



PROJECT CONCEPT NOTE

CARBON OFFSET UNIT (CoU) PROJECT



Title: Solar Power Project by M/S Industrial Bag Packaging

Version 1.0

Date 03/12/2025

First CoU Issuance Period: 10 years, 0 months

Date: 20/08/2024 to 20/08/2034



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

BASIC INFORMATION

Title of the project activity	Solar Power Project by: M/S Industrial Bag Packaging
Scale of the project activity	Small Scale
Completion date of the PCN	03/12/2025
Project participants	Owner: Mr. Pramod Jain (Partner) Aggregator: Lume Solar Energy Pvt. Ltd.
Host Party	INDIA
Applied methodologies and standardized baselines	AMS-I.D (Grid-connected renewable electricity generation) UCR Protocol: Renewable Energy for Grid Displacement (UCR-RE-2023)
Sectoral scopes	Sectoral Scope 01 – Energy industries (Renewable/Non-Renewable Sources)
Estimated amount of total GHG emission reductions	1,854 CoUs/year (1,854 tCO ₂ eq/year) - Total

SECTION A. Description of project activity

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

The project M/S Industrial Bag Packaging is located in Village Mathak, Tehsil Anjar, District Kutch, State Gujarat, Country India. (1250 KW) (DC)

The details of the registered project are as follows:

Purpose of the project activity:

The purpose of this project activity is to generate clean, renewable electricity through a total of **1250 kW grid-connected solar photovoltaic (PV) power plant.**

The project has been implemented by **M/S Industrial Bag Packaging** and facilitated by **Lume Solar Energy Pvt. Ltd.**, which is acting as the aggregator for registration under the carbon credit mechanism. The solar power plant supplies renewable electricity to the regional grid, effectively displacing electricity that would otherwise have been generated by fossil-fuel based thermal power plants.

Project Details:

Parameter	Description
Project Name	M/S Industrial Bag Packaging
Project Location	R.S. No. 251, Mathak, Anjar Kutch, Gujarat, India.
Installed Capacity	1250 kW (DC)
Type of Project	Grid-connected solar photovoltaic (PV) plant
Commissioning Year	2024
Start of Crediting Period	August 2024
Project Owner	Mr. Pramod Jain
Aggregator	Lume Solar Energy Pvt. Ltd.
Estimated Annual Generation	~2,060 MWh/year (Rooftop)
Expected Annual Emission Reduction	~1,854 tCO ₂ e/year (Rooftop)

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.

Social benefits:

- Creates local employment opportunities during installation and operation phases.
- Promotes skill development and capacity building in renewable energy.
- Supports the local community through improved infrastructure and economic activity.
- Demonstrates corporate responsibility toward sustainable development.

Environmental benefits:

- Reduces greenhouse gas emissions by replacing fossil fuel-based power generation.
- Improves local air quality and reduces pollution.
- Promotes the use of clean and renewable solar energy.
- Contributes to India's climate goals and global emission reduction targets.

Economic benefits:

- Generates stable, long-term investment in renewable energy infrastructure.
- Reduces dependence on imported fossil fuels.
- Provides cost savings and reliable energy supply to the grid.
- Encourages regional economic growth through sustainable energy initiatives.

A.3. Location of project activity >>

Rooftop:

Country: India

District: Kachchh

Village: Mathak

Tehsil: Anjar

State: Gujarat

Code: 370110

Rooftop: <https://maps.app.goo.gl/Yed2YiSzFfNVhfam7>

A.4. Technologies/measures >>

The project involves the installation of a **1250 kW grid-connected rooftop solar photovoltaic (PV) power system** at the premises of **M/S Industrial Bag Packaging.**, located in **Gujarat, India**.

The system converts sunlight into clean electricity using high-efficiency crystalline silicon PV modules and grid-tied inverters. The electricity generated is used for **captive consumption** and surplus power, if any, is exported to the grid under the **net-metering arrangement with PGVCL**.

The project helps in reducing dependency on fossil-fuel-based grid electricity and contributes to greenhouse gas (GHG) emission reduction.

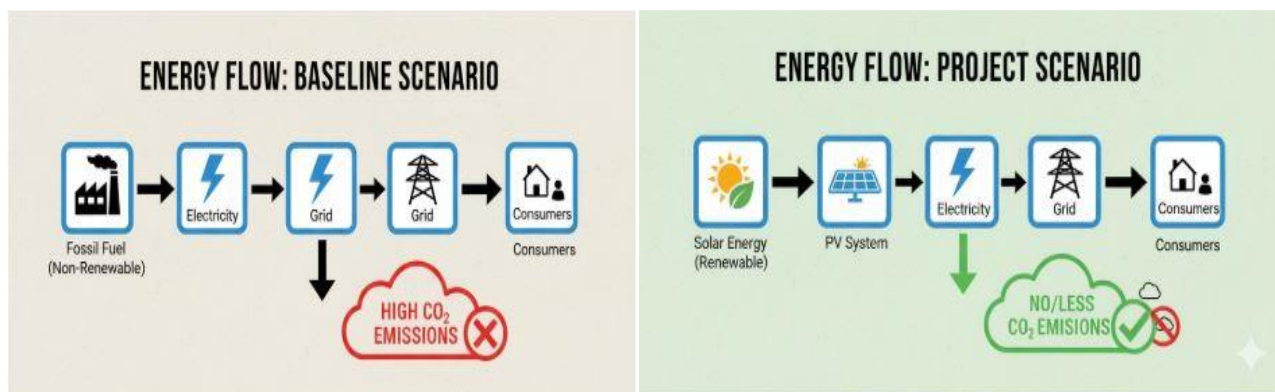
Specification	Value
PV Module Type	Monocrystalline / Polycrystalline Silicon
Installed DC Capacity	1250 kW
Annual Expected Generation	~2,060 MWh/year
Grid Emission Factor	0.9 tCO ₂ /MWh
Estimated Emission Reduction	1,854 tCO ₂ e = 1,854 CoUs

A.5. Parties and project participants >>

Party (Host)	Participants
India	Owner: Mr. Pramod Jain (Partner) M/S Industrial Bag Packaging, Location: R.S no 251, Mathak, Anjar, Gujarat 370110 Aggregator: Lume Solar Energy Pvt. Ltd Location: 4, Arihant Colony, Pushkar Road, Ajmer, Rajasthan – 305001

A.6. Baseline Emissions>>

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



Baseline Scenario:

In the absence of the proposed solar project activity, electricity would continue to be generated from **fossil fuel-based thermal power plants** connected to the regional grid. This results in significant **greenhouse gas (GHG) emissions**, primarily carbon dioxide (CO₂), due to the combustion of coal and natural gas for power generation.

Project Scenario:

Under the proposed project activity, electricity is generated through a **1250 kW grid-connected solar photovoltaic (PV) system** using renewable solar energy. This clean energy displaces an equivalent amount of grid electricity generated from fossil fuels, thereby **reducing GHG emissions** & contributing to Sustainable, low-carbon development.

A.7. Debundling>>

This M/S Industrial Bag Packaging project is not a debundled component of a larger project activity. It operates as an independent project with separate ownership, financing, and implementation boundaries.

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 - Type I – Renewable Energy Project

CATEGORY- AMS-I.D: Grid Connected Renewable Electricity Generation

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

The proposed project activity satisfies all conditions of the methodology AMS-I.D: Grid Connected Renewable Electricity Generation as follows:
The project involves a grid-connected solar photovoltaic (PV) power plant with a total capacity of 1250 kW located at Gujarat, India.
It exports renewable electricity to the regional grid operated by the state utility.
The project uses solar energy, a clean and renewable source, with no fossil fuel consumption.
The project qualifies as a small-scale renewable energy activity, since the capacity is below 15 MW as per AMS-I.D criteria.
Electricity generation and export are metered and recorded to determine emission reductions. The project complies with all national & regional renewable energy regulations.

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

- The project is implemented by **M/S Industrial Bag Packaging**, with **Lume Solar Energy Pvt. Ltd.** as the authorized aggregator.
- The project will be **registered only once** under the **Universal Carbon Registry (UCR)**.
- A **unique identification number** will be assigned to the project upon submission to UCR.
- Project ownership, location, and grid connectivity are **distinct and verifiable**.
- All generation and monitoring data will be **recorded and maintained** by the project owner and aggregator.
- The project's emission reductions are **not claimed under any other registry or mechanism**.

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

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

- A **total 1250 kW grid-connected solar photovoltaic (PV) power plant** located at **Gujarat, India**.
- The boundary covers all key components: **solar panels, inverters, transformers, switchyard, and metering point**.
- It also includes the **transmission line** up to the **interconnection point with the state electricity grid**.
- The **regional grid** is part of the boundary, as the project exports renewable power to it.

PROVIDE THE FOLLOWING TABLE AS NECESSARY FOR GHG SOURCES, LEAKAGE ETC INCLUDED AND EXCLUDED

EXAMPLE	Source	GHG	Included?	Justification/Explanation
Baseline	Emissions from grid electricity generation using fossil fuels	CO2	Included	Major source of emission
		CH4	Included	Excluded for simplification. This is conservative
		N2O	Excluded	Excluded for simplification. This is conservative
Project Activity	Emissions from solar PV electricity generation	CO2	Excluded	Solar power generation does not produce direct GHG emissions.
		CH4	Excluded	Excluded for simplification. This is conservative
		N2O	Excluded	Excluded for simplification. This is conservative

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

Estimated Emission Reductions: $BE_y = EG_y \times EF_{grid}$

Calculation: $2,060 \text{ MWh/year} \times 0.9 \text{ tCO}_2\text{e/MWh} = 1,854 \text{ tCO}_2\text{e/year}$

Parameter	Typical Value	Explanation
Installed Capacity	1250 kW	Project Capacity
Specific Yield	1,650–1,750 kWh/kWp/year	Average for Gujarat
So:	$1,250 \times 1,650 \div 1,000 = \mathbf{2,062.5 \text{ MWh/year}}$	Rounded to ~2,060 MWh/year

where:

BE_{grid} = Annual Baseline Emission (tCO₂e/year)
 $EG_{y,grid}$ = Annual Net Electricity Generation (MWh/year)
 $EF_{y,grid}$ = Emission factor of the grid (t CO₂e/MWh) = 0.9 (UCR Standard)

Estimated Annual or Total baseline emission reductions (BE_y) = 1,854 CoUs /year (1,854 tCO₂eq/yr)

B.6. Prior History>>

The project activity has not applied to any other GHG program for the generation or issuance of carbon offsets or credits for the said crediting period.

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

There is no change in the start date of crediting period. The project will commence crediting as per the date proposed in the Project Concept Note (PCN) – August 2024.

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>>

First Issuance Period: 10 years, 0 months – 20/08/2024 to 20/08/2034

B.8. Monitoring plan>>

USE THE FOLLOWING TABLES FOR PARAMETERS BEING MONITORED OR USED IN EMISSION REDUCTIONS DETERMINATION

Data/Parameter	Electricity Generated by the Solar PV System (EGy)
Data unit	MWh/year
Description	Net renewable electricity generated by the solar plant and exported to the grid or used for captive consumption.
Source of data Value(s) applied	Main and check energy meters at the inverter or grid interconnection point. Actual metered generation data.
Measurement methods and procedures	Electricity generation measured continuously through remote monitoring system; data cross-checked with monthly DISCOM readings.
Monitoring frequency	Daily, Monthly & Yearly.
Purpose of data	To determine the total renewable electricity generated for calculating emission reductions.

Data / Parameter:	Grid Emission Factor (EF _{grid})
Data unit:	tCO ₂ e/MWh
Description:	Represents the amount of CO ₂ emissions avoided per unit of renewable electricity generated and supplied to the grid.
Source of data:	UCR Standard / Central Electricity Authority (CEA) published regional grid emission factors for India. 0.9 tCO ₂ e/MWh (as per UCR Standard for the Western Grid).
Measurement procedures (if any):	Default emission factor as per UCR-approved methodology; reviewed periodically against latest CEA baseline database.
Monitoring frequency:	Once per billing cycle. (unless methodology updates occur).
QA/QC procedures:	To calculate the emission reductions achieved by replacing grid electricity with renewable solar power generation.
Any comment:	-