatt 50000TL3-S: 645-850 V DC, IP65; Growatt 30000TL3-S: 450-800 V DC, IP65;

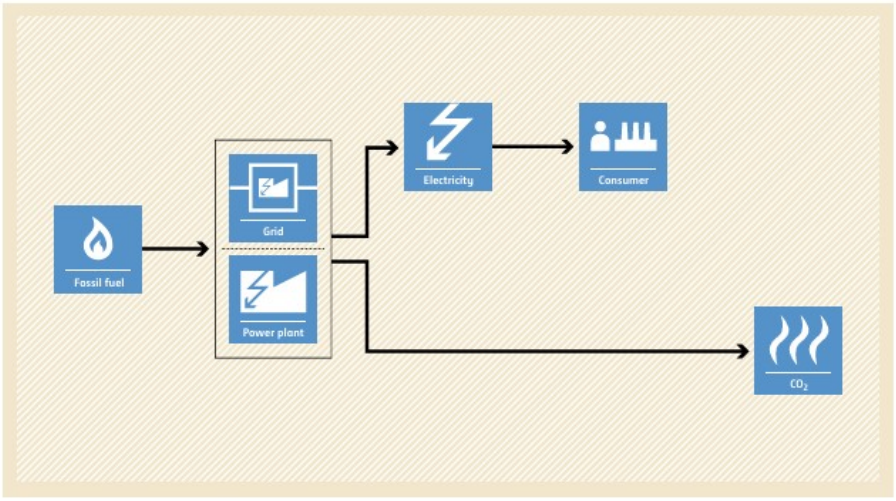
A.5. Parties and project participants >>

Party (Host)	Participants
Republic of Uzbekistan	FE LLC «Birinchi rezinotexnika zavodi»

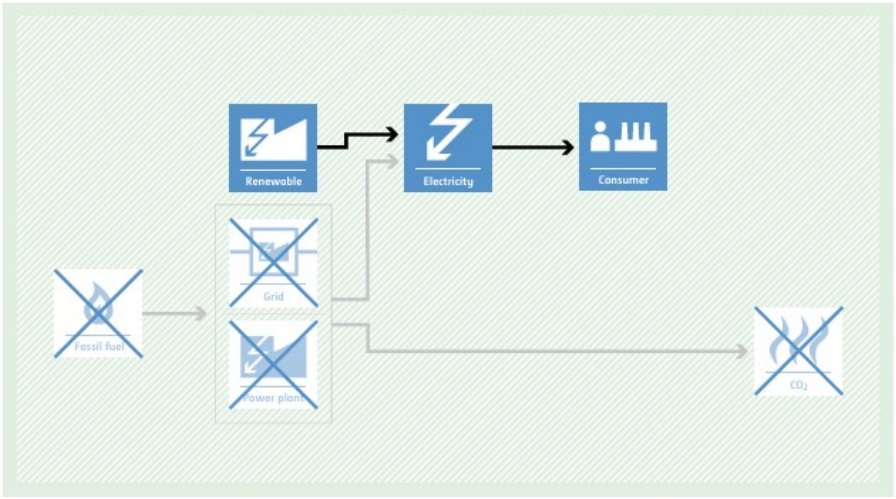
A.6. Baseline Emissions>>

In the absence of the project activity, an equivalent amount of electricity would be imported from the regional power grid, which is carbon-intensive as it is predominantly generated by fossil fuel-based power plants. Consequently, the baseline scenario for the project activity is the grid-connected power system, which also represents the pre-project scenario.

BASELINE SCENARIO
Electricity would have been supplied by one or more energy sources such as a national or a regional grid or a fossil-fuel-fired captive power plant or a carbon-intensive mini-grid.



PROJECT SCENARIO
Electricity is supplied using renewable energy technologies.



A.7. Debundling>>

The project «0.33 MW Bundled Solar Power Project by FE LLC «Birinchi rezinotexnika zavodi» is not part of a large-scale project activity.

SECTION B. Application of methodologies and standardized baselines

B.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

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

The project activity involves the generation of electricity for captive use through the construction and operation of solar power plants with a total installed capacity of 0.33 MW, qualifying as a small-scale Type I project activity under the small-scale methodology. The project status corresponds to methodology AMS-I.F. version 5, and its applicability is discussed below:

Applicability Criterion	Project Case
1. This methodology encompasses the use of renewable energy sources, such as photovoltaic, hydroelectric, tidal/wave, wind, geothermal power plants, and power plants running on renewable biomass, which supply electricity to consumers. The project activity will lead to the displacement of electricity from the electricity distribution system that is or would have been supplied by at least one fossil fuel-based generating unit. That is, in the absence of the project activity, consumers would have received electricity from one or more of the following sources: (a) A national or regional grid; (b) An on-site fossil fuel power plant; (c) A carbon-intensive mini-grid.	The project activity is a renewable energy project that falls under the applicability criteria of option (a). Therefore, the project activity complies with this applicability criterion.
2. This methodology is applicable to project activities that: (a) Install a new power plant at a site where there was no operational renewable energy power plant prior to the implementation of the project activity (Greenfield plant); (b) Involve a capacity addition; (c) Involve retrofitting of existing plant(s); (d) Involve replacement of existing plant(s).	Option (a) of the applicability criteria is applicable, as the project is a new installation. Therefore, the project activity complies with this applicability criterion.
3. Illustration of respective situations under which each of the methodologies («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	Option b) is applicable to the AMS-I.F methodology.

the user») applies: a) The project supplies electricity to a national/regional grid b) The project displaces electricity consumption from the grid (e.g., import from the grid) and/or on-site fossil fuel electricity generation at the user end (excess electricity may be supplied to the grid) c) The project supplies electricity to an identified consumer facility via the national/regional grid (under a contract, e.g., wheeling agreement) d) The project involves the supply of electricity to a mini-grid system where, in the baseline, all generators use exclusively fuel oil and/or diesel fuel e) The project supplies electricity to household consumers (included in the project boundary) located in off-grid areas	
4. In the case of a project activity that involves the addition of renewable energy generation capacity at an existing renewable energy generation facility, the added capacity of the units added by the project must be less than 15 MW and must be physically distinct from the existing units.	The proposed project is a 0.33 MW solar power project, i.e., its sole component is a renewable energy project with a capacity of less than 15 MW; therefore, this criterion is not applicable to this project activity.
5. In the case of retrofit or replacement, for the project to be considered small-scale, the total capacity of the retrofitted or replacement unit must not exceed the limit of 15 MW.	The project is implemented from scratch; no expansions or retrofits have been carried out. The criterion is not applicable.
6. Combined heat and power (cogeneration) systems are not eligible under this category.	This is not relevant to the project activity, as the project involves only solar power plants.
7. If the added unit contains both renewable and non-renewable components (e.g., a wind-diesel unit), the 15 MW capacity limit for a small-scale CDM project activity applies only to the renewable component. If the added unit uses fossil fuels, the capacity of the entire unit must not exceed the 15 MW limit.	The proposed project is a 0.33 MW solar power project, i.e., its sole component is a renewable energy project with a capacity of less than 15 MW; therefore, this criterion is not applicable to this project activity.
8. Hydroelectric power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: (a) The project activity is implemented in an existing reservoir with no change in the reservoir volume; (b) The project activity is implemented in an existing reservoir where the volume is increased and the power density of the project activity, as per the definitions given in the «Project Emissions» section, is greater than	Hydroelectric power plants are not involved in the project activity. The criterion is not applicable.

4 W/m²; (c) The project activity results in new reservoirs, and the power density of the power plant, as per the definitions given in the «Project Emissions» section, is greater than 4 W/m².	
9. If the 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 energy supplier and consumer(s) must be established to ensure there is no double counting of emission reductions.	The electricity generated by the solar power plant is consumed by the enterprise. There are no surpluses. The criterion is not applicable.
In case the project activity utilizes biomass, «TOOL16: Project and Leakage Emissions from Biomass» must be applied to determine the relevant project emissions from biomass cultivation and the use of biomass or biomass residues.	Biomass is not used; the project is a rooftop solar power plant installation project, therefore this criterion is not applicable to this project activity.

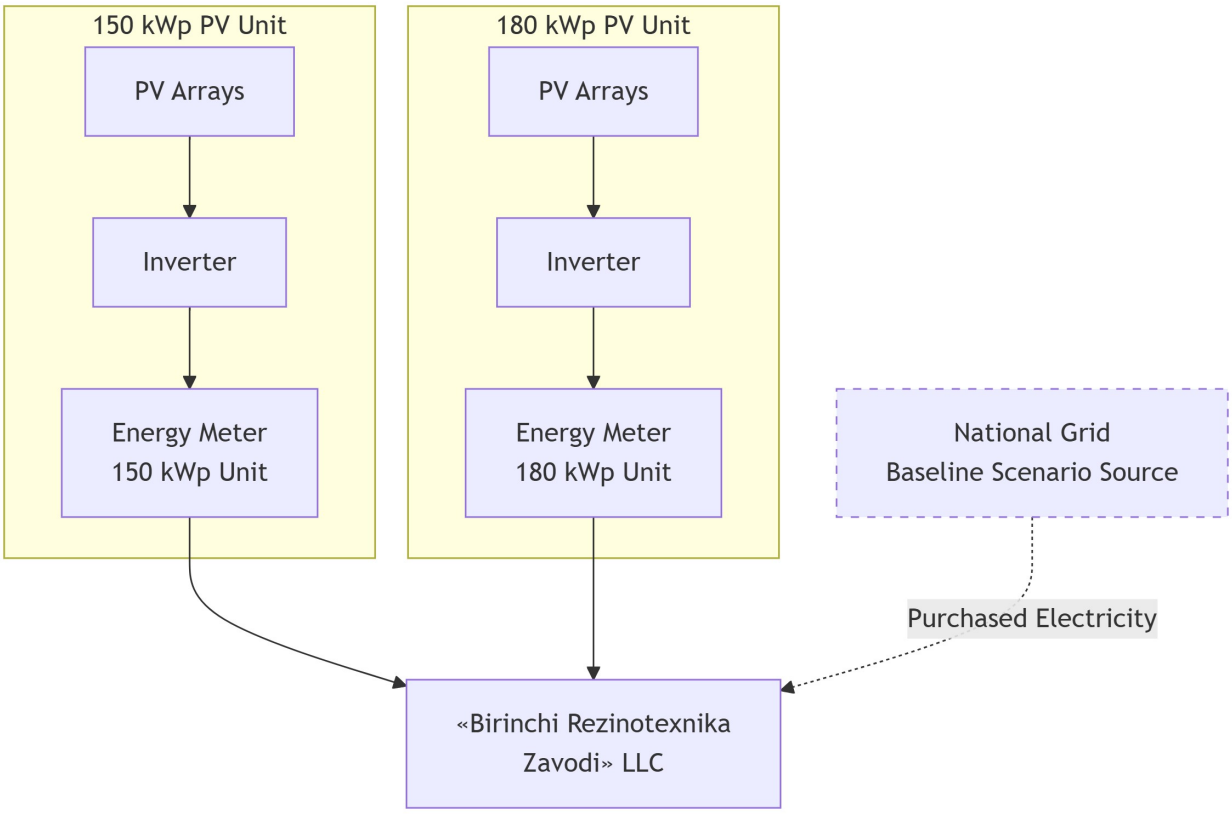
B.3. Applicability of double counting emission reductions >>

In project activities, double counting of emission reductions is avoided for the following reasons:
• The project has a unique identification based on location coordinates;
• Project initiation is confirmed by documentation of equipment purchase and installation;
• The project is equipped with energy metering devices assigned to the project developer's consumption point.

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

As per applicable methodology AMS. I.F. Version 5.0, «The spatial extent of the project boundary includes industrial, commercial facilities consuming energy generated by the system. In the case of electricity generated and supplied to distributed users (e.g. residential users) via mini/isolated grid(s) the project boundary may be confined to physical, geographical site of renewable generating units.»

The project boundary includes the physical, geographical site(s) of:



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

	Source	Gas	Included?	Justification/Explanation
Baseline	Gridconnected electricity generation	CO_2	Yes	Mainsource of emission
		CH_4	Excluded	Minorsource of emission
		N_2O	Excluded	Minorsource of emission
Project	Greenfield Solar 0.33 MW Power Project Activity	CO_2	Excluded	No CO2 emission are emitted from the project
		CH_4	Excluded	No CH_4 emission are emitted from the project
		N_2O	Excluded	No N_2O emission are emitted from the project

B.5. Establishment and description of baseline scenario (UCR Standard or Methodology) >>

As per the approved methodology AMS-I.F. version 5.0, the baseline scenario for a renewable electricity generation project for captive use is defined as follows:

"The baseline scenario is the electricity consumption from the grid and/or an on-site fossil fuel-fired power generation facility that is displaced due to the project activity."

The project activity involves the installation of new solar photovoltaic (PV) power plants to generate electricity for captive consumption by the industrial facilities of FE LLC «Birinchi rezinotexnika zavodi». In the absence of the project activity, the equivalent amount of electricity required to meet the energy demand of the administrative and amenity buildings would have been supplied by purchasing electricity from the Uzbek national grid. The Uzbek grid is predominantly dependent on fossil fuel-based power generation, making it carbon-intensive.

Consequently, the baseline scenario for this project activity is the equivalent amount of electricity supplied by the Uzbek national grid.

A "grid emission factor" (EF_grid,y) refers to a CO_2 emission factor (tCO_2/MWh) associated with each unit of electricity provided by the grid. As per the approved baseline methodology and national data, the ex-ante CO_2 emission factor for the Uzbek grid is 0.558 tCO_2/MWh MWh has been considered. (Reference: Harmonized IFI Default Grid Factors 2021 v3.2).

Net GHG Emission Reductions and Removals:

The emission reduction is calculated using the following formula:

$ER_y = BE_y – PE_y – LE_y$

Where:

ER_y = Emission reductions in year y (tCO_2/year)

BE_y = Baseline emissions in year y (tCO_2/year)

PE_y = Project emissions in year y (tCO_2/year)

LE_y = Leakage emissions in year y (tCO_2/year)

Baseline Emissions (BEy):

Baseline emissions include only CO_2 emissions from the generation of electricity in power plants that are displaced due to the project activity. They are calculated as follows:

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

Where:

BEy = Baseline emissions in year y (tCO_2)

$EG_{PJ,y}$ = Quantity of net electricity generated by the project activity and consumed captive in year y (MWh)

$EF_{grid,y}$ = CO_2 emission factor of the grid in year y (tCO_2/MWh). The value of 0.558 tCO_2/MWh is applied.

Project Emissions (PE_y):

As per paragraph 25 of methodology AMS-I.F. version 5.0, for solar PV power plants, project emissions are negligible and are considered to be zero. Therefore:

$PE_y = 0$

Leakage (LE_y):

As per paragraph 29 of methodology AMS-I.F. version 5.0, leakage emissions are to be considered if biomass is used or if energy-generating equipment is transferred from another activity. This project does not involve biomass nor the transfer of equipment from another activity. Therefore, leakage emissions are considered zero.

$LE_y = 0$

Thus, the formula for emission reduction simplifies to:

$ER_y = BE_y$

The ex-ante estimate of emission reductions for the first issuance period is based on historical generation data from the commissioned plants (150 kW and 180 kW) and will be confirmed during monitoring and verification. However, for the purpose of an ex-ante estimation, following calculation has been submitted:

Estimated annual baseline emission reductions (BE_y) = 368.66 MWh/year *0.558 tCO_2/MWh = 206 tCO_2/year (i.e., 206 CoUs/year)

B.6. Prior History>>

The project activity is a small-scale solar project and was not applied under any other GHG mechanism prior to this registration with UCR. Also, project has not been applied for any other environmental crediting or certification mechanism. Hence project will not cause double accounting of carbon credits (i.e., CoUs).

B.7. Changes to start date of crediting period >>

There is no change in the start date of crediting period.

B.8. Permanent changes from PCN monitoring plan, applied methodology or applied standardized baseline >>

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

B.9. Monitoring period number and duration>>

Total Monitoring Period: 20 Years and 7 Months.
Date: 31/05/2022 to 31/12/2042 (inclusive of both dates).
First Issuance Period (assumption): 03 years, 03 months 31/05/2022 to 31/08/2025.

B.10. Monitoring plan>>

Data/Parameter	$EG_{PJ,y}$
Data unit	MWh/yr
Description	Quantity of net electricity displaced in year y
Source of data Value(s) applied	Monthly Joint Meter Readings (JMRs)
Measurement methods and procedures	Data type: Measured Monitoring equipment: Electricity meters are used. Recording frequency: Continuous monitoring and monthly recording of electricity meter readings, summed up annually. Archiving policy: Paper and electronic documents. Meter calibration interval: 4 years.
Monitoring frequency	Monitoring continuously and recording monthly.
Purpose of data	For baseline emission calculation
Any comment:	The recording of electricity generation readings is carried out by making entries in electricity generation logbooks, as well as in the cloud service.

Data/Parameter	$EF_{CO2,y}$
Data unit	t CO_2/MWh
Description	CO_2 emission factor for the grid electricity in year y
Source of data	Harmonized IFI Default Grid Factors 2021 v3.2 (https://unfccc.int/climate-action/sectoral-engagement/ifis-harmonization-of-standards-for-ghg-accounting/ifi-twg-list-of-methodologies)
Value(s) applied	0.558
Measurement methods and procedures	N/A
Monitoring frequency	Ex-ante fixed parameter
Purpose of data	The Data/Parameter is required to calculate the baseline emission.
Any comment:	As part of the project parameter monitoring, the current and/or most applicable emission factor for the electricity of the Republic of Uzbekistan, as well as its use in GHG reduction calculations, shall be monitored.