PROJECT CONCEPT NOTE

CARBON OFFSET UNIT (CoU) PROJECT

Title: Small Scale **Solar Power Projects in Brazil by Bulbe Energia**

Version 2.0

Date:03/09/2025

First CoU Issuance Period: 04 years, 02months

Date: 01/11/2020 to 31/12/2024

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

BASIC INFORMATION	
Title of the project activity	Small Scale Solar Power Projects in Brazil by Bulbe Energia
Scale of the project activity	Large scale
Completion date of the PCN	03/09/2025
Project participants	**Project Owner**: BULBE ENERGIAS RENOVÁVEIS S.A. **Project Aggregator**: Kosher Climate India Private Limited
Host Party	BRAZIL
Applied methodologies and standardized baselines	Applied Baseline Methodology: ACM0002.: "Grid connected electricity generation from renewable sources", version 22.0 Standardized Methodology: Not Applicable
Sectoral scopes	01 Energy industries (Renewable/NonRenewable Sources)
Estimated amount of total GHG emission reductions	61,744CoUs (61,744 tCO_{2eq})

SECTION A. Description of project activity

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

The project 'Solar Power Projects in Brazil by Bulbe Energia' consists of several project activities installed in Brazil, located in the state of Minas Gerais, at the villages Pirapora, Mirabela, Coração de Jesus, Araçuaí, Taiobeiras and Salinas. The promoter of the project is BULBE ENERGIAS RENOVÁVEIS S.A., a company which has the full ownership of the project activity.

The details of the registered project are as follows:

Purpose of the project activity:

The purpose of the project activity is to generate electricity by harnessing the solar energy, making use of solar photovoltaic technology. The proposed project activity involves installation of Solar photovoltaic power generation projects at different locations, with a total capacity of 26.78 MW.

Project Activity	Power Plant Name	Village/State	Energy Source	Installed capacity in MW	Annual generation in MWh/year	Commissioning date
1	Corvina	Pirapora, MG	Solar	4.84	12,590	17/10/2020
2	Mirabela	Mirabela, MG	Solar	4.78	14,212	25/04/2022
3	Coração de Jesus	Coração de Jesus, MG	Solar	2.50	7,213	18/11/2022
4	Jequitinhonha	Araçuaí, MG	Solar	4.78	12,782	07/04/2022
5	Taiobeiras	Taiobeiras, MG	Solar	7.50	20,606	31/12/2022
6	Salinas	Salinas, MG	Solar	2.38	6,199	31/08/2023

Having each power plant an installed capacity equal or under 5 MW, they are classified as *mini-generation* units under the *electricity compensation system* regulated by Brazil's ANEEL (National Electric Energy Agency), in accordance with normative resolutions n. 482/2012, n. 687/2015, and federal law n. 14.300/2022. Under the electricity compensation system, the active energy injected by a consumer unit with distributed mini-generation is transferred, through a free loan, to the local distributor and then subsequently compensated with consumption offsetting.

The Brazilian Distributed Generation (DG) scheme is regulated by the Brazilian National Electric Energy Agency (ANEEL) and was firstly introduced in 2012, by the regulation ANEEL REN 482/2012[1]. After that the scheme was updated in 2015 by the regulation ANEEL REN 687/2015[2], and

[1] https://www2.aneel.gov.br/cedoc/ren2012482.pdf
[2] https://www2.aneel.gov.br/cedoc/ren2015687.pdf

then once again updated and solidified in 2022 by the federal law 14.300/2022[3] and the consequent ANEEL REN 1.059/2023[4]. The main aspects of the DG are:
It is a mechanism for allowing Captive Market consumers to generate energy; Captive Market: different from the Free Market, the Captive Market is the automatic and mandatory option for consumers that are not considered large scale (supplied in 2,3 kV or higher voltage), and in it the consumers are fully supplied by the local energy utility company, which is responsible for the energy supply and also for the energy metering & billing.

- It is restricted to renewable energy sources;
- It is size restricted to up to 3 MW per power plant (as per the update of the federal law 14.300/2022);
- It creates the Compensation System, which allows the energy grid injection and the subsequent compensation in the energy bills, including compensation in facilities other than the one where the generation system is installed;
- It doesn't allow the direct sale of energy; nevertheless, other alternative arrangements have been developed to allow commercial operation

By installing solar plants to offset the consumption of businesses, Project Owner is able to provide them with energy from the Solar Plants within the energy compensation scheme: the generated electricity is injected into the national grid, whereas customers receive credits that are offset in their monthly energy bill. Therefore, the project activity has the purpose of contributing to the transformation of the Brazilian energy matrix through the economic incentives of a clean, renewable, and also cheaper energy source.

Details of substation for each SPVs are given below:

Sl. No	SPV	Name of substation
1	Corvina	SE Pirapora
2	Mirabela I	SE Mirabela I
	Mirabela II	SE MIRABELA
3	Coração de Jesus	SE Coração de Jesus
4	Jequitinhonha I	SE Araçuaí 1
	Jequitinhonha II	SE Araçuaí 1
5	Taiobeiras I	SE Taiobeiras2;
	Taiobeiras II	
	Taiobeiras III	
6	Salinas	SE de Salinas,

Emission reduction and impact of the project activity:

It is expected that the project activity displaces an estimated average of **73,603 MWh/year** from the combined generation of 6 power plants. Over the entire crediting period, project activity will inject **192,820 MWh** of renewable and clean energy into the Brazilian grid, mitigating the total GHG emission reductions of **61,744 tCO_2e**. Project activity, thus, contributes to climate change mitigation efforts.

[3] https://www.planalto.gov.br/ccivil_03/_ato2019-2022/2022/lei/l14300.htm
[4] https://www2.aneel.gov.br/cedoc/ren20231059.pdf

Being a clean renewable energy source, solar power plants cause no negative impact on the environment. The project activity is thus promoting sustainable development, as defined by the United Nations, since economic advancement and progress have been fostered “without compromising the ability of future generations to meet their own needs” (United Nations General Assembly, 1987, p. 43).

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

There is no harm associated with project activity, and hence an environmental impact assessment study is not required by Brazilian regulations: according to the National Environment Council's (CONAMA) Resolution nº 1/1986[5] Electricity generation plants under 10 MW are exempted from preparing an environmental impact study to be submitted for approval by the competent state body. Thus, no mitigation measures are applicable.

With regards to the Local Stakeholder Consultation (LSC), consulting the local population is foreseen by the environmental licensing process: it is decided by the competent local environmental bodies whether a project shall conduct an LSC or not. However, since the individual project activities are small-scale plants with no harm associated with its activity, all 6 project activities were dismissed from the environmental licensing process - which means that, as per the local environmental body, the project activities are not subjected to environmental licensing. And hence, no consultation with local stakeholders took place.

Instead, there are social, environmental, economic and technological benefits which contribute to sustainable development, as described:

Social benefits:

- Employment opportunities created for the local workforce during project's construction and implementation phases;
- Employment opportunities to be created throughout the lifetime of the project activity;
- Development of rural and remote regions around project activity.

Environmental benefits:

- Use of solar energy - a clean energy source - for generating electricity;
- Power generation with zero emission of GHG gases or specific pollutants like SOx, NOx, and SPM;
- Effort to minimize the dependence of the Brazilian energy matrix on fossil fuels;
- Use of solar energy, which is also a renewable energy source, contributes to the conservation of natural resources;
- Minimum impact on land, water and soil at project surroundings.

Economic benefits:

- It fosters clean technology and clean energy investments in Brazil;
- It fosters the business development of local service providers in Brazil;
- Project activity can also provide new opportunities for industries and economic activities to be set in the area around the projects, developing rural and remote regions;
- It promotes energy cost reduction to consumers;
- Success of these kinds of projects will pave the way for the expansion of the shared distribution generation model in the national scenario, and therefore the consolidation of solar photovoltaic energy generation as one of the main sources in Brazil.

In addition to the social, environmental and economic benefits, the project activity also contributes to to the sustainable development though supporting the local community and local economy thereby claiming SDGs 7, 8 and 13.

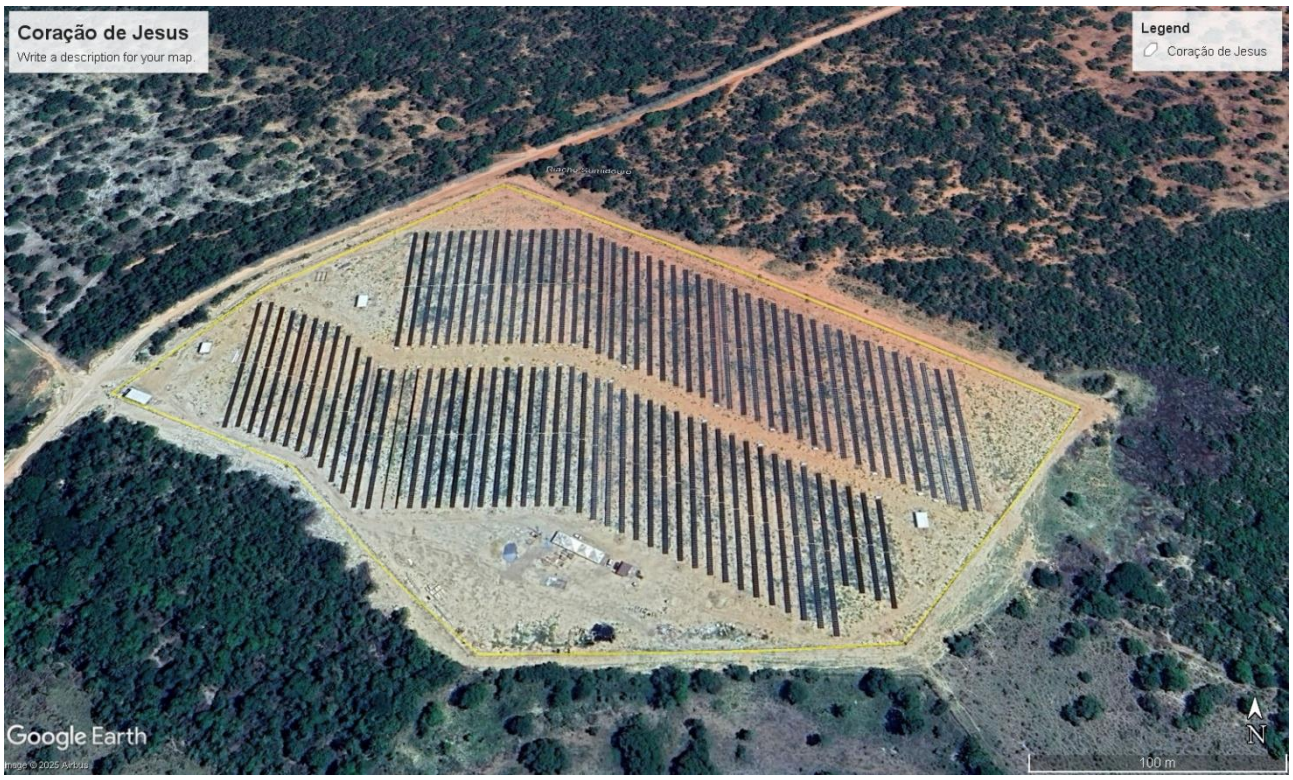
[5] Reference:
https://www2.ima.al.gov.br/wizard/docs/RESOLU%c3%87%c3%83O%20CONAMA%20N%c2%ba001.1986.pdf

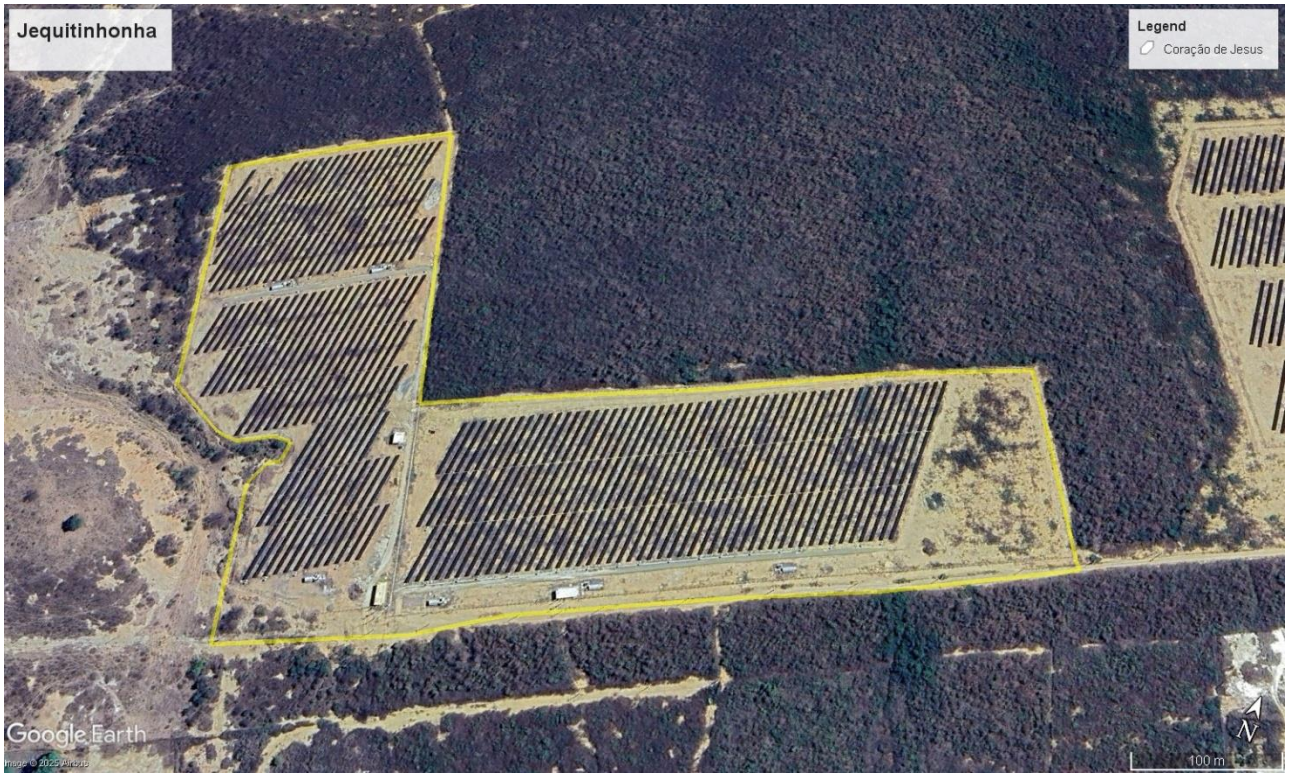
UN-level SDGs	UN-level Target	KPI for the project activity
Goal 7. Ensure access to affordable, reliable, sustainable, and modern energy for all	Increase global percentage of renewable energy.	Amount of renewable energy supplied to grid for consumption.
Goal 8. Promote sustained, inclusive, and sustainable economic growth, full and productive employment and decent work for all	full employment and decent work with equal pay.	Average earning of females and male employees engaged in the project and segregated by age and persons with disabilities.
SDG 13: Take urgent action to combat climate change and its impacts	Integrate climate change measures into national policies, strategies, and planning	Amount of emission reductions achieved by project

A.3. Location of project activity >>

Project activity consists of 6 Solar photovoltaic power generation plants installed at different locations:

Project Activity	Country	State	Village	Latitude	Longitude
1	Brazil	Minas Gerais	Pirapora	-17.334	-44.906
2	Brazil	Minas Gerais	Mirabela	-16.278	-44.211
	Brazil	Minas Gerais	Mirabela	-16.254	-44.202
3	Brazil	Minas Gerais	Coração de Jesus	-16.643	-44.344
4	Brazil	Minas Gerais	Araçuaí	-16.838	-42.034
	Brazil	Minas Gerais	Araçuaí	-16.838	-42.031
5	Brazil	Minas Gerais	Taiobeiras	-15.818	-42.252
	Brazil	Minas Gerais	Taiobeiras	-15.827	-42.140
	Brazil	Minas Gerais	Taiobeiras	-15.825	-42.203
6	Brazil	Minas Gerais	Salinas	-16.168	-42.256





A.4. Technologies/measures >>

Project activity consists of 6 installations at different locations, presenting the following features of technology and measures:

Parameter/	1	2	3	4	5	6

Project Activity						
Number of **PV Modules**	15,000	14,014	7,150	10,608	17,748	5,208
Capacity of **PV Modules**	405 Wp	450 Wp	450 Wp	595 Wp	595 Wp	595 W
Manufacturer/ Model of **PV Modules**	Canadian Solar/CS3 W-405P 1500VHE	Longi Solar/LR4-72 HBD 450 M G2 Bifacial	Longi Solar/LR4-72 HBD 450 M G2 Bifacial	Risen RSM120-8-595BMDG	Risen RSM120-8-595BMDG	Risen RSM120-8-595BMDG
Number of **Inverters**	42	49	25	39	39	12
Capacity of **Inverters**	10 x 121.4 kWp / 8 x 145.8 kWp / 24 x 153.9 kWp	128.7 kWp	128.7 kWp	161.84 kWp	3 x 121.38 kWp 36 x 283.22 kWp	258.23 kWp
Manufacturer/ Model of **Inverters**	10 x HUAWEI SUN2000-100KTL-H1 / 32 x ABB PVS-120-TL	46 x HUAWEI SUN2000-100KTL-H1 / 3x HUAWEI SUN2000-100-93,75-KTL-H1	HUAWEI SUN2000-100KTL-H1	Sungrow SG125HV	3 x HUAWEI SUN2000-100-KTL-H1/ 36 x HUAWEI SUN2000-215-KTL-H3	2 x HUAWEI SUN2000-200_187.5TL-H3/ 10 x HUAWEI SUN2000-200KTL-H3

A.5. Parties and project participants >>

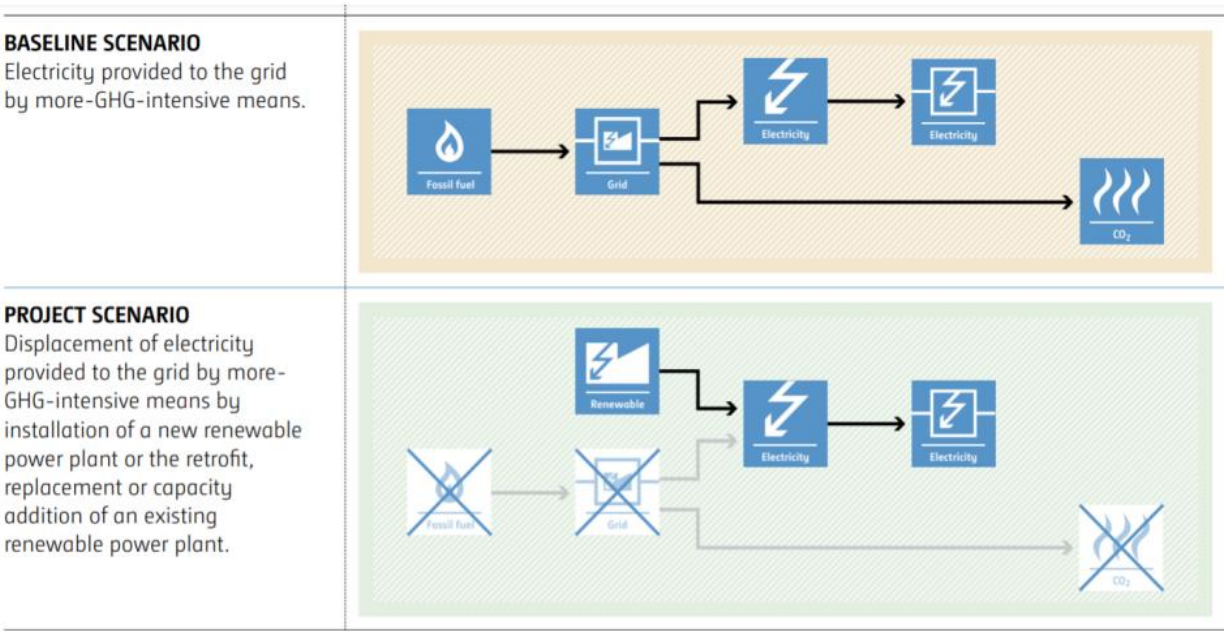
Party (Host)	Participants
Brazil	**Project Owner:** BULBE ENERGIAS RENOVÁVEIS S.A. Address: Street Araguari, 1156, room 803 - Santo Agostinho, Belo Horizonte - MG, Brazil, code 30.190-111
India	**Project Aggregator:** KOSHER CLIMATE INDIA (P) LTD. Address: Zee Plaza, No. 1678, 27th Main Rd Bangalore, Karnataka, India Code 560102 Email: narendra@kosherclimate.com

A.6. Baseline Emissions>>

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

Project activity involves harnessing the power of solar energy to produce electricity and to supply it to the local distributor, subsequently offsetting the energy consumption of the customers. In the absence of the project, the equivalent amount of power would have been supplied by the operation of grid-connected power plants and by the addition of other-more-GHG-intensive generation sources. Therefore, the baseline scenario for the project activity is the equivalent amount of electricity generated from the Brazilian national grid

.



A.7. Debundling>>

The Solar Power Projects in Brazil by Bulbe Energia is not a debundled component of a larger 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 – ACM0002.: "Grid connected renewable electricity generation from renewable sources", version 22.0

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

Applicability Criteria	Applicability status
This methodology is applicable to grid-connected renewable power generation project activities that: (a) install Greenfield power plant; (b) involve a capacity addition to (an) existing plant(s); (c) involve a retrofit of (an) existing plant(s)/unit(s); (d) involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) involve a replacement of (an) existing plant(s)/unit(s).	The project activities are newly installed green field solar energy-based electricity generation projects connected to the national grid. Therefore, it confirms to the said criteria.
In case the project activity involves the integration of a BESS, the methodology is applicable to grid-connected renewable energy power generation project activities that: (a)Integrate BESS with a Greenfield power plant; (b) Integrate a BESS together with implementing a capacity addition to (an) existing solar photovoltaic1 or solar power plant(s)/unit(s); (c) Integrate a BESS to (an) existing solar photovoltaic or solar power plant(s)/unit(s) without implementing any other changes to the existing plant(s); (d) Integrate a BESS together with implementing a retrofit of (an) existing solar photovoltaic or solar power plant(s)/unit(s).	The project activity involves the installation of a new grid connected renewable solar power projects and does not involve the integration of a Battery Energy Storage System (BESS). This condition is not applicable for the project activities.
The methodology is applicable under the following conditions: (a) Hydro power plant/unit with or without reservoir, solar power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit; (b) In the case of capacity additions, retrofits, rehabilitations or replacements (except for solar, solar, wave or tidal power capacity addition projects) the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity; (c) In case of Greenfield project activities applicable under paragraph 5 (a) above, the project participants shall demonstrate that the BESS was an integral part of the design of the renewable energy project activity (e.g., by referring to feasibility studies or investment decision documents); (d) The BESS should be charged with electricity generated from the associated renewable energy power plant(s). Only during exigencies 2 may the BESS be charged with electricity from the grid or a fossil fuel electricity generator.	The project activities involve the installation of solar power plant/unit without BESS integration. Therefore, the said criteria is not applicable.

In such cases, the corresponding GHG emissions shall be accounted for as project emissions following the requirements under section 5.4.4 below. The charging using the grid or using fossil fuel electricity generator should not amount to more than 2 per cent of the electricity generated by the project renewable energy plant during a monitoring period. During the time periods (e.g., week(s), months(s)) when the BESS consumes more than 2 per cent of the electricity for charging, the project participant shall not be entitled to issuance of the certified emission reductions for the concerned periods of the monitoring period.	
In case of hydro power plants, one of the following conditions shall apply: (a) The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of reservoirs; or (b) The project activity is implemented in an existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density calculated using equation (3) is greater than 4 W/m2; or (c) The project activity results in new single or multiple reservoirs and the power density calculate equation (3), is greater than 4 W/m2. (d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density of any of the reservoirs, calculated using equation (3), is lower than or equal to 4 W/m2, all of the following conditions shall apply. (i) The power density calculated using the total installed capacity of the integrated project, as per equation (4) is greater than 4W/m2; (ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity; (iii) Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m2shall be: (a) Lower than or equal to 15 MW; and Less than 10% of the total installed capacity of integrated hydro power project.	The project activities involve the installation of a solar power plant/unit. Therefore, the said criteria is not applicable.
In the case of integrated hydro power projects, project proponent shall: (a) Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability indifferent seasons to optimize the water flow at the inlet of power units. Therefore, this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum five years prior to	The project activities involve the installation of a solar power plant/unit. Therefore, the said criteria is not applicable.

implementation of CDM project activity.	
The methodology is not applicable to: (a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site. (b) Biomass fired power plants;	a) The project activities involve the installation of new solar power plant/unit. Which does not involve switching of grid-connected power plant. b) The project activities involve the installation of new solar power plant and not Biomass fired power plant. Therefore, the said criteria is not applicable.
In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, that is to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance".	The project activities involve the installation of new solar power plant/unit that does not involve retrofits, rehabilitations, replacements, or capacity additions. Therefore, the said criteria is not applicable

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

There is no double counting of emission reductions for the project activities due to the following reasons:

• Installations are uniquely identifiable based on its location coordinates;
• Project has dedicated commissioning certificates and connection points;
• Project is associated with energy meters which are dedicated to the consumption point for project developers.

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

The project boundary includes the physical, geographical sites of the solar modules, sub-stations, grid and all power plants connected to the national grid. The project activity will evacuate power to the Brazilian National Grid. Therefore, the entire Brazilian national grid and all connected power plants have been considered in the project boundary for the project activities.

Scenario	Source	GHG	Included?	Justification/Explanation
Baseline	Electricity generation in fossil fuel fired power that is dispatched due to the project activity	CO_2	Yes	Main emission source
		CH_4	No	Not identified in the baseline methodology
		N_2O	No	Not identified in the baseline methodology
Project Activity	Electricity generation in the project activity	CO_2	No	Zero-emissions grid connected electricity generation from renewable energy
		CH_4	No	Zero-emissions grid connected electricity generation from renewable energy

		N_2O	No	Zero-emissions grid connected electricity generation from renewable energy

B.5. Establishment and description of baseline scenario (UCR protocol)>>

As per the methodology ACM0002, Version 22.0, 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 new solar power plants to harness the power of solar energy and inject electricity into the Brazilian regional grid. In the absence of the project activity, the equivalent amount of power would have been generated by the operation and/or insertion of more- GHG-intensive grid-connected power plants. Hence, the baseline for the project activity is the equivalent amount of power produced at the Brazilian grid.

A "grid emission factor" refers to a CO_2 emission factor (tCO_2/MWh) which will be associated with each unit of electricity provided by an electricity system. As per the most recent data from Brazil's Ministry of Science, Technology and Innovation[6] (data of 2024) and the proper calculation methodology, the grid emission factor of Brazil is **0.349 tCO_2/MWh**.

Net GHG Emission Reductions and Removals:

$$ERy = BEy – PEy – LEy$$

Where:
ERy = Emission reductions in year y (tCO_2/y)
BEy = Baseline Emissions in year y ($t\ CO_2/y$)
PEy = Project emissions in year y (tCO_2/y)
LEy = Leakage emissions in year y (tCO_2/y)

Baseline Emissions:

Baseline emissions include only CO_2 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:

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

[6] https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/cgcl/paginas/Despacho_2024_jandezcomcorrees_FE_MC.xlsx

Where:

BEy = Baseline emissions in year y (t CO_2)
$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of this project activity in year y (MWh)
$EF_{grid,y}$ = Brazilian Ministry of Science and Technology recommends an emission factor of 0.2956 tCO_2/MWh.

As per para 59 of ACM0002, version 22.0, when the project activity is installation of Greenfield power plant, then:

$$EG_{PJ,y} = EG_{facility,y}$$

Where,

$EG_{PJ,y}$ = 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/yr)

$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)

Project Emissions:
As the project activity consists of the installation of a new grid-connected solar power plant and does not involve any project emissions from fossil fuel, operation of dry, flash steam or binary geothermal power plants, and from water reservoirs of hydro power plants. Therefore, project emissions are:

$$PEy = 0.$$

Where,
PE_y = Project emissions in year y (t CO_2e/yr)

Leakage Emissions:
No other leakage emissions are considered. The emissions potentially arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. Extraction, processing, transport etc.) are neglected.

Hence Emission reductions will be calculated as per the below equation:

$$ERy = BEy = EG_{PJ,y} \text{ x } EF_{grid,CM,y}$$

The estimated emission reduction achieved during the crediting period has been demonstrated below as a part of first monitoring and verification. However, for the purpose of an ex-ante estimation, following calculation has been submitted:

Project Activity -1
Estimated baseline emission reductions (BEy)

= 53015.97MWh/year x 0.3649 tCO_2/MWh
= 19,345 tCO_2/year (i.e., 19,345CoUs/year)

Project Activity -2
Estimated baseline emission reductions (BEy)

= 38859.11 MWh/year x 0.3040 tCO_2/MWh
= 11,814 tCO_2/year (i.e., 11,814 CoUs/year)

Project Activity -3
Estimated baseline emission reductions (BEy)

= 15295.51MWh/year x 0.3040 tCO_2/MWh
= 4,650 tCO_2/year (i.e., 4,650CoUs/year)

Project Activity -4
Estimated baseline emission reductions (BEy)

= 34,951.873 MWh/year x 0.3040tCO_2/MWh
= 10,625tCO_2/year (i.e., 10,625CoUs/year)

Project Activity -5
Estimated baseline emission reductions (BEy)

= 42,171 MWh/year x 0.3040 tCO_2/MWh
= 12,820.0tCO_2/year (i.e., 12,820.0CoUs/year)

Project Activity -6
Estimated baseline emission reductions (BEy)

= 8525.75 MWh/year x 0.2956 tCO_2/MWh
= 2,490tCO_2/year (i.e,2,490CoUs/year)

Estimated Emissions Reduction - First CoUs Issuance Period: from 16/10/2020 to 31/12/2024					
Project Activity	**Annual generation (MWh/year)**	**Commissioning Date**	**Estimated Generation of 1st Issuance (MWh)**	**Grid Emission Factor (tCO_2/MWh)**	**Estimated Total of CoUs 1st Issuance (tCO_2)**
1	12,590	16/10/2020	53015.97	0.3649	19345.0
2	14,212	08/04/2022	38859.11	0.3040	11814.0
3	7,213	18/11/2022	15295.51	0.3040	4650.0
4	12,782	08/04/2022	34949.14	0.3040	10625.0
5	20,606	15/12/2022	42171.73	0.3040	12820.0
6	6,199	17/08/2023	8525.75	0.2490	2490

Estimated Annual or Total baseline emission reductions (BEy) = 61,744 CoUs/year (61,744tCO_2e/ yr)

B.6. Prior History>>

The project activity has not applied to any other GHG program for generation or issuance of carbon

offsets or credits for the said crediting period.

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

The start date of crediting under UCR is considered as 01/11/2020.

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: 04 years, 02 months - **01/11/2020 to 31/12/2024**

B.8. Monitoring plan>>

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

Data / Parameter:	$EG_{PJ,y}$
Data unit:	MWh/year
Description:	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of this project activity in year y (MWh)
Source of data:	PVSyst
Measurement procedures (if any):	The Net electricity generation by the Solar power plant is recorded by the project proponent in the record logs. At the end of every month, Energy bill is generated based on the total monthly electricity exported to the grid.
Monitoring frequency:	Monthly
QA/QC procedures:	Cross Checking: Quantity of net electricity supplied to the grid will be cross checked from the invoices raised by the project participant to the grid.
Any comment:	-

Data and Parameters available during monitoring (ex-post values):

Data/Parameter	Brazilian Government recommended emission factor
Data unit	tCO_2/MWh
Description	A "grid emission factor" refers to a CO_2 emission factor (tCO_2/MWh) which will be associated with each unit of electricity provided by an electricity system. The Brazilian Ministry of Science, Technology and Innovation publishes yearly emission factors for the energy generation. Applying the referred methodology calculations, the applicable estimated emission factor is 0.349 tCO_2/MWh
Source of data Value(s) applied	0.349
-	Emission Factor will be monitored and updated, as published by the Ministry of Science, Technology and Innovation.
Monitoring frequency	Ex-ante fixed parameter
Purpose of data	Calculation of Emission Factor of the grid