GLOBAL CARBON COUNCIL

Driving Climate Actions

Project Verification Report

V3.1 - 2020

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CONTENTS

COVER PAGE Project Verification Report Form (PVR)	
BASIC INFORMATION	
Name of approved GCC Project Verifier / Reference No. (also provide weblink of approved GCC Certificate)	Carbon Check (India) Private Limited. /GCCV004/01 http://globalcarboncouncil.com/wp-content/uploads/2021/10/carbon-check-india-private-limited-ccipl.pdf
Type of Accreditation	☐ Individual Track[1] ☒ CDM Accreditation 28/03/2019 to 01/06/2024 https://cdm.unfccc.int/DOE/list/DOE.html?entityCode=E-0052 ☒ ISO 14065 Accreditation UNFCCC (28/06/2021 to 27/06/2024) https://cdm.unfccc.int/DOE/list/DOE.html?entityCode=E-0052
Approved GCC Scopes and GHG Sectoral scopes for Project Verification	GCC Scope • Green House Gas (GHG# - ACC) • Environmental No-harm (E+) • Social No-harm (S+) • Sustainable Development Goals (SDG+) GHG Sectoral Scope 1. Energy (renewable/non-renewable sources) (CDM TA 1.2)
Validity of GCC approval of Verifier	08/03/2023 to 31/05/2024
Title, completion date, and Version number of the PSF to which this report applies	SERTAO and SOBRAL I Solar PV Project by GPG NATURGY Version 07 Dated 24/10/2023
Title of the project activity	SERTAO and SOBRAL I Solar PV Project by GPG NATURGY
Project submission reference no. (as provided by GCC Program during GSC)	S00612

[1] **Note:** GCC Verifier under Individual tack is not eligible to conduct verifications for the GCC project that intends to supply carbon credits (ACCs) for CORSIA requirements.

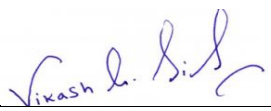
<table>
<tr><td>Eligible GCC Project Type[2] as per the Project Standard
(Tick applicable project type)</td><td>☒ Type A:
☐ Type A1
☒ Type A2
☒ Sub-Type 1
☐ Sub-Type 2
☐ Sub-Type 3
☐ Sub-Type 4

☐ Type B – De-registered CDM Projects:
☐ Type B1
☐ Type[3] B2</td></tr>
<tr><td>Date of completion of Local stakeholder consultation</td><td>22/01/2017</td></tr>
<tr><td>Date of completion and period of Global stakeholder consultation. Have the GSC comments been verified. Provide web-link.</td><td>20/11/2022 – 04/12/2022
No comments were received.
https://www.globalcarboncouncil.com/global-stakeholders-consultation-6/</td></tr>
<tr><td>Name of Entity requesting verification service
(can be Project Owners themselves or any Entity having authorization of Project Owners)</td><td>NATURGY COMMODITIES TRADING, S.A. (“NCT”)</td></tr>
<tr><td>Contact details of the representative of the Entity, requesting verification service
(Focal Point assigned for all communications)</td><td>Marta Pla Carrasco
Address: AVENIDA SAN LUIS 77, 28033 MADRID, Spain
Email: greentrading@naturgy.com</td></tr>
<tr><td>Country where project is located</td><td>Brazil</td></tr>
<tr><td>GPS coordinates of the Project site(s)</td><td>
<table>
<tr><th>Physical address</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>SERTAO I</td><td>8°33'00.8"S (-8.5502)</td><td>42°17'09.6"W (-42.286)</td></tr>
<tr><td>SOBRAL I</td><td>8°17'19.0"S (-8.2886)</td><td>42°22'09.4"W (-42.3692)</td></tr>
</table>
</td></tr>
</table>

[2] Project Types defined in Project Standard and Program Definitions on GCC website.

[3] GCC Project Verifier shall conduct Project Verification for all project types except B_2.

Applied methodologies (approved methodologies of GCC or CDM can be used)	ACM0002 “Grid-connected electricity generation from renewable sources”, version 21.0 from CDM.
GHG Sectoral scopes linked to the applied methodologies	Scope 1 - energy industries (renewable / non-renewable sources)
Project Verification Criteria: Mandatory requirements to be assessed	☒ ISO 14064-2, ISO 14064-3 ☒ GCC Rules and Requirements ☒ Applicable Approved Methodology ☒ Applicable Legal requirements /rules of host country ☒ National Sustainable Development Criteria (if any) ☒ Eligibility of the Project Type ☒ Start date of the Project activity ☒ Meet applicability conditions in the applied methodology ☒ Credible Baseline ☒ Additionality ☒ Emission Reduction calculations ☒ Monitoring Plan ☒ No GHG Double Counting ☒ Local Stakeholder Consultation Process ☒ Global Stakeholder Consultation Process ☒ United Nations Sustainable Development Goals (Goal No 13- Climate Change) ☐ Others (please mention below)
Project Verification Criteria: Optional requirements to be assessed	☒ Environmental Safeguards Standard and do-no-harm criteria. ☒ Social Safeguards Standard do-no-harm criteria. ☒ United Nations Sustainable Development Goals (in additional to SDG 13) ☒ CORSIA requirements
Project Verifier’s Confirmation: The *GCC Project Verifier* has verified the GCC project activity and therefore confirms the following:	The GCC Project Verifier Carbon Check (India) Private Limited, certifies the following with respect to the GCC Project Activity “SERTAO and SOBRAL I Solar PV Project by GPG NATURGY”. ☒ The Project Owner has correctly described the Project Activity in the Project Submission Form (version *07, dated 24/10/2023*) including the applicability of the approved methodology [*CDM methodology, ACM0002 version 21*] and meets the methodology applicability conditions and is expected to achieve the forecasted real measurable and additional GHG emission reductions, complies with the monitoring methodology, has appropriately conducted local and global stakeholder consultation processes and has calculated emission reductions estimates correctly and conservatively.

	☒ The Project Activity is likely to generate GHG emission reductions amounting to the estimated 568,752 tCO_{2e}, as indicated in the PSF, which are additional to the reductions that are likely to occur in absence of the Project Activity and complies with all applicable GCC rules, including ISO 14064-2 and ISO 14064-3. ☒ The Project Activity is not likely to cause any net-harm to the environment and/or society and complies with the Environmental and Social Safeguards Standard, and is likely to achieve the following labels: ☒ Environmental No-net-harm Label (**E⁺**) ☒ Social No-net-harm Label (**S⁺**) ☒ The Project Activity is likely to contribute to the achievement of United Nations Sustainable Development Goals (SDGs), complies with the Project Sustainability Standard, and contributes to achieving a total of *[5]* SDGs, with the following[4] SDG certification label (**SDG⁺**): ☐ Bronze SDG Label ☐ Silver SDG Label ☐ Gold SDG Label ☒ Platinum SDG Label ☐ Diamond SDG Label ☒ The Project Activity complies with all the applicable GCC rules[5] and therefore recommends GCC Program to register the Project activity with above mentioned labels. ☒ The Project Activity complies with all the applicable requirement of the GCC Program and ICAO's requirements on CORSIA Emissions Unit Eligibility Criteria and CORSIA Eligible Emissions Units, as per Clarification No 1., v1.3 paragraph 23-25, and the ACCs expected to be issued during the crediting period is likely to be CORSIA eligible and can be used by International Airlines for offsetting their emissions during all phases of CORSIA and therefore requests GCC Steering Committee to append CORSIA Certification label (C+) to this project.
Project Verification Report, reference number and date of approval	Report No. CCIPL1676/GCC/VAL/SSSPV/20221130 Version 01 Date: 27/10/2023
Name of the authorised personnel of GCC Project Verifier and his/her signature with date	

[4] SDG Certification labels: Bronze label (1 star): by achieving 2 out of 17 SDGs; Silver label (2 star): by achieving 3 out of 17 SDGs; Gold label (3 star): by achieving 4 out of 17 SDGs; Platinum label (4 star): by achieving 5 out of 17 SDGs; and Diamond label (5 star): by achieving more than 5 out of 17 SDGs.

[5] "GCC Rules" are defined in Project Definitions and refers to the rules and requirements set out by the GCC program related to GHG emission reductions and its voluntary certification labels and are available on the GCC Program's public website: https://www.globalcarboncouncil.com/resource-centre.html

	Vikash Kumar Singh, Compliance Officer Date:27/10/2023

1. PROJECT VERIFICATION REPORT

Section A. Executive summary

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Kosher Climate India Private Limited has appointed the GCC Project Verifier, Carbon Check (India) Private Ltd., to perform an independent project verification of the Project "SERTAO and SOBRAL I Solar PV Project by GPG NATURGY" in Brazil (hereafter referred to as "project activity"). This report summarizes the findings of verification of the project, performed based on GCC rules and requirements as well as criteria given to provide for consistent project operations, monitoring, and reporting. This report contains the findings and resolutions from the project verification and a verification opinion. NATURGY COMMODITIES TRADING, S.A. has developed and owns the two solar photovoltaic power generation projects in PIAUÍ at two different locations with installed capacities of 34.74MWp/30 MW each with total project capacity of 69.48MWp/60 MW respectively in Brazil. The installation of total 108,128 photovoltaic modules in each site has been completed, commissioned and connected to the national Grid of Brazil on 09/09/2017.

Type of Project	Grid connected Solar Energy project
Technology	Poly-Crystalline Photovoltaic technology
Connected Grid	Brazilian national grid
Expected Annual Electricity supplied to Grid	123,000 MWh
Expected Annual Emission reduction	56,875 tCO_2eq
GCC labels applied	Environmental No-net-harm Label (E+), Social No-net-harm Label (S+), CORSIA requirements (C+) and United Nations Sustainable Development Goals (SDG+)
Environmental No-net-harm Label (E+) score	+7
Social No-net-harm Label (S+) score	+7
Number of United Nations Sustainable Development Goals (SDG+) opted	5

The purpose of the project verification is to have a thorough and independent assessment of the proposed Project Activity against the applicable GCC rules and requirements, including those specified in the Project Standard, applied methodology/methodological tools and any other requirements, in particular, the project's baseline, monitoring plan and the host country criteria. These are verified to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Verification requirement for all GCC projects activity is necessary to provide assurance to stakeholders of the quality of the Project Activity and its intended generation of Approved Carbon Credits (ACCs).

Location

The Project Activity is located in Rod. Pres. Juscelino Kubitschek, João Costa - PI, 64764-000 and PI-141, São João do Piauí - PI, 64760-000, Brazil.

Address and geodetic coordinates of the physical site of the Project Activity			
Name of the project activity	**Physical address**	**Latitude**	**Longitude**
SERTAO I	Rod. Pres. Juscelino Kubitschek, João Costa - PI, 64764-000, Brazil.	8°33'00.8"S (-8.5502)	42°17'09.6"W (-42.286)
SOBRAL I	PI-141, São João do Piauí - PI, 64760-000, Brazil.	8°17'19.0"S (-8.2886)	42°22'09.4"W (-42.3692)

Scope of the GCC Project Verification

The project verification scope is defined as the independent and objective review of the project submission form (PSF /1/). The PSF /1/ is reviewed against the relevant criteria (see above) and decisions by the GCC, including the CDM approved baseline and monitoring methodology /B02/ and CDM Methodological tool 01 /B04/, tool 07/B05/, tool 24/B07/ and tool 27/B06/. The verification team has, based on the recommendations in the GCC Project Standard, Version 3.1 /B01-1/ and Project Verification Standard Version 3.1 /B01-2/ employed a rule-based approach, focusing on the identification of significant risks for project implementation and the generation of ACCs.

The verification is not meant to provide any consulting towards the project (owner)s. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the program design.

While carrying out the verification, CCIPL determines if the PSF complies with the requirements of the applicability conditions of the selected methodology /B02/, guidance issued by the GCC and assess the claims and assumptions made in the PSF /1/ without limitation on the information provided by the project owner.

Verification Process

Strategic risk Analysis and delineation of the GCC Project verification and sampling plan:

CCIPL employed the following GCC Project verification (termed as “Project Verification” as per GCC) process:

1. Conflict of interest review at the time of contract review.
2. Selection of Audit Team at the time of contract review.
3. Kick-off meeting with the client.
4. Review of the draft PSF listed on GCC website for public consultation.
5. Development of the GCC Project verification plan and sampling plan.
6. Desktop review and evaluation of emission reduction calculations.
7. Follow-up interaction with the client; and final statement and report development.

The GCC Project verification process has utilized to gain an understanding of the:

- Project’s design, GHG emission sources and reductions,
- Baseline determination and additionality,
- GHG monitoring plan,
- Environmental & Social impacts,
- Stakeholder’s consultation,
- SD indicators integrated with the project and
- Verify the collection and handling of data, the calculations that lead to the results, and the means for reporting the associated data and results.

Development of the GCC Project verification Plan:

The Audit Team formally documented its GCC Project verification plan as well as determined the data-sampling plan. The GCC Project verification plan was developed based on discussion of key elements of the GCC Project verification process during the kick-off meeting and as per the criteria of engagement. The client had the opportunity to comment on key elements of this plan for GCC Project verification. Based on items discussed above and agreed upon with the client in the signed contract, the plan identified the CCIPL audit team members based on following:

- Project level of assurance (which is reasonable as per GCC requirements),

- Materiality threshold and
- Standards of evaluation and reporting for the GCC Project verification.

It also provides an outline of the GCC Project verification process and established project deliverables. This GCC Project verification plan also included a sampling plan, which is designed to evaluate all project elements in areas of high risk of inaccuracy or non-conformance.

The project verification consists of the following four phases:

I. A desk review of the project submission form.

- A review of the data and information.
- Cross checks between information provided in the PSF /01//02/ and information from sources with all necessary means without limitations to the information provided by the project owner.

II. Follow-up interviews with project stakeholders

Interviews with relevant stakeholders in host country with personnel having knowledge with the project development.

- Cross checking between information provided by interviewed personnel with all necessary means without limitations to the information provided by the project owner.

III. Reference to available information relating to projects or technologies similar projects under verification and review based on the approved methodology /B02/ being applied of the appropriateness of formulae and accuracy of calculations.

IV. The resolution of outstanding issues and the issuance of the final verification report and opinion.

The Verification team confirms the contractual relationship signed between the CCIPL and the Project Owner. The team assigned to the GCC Project verification meets the CCIPL's internal procedures including the GCC requirements for the team composition and competence. The GCC Project verification team has conducted a thorough contract review as per GCC and CCIPL's procedures and requirements.

The report is based on the assessment of the PSF /1/ undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews and stakeholder interviews, review of the applicable/applied methodology /B02/ and their underlying formulae and calculations.

This report contains the findings (which need to be resolved by the project owner) from the verification and a verification opinion on the proposed Project Activity will be provided once all the raised findings are successfully resolved by the project owner to confirm the program design in the documents is sound and reasonable and meets the stated requirements and identified criteria.

Conclusion

The review of the PSF, supporting documentation and subsequent follow-up actions (onsite audit and interviews) have provided CCIPL with sufficient evidence to determine the fulfilment of stated criteria. CCIPL is of the opinion that the project activity "SERTAO and SOBRAL I Solar PV Project by GPG NATURGY" as described in the final PSF (Version 07, dated 24/10/2023) /1/ meets all relevant requirements of GCC and has correctly applied the CDM baseline and monitoring methodology 'ACM0002: Grid-connected electricity generation from renewable sources' /B02/.

"The project Activity complies with all the applicable requirement of the GCC Program and ICAO's requirements on CORSIA Emissions Unit Eligibility Criteria and CORSIA Eligible Emissions Units, as per Clarification No 1., v1.3 paragraph 23-25, and the ACCs expected to be issued during the crediting period is likely to be CORSIA eligible and can be used by International Airlines for offsetting their emissions during all phases of CORSIA and therefore requests GCC Steering Committee to append CORSIA Certification label (C+) to this project".

The review of the PSF, supporting documentation and subsequent follow-up actions (onsite audit and interviews) have provided CCIPL with sufficient evidence to determine the fulfilment of the voluntary labels E+, S+ /B01-4/ and SDG+ with gold rating /B01-5/. Therefore, the project is being recommended to GCC Steering Committee for request for registration including the applied labels.

Section B. Project Verification team, technical reviewer and approver

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B.1. Project Verification team

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of GCC Project Verifier or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Project Verification findings
1.	Team Leader/ Technical Expert	IR	Mathew	Vijay	CCIPL	Y	Y	Y	Y
2.	Financial Expert	IR	Mathew	Vijay	CCIPL	Y	Y	Y	Y
3.	E+, S+, SDG	IR	Mathew	Vijay	CCIPL	Y	Y	Y	Y
4.	Team member	IR	Kishore Raychoudhury	Rishi	CCIPL	Y	N	N	Y

B.2. Technical reviewer and approver of the Project Verification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of GCC Project Verifier or outsourced entity)
1.	Technical reviewer	IR	Chakravarthy	Shivaji	CCIPL
2.	Financial Expert	IR	Chakravarthy	Shivaji	CCIPL
3.	Approver	IR	Singh	Vikash Kumar	CCIPL

Section C. Means of Project Verification

C.1. Desk/document review

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The verification was performed primarily as a document review of the initial PSF version 02 dated 16/11/2022 and revised final PSF version 07 dated 24/10/2023 /01/. The verification of information provided

in the PSF was performed using the source of information provided by the project owner. Additionally, the cross checks were performed for information provided in the PSF using information from sources other than the verification sources, the verification team's sectoral or local expertise and, if necessary, independent background investigations.

List of all documents reviewed or referenced during the verification is provided in Appendix-3

C.2. On-site inspection

Duration of on-site inspection: 09/02/2023				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	Discussions and review of: • Project Design • Project Technology • Project boundary • Applicability of CDM methodology • Environmental Management Plan/ EIA • Local stakeholders meeting process • Management structure with Roles and Responsibilities • Project implementation schedule • Pre project (existing) scenario to meet the energy (heat and electricity) demand •Monitoring Plan •Socio-economic Impacts of the project activity •Sustainability aspects of the project (SDGs) • Baseline Scenarios and alternatives • Project additionality • Emission reduction calculations • Assessment of E+, S+, SDG+ and CORSIA aspects as per the PSF and GCC requirements, Authorization on Double Counting from Host Country, the legal ownership of the project and GCC requirements.	PIAUÍ, Brazil	09/02/2023	Vijay Mathew Rishi Kishore Raychoudhury

C.3. Interviews

No.	Interview			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Andrade	Larissa	Kosher Climate India Pvt. Ltd.	09/02/2023	Project Description, Baseline identification, Project Boundary. project financing, Additionality, Baseline Calculation, Regulatory requirements, project status, Monitoring procedures & Calibration of meters, Operation and Maintenance, Data recording, Emergency procedures, etc. Mode of Invitation for stakeholders meeting, Stakeholders meeting consultation, advantages and disadvantages of the project, employment generation, SDG status, Environment and social net harm, etc.	Vijay Mathew Rishi Kishore Raychoudhury
2.	Kumar	Narendra	Kosher Climate India Pvt. Ltd.			
3.	Akoujo	Soncte	GPG			
4.	Rosson	Anis	GPG			
5.	Drsifu	Loroaceueno	Sozakile dkah			
6.	Leitos	Wallyson	Sozakile dkah			

C.4. Sampling approach

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No sampling approach is used for this project verification process.

C.5. Clarification request (CLs), corrective action request (CARs) and forward action request (FARs) raised

Areas of Project Verification findings	Applicable to Project Types	No. of CL	No. of CAR	No. of FAR
Green House Gas (GHG)				
Identification and Eligibility of project type	A_1, A_2, B_1, B_2		CAR 01 CAR 06	
General description of project activity	A_1, A_2, B_1, B_2	CL 01	CAR 01	
Application and selection of methodologies and standardized baselines	A_1, A_2, B_1, B_2			
- Application of methodologies and standardized baselines	A_1, A_2, B_1, B_2	CL 03		
- Deviation from methodology and/or methodological tool	A_1, A_2, B_1, B_2			
- Clarification on applicability of methodology, tool and/or standardized baseline	A_1, A_2, B_1, B_2			
- Project boundary, sources and GHGs	A_1, A_2, B_1, B_2			
- Baseline scenario	A_1, A_2, B_1, B_2		CAR 03	
- Demonstration of additionality including the Legal Requirements test	A_1, A_2, B_1, B_2	CL 02	CAR 02	
- Estimation of emission reductions or net anthropogenic removals	A_1, A_2, B_1, B_2			
- Monitoring plan	A_1, A_2, B_1, B_2		CAR 04 CAR 05	

Start date, crediting period and duration	A_1, A_2, B_1, B_2			
Environmental impacts	A_1, A_2, B_1, B_2			
Local stakeholder consultation	A_1, A_2, B_1	CL 05		
Approval & Authorization- Host Country Clearance	A_1, A_2, B_1, B_2			
Project Owner- Identification and communication	A_1, A_2, B_1, B_2		CAR 09	
Global stakeholder consultation	A_1, A_2, B_1			
Others (please specify)	A_1, A_2, B_1, B_2			
VOLUNTARY CERTIFICATION LABELS				
Environmental Safeguards (E^+)	A_1, A_2, B_1	CL 06	CAR 08	
Social Safeguards (S^+)	A_1, A_2, B_1	CL 06	CAR 08	
Sustainable development Goals (SDG^+)	A_1, A_2, B_1	CL 04	CAR 08	
Authorization on Double Counting from Host Country (only for CORSIA)	A_1, A_2, B_1		CAR 07	
CORSIA Eligibility (C^+)			CAR 07	
Total		**06**	**09**	

Section D. Project Verification findings

D.1. Identification and eligibility of project type

Means of Project Verification	Desk Review and Interviews
Findings	CAR 1 and CAR 05 were raised, and the findings are closed. Please refer to Appendix 4 for further details.
Conclusion	The GCC Project Verification team reviewed the PSF /1/ and confirms that the Project Owner determines the type of proposed GCC project activity as follows.

Parameters	Project Position	Verified Documents
Type of Project	Type A2. These types of projects are prompt-start and had already started their operations as of 5 July 2020. Their start date of operations shall be after 1 January 2016 but before 5 July 2022. The start date of the project activity is 09/09/2017.	PSF/1/, Commissioning certificates /4/
Sub type	Sub-Type 1. The project is an existing operational project, not submitted to any Program, which have started operations after 1 January 2016.	PSF/1/, Commissioning certificates /4/
Start date of project activity	09/09/2017 (earliest date of commission)	PSF/1/, Commissioning certificate /4/
Start date of Crediting period	From 09/09/2017 to 08/09/2027	PSF/1/, Commissioning certificate /4/
Global stakeholder consultation	20/11/2022 – 04/12/2022	Global Stakeholder consultation on GCC projects /45/

	The project activity complies with the requirement of §11 of the GCC Project Standard (version 03.1) /B01-1/ and GCC clarification no.01 /B01-6/ and § 25 (b) of GCC Project Verification Standard (version 03.1) /B01-2/.

D.2. General description of project activity

Means of Project Verification	Desk review and Interviews
Findings	CL 01 and CAR 01 were raised, and findings are closed. Please refer to Appendix 4 for further details.
Conclusion	The description of the project activity contained in the PSF /1/ can be considered transparent, detailed and provides a clear overview of the project. Its content was confirmed by means of document review and interviews to verify the accuracy and completeness of the project description.

Parameters	**Project Details**	**Verified documents**
Name of the Project	SERTAO and SOBRAL I Solar PV Project by GPG NATURGY	PSF/1/
Project developer	SERTAO I SOLAR ENERGIA SPE S.A. SOBRAL I SOLAR ENERGIA SPE S.A. NATURGY COMMODITIES TRADING, S.A. (“NCT”)	PSF/1/, Commissioning certificate /4/ and O&M contract/08/.
Capacity	60 MW	EPE/5/, PPA /9/ On-site visit /15/
Purpose of the project	The purpose of the project activity is to generate electricity using solar power. the electricity generated is supplied to the Brazilian national grid.	Commissioning certificate /4/ EPE/5/, PPA /9/ On-site visit /15/
Annual Generation	123,000 MWh/year	EPE/5/
Emission reduction	5,68,752 tCO_2e (for the entire crediting period.)	ER/2/

Since solar energy is clean energy, project activity does not involve any fossil fuel firing and hence no greenhouse gases are involved in the project activity. The power generation from the project activity replaces the equal amount of power which otherwise would have been generated by the operation of grid-connected power plants and by the addition of new generation sources. Thus, project activity helps in an average annual emission reduction of 568,752 tCO_2e/year for a period of 10 years.

The Project Activity by SERTAO I SOLAR ENERGIA SPE S.A., SOBRAL I SOLAR ENERGIA SPE S.A. and NATURGY COMMODITIES TRADING, S.A. (“NCT”) is in the state of PIAUÍ, Brazil.
The project involves the installation of 108,128 PV modules each in two sites in the following coordinates.

Address and geodetic coordinates of the physical site of the Project Activity

Physical address	Latitude	Longitude
Rod. Pres. Juscelino Kubitschek, João Costa - PI, 64764-000, Brazil	8°33'00.8"S (-8.5502°)	42°17'09.6"W (-42.286°)
PI-141, São João do Piauí - PI, 64760-000, Brazil	8°17'19.0"S (-8.2886°)	42°22'09.4"W (-42.3692°)

The same was confirmed by cross checking with the project GPS co-ordinates using google earth software and during the onsite visit. The further details such as district and province name of the project location are checked during the physical on-site verification /15/. The GCC project verification team has also cross checked the solar photo voltaic project activity implementation status with the commissioning certificate /4/ of the project activity and found appropriate.

Parameters	Project Details	Verified documents
Type of Project	Greenfield solar power project	Commissioning certificate /4/ EPE document/5/, PPA /9/ EPC contract/7/, O&M contract /8/. Manufacture specification/10/
Technology	Poly Crystalline Solar panels	
PV Modules	Canadian Solar	
Total Project Capacity	DC Capacity- 69.48MWp AC Capacity- 60 MW	
Lifetime of the project	25 Years	
Project start date	09/09/2017 (earliest commissioning date)	Commissioning certificate/4/

The installation of total 108,128 PV modules each in the two sites has been completed, commissioned and connected to the national Grid of Brazil through the erected distribution and transmission lines. The same is confirmed from the On-site visit/15/.

The investment decisions of the project activity were made within a year time. This indicates that all the activities included within the project are located at distinct areas and can apply requirements (such as baseline, additionality, monitoring).
The project activity will be collective establishment of baseline, emission reductions calculations, additionality demonstration (including investment and common practice analysis), project monitoring plan and assessment of certification labels have been carried out which is found to be in line with GCC Clarification no 1.

The baseline scenario is that the electricity delivered to the grid by both the project activity would be generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid. The same complies with the applied methodology /B02/. The project is expected to generate and feed GHG free electricity to the connected national electricity grid of Brazil.

As stated in the PSF /1/, the project activity also voluntarily contributes to Environmental No-net-harm Label (E+), Social No net-harm Label (S+) and United Nations Sustainable Development Goals (SDG+).

GCC labels applied	Environmental No-net-harm Label (E+),

		Social No-net-harm Label (S+), CORSIA requirements (C+) and United Nations Sustainable Development Goals (SDG+)
	Environmental No-net-harm Label (E+) score	+7
	Social No-net-harm Label (S+) score	+7
	Number of United Nations Sustainable Development Goals (SDG+) opted	5

The project owner has described the GHG emission-reduction activity, including schematics, specifications and a description of how the project reduces GHG emissions. This is as per §36 of GCC Project Standard Version 03.1 and cross checked with PSF /1/.

The Project Activity is a voluntary action by the project owner as confirmed by the verification team upon review of the PSF /1/ and on-site visit interviews/15/.

In accordance with §44 of GCC Project Standard (version 03.1) /B01-1/, the verification team has assessed the geographical boundary of the Project Activity, within which it will be implemented, and confirms that geographical boundary of the Project Activity
comprises the following boundaries.

- The solar power plant itself
- The point of connection to Brazilian national grid for sale of electricity.

This was checked and confirmed by reviewing the PSF /1/, on-site visit interviews with representatives of project owner./15/

As per the PSF /1/, start date of the Project activity 09/09/2017 (Earliest start date of commercial operation of the Project) /4/. The same is in accordance with requirements of §38 of GCC Project Standard (version 03.1) /B01-1/.

A crediting period is a fixed crediting period for the Project Activity, from 09/09/2017 to 08/09/2027 i.e., of 10 years. This is cross checked by PSF /1/ and conforms the requirement of §39 and §40 of GCC Project Standard Version 03.1 /B01-1/.

CCIPL confirms that the description of the proposed Project Activity in the PSF is accurate and complete, and it provides an understanding of the Project Activity.

D.3. Application and selection of methodologies and standardized baselines

D.3.1 Application of methodology and standardized baselines

Means of Project Verification	Desk review and Interviews
Findings	CL 03 was raised, and finding is closed. Please refer to Appendix 4 for further details.
Conclusion	The CDM methodology applied is ACM0002, version 21.0 /B02/. It is applicable to greenfield renewable energy power generation using solar PVs. The applicability of the methodology could be confirmed by means of interviews with the Project owner representatives, physical site visit and document review. The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The applied version of the baseline and monitoring

methodology /B02/ is valid at the time of submission of the PSF for global stakeholder consultation. All applicability criteria in the methodology are assessed in the below table:

<table>
<tr><th>Applicability criteria of the methodology (ACM0002, Version 21.0)</th><th>Justification in the PSF by PO</th><th>GCC Project Verification body assessment</th></tr>
<tr><td>This methodology is applicable to grid-connected renewable power generation project activities that:
(a) install Greenfield power plant;
(b) involve a capacity addition to (an) existing plant(s);
(c) involve a retrofit of (an) existing plant(s)/unit(s);
(d) involve a rehabilitation of (an) existing plant(s)/unit(s); or
(e) involve a replacement of (an) existing plant(s)/unit(s)</td><td>The project activity is a newly installed green field solar energy-based electricity generation project connected to the national grid. Therefore, it confirms to the said criteria</td><td><table><tr><th>Parameters</th><th>Project Specification</th><th>Verified document</th></tr><tr><td>Type of project activity</td><td>Greenfield solar project</td><td rowspan="3">contract signed by the technology provider /7/, power purchase agreement signed /9/, and the commissioning certificates /4/.</td></tr><tr><td>Category</td><td>Renewable energy</td></tr><tr><td>Project capacity (AC)</td><td>60 MW</td></tr></table>
Hence the methodology is applicable to the proposed project activity.</td></tr>
<tr><td>In case the project activity involves the integration of a BESS, the methodology is applicable to grid-connected renewable energy power generation project activities that:
(a) Integrate BESS with a Greenfield power plant.
(b) Integrate a BESS together with implementing a capacity addition to (an) existing solar photovoltaic1 or wind power plant(s)/unit(s);
(c) Integrate a BESS to (an) existing solar</td><td>The project activity is the installation of a new grid connected renewable solar power project and does not involve the integration of a Battery Energy Storage System (BESS). This condition is not applicable for the project</td><td>The proposed activity is a grid connected solar power project and it does not involves the integration of a BESS. CCPIL project verification team confirmed the same during the onsite visit /15/. Hence this condition is not applicable to the proposed project activity.</td></tr>
</table>

	photovoltaic or wind power plant(s)/unit(s) without implementing any other changes to the existing plant(s); (d) Integrate a BESS together with implementing a retrofit of (an) existing solar photovoltaic or wind power plant(s)/unit(s).	activity.	
	The methodology is applicable under the following conditions: (a) 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 proposed project activity is the installation of solar power plant/unit without BESS integration. Therefore, the said criteria are not applicable.	The proposed activity is the grid connected solar power project without the integration of a BESS. So, the criterion is not applicable for the subject project. CCPIL project verification team confirmed the same during the onsite visit /15/.

		the start of this minimum historical reference period and the implementation of the project activity; (c) In case of Greenfield project activities applicable under paragraph 5 (a) above, the project participants shall demonstrate that the BESS was an integral part of the design of the renewable energy project activity (e.g. by referring to feasibility studies or investment decision documents); (d) The BESS should be charged with electricity generated from the associated renewable energy power plant(s). Only during exigencies 2 may the BESS be charged with electricity from the grid or a fossil fuel electricity generator. In such cases, the corresponding GHG emissions shall be accounted for as project emissions following the requirements under section 5.4.4 below. The charging using the grid or using fossil fuel electricity generator should not amount to more than 2 per cent of the electricity generated by the project renewable energy plant during a monitoring period. During the time periods (e.g.		

		week(s), months(s)) when the BESS consumes more than 2 per cent of the electricity for charging, the project participant shall not be entitled to issuance of the certified emission reductions for the concerned periods of the monitoring period.		
		In case of hydro power plants, one of the following conditions shall apply: (a) The project activity is implemented in 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/m2; 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/m2; or (d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for	The proposed project activity is the installation of a solar power plant/unit. Therefore, the said criteria are not applicable	The proposed project activity is not a hydro power project. The proposed activity is a Greenfield grid connected solar power project. CCPIL project verification team confirmed the same during the onsite visit /15/. Hence this condition is not applicable to the proposed project activity.

		any of the reservoirs, calculated using equation (7), is lower than or equal to 4 W/m2, all of the following conditions shall apply: (i) The power density calculated using the total installed capacity of the integrated project, as per equation (8), is greater than 4 W/m2; (ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity. (iii) Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m2 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.		
		In the case of integrated hydro power projects, project participants shall: (a) Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or (b) Provide an	The proposed project activity is the installation of a solar power plant/unit. Therefore, the said criterion is not applicable	The proposed project activity is not a hydro power project. The proposed activity is a Greenfield grid connected solar power project. CCPIL project verification team confirmed the same during the onsite visit /15/. Hence this condition is not applicable to the proposed project activity.

<table>
<tr><td></td><td>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.</td><td></td><td></td></tr>
<tr><td></td><td>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.</td><td>(a) The project activity is the installation of a new solar power plant/unit. Which does not involve switching of grid-connected power plant.</td><td><table>
<tr><td>Parameters</td><td>Project Status</td><td>Verified document</td></tr>
<tr><td>Any fossil fuel switching activity?</td><td>Not applicable</td><td rowspan="2">Confirmed from Contract signed by the solar Power project technology provider /7/, EPE document /5/, and the commission</td></tr>
<tr><td>Biomass fired power plant involved in the project activity?</td><td>Not applicable</td></tr>
</table></td></tr>
</table>

			ing certificates /4/.

CCPIL project verification team confirmed the same during the onsite visit /15/. Hence this condition is not applicable to the proposed project activity.

In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, that is to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance"	The project activity is the installation of a new solar power plant/unit that does not involve retrofits, rehabilitations, replacements, or capacity additions. Therefore, the said criterion is not applicable	

Parameters	Project Status	Verified document
Any Capacity addition?	Not applicable	Confirmed from Contract signed by the solar power project technology provider /7/, EPE document /5/, and the commissioning certificates /4/.
Any Retrofits?	Not applicable	
Any Rehabilitation?	Not applicable	
Any replacement	Not applicable	

CCPIL project verification team confirmed the same during the onsite visit /15/. Hence this condition is not applicable to the proposed project activity.

Applicability criteria of the tool 7, Version 7.0	Justification in the PSF	GCC Project Verification body assessment
The tool lists the following applicability criteria: (a) 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	The project activity is a greenfield solar power generation plant that supplies electricity to the grid. Hence, the "Tool 07: tool to calculate the emission factor for an	The project activity involved the construction and operation of 60 MW solar power plant in Brazil. The electricity thus generated is being sold to Brazilian

	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).	electricity system version 7.0" is applicable and used to calculate the OM, BM and CM.	national grid. In the absence of the project activity, the same amount of electricity (grid electricity) would be generated in the Brazilian national grid. Therefore, combined margin calculation applies to the Brazilian national grid.
	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, the conditions specified in "Appendix 2: 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.	Since the project activity is grid connected solar power project this condition is applicable. Combined margin grid emission factor has been calculated as per the CO_2 emission factor data base published by the Brazilian national grid, which is approved by its Designated National Authority (DNA) "Ministry of Science and Technology "CO_2 emission factors for electricity generation in the National Interconnected System of Brazil - Base Year 2021[6] has been used for emission factor.	Project owner has calculated the emission factor applying this applicability condition. This is accepted by the project verification team.
	(c) 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.	The project activity is in Brazil, a non-Annex I country. Therefore, this criterion is not applicable for the project activity	The electricity generated from the GCC project will be sold (100%) to Brazilian National grid. Since the project electricity system is in Brazil which is not an Annex I country (Date of ratification of Kyoto protocol by Brazil = 23/08/2002), the project verification team has accepted the application of the tool

[6] https://antigo.mctic.gov.br/mctic/opencms/ciencia/SEPED/clima/textogeral/emissao_despacho.html

		to calculate the grid emission factor.
(d) Under this tool, the value applied to the CO2 emission factor of biofuels is zero.	The project activity is a grid connected wind power project and therefore, this criterion is not applicable for the project activity	The project activity is a grid connected wind power project. There is no biofuels related activity.

Applicability criteria of the tool 1, Version 7.0	Justification in the PSF	DOE assessment
The use of the "Tool for the demonstration and assessment of additionality" is not mandatory for project owners when proposing new methodologies. Project owners 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.	Since the applied methodology is not a new methodology, the project owner has applied this tool for the demonstration additionality in compliance with the tool. Refer to section B.5 of the PSF for the detailed applicability of this tool and additionality assessment. Hence this tool is applicable	The PO has not proposed any new methodology. PO has applied tool 1 version 7 for the demonstration of additionality. The same is detailed in section B.5 of the PSF. Hence the tool is applicable.
Once the additionally tool is included in an approved methodology, its application by project owners using this methodology is mandatory.	In line with the methodology requirement Project developer has applied this tool for the demonstration of additionality assessment. Hence this tool is applicable	Project owner has applied the Tool for the demonstration and assessment of additionality, version 7, which is in line with the methodology ACM0002 Grid-connected electricity generation from renewable sources, version 21.

Applicability criteria of the tool 24, Version 3.1	Justification in the PSF	DOE assessment
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	Project activity applies "Tool for the demonstration and assessment of additionality". Hence this tool is applicable.	The applicability criterion is met as the project activity applies the methodological tool "Tool for the demonstration and assessment of additionality."

for the demonstration of additionality.		
In case the applied approved baseline and monitoring 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.	Applied methodology ACM0002 version 21.0 doesn't specify any approach for the demonstration of common practice analysis. As per the methodology the additionality including common practice analysis has been demonstrated as per the Tool 01: Tool for the demonstration and assessment of additionality" version 7.0.0 and Tool 24: Common Practice Analysis version 3.1. Hence Justified.	The applied methodology is ACM0002, Version 21. It doesn't define approaches for the conduction of the common practice test that are different from those described in this methodological tool 24 Common Practice Analysis version 3.1.

Applicability criteria of the tool 27, Version 11	Justification in the PSF	DOE assessment
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.	The Project activity applies "Tool for the demonstration and assessment of additionality". Hence this tool is applicable.	The applicability criterion is met as the project activity applies the methodological tool "Tool for the demonstration and assessment of additionality."
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.	Applied methodology ACM0002 version 21.0 doesn't specify any approach for the demonstration of Investment analysis. As per the methodology the additionality including investment analysis has been	The applied methodology is ACM0002, Version 21. It doesn't contain requirements for the investment analysis that are different from those described in this methodological tool 27 Investment Analysis version 11.0.

		demonstrated as per the Tool 01: Tool for the demonstration and assessment of additionality" version 7.0.0 and Tool 27: Investment Analysis version 12.0. Hence Justified.	

D.3.2 Clarification on applicability of methodology, tool and/or standardized baseline

Means of Project Verification	Desk Review, Interview
Findings	-
Conclusion	NA

D.3.3 Project boundary, sources and GHGs

Means of Project Verification	Desk Review, Interview
Findings	No findings in this section.
Conclusion	According to the approved baseline and monitoring methodology "ACM0002" of "Grid connected renewable electricity generation", version 21 **/**B02**/**, the project boundary is "the spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to". The physical boundary of the project activity identified by the project owner has been cross verified by site visit observation /15/, commissioning report for the power plant /4/ and power purchase agreement /9/. In section B.3 of the PSF /01/, project boundary has been adequately stated in figure 4 and table. Hence, the project boundary includes the solar power plant and the other power plants which connected to the related electricity system and the Brazilian national grid.

D.3.4 Baseline scenario

Means of Project Verification	Desk Review, Interview
Findings	CAR 03 was raised, and finding is closed. Please refer to Appendix 4 for further details.
Conclusion	

Methodology requirement baseline	GCC Project Verifier Opinion

	According to the approved baseline methodology ACM0002 /B-02/, “The baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.”	Project activity involves generation of electricity using solar power plant and selling it to Brazilian National grid as confirmed through the power purchase agreement /9/ and commissioning report /4/. In the absence of this project activity, same amount of electricity would have been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid. The same was cross checked and confirmed by latest available emission factor of the Brazilian national grid approved by its Designated National Authority (DNA) “Ministry of Science and Technology 2021/16/.
	The relevant national and/or sectoral policies, regulations and circumstances are taken into account during the determination of baseline scenario.	Project Owner has considered all the applicable national and sectoral level policies in demonstrating the regulatory compliance of the project and baseline scenario. National/sectoral policies & regulations: • Law nº 9.427,1996: The National Electric Energy Agency (ANEEL)/33/ • Law nº 9.648,1998: The National Electric System Operator (ONS)/34/ • Law nº 10.848,2004: Provides for the commercialization of electricity/35/ • Decree nº 6.353, 2008: Regulates the contracting of reserve energy through auctions/36/ According to all the referred policies and regulations the baseline scenario is in compliance with all applicable legal and regulatory requirements. Also, • There are no policies implemented in the host country since adaptation of the Kyoto Protocol (11/12/1997) which give comparative advantage to the renewable energy project activity, and; there are no policies in the host country which mandates to implement a particular technology for the power generation purpose. Hence there is no impact of the E+ and E- policies while demonstrating the baseline scenario of this project activity
	The baseline scenario has been adequately stated as: The baseline scenario is 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 “TOOL07: Tool to calculate the emission factor for an electricity system”. The following ex ante parameters and assumptions were used to estimate baseline emissions of the project activity. Combined margin CO_2 emission factor for the project electricity system in year y ($EF_{grid,CM,y}$) – The value has been calculated and published by Department of Climate Change - Ministry of Natural Resources and Environment, 2020. The value is calculated as per the TOOL 07: “Tool to calculate the emission factor for an electricity system” (Version 07.0). This was found in accordance with the methodology. CCPIL project verification team was able to verify all the documented evidence listed above during the GCC Project Verification process and can confirm that: • All the assumptions and data used by the project owners are listed in the PSF, including their references and sources. • All documentation used /4/ /5/ /9/ /16/ /20/ are relevant for establishing the baseline scenario and correctly quoted and interpreted in the PSF. • Relevant national and/or sectoral policies and circumstances are considered and listed in the PSF /1/; The approved baseline methodology ACM0002, version 21, has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed GCC project activity.

D.3.5 Demonstration of additionality

Means of Project Verification	Desk Review, Interview
Findings	CL 02 and CAR 02 were raised, and finding is closed. Please refer to Appendix 4 for further details.
Conclusion	Project owner has described the Demonstration of additionality according to the GCC Project Standard Version 03.1. In section B.5 of the PSF, two components are applied for the demonstration of additionality. (i) Legal Requirement Test: The project activity is a Type A project and requires undergoing a Legal Requirement Test. The following laws are considered. • Law no. 9.427,1996: The National Electric Energy Agency (ANEEL)/33/; • Law no. 9.648,1998: The National Electric System Operator (ONS)/34/; • Law no. 10.848,2004: Provides for the commercialization of electricity/35/; • Decree nº 6.353, 2008: Regulates the contracting of reserve energy through auctions/36/ • Law no. 9.074,1995: The Brazilian Electricity Act, does not influence the choice of fuel and technology used for power generation. /37/ Hence, power generation using renewable energy is not a legal or mandatory requirement. However, the projects as in the project activity are not mandated by law or regulations and are entirely a voluntary action. The project complies with paragraph 46 of GCC Project Standard V3.1.

	(ii) Additionality Test: To cover this requirement from the GCC Project Standard 3.1, section 6.4.8, paragraph 45 and as per the applied methodology ACM0002 Version 21.0, additionality of the following project activity is demonstrated and assessed by the latest version of Tool 01: Tool for the demonstration and assessment of additionality" Version 7.0 /B-04/. The project owner has adopted the stepwise approach for demonstrating and assessing the additionality of the project activity as follows: **Step 1: Identification of alternatives to the project activity consistent with current laws and regulations** **Sub-step 1a: Define alternatives to the project activity:** Alternative 1: The proposed project activity undertaken without being registered as a GCC project activity. Alternative 2: No project activity is undertaken. The first alternative, which is the implementation of the project without carbon revenue, is not financially attractive as discussed in the investment analysis section below. The second alternative (Scenario 2) is the baseline scenario and implementation of the proposed project as a GCC project activity would be additional to this scenario. No project activity is undertaken and continuation of current scenario. In this scenario, due to increasing electricity demand new power plants should be constructed which includes mainly thermal power plants (baseline scenario). Implementation of the project is additional to the baseline scenario which is alternative 2 above and therefore reduces the emissions. Outcome of Step 1a Continuation of the current situation is not considered as a realistic alternative due to increasing electricity demand therefore new power plants should be constructed which includes mainly thermal power plants. Implementation of the project is additional to the baseline scenario which is an alternative 2 above and therefore reduces the emissions. **Sub-step 1b: Consistency with mandatory laws and regulations:** There are no laws or regulations in Brazil issued by The Brazilian federal government, that restrict implementation of solar power project. Further, no law or regulation issued by The Brazilian federal government, which mandates project owner to invest in solar power project. The National/sectoral policies & regulations are: • Law nº 9.427,1996: The National Electric Energy Agency (ANEEL)/33/ • Law nº 9.648,1998: The National Electric System Operator (ONS)/34/ • Law nº 10.848,2004:The legal framework for the commercialization of electric energy. /35/ • Decree nº 6.353, 2008: Regulates the contracting of reserve energy through auctions/36/ The resultant alternatives to the project as outlined in Step 1a are in compliance with the applicable laws and regulations. Outcome of Step 1b

	Mandatory legislation and regulations for each alternative are considered in sub-step 1b. Based on the above analysis, the proposed project activity is not the only alternative amongst the project owners that is in compliance with mandatory regulations. Therefore, the proposed GCC project activity is considered as additional. **Step 2: Investment analysis** In this section it is demonstrated that the project activity is not financially feasible without the revenue from the sale of ACCs. This is demonstrated in the following sections as per TOOL 27: "Investment analysis" (Version 12.0). No public funding or ODA are associated with the implementation of this GCC project activity. Sub-step 2a: Determine appropriate analysis method. The project owner has chosen to apply investment analysis to demonstrate the additionality of the project activity using the benchmark analysis method. Project owner has identified post tax equity IRR as the most suitable financial indicator. The project cannot apply simple cost analysis since the project brings revenue from the sale of electricity; also, investment comparison analysis cannot be applied as the alternative to the project activity is the electricity generated by new and existing grid connected power plants. Sub-step 2b: Option III. Apply benchmark analysis. Post tax equity IRR has been chosen as the financial indicator for the demonstration of financial unviability for the proposed project activity. Since, the PO is demonstrating financial unattractiveness of the project and the project cost involves both equity and debt, post-tax equity IRR is considered to be the appropriate option to indicate financial unattractiveness; and the same is accepted by the verification team. As per para 15 of Investment analysis/B06/, "The applied benchmark shall be appropriate to the type of IRR calculated. Local commercial lending rates or WACC are appropriate benchmarks for a project IRR. Required/expected returns on equity are appropriate benchmarks for an equity IRR. Benchmarks supplied by relevant national authorities are also appropriate. The DOE shall validate that the benchmarks used are applicable to the project activity and the type of IRR calculation presented." Further para 16 of the tool 27 states that "In situations where an investment analysis is carried out in nominal terms and the available IRR benchmarks are in real terms, project owners shall convert the real term values of benchmarks to nominal values by adding the inflation rate. The inflation rate shall be obtained from the inflation forecast of the central bank of the host country for the duration of the crediting period. If this information is not available, the target inflation rate of the central bank shall be used. If this information is also not available, then the average forecasted inflation rate for the host country published by the IMF (International Monetary Fund World Economic Outlook) or the World Bank for the next five years after the start of the project activity shall be used". The equity IRR calculated is nominal equity IRR. Accordingly, Project owner converted the default benchmark which is in real terms into nominal terms by using the following equation. Nominal Benchmark = {(1+Real Benchmark) x (1+Inflation rate)}-1 The GCC Project Verification team referred to the book 'Corporate Finance: Theory and Practice', 2nd edition, by 'Aswath Damodaran' /17/. In page 320 of the book, the same equation is mentioned for converting real into nominal values. Hence the GCC Project Verification team considers the above equation as appropriate for converting real benchmark into nominal benchmark.

Parameters	Project's Specifics	GCC Project Verifier opinion
Investment decision date	10/08/2015	EPE Document (Empresa de Pesquisa Energética) /07/
Type of Benchmark	Post tax equity IRR/02/	As per the para 15 of Tool 27: Investment analysis, version 12.0, 'Required/expected returns on equity are appropriate benchmarks for an equity IRR' /B06/
Default Benchmark value	10.91 % is default for Brazil in Appendix Tool 27: Investment analysis.	Project owner has chosen the default for Brazil as per Appendix of EB 116, Annex 2 to demonstrate additionality, which is the latest available during the time global stakeholder consultation. Hence, accepted the same.
Inflation rate	3.98 % sourced from Banco Central Do Brazil /21/	The value has sourced from the Banco Central Do Brazil./21/ The inflation rate is obtained from the inflation forecast of the central bank of the host country. Hence the same found appropriate and in line with tool 27.
Benchmark value	15.32%	Project owner has chosen the default for Brazil as per Appendix of EB 116, Annex 2 to demonstrate additionality, which is the latest available during the time global stakeholder consultation. Project owner has sourced the inflation forecast for Brazil from I Banco Central Do Brazil available at the time of investment decision /21/. CCIPL team verified all the above said details and documents; and confirmed that the benchmark identified to compare the financial attractiveness of the project activity is appropriate.

The assessment team has verified all the above said documents and confirmed that the benchmark identified to compare the financial attractiveness of the project activity is appropriate.

Chronology:

Sl. no	**Activity**	**Date of Activity**
1.	EPE Document (Empresa de Pesquisa Energética) (Investment decision date) /5/	10/08/2015
2.	Date of Auction /46/	28/08/2015
3.	Signing of Power Purchase Agreement /9/	27/04/2016
4.	Signing of EPC Contract /7/	19/12/2016
5.	Project Commissioning /4/	09/09/2017

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

For calculation of financial indicator, all relevant costs and revenues were found to be included in the IRR sheet provided by the PO. All assumptions and estimates

used for input values were checked against the relevant sources.

GCC project activity has a less favorable Equity IRR than the benchmark, and hence the GCC project activity cannot be considered as financially attractive. The key data parameters used to calculate Equity IRR are tabulated below. These parameters have been sourced from the EPE document and PPA. Input values used in the investment analysis are valid and applicable at the time of the investment decision (signing of the EPC contract).and the The Net generation has been sourced from the Technical Qualification Document (for approval to participate in the auction) submitted to EPE (Empresa de Pesquisa Energética) which is a government authorized entity for conducting auctions. Hence, this is in line with the guidelines of EB48, Annex 23.

Parameter	Unit	Value	Assessment and cross checking
Total capacity (AC)	MW	60	Verified against EPE Document of August 2015 /5/ , which is prepared by a third party, a government authorized entity for conducting auctions and cross verified against the EPC contract/07/. 108,128 solar PV modules (per module capacity is 78,988x320W; 29,140 x 325W) are installed at each site, commissioned and connected to the national Grid of Brazil. Further, the same has been confirmed during onsite visit./15/
Plant Load Factor	%	24.16 % (Sartao)	Verified against annual net electricity generation mentioned in the EPE Document of August 2015, /05/ which is prepared by a third party, a government authorized entity for conducting auctions, for the project which is approved by the Government of Brazil /5/. The maximum yield mentioned in the report is 24.16%(Sartao) and 24.14% (Sobral). The same is cross verified from the actual electricity generation reports/18/ and found that the actual PLF is around 13% higher than the estimated PLF. The PO has performed a sensitivity analysis wherein PLF has also subjected to sensitivity. Even at 20% higher PLF the project activity was not crossing the benchmark. Hence, CCPIL confirms that the PLF considered for the project activity is appropriate; hence acceptable.
		24.14 % (Sobral)	
Annual Net generation	MWh	63496 (Sartao)	Verified against annual net electricity generation mentioned in the EPE Document of August 2015, /05/ which is prepared by a third party, a government authorized entity for conducting auctions,

			63429 (Sobral)	for the project which is approved by the Government of Brazil /5/. The values are cross verified from the actual electricity generation reports/18/ and found that the actual annual net generation is around 13% higher than the estimated value. The PO has performed a sensitivity analysis wherein net generation has also been subjected to sensitivity. Even at 20% higher PLF the project activity was not crossing the benchmark. Hence, CCPIL confirms that the PLF considered for the project activity is appropriate; hence acceptable.
	Guaranteed Generation	MWh	68328	The PO has calculated the guaranteed Generation as per the CCEE regulations/30/. The GCC verification team has cross checked the parameter with the referenced document by CCEE. It's verified that the PO has taken the value as per the regulations. Hence the value is acceptable.
	Annual Degradation	%	0.70%	The Annual Degradation of the WTG Solar PV modules is 0.70%, as per the data provided by Australia's Only Online Solar Comparison Service, solar choice, Online Solar Comparison Service. /41/10/. The same has been cross verified against the website. /07/ Therefore, annualan annual degradation of 0.70% is acceptable.
	Tariff	BRL/MWh	304.5 (Sartao)	Verified against the EPE Document of August 2015, /05/ which is prepared by a third party, a government authorized entity for conducting auctions, for the project which is approved by the Government of Brazil /5/. Further, the project verification team has checked with the power purchase agreement signed with CÂMARA DE COMERCIALIZAÇÃO DE ENERGIA ELÉTRICA – CCEE. /9/. The values are cross verified from the actual sales revenue reports/47/ and found that the actual annual tariff is around 12% and 10% respectively higher than the estimated value. The PO has performed a sensitivity analysis wherein tariff has also been subjected to sensitivity. Even at 18% higher tariff, the project activity was not crossing the benchmark. Hence, CCPIL confirms that the tariff considered for the project activity is appropriate; hence acceptable.
			302.5 (Sobral)	

	Operation and Maintenance Cost	BRL/MW/Annum	50521.42 (Sartao) 50521.43 (Sobral)	Project owner has taken an assumption of O&M cost for per MW capacity as 1,01,042.83 BRL/MW/Annum. Thus, the total O&M cost is calculated as 60,62,569.8 BRL /Annum. Since the project is already commissioned the GCC project verification team has cross checked the actual O&M cost from the O&M contract/8 / and found that the actual O&M cost is around 42% lower than the estimated value. The parameter is also subjected to sensitivity analysis and the same does not cross the benchmark even at -100%. Hence the GCC project verification body found it acceptable.
	Tariff Percentage for generation exceeding guaranteed generation	%	30%	The project owner has mentioned that, for electricity produced by the project activity more than the guaranteed generation, only 30% of the tariff will be provided/31/. The details of the tariff percentage exceeding the guaranteed generation are mentioned in section 6.2 of the PPA. The PPA agreement section 4.4.1, page no. 03 states that “The seller cannot negotiate the excess generation to any other trading company other than CCEE". The GCC verification team has cross checked the details of the same from PPA/09/.
	Annual Escalation	%	3.8	The project owner has taken the value of annual escalation as 3.8. The GCC project verification team has cross checked the annual inflation rates in Brazil. the inflation rates during the period i.e.,2015, is more than 9%. The same is conformed from the website of Central Bank of Brazil /42/ and from Statista /48/ and found that the PO have taken the most conservative value. Hence, it’s found acceptable.

	Project cost	BRL Million	126.33 (Sartao & Sobral)	Verified against EPE Document of August 2015, which is prepared by a third party, a government authorized entity for conducting auctions, which approved by the Government of Brazil /5/. The same is cross verified against the EPC Contract of December 2016 /07/. The actual cost as per the EPC contract is 156.48 BRL Million for Sartao and 150.31 BRL Million for Sobral. i.e., the actual project cost is around 20% higher than the estimated value. Project verification team has subjected project cost in the sensitivity analysis and found that IRR will not cross the benchmark even if the project cost reduced to -18%. The same is an unlikely scenario. Hence the project cost considered by PO is found conservative and the same is acceptable.
	Debt	%	70	The debt equity ratio (70:30) considered by the project owner at the time of investment decision is mentioned in the EPE Document/5/. The project verification team has checked the impact of the IRR with the project is funded with various ratios viz. 50:50, 70:30, 95:05 etc. and in all scenarios the IRR is not crossing the benchmark value. Hence, the debt equity ratio considered in the investment analysis is acceptable to the GCC Project Verification team.
	Equity	%	30	
	Interest Rate	%	14.25	Verified against EPE Document of August 2015 which approved by the Government of Brazil /5/. The project verification team has cross verified the same with data provided by the central bank of Brazil /24/. As per the report the interest rate provided by Central bank of Brazil is around 14.25%. Hence, the value used for the financial analysis is acceptable to the project verification team.
	TUST Charges	BRL/kW/month	5.19	In Brazil, electricity producers using renewable sources receive a 50% discount in the Tariff for the Use of the Transmission System - TUST fee (from the Portuguese Tarifa de Uso do Sistema de Transmissão). This discount aims at boosting investments in renewable energy projects and shall be considered as a Type Epolicy as defined by Annex 3, EB 22. The TUST cost has been taken into account based on the previous years (FY 2014-2015) starting from the auction date

				(2015) to determine the conservative cost of TUST within the state with comparable project activity/23/. TUST 2014-2015 (R$kW)
	TFSEE (Electric Energy Services Inspection Fee)	%	0.40	According to Article 29, the inspection fee must be established at 0.4% of the annual economic gain received by the concessionaire, holder of the permit, or other designated person/25/. PO has mentioned the inspection fee in the Quarterly financial report, 2022 of the solar power project activities/14/.
	Debt Repayment tenure	Year	15	The PO has taken the values from Internal Assumption. However, the GCC verification team has cross checked with the loan sanction agreement. And the values found to be applicable.
	Moratorium	Year	1	
	Depreciation Rate	%	10%	Project owner has sourced the value as mentioned from Worldwide Corporate Tax Guide 2015, /44/. The rate is cross checked with worldwide tax summaries by PWC/39/ and found to be correct which was applicable at the time of investment decision.
	Income tax rate (IRPJ)	%	34.00	The Income tax rate is cross checked from the prevailing tax /26/ rates and found to be correct, which was applicable at the time of investment decision. The GCC verification body has cross checked the same from Worldwide Corporate Tax Guide 2015, /44/ which is in the investment decision date, from Cen bank vows action website/40/, and from Delloitte /28/. As per the Brazilian accounting practice, the value is conservative and found to be appropriate.
	Inflation rate	%	3.98	The project owner has taken the value of inflation rate of Brazil in 2015, which is the investment decision year from the Banco Central Do Brazil. /43/ The GCC project verification team has cross checked the annual inflation rates in Brazil. the inflation rates during the period i.e.,2015, is more than 9%. The same is conformed also from Statista /48/ and found that the PO have taken the most conservative value. Hence, it's found acceptable.

VAT	%	17	The tax rate is cross checked from the prevailing tax rates and from the international tax, Brazil highlights, 2017 /28/. It is found to be correct which was applicable at the time of investment decision. The same is cross checked from Worldwide VAT, GST and Sales Tax Guide 2015 /27/.
Salvage Value	%	10%	Project owner has taken the value by Worldwide Corporate Tax Guide 2015/44/. As per the Brazilian accounting practice, 100% of the asset value can be depreciated over the 10 years period. However, PO has considered salvage value of 10% which is conservative and found to be appropriate.

Applicable Taxes (% of Revenue)

PIS	%	0.65%	Project owner has taken the values of applicable taxes from Worldwide Corporate Tax Guide 2015, /44/ which is in the investment decision date. The same has been cross checked from Delloitte /28/. As per the Brazilian accounting practice, the values are conservative and found to be appropriate by the verification body.
COFINS	%	3.00%	
Social Contribution CSLL (% Of Taxable Cashflow)	%	9%	
Corporate Income tax	%	15%	
Surtax	%	10%	
ISS	%	5%	

The equity IRR calculations were provided in a spreadsheet /03/. The calculation was verified and found to be correct by CCIPL project verification team; as well as the assumptions used in the calculation were deemed to be correct. The post-tax equity IRR without GCC carbon credit revenues is 10.19% which confirms that the proposed project activity in absence of the GCC carbon credit benefits and compared to the benchmark return on equity 15.32% is not financially attractive.

Sub-step 2d: Sensitivity analysis

A sensitivity analysis has been carried out for parameters contributing more than 20% revenues and costs, to demonstrate the robustness of the financial analysis. The parameters for which sensitivity analysis was done are annual power generation (PLF), change in tariff, project costs, operational and maintenance cost, Sensitivity analysis was conducted for ±10% variation. Reasonable variations for these

parameters were checked by calculating the variation necessary to reach the benchmark and then discussing the likelihood for that to happen.

Variation %	-10%	Normal	10%	Variation required to reach benchmark	Value required to reach benchmark (Sartao)	Value required to reach benchmark (Sartao)
Tariff	7.52 %	10.19 %	12.94 %	18.40%	360.8	358.5
Annual Net Generation	7.26 %	10.19 %	12.94 %	19.90%	76132.0	76051.0
Project Cost	12.64 %	10.19 %	8.23 %	-18.70%	102.71	102.71
O&M Cost	10.48 %	10.19 %	9.90 %	NA	NA	NA

The results of sensitivity analysis /03/ show that even with a variation of ±10% in tariff, Net power generation, project cost, and O&M cost, equity IRR is significantly lower than the benchmark. And it is evident from the results given above; the project remains additional even under the most favorable conditions. Major input values have been cross checked with the actual values and hence each input value breaching the benchmark is unlikely.

It is verified that the benchmark is reached if:

1. PLF has increased above 20.40%.

PLF considered by the project owner from the EPE Document prepared by the third party, which is approved by the Federal Government of Brazil /05/ is appropriate. The project activity will cross the benchmark only with an increase in PLF by 20.40%. The GCC project verification team has cross checked the actual generation for the period of one year and found that the annual PLF is around 13% higher than the estimated value. A further increase of 7%PLF is not found to be a realistic scenario.

2. Tariff rate is increased by 18.80%

The Tariff rate of electricity used for investment analysis i.e., 304.5 BRL/MWh (Sartao) and 302.5BRL/MWh (Sobral) is sourced from the EPE Document /5/ applicable at the time of investment decision. Furthermore, the project will breach the benchmark value at a tariff variation of 18.80% only. However, the actual tariff based on the actual sales revenue reports/47/ is around 12% and 10% respectively higher than the estimated value and below the value required benchmarking value. % 55.60%. As per the PPA the tariff is fixed and there are not any chances for 20 years. Hence, it's highly unlikely that tariff rate will increase above breaching value.

3. Project Cost is reduced by 19.30%

The project cost considered for investment analysis i.e., 126.33 BRL Million. The cost is sourced from EPE Document. A variation of -19.30% is required for IRR to breach benchmark, which is not possible as the projectis already commissioned and the actual cost is higher than the estimated value. As per the EPC contract for the project activity, the project cost is 20% higher than the value used for the IRR calculation. Hence, it's highly unlikely that project cost will decrease below breaching value.

4. Reduction in O&M costs

The O&M agreement is already in place by the project owner. GCC project verification team has cross check the O&M contract and found that the actual O&M

	cost is 42% lower than the estimated value. The GCC project verification team has checked the IRR of the project activity with the actual O&M cost and found that, with the actual O&M cost the project activity is not crossing the benchmark. Further, it has noticed that even at 100% reduction in O&M cost the project activity is not crossing the benchmark. Further the GCC verification team has checked the IRR with the actual values and found that the IRR is coming to be 12.56% only. Hence, it has been proven that in actual scenario, the IRR is not crossing the benchmark value. **Step 3: Barrier Analysis** The additionality of the project has been demonstrated by applying the investment analysis, thus no barrier analysis is carried out. **Step 4: Common Practice Analysis** The section below provides the analysis as per step 4 of the "Tool for the demonstration and assessment of additionality", version 7.0.0 and according to "Common Practice" Tool version 03.1. **Step 1: Calculate applicable capacity or output range as +/- 50% of the total design capacity or output of the proposed project activity:** The project installed total capacity is 60 MW. Therefore, total capacity of solar plants which will be included in the analysis will be between 30 MW to 90 MW. **Step 2: Identify similar projects (both CDM and non-CDM) which fulfil all the following conditions:** a) The projects are located in the applicable geographical area. **The project is in Brazil and the applicable geographical area is Brazil. All the projects in the host country Brazil have been chosen for analysis.** b) The projects apply the same measure as the proposed project activity. **Renewable Energy through Solar Projects** 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. **Solar power projects** 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. **The project activity produces electricity; therefore, all solar power plants that produce electricity are candidates for similar projects.** e) The capacity or output of the projects is within the applicable capacity or output range calculated in Step 1.

Range in between 30 MW to 90 MW

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.
The start date i.e., the EPC contract signing date of the project activity is on 19/12/2016. As Kyoto Protocol was ratified by Brazil on 23/08/2002 , therefore projects which had started commercial operation between 23/08/2002 to 09/09/2016 have been considered.

Power Plant Name	Location - State	Technology	COD	Capacity (MW)
Pirapora 2	MG	Solar	05/18/2016	31.00

/27/.
Numbers of Similar projects identified which fulfill above-mentioned conditions are
N_{solar} = 1

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 GCC Project Verification. Note their number, N_{all}.

After excluding the registered, submitted for registration and under validation CDM/VCS/GS/GCC projects the total number of projects,
N_{all} = 1

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 N_{diff}.

Projects with technologies different to technology applied in the proposed project activity were identified as N_{diff} = 0.

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.

The factor F was found to be in line with Tool 24
$F = 1 – (N_{diff}/N_{all}) = 1 – (0/1) = 1$
$N_{all} – N_{diff} = 1– 0 = 1$

The project activity would be common practice, only both of the following conditions apply.

$F > 0.2$ and $N_{all} - N_{diff} > 3$

For the concerned project, F = 1 and $N_{all} - N_{diff}$ = 1 (Which is less than 3), therefore, the proposed project is not a common practice within the applicable geographical area. Hence, the proposed project is additional.

D.3.6 Estimation of emission reductions or net anthropogenic removal

Means of Project Verification	Desk Review, Interview
Findings	No findings in this section.
Conclusion	**Baseline Emission** According to ACM0002 methodology, emission reductions related to project activities is estimated as follows: $BE_y = EG_{facility,y} \times EF_{grid,CM,y}$ Where: BE_y = Baseline emissions in year y (t CO_2/yr) $EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr) $EF_{grid,CM,y}$ = Combined margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of "TOOL07: Tool to calculate the emission factor for an electricity system" (t CO_2 e/MWh). As per para 49 of ACM0002, version 21.0, when the project activity is installation of Greenfield power plant, then: $EG_{PJ,y} = EG_{facility,y}$ Where, $EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the project activity in year y (MWh/yr) Since the electricity generation values differ between years as explained in A.1, annual average electricity generation over the crediting period has been calculated and given in ER Sheet /02/. According to ER Sheet, $EG_{facility,y}$ is. **$EG_{facility,y}$ (MWh)** **123,000** Also, according to "Latest available emission factor of the Brazilian national grid approved by its Designated National Authority (DNA) "Ministry of Science and Technology" CO_2 emission factors for electricity generation in the National Interconnected System of Brazil - Base Year 2021 is 0.4624 tCO_2/MWh Therefore, annual baseline emission is calculated as below: BEy = EGPJ,y x EFgrid,CM,y = 123,000 MWh x 0.4624 tCO2/MWh = 56,875 tCO_2/yr **Project Emissions (PE_y)** As the project activity is a solar based power generation, the project emissions are not applicable to the project activity as per the methodology ACM0002/B02/.

	Hence, $PE_y = 0$ Leakage (LE_y) As per ACM0002 /B02/, no leakage emissions are considered. Therefore, $LE_y = 0$. **Emission Reductions** Based on the data above, the emission reduction value for the project activity is: $ER_y = BE_y - PE_y - LE_y$ **$ER_y = BE_y$ =56,875 tCO_2/yr**

D.3.7 Monitoring plan

Means of Project Verification	Desk Review, Interview
Findings	CAR 04 and CAR 05 were raised and finding is closed. Please refer to Appendix 4 for further details.
Conclusion	The approved baseline and monitoring methodology "ACM0002" version 21 /B02/ has been applied. The monitoring plan is in accordance with the monitoring methodology; the monitoring plan will give opportunity for real measurement of achieved emission reductions. CCIPL project verification team has checked all the parameters presented in the monitoring plan against the requirements of the methodology; no deviations relevant to the project activity have been found in the plan. CCIPL confirms that the monitoring arrangements described in the monitoring plan are feasible within the project design, and the means of implementation of the monitoring plan are sufficient to ensure the emission reductions achieved by/resulting from the proposed GCC project activity can be reported ex post and verified. Parameters available at the time of project verification (ex-ante) (Mention under section B.6.2 of the PSF) are:

Parameter	Value	Unit	Assessment
Combine Margin CO2 emission factor in year y of Brazil Grid (**$EF_{grid,CM,y}$**)	0.4624	tCO_2/MWh	The value is calculated considering 75% operating margin and 25% build margin as per the "tool to calculate the emission factor for an electricity system" Version 07.0.0 /B05/.

Parameters that will be monitored (ex-post) (Mention under section B.7.1 of the PSF are:

Parameter	Value	Unit	Assessment

<table>
<tr>
<td></td>
<td></td>
<td>$EG_{facility,y}$ (Net Electricity generated and delivered to the grid by the power plant in year y)</td>
<td>126,924</td>
<td>MWh</td>
<td>The estimated net electricity generated is given, however, the value for the parameter will be verified through review of monthly meter reading records/18/.

There are two meters for the project activity of 0.2s accuracy class (main meter and check meter)/15/. Both are bidirectional meters, installed at the main substations to measure the net exported electricity from the plant. The meter details are provided below which was verified during the onsite visit of the project activity.
<table>
<tr><td></td><td>Main Meter</td><td>Backup meter</td></tr>
<tr><td>Serial No</td><td>Sertao: MW-1605A595-02 Sobral:MW-1207A222-01</td><td>Sertao: MW-160A123-02 Sobral: MW-1605A223-02</td></tr>
<tr><td>Date of Calibration/ validity</td><td>08/09/2016 to 07/09/2026</td><td>08/09/2016 to 07/09/2026</td></tr>
<tr><td>Reference No. of Calibration Certificate</td><td>CAL 042/2015</td><td>CAL 042/2015</td></tr>
<tr><td>Location of meter</td><td>São Raimundo Nonato (Main Substation) and Sao Joao Do Piaui (Pooling Substation)</td><td>São Raimundo Nonato (Main Substation) and Sao Joao Do Piaui (Pooling Ssubstation)</td></tr>
</table>
The calibration and verification for 3 phase meters need to be conducted and maintained once in 5 years. The calibration of the meters is being</td>
</tr>
</table>

				performed as per the national regulations of CCEE /11/and /12/. The Net electricity is calculated based on Export- Import. Monthly meter readings are taken from the main and check meters installed at metering point. Backup/Check meters are also installed in case of non-functioning or breakdown of Main meters. Check meter readings will be considered in case of failure of Main meters. The export and import values of the monthly Joint Meter Reports is cross checked with the export and import values mentioned in the invoice, by the developer and CAM GyM. The same is consistent with the PSF/1/. The same has been confirmed during the onsite visit /15/. The parameter will contribute to the SDG 7.
	Replacing fossil fuels with renewable sources of energy	126,924	MWh	The project activity will result in emission reduction by replacing the fossil fuels with renewable sources of energy. The same will be monitored and confirmed through the monthly generation records/18/.
	CO_2 Emissions	56,875	tCO_2e/year	The project activity will result in emission reduction. The same will be contributing toward the sustainable development goal SDG 13. The parameters will be monitored on a monthly basis. The same will be reported through ER calculation sheet. /02/
	Solid Waste Pollution from Hazardous Wastes	At actual record	Count of the wastes (tons/year)	The project activity may generate Hazardous waste during the operation of the project activity. Hazardous waste will be handled according to the national regulations: Law 12.305/2010 (which amends Law 9.605/1998)/19/; the same will be treated and disposed as per the law. Hazardous waste quantity generated and disposed of will be continuously monitored and recorded in the EMP/13/. The same will be issued at the time of verification. The data is provided in the Environmental management plan of Sartao and Sobral solar power plants/13/.

	Solid Waste Pollution from E-Wastes	At actual record	Count of the wastes (tons/year)	The project activity may generate E-waste during the operation of the project activity. E-wastes will be handled according to the national regulations: Law 12.305/2010 (which amends Law 9.605/1998)/19/; the same will be treated and disposed as per the law. E wastes quantity generated and disposed of will be continuously monitored and recorded in the Plant logbooks or records annually and the details will be recorded in EMP /13/. The records will be issued at the time of verification. The same is confirmed from the agreement between licensed third-party vendor /20/.
	Solid Waste Pollution from end-of-life products/equipment	At actual record	Count of the wastes (tons/year)	The project activity may generate end-of-life products/equipment during the operation of the project activity. The same will be handled according to the national regulations: Law 12.305/2010 (which amends Law 9.605/1998)/19/; the same will be treated and disposed as per the law. Hazardous waste quantity generated and disposed of will be continuously monitored and recorded in the Plant logbooks or records annually and the details will be recorded in EMP /13/. The same will be issued at the time of verification.
	Solid Waste Pollution from batteries	At actual record	(tones/year)	The project activity may generate battery waste at the end of its lifetime during the operation of the project activity. The same will be handled according to the national regulations: Law No. 12305. Brazilian National Policy on Solid Waste (batteries)/19/; the same will be disposed or transferred to recycler as per the law. Battery waste quantity generated and disposed will be continuously monitored and recorded in the Plant logbooks or records annually and the details will be recorded in EMP/13/.The same will be issued at the time of verification.
	Water Consumption from ground and other sources	At actual record	Liters	The project activity may consume water from ground and other sources during the operation of the project activity. The same will be handled according to the national regulations: National Hydric Resources Policy – Law 9.433/1997/19/; The wastewater will be diverted through the drain

				system to the drainage. The wastewater generated will be continuously monitored and recorded in the Plant logbooks or records annually and the details will be recorded in EMP /13/. The same will be issued at the time of verification.
	Generation of Wastewater	At actual record	Liters	The project activity may produce wastewater during the operation of the project activity. The wastewater will be diverted through the drain system to the drainage. The same will be continuously monitored and recorded in the Plant logbooks or records annually and the details will be recorded in EMP /13/. The same will be issued at the time of verification.
	Long-term jobs (> 1 year) created	At actual record	Numbers	Project activity will generate long term local employment. This will be an indicator against sustainable development goal SDG 8. The parameter will be verified through employment records/38/.
	Non-discrimination practices	At actual record	Numbers	Project activity will not have any discrimination practices. The same will be monitored and verified through HR policy/38/.
	Occupational health hazards	At actual record	Numbers	The project activity may have the possibility of Occupational health hazards in project sites during the operation of the project activity. The same will be monitored and verified through employment training records at the time of verification /38/.
	Job related training imparted	At actual record	Numbers	The project activity will generate on-job training to the employees. The same will be monitored and verified through employment training records at the time of verification /38/.
	Project-related knowledge dissemination effective or not	At actual record	Numbers	The project activity will generate on-the-job training to the employees. The same will be monitored and verified through employment training records at the time of verification /38/.
	Reducing / increasing accidents/incidents/fatality	At actual record	Numbers	During the project activity, there is monitoring of occupational health hazards occurred during the project operation and recording the no. of related EHS trainings conducted to mitigate the impact of possible occupational health hazards at the project site. The same will be handled according to the national regulations: Law No. 6,514/1977, known as the Consolidation of Labor

				Laws (Consolidação das Leis do Trabalho or CLT). /19/; The wastewater will be diverted through the drain system to the drainage. The wastewater generated will be continuously monitored and recorded in Plant logbooks or records annually and the details will be recorded in EMP /13/. The same will be issued at the time of verification.
	Community and rural welfare	At actual record	Numbers	The project activity will contribute to the Economic, Environmental, Economical, and social well-being for the community. The same will be monitored and verified through community development records at the time of verification.
	Amount of renewable energy supplied to grid for consumption	126,924	MWh	The project activity will result in emission reduction by replacing the fossil fuels with renewable sources of energy. The same will be monitored and confirmed through the monthly generation records/18/. The same will be contributing toward the sustainable development goal SDG 7.
	Women's empowerment	At actual record	Numbers	The project activity will result in women empowerment. The same will be contributing toward the sustainable development goal SDG 5. The parameter will be monitored on yearly basis.
	Exploitation of Child Labor	At actual record	Numbers	The project activity monitors there is no child labor happening during the operation of the project activity. The same will be handled according to the national regulations: Labour Act - 2 Law Decree No. 5452/1943. Labor Laws Consolidation./32/; Records are being maintained that avoids the violation of child labor act and archived till the end of the crediting period. The same will be issued at the time of verification.
	Average earning of females and male employees engaged in the project and segregated by age and persons with disabilities	At actual record	Numbers	Project activity will generate long term local employment. This will be an indicator against sustainable development goal SDG 8. The parameter will be verified through employment records/38/.

	Reductions in Emissions (tCO2e) per unit of product due to project	56,875	tCO_2e/year	The project activity will result in emission reduction. The same will be contributing toward the sustainable development goal SDG 13. The parameter will be monitored on monthly basis

The monitoring plan content has been checked in the project activity and compared against the requirements of the monitoring methodology /B02/. It has been confirmed by the verification team that the monitoring plan, procedures, roles and responsibilities provided in the PSF is deemed to be feasible.

D.4. Start date, crediting period and duration

Means of Project Verification	Desk Review, Interview
Findings	No findings in this section.
Conclusion	The start date of the project is 09/09/2017, which is the start date of earliest date of the commercial operation of the first project /4/. Crediting period has been chosen as fixed 10 years from 09/09/2017 to 08/09/2027. A crediting period of a maximum length of 10 years has been selected by the project proponent. Therefore, the duration of the crediting period is from 09/09/2017 to 08/09/2027. Technical lifetime for the project activity is 25 years /10/. The project verification team concludes that the duration of the proposed project activity is in conformance with the requirements of §39 and §40 of GCC Project Standard, version 03.1 /B01-1/.

D.5. Environmental impacts

Means of Project Verification	Desk Review, Interview
Findings	No findings in this section.
Conclusion	The project activity has obtained relevant and required environmental approvals and operational licenses prior to the start of the construction of the project activity. Applicable impact assessment studies have been carried out before the construction of the project activity. Project owner has conducted an Environmental and social impact assessment study. The project verification team has confirmed that the Environmental and social impact assessment study was carried out during April 2014. The report concludes that implementation of the solar power project does not have any adverse impacts on the geology, Air quality, Noise quality, Human values, social and economic issues in the project area/06/, /13/, /19/ and /60/. The project will benefit the local people by engaging them in construction, operation. and maintenance activities during the project. The verification team also confirm that the project owner has taken all the necessary legal approvals from the government and other parties to implement the project activity.

D.6. Local stakeholder consultation

Means of Project Verification	Desk review and Interviews

Findings	CL 05 have been raised and closed, Please refer to Appendix 4 for further details.
Conclusion	It has been indicated in the PSF /1/ that the local stakeholder consultation has been done for the project activity on 22/01/2017 at Community of Riacho dos Negros, in the municipality of São João do Piauí . The meeting announcement was done by putting public notice at project site/nearby village. The same covers meeting location, date, time, and contact information/22/. A summary of comments has been provided by the project owner in the PSF/1/ and it is found that no adverse comment was received for the project activity. This has also been verified by CCIPL project verification team during site visit /15/. Further, the interviews confirmed that there was no adverse comment about the project and this project will lead to employment generation and better environmental conditions. CCIPL considers the local stakeholder consultation carried out adequately and can confirm that the process is in line with the requirements of GCC. /22/

D.7. Approval and Authorization- Host Country Clearance

Means of Project Verification	Desk Review, Interview
Findings	No findings in this section.
Conclusion	The verification team confirms that no HC approval is required by the CORSIA labelled project activity, and the HCA will be required during the first or subsequent verification.

D.8. Project Owner- Identification and communication

Means of Project Verification	Desk Review, Interview
Findings	CAR 09 was raised, and finding is closed. Please refer to Appendix 4 for further details.
Conclusion	

Project Owner name (as per LON/LOA)	SERTAO I SOLAR ENERGIA SPE S.A.
Country	Brazil
Address	Av das Americas, 42 BLC6 SAL 401, 22.640-102, Barra da Tijuca, Rio de Janeiro, BRAZIL
Telephone	+52 55 4488 5087
Fax	-
E-mail	vdurango@naturgy.com
Website	www.globalpower-generation.com
Contact person	Víctor Durango Domínguez

Project Owner name (as per LON/LOA)	SOBRAL I SOLAR ENERGIA SPE S.A.
Country	Brazil
Address	Av das Americas, 42 BLC6 SAL 401, 22.640-102, Barra da Tijuca, Rio de Janeiro, BRAZIL
Telephone	+52 55 4488 5087
Fax	38 28028
E-mail	vdurango@naturgy.com
Website	www.globalpower-generation.com

Contact person	Víctor Durango Domínguez

Project Owner name (as per LON/LOA)	NATURGY COMMODITIES TRADING, S.A. (“NCT”)
Country	Brazil
Address	AVENIDA SAN LUIS 77, 28033 MADRID, Spain.
Telephone	+34691515279
Fax	-
E-mail	greentrading@naturgy.com
Website	www.naturgy.com
Contact person	Marta Pla Carrasco

This is in compliance with the Para 10 (i) of the Project Standard Version 3.1. The information and contact details of the representation of the project owner and project owners themselves has been appropriately incorporated in Appendix 1 of the PSF which was checked and verified by the verification team from Authorization letter signed by the project owners. All information was consistent between these documents.

D.9. Global stakeholder consultation

Means of Project Verification	Desk Review, Interview
Findings	No Findings in this section.
Conclusion	The process for global stakeholder consultation was conducted in accordance with the requirements of section 3.2.4 of the Verification Standard (version 03.1) /B01-2/. The PSF was published for global stakeholder consultation from 20/11/2022 – 04/11/ 2022. During the above period no Global stakeholders’ comments were received. PSF was published on the GCC website and invited comments by affected parties, stakeholders, and non-governmental organizations from 20/11/2022 – 04/11/ 2022. No comments were received during this period. The verification team confirm that no comments were received during the Global stakeholder consultation. Verification team is of the opinion that the changes in the PSF during the validation process do not require the publication of the revised PSF for global stakeholder consultation.

D.10. Environmental Safeguards (E+)

Means of Project Verification	Desk Review, Interview
Findings	CL 06 and CAR 08 were raised, and findings are closed. Please refer to Appendix 4 for further details.
Conclusion	The Project owner has chosen to apply for the Environmental No-net-harm Label (E+). The assessment of the impact of the project activity on the environmental safeguards has been carried out in section E.1 of the PSF. Out of all the safeguards no risks to the environment due to the project implementation were identified and the following environmental impacts were considered for the project activity.

Indicators for environmental impacts	Legal Requirement Status	Monitoring	Do no harm assessment

				Evaluation and Score
	Environment – Air; CO_2 emissions	No mandatory law/regulation is related to the same.	The project is expected to reduce the CO_2 emission throughout the crediting period/1/ /2/. The parameter will be monitored on monthly basis /1/. Calculation details provided in PSF/1/ and ER sheet/2/. The monitoring approach found acceptable.	Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.
	Environment – Land; Solid waste Pollution from Hazardous wastes	Law 12.305/2010 (which amends Law 9.605/1998) /19/	The project activity may generate Hazardous waste during the operation of the project activity. Hazardous waste will be handled according to the national regulations: Law 12.305/2010 (which amends Law 9.605/1998) /19/; All kinds of the solid wastes generated during the project activity will be collected, sorted, stored and disposed to the licensed vendor as per the regulation pertaining to the respective hazardous waste management rules of state and central pollution control board whichever precedes.. The same is confirmed from the EIA reports/06/.	Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.
	Environment – Land; Solid waste Pollution from E-wastes	Law 12.305/2010 (which amends Law 9.605/1998) /19/.	The project activity may generate E-waste during the operation of the project activity. E-wastes will be handled according to the national regulations: Law 12.305/2010 (which amends Law 9.605/1998)/19/; All kinds of the E-wastes generated during the project activity will be collected, sorted, stored and disposed to the authorized vendor for the recycling or to dump at the legacy MSW site s as per the regulation pertaining to the respective E- waste management rules of state and central pollution control board whichever precedes. It will be continuously monitored and recorded in the EMP /13/. The same is confirmed from Hazardous waste management Agreement/20/ and EIA reports/06/.	Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.

	Environment – Land; Solid waste Pollution from Batteries	Law No. 12305. Brazilian National Policy on Solid Waste (batteries) /19/	This project does not have any battery storage facility to store the generated power. However, there are few batteries used to start the inverters and for the standby power to the computers used in the project office at the site. At the end of lifetime, the batteries will be handed over to the recycler or manufacturer to replace with new batteries. Old batteries will not be disposed to the open landfill. Hence the impact is harmless. The same will be handled according to the national regulations: Management of waste and discarded materials, 2015 /19/; Battery waste quantity generated and disposed will be continuously monitored and recorded in the EMP /13/. The same is confirmed from and EIA reports/06/.	Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.
	Environment – Land; Solid waste Pollution from end-of-life products/ equipment	Law 12.305/2010 (which amends Law 9.605/1998) /19/	The project activity may generate end-of-life products/equipment during the operation of the project activity. The same will be handled according to the Law 12.305/2010. Project Owner will collect, store and dispose the E- waste to the licensed vendors/manufacturers at the end of life of products/equipment's in compliance to the E-waste Management rules. The same is confirmed from Hazardous waste management records/20/ and EIA reports/06/.	Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.
	Environment – Water; Water Consumption from ground and other sources	National Hydric Resources Policy – Law 9.433/1997	We will use groundwater for domestic and cleaning purposes. There is no influence on the current usage pattern because the project is not situated in a residential or rural region.	Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.
	Replacing fossil fuels with renewable sources of energy	No mandatory law/regulation is related to the same.	The project activity will replace fossil fuel with the installation of renewable solar energy for the power generation, which would have been otherwise generated by the operation of grid-connected	Evaluation found Harmless. The same is acceptable to the GCC

			power plants and by the addition of new generation sources,. The same is monitored through the monthly power generation report /18/. The same is confirmed during the onsite visit/15/.	project verification team. Hence the scoring +1 is acceptable.

The verification team confirm that the project activity will not cause any net harm to the environment and net score for project activity comes out to be +7.

D.11. Social Safeguards (S+)

Means of Project Verification	Desk Review, Interview
Findings	CL 06 and CAR 08 were raised, and findings are closed. Please refer to Appendix 4 for further details.
Conclusion	The Project owner has chosen to apply for the Social No-net-harm Label (S+). The assessment of the impact of the project activity on the social safeguards has been carried out in section E.2 of the PSF. Out of all the safeguards no risks to the Society due to the project implementation were identified and the following have been indicated as positive impacts. The verification team based on the review of the PSF and the supporting document/15/ confirms that the social impacts mentioned in the section E.2 of the PSF is applicable to the Project activity and the monitoring procedures of the parameters are provided.

Indicators for social impacts	Legal Requirement Status	Monitoring	Do no harm assessment Evaluation and Score
Long-term jobs (> 1 year) created/ lost	Host country minimal wage requirements Regulations on Minimum Wage for Employees working by Labor Contract.	The project activity generates long term job opportunities during the operation of the project activity with non-discrimination policy. The same is monitored and keep records by employment records/38/ and complying host country minimal wage requirements. The monitoring approach found acceptable.	Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.
Occupational health hazards	Law No. 6,514/1977, Consolidation of Labor Laws (Consolidação das Leis do Trabalho or CLT).	The project activity may have the possibility of accidents/incidents/near miss in project sites due to human intervention or technical failure or emergency. The same will be monitored and verified through employment training records /38/.	Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1

				is acceptable.
	Reducing / increasing accidents/Incidents/fatality	Law No. 6,514/1977, Consolidation of Labor Laws (Consolidação das Leis do Trabalho or CLT).	There is a possibility of accidents/incidents/near miss in project sites due to human intervention or technical failure or emergency. The same is prevented by establishing EHS policy guidelines and imparting periodic trainings and providing PPE kits to employees and visitors.	Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.
	specialized training / education to local personnel	No mandatory law/regulation is related to the same.	The project activity will generate on-job training to the employees. The same will be monitored and verified through employment training records /38/.	Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.
	Project-related knowledge dissemination effective or not	No mandatory law/regulation is related to the same.	The project activity will generate on-job training to the employees. The same will be monitored and verified through employment training records at the time of verification /38/.	Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.
	Community and rural welfare	On-Job Training	The project activity will contribute to the Economic, Environmental, Economical, and social well-being for the community. The same will be monitored and verified through community development records at the time of verification.	Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1

				is acceptable.
	Exploitation of Child labour	Labour Act - 2 Law Decree No. 5452/1943. Labor Laws Consolidation	Project activity provides employment in the region. However, project owner adheres to the The Child Labour (Labour Act - 24 Law Decree No. 5452/1943/32/. Labor Laws Consolidation. ensuring there is no exploitation of child labour. The same will be monitored through employment records and interview with site people and reported annually.	Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.

Verification team will be able to confirms that Project activity will not cause any net harm to the society and net score for project activity comes out to be +7.

D.12. Sustainable development Goals (SDG+)

Means of Project Verification	Desk Review, Interview
Findings	CAR 08 was raised, and finding is closed. Please refer to Appendix 4 for further details.
Conclusion	The Project owner has chosen to apply for the United Nations Sustainable Development Goals (S+). The assessment of the impact of the project activity on the SDG's has been carried out in section F of the PSF. The project is expected to contribute 3 SDGs which are SDG 7, 8, and 13. The verification team confirms that the SDG chose by the project owner is in compliance with the GCC Project sustainability standard V.2.1 and is applicable to the Project activity and the monitoring procedure of each SDG is given in section F and B.7.1 of the PSF.

UN- level SDGs	Monitoring	Do no harm assessment Evaluation and Score
Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	Project Owner, after its implementation, from 2019 is offering scholarships for educational universities. The same is confirmed from the scholarship details provided by the PO/49/.	Project Owner meets the requirement of UN- level SDG goal. The same is acceptable to the GCC project verification team.

	Goal 5. Achieve gender equality and empower all women and girls	Projects are commissioned on 09/09/2017 and thus all policies related to the gender equality and remuneration are in place for implementation. The same is monitored and confirmed from the list of women employees if employed any and organization policy on gender equality and equal remuneration. /38/	Project Owner meets the requirement of UN- level SDG goal. The same is acceptable to the GCC project verification team.
	Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all	The project activities that commissioned on 2017 continues to provide clean energy to the global energy mix, thereby complying with the SDG target 7.2. The same is confirmed from the commissioning certificate/04/, PPA/09/ and monitored throughout the technical lifetime of the project activity.	Project Owner meets the requirement of UN- level SDG goal. The same is acceptable to the GCC project verification team.
	Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	The project activity is found to be generating employment opportunities in long term and short term thereby complying to the SDG target 8.5. The same is monitored and confirmed from employment records and HR policy/38/	Project Owner meets the requirement of UN- level SDG goal. The same is acceptable to the GCC project verification team.
	Goal 13. Take urgent action to combat climate change and its impacts.	The project activity reduces greenhouse gas annually by 56,875 tCO_2 meeting the SDG target 13. A. The same is confirmed from the ER sheet/02/ and monthly electricity generation report/18/.	Project Owner meets the requirement of UN- level SDG goal. The same is acceptable to the GCC project verification team.

D.13. Authorization on Double Counting from Host Country (for CORSIA)

Means of Project Verification	Desk review and interview
Findings	CAR 07 was raised, and findings are closed. Please refer to Appendix 4 for further details.

Conclusion	A declaration under section A.5 of the PSF has been included for offsetting the approved carbon credits (ACCs) for the entire crediting period from 09/09/2017 to 08/09/2027. The host country attestation is yet to be obtained for authorization on double counting. The project owner has clarified the intent of use of carbon credits for CORSIA hence no double counting will take place.

D.14. CORSIA Eligibility (C+)

Means of Project Verification	Desk review and interview
Findings	CAR 07 was raised, and finding is closed. please refer to Appendix 4 for further details.
Conclusion	The project activity meets eligible criteria for CORSIA (C+) since the crediting period is after 01/01/2016 and the project is applying for registration under GCC which is one of the approved programmes under CORSIA. The verification team confirms that project activity is also likely to achieve following eligibility requirement: 1. It will reduce a forecasted amount of greenhouse gases, since project activity is the implementation of renewable energy system. 2. Likely to achieve Environmental No-net harm (E+ label) as discussed in section D.10. 3. Likely to achieve Social No-net harm (S+ label) as discussed in section D.11. 4. Likely to achieve SDG+ label with Gold Certification label. The project activity meets the CORSIA eligibility.

Section E. Internal quality control

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The Final project verification report prepared by the verification team was reviewed by an independent technical review team to confirm if the internal procedures established and implemented by CCIPL were duly complied with and such opinion/conclusion is reached in an objective manner that complies with the applicable GCC rules/requirements. The technical review team is collectively required to possess the technical expertise of all the technical area/ sectoral scope the project activity relates to. All team members of technical review team were independent of the verification team.

The technical review process may accept or reject the verification opinion or raise additional findings in which case these must be resolved before requesting for registration. The technical review process is recorded in the internal documents of CCIPL, and the additional findings gets included in the report. The final report passed by technical reviewer is approved by the authorized personal of Carbon Check and issued to PO and/or submitted for request for registration, as appropriate on behalf of CCIPL.

Section F. Project Verification opinion

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CCIPL was contracted by NATURGY COMMODITIES TRADING, S.A. (“NCT”) on 27/01/2023, for project verification of the project activity “SERTAO and SOBRAL I Solar PV Project by GPG NATURGY”. The project verification was performed based on rules and requirements defined by GCC for the project activity.

The project activity is a solar power project, which results in reductions of CO_2e emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project is not a likely baseline scenario and the emission reductions attributable to the project are, hence, additional to any that would occur in the absence of the project activity. The project correctly applies the approved baseline and monitoring ACM0002 “Grid-connected electricity generation from renewable sources”, Version 21.0 and is assessed against latest valid PS, VS and Environment and Social Safeguards Standard, Project-Sustainability-Standard and/or other applicable GCC/CDM Decisions/Tools/Guidance/Forms.

The project activity is likely to achieve the anticipated emission reductions stated in the PSF provided the underlying assumptions do not change. The expected emission reductions (annual average) from the project activity are estimated to be 56,875 tCO_2e/year over the 10 years crediting period starting from 09/09/2017.

CCIPL has informed the project owners of the project verification outcome through the draft project verification report and final project verification report. The final project verification report contains the information regarding fulfilment of the requirements for project verification, as appropriate.

CCIPL applied the following verification process and methodology using a competent verification team.

- The desk review of documents and evidence submitted by the project owner in context of the reference GCC rules and guidelines issued,
- Undertaking/conducting site visit, interview, or interactions with the representative of the project owner.
- Reporting audit findings with respect to clarifications and non-conformities and the closure of the findings, as appropriate
- Preparing a draft verification opinion based on the auditing findings and conclusions.
- Technical review of the draft project verification opinion along with other documents as appropriate by an independent competent technical review team.
- Finalization of the project verification opinion (this report)

Carbon Check (India) Private Limited (CCIPL) has verified and hereby certifies that the GCC project activity “SERTAO and SOBRAL I Solar PV Project by GPG NATURGY”.

a. Has correctly described the Project Activity in the Project Submission Form including the applicability of the approved methodology ACM0002, version 21.0 and meets the methodology applicability conditions, is additional and is expected to achieve the forecasted real and additional GHG emission reductions, complies with the monitoring methodology, has appropriately conducted local and global stakeholder consultation processes and has calculated emission reduction estimates correctly and conservatively.

b. Is likely to generate GHG emission reductions amounting to the estimated 568,752 tCO_2e as indicated in the PSF, which are additional to the reductions that are likely to occur in absence of the Project Activity and complies with all applicable GCC rules, including ISO 14064-2 and ISO 14064-3, and therefore requests the GCC Program to register the Project Activity.

c. is not likely to cause any net-harm to the environment and/or society and complies with the environmental and Social Safeguards Standard, and therefore requests the GCC Program to register the Project Activity,

which is likely to achieve the requirements of the Environmental Nonet-harm Label (E+) and the Social No-net-harm Label (S+); and

d. is likely to contribute to the achievement of United Nations Sustainability Development Goals (SDGs), comply with the Project Sustainability Standard, and contribute to achieving a total of 5 SDGs, which is likely to achieve the platinum SDG certification label (SDG+)

e. is likely to contribute to CORSIA Eligible Emission Units and has CORSIA Label (C+) certification valid till 31 December 2020. A written attestation from the Host country on double counting is not required until 31 December 2020 and the project was found meeting the applicable requirements prescribed by ICAO.

Appendix 1. Abbreviations

Abbreviations	Full texts
ACC	Approved Carbon Credits
ACC+	Approved Carbon Credit Label
BM	Build Margin
CAR	Corrective Action Required
CCIPL	Carbon Check India Private Limited
CDM	Clean Development Mechanism
CL	Clarification Request
CM	Combined Margin
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
DPP	Distributed Power Plants
EPE	Empresa de Pesquisa Energética
DR	Document Review
E+	Environmental No net harm Label
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
EPC	Engineering Procurement and Construction
ERVR	Emission Reduction Verification Report
FAR	Forward Action Request
GCC	Global Carbon Council
GHG	Greenhouse Gas
GORD	Gulf Organization for Research and Development
GPS	Global Positioning System
GV	GCC Verifier
GWP	Global Warming Potential
HCA	Host Country Approval
I	Interview
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
KCIPL	Kosher Climate India Private Limited
O&M	Operation and Maintenance
OM	Operating Margin
PPA	Power Purchase Agreement
PSF	Project Submission Form
PVR	Project Verification Report
S+	Social No- net harm Label
SCADA	Supervisory Control And Data Acquisition
SDG+	United Nation Sustainable Development Goal Label
UNFCCC	United Nations Framework Convention on Climate Change
VAT	Value Added Tax
VB	Verification Body

Appendix 2. Competence of team members and technical reviewers

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Carbon CHECK

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Vijay Mathew

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☒ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☐ Plastic Waste Expert
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	☐ CCB Expert
☒ Financial Expert	☒ Local Expert for India		

in the following Technical Areas:

☐ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☒ TA 13.1	☒ TA 13.2
☐ TA 14.1	☐ TA 15.1			

Issue Date
1st January 2023

Expiry Date
31st December 2023

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

CCIPL_FM 7.9 Certificate of Competency_V2.1_012023

Carbon CHECK

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Rishi Raychoudhury

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☐ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☐ Plastic Waste Expert
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	☐ CCB Expert
☐ Financial Expert	☒ Local Expert for India		

in the following Technical Areas:

☐ TA 1.1	☒ TA 1.2	☐ TA 2.1	☐ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☐ TA 13.1	☐ TA 13.2
☐ TA 14.1	☐ TA 15.1			

Issue Date

1st January 2023

Expiry Date

31st December 2023

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

CCIPL_FM 7.9 Certificate of Competency_V2.1_012023

Carbon CHECK

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Shivaji Chakraborty

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☐ Validator	☐ Verifier	☐ Team Leader	☒ Technical Expert
☒ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☐ Plastic Waste Expert
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	☐ CCB Expert
☒ Financial Expert	☒ Local Expert for India		

in the following Technical Areas:

☒ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☐ TA 13.1	☐ TA 13.2
☐ TA 14.1	☐ TA 15.1			

Issue Date

1st January 2023

Expiry Date

31st December 2023

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

CCIPL_FM 7.9 Certificate of Competency_V2.1_012023

Appendix 3. Document reviewed or referenced

No.	Author	Title	References to the document	Provider
1	SERTAO I SOLAR ENERGIA SPE LTDA	PSF: SERTAO and SOBRAL I Solar PV Project by GPG NATURGY	Version 02, dated 16/11/2022 (Initial) Version 03, dated. 05/07/2023 Version 04, dated. 26/07/2023 Version 05, dated. 03/08/2023 Version 06, dated. 04/10/2023 Version 07, dated. 24/10/2023 (final)	Project Owner
2	SERTAO I SOLAR ENERGIA SPE LTDA	Emission reduction calculation spread sheet of SERTAO and SOBRAL I Solar PV Project by GPG NATURGY	Version 01, dated. 30/06/2022 (Initial) Version 03, dated. 05/07/2023 Version 04, dated. 26/07/2023 (final)	Project Owner
3	SERTAO I SOLAR ENERGIA SPE LTDA	Financial analysis worksheet of SERTAO and SOBRAL I Solar PV Project by GPG NATURGY	Version 01, dated 30/06/2022 (Initial) Version 03, dated. 05/07/2023	Project Owner

			Version 04, dated. 26/07/2023 Version 05, dated. 03/08/2023 Version 07, dated. 24/10/2023 (final)	
4	ANEEL	Commissioning Certificate (COD)/Agreement On commercial operation date of SERTAO and SOBRAL I Solar PV Project by GPG NATURGYSERTAO Commissioning Certificate (COD)/Agreement On commercial operation date of SOBRAL	08/08/2017 08/08/2017	Project Owner
5	Energy Research Company	EPE Document of Sertao I EPE Document of Sobral	10/08/2015 10/08/2015	Project Owner
	Energy Research Company	EPE Document of Sobral I	10/08/2015	Project Owner
6	Vento Environmental Consultancy	Environment and social Impact Assessment report for the for SERTAO I Environment and social Impact Assessment report for the for Sobral	April 2014 April 2014	Project Owner
	Vento Environmental Consultancy	Environment and social Impact Assessment report for the for Sobral I	April 2014	Project Owner
7	SERTAO and SOBRAL I SOLAR ENERGIA SPE LTDA	EPC Contract In relation to SERTAO I SOLAR ENERGIA SPE LTDA and PVH BRASIL PROJETOS RENOVAVEIS LTDA EPC Contract In relation to SOBRAL I SOLAR ENERGIA SPE LTDA and PVH BRASIL PROJETOS RENOVAVEIS LTDA	19/12/2016 19/12/2016	Project Owner
8	SERTAO and SOBRAL I SOLAR ENERGIA SPE LTDA	O&M contract between SERTAO I SOLAR ENERGIA SPE LTDA and Solarig Brasil Servicos Em Energia Ltda. O&M contract between SOBRAL I SOLAR ENERGIA SPE LTDA and Solarig Brasil Servicos Em Energia Ltda.	30/10/2020 30/10/2020	Project Owner
9	Reserve Energy Contract - CER	Power purchase agreement of Sertao solar power plant Power purchase agreement of Sobral solar power plant	27/04/2016 27/04/2016	Project Owner
10	GPG	Letter of Authorization	07/11/2022	Project

				Owner
11	National Electric System Operator	Submodule 6.16 Maintenance of the measurement System	29/11/2022	Project Owner
12	National Electric System Operator	Submodule 6.17 Collection of measurement data for invoicing	08/12/2020	Project Owner
13	Vento environmental consultancy	Environmental Management plan of Sertao solar power plant Environmental Management plan of Sobral solar power plant	May 2016 May 2016	Project Owner
14	Demonstracoes Financeiras Intermediarias	Quarterly financial report 2022 of Sertao solar power plant Quarterly financial report 2022 of Sobral solar power plant	31 March 2022 31 March 2022	
15	CCIPL	Onsite visit documents dated 09/02/2023	09/02/2023	CCIPL
16	Ministry of Science and Technology	Latest available emission factor of the Brazilian national grid approved by its Designated National Authority (DNA) Ministry of Science and Technology CO_2 emission factors for electricity generation in the National Interconnected System of Brazil - Base Year 2021 [1]https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/sirene/dados-e-ferramentas/fatores-de-emissao		Publicly available
17	Aswath Damodaran	Benchmark calculation: “Corporate Finance: Theory and Practice, 2nd Edition” 2nd edition, by Aswath Damodaran (page 320), Published by Wiley, January, 2001		Others
18	SERTAO and SOBRAL I SOLAR ENERGIA SPE LTDA	Actual energy generation reports of Sertao solar power plant Actual energy generation reports of Sobral solar power plant	2017- 2022 2017- 2022	Project Owner
19	Federal government of Brazil	Law No. 12305. Brazilian National Policy on Solid Waste (batteries) https://www.iea.org/policies/15805-law-no-12305-brazilian-national-policy-on-solid-waste-batteries		Publicly available
20	SERTAO and SOBRAL I SOLAR ENERGIA SPE LTDA	Hazardous waste management Agreement	12/08/2021 – 08/09/2021	Project Owner
21	Banco Central Do Brazil	forecasted inflation rate taken from Banco Central Do Brazil. https://www.bcb.gov.br/en/monetarypolicy/historicalpath		Publicly available

22	SERTAO I SOLAR ENERGIA SPE LTDAGPG	Minutes of meetings (LSC)	22/01/2017	Project Owner
23	TUST	TUST Charges TUST 2014-2015 (R$kW)[7]		Project Owner
24	Banco central do Brasil	Review Of COPOM Meetings and Short-Term Interest Rates https://www.bcb.gov.br/en/legacy?url=https:%2F%2Fwww.bcb.gov.br%2FPec%2FCopom%2FIngl%2FtaxaSelic-i.asp		Publicly available
25	TFSEE	TFSEE (Electric Energy Services Inspection Fee) https://www.planalto.gov.br/ccivil_03/_Ato2011-2014/2013/Lei/L12783.htm		Project Owner
26	Tax foundation	Corporate Tax Rates around the World, 2015 https://taxfoundation.org/data/all/global/corporate-income-tax-rates-around-world-2015/		Publicly available
27	EY	Worldwide VAT, GST and Sales Tax Guide 2015 https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/tax/guides/worldwide-vat-gst-and-sales-tax-guide-2015.pdf	2015	Project Owner
28	Delloitte	International tax, Brazil highlights, 2017 https://www.iberglobal.com/files/2017-2/brasil_deloitte.pdf		Publicly available
29	National Technical Regulation on Industrial Effluent	No 26 National Technical regulation on industrial wastewater (QCVN40:2011/BTNMT) http://vea.gov.vn/Documents/20210708%20QCVN%20Nuoc%20thai%20cong%20nghiep.pdf		Publicly available
30	CÂMARA DE COMERCIALIZAÇÃO DE ENERGIA ELETRICA - CCEE	Marketing rules Reserve Energy Contracting Version 2023.3.0		Project Owner
31	SERTAO and SOBRAL I SOLAR ENERGIA SPE LTDAHanbaram Wind Power Joint Stock Company	Tariff Percentage for generation exceeding guaranteed generation. https://www.ccee.org.br/documents/80415/919404/18%20-%20Contrata%C3%A7%C3%A3o%20de%20Energia%20de%20Reserva_2023.3.0_2023-JAN.pdf/8831d05d-9bab-f9ea-73e5-09bd10680a7a		Project Owner
32	Presidency of the Republic Civil House Sub-Chief for Legal	Labour Act - 2 Law Decree No. 5452/1943. Labor Laws Consolidation.		Publicly available

[7] https://drive.google.com/file/d/1r1lLDZWW5ByD3IntJiDu4Yw4xcFwEX-X/view

	Affairs			
33	The National Electric Energy Agency	Law nº 9.427,1996: The National Electric Energy Agency (ANEEL); https://www.oecd-ilibrary.org/sites/5a130109-en/index.html?itemId=/content/component/5a130109-en		Publicly available
34	National Electric Power Agency (Brazil)	Law nº 9.648,1998: The National Electric System Operator (ONS) https://latinlawyer.com/insight/ll-regulators/regulators/organization-profile/national-electric-power-agency-brazil		Publicly available
35	UN environment programme	Law nº 10.848,2004: Provides for the commercialization of electricity https://leap.unep.org/countries/br/national-legislation/law-no-10848-commercialization-electric-energy		Publicly available
36	SEC	Decree nº 6.353, 2008: Regulates the contracting of reserve energy through auctions https://www.sec.gov/Archives/edgar/data/1499505/000095012311002460/y87804exv10w23.htm		Publicly available
37	Presidency of the Republic Civil House, Sub-Chief for Legal Affairs	Law no. 9.074,1995: The Brazilian Electricity Act, does not influence the choice of fuel and technology used for power generation https://www.planalto.gov.br/ccivil_03/leis/l9074cons.htm		Publicly available
38	SERTAO I SOLAR ENERGIA SPE LTDA	1) List of employees 2) Employee Salaries 3) Employee training 4) HR policy		Project owner
39	PWC	worldwide tax summaries https://taxsummaries.pwc.com/brazil/corporate/deductions		Publicly available
40	Cen bank vows action	https://www.reuters.com/article/us-brazil-economy-inflation-idUSKBN0UM2IO20160108		Publicly available
41	Canadian Solar Panels: An Independent Review by Solar Choice	Annual Degradation https://www.solarchoice.net.au/products/panels/Canadian-Solar-Review/		Publicly available
42	Banco Central do Brazil	Annual Escalation https://www.bcb.gov.br/en/monetarypolicy/historicalpath		Publicly available
43	Banco Central Do Brazil	Inflation rate https://www.bcb.gov.br/en/monetarypolicy/historicalpath		Publicly available
44	EY	Worldwide Corporate Tax Guide https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/tax/guides/ey-worldwide-corporate-tax-guide-2015.pdf		Project owner
45	GCC	Global Stakeholder consultation on GCC projects		Publicly available

		https://www.globalcarboncouncil.com/global-stakeholders-consultation/		
46	Dados por Empreendimento	Date of Auction	28/08/2015	Project owner
47	SERTAO and SOBRAL I SOLAR ENERGIA SPE LTDA	sales revenue reports of Sertao solar power plant sales revenue reports of Sobral solar power plant		Project owner
48	Statista	https://www.statista.com/statistics/270812/inflation-rate-in-brazil/		public
49	PO	scholarships for educational universities		Project owner
B01	GCC	1. GCC Project Standard, version 3.1 2. GCC Verification Standard, version 3.1 3. GCC Program Manual, version 3.1 4.Environment-and-Social-Safeguards Standard, version 2 5. Project-Sustainability-Standard, version 2 6. GCC clarification no. 1		Others
B02	UNFCCC	CDM Methodology: ACM0002: Grid-connected electricity generation from renewable sources, version 21		Others
B03	GCC	PSF template V3.2- 2020		Others
B04	UNFCCC	Methodological tool 01: Tool for the demonstration and assessment of additionality, Version 07		Others
B05	UNFCCC	Methodological tool 07: Tool to calculate the emission factor for an electricity system, version 07		Others
B06	UNFCCC	Methodological tool 27: Investment analysis, version 11		Others
B07	UNFCCC	Methodological tool 24: Common practice, version 3.1		Others

Appendix 4. Clarification request, corrective action request and forward action request

Table 1. CLs from this verification

CL ID	01	**Section no.**	D.2	**Date:** 29/04/2023
Description of CL				
During the onsite visit, project verification team has observed that the total capacity mentioned in the PSF is not in line with the actual scenario. PO is requested to clarify the same.				
Project Owner's response				**Date:** 05/07/2023
The capacity for both DC and AC has been noted, and it is consistent with the capacity shown on-site.				
Documentation provided by the Project Owner				
Updated PSF				
GCC Emission Reduction Verifier's assessment				**Date:** 16/07/2023
PO has updated the PSF accordingly. The same is found acceptable by the GCC VVB. Hence CL 01 is closed. • In section A.2, name of project activities given are same. PO is requested to check and clarify the same.				
Project Owner's response				Date: 26/07/2023
The project activities name mentioned in section A.2 of the PSF has been updated.				
Documentation provided by the Project Owner				
Updated PSF.				
GCC Emission Reduction Verifier's assessment				Date: 22/08/2023
PO has updated the PSF accordingly. The same is found acceptable by the GCC VVB. Hence CL 01 is closed.				

CL ID	02	**Section no.**	D.3.5	**Date:** 29/04/2023
Description of CL				
As per paragraph 10 of CDM Methodological tool: TOOL27: Investment analysis. *"Input values used in all investment analysis shall be valid and applicable at the time of the investment decision taken by the project participant. The DOE is therefore expected to validate the timing of the investment decision and the consistency and appropriateness of the input values with this timing. The DOE should also validate that the listed input values have been consistently applied in all calculations."* Project owner is requested to clarify this, while doing so, please provide evidence for; 1. Actual project cost. 2. Supportive for energy yield assessment report for PLF considered for ER estimation and for Investment analysis. 3. Actual generation for last one year. 4. Source of annual degradation factor. 5. The basis of tariff calculation, depreciation, insurance and overheads considered in the DPR. 6. Weblink/reference for VAT on O&M, ONS/CCE, social contribution CSCC Project owner is requested to provide evidence/supportive documents on common practice analysis.				
Project Owner's response				**Date:** 05/07/2023
The investment decision date of the project is 19/12/2016, which is the date of signing of the EPC contract. The value considered were available and applicable at the time of investment decision date and Input parameters are sourced from the EPE document and PPA. Input values used in the investment analysis are valid and applicable at the time of the investment decision (signing of the EPC contract).				

1. The actual project cost has been provided and addressed in section B.5 for the sensitivity analysis. 2. PLF has been calculated from the Net generation mentioned in EPE Documents. 3. Project owner has provided the document of actual generation for last one year and mentioned in section B.5 for sensitivity analysis. 4. The degradation factor has been sourced from the link "https://www.solarchoice.net.au/products/panels/Canadian-Solar-Review/" . 5. The tariff value is considered from the PPA document available at the time of investment decision. Also, the depreciation has been considered from the available Brazilian source at the time of investment decision making. 6. The Weblink/reference for VAT on O&M and social contribution CSCC are provided in the IRR. ONS has been removed from IRR input parameter as its included in the TUST (Tarifa de Uso do Sistema de Transmissão) fee as per the ANEEL regulation.
Documentation provided by the Project Owner
Updated PSF *Updated IRR*
GCC Emission Reduction Verifier's assessment **Date:** 16/07/2023
1. The updation in section B.5 for the sensitivity analysis is found appropriate and hence the finding is closed. 2. The VVB found the response of PO appropriate and the finding is closed. 3. Project owner has provided the document of actual generation for last one year and mentioned in section B.5 for sensitivity analysis. Hence the finding is closed. 4. Source of the value provided by the PO is found appropriate and hence the finding is closed. 5. The justification provided by the PO is found suitable by the GCC VVB. Hence the finding raised is closed. 6. The VVB found the changes made by the PO appropriate. So, the finding is closed.

CL ID	03	**Section no.**	D.3.1	**Date:** 29/04/2023
Description of CL				
1. The latest version of the methodology ACM0002 version 21 is available. Project owner is requested to use the latest version of the methodology ACM0002, version 21. *2. As per latest version of Tool 27 (Investment Analysis version-12.0) available. Project owner is requested use the latest version or provide justification/clarification regarding the use of old version.*				
Project Owner's response				**Date:** 05/07/2023
1. The latest version of the methodology ACM0002 version 21.0 has been used consistently throughout the PSF. *2.The project owner has used the latest tool 27 version 12.0 and applied throughout the PSF.*				
Documentation provided by the Project Owner				
Updated PSF.				
GCC Emission Reduction Verifier's assessment				**Date:** 16/07/2023
PO has updated the PSF accordingly. The same is found acceptable by the GCC VVB. Hence CL 03 is closed.				

CL ID	04	**Section no.**	D.12	**Date:** 29/04/2023
Description of CAR				
Project owner is requested to justify how sustainable development goals 5 and 9 is applicable to the project activity. Further, PO is requested to justify how the same is inline with the Project Sustainability Standard version 3.1 requirements. *Further, PO is requested to provide supportive documents/evidence related to SDG monitoring.*				

Project Owner's response	**Date:** 05/07/2023
SDG 5, which focuses on achieving gender equality and empowering women, is relevant to this project activity as there are women involved in the decision-making processes of the company, which is in line with the Project Sustainability Standard. Whereas, SDG 9 does not contribute to the project activity. Hence, it has been removed. *The LOA has been signed by a female employee, demonstrating the fulfilment of SDG 5.*	
Documentation provided by the Project Owner	
Updated PSF *LOA Document*	
GCC Emission Reduction Verifier's assessment	**Date:** 16/07/2023
VVB found the justification and the changes suitable. But LOA is not yet provided. It's not in the GCC site also. Hence CL 04 remain open.	
Project Owner's response	**Date**: 26/07/2023
LOA document has been provided.	
Documentation provided by the Project Owner	
LOA Document	
GCC Emission Reduction Verifier's assessment	Date: 22/08/2023
PO has updated the PSF accordingly. The same is found acceptable by the GCC VVB. Hence CL 04 is closed.	

CL ID	05	**Section no.**	D.6	**Date:** 29/04/2023
Description of CL				
Project Owner is requested to provide supportive documents/evidence as per paragraph 73 of the GCC PSF Filling instructions viz. minutes of the meeting, invitation details, feedback forms, photograph etc related to Local stakeholder consultation.				
Project Owner's response				**Date:** 05/07/2023
The supporting documents/evidence for the LSC have been provided in accordance with the PSF filing guidelines.				
Documentation provided by the Project Owner				
Updated PSF.				
GCC Emission Reduction Verifier's assessment				**Date:** 16/07/2023
the supporting documents/evidence provided by the PO for the LSC is found suitable and hence the finding CL 05 is closed.				

CL ID	06	**Section no.**	D.10/ D.11	**Date:** 29/04/2023
Description of CAR				
Project owner is requested to justify why solid waste pollution from E-waste, solid waste from batteries are not considered in the impact identification. Further, PO is requested to provide supportive documents/evidence related to E+/S+ monitoring.				
Project Owner's response				**Date:** 05/07/2023
Solid waste from batteries has been addressed in solid waste pollution from the E-waste and the has been provided.				
Documentation provided by the Project Owner				
Updated PSF *ER Sheet* *Hazardous Wastes Handling* *EIA Report* *Actual net generation* *List of Employees* *HR Policy* *EMP Report* *Employee Training*				
GCC Emission Reduction Verifier's assessment				**Date:** 16/07/2023
PO has updated the PSF. solid waste pollution from E-waste, solid waste from batteries is considered				

in the impact identification. VVB found it appropriate. Hence CL 06 is closed.

Table 2. CARs from this Project Verification

CAR ID	01	**Section no.**	D.1/D.2	**Date:** 29/04/2023
Description of CAR				
1. The latest version of PSF V4 is available. Project owner is requested to use the latest template. 2. In section A.1 of the PSF the AC capacity and DC capacity needs to be specified. 3. The sustainability development indicator to be inline with the E+, S+ and SDG. 4. The power purchase agency for project activity 2 is not inline with the actual power purchase agency 5. The capacity mentioned in section A.1 of the PSF is not inline with the name plate capacity observed during the site visit. 6. Technical specification of the components mentioned in section A.3. for the project 2 is not inline with the actual details observed during the site visit. 7. PO is requested to incorporate the requirements of para 9 of the PSF filling guidelines/instruction in section A.3 of PSF.				
Project Owner's response				**Date:** 05/07/2023
1. The project owner has already used the latest version of the PSF v.4 template. *2. The AC and DC capacity has been specified in the section A.1 of the PSF.* *3. The sustainability development indicator is inline with the E+, S+ and SDGs.* *4. In power purchase agency is in line with the actual power purchase agency and same has been mention in section A.1 of the PSF.* *5. The section A.1 has been modified and inline to the name plate capacity observed during the site visit.* *6. Technical specification mentioned in the section A.3 for the project 2 has been rectified and in line with the on-site details.* *7. Section A.3 of the PSF is in-line with the requirements of the para 9 of the PSF filling guideline/instruction.*				
Documentation provided by the Project Owner				
Updated PSF.				
GCC Emission Reduction Verifier's assessment				**Date:** 16/07/2023
1. PO had used the latest template. Hence the finding is closed. 2. *AC and DC capacity has been specified in the section A.1 of the PSF. VVB found it appropriate. Hence the finding is closed.* 3. UN level target of SDG 13 is not in line with the project sustainability standard V3.1. so, the finding remains open. 4. The updation made in the section A.1 of the PSF is found appropriate. And hence the finding is closed. 5. The modification made in the section A.1 is found suitable by the PO. So, the finding is closed. 6. Technical specification mentioned in the section A.3 of the PSF is found suitable by the GCC VVB. And the finding is closed. 7. The VVB found that the Section A.3 of the PSF is in-line with the requirements of the para 9 of the PSF filling guideline/instruction. and hence the finding is closed.				
Project Owner's response				Date: 16/07/2023
The SDGs 13 has been updated as per the project sustainability standard version 3.1.				
Documentation provided by the Project Owner				
Updated PSF.				

GCC Emission Reduction Verifier's assessment	Date: 22/08/2023
PO has updated the PSF accordingly. The same is found acceptable by the GCC VVB. Hence CAR 01 is closed.	

CAR ID	02	Section no.	D.3.5	Date: 29/04/2023
Description of CAR				
Under section B.5 of the PSF the legal requirement is not demonstrated with supportive documents. Project owner is requested to comply to the requirement of paragraph 16 (b) of the GCC project standard v3.1.				
Project Owner's response				**Date:** 05/07/2023
According to the GCC project standard V.3.1, the legal requirement has been demonstrated in section B.5 of the PSF.				
Documentation provided by the Project Owner				
Updated PSF				
GCC Emission Reduction Verifier's assessment				**Date:** 16/07/2023
The PO has demonstrated the legal requirement test according to the GCC project standard V.3.1 and the VVB found it proper. Hence the CAR 02 is closed.				

CAR ID	03	Section no.	D.3.4	Date: 29/04/2023
Description of CAR				
Project owner is requested to describe how the relevant national and/or sectoral policies, regulations and circumstances are taken into account as per *paragraph 27 under Section B.4 of the GCC PSF Filling guidelines.*				
Project Owner's response				**Date:** 05/07/2023
The project owner has addressed the relevant national and/or sectoral policies under section B.4 as per PSF filling guideline.				
Documentation provided by the Project Owner				
Updated PSF.				
GCC Emission Reduction Verifier's assessment				**Date:** 16/07/2023
The PO has updated the PSF according to the paragraph 27 under Section B.4 of the GCC PSF Filling guidelines. The changes in the PSF found appropriate by the VVB. So, the CAR 03 is closed.				

CAR	04	Section no.	D.3.7	Date: 29/04/2023
Description of CAR				
1. Project owner needs to complete section B.7.1 of the PSF complying paragraph 38, 39 and 40 of the instructions to complete the PSF. While doing so, Project owner needs to provide complete information for all the monitoring equipment (e.g. monitoring instrument type, make, model, location, calibration frequency, accuracy class, etc.) along with evidence. 2. The monitoring plan and metering plan mentioned in the PSF is not inline with the actual arrangements observed at the site. Project owner is requested to make the monitoring details consistent in section B.7.1 and B.7.5.				
Project Owner's response				**Date:** 05/07/2023
1. *All of the monitoring technology and the supporting evidence have been addressed in accordance with the section B.7.1 requirements.* 2. *The monitoring and metering plans have been addressed and are consistent with the onsite plan and monitoring details in Sections B.7.1 and B.7.5 of the PSF.*				
Documentation provided by the Project Owner				
Updated PSF.				
GCC Emission Reduction Verifier's assessment				**Date:** 16/07/2023
The changes made in the PSF is found appropriate by the VVB and hence CAR 04 is closed.				

CAR	05	Section no.	D.3.7	Date: 29/04/2023
Description of CAR				
In section A.5 of the PSF, Project owner is requested to provide a confirmation w.r.t. para 15 of the PSF filling guidelines.				

Project Owner's response	**Date:** 05/07/2023
host country attestation on double counting approval will be submitted in later stages, when required to meet the CORSIA requirements.	
Documentation provided by the Project Owner	
Updated PSF	
GCC Emission Reduction Verifier's assessment	**Date:** 16/07/2023
The justification provided by the PO is found suitable by the GCC VVB. So, the CAR 05 is closed.	

CAR ID	06	**Section no.**	D.1	**Date:** 29/04/2023
Description of CAR				
Background: requirements of paragraph 29 and 30 of the GCC project standard version 3.1. 1. Project owner is requested to provide the subsection of the type of project standard in the section basic Information section of the PSF. 2. GCC Clarification no 1 v1.2 and GCC Standard on Avoidance of Double Counting v1.0 needs to be included in applicable rules and requirement for the Project Owners of the Basic Information Section of the PSF. Further, the same need to be applied in the PSF.				
Project Owner's response				**Date:** 05/07/2023
1. *The type of the project activity of subtype have been mentioned in the basic information section of the PSF.* 2. *GCC clarification no.1 v.1.3 and avoidance of double counting v.1.0 have been mentioned in applicable rule and requirement and in the basic information section of the PSF.*				
Documentation provided by the Project Owner				
Updated PSF				
GCC Emission Reduction Verifier's assessment				**Date:** 16/07/2023
The PO has updated the PSF according to the requirements of paragraph 29 and 30 of the GCC project standard version 3.1.and the GCC VVB found it suitable. So, the CAR 06 is closed.				

CAR ID	07	**Section no.**	D.13/D.14	**Date:** 29/04/2023
Description of CAR				
Project owner has opted for CORSIA with respect to project activity. As per *paragraph 16.c of section A.6 of the GCC PSF Filling instructions* CORSIA requirement project owner needs to get a Host Country Attestation on Double Counting. However, the section H of the PSF states that no host country approval is required. Therefore, the same is not found appropriate.				
Project Owner's response				**Date:** 05/07/2023
Section A.6 and Section H of the PSF have been in line with one another as per the GCC PSF filling requirement.				
Documentation provided by the Project Owner				
Updated PSF.				
GCC Emission Reduction Verifier's assessment				**Date:** 16/07/2023
The PO has updated the PSF accordingly. and the GCC VVB found it suitable So, the CAR 07 is closed.				

CAR ID	08	**Section no.**	D.10/D.11/D.12	**Date:** 29/04/2023
Description of CAR				
Background: requirements of paragraph 25 and 32 of the GCC project standard version 3.1 • Project Owner is requested to demonstrate environmental safeguards and social safeguards as per the *latest standard (version 3).* Furthermore, Project Owner is requested to demonstrate the SDGs as per the latest standard i.e., *project sustainability standard (version 3).*				
Project Owner's response				**Date:** 05/07/2023
The Environment safeguards and social safeguards have already been demonstrated with the latest version of Environment-and-Social-Safeguards (version 3). Moreover, SDGs have been demonstrated with the latest version of Project sustainability standard version 3.				

Documentation provided by the Project Owner	
Updated PSF.	
GCC Emission Reduction Verifier's assessment	**Date:** 16/07/2023
The PO has updated the PSF accordingly. The GCC VVB found the changes appropriate. Hence the CAR 08 is closed.	

CAR ID	09	**Section no.**	D.8	**Date:** 29/04/2023
Description of CAR				
Project Owner is requested to provide the contact information for each Project Owner in appendix 1 as per *paragraph 4 of section A4 of the GCC PSF Filling instruction*.				
Project Owner's response				**Date:** 05/07/2023
The contract information has been provided for the appendix 1 as per the section A4 of the GCC PSF filling instruction.				
Documentation provided by the Project Owner				
Updated PSF				
GCC Emission Reduction Verifier's assessment				**Date:** 16/07/2023
Address of NATURGY COMMODITIES TRADING, S.A. ("NCT") is not provided in appendix 1.Hence the finding remains open. • PO is requested to clarify why the name of Kosher climate is not mentioned anywhere in the PSF, especially in the section A.4 of PSF. • Sign and seal of the focal point is not given in the basic information section. PO is requested to correct the same.				
Project Owner's response				**Date:** 26/07/2023
The address of NATURGY COMMODITIES TRADING, S.A. ("NCT") has been updated. • Kosher climate is not a focal point of the SERTAO and SOBRAL I Solar PV Project by GPG NATURGY hence the Kosher Climate India Private Limited name will not be mentioned in section A.4 of the PSF. • The PSF has been signed and sealed by the project owner in the basic information section.				
Documentation provided by the Project Owner				
Updated PSF.				
GCC Emission Reduction Verifier's assessment				Date: 22/08/2023
PO has updated the PSF accordingly. The same is found acceptable by the GCC VVB. Hence CAR 09 is closed.				

DOCUMENT HISTORY

Version	Date	Comment
V 3.1	31/12/2020	▪ The name of GCC Program's emission units has been changed from "Approved Carbon Reductions" or ACRs to "Approved Carbon Credits" or ACCs.
V 3.0	23/08/2020	▪ Revised version released on approval by the Steering Committee as per the GCC Program Process; ▪ Revised version contains the following changes: ○ Change of name from Global Carbon Trust (GCT) to Global Carbon Council (GCC); ○ Considered and addressed comments raised by the Steering Committee: ➢ during physical meeting (SCM 01, dated 29 Oct 2019, Doha Qatar); and ➢ electronic consultations EC01-Round 04 (17.08.2020 – 22.08.2020). ▪ Feedback from the Technical Advisory Board (TAB) of ICAO on GCC submissions for approval under CORSIA[8];
V 2.0	25/06/2019	▪ Revised version released for approval by the GCC Steering Committee. ▪ This version contains details and information to be provided, consequent to the latest worldwide developments (e.g., CORSIA EUC).
v1.0	01/11/2016	▪ Initial version released for approval by the GCC Steering Committee under GCC Program Version 1

[8]See 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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