

المجلس العالمي للبصمة الكربونية
GLOBAL CARBON COUNCIL



**Project
Submission
Form**

V4.0- 2022

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COVER PAGE- Project Submission Form (PSF)											
<i>Complete this form in accordance with the instructions attached at the end of this form.</i>											
BASIC INFORMATION											
Title of the Project Activity as per LON/LOA	Coromandel Renewable Energy Project										
PSF version number	1.2										
Date of completion / Updating of this form	08-February-2023										
Project Owner(s) as per LON/LOA <small>(Shall be consistent with De-registered CDM Type B Projects)</small>	Usina de Energia Fotovoltaica de Coromandel S.A Mercury Renew Participações S.A. Elgesa Holdings e Participações Ltda. Sunrise Energy Holding Ltda.										
Country where the Project Activity is located	Brazil										
GPS coordinates of the project site(s)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">UFV</th> <th style="width: 33%;">Latitude</th> <th style="width: 33%;">Longitude</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Coromandel 1</td> <td style="text-align: center;">18°25'10.87"S 18.4196S</td> <td style="text-align: center;">47°3'49.00"W 47.0636W</td> </tr> <tr> <td style="text-align: center;">Coromandel 2</td> <td style="text-align: center;">18°24'59.87"S 18.4166S</td> <td style="text-align: center;">47°3'23.31"W 47.0564W</td> </tr> </tbody> </table>		UFV	Latitude	Longitude	Coromandel 1	18°25'10.87"S 18.4196S	47°3'49.00"W 47.0636W	Coromandel 2	18°24'59.87"S 18.4166S	47°3'23.31"W 47.0564W
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Coromandel 2	18°24'59.87"S 18.4166S	47°3'23.31"W 47.0564W									
Eligible GCC Project Type as per the Project Standard <small>(Tick applicable project type)</small>	<input checked="" type="checkbox"/> Type A: <input type="checkbox"/> Type A1 <input type="checkbox"/> Type A2 <input type="checkbox"/> Sub-Type 1 <input type="checkbox"/> Sub-Type 2 <input type="checkbox"/> Sub-Type 3 <input type="checkbox"/> Sub-Type 4										

	<input checked="" type="checkbox"/> Type A3 <input type="checkbox"/> Type B – De-registered CDM Projects: ¹ <input type="checkbox"/> Type B1 <input type="checkbox"/> Type B2
Minimum compliance requirements	<input checked="" type="checkbox"/> Real and Measurable GHG Reductions <input checked="" type="checkbox"/> National Sustainable Development Criteria (if any) <input checked="" type="checkbox"/> Apply credible baseline and monitoring methodologies <input checked="" type="checkbox"/> Additionality <input checked="" type="checkbox"/> Local Stakeholder Consultation Process <input checked="" type="checkbox"/> Global Stakeholder Consultation Process <input checked="" type="checkbox"/> No GHG Double Counting <input checked="" type="checkbox"/> Contributes to United Nations Sustainable Development Goal 13 (Climate Action)
Choose optional and additional requirements <small>(Tick applicable label categories)</small>	<input checked="" type="checkbox"/> Do-no-net-harm Safeguards to address Environmental Impacts <input checked="" type="checkbox"/> Do-no-net-harm Safeguards to address Social Impacts <input checked="" type="checkbox"/> Contributes to United Nations Sustainable Development Goals (in addition to Goal 13)
Applied methodologies including version No. <small>(Shall be approved by the GCC or the CDM)</small>	Large-Scale Consolidated Methodology ACM0002 – Grid-connected electricity generation from renewable sourcesV21.0 ²
GHG Sectoral scope(s) linked to the applied methodology(ies)	GHG-SS 1 – Energy (renewable / non-renewable sources)

¹ Owners of Type B projects shall fill in the form provided in Appendix 7.

² Available at: <<https://cdm.unfccc.int/methodologies/DB/HF3LP6O41YY0JIP1DK6ZRJO9RSCX3S>>.

Applicable Rules and Requirements for Project Owners (Tick applicable Rules and Requirements)	Rules and Requirements		Version	
	<input checked="" type="checkbox"/> ISO 14064-2			
<input checked="" type="checkbox"/> Applicable host country legal requirements /rules				
<input checked="" type="checkbox"/> GCC Rules and Requirements ³	<input checked="" type="checkbox"/> Project Standard		V3.1	
	<input type="checkbox"/> Approved GCC Methodology			
	<input checked="" type="checkbox"/> Program Definitions			V3.1
	<input checked="" type="checkbox"/> Environment and Social Safeguards Standard			V3.0
	<input checked="" type="checkbox"/> Project Sustainability Standard			V3.1
	<input checked="" type="checkbox"/> Instructions in Project Submission Form (PSF)-template			V4.0
	<input checked="" type="checkbox"/> Clarification No. 01			V1.3
	<input type="checkbox"/> Clarification No. 02			
	<input type="checkbox"/> Clarification No. 03			
	<input type="checkbox"/> Clarification No. 04			
	<input type="checkbox"/> Clarification No. 05			
	<input checked="" type="checkbox"/> Standard on avoidance of double counting			V1.0
	<input type="checkbox"/> Add rows if required			
<input checked="" type="checkbox"/> CDM Rules ⁴	<input checked="" type="checkbox"/> Approved CDM Methodology (ACM0002 – Grid-connected electricity generation from renewable sources)	V21.0		
	<input checked="" type="checkbox"/> TOOL 1- Tool for the demonstration and assessment of additionality	V7.0.0		
	<input type="checkbox"/> TOOL 02- Combined tool to identify the baseline			

³ GCC Program rules and requirements: <http://www.globalcarboncouncil.com/resource-centre/>

⁴ CDM Program rules: <https://cdm.unfccc.int/Reference/index.html>

	scenario and demonstrate additionality	
	<input checked="" type="checkbox"/> TOOL 07- Tool to calculate the emission factor for an electricity system	V07.0
	<input type="checkbox"/> TOOL 19- Demonstration of additionality of microscale project activities	
	<input type="checkbox"/> TOOL 21- Demonstration of additionality of small-scale project activities	
	<input type="checkbox"/> TOOL 23- Additionality of first-of-its-kind project activities	
	<input checked="" type="checkbox"/> TOOL 24- Common practice	V3.1
	<input checked="" type="checkbox"/> TOOL 27- Investment analysis	V12.0
	<input type="checkbox"/> TOOL 32- Positive lists of technologies	
	<input type="checkbox"/> Guidelines for objective demonstration and assessment of barriers	
	<input type="checkbox"/> Add rows if required	
<p>Choose Third Party Project Verification by approved GCC Verifiers⁵</p> <p>(Tick applicable verification categories)</p>	<input checked="" type="checkbox"/> GHG emission reductions (i.e., Approved Carbon Credits (ACCs)) <input checked="" type="checkbox"/> Environmental No-net-harm Label (E⁺) <input checked="" type="checkbox"/> Social No-net-harm Label (S⁺) <input checked="" type="checkbox"/> United Nations Sustainable Development Goals (SDG⁺) <input type="checkbox"/> Bronze SDG Label <input type="checkbox"/> Silver SDG Label <input type="checkbox"/> Gold SDG Label <input type="checkbox"/> Platinum SDG Label	

⁵ **Note:** GCC Verifiers under the Individual Track are not eligible to conduct verifications for GCC Project Activities whose owners intend to supply carbon credits (ACCs) for use within CORSIA.

	<input checked="" type="checkbox"/> Diamond SDG Label <input checked="" type="checkbox"/> CORSIA requirements (C*) <input checked="" type="checkbox"/> Host Country Attestation on Double counting ⁶
<p>Declaration by the ‘Authorized Project Owner⁷ and focal point’</p> <p>(Tick all applicable statements⁸)</p>	<p>The Project Owner(s) declares that:</p> <p>Generic Requirements applicable to all Project Types:</p> <p><input checked="" type="checkbox"/> We confirm that the Project Activity complies with the eligibility of the applicable project type (A1, A2, A3, B1 or B2) as stipulated by the Project Standard and relevant clarifications.</p> <p><input checked="" type="checkbox"/> We confirm that the Project Activity shall start or have started operations, and shall start or have started generating emission reductions, on or after 1 January 2016.</p> <p><input checked="" type="checkbox"/> We confirm that the Project Activity is eligible to be registered under the GCC program.</p> <p>We shall ensure the following for the Project Activity (tick at least one of the two options):</p> <p><input checked="" type="checkbox"/> No outcomes (e.g. emission reductions, environmental attributes) generated by the Project Activity under GCC will be claimed as carbon credits or environmental attributes under any other GHG/non-GHG⁹ program, either for compliance or voluntary purposes, during the entire GCC crediting period; or</p> <p><input checked="" type="checkbox"/> If the project activity has been issued with carbon credits or environmental attributes of compensating nature¹⁰ by any other GHG/ non-GHG program, either for compliance or voluntary purposes, the ACCs will be claimed only for the remaining crediting period (subject to a maximum of 10 years of crediting period including the periods under other programs and GCC program) for which carbon credits/ environmental attributes of compensating nature have not been issued by any other GHG/ non-GHG program.</p> <p>Specific requirements applicable to respective Project Types:</p> <p><i>For Project Type A1:</i></p>

⁶ Will be submitted after project validation, during the verification process.

⁷ The Project Owner means the legal entity or organization that has overall control and responsibility for the Project Activity

⁸ **Consequences in case of Non-compliance with declaration statements:**

If at any point of time non-compliance with the declared statements is established as a result of negligence, fraud or wilful misconduct of the GCC Project Owner/s the GCC project activity will be dsqualified and the registration of the proposed Project Activity will be rejected.

⁹ Non-GHG program could be such as I-REC facilitating reliable energy claims with Renewable Energy Certificate (REC) schemes

¹⁰ The environment attributes of compensating nature are those which are used by captive users (e.g. corporates/industries) for offsetting their GHG emissions

For Project Type A1, we confirm that the Project Activity is NOT registered as a GHG Project Activity in any other GHG/non-GHG program or any other voluntary program and has not issued or will not issue credits under any other program.

For Project Type A2 (Sub-Type 1):

For Project Type A2 Sub-Type 1, we confirm that the Project Activity is NOT registered as a GHG Project Activity in any other GHG/non-GHG program or any other voluntary program and has not issued or will not issue credits under any other program.

For Project Type A2 (Sub-Type 2 or Sub-Type 3):

For Project Type A2 Sub-Type 2 or Project Type A2 Sub-Type 3, we confirm that for Project Activity, which has been registered with CDM or any GHG/non-GHG Program and we shall (tick at least one of the two options):

- Submit a proof for deregistration from CDM; or
- Submit a signed & stamped public undertaking, stating that the Project Owner will never submit any request for Issuance of ACCs or request for renewal of crediting period to CDM-EB or under article 6.4 or any authority after submission to GCC Program and shall formally inform CDM-EB or authority under article 6.4 or any authority after submission to GCC Program.
- For Project Type A2 Sub-Type 2 or Project Type A2 Sub-Type 3, we confirm that the Project Activity is NOT included as a component Project Activity (CPA) in any registered GHG Programme of Activities (PoA) or any other functionally equivalent grouped/aggregated activities under any GHG program (such as the CDM or any other voluntary program).

For Project Type A2 (Sub-Type 4):

For Project Type A2 Sub-Type 4, we confirm that the Project Activity has been included in a registered CDM-POA and we shall (tick at least one of the two options):

- Submit the proof for exclusion of CPA(s) from registered CDM-POA prior to the date of initial submission to the GCC Program; or
- Submit the proof of exclusion of CPA(s) from the registered CDM-PoA after the request for registration has been submitted to GCC Program but before the final decision is made by the GCC Steering Committee.

For Project Type A3:


For Project Type A3, we confirm that the Project Activity is NOT registered as a GHG Project Activity in any other GHG/non-GHG program or any other voluntary program and has not issued or will not issue credits under any other program.

	<p><u>For Project Type B1 or B2:</u></p> <p>For Project Type B1 or Project Type B2, we confirm that for Project Activity, which has been registered with CDM or any GHG/non-GHG Program and we shall (tick at least one of the two options):</p> <p><input type="checkbox"/> Submit a proof for deregistration from CDM; or</p> <p><input type="checkbox"/> Submit a signed & stamped public undertaking, stating that the Project Owner will never submit any request for Issuance of ACCs or request for renewal of crediting period to CDM-EB or under article 6.4 or any authority after submission to GCC Program and shall formally inform CDM-EB or authority under article 6.4 or any authority after submission to GCC Program.</p> <p>Requirements to avoid double counting:</p> <p>We intend to submit or have submitted a written attestation¹¹ (Host Country Letter of Authorisation - HCLOA) from the host country's national focal point or focal point designee for CORSIA eligible units generated beyond 31 December 2020 at the following stages¹² (tick at least one of the three options):</p> <p><input type="checkbox"/> The initial submission for GSC; or</p> <p><input checked="" type="checkbox"/> Along with the submission for a request for registration (after Project Verification is completed); or</p> <p><input type="checkbox"/> Along with the submission for a request for the first or subsequent issuance of ACCs.</p> <p>Project specific requirements:</p> <p><u>CORSIA specific requirements:</u></p> <p><input checked="" type="checkbox"/> We confirm that bundled projects or grouped projects shall have registered crediting period starting on or after 1 Jan 2016 for the grouped/aggregated project as a whole.</p> <p><input checked="" type="checkbox"/> We confirm that the Project Activity meets all the requirement of the CORSIA Eligible Emissions Units¹³ required for GCC projects and does not fall under the excluded unit types, methodologies, programme elements, and/or procedural classes.</p> <p><input checked="" type="checkbox"/> We confirm that the Project Activity aims to achieve at least Silver or higher SDG+ label (i.e. positively impact at least 3 or more United Nations Sustainability Development Goals).</p>
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¹¹In case of any change of Host Country Letter of Authorisation (HCLOA) the project owner shall inform the GCC operations team immediately

¹²If the host country attestation is not submitted at the initial submission of GSC, the project can be tagged with an indicative CORSIA flag if its confirmed to be submitted later. If the host country attestation is not submitted at the request for registration, the project can be tagged with an indicative CORSIA flag if at least the PSF and Verification Report confirms to submit this letter, at first issuance. If the host country attestation is not submitted at request for first issuance, the ACCs will not be tagged as CORSIA (C+) compliant if this letter is not submitted.

¹³CORSIA Eligible Emissions Units containing approval and conditions for GCC Program: <https://www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-Emissions-Units.aspx>

	<input checked="" type="checkbox"/> We confirm that the Project Activity will be implemented in a country which is UN member state ¹⁴ . Provide details (if any) below for the boxes ticked above:
	The Project Owner(s) declares that: <input checked="" type="checkbox"/> All of the information provided in this document, including any supporting documents submitted to the GCC or its registry operator IHS Markit at any time, is true and correct; <input checked="" type="checkbox"/> They understand that a failure by them to provide accurate information or data, or concealing facts and information, can be considered as negligence, fraud or wilful misconduct. Therefore, they are aware that they are fully responsible for any liability that arises as a result of such actions. Provide details below for the boxes ticked above
Appendixes 1-9	Details about the Project Activity are provided in Appendixes 1 through 9 to this document.
Name, designation, date and signature of the Focal point (as per LON/LOA)	On behalf of Usina de Energia Fotovoltaica de Coromandel S.A Daniel Yoshio Shinohara Director  08-February-2023

¹⁴ The list of UN member states countries can be found at <https://www.un.org/en/about-us/member-states>

1. PROJECT SUBMISSION FORM

Section A. Description of the Project Activity

A.1. Purpose and general description of the Project Activity

>> The proposed project activity consists in the implementation and operation of a solar photovoltaic electricity generation facility named Coromandel Renewable Energy Project.

With a nominal power of 60 MW, the photovoltaic plant occupies a total area of 193,21ha and is divided into two (02) plants called UFV Coromandel 1 and UFV Coromandel 2. The operation is located in Fazenda Bonito de Baixo, municipality of Coromandel, in the Triangle Region of State Minas Gerais, Brazil.

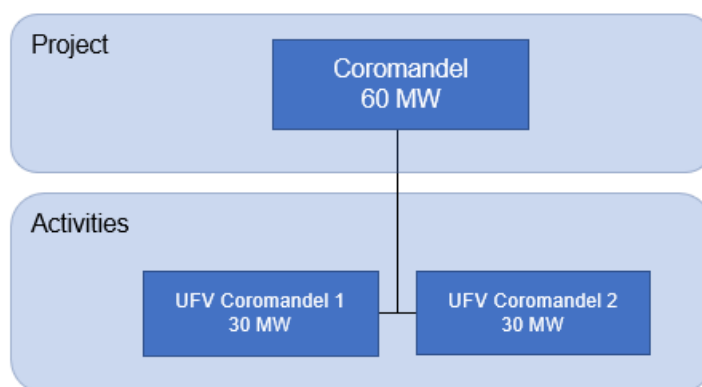


Figure 1 – Project Configuration.

The project will expand the energy supply using the sun, a renewable and clean source, and contribute to the indispensable growth of the country's energy supply. The table below summarizes the main features of the project's power plants.

Table 1 – Coromandel Renewable Energy Project details.

Project	Facility	Type	Municipality	Power Capacity (MW)	Total Power Capacity (MW)
Coromandel	UFV Coromandel 1	Solar	Coromandel/ MG	30	60
	UFV Coromandel 2			30	

The project activity will deliver 168,140 MWh/year of renewable electricity to the National Interconnected System (Sistema Interligado Nacional - SIN). In the baseline scenario, electricity delivered to the grid by the project activity would have been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations. Hence, the project activity will promote GHG emissions reductions by displacing fossil fuel-based electricity generation that would otherwise occur.

The project boundary includes CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. Project and leakage emissions are not expected. The project activity contributes to the host country's sustainable development in the following ways:

- Contribution to local environmental sustainability: the project activity will produce renewable electricity from low environmental impact power plants.
- Contribution to the net workplace generation: new job posts were created by the project activity, especially during implementation.
- Contribution towards the diversification of the electric mix and towards energetic security: solar energy can provide a similar output throughout the year, with little variation, especially in regions close to the Equator, as the Brazilian Northeast. Hence, solar electricity generation is complementary to hydroelectricity, which is seasonal, and thus contributes to ensuring the supply of renewable electricity throughout the year. Therefore, solar energy reduces the dependence upon fossil fuels during the dry season.
- Contribution to technological learning and technological development: this type of project can stimulate similar initiatives inside the Brazilian energy sector and encourage the development of modern and more efficient renewable energy units throughout Brazil.

Main goals of the Complex project include:

- Utilization of the solar potential of Brazil in order to meet increasing electricity demand and maintain energy security.
- Reduction of GHG emissions through increasing share of renewable.
- Contribution to economic development by creating direct and indirect job opportunities during construction and operation phases.
- Reduction of import dependency on fossil fuel weighed electricity sector and diversify generation mix through use of local resources.
- Contribution to sustainable development through supporting local communities and local economy.

In terms of local benefits, the project mainly contributes to the reductions of fossil fuel in thermoelectric industries.

The project contributes to 7 (seven) SDGs which are SDG 1, 7, 8, 9, 10, 11 and 13.

- SDG 1 No Poverty: The project contributes to SDG Target 1.2.1 - Proportion of the population living below the national poverty line, by sex, age, employment status and geographic location

(urban/rural), by creating direct and indirect employment opportunities, including long term job posts.

- **SDG 7 Energy:** The project contributes to SDG Target 7.2 “By 2030, increase substantially the share of renewable energy in the global energy mix” by the utilization of biomass as a renewable energy source.
- **SDG 8 Economic Growth:** The project creates direct and indirect employment opportunities during construction and operation phases, so it contributes to SDG Target 8.5 “By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities and equal pay for work of equal value”.
- **SDG 9 Infrastructure, Industrialization:** SDG Target 9.4 requires “By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities”. The project helps the Target 9.4 by implementing a clean, reliable and environmental-friendly infrastructure for clean energy production / up-to-date industrialization.
- **SDG 10 Reduce inequality within and among countries:** Target 10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality.
- **SDG 11 Sustainable Cities and Communities:** The project helps SDG Target 11.6 “By 2030, reduce the adverse per capita environmental impacts of cities, including by paying special attention to air quality and municipal and other waste management.” by decreasing particulate matter caused by fossil fuel emissions in the cities.
- **SDG 13 Climate Change:** The project produces clean renewable energy by diminishing CO₂ emissions. Therefore, it contributes SDG Target 13.2 “Integrate climate change measures into national policies, strategies and planning”.

In addition, the table below provide the main information regarding the total emission reductions estimates as well as annual estimates average emission reductions of the Coromandel Renewable Energy Project

Table 1 - Emission reductions estimates

Years	Annual estimation of emission reductions in tonnes of CO₂e
2022	6,479
2023	77,747
2024	77,747
2025	77,747
2026	77,747
2027	77,747
2028	77,747

2029	77,747
2030	77,747
2031	77,747
2032	71,268
Total estimated reductions (tonnes of CO₂e)	777,471
Total number of crediting years	10
Annual average over the crediting period of estimated reductions (tonnes of CO₂e)	77,747

Approved Carbon Credits are being claimed under the Global Carbon Council, proportional to the expected emission reductions resulting from the project operation. Future Carbon Group (www.futurecarbon.com.br) is supporting Usina de Energia Fotovoltaica de Coromandel S.A as a carbon project developer, for the project registration and ACC verification under GCC.

A.2. Location of the Project Activity

>> The project is located in Fazenda Bonito de Baixo, in the municipality of Coromandel, State of Minas Gerais, Brazil. The table below shows the address and geodetic coordinates of the physical site of the Project Activity.

Table 3 - Address and geodetic coordinates of the project activity

Physical address	UFV	Latitude	Longitude
Coromandel a Patos de Minas Highway, Km 22, Zip Code 38550-000, Coromandel, Minas Gerais State.	Coromandel 1	18°25'10.87"S 18.4196S	47°3'49.00"W 47.0636W
	Coromandel 2	18°24'59.87"S 18.4166S	47°3'23.31"W 47.0564W

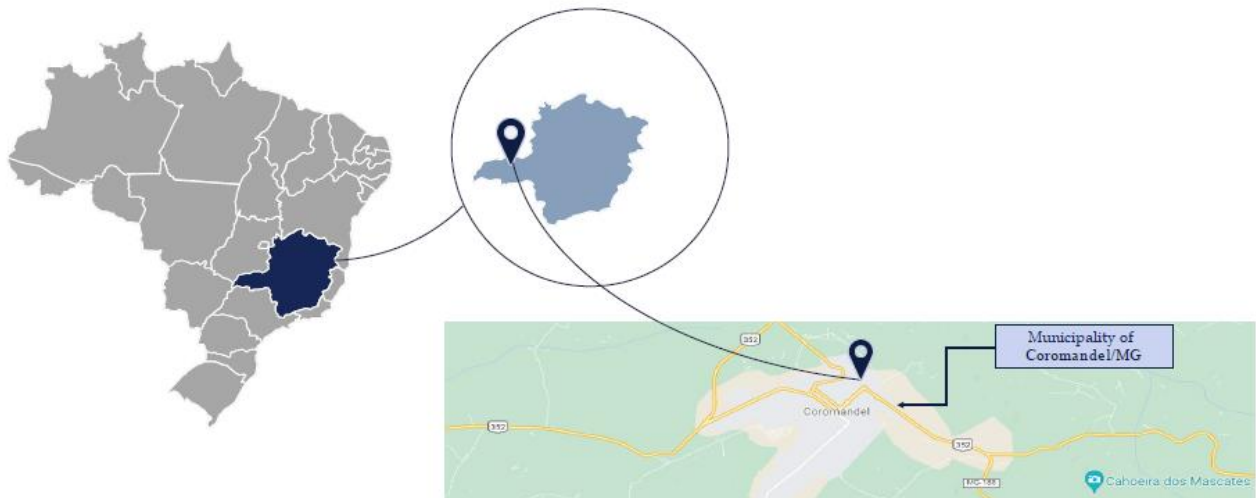


Figure 2 – Project geographic location in country, state and city context.



Figure 3 - Geographic location of the project activity.

A.3. Technologies/measures

>> Photovoltaic solar energy is obtained by converting sunlight into electricity using a technology based on the photoelectric effect. It is a type of renewable, inexhaustible, and non-polluting energy that can be produced in installations ranging from small generators for self-consumption to large photovoltaic plants.

Environmental pros of solar bases electricity generation recognizably include contribution for atmospheric emissions reduction (including non-GHG gases) by thermoelectric plants, smaller demand for the construction of new hydropower plants reservoirs, and the reduction of the risk derived from hydrological seasonality.

As mentioned, the proposed project activity consists in the implementation and operation of a complex of solar photovoltaic power plant.

The Solar Photovoltaic Power Plant consists of 2 new solar facilities:

- UFV Coromandel 1
- UFV Coromandel 2

Both complexes were built at sites where no electricity generation facilities existed prior to the implementation of the project activity. The Table below summarizes the information about each electricity generation facilities with the current plant load factor of the project activity.

Table 4. Main features of the project

Coromandel	
Configuration	North-South Axis Tracking, 1 Module in Portrait
	STI - H250 1P / Dual Row, $\pm 55^\circ$ Range of Motion, Backtracking, 1.35 m AGL
	Azimuth of 0° from True North
	Collector: 2.3 m Pitch: 6 m (GCR of 37.6%)
PV Module	Longi Solar LR5-72HBD-540M (Monocrystalline PERC, Bifacial)
Inverter	Sungrow SG3125-HV-20-manual
DC/AC Capacity (@ 45 °C)	41.7 MWDC / 30.9 MWAC
POI	30.0

A.4. Project Owner(s)

Location/ Country	Project Owner(s)	Where applicable ¹⁵ , indicate if the host country has provided approval (Yes/No)
Brazil	Usina de Energia Fotovoltaica de Coromandel S.A	No ¹⁶

A.5. Declaration of intended use of Approved Carbon Credits (ACCs) generated by the Project Activity

>> The Project Activity is expected to generate ACCs for a full 10-year crediting period and supply the credits to offset the following GHG emissions:

Period		Name of the Entities	Purpose and Quantity of ACCs to be supplied
From	To		
14/11/2022 ¹⁷	13/11/2032	Usina de Energia Fotovoltaica de Coromandel S.A	For offsetting Greenhouse gases 777,471 tCO ₂ e for 10-year period

The project owner confirms that the ACC's generated from the project will not be double counted in any other mechanism.

A.6. Additional requirements for CORSIA

>> The project activity will not cause any net harm with regards to environmental and social impacts and there is a positive score in the assessment of these safeguards. Also, it will contribute to SDGs and the ACCs generated will likely be certified with the Diamond label.

Therefore, the project meets all the requirement of CORSIA. For more details, please see Section E and F.

¹⁵ For example, *Project Coordination Form* is to be filled-in by Project Owners for projects located in Qatar. A written attestation from the host country's national focal point or the focal point's designee, as required by CORSIA (Refer section A.5 of the PSF guidelines).

¹⁶ Will be submitted after project validation.

¹⁷ The project start date will be confirmed after the project registration in GCC.

Section B. Application of selected methodology(ies)

B.1. Reference to methodology(ies) and tools applied in the project

>> The United Nations approved consolidated baseline methodology applicable to this project is ACM 0002 “Consolidated methodology for grid-connected electricity generation from renewable sources”, Version 21.0¹⁸.

This methodology also refers to the latest approved versions of the following tools¹⁹:

- TOOL 01: “Tool for the demonstration and assessment of additionality. Latest approved version at the time of conclusion of the PSF: Version 7.0.0.
- TOOL 07: “Tool to calculate the emission factor for an electricity system”. Latest approved version at the time of conclusion of the PSF: Version 7.0.
- TOOL 24: “Common Practice”. Latest approved version at the time of conclusion of the PSF: Version 3.1.
- TOOL 27: “Investment Analysis”. Latest approved version at the time of conclusion of the PSF: Version 12.0.

B.2. Applicability of methodology(ies) and tools applied in the project

>> The proposed project activity consists in the installation of a grid-connected renewable power generation facility at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant). This is in accordance with the applicability conditions of ACM0002 Version 21.0. Therefore, this methodology was applied to the project activity.

Furthermore, the project activity fulfills the remaining applicability conditions of ACM0002 Version 21.0 which presents the following requirements:

- The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit. Also, in case the project activity involves the integration of a BESS with a greenfield power plant; or an addition of a BESS to (an) existing solar photovoltaic or wind power plant(s)/unit(s) with or without implementing an extra capacity ; or retrofit, the methodology is applicable
- The project activity does not involve:
 - Switching from fossil fuels to renewable energy sources at the site of the project activity.

¹⁸ Available at: < <https://cdm.unfccc.int/methodologies/DB/HF3LP6O41YY0JIP1DK6ZRJO9RSCX3S>>

¹⁹ Available at: < <https://cdm.unfccc.int/Reference/tools/index.html> >

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- Biomass fires power plants.
- Hydro power plants that result in a new reservoir or in the increase in existing reservoirs where the power density of the power plant is less than 4 w/m².

Applicability Conditions – ACM0002	Project
3. This methodology is applicable to grid-connected renewable energy power generation project activities that: (a) Install a Greenfield power plant; (b) Involve a capacity addition to (an) existing plant(s); (c) Involve a retrofit of (an) existing operating plants/units; (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 consists of an install a greenfield power plant
4. The methodology is applicable under the following conditions: (a) The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind 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 wind, 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.	The project activity includes a photovoltaic power plant
5. In case of hydro power plants, one of the following conditions shall apply: 1 (a) The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or (b) The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density, calculated using equation (7), is greater than 4 W/m ² ; or (c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (7), is greater than 4 W/m ² ; or (d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (7), is lower than or equal to 4 W/m ² , all of the following conditions shall apply: (i) The power density calculated using the total installed capacity of the integrated project, as per equation (8), is greater than 4 W/m ² ; (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/m ² shall be: a. Lower than or equal to 15 MW; and b. Less than 10 per cent of the total installed capacity of integrated hydro power project.	Not applicable, this is not a hydro power plant.
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	Not applicable, this is not a hydro power plant.

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<p>integrated hydro power project; or (b) 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 in different 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 of five years prior to the implementation of the CDM project activity.</p>	
<p>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/units</p>	<p>Not applicable</p>
<p>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”.</p>	<p>Not applicable, this is not a retrofit project.</p>

This methodology also refers to the latest approved versions of the following tools. In the table below, a small summary of the applicability of the tools follows.

Reference TOOL	Applicability	Applicable in this project
<p>TOOL 1 “ Tool for the demonstration and assessment of additionality” 07.0</p>	<p>The use of the “Tool for the demonstration and assessment of additionality” is not mandatory for project participants when proposing new methodologies. Project participants may propose alternative methods to demonstrate additionality for consideration by the Executive Board. They may also submit revisions to approved methodologies using the additionality tool. 10. Once the additionally tool is included in an approved methodology, its application by project participants using this methodology is mandatory.</p>	<p>Yes</p>
<p>TOOL 2 “Combined tool to identify the baseline scenario and demonstrate additionality” V07.0</p>	<p>4. The tool is applicable to all types of proposed project activities. However, in some cases, methodologies referring to this tool may require adjustments or additional explanations as per the guidance in the respective methodologies. This could include, inter alia, a listing of relevant alternative scenarios that should be considered in Step 1, any relevant types of barriers other than those presented in this tool and guidance on how common practice should be established.</p>	<p>No</p>

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<p>TOOL 3 “Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion” V03.0</p>	<p>2.1 This tool it can be used in cases where CO₂ emissions from fossil fuel combustion are calculated based on the quantity of fuel combusted and its properties. Methodologies using this tool should specify to which combustion process this tool is being applied.</p>	<p>No</p>
<p>TOOL 5 “Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation” V03.0</p>	<p>5. If emissions are calculated for electricity consumption, the tool is only applicable if one out of the following three scenarios applies to the sources of electricity consumption: (a) Scenario A: Electricity consumption from the grid. The electricity is purchased from the grid only, and either no captive power plant(s) is/are installed at the site of electricity consumption or, if any captive power plant exists on site, it is either not operating or it is not physically able to provide electricity to the electricity consumer; (b) Scenario B: Electricity consumption from (an) off-grid fossil fuel fired captive power plant(s). One or more fossil fuel fired captive power plants are installed at the site of the electricity consumer and supply the consumer with electricity. The captive power plant(s) is/are not connected to the electricity grid; or (c) Scenario C: Electricity consumption from the grid and (a) fossil fuel fired captive power plant(s). One or more fossil fuel fired captive power plants operate at the site of the electricity consumer. The captive power plant(s) can provide electricity to the electricity consumer. The captive power plant(s) is/are also connected to the electricity grid. Hence, the electricity consumer can be provided with electricity from the captive power plant(s) and the grid.</p> <p>6. This tool can be referred to in methodologies to provide procedures to monitor amount of electricity generated in the project scenario, only if one out of the following three project scenarios applies to the recipient of the electricity generated: (a) Scenario I: Electricity is supplied to the grid; (b) Scenario II: Electricity is supplied to consumers/electricity consuming facilities; or (c) Scenario III: Electricity is supplied to the grid and consumers/electricity consuming facilities.</p> <p>7. This tool is not applicable in cases where captive renewable power generation technologies are installed to provide electricity in the project activity, in the baseline scenario or to sources of leakage. The tool only accounts for CO₂ emissions.</p>	<p>No</p>
<p>TOOL 7 “Tool to calculate the emission factor for an electricity system” V07.7</p>	<p>3. This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity that is where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects).</p> <p>4. Under this tool, the emission factor for the project electricity system can be calculated either for grid power plants only or, as an option, can include off-grid power plants. In the latter case, two sub-options under the step 2 of the tool are available to the project participants, i.e. option</p>	<p>Yes</p>

	<p>Ila and option IIb. If option Ila is chosen, the conditions specified in "Appendix 1: Procedures related to off-grid power generation" should be met. Namely, the total capacity of off-grid power plants (in MW) should be at least 10 per cent of the total capacity of grid power plants in the electricity system; or the total electricity generation by off-grid power plants (in MWh) should be at least 10 per cent of the total electricity generation by grid power plants in the electricity system; and that factors which negatively affect the reliability and stability of the grid are primarily due to constraints in generation and not to other aspects such as transmission capacity.</p> <p>5. In case of CDM projects the tool is not applicable if the project electricity system is located partially or totally in an Annex I country.</p> <p>6. Under this tool, the value applied to the CO₂ emission factor of biofuels is zero.</p>	
<p>TOOL 10 "Tool to determine the remaining lifetime of equipment" V01.0</p>	<p>The tool may, be used for project activities which involve the replacement of existing equipment with new equipment or which retrofit existing equipment as part of energy efficiency improvement activities.</p> <p>Methodologies referring to this tool should clearly specify for which equipment the remaining lifetime should be determined. The remaining lifetime of relevant equipment shall be determined prior to the implementation of the project activity. Project participants using this tool shall document transparently in the CDM-PDD how the remaining lifetime of applicable equipment has been determined, including (references to) all documentation used.</p> <p>Under this tool, impacts on the lifetime of the equipment due to policies and regulations (e.g. environmental regulations) or changes in the services needed (e.g. increased energy demand) are not considered.</p>	<p>No</p>
<p>TOOL 11 "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period" V03.0.1</p>	<p>This tool provides a stepwise procedure to assess the continued validity of the baseline and to update the baseline at the renewal of a crediting period, as required by paragraph 49 (a) of the modalities and procedures of the clean development mechanism. The tool consists of two steps. The first step provides an approach to evaluate whether the current baseline is still valid for the next crediting period. The second step provides an approach to update the baseline in case that the current baseline is not valid anymore for the next crediting period.</p>	<p>No</p>
<p>TOOL 24 "Common practice" V03.1</p>	<p>3. This methodological tool is applicable to project activities that apply the methodological tool "Tool for the demonstration and assessment of additionality", the methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality", or baseline and monitoring methodologies that use the common practice test for the demonstration of additionality.</p> <p>4. In case the applied approved baseline and monitoring</p>	<p>Yes</p>

	methodology defines approaches for the conduction of the common practice test that are different from those described in this methodological tool, the requirements contained in the methodology shall prevail.	
TOOL 27 "Investment analysis" V12.0.	<p>2. This methodological tool is applicable to project activities that apply the methodological tool "Tool for the demonstration and assessment of additionality", the methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality", the guidelines "Non-binding best practice examples to demonstrate additionality for SSC project activities", or baseline and monitoring methodologies that use the investment analysis for the demonstration of additionality and/or the identification of the baseline scenario.</p> <p>3. In case the applied approved baseline and monitoring methodology contains requirements for the investment analysis that are different from those described in this methodological tool, the requirements contained in the methodology shall prevail.</p>	Yes
TOOL 32 "Positive lists of technologies" V04.0	<p>4. The use of this methodological tool is not mandatory for the project participants of a CDM project activity or CDM PoA for demonstrating their additionality.</p> <p>5. This methodological tool shall be applied in conjunction with a small-scale or large-scale methodology which refers to this tool. 6. The positive lists as contained in section 5 of this tool are valid up to 10 March 2025. Notwithstanding the provisions on the validity of new, revised and previous versions of methodologies and methodological tools in the "Procedure: Development, revision and clarification of baseline and monitoring methodologies and methodological tools", there will be no grace period for the application of this tool and the validity of the positive list after this date, including in cases where further technologies are added to the positive list through revisions of this tool before this date.</p>	No

B.3. Project boundary, sources and greenhouse gases (GHGs)

>> The spatial extent of the project boundary includes the project power plant (i.e., Coromandel 1 and 2) and all plants connected physically to the electricity system that the GCC Project power plant is connected to the i.e., SIN. A flow diagram of the project boundary, physically delineating the project activity, representing emissions sources and gases included in the project boundary and the monitoring variables, is described in the following Figure.

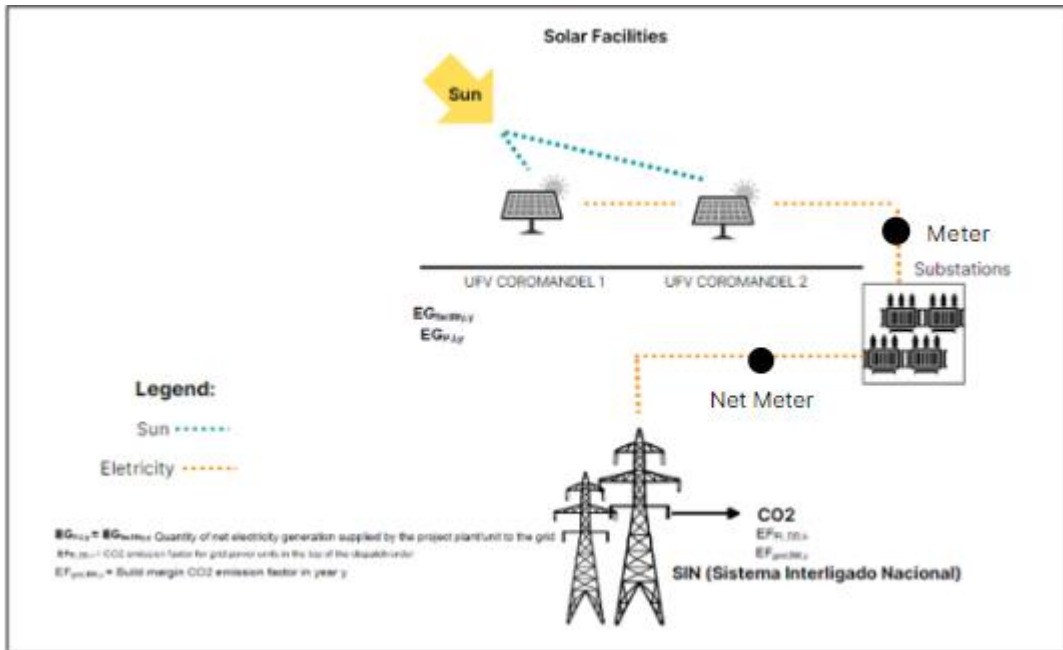


Figure 1 - Project boundary. Monitored variables are depicted. Baseline emissions consist of CO₂ emissions from fossil fuel combustion for the generation of electricity by the plants connected to SIN as reflected in its combined margin.

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

Table 2 - Emissions sources included in the project boundary, as per ACM0002 Version 21.0.

Source		GHG	Included?	Justification/Explanation
Baseline	CO2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity	CO ₂	Yes	Main emission source.
		CH ₄	No	Not applicable.
		N ₂ O	No	Not applicable.
Project Activity	For dry or flash steam geothermal power plants, emissions of CH ₄ and CO ₂ from non-condensable gases contained in geothermal steam	CO ₂	No	Not applicable. Project is not a geothermal power plant.
		CH ₄	No	Not applicable. Project is not a geothermal power plant.
		N ₂ O	No	Not applicable. Project is not a geothermal power plant.
	For binary geothermal power plants, fugitive emissions of CH ₄ and CO ₂ from non condensable gases contained in geothermal steam	CO ₂	No	Not applicable. Project is not a geothermal power plant.
		CH ₄	No	Not applicable. Project is not a geothermal power plant.
		N ₂ O	No	Not applicable. Project is not a geothermal power plant.
	For binary geothermal power plants, fugitive emissions of hydrocarbons such as butane and isopentane (working fluid) contained in the heat exchangers	Low GWP hydrocarbon/refrigerant	No	Not applicable. Project is not a geothermal power plant.
	CO ₂ emissions from combustion of fossil fuels for electricity generation in solar thermal power plants and geothermal power plants	CO ₂	No	Not applicable.
		CH ₄	No	Minor emissions source. Excluded by simplification.
		N ₂ O	No	Minor emissions source. Excluded by simplification.
	For hydro power plants, emissions of CH ₄ from the reservoir	CO ₂	No	Not applicable. Project is not a hydro power plant.
		CH ₄	No	Not applicable. Project is not a hydro power plant.
		N ₂ O	No	Not applicable. Project is not a hydro power plant.
	Charging of BESS using electricity from the grid or from fossil fuel electricity generators.	CO ₂	No	Not applicable.
		CH ₄	No	Not applicable.
N ₂ O		No	Not applicable.	

B.4. Establishment and description of the baseline scenario

>> As per ACM0002 Version 21.0, since the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following:

“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, as reflected

in the combined margin (CM) calculations described in the tool “Tool to calculate the emission factor for an electricity system”.

B.5. Demonstration of additionality

>> As per ACM0002 Version21.0, the additionality of the project activity shall be demonstrated and assessed using the latest version of the “Tool for the demonstration and assessment of additionality”.

Therefore, the demonstration of additionality was developed according to version 07.0.0 of the CDM “Tool for the demonstration and assessment of additionality²⁰”. This tool provides a stepwise approach to demonstrate and assess the additionality of a project activity.

These steps are:

- Step 0: Demonstration whether the proposed project activity is the first-of-its-kind;
- Step 1: Identification of alternatives to the project activity.
- Step 2: Investment analysis.
- Step 3: Barrier’s analysis; and
- Step 4: Common practice analysis

- **Step 0. Demonstration whether the proposed project activity is the first-of-its-kind**

This step is not applied once the proposed project activity is not considered as the first-of-its-kind.

- **Step 1. Identification of alternatives to the project activity consistent with current laws and Regulations**

Define realistic and credible alternatives to the project activity(s) through the following Sub-steps:

Sub-step 1a. Define alternatives to the project activity:

The realistic alternatives to the project activity are:

P1: The project activity not implemented as an emission reduction project activity.

P2: The continuation of the current situation, that is to use all power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance. The additional power generated under the project would be generated in existing and new grid-connected power plants in the electricity system.

²⁰ The tool is available at: <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-01-v7.0.0.pdf>.

Sub-step 1b. Consistency with mandatory laws and regulations:

Both scenarios described on the previous step are in compliance with mandatory laws and regulations. The installation of renewable and non-renewable power plants (with or without emission reduction project activities) is permitted by the Brazilian regulatory framework.

A brief description of Brazilian Regulatory is presented in this section:

The Brazilian Regulatory Framework underwent different structural and conceptual changes in the last two decades, resulting in three models for the electric sector: a state-based model, a free-market model and the current model, adopted in 2004. Under the state model, the electric sector was dominated almost exclusively by state-owned and vertical companies that covered the energy generation, transmission, and distribution segments.

Following the free market model, which faced some difficulties in terms of allocating investments to supply a growing demand for energy generation, the current model was adopted. Under this model, the Brazilian Government oversees planning and sets sector policies, while promoting private sector investments to finance the need to expand generation capacity. This new regulatory model provided a more efficient mechanism of power procurement between generators and distributors, primarily by creating two parallel electricity trading environments: the Regulated Contracting Environment, referred to as ACR (*Ambiente de Contratação Regulada*), where energy is finally contracted based on the lowest tariffs defined by a regulated auctioning process, and the Free Contracting Environment, referred to as ACL (*Ambiente de Contratação Livre*).

As previously stated, private entities are free to make decisions regarding their investments under the electric sector, as long as they comply to the existing regulatory framework. Hence, both alternatives to the project activity are plausible and consistent with mandatory laws and regulations.

- **Step 2. Investment analysis**

According to the “Tool for the demonstration and assessment of additionality”, project participants shall determine whether the proposed project activity is not:

- a) The most economically or financially attractive alternative.
- b) Economically or financially feasible, without the revenue from the sale of Verified Emission Reductions (VERs).

The investment analysis follows the CDM “Methodological tool Investment analysis”, version 12.0²¹. To conduct the investment analysis, the following steps must be used:

²¹ Tool available at: <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v12.pdf>

Sub-step 2a. Determine appropriate analysis method

Three methods are available to determine the investment analysis. If the CDM project activity and the alternatives identified in Step 1 generate no financial or economic benefits other than CDM related income, then apply the simple cost analysis (Option I). Otherwise, use the investment comparison analysis (Option II) or the benchmark analysis (Option III).

Since the alternatives identified in Step 1 generate financial or economic benefits other than carbon credits related income (namely the sale of electricity), then the investment comparison analysis (Option II) or the benchmark analysis (Option III) shall be used. The benchmark analysis will be applied, as requested under section 5.2(b) of ACM0002, the methodology applied for this project.

Therefore, the Option III was chosen as the appropriate analysis method for this project.

Sub-step 2b – Option III. Apply benchmark analysis

Financial indicator identification

The Project's Internal Return Rate (IRR) was selected as an appropriated financial indicator. The IRR was calculated in nominal terms, i.e. considering the impact of inflation, and after payment of taxes. The resulting financial indicator therefore is a post-tax project IRR given in nominal terms and therefore compatible with the benchmark defined in the following lines.

The project IRR calculation provided below complies with requirements of the CDM "Methodological Tool Investment Analysis", version 12.0.

Benchmark identification: as per the referred tool (paragraph 15), the weighted average costs of capital (WACC) is considered an appropriate benchmark for a project IRR. Therefore, the WACC shall be used as a benchmark. The WACC was calculated following procedures described on CDM Tool 27 (Investment analysis), version 11.0. The equation below provides the calculation for WACC.

$$WACC = re \times We + rd \times Wd \times (1 - Tc)$$

Where

re = Cost of equity (-)

We = Percentage of financing that is equity (-)

rd = Cost of debt (-)

Wd = Percentage of financing that is debt (-)

Table below provides the applied parameters and the calculated WACC.

Table 3 – Calculation of WACC

Project	<i>Re</i>	<i>We</i>	<i>rd</i>	<i>Wd</i>	<i>Tc</i>	WACC
Coromandel	30,53%	30%	11,40%	70%	0%	17,14%

The cost of equity (*re*) was calculated considering the following parameters:

- A risk-free rate, defined as the Brazilian Treasury bond NTN10 for twenty years added to a 12 months inflation rate.
- A country risk premium.
- A sector specific unleveraged Beta value.
- A risk premium applied internally by the Project Proponent to similar projects.

The values applied for calculating *re* are available for the Verifier and the GCC team members as part of an electronic spreadsheet.

The percentage of financing that is equity (*We*) and that is debt (*Wd*) and the cost of debt (*rd*) were defined by the Project Proponent considering market conditions for similar projects. Finally, the corporate tax rate (*Tc*) were defined based on Brazilian regulations.

Sub-step 2c. Calculation and comparison of financial indicators

Under this sub-step, the suitable financial indicators for the project activity shall be calculated.

The cash flow is presented in detail for the Project Verifier that will perform Project Verification and to any entity linked to the GCC that request it for assessing the project additionality. In addition, key assumptions used on the calculation of the Project IRR are further described below. The following table provides information on key assumptions for the cash flow.

Table 4 – Assessment period

Project	Period of assessment	Number of years	Rational
Coromandel	2018-2044	26	4 years for Project implementation and 22 years of energy generation

In general, the assessment period covered the period required for the implementation and period of effective energy generation, as considered at the moment of investment decision.

1. Fair value: The fair value of the project's assets was not included and the end of the assessment period, as the assessment period covers the complete operational lifetime of each solar power plant. At the end of the operational lifetime, it is expected the asset will be fully depreciated.

Table 5 – Validity of assumptions and parameters.

Project	Date of assumptions
Coromandel	30-September-2021

All input values and assumptions considered on the cash flow presented were valid and applicable at the time of the investment decision taken by the project participants. The date of investment decision is provided on the above table. The date of investment decision was considered as the date of purchase of solar modules and key components, which is considered the main investment for the project implementation.

2. Cost of financing expenditures: even though the implementation of all projects involves significant financing expenditures (loans repayment), these items were not considered on the cash flows presented for the assessment of project additionality.

3. Nature of the Cash Flow: The project cash flow has been performed in nominal terms.

The tables below provide the main input values used on the cash flow.

Table 6 – Main parameters adopted for the investment analysis

Project	Installed capacity (MW)	Electricity generated for sale (MWh/year ²²)	Electricity Price (BRL/MWh)	O&M Costs (R\$ thousand /year)
Coromandel	60	149,317	PPA (first 15 years): 240,35 Energy price after - PPA: 166,40	2,039,750

4. Investment analysis results: The Project Internal Rate of Return, in nominal terms, resulting of the cash flow based on the assumptions is presented in the table below:

Table 10 - Project Indicators X Benchmark

Project	Project IRR	Benchmark (WACC)
Coromandel	9,9%	17,14%

The investment analysis was carried out in accordance with option III of the “Tool for the

²² Average over the period considered for investment decision.

demonstration and assessment of additionality” and the result shows that the financial result of the project is lower than the benchmark. Therefore, it is possible to conclude that the project activity cannot be considered financially attractive.

Sub-step 2d. Sensitivity analysis

The main variables that can affect the project's finances are:

- (i) Expected energy generation
- (ii) Energy sale price (energy tariff)
- (iii) CAPEX
- (iv) O&M costs for equipment.

The sensitivity analysis considers only those scenarios that would lead to an increase in the economic and financial attractiveness of the project, as a credibility test on the analysis provided under the previous sub-steps. The Table below presents how changes in the main parameters affect project IRR.

Table 11 - Sensitivity Analysis

Parameter	Variation	Project IRR (%)
Energy sale price	5%	10,85%
	10%	11,69%
	20%	13,33%
	Variation required to reach benchmark (%)	44%
Expected energy generation	5%	10,85%
	10%	11,69%
	20%	13,33%
	Variation required to reach benchmark (%)	44%
CAPEX	-5%	10,82%
	-10%	11,74%
	-20%	13,84%
	Variation required to reach benchmark (%)	33,3%
O&M costs	-5%	10,020%
	-10%	10,054%
	-20%	10,121%
	Variation required to reach benchmark (%)	Impossible value %

A brief discussion regarding the likelihood of each scenario is presented separately, as follows.

Energy sale price:

The energy sale price is subject to variation and uncertainty. However, a variation of +44% is not considered a reasonable scenario once the investment analysis was made upon a conservative scenario.

Expected energy generation:

The expected energy generation is likely to fluctuate on any given solar power project. However, the sensitivity analysis has demonstrated that a +44% variation would be required for the project IRR exceed the benchmark. Such variation is not deemed to be reasonable. The financial model used for the investment decision has considered the P90 scenario, however, even if the highest energy generation scenario (P50) is considered the benchmark is not reached. Therefore, any increase beyond that scenario would hardly be considered and unlikely be achieved in a constant manner.

CAPEX

The sensitivity analysis indicates a reduction of 33,3% on the CAPEX would be required for the project IRR reach the expected benchmark which is highly unlikely to happen.

O&M costs

The sensitivity analysis indicates no variation of the O&M costs would make the Project IRR reach the benchmark, even if these costs were excluded from consideration. Therefore, no possible variation on O&M costs would affect the attractiveness of the project significantly.

As demonstrated above, the sensitivity analysis indicates this project is not expected to be financially/economically attractive. Therefore, the demonstration of additionality proceeds to Step 3 or Step 4.

- **Step 3. Barrier analysis**

This step is optional and was not applied for this project. Continue to Step 04.

- **Step 4. Common practice analysis**

Sub-step 4a. Analyze other activities similar to the proposed project activity:

The common practice analysis follows the stepwise approach suggested by CDM tool Common practice, version 03.1. Each step and respective result are presented below:

Step 1: calculate applicable capacity or output range as +/-50% of the total design capacity or output of the proposed project activity.

Outcome:

Table 12 - Applicable capacity range.

Project	Power Capacity (MW)	Inferior limit (MW)	Superior Limit (MW)
Coromandel	60	30	90

Step 2: identify similar projects (both CDM and non-CDM) which fulfil all the following conditions:

- a) The projects are located at the applicable geographical area.
- b) The projects apply the same measure as the proposed project activity.
- c) The projects use the same energy source/fuel and feedstock as the proposed project activity if a technology switch measure is implemented by the proposed project activity.
- d) The plants in which the projects are implemented produce goods or services with comparable quality, properties and applications areas (e.g. clinker) as the proposed project plant;
- e) The capacity or output of the projects is within the applicable capacity or output range calculated in Step 1;
- f) The projects started commercial operation before the project design document (CDM-PDD) is published for global stakeholder consultation or before the start date of proposed project activity, whichever is earlier for the proposed project activity.

Outcome:

To develop this step, the following procedure was applied:

- All operational plants in Brazil. Source were identified at ANEEL (National Electric Energy Agency)²³ ANEEL's purpose is to regulate and supervise the production, transmission, distribution and commercialization of electric energy, in accordance with the legislation and in accordance with the guidelines and policies of the federal government.
- Considering the day of the investment decision, all plants that were in

²³ Information taken from ANEEL Database:

<https://app.powerbi.com/view?r=eyJrIjoibjI0OGYyYjQyYWM2ZC00YjllWjYmEtyZdkNTQ1MTc1NjM2liwidCI6IjQwZDZmOWI4LWVjYjYtNDZhMi05MmQ0LWVhNGU5YzAxNzBIMSIsImMiOiR9>

- commercial operation at this time were selected.
- Only plants with the capacity output calculated on STEP 1 were selected.

The outcome is presented at the table below:

Table 13 – Outcomes

Project	Nall - Step 2
Coromandel	579

Step 3: within the projects identified in Step 2, identify those that are neither registered CDM project activities, project activities submitted for registration, nor project activities undergoing validation.

Outcome: The following projects were identified as registered on carbon projects platforms, such as CDM, Verified Carbon Standard (VCS) and American Carbon Registry (ACR):

Project	Similar Project Activities registered for carbon credit generation	Nall - Step 3
Coromandel	HYD Passo do Meio HYD Santa Clara HYD Monjolinho (Antiga Alzir dos Santos Antunes) HYD Buriti WIND Parque Eólico de Osório WIND Sangradouro WIND Buriti WIND Macaúbas WIND Cajucoco WIND Novo Horizonte WIND Seabra WIND Igaporã WIND Buriti WIND Pedra Branca WIND Sete Gameleiras WIND São Pedro do Lago WIND Dos Araçás WIND Morrão WIND Tanque WIND Seraíma WIND Pau Ferro WIND Pedra do Gerônimo WIND Dois Riachos WIND Maniçoba WIND Damascena	554

Step 4: within similar projects identified in Step 3, identify those that apply technologies that are different to the technology applied in the proposed project activity. Note their number Ndiff.

Outcome available in the following table:

Wind	Hydro	Thermal	Ndiff – Step 4
215	68	197	480

Step 5: calculate factor $F=1-N_{diff}/N_{all}$ representing the share of similar projects (penetration rate of the measure/technology) using a measure/technology similar to the measure/technology used in the proposed project activity that deliver the same output or capacity as the proposed project activity.

Outcome available in the following table:

Project	$F = 1 - N_{diff}/N_{all}$	$N_{all} - N_{diff}$
Coromandel	0,1336	74

According to the tool, the project activity is a “common practice” within a sector in the applicable geographical area if the factor F is greater than 0.2 and $N_{all}-N_{diff}$ is greater than 3.

Since the calculated F factor is lower than 0.2, the project activity is not a common practice.

After following all the steps, it can be concluded that the project is additional.

B.6. Estimation of emission reductions

>> Detailed below.

B.6.1. Explanation of methodological choices

>> Baseline emissions

The baseline emissions are to be calculated as follows:

$$(1) BE_y = EGP_{J,y} \times EF_{grid,CM,y}$$

Where:

BE_y = Baseline emissions in year y (tCO₂/yr)

$EGP_{J,y}$ = 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)

$EF_{grid,CM,y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (tCO₂/MWh)

Calculation of $EG_{PJ,y}$

Since the project activity is the installation of a new grid-connected renewable power plant at a site where no renewable power plant was operated prior to the implementation of the project activity, then:

$$(2) \quad EG_{PJ,y} = EG_{facility,y}$$

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)

Calculation of $EF_{grid,CM,y}$

The project plants will serve Brazilian Interconnected System (SIN). The Brazilian DNA has published the delineation of SIN to be adopted for the purposes of CDM projects. As per Resolution N° 8 of the Brazilian DNA, the electric grid considered in this project activity is considered as a single system consisted by the sub-markets of SIN as the definition of the electric system of the project. Off-grid plants will not be included in the calculation of $EF_{grid,CM,y}$

$EF_{grid,CM,y}$ will be calculated using the latest version of the “Tool to calculate the emission factor for an electricity system”. The following formula apply:

$$(3) \quad EF_{grid,CM,y} = EF_{grid,OM,y} * w_{OM} + EF_{grid,BM} * w_{BM}$$

Where:

$EF_{grid,CM,y}$ = Combined margin CO₂ emission factor in year y (tCO₂/MWh); $EF_{grid,BM,y}$ = Build margin CO₂ emission factor in year y (tCO₂/MWh); $EF_{grid,OM,y}$ = Operating margin CO₂ emission factor in year y (tCO₂/MWh); w_{OM} = Weighting of operating margin emissions factor (75%);

w_{BM} = Weighting of build margin emissions factor (25%).

The weighting factors for build and operating margin were selected according to guidance provided in the “Tool to calculate the emission factor for an electricity system”.

The $EF_{grid,OM,y}$ will be calculated according to the dispatch data analysis. As per this method OM emission factor is determined based on the grid power units that are actually dispatched at the margin during each hour h where the project is producing electricity and $EF_{grid,OM-DD,y}$ is calculated as follows:

$$(4) \quad EF_{grid,OM-DD,y} = \frac{\sum_h EG_{PJ,h} \cdot EF_{EL,DD,h}}{EG_{PJ,y}}$$

Where:

$EF_{grid,OM-DD,y}$ = Dispatch data analysis operating margin CO₂ emission factor in year y (tCO₂ /MWh);

$EG_{PJ,h}$ = Electricity generation by the project activity in hour h of year y (MWh);

$EF_{EL,DD,h}$ = CO₂ emission factor for grid power units in the top of the dispatch order in hour h in year y (tCO₂/MWh);

$EG_{PJ,y}$ = Total electricity displaced by the project activity in year y (MWh); h = Hours in year y in which the project activity is generating electricity; y = Year in which the project activity is displacing grid electricity.

For the crediting period, the build margin emission factor will be updated annually, ex-post, including those units built up to the year of registration of the project activity or, if information up to the year of registration is not yet available, including those units built up to the latest year for which information is available.

The parameters $EF_{grid,OM,y}$ and $EF_{grid,BM,y}$ are calculated and published by the Brazilian Inter-ministerial Commission for Global Climate Change, the Brazilian Designated National Authority, according to the most recent version of the “Tool to calculate the emission factor for an electricity system”.

- **Project Emissions**

As per ACM0002 Version21.0, since the project activity is neither a geothermal, solar nor a hydropower plant, $PE_y = 0$.

- **Leakage**

According to ACM0002, version21.0, “no leakage emissions are considered. The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g., extraction, processing, transport). These emissions sources are neglected.”

- **Emissions reductions**

The emission reduction by the project activity during a given year y is calculated as follows:

$$(5) ER_y = BE_y - PE_y$$

Where:

ER_y = Emissions reductions of the project activity during the year y (tCO₂e) BE_y = Baseline emissions during the year y (tCO₂e)

PE_y = Project emissions during the year y (tCO₂e)

B6.2 Data and parameters fixed ex ante

>> Data / Parameter Table 1.

Data / Parameter:	W_{OM}
Methodology reference	ACM0002 – Grid-connected electricity generation from renewable sources – Version 21.0
Data unit	Fraction
Description	Weighting of operating margin emissions factor
Measured/calculated /default	Default
Data source	“Tool to calculate the emission factor for an electricity system”, version 07.0
Value(s) of monitored parameter	75%
Measurement/ Monitoring equipment (if applicable)	Not applicable
Calculation method (if applicable)	Default value for wind power plants
QA/QC procedures	Not applicable
Purpose of data	Calculation of baseline emissions.
Additional comments	Ex-ante fixed.

Data / Parameter:	W_{BM}
Methodology reference	ACM0002 – Grid-connected electricity generation from renewable sources – Version 21.0
Data unit	Fraction
Description	Weighting of operating margin emissions factor
Measured/calculated /default	Default
Data source	“Tool to calculate the emission factor for an electricity system”, version 07.0.
Value(s) of monitored parameter	25%
Measurement/ Monitoring equipment (if applicable)	Not applicable
Calculation method (if applicable)	Default value for wind power plants

QA/QC procedures	Not applicable
Purpose of data	Calculation of baseline emissions.
Additional comments	Ex-ante fixed.

B.6.3. Ex-ante calculation of emission reductions

>> Emission reductions were ex-ante estimated as follows:

$$(6) BE_y = EGP_{J,y} \times EF_{grid,CM,y}$$

Where:

BE_y = Baseline emissions in year y (tCO₂/yr)

$EGP_{J,y}$ = 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)

$EF_{grid,CM,y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (tCO₂/MWh)

As per ACM0002 version 21.0 for this project activity, project emissions are zero (PE_y=0) and leakage emissions are not considered.

$$(7) ER_y = BE_y - PE_y$$

Where:

ER_y = Emissions reductions of the project activity during the year y (tCO₂e) BE_y = Baseline emissions during the year y (tCO₂e)

PE_y = Project emissions during the year y (tCO₂e)

See detailed ex-ante calculation in the annex spreadsheet “PSF_Calculation_Coromandel Renewable Energy_V01”. The parameters use for ex-ante calculations are compiled in Table 14 below:

Table 14 - Parameters use for ex-ante calculations

Parameter	Unit	Value	Description	Comment
ER _y	tCO ₂ /yr	77,747	Emissions reductions in the year y	Calculated
BE _y	tCO ₂ /yr	77,747	Baseline emissions in year y	Calculated

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PE _y	tCO ₂ /yr	0	Project emissions in the year y	For this project activity (solar-based electricity generation project), emissions are null, as per ACM0002/Version 21.0
EGPJ, _y	MWh/yr	168,140	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the GCC project activity in year y	Estimated as the average total yearly net electricity generation by the project activity, as per Reports
EGfacility, _y	MWh/yr	168,140	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y	Estimated as the average total yearly net electricity generation by the project activity, as per Reports
EFgrid,CM, y	tCO ₂ /MWh	0,4624	Combined margin CO ₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system"	Calculated
EFgrid,OM, y	tCO ₂ /MWh	0,5985	Operating margin CO ₂ emission factor in year y	Calculated as the average hourly emission factor, weighted by the hourly net electricity generation
EFgrid,BM, y	tCO ₂ /MWh	0,0540	Build margin CO ₂ emission factor in year y	Build margin emission factor of the National Interconnected System, as published by the Brazilian DNA
WOM	Fraction	0,75	Weighting of operating margin emissions factor	Default value for solar-based electricity generation projects, as per "Tool to calculate the emission factor for an electricity system", Version 07.0
WBM	Fraction	0,25	Weighting of build margin emissions factor	Default value for solar-based electricity generation projects, as per "Tool to calculate the emission factor for an electricity system", Version 07.0

B.6.4. Summary of ex ante estimates of emission reductions

>>

Year	Baseline emissions (t CO ₂ e)	Project emissions (t CO ₂ e)	Leakage (t CO ₂ e)	Emission reductions (t CO ₂ e)
2022	6,479	0	0	6,479
2023	77,747	0	0	77,747
2024	77,747	0	0	77,747
2025	77,747	0	0	77,747
2026	77,747	0	0	77,747
2027	77,747	0	0	77,747
2028	77,747	0	0	77,747
2029	77,747	0	0	77,747
2030	77,747	0	0	77,747
2031	77,747	0	0	77,747
2032	71,268	0	0	71,268
Total	777,471	0	0	777,471
Total number of crediting years	10			
Annual average over the crediting period	77,747	0	0	77,747

B.7. Monitoring plan

>>

B.7.1. Data and parameters to be monitored ex-post

>> Data / Parameter Tables.

Data / Parameter:	EG_{facility,y}
Methodology reference	ACM0002 – Grid-connected electricity generation from renewable sources – Version 21.0
Data unit	MWh
Description	Quantity of net electricity generation supplied by the project plant to the grid in year y
Measured/calculated/default	Measured
Data source	Measurements at project activity site
Value(s) of monitored parameter	168,140 MWh/year

Measurement/ Monitoring equipment	This parameter will be continuously analyzed and monitored values will be averaged monthly and yearly for each unit of the unit of the project activity. The total quantity of net electricity generation corresponds to the sum of the electricity generation by the eight unit of the project facilities. The data will be collected from the National Electric Energy Commercialization Chamber.
Measuring/reading/ recording frequency	Annually
Calculation method (if applicable)	-
QA/QC procedures	Measurement results will be cross-checked with record for sold electricity
Purpose of data	Calculation of baseline emissions
Additional comments	

Data / Parameter:	EG_{grid,CM,y}
Methodology reference	ACM0002 – Grid-connected electricity generation from renewable sources – Version 21.0
Data unit	tCO ₂ /MWh
Description	Combined margin CO ₂ emission factor for the project electricity system in year y
Measured/calculated /default	Calculated
Data source	Designated National Authority (DNA) - MCTIC
Value(s) of monitored parameter	0,4624
Measurement/ Monitoring equipment	Provided by DNA - MCTIC
Measuring/reading/ recording frequency	Annually
Calculation method (if applicable)	As per the most recently version of the “Tool to calculate the emission factor for an electricity system”.
QA/QC procedures	Official source of data
Purpose of data	Calculation of baseline emissions
Additional comments	The Combined Margin is calculated through a weighted-average formula, considering the EF _{grid,OM-DD,y} and the weights W _{OM} =0.75 and W _{BM} =0.25 as defined in the latest version of “Tool to calculate the emission factor for an electricity system”.

Data / Parameter:	EG_{grid,OM,y}
Methodology reference	ACM0002 – Grid-connected electricity generation from renewable sources – Version 21.0
Data unit	tCO ₂ /MWh
Description	Operating margin CO ₂ emission factor for the project electricity system in year y
Measured/calculated/default	Calculated
Data source	Designated National Authority (DNA) - MCTIC
Value(s) of monitored parameter	0,5985
Measurement/Monitoring equipment	Provided by DNA - MCTIC
Measuring/reading/recording frequency	Annually
Calculation method (if applicable)	As per the most recently version of the “Tool to calculate the emission factor for an electricity system”.
QA/QC procedures	Official source of data
Purpose of data	Calculation of baseline emissions
Additional comments	This data is available on the MCTIC website: https://antigo.mctic.gov.br/mctic/opencms/ciencia/SEPED/clima/textogeral/emissao_despacho.html

Data / Parameter:	EG_{grid,BM,y}
Methodology reference	ACM0002 – Grid-connected electricity generation from renewable sources – Version 21.0
Data unit	tCO ₂ /MWh
Description	Building margin CO ₂ emission factor for the project electricity system in year y
Measured/calculated/default	Calculated
Data source	Designated National Authority (DNA) - MCTIC
Value(s) of monitored parameter	0,0540
Measurement/Monitoring equipment	Provided by DNA - MCTIC

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Measuring/reading/recording frequency	Annually
Calculation method (if applicable)	As per the most recently version of the “Tool to calculate the emission factor for an electricity system”.
QA/QC procedures	Official source of data
Purpose of data	Calculation of baseline emissions
Additional comments	This data is available on the MCTIC website: https://antigo.mctic.gov.br/mctic/opencms/ciencia/SEPED/clima/textogeral/emissao_despacho.html

Data / Parameter:	iRECs Certificates
Methodology reference	iRECs report issued by Instituto Totum
Data unit	iRECs
Description	The project is currently not registered in any other program (GHG or non-GHG), but in order guarantee the avoidance of double counting, it will be issued an specific report to control the amount of iRECs eventually issued in the monitoring period will be monitored. The MWh used to issue the iREC certificates will not be used to request ACCs issuance.
Measured/calculated/default	Calculated
Data source	Instituto Totum
Value(s) of monitored parameter applied with basis	To be monitored
Measurement/Monitoring equipment	Provided by Instituto Totum Report
Frequency of Measuring/reading	Annually
Recording frequency	-
Calculation method (if applicable)	As per the most recently version of the “Tool to calculate the emission factor for an electricity system”.
QA/QC procedures	Official source of data
Purpose of data	Avoidance of double counting
Additional comments	Instituto Totum is the Local Issuer of RECs in Brazil within the IREC Standard and is responsible for managing the Brazilian Renewable Energy Certification Program (REC Brazil), an initiative by ABRAGEL and ABEOLICA, with support from CCEE and ABRACEEL.

	The amount of iRECs issued by year can also double checked at https://evident.global/device-register
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For Parameters to be monitored for E+/S+ assessments and SDG labels (positive impacts)

Data / Parameter:	CO₂ Emissions - EA03										
Purpose:	Reduction of CO ₂ emissions due to implementation of project activity that would otherwise be emitted by thermal power plants.										
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	To access the contribution SDG 13 Climate Action / 13.2 "Integrate climate change measures into national policies, strategies and planning"										
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	<table border="1" style="width: 100%;"> <tr> <td colspan="2"></td> </tr> <tr> <td>Parameter to be monitored</td> <td>77,747 tCO₂e</td> </tr> <tr> <td>Frequency of monitoring</td> <td>Annually</td> </tr> <tr> <td>Legal /regulatory / corporate limits (if any)</td> <td>-</td> </tr> <tr> <td>QA/QC</td> <td>Reduction of Greenhouse gases results in clean environment.</td> </tr> </table>			Parameter to be monitored	77,747 tCO ₂ e	Frequency of monitoring	Annually	Legal /regulatory / corporate limits (if any)	-	QA/QC	Reduction of Greenhouse gases results in clean environment.
Parameter to be monitored	77,747 tCO ₂ e										
Frequency of monitoring	Annually										
Legal /regulatory / corporate limits (if any)	-										
QA/QC	Reduction of Greenhouse gases results in clean environment.										
Remarks	The emission reduction is the product of electrical energy (baseline) EGPJ, y expressed in MWh of electricity produced by the renewable generating unit multiplied by an emission factor.										

Data / Parameter:	Replacing fossil fuels with renewable sources of energy – ENR07
Purpose:	Reduction of CO ₂ emissions due to implementation of project activity that would otherwise be emitted by thermal power plants.

<p>Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.</p>	<p>To access the contributions:</p> <ul style="list-style-type: none"> • SDG 13 Climate Action / 13.2 "Integrate climate change measures into national policies, strategies and planning" • SDG 7 Universal access to affordable, reliable and modern energy services. / 7.2 increase substantially the share of renewable energy in the global energy mix by 2030 • SDG 9 / 9.4 Implementing a clean, reliable and environmental-friendly infrastructure for clean energy production / up-to-date industrialization <p>Details in table Section F.</p>										
<p>Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG</p>	<table border="1"> <tr> <td colspan="2" style="background-color: #e6f2ff;"></td> </tr> <tr> <td>Parameter to be monitored</td> <td>77,747 tCO₂e</td> </tr> <tr> <td>Frequency of monitoring</td> <td>Annually</td> </tr> <tr> <td>Legal /regulatory / corporate limits (if any)</td> <td>-</td> </tr> <tr> <td>QA/QC</td> <td>Reduction of Greenhouse gases results in clean environment.</td> </tr> </table>			Parameter to be monitored	77,747 tCO ₂ e	Frequency of monitoring	Annually	Legal /regulatory / corporate limits (if any)	-	QA/QC	Reduction of Greenhouse gases results in clean environment.
Parameter to be monitored	77,747 tCO ₂ e										
Frequency of monitoring	Annually										
Legal /regulatory / corporate limits (if any)	-										
QA/QC	Reduction of Greenhouse gases results in clean environment.										
<p>Remarks</p>	<p>The emission reduction is the product of electrical energy (baseline) EGPJ, y expressed in MWh of electricity produced by the renewable generating unit multiplied by an emission factor.</p>										

<p>Data / Parameter:</p>	<p>Increased or / deteriorating municipal revenues - SW05</p>
<p>Purpose:</p>	<p>The project provides revenue to the affected municipalities by tax payment.</p>
<p>Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.</p>	<p>To access the contribution target "8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors"</p>

Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG		
	Parameter to be monitored	Payment of taxes and wages
	Frequency of monitoring	Annually
	Legal /regulatory / corporate limits (if any)	N/A
	QA/QC	Payment records
Remarks		

B.7.2 Data and parameters to be monitored for E+/S+ assessments (negative impacts)

>> No impacts were identified in Section E that are not in compliance with applicable national regulatory requirements. In addition, the project has all environmental licenses for installation and operation.

For more details see section E.

B.7.3. Sampling plan

>> Not applicable.

B.7.4. Other elements of the monitoring plan

>> The objective of the monitoring plan is to ensure the complete, consistent, clear and accurate monitoring and calculation of the emission reductions achieved by the project activity during the whole crediting period. The project operator will be responsible for the implementation of the monitoring plan on which is based in monitoring the net electricity dispatched to the grid and the emission factor of the electricity grid. Also, should do the follow up of operations, revision of the monitored results and data, quality assurance of measurements and be responsible of training process of staff.

Section C. Start date, crediting period type and duration

C.1. Start date of the Project Activity

>> Start date of project activity is 23-November-2022, when the National Electric Energy Agency (ANEEL, in Portuguese) issued the first dispatch for power generation to the national interconnected system.

C.2. Expected operational lifetime of the Project Activity

>> The operational lifetime of the project is about 20 (twenty) years as per the average of operation of the photovoltaic power plant²⁴.

C.3. Crediting period of the Project Activity

>>

C.3.1. Start and end date of the crediting period

>> The project start date will be confirmed after the project registration in GCC.

C.3.2. Duration of crediting period

>> The crediting period is fixed as 10 (ten) years according to Project Standard v3.1.

Section D. Environmental impacts

D.1. Analysis of environmental impacts

>> The main objective of Environmental Licensing in Brazil is to standardize environmental impacts assessments and establish control plans for polluting enterprises. The state level environmental agencies are the authority in charge to issue Environmental Permits.

In Minas Gerais, the Secretary of State for Environment and Sustainable Development (Secretaria de Estado de Meio Ambiente e Desenvolvimento Sustentável) – SEMAD and the Regional Superintendence for the Environment (Superintendência Regional de Meio Ambiente) – SUPRAM are responsible for environmental licensing.

According to the Federal Resolution CONAMA 001/86, activities that utilize natural resources and are considered as entrepreneurships with high degradation or pollution potential must have their environmental impact assessment and environmental impact report elaborated to obtain the environmental licenses. Electricity generation, independently of the energy source, with potential higher than 10 MW, is amongst these activities.

²⁴ According to Report MERCURY_Coromandel_202108_EPE_Summary_Bifi_20210914.

In the State of Minas Gerais, there is the publication of Normative Deliberation Copam nº 217 (Deliberação Normativa Copam nº 217, in portuguese), of December 6, 2017, which establishes criteria for classification, according to the size and polluting potential, as well as the criteria for defining the modalities of environmental licensing of activities that use environmental resources. According to the document, photovoltaic plants have little degrading potential, so these projects will be subject to the Simplified Environmental Licensing (LAS).

In this project activity, LAS - Simplified Environmental Licensing (Licenciamento Ambiental Simplificado, in Portuguese) was issued, carried out in a single step, through the registration of information related to the activity or enterprise with the competent environmental agency.

Table 15 - License issued

Project	License	Issued on	Valid to	Environmental Agency
Coromandel	Certificate Nº 5374 - Simplified Environmental License (LAS/Cadastro mode)	9-December-2020	9-December-2030	Secretary of State for Environment and Sustainable Development – SEMAD and Regional Superintendence for the Environment - SUPRAM.

D.2. Environmental impact assessment and management action plans

>> In Minas Gerais state, photovoltaic plants are considered to have low degrading potential, so these projects are subject to the Simplified Environmental Licensing (LAS), presented in Table 15. In this project activity, the LAS was carried out in a single phase, through registration of information by the entrepreneur, with electronic dispatch of the License, called LAS/Cadastro;

The document was emitted with the competent environmental agency for the evaluation of projects and issuance of environmental licenses for their implementation, in this case, Secretary of State for Environment and Sustainable Development – SEMAD and Regional Superintendence for the Environment - SUPRAM. This entire process is based on Federal Resolution 237/297 of the National Council for the Environment - CONAMA.

Section E. Environmental and social safeguards

>> This project activity is subject to the approval of the competent environmental agency. All programs and reports were prepared in accordance with Brazilian national standards.

E.1. Environmental safeguards

Impact of Project Activity on		Information on Impacts, Do-No-Harm Risk Assessment and Establishing Safeguards							Project Owner's Conclusion		GCC Project Verifier's Conclusion. (To be included in Project Verification Report only)	
		Description of Impact (positive or negative)	Legal/voluntary corporate requirement / regulatory/voluntary corporate threshold Limits	Do-No-Harm Risk Assessment (choose which ever is applicable)			Risk Mitigation Action Plans for aspects marked as Harmful		Performance indicator for monitoring of impact	Ex-ante scoring of environmental impact	Explanation of the Conclusion	3 rd Party Audit
				Not Applicable	Harmless	Harmful	Operational Controls	Program of Risk Management Actions				
<p>Environmental Aspects on the identified categories²⁵ indicated below.</p>	<p>Indicators for environmental impacts</p>	<p>Describe and identify anticipated and actual significant environmental impacts, both positive and negative from all sources (stationary and mobile) during normal and abnormal/emergency conditions, that may result from the construction and operations of the Project Activity, within and outside the project boundary, over which the Project Owner(s) has/have control.</p>	<p>Describe the applicable national regulatory requirements /legal limits / voluntary corporate limits related to the identified risks of environmental impacts.</p>	<p>If no environmental impacts are anticipated, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as Not Applicable</p>	<p>If environmental impacts exist, but are expected to be in compliance with applicable national regulatory /stricter voluntary corporate requirements and will be within legal/voluntary corporate limits by way of plant design and operating principles, then the Project Activity is unlikely to cause any harm (is safe) and</p>	<p>If negative environmental impacts exist that will not be in compliance with the applicable national legal/regulatory requirements or are likely to exceed legal limits, then the Project Activity is likely to cause harm (may be un-safe) and shall be indicated</p>	<p>Describe the operational controls and best practices, focusing on how to implement and operate the Project Activity, to reduce the risk of impacts that have been identified as 'Harmful' at least to a level that is in compliance with applicable legal/regulatory requirements or industry best practice or stricter voluntary corporate requirements</p>	<p>Describe the Program of Risk Management Actions (refer to Table 3), focusing on additional actions (e.g., installation of pollution control equipment) that will be adopted to reduce or eliminate the risk of impacts that have been identified as Harmful.</p>	<p>Describe the monitoring approach and the parameters (KPI) to be monitored for each impact irrespective of whether it is harmless of harmful. The frequency of monitoring to be specified as well including the data source.</p>	<p>-1 0 +1</p>	<p>Confirm the score of environmental impact of the project with respect to the aspect and its monitored value in relation to legal /regulatory limits (if any) including basis of conclusion.</p>	<p>Describe how the GCC Verifier has assessed that the impact of the Project Activity against the particular aspect and in case of "harmful impacts" how has the project adopted Risk Mitigation Action Plans to mitigate the risks of negative environmental impacts to levels that are unlikely to cause any harm as well as the net positive impacts of the project with respect to the most likely baseline alternative.</p>

²⁵ sourced from the CDM SD Tool and the sample reports are available (<https://www4.unfccc.int/sites/sdcmicrosite/Pages/SD-Reports.aspx>)

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					shall be indicated as Harmless /if the project has an positive impact on the environment mark it as "harmless" as well.	as Harmful						
Reference to paragraphs of Environmental and Social Safeguards Standard		Paragraph 12 (a)	Paragraph 13 (c)	Paragraph 13 (d) (i)	Paragraph 13 (d) (ii)	Paragraph 13 (d) (iii)	Paragraph 13 (e) (i)	Paragraph 13 (e) (ii)	Paragraph 12 (c) and Paragraph 13 (f)	Paragraph 22		Paragraph 24 and Paragraph 26 (a) (i)
Environment - Air	SO _x emissions (EA01)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	NO _x emissions (EA02)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	CO ₂ emissions (EA03)	Positive: The project reduces CO ₂ emissions since it reduces the amount of electricity that would be generated from fossil fuel and other non-renewable sources.	NA	NA	Harmless	NA	NA	NA	The CO ₂ emission reductions are going to be monitored through Monitoring Reports under GCC Standard (parameter ERY), annually.	+1	There are other energy sources and power plants who emitted CO ₂ emissions, which has been calculated by the combined margin emissions factor. The emission reductions are expected to be reduced through the renewable energy project which will be regularly monitored and verified ex -post and therefore is eligible to be scored. (777,471 tonnes of CO ₂ e)	
	CO emissions (EA04)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Suspended particulate matter (SPM)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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	<i>emissions (EA05)</i>											
	<i>Fly ash generation (EA06)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Non-Methane Volatile Organic Compounds (NMVOCs) (EA07)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Odor (EA08)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Noise Pollution (EA09)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Others (EA10)</i>											
Environment - Land	<i>Solid waste Pollution from Plastics (EL-01)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Solid waste Pollution from Hazardous wastes (EL02)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Solid waste Pollution from Bio-medical wastes (EL03)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Solid waste Pollution</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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	from E-wastes (EL04)												
	Solid waste Pollution from Batteries (EL05)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Solid waste Pollution from end of life products/ equipment (EL06)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Soil Pollution from Chemicals (including Pesticides, heavy metals, lead, mercury) (EL07)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	land use change (change from cropland /forest land to project land) (EL08)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Others (EL09)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Environ ment - Water	Reliability/ accessibility of water supply (EW01)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Water Consumption from ground	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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	<i>and other sources (EW02)</i>											
	<i>Generation of wastewater (EW03)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Wastewater discharge without/with insufficient treatment (EW04)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Pollution of Surface, Ground and/or Bodies of water (EW05)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Discharge of harmful chemicals like marine pollutants / toxic waste (EW06)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Others (EW07)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Environment – Natural Resources	<i>Conserving mineral resources (ENR01)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Protecting/enhancing plant life (ENR02)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Protecting/enhancing species diversity (ENR03)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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	<i>Protecting/enhancing forests (ENR04)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Protecting/enhancing other depletable natural resources (ENR05)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Conserving energy (ENR06)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Replacing fossil fuels with renewable sources of energy (ENR07)</i>	The project avoids the use of fossil fuels with renewable sources of energy	NA	NA	Harmless	NA	NA	NA	The CO ₂ emission reductions are going to be monitored through Monitoring Reports under GCC Standard (parameter ERY), annually.	+1	There are other energy sources and power plants who emitted CO ₂ emissions, which has been calculated by the combined margin emissions factor. The emission reductions are expected to be reduced through the renewable energy project which will be regularly monitored and verified ex -post and therefore is eligible to be scored (777,471 tonnes of CO ₂ e).	
	<i>Replacing ODS with non-ODS refrigerants (ENR08)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Others (ENR09)</i>											
Net Score:		+2										
Project Owner's Conclusion in PSF:		The Project Owner confirms that the Project Activity will not cause any net harm to Environment.										
GCC Project Verifier's Opinion:		The GCC Verifier certifies that the Project Activity [is not likely to cause any] or [is likely to cause] net harm to the environment.										

E.2. Social Safeguards

Impact of Project Activity on		Information on Impacts, Do-No-Harm Risk Assessment and Establishing Safeguards							Project Owner's Conclusion		GCC project Verifier's Conclusion (To be included in Project Verification Report only)
		Description of Impact (positive or negative)	Legal requirement /Limit, Corporate policies / Industry best practice	Do-No-Harm Risk Assessment (choose which ever is applicable)			Risk Mitigation Action Plans (for aspects marked as Harmful)	Performance indicator for monitoring of impact.	Ex-ante scoring of environmental impact	Explanation of the Conclusion	3 rd Party Audit
				Not Applicable	Harmless	Harmful					
<p>Social Aspects on the identified categories²⁶ indicated below.</p>	<p>Indicators for social impacts</p>	<p>Describe and identify actual and anticipated impacts on society and stakeholders, both positive or negative, from all source during normal and abnormal/emergency conditions that may result from constructing and operating of the Project Activity within or outside the project boundary, over which the project Owner(s) has/have control</p>	<p>Describe the applicable national regulatory requirements / legal limits or organizational policies or industry best practices related to the identified risks of social impacts</p>	<p>If no social impacts are anticipated, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as Not Applicable</p>	<p>If social impacts exist, but are expected to be in compliance with applicable national regulatory requirements/ stricter voluntary corporate limits by way of plant design and operating principles then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as Harmless, project having positive impact on society wrt. To the BAU / baseline scenario</p>	<p>If negative social impacts exist that will not be in compliance with the applicable national legal/ regulatory requirements or are likely to exceed legal limits then the Project Activity is likely to cause harm and shall be indicated as Harmful</p>	<p>Describe the operational or management controls that can be implemented as well as best practices, focusing on how to implement and operate the Project Activity, to reduce the risk of impacts that have been identified as Harmful.</p>	<p>Describe the monitoring approach and the parameters (KPI) to be monitored for each impact irrespective of whether it is harmless or harmful. The frequency of monitoring to be specified as well. Monitoring parameters can be quantitative or qualitative in nature along with the data source</p>	<p>-1 0 +1</p>	<p>Confirm the score of the social impacts of the project with respect to the aspect and its monitored value in relation to legal/regulatory limits (if any) including basis of conclusion</p>	<p>Describe how the GCC Verifier has assessed that the impact of Project Activity on social aspects (based on monitored parameters, quantitative or qualitative) and in case of "harmful" aspects how has the project owner adopted Risk Mitigation Action / management actions plans and policies to mitigate the risks of negative social impacts to levels that are unlikely to cause any harm. Also describe the positive impacts of the project on the</p>

²⁶ sourced from the CDM SD Tool and the sample reports are available (<https://www4.unfccc.int/sites/sdcmicrosite/Pages/SD-Reports.aspx>)

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					<i>must also mark their aspect as "harmless"</i>						<i>society as compared to the baseline alternative or BAU scenario.</i>
<i>Reference to paragraphs of Environmental and Social Safeguards Standard</i>		<i>Paragraph 12 (a)</i>	<i>Paragraph 13 (c)</i>	<i>Paragraph 13 (d) (i)</i>	<i>Paragraph 13 (d) (ii)</i>	<i>Paragraph 13 (d) (iii)</i>	<i>Paragraph 13 (e) (i)</i>	<i>Paragraph 12 (c) and Paragraph 13 (f)</i>	<i>Paragraph 23</i>		<i>Paragraph 24 and Paragraph 26 (a) (ii)</i>
Social - Jobs	<i>Long-term jobs (> 10 year) created/lost (SJ01)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>New short-term jobs (< 1 year) created/lost (SJ02)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Sources of income generation increased / reduced (SJ03)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Avoiding discrimination when hiring people from different race, gender, ethnics, religion, marginalized groups, people with disabilities (SJ04) (human rights)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Social - Health & Safety	<i>Disease prevention (SHS01)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Occupational health hazards (SHS02)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Reducing / increasing accidents/incidents/fatality (SHS03)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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	<i>Reducing / increasing crime (SHS04)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Reducing / increasing food wastage (SHS05)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Reducing / increasing indoor air pollution (SHS06)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Efficiency of health services (SHS07)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Sanitation and waste management (SHS08)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Other health and safety issues (SHS09)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Social - Education	<i>specialized training / education to local personnel (SE01)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Educational services improved or not (SE02)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Project-related knowledge dissemination effective or not (SE03)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Other educational issues (SE03)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Social - Welfare	<i>Improving/ deteriorating working conditions (SW01)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Community and rural welfare (indigenous people and communities) (SW02)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Poverty alleviation (more people above poverty level) (SW03)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Improving / deteriorating wealth distribution/ generation of income and assets (SW04)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Increased or / deteriorating municipal revenues (SW05)</i>	The project provides revenue to the affected municipalities by tax payment.	NA	NA	Harmless	NA	NA	Verify through proof of payment of taxes/ wages annually	+1	The payment of taxes generates an improvement in the distribution of municipal revenue.	NA
	<i>Women's empowerment (SW06) (human rights)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Reduced / increased traffic congestion (SW07)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Exploitation of Child labour (human rights) (SW08)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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	<i>Minimum wage protection (human rights) (SW09)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Abuse at work place. (with specific reference to women and people with special disabilities / challenges) (human rights) (SW10)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Other social welfare issues (SW11)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Avoidance of human trafficking and forced labour (human rights) (SW12)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Avoidance of forced eviction and/or partial physical or economic displacement of IPLCs (human rights) (CW13)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	<i>Provisions of resettlement and human settlement displacement (human rights) (CW14)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Net Score:			+1								
Project Owner's Conclusion in PSF:			The Project Owner confirms that the Project Activity will not cause any net harm to society.								

GCC Project Verifier's Opinion:

The GCC Verifier certifies that the Project Activity [is not likely to cause any] or [is likely to cause] net harm to society.

Section F. United Nations Sustainable Development Goals (SDG)

>>

UN-level SDGs	UN-level Target	Declared Country-level SDG	Defining Project-level SDGs				GCC Project Verifier's Conclusion (to be included in Project Verification Report only)	
			Project-level SDGs	Project-level Targets/Actions	Contribution of Project-level Actions to SDG Targets	Monitoring	Verification Process	Are Goal/ Targets Likely to be Achieved?
<p>Describe UN SDG targets and indicators</p> <p>See: https://unstats.un.org/sdgs/indicators/indicators-list/</p>	<p>Describe the UN-level target(s) and corresponding indicator no(s)</p>	<p>Has the host country declared the SDG to be a national priority? Indicate Yes or No</p>	<p>Define project-level SDGs by suitably modifying and customizing UN/ Country-level SDGs to the project scope or creating a new indicator(s). Refer to previous column ofr guidance.</p>	<p>Define project-level targets/actions in line with nee project level indicators chosen. Define the target date by which the project Activity is expected to achieve the project-level SDG target(s).</p>	<p>Describe and justify how actions taken under the Project Activity are likely to result in a direct positive effect that contributes to achieving the defined project-level SDG targets</p>	<p>Describe the monitoring approach and the monitoring parameters to be applied for each project-level SDG indicator and its corresponding target, frequency of monitoring and data source</p>	<p>Describe how the GCC Verifier has verified the claims that the project is likely to achieve the identified Project level SDGs target(s).</p>	<p>Describe whether the project-level SDG target(s) is likely to be achieved by the target date (Yes or No)</p>
<p>Goal 1: End poverty in all its forms everywhere</p>	<p>SDG Target 1.1: By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day.</p> <p>Indicator 1.1.1</p>	<p>Yes</p>	<p>The project requires a high number of workers either during construction or operation.</p>	<p>Indicator 1.1.1 Proportion of the population living below the international poverty line by sex, age, employment status and geographical location (urban/rural).</p>	<p>The project created job opportunity for both construction and operation period. Also created long term employment for people who are directly working at all facilities</p>	<p>Confirmation of the number of people hired annually.</p>		

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Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture								
Goal 3. Ensure healthy lives and promote well-being for all at all ages								
Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all								
Goal 5. Achieve gender equality and empower all women and girls								
Goal 6. Ensure availability and sustainable management of water and sanitation for all								
Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all	<p>SDG Target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix* by the utilization of biomass as a renewable energy source.</p> <p>Indicator 7.2.1</p>	Yes	The project contributes to this SDG in its operation, providing clean energy to the grid.	<p>Indicator 7.2.1:</p> <p>Renewable energy share in the total final energy consumption.</p>	The project contributes to this SDG in its operation, providing clean energy to the grid.	Monitoring the amount of energy provided to the grid annually.		
Goal 8. Promote sustained, inclusive	SDG Target 8.8:	Yes	The company has a policy of hiring using CLT modality.	Indicator 8.8.2:	The project yields work opportunities	Confirmation of the number of		

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<p>and sustainable economic growth, full and productive employment and decent work for all</p>	<p>Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular migrant women, and people in precarious jobs.</p> <p>Indicator 8.8.2</p>			<p>Level of national compliance with labor rights (freedom of association and collective bargaining) based on International Labor Organization (ILO) textual sources and national legislation, by sex and migrant status.</p>	<p>in a safe and secure working environment, following all the Labor Rights all the work requirements of the CLT modality.</p> <p>The CLT (Consolidation of labor laws) is composed of eight chapters that cover and specify the rights of most Brazilian labor groups. In its 922 articles, information such as: professional identification, duration (day) of work, minimum wage, annual vacations, occupational safety and medicine, protection of the work of women and children, social security and regulations of working-class unions are found.</p>	<p>people hired by CLT annually</p>		
<p>Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</p>	<p>SDG Target 9.4:</p> <p>By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in</p>	<p>Yes</p>	<p>The project contributes to this SDG in its operation, providing clean energy to the grid.</p>	<p>Indicator 9.4.1: CO₂ emission per GNP.</p>	<p>The project helps adaptation and adoption of clean energy technologies by implementing a solar power plant.</p>	<p>Monitoring the amount of energy provided to the grid annually.</p>		

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	accordance with their respective capabilities. Indicator 9.4.1							
Goal 10. Reduce inequality within and among countries	SDG Target 10.4: Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality. Indicator 10.4.2	Yes	The project collaborates to the achievement of the SDG, once it includes in the working condition of its employees the contribution to the INSS.	Indicator 10.4.2: Redistributive impact of fiscal policy.	The National Institute of Social Security (INSS) is an autarchy of the Government of Brazil linked to the Ministry of Labor and Provisional Welfare that receives contributions for the maintenance of the General Social Security System, responsible for the payment of retirement, maternity salary, pension for death, sickness allowance, accident/reclusion allowance, and other benefits, belonging to the nucleus of Exclusive State Activities, for those who acquire the right to these benefits according to the law.	Confirmation of the number of people hired during by CLT annually.		
Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable	SDG Target 11.6: By 2030, reduce the adverse per capita environmental impacts of cities, including by paying special attention to air quality and municipal and other waste management. Indicator 11.6.2	Yes	The project contributes to this SDG in its operation, providing clean energy to the grid	Indicator 11.6.2: Annual mean levels of fine particulate matter (e.g., PM2.5 and PM10) in cities (population weighted)	As known, fossil fuel emissions are secondary sources of particulate matter in the cities. Since the project reduces the use of fossil fuels, the project helps to improve air quality in cities.	Monitoring the amount of energy provided to the grid annually.		

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Goal 12. Ensure sustainable consumption and production patterns								
Goal 13. Take urgent action to combat climate change and its impacts	SDG Target 13.2: Integrate climate change measures into national policies, strategies, and planning. Indicator 13.2.2	Yes	The project contributes to this SDG in its operation, providing clean energy to the grid.	Indicator 13.2.2: Total greenhouse gas emissions per year.	The project contributes to this SDG in its operation, providing clean energy to the grid.	Monitoring the amount of energy provided to the grid annually.		
Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development								
Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss								
Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels								

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Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development									
SUMMARY						Targeted		Likely to be Achieved	
Total Number of SDGs						7		7	
Certification label (Bronze, Silver, Gold, Platinum, or Diamond) for the ACCs as defined in the PSF						Diamond		Diamond	

Section G. Local stakeholder consultation

G.1. MODALITIES FOR LOCAL STAKEHOLDER CONSULTATION

>> Usina de Energia Fotovoltaica de Coromandel S.A. contributed and agreed with the list of stakeholders referring to the main entities and local communities that will be directly and indirectly related to the Coromandel Renewable Energy Project. This mapping of stakeholders was carried out as a result of the construction of the enterprise and the carbon project to be developed.

On 03-November-2022, the stakeholders received an e-mail communicating about Coromandel Renewable Energy Project, with all information regarding carbon credits, carbon markets, project information and next steps.

The stakeholders invited are listed below:

- State and municipal environmental Agencies.
- Universities, Technical and Research Institutes.
- Representatives of local communities.
- Partners and suppliers.

The Stakeholder Consultation was carried out on 11-November-2022 via videoconference. During the public consultation, the concepts of the carbon market and climate change were explained. In addition, information about the Usina de Energia Fotovoltaica de Coromandel S.A A carbon project was also given, as well as the benefits that the project brings to the community and the environment in the fight against climate change.

Furthermore, the video conference was recorded as evidence.

G.2. SUMMARY OF COMMENTS RECEIVED

>> The consultation of the local stakeholder did not generate further doubts about the project. Some questions, presented in the following table, were asked and all participants expressed positive opinions. In addition, the project owners sent an email with a complete presentation and provided additional time for comments.

Question	Participant	Answer (Future Carbon Holding S.A)
How will the Municipality contribute to the project?	Luis Carlos Rodrigues – Secretary of Government and Development of the Municipality of Coromandel	In addition to being aware of the benefits of generating jobs that the plant brings to the city, the municipality can act in the dissemination of information to the population about the carbon credits project, which is a topic still unknown by many. This inclusion is important.
Do you already have clients to buy the carbon from this project?		It depends on the project. We contact the company (in this case: Comerc) and align with them. There is an option for us to do the service/ sell the credit, and the option that they can also go after someone to buy it.
Will the sale of this carbon generate any municipal taxes?		The operation itself, yes. But federal PIS/COFINS and ISS. The taxation of carbon credits is still a subject being defined by the government. Carbon is considered an intangible asset, being a transition between companies and where they are based. In May/2022, we had a decree that has not yet been regulated, but the asset would change from an intangible asset to a financial asset.

G.3. CONSIDERATION OF COMMENTS RECEIVED

>> During the local stakeholder consultation, the participants have been informed about the feedback round. Some questions were answered and the contact information of the project owners was also given to any further questions.

Section H. Approval and authorization

>>

APPENDIX 1. CONTACT INFORMATION OF PROJECT OWNERS

Project Owner name (as per LON/LOA)	Usina de Energia Fotovoltaica de Coromandel S.A.
Country	Brazil
Address	Rodovia Coromandel a Patos de Minas, Km 22, 38550-000, Coromandel, Minas Gerais, Brazil
Telephone	+55 11 992541341
Fax	-
E-mail	dshinohara@perfin.com.br
Website	http://www.comerc.com.br
Contact person	Daniel Yoshio Shinohara

Project Owner name (as per LON/LOA)	Mercury Renew Participações S.A.
Country	Brazil
Address	Gomes de Carvalho Street, 1765, Vila Olímpia - cj 31 and 32, São Paulo, State of São Paulo, Brazil - Zip Code 04547-901
Telephone	+55 11 4780-4950
Fax	-
E-mail	dshinohara@perfin.com.br
Website	http://www.comerc.com.br
Contact person	Daniel Yoshio Shinohara

Project Owner name (as per LON/LOA)	Elgesa Holdings e Participações Ltda.
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Telephone	+55 31 3586-1205
Fax	-
E-mail	pa@solatio.com.br
Website	https://www.solatio.com.br/
Contact person	Pedro Miguel Rosa Afonseca,

Project Owner name (as per LON/LOA)	Sunrise Energy Holding Ltda
Country	Brazil

Address	Visconde de Guarapuava Avenue, 177, Room 1007 - Batel, Curitiba, Paraná, Brazil - Zip Code 80240-010
Telephone	+55 41 2106-7900
Fax	-
E-mail	wavilav@hotmail.com
Website	-
Contact person	Walfrido Victorino Avila

APPENDIX 2. AFFIRMATION REGARDING PUBLIC FUNDING

>> Not applicable. No funding was granted to the project activity.

APPENDIX 3. APPLICABILITY OF METHODOLOGY(IES)

>> No further information.

APPENDIX 4. FURTHER BACKGROUND INFORMATION ON EX ANTE CALCULATION OF EMISSION REDUCTIONS

>> No further information.

APPENDIX 5. FURTHER BACKGROUND INFORMATION ON MONITORING PLAN

>> No further information.

APPENDIX 6. SUMMARY REPORT OF COMMENTS RECEIVED FROM LOCAL STAKEHOLDERS

>> No further information.

APPENDIX 7. SUMMARY OF DE-REGISTERED CDM PROJECT OR PROJECTS FROM OTHER GHG / NON-GHG PROGRAMS (TYPE B)

>>

<i>Complete this form in accordance with the instructions attached at the end of this form.</i>	
Program Name	
Project registration number	
Date of registration in the program	
Title of the Project Activity	
Project de-registration reference number	
Date of de-registration of the Project	
Project Participants (authorized by the host / annex 1 country letter of approval)	
Country where the project is located	
Applied methodology(ies) (provide reference and version number(s))	

Pre-registration changes to the Project Activity (Tick as applicable)	Pre-registration Changes	Reference number	Approved	Provide a summary of pre-registration changes
	Deviations from approved baseline and monitoring methodology		<input type="checkbox"/>	
	Deviations from applied Tool & Guidance		<input type="checkbox"/>	
	Deviations from the rules		<input type="checkbox"/>	
	Other.....		<input type="checkbox"/>	
Post-registration changes to the Project Activity (Tick as applicable)	Post registration Changes	Reference number	Approved	Provide a summary of post-registration changes
	Change in project design		<input type="checkbox"/>	
	Request for revision of monitoring plan		<input type="checkbox"/>	
	Request for change in start date of crediting period		<input type="checkbox"/>	
	Renewal of crediting period		<input type="checkbox"/>	
	Temporary deviations		<input type="checkbox"/>	
	Other.....		<input type="checkbox"/>	

Crediting Period(s)	Crediting period(s)		Period (start & end dates)	ERs as per registered PDD/MR/Project documents	Credits issued	
	Crediting Period (shall start on or after 1 Jan 2016)	Fixed 10 year				
		Renewable (7 years, with 2 approved renewals)	1 st			
			2 nd			
			3 rd			
	Period for which Credits have been issued					
	Period for which Credits have been requested but not issued					-
	Period for which Credits have never been requested for issuance (no monitoring reports submitted)					-
Period for which Credits have never been requested for issuance prior to CDM de-registration					-	
Remaining Crediting period, after de-registration, for which Credits have not been issued by the program, subject to a ceiling of 10 years as allowed under the GCC Program					-	

Details of Previous Issuance Requests	Issuance Request	Period (start & end dates)	ERs as per registered PDD	Quantity of Credits requested to be issued	Quantity of Credits issued
	1 st				
	2 nd				
	3 rd				
	4 th				
	5 th				
	Add rows				
	Total				
List any open issues in the Validation and last Verification Report (e.g., FARs, if any) and how they have been addressed					
Any other relevant information that has not been reported in the registered documents and that may have adverse impacts on the environmental integrity of the Project Activity					
Provide the list of all the registered documents related to this project, as available on the programs website and the corresponding URLs.					

Appendix 8. FURTHER INFORMATION ON DETERMINATION OF BUNDLE IN PROJECT ACTIVITY.

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Appendix 9. PUBLIC DECLARATION FOR A2 (Sub Type 2 and 3), B1 & B2 PROJECTS ON NON CONTINUATION FROM CDM/GHG/NON-GHG PROGRAMS.

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DOCUMENT HISTORY

Version	Date	Comment
V 4.0	27/09/2022	<ul style="list-style-type: none"> ▪ Revised version released on approval by Steering Committee as per GCC Program Process; ▪ Revised version contains following changes: <ul style="list-style-type: none"> ○ Introduced A3 type projects A2 project sub-types; ○ Included revised Declaration by the 'Authorized Project Owner and focal point' on GCC requirements; ○ Included modified format for E+/S+/ SDG assessment; ○ Revised instructions for filling in the PSF; ○ Editorial changes to the document.
V 3.2	31/12/2020	<ul style="list-style-type: none"> ▪ The name of GCC Program's emission units has been changed from "Approved Carbon Reductions" or ACRs to "Approved Carbon Credits" or ACCs.
V 3.1	17/08/2020	<ul style="list-style-type: none"> ▪ Editorial revisions made <ul style="list-style-type: none"> ○ Revised Table in section B.7.2 on Monitoring-program of risk management actions ○ Revised Table in section E.1 on Environmental Safeguards ○ Revised Table in section E.1 on Social Safeguards ○ Revised Table in section F on United Nations Sustainable Development Goals (SDG)
V 3.0	05/07/2020	<ul style="list-style-type: none"> ▪ Revised version released on approval by Steering Committee as per GCC Program Process; ▪ Revised version contains following changes: <ul style="list-style-type: none"> ○ Change of name from Global Carbon Trust (GCT) to Global Carbon Council (GCC); ○ Considered and addressed comments raised by Steering Committee: <ul style="list-style-type: none"> ➤ during physical meeting (SCM 01, dated 29 Oct 2019, Doha Qatar); and ➤ electronic consultations EC01-Round 01 (15.09.2019 – 25.09.2019), EC01-Round 02 (27.03.2020 – 27.06.2020). ○ Feedback from Technical Advisory Board (TAB) of ICAO on GCC submission for approval under CORSIA²⁷;
V 2.0	25/06/2019	<ul style="list-style-type: none"> ▪ Revised version released for approval by the GCC Steering Committee. ▪ Revised version includes additional details and instructions on the information to be provided, consequent to the latest developments world-wide (e.g., CORSIA EUC).
V 1.0	01/11/2016	Initial version released under the GCC Program Version 1

²⁷See ICAO recommendation for conditional approval of GCC at https://www.icao.int/environmental-protection/CORSIA/Documents/TAB/Excerpt_TAB_Report_Jan_2020_final.pdf

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