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 Until 01.06.2024 https://cdm.unfccc.int/DOE/list/DOE.html?entityCode=E-0052 ☐ ISO 14065 Accreditation https://nabcb.qci.org.in//accreditation/ghg/ghg004.php Valid from 28/06/2021 until 27/06/2024
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	5 MW Biomass Based Power Generation project in Raichur. Version 06, Dated 14/10/2023.
Title of the project activity	5 MW Biomass Based Power Generation project in Raichur
Project submission reference no. (as provided by GCC Program during GSC)	S00533

[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).
☐ Type B1
☐ Type B – De-registered CDM Projects:
☐ Type B1
☐ Type[3] B2</td></tr>
<tr><td>Date of completion of Local stakeholder consultation</td><td>12/05/2022</td></tr>
<tr><td>Date of completion and period of Global stakeholder consultation. Have the GSC comments been verified. Provide web-link.</td><td>23/10/2022 to 06/11/2022
No comments were received.
https://www.globalcarboncouncil.com/global-stakeholders-consultation-5/</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>Manchukonda Agrotech Private Limited</td></tr>
<tr><td>Contact details of the representative of the Entity, requesting verification service
(Focal Point assigned for all communications)</td><td>Manchukonda Narasimha
Director
Email: info@manchukonda.in</td></tr>
<tr><td>Country where project is located</td><td>India</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>Sy. No’s:156,159,160 & Sy.No.38 of Chickasugar village limits, Taluk: Raichur, Raichur District, Karnataka.</td><td>16°17'48.8"N (16.2969)</td><td>77°20'28.0"E (77.3411)</td></tr></table></td></tr>
<tr><td>Applied methodologies
(approved methodologies of GCC or CDM can be used)</td><td>AMS-I.F: Renewable Electricity Generation for Captive use and mini grid, version 5.0</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.

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 "5 MW Biomass Based Power Generation project in Raichur". ☒ The Project Owner has correctly described the Project Activity in the Project Submission Form (version *06*, dated 14/10/2023) including the applicability of the approved methodology [*CDM methodology, AMS-I.F version 5.0*] 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 285,520 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 *[3]* 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. CCIPL1683/GCC/VAL/BBPR/2022 1207 Version 01 Date: 19/10/2023
Name of the authorised personnel of GCC Project Verifier and his/her signature with date	 Vikash Kumar Singh, Compliance Officer Date: 19/10/2023

[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

1. PROJECT VERIFICATION REPORT

Section A. Executive summary

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Manchukonda Agrotech Private Limited has appointed the GCC Project Verifier, Carbon Check (India) Private Ltd., to perform an independent project verification of the Project “5 MW Biomass Based Power Generation project in Raichur” in India (hereafter referred to as “project activity”). This report summarizes the findings of verification of the project, performed on the basis of 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. Manchukonda Agrotech Private Limited , has been authorized by Manchukonda Agrotech Private Limited, who has developed and owns the 5MW biomass-based cogeneration project at Chickasugar village Raichur district of Karnataka, India. The installation 30 TPH nominal capacity AFBC (Atmospheric Fluidized Bed Combustion) Boiler have been commissioned and connected to the national Grid on 18/11/2016. The gross power generation in the plant will be 5 MW and after meeting with the auxiliary consumption of the plant and meeting the captive load of 1 MW the surplus power up to 4 MW is proposed to be sold to GESCOM (Gulbarga Electricity Supply Company Limited).

Type of Project	Grid connected Biomass Energy project
Technology	AFBC (Atmospheric Fluidized Bed Combustion) Boiler
Connected Grid	Indian national grid, which is mainly dominated by thermal/fossil fuel-based power plant
Expected Annual Electricity supplied to Grid	32,076 MWh
Expected Annual Emission reduction	28,552 tCO2eq
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	+3
Social No-net-harm Label (S+) score	+7
Number of United Nations Sustainable Development Goals (SDG+) opted	3

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 Party 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 the Raichur district of Karnataka, India.

Address and geodetic coordinates of the physical site of the Project Activity		
Physical address	**Latitude**	**Longitude**

Sy. No's:156,159,160 & Sy.No.38 of Chickasugar village limits, Taluk: Raichur, Raichur District, Karnataka.	16°17'48.8"N (16.2969)	77°20'28.0"E (77.3411)

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 03 /B04/, tool 07/B05/, tool 24/B07/, tool 16/B08/ tool 21/B09/ 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 also 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 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 ISO 14064-2 requirements),
- Materiality threshold and
- Standards of evaluation and reporting for the GCC Project verification.

Materiality threshold on the basis of reasonableness of the assumptions, limitations and methods used to forecast information shall be based upon the evaluation of sufficient and appropriate information. 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 "5 MW Biomass Based Power Generation project in Raichur"

in India as described in the final PSF (Version 06, dated 14/10/2023) /1/ meets all relevant requirements of GCC and has correctly applied the CDM baseline and monitoring methodology 'AMS-I.F.: Renewable Electricity Generation for Captive use and mini grid, version 5.0' /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 silver 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	IR	Mathew	Vijay	CCIPL	Y	Y	Y	Y
2.	Technical Expert	IR	Sing	Vikash Kumar	CCIPL	Y	N	N	Y
3.	Team member	IR	Kishore Raychoudhury	Rishi		Y	N	N	Y
4.	Trainee Assessor	IR	Suhail K	Muhammed	CCIPL	Y	Y	Y	Y
5.	Financial Expert	IR	Mathew	Vijay	CCIPL	Y	Y	Y	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	Chakraborty	Shivaji	CCIPL
2.	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 14/10/2022/01/ and revised final PSF version 06 dated 14/10/2023/01/. 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: 28/12/2022				
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.	Sy. No's:156,159,160 & Sy.No.38 of Chickasugar village limits, Taluk: Raichur, Raichur District, Karnataka.	28/12/2022	Vijay Mathew and Muhammed Suhail K

C.3. Interviews

No.	Interview			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Narasimha	M	Director-Manchukonda agrotech	28/12/2022	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 and Do-no-harm analysis etc. The legal ownership of the project and the focal point relationship and ownership of ACC.	Vijay Mathew and Nguyen Hong Ngoc Trang
2.	Kotwara Rao	M	Plant manager-Manchukonda agrotech	28/12/2022		
3.	Padma Rao	R	Accountant-Manchukonda agrotech	28/12/2022		
4.	Saidulu	Y	Boiler operator- local employee	28/12/2022		
5.	ramakrishna	K	Electrical engineer-Local employee	28/12/2022		
6.		Shivaraj	Villager-Chicksugur	28/12/2022		
7.		Renuka	Villager-Chicksugur	28/12/2022		
8.	Reddy	Chandrakala	Villager - Wadloor	28/12/2022		
9.		Shivaranna	Villager - Wadloor	28/12/2022		
10.		Shekar	Villager-Hegsanhalli	28/12/2022		
11.		Rehamat	Villager - Kuknoor	28/12/2022		

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	CL 02	CAR 03	
General description of project activity	A_1, A_2, B_1, B_2		CAR01	
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		CAR 04	
- 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 05	
- Demonstration of additionality including the Legal Requirements test	A_1, A_2, B_1, B_2	CL 05	CAR 06	
- 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	CL 03 CL 06 CL 07		
Start date, crediting period and duration	A_1, A_2, B_1, B_2		CAR 10	
Environmental impacts	A_1, A_2, B_1, B_2			
Local stakeholder consultation	A_1, A_2, B_1			
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 02	
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 01	CAR 07 CAR 08	
Social Safeguards (S^+)	A_1, A_2, B_1	CL 01	CAR 07	
Sustainable development Goals (SDG^+)	A_1, A_2, B_1	CL 04	CAR 07	
Authorization on Double Counting from Host Country (only for CORSIA)	A_1, A_2, B_1		CAR 09	FAR 01
CORSIA Eligibility (C^+)				
Total		07	10	01

Section D. Project Verification findings

D.1. Identification and eligibility of project type

Means of Project Verification	Desk Review and Interviews
Findings	CAR 03 and CL 02 was raised, and finding is 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 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.	PSF/1/, Commissioning certificates /4/
Sub type	Sub-Type 1. The project is an existing operational project, not submitted to any Program,	PSF/1/, Commissioning certificates /4/

	which have started operations after 1 January 2016.	
Start date of project activity	18/11/2016 (earliest date of commission)	PSF/1/, Commissioning certificate /4/
Start date of Crediting period	From 18/11/2016 to 17/11/2026	PSF/1/, Commissioning certificate /4/
Global stakeholder consultation	23/10/2022 to 06/11/2022	https://projects.globalcarboncouncil.com/project/631

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

D.2. General description of project activity

Means of Project Verification	Desk review and Interviews
Findings	CAR 01 was raised, and finding is 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	5 MW Biomass Based Power Generation project in Raichur	PSF/1/
Project developer	Manchukonda Agrotech Private Limited	PSF/1/, Commissioning certificate /4/ and PFR/5/.
Capacity	5 MW	PFR /5/, PPA /9/ On-site visit /15/
Purpose of the project	The purpose of the project activity is to generate electricity using Bleed cum condensing turbo generator from ABFC Boiler. the electricity generated is supplied to the GESCOM (Gulbarga Electricity Supply Company Limited) i.e., Indian national grid.	Commissioning certificate /4/ PFR /5/, pre PPA /9/ On-site visit /15/
Annual Generation	32,076 MWh/year (first year)	PFR/5/
Emission reduction	285,520 tCO_2e (for the entire crediting period.)	ER/2/

Since energy from biomass 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 supplied from the fossil fuel dominated grid. Thus, project activity helps in an average annual emission reduction of 285,520 tCO_2e/year for a period of 10 years.

The Project Activity by Manchukonda Agrotech Private Limited in Chickasugar village limits, Taluk: Raichur, Raichur District, Karnataka.

Address and geodetic coordinates of the physical site of the Project Activity		
Physical address	**Latitude**	**Longitude**
Sy. No's:156,159,160 & Sy.No.38 of Chickasugar village limits, Taluk: Raichur, Raichur District, Karnataka.	16°17'48.8" N (16.2969)	77°20'28.0" E (77.3411)

The same was confirmed by the measurement of co-ordinates using google earth software and GPS at the project sites. The other details such as district and name of the project location is checked during the physical on-site verification /15/; further, the project were cross checked with the commissioning certificate of the project activity and were found appropriate /4/.

Parameters	**Project Details**	**Verified documents**
Type of Project	Greenfield Wind power project	Commissioning certificate /4/ PFR/5/, PPA /9/ EPC contract/7/, Manufacture specification/10/
Technology	30 TPH nominal capacity AFBC (Atmospheric Fluidized Bed Combustion)	
Project Capacity	5 MW	
Lifetime of the project	20 Years	
Project start date	18/11/2016	Commissioning certificate/4/

The installation of 30 TPH AFBC (Atmospheric Fluidized Bed Combustion) Boiler with the super heater outlet steam parameters of 67 ATA and 485 °C+5°C, and One Number of Bleed cum condensing turbo generator has been commissioned and connected to the Indian National grid through the erected distribution and transmission lines. The gross power generation in the plant will be 5 MW and after meeting with the auxiliary consumption of the plant and meeting the captive load of 1 MW the surplus power up to 4 MW is proposed to be sold to GESCOM The same is confirmed from the On-site visit/15/.

The baseline scenario is that the electricity delivered to the grid by 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 India.

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	+3
Social No-net-harm Label (S+) score	+7
Number of United Nations Sustainable Development Goals (SDG+) opted	3

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 Biomass power plant itself
- The point of connection to Indian 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.

As per the PSF /1/, start date of the Project activity 18/11/2016 (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 18/11/2016 to 17/11/2026 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 04 was raised, and finding is closed. Please refer to Appendix 4 for further details.
Conclusion	The CDM methodology applied is AMS-I. F, version 05.0 /B02/. It is applicable to greenfield renewable energy power generation using Biomass. 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>AMS-I.F: Renewable electricity generation for captive use and mini-grid, Version 05.0</th><th>Justification in the PSF by PO</th><th>GCC Project Verification body assessment</th></tr>
<tr><td>This methodology is applicable for project activities that:
(a) Install a new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant); (b) Involve a capacity addition. (c) Involve a retrofit of (an) existing plant(s); or (d) Involve a replacement of (an) existing plant(s).</td><td>The project activity is a green field renewable energy power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity. 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 Biomass 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>5 MW</td></tr></table>
Hence the methodology is applicable to the proposed project activity.</td></tr>
<tr><td>Illustration of respective situations under which each of the methodology (AMS-I.D., AMS-I.F. and AMS-I.A) applies is included in table below.
<table><tr><th>Project Type</th><th>AMSI.A</th><th>AMSI.D</th><th>AMSI.F</th></tr></table></td><td>This is a grid connected biomass power plant displacing grid electricity consumption by the captive rice mill within the project boundary which would have been otherwise being consumed in the baseline</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 Biomass project</td><td rowspan="4">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>5 MW</td></tr><tr><td>Type of Renewable Energy Project</td><td>Biomass power project</td></tr></table></td></tr>
</table>

		Project supplies electricity to a national/regional grid		✓		scenario and supplying the excess electricity to the grid. Hence this condition is complied.	Hence the methodology is applicable to the proposed project activity.
		Project displaces grid electricity consumption (e.g. grid import) and/or captive fossil fuel electricity generation at the user end (excess electricity may be supplied to a grid)			✓		

	Project supplies electricity to an identified consumer facility via national/regional grid (through a contractual arrangement such as wheeling)		✓			
	Project supplies electricity to a mini grid[6] system where in the baseline all generators use			✓		

[6] The sum of installed capacities of all generators connected to the mini-grid is equal to or less than 15 MW.

	exclusively fuel oil and/or diesel fuel				
	Project supplies electricity to household users (included in the project boundary) located in off grid areas		✓		
	In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct[7]			The project activity is the installation of a new 5 MW renewable biomass power project. Hence this criterion is not applicable	

Parameters	Project Status	Verified document
Any Capacity addition?	Not applicable	Confirmed from Contract signed by the Biomass Power project technology provider /7/, PFR/DPR /5/, and the
Any Retrofits?	Not applicable	
Any Rehabilitation?	Not applicable	
Any replacement	Not applicable	

[7] Physically distinct units are those that are capable of generating electricity without the operation of existing units, and that do not directly affect the mechanical, thermal, or electrical characteristics of the existing facility. For example, the addition of a steam turbine to an existing combustion turbine to create a combined cycle unit would not be considered “physically distinct”.

<table>
<tr><td></td><td>from the existing units.</td><td></td><td>
<table>
<tr><td></td><td></td><td>commissioning certificates /4/.</td></tr>
</table>

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>
<tr><td></td><td>In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct[8] from the existing units.</td><td>The project activity is the installation of a new 5 MW renewable biomass power project. Hence this criterion is not applicable</td><td>
<table>
<tr><th>Parameters</th><th>Project Status</th><th>Verified document</th></tr>
<tr><td>Any Capacity addition?</td><td>Not applicable</td><td rowspan="4">Confirmed from Contract signed by the Biomass Power project technology provider /7/, PFR/DPR /5/, and the commissioning certificates /4/.</td></tr>
<tr><td>Any Retrofits?</td><td>Not applicable</td></tr>
<tr><td>Any Rehabilitation?</td><td>Not applicable</td></tr>
<tr><td>Any replacement</td><td>Not applicable</td></tr>
</table>

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>

[8] Physically distinct units are those that are capable of generating electricity without the operation of existing units, and that do not directly affect the mechanical, thermal, or electrical characteristics of the existing facility. For example, the addition of a steam turbine to an existing combustion turbine to create a combined cycle unit would not be considered “physically distinct”.

<table>
<tr>
<td></td>
<td>In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement unit shall not exceed the limit of 15 MW.</td>
<td>The project activity is the installation of a new grid connected 5 MW renewable biomass power project. Hence this criterion is not applicable</td>
<td>
<table>
<tr><th>Parameters</th><th>Project Status</th><th>Verified document</th></tr>
<tr><td>Any Capacity addition?</td><td>Not applicable</td><td rowspan="4">Confirmed from Contract signed by the biomass Power project technology provider /7/, PFR/DPR /5/, and the commissioning certificates /4/.</td></tr>
<tr><td>Any Retrofits?</td><td>Not applicable</td></tr>
<tr><td>Any Rehabilitation?</td><td>Not applicable</td></tr>
<tr><td>Any replacement</td><td>Not applicable</td></tr>
</table>

CCPIL project verification team confirmed the same during the onsite visit /15/. Hence this condition is not applicable to the proposed project activity.
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</tr>
<tr>
<td></td>
<td>If the unit added has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the unit added co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.</td>
<td>The project activity is the installation of a new grid connected 5 MW renewable biomass power project. Hence this criterion is not applicable</td>
<td>
<table>
<tr><th>Parameters</th><th>Project Status</th><th>Verified document</th></tr>
<tr><td>unit added has both renewable and non-renewable components (e.g. a wind/diesel unit)</td><td>Not applicable</td><td>Confirmed from Contract signed by the Biomass Power project technology provider /7/, PFR/DPR /5/, and the commissioning certificates /4/.</td></tr>
</table>

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>
<tr>
<td></td>
<td>Combined heat</td>
<td>The project</td>
<td></td>
</tr>
</table>

<table>
<tr>
<td></td>
<td>and power (co-generation) systems are not eligible under this category</td>
<td>activity generates only electricity component. Hence this condition is not applicable.</td>
<td>
<table>
<tr><th>Parameters</th><th>Project Status</th><th>Verified document</th></tr>
<tr><td>Any Combined heat and power (co-generation) systems?</td><td>Not applicable</td><td>Confirmed from Contract signed by the Biomass Power project technology provider /7/, PFR/DPR /5/, and the commissioning certificates /4/.</td></tr>
</table>

CCPIL project verification team confirmed the same during the onsite visit /15/. Hence this condition is not applicable to the proposed project activity.
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<tr>
<td></td>
<td>Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology:

(a) The project activity is implemented in an existing reservoir with no change in the volume of reservoir.
(b) The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m^2;
(c) The project</td>
<td>This is not a hydro power project. Hence this condition is not applicable.</td>
<td>The proposed project activity is not a hydro power project.

The proposed activity is a Greenfield grid connected Biomass 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.</td>
</tr>
</table>

	activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m^2.		
	If electricity and/or steam/heat produced by the project activity is delivered to a third party, i.e., another facility or facilities within the project boundary, a contract between the supplier and consumer(s) of the energy will have to be entered that ensures that there is no double counting of emission reductions.	The generated electricity is being utilized for the captive facility with in the project boundary, project owner will ensure that emission reductions will not be double counted.	Project Owner will use the generated electricity for the captive facility within the project boundary, the same is confirmed from the PFR/DPR/5/ and commissioning certificate/4/ Hence this condition is applicable to the proposed project activity.
	In the case the project activities utilize biomass, the "TOOL16: Project and leakage emissions from biomass" shall be applied to determine the relevant project emissions from the cultivation of biomass and the utilization of biomass or biomass residues.	Tool 16 "Project and leakage emissions from biomass" has been used for the estimation of project emissions.	The proposed project activity may generate emission from its operation, the same is calculated using Tool 16 "Project and leakage emissions from biomass". GCC project verification team confirmed the same during the onsite visit /15/. Hence this condition is applicable to the proposed project activity.

Applicability criteria of the tool 7, Version 7.0	Justification in the PSF	DOE 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 biomass power generation plant and hence, according to the applied methodology, the baseline scenario is electricity delivered	The project activity involved the construction and operation of 5 MW Biomass power plant in India. The electricity thus generated is being sold to Indian national

	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).	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".	grid I.e., GESCOM. In the absence of the project activity, the same amount of electricity (grid electricity) would be generated in the Indian national grid. Therefore, combined margin calculation applies to the Vietnam 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, this condition is applicable and the emission factor has been calculated accordingly. Combined margin grid emission factor has been calculated as per the CO_2 emission factor data base published by the CEA in which for the calculation of emission factor, CEA have only considered grid connected plants.	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 located in India, 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 National grid of India. Since the project electricity system is located in India which is not an Annex I country (Date of ratification of Kyoto protocol by India on 26/08/2002), the

		project verification team has accepted the application of the tool 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 greenfield biomass project and therefore, this criteria is not applicable for the project activity.	CO2 emission factor of biofuels is zero.

Applicability criteria of the tool 3, Version 3.0	Justification in the PSF	DOE assessment
This tool provides procedures to calculate project and/or leakage CO_2 emissions from the combustion of fossil fuels. It can be used in cases where CO_2 emissions from fossil fuel combustion are calculated based on the quantity of fuel combusted and its properties. Methodologies using this tool should specify to which combustion process j this tool is being applied.	Project activity uses the Diesel for Diesel generators in case of emergency in the project boundary. Hence this tool will be used to demonstrate the project emissions due to the combustion of fossil fuels in line with the methodology requirements.	CCIPL team confirmed that project activity uses the Diesel for Diesel generators in case of emergency. Therefore, project emissions due to combustion of fossil fuels need to be calculated based on this tool.

Applicability criteria of the tool 21, Version 13.1	Justification in the PSF	DOE assessment
The use of the methodological tool "Demonstration of additionality of small-scale project activities" is not mandatory for project participants when proposing new methodologies. Project participants and coordinating/managing entities may propose alternative methods to demonstrate additionality for consideration by the Executive Board	Since the applied technology is not a new methodology, 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.	One alternative that would be more attractive than the project activity has been defined in section B.5 of the PSF. Hence, the applicability criterion was found to be met.
Project owners and coordinating/managing entities may also apply "TOOL19: Demonstration of additionality of microscale project activities" as applicable.	This is a small-scale project activity hence TOOL19: "Demonstration of additionality of microscale project activities" is not applicable.	Project owner has applied the Tool for the Demonstration of additionality of small-scale project activities, version 13.1, which is in line with the methodology AMS-I.F Renewable electricity generation for captive

		use and mini-grid, version 5.0 .

Applicability criteria of the tool 20, Version 4.1	Justification in the PSF	DOE assessment
This methodological tool is applicable to proposed small-scale project activities and small-scale CPAs in order to check whether they are debundled components of large-scale project activities.	This is a 5 MW biomass power project which comes under the small-scale project limit of 15 MW. Hence this tool is applicable.	The project activity involved the construction and operation of 5 MW Biomass power plant in India. CCPIL project verification team confirmed the same during the onsite visit /15/, power purchase agreement signed /9/, and the commissioning certificates /4/. Hence this condition is applicable to the proposed project activity.

Applicability criteria of the tool 16, Version 5.0	Justification in the PSF	DOE assessment
For project activities which include biomass cultivation: (a) The land in which biomass is cultivated: i. Does not contain wetlands; ii. Does not contain organic soils as defined in paragraph 13; iii. Is not subjected to flood irrigation. (b) The land in which biomass is cultivated: i. Does not contain forest nor contained forest since 31 December 1989; or ii. Contains a forest plantation that before the start of the project will be harvested and the land would be neither reforested nor will regenerate on its own into a forest in the absence of the project activity. (c) Desalination is not a substantial source of water in the host country	Not Applicable, the project activity does not include biomass cultivation	The proposed project activity does not include biomass cultivation. The proposed activity is a Greenfield grid connected Biomass 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.

	In case the land contains a forest plantation, the project participants shall demonstrate that before the start of the project activity the plantation will be finally harvested and regeneration to forestland (according to the respective national definition) will not take place. In doing so, the project proponent shall: (a) Identify realistic and credible alternatives with regard to the possible land use scenarios that would occur in the absence of the project activity, including but not limited to (b) The forest plantation continues under the current management practice; (ii) The forest plantation is harvested and the land is replanted; (iii) The forest plantation is harvested and the land is abandoned; (b) Assess the economic attractiveness of the existing forest plantation by applying Step 2 of the "TOOL01: Tool for the demonstration and assessment of additionality"; (c) Confirm, based on the plantation management practices in the region for the considered species, that the situation referred to in paragraph 7(b)(ii) is the common practice; and (d) Use relevant credible evidence, including but not limited to official land use maps, satellite images/aerial photographs, cadastral information, official land use records.	Not Applicable, there is no forest plantation related to the project activity	The proposed project activity does not include forest plantation. The proposed activity is a Greenfield grid connected Biomass 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.
	The tool is also applicable if biomass residues are consumed in a CDM project activity, and the biomass residues can be utilized after processing or without processing. These could be:	In the project activity, rice husk after processing of raw rice is being utilized as the biomass for the power generation. Portion of biomass is	The GCC project Verification team has verified that this project activity uses rice husk after processing of raw rice for the power generation. Biomass is

(a) Procured by the project proponents; or The result of an agro-industrial process under the control of the project proponents	procured from the outside the project boundary i.e., rice mills outside the project boundary. Portion of biomass is utilized from the captive rice mills within the project boundary after processing of raw rice.	procured from the outside of the project boundary and from the captive rice mills within the project boundary during the onsite visit /15/. Hence this condition is applicable to the proposed project activity.

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.	Project activity applies "Tool 21: Tool for the demonstration and assessment of additionality" version 13.1. 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 AMS-I.F version 5.0 doesn't specify any approach for the demonstration of Investment analysis. As per the methodology the additionality including investment analysis has been demonstrated as per the "Tool 21: Tool for the demonstration and assessment of additionality" version 13.1 and Tool 27: Investment Analysis version 11.0 Hence Justified.	The applied methodology is AMS-I.F version 5.0. 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.

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 AMS-I.F "Renewable electricity generation for captive use and mini-grid", Version – 05.0 **/**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 biomass power plant and the other power plants which connected to the related electricity system and the Indian National grid i.e., GESCOM (Gulbarga Electricity Supply Company Limited).

D.3.4 Baseline scenario

Means of Project Verification	Desk Review, Interview
Findings	CAR 05 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 AMS-I.F /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 Biomass power plant and selling it to Indian 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 existing/proposed grid connected fossil fuel-based power plants. The same was cross checked and confirmed by the grid emission factor data published by Central Electricity Authority (CEA), Government of India /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 of the project and baseline scenario. National/sectoral policies & regulations: • Electricity Act 2003 /32/ • National Electricity Policy 2005 /33/ • The Electricity Regulation Commission Act, 1998/34/ According to all the referred policies and regulations the baseline scenario is in compliance with all applicable legal and regulatory requirements.

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 Central Electricity Authority (CEA), Government of India, Oct - 21 . 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/ /15/ 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 AMS-I.F, version 5.0, 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 05 and CAR 06 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. 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 AMS-I.F Version 5.0, additionality of the following project activity is demonstrated and assessed by the latest version of Tool 21: "demonstration of additionality of small-scale project activities", Version 13.1" Version 7.0 /B-09/. Project owner shall provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers: **Investment barrier:** a financially more viable alternative to the project activity would have led to higher emissions. **Technological barrier:** a less technologically advanced alternative to the project activity involves lower risks due to the performance uncertainty or low market share of the new technology adopted for the project activity and so would have led to higher emissions; **Barrier due to prevailing practice:** prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions; **Other barriers:** without the project activity, for another specific reason identified by the project participant, such as institutional barriers or limited information, managerial resources, organizational capacity, financial resources, or capacity to absorb new technologies, emissions would have been higher. **The project investor has selected Investment barrier to demonstrate in a conservative and transparent manner that the proposed GCC project activity is financially unattractive.** Project Verification Team has cross checked and the applicability condition is meeting. Details of investment barriers is as follows: **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 11.0). 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 project 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.

Apply benchmark analysis
project IRR has been chosen as the financial indicator for the demonstration of financial unviability for the proposed project activity. Since, the project is promoted by private limited company and hence the return on investment and the risks associated with the investments for their shareholder is of primary concern.

The PO is demonstrating financial unattractiveness of the project and the project cost involves both equity and debt, project IRR is considered to be the appropriate option to indicate financial unattractiveness; and the same is accepted by the verification team.

Parameters	Project's Specifics	GCC Project Verifier opinion
Investment decision date	16/03/2012	Board resolution
Type of Benchmark	project IRR/02/	As per the para 15 of Tool 27: Investment analysis, version 11.0, 'Required/expected returns on equity are appropriate benchmarks for an equity IRR' /B06/
Benchmark value	14.75%	Project owner has chosen the prime lending rate published by the public sector bank of India (State bank of India) available at the time investment decision making /11/. CCIPL team verified the above said details; and confirmed that the benchmark identified to compare the financial attractiveness of the project activity is appropriate.

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."

Project owner has considered the prime lending rate published by the public sector bank of India (State bank of India) available at the time investment decision making i.e., 16/03/2012.

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.

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. Depreciation, and other non-cash items related to the project activity, which have been deducted in estimating gross profits on which tax is calculated, is added back to net profits for the purpose of calculating the financial indicator.

GCC project activity has a less favorable project IRR than the benchmark, and hence the GCC project activity cannot be considered as financially attractive. The key data parameters used to calculate Project IRR are tabulated below. These parameters have been sourced from the Pre-feasibility report /05/ dated 22/01/2012.

Parameter	Unit	Value	Assessment and cross checking
Capacity of the project	MW	5	Verified against Pre-feasibility report of 22/01/2012/5/ and cross verified against the EPC contract/07/ and commissioning certificate /6/. Further, the same has been confirmed during onsite visit/15/.
Operational days in a year	days	330	Verified against Pre-feasibility report of 22/01/2012/5/ the power plant will be in operation around 330 days in a year with 24 hours daily. The rest of the days, plant will be shut down for maintenance and emergencies. The same is cross verified from the operational log records/38/ and onsite visit/15/
CUF (Capacity Utilisation Factor)	%	90	Verified against pre-feasibility report of 22/01/2012/5/ further, VVB has cross checked the CUF factor with the actual generation details/18/ and found that average CUF is less than 80%. Hence, CCPIL confirms that the CUF considered for the project activity is appropriate; hence acceptable.
Gross Electricity Generation	MWh	35640	Verified against Pre-feasibility report of 22/01/2012/5/. The same is cross verified from the Electricity generation reports/18/ and found that the Annual Net generation in the latest generation reports is less than the estimated value. Hence, CCPIL confirms that the Annual Net generation considered for the project activity is appropriate; hence acceptable.
Auxiliary Consumption	%	10.00	Verified against Pre-feasibility report of 22/01/2012/5/. The same is cross verified from the monthly electricity generation reports and invoices/18/ and found to be appropriate.
Annual Net generation	MWh	32076	Annual Net generation is calculated from the gross electricity generation and auxiliary consumption. The same is cross checked from the ER sheet/2/ and found to be appropriate.

		Captive Consumption	MWh	8019	Verified against Pre-feasibility report of 22/01/2012/5/. The same is cross verified from the Electricity generation reports/18/ and found that the captive consumption in the latest generation reports is less than the estimated value. Hence, CCPIL confirms that the captive consumption considered for the project activity is appropriate; hence acceptable.
		Export to grid	MWh	24057	Verified against Pre-feasibility report of 22/01/2012/5/. The same is cross verified from the Electricity generation reports/18/ and found that the electricity Export to grid in the latest generation reports is less than the estimated value. Hence, CCPIL confirms that the electricity Export to grid considered for the project activity is appropriate; hence acceptable.
		Project cost	INR Million	298.56	Verified against Pre-feasibility report of 22/01/2012/5/. The project is already commissioned, the actual total project cost is 275.5 Mn INR. The cost includes land cost, civil construction, EPC contract, preoperative expenses, contingencies, Miscellaneous fixed assets and Electrical line and sub stations/7//8//27/. Project verification team has subjected project cost in the sensitivity analysis and found that IRR will cross the benchmark only reduction if the project cost reduced to 21.50% for the estimated value and 14% for the actual project cost the same is unlikely to happen. Hence VVB have accepted the same.
		Debt	%	70	The debt equity ratio (70:30) considered by the project owner at the time of investment decision is mentioned in the TDD/5/. The project verification team has checked the impact of the IRR with the project is funded with various ratios viz. 50:50, 80:20, 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	%	12.00 %	Verified against Pre-feasibility report of 22/01/2012/5/. The same is confirmed from the loan sanction letter from the state bank of Hyderabad/28/ the same is found to be appropriate. Hence VVB have accepted the same.

		Debt Repayment tenure	years	10	Verified against Pre-feasibility report of 22/01/2012/5/. The same is confirmed from the loan sanction letter from the state bank of Hyderabad/28/ the same is found to be appropriate. Hence VVB have accepted the same.
		Moratorium	year	2	
		Gross Depreciable Value	INR Million	292.56	Project owner has calculated Gross Depreciable Value by subtracting land cost from the Total project cost, which is found to be appropriate. Hence GCC project verification team has accepted the same.
		Net depreciable value	INR Million	263.30	Project owner has calculated the Net depreciable value by subtracting salvage value with Gross Depreciable Value. The same is confirmed from the IRR calculation sheet/03/ and found to be appropriate.
		Residual Value	INR Million	35.26	Project owner has calculated the Residual Value by adding the salvage value with land cost. The same is confirmed from the IRR calculation sheet/03/ and found to be appropriate.
		Biomass cost	Rs/Tonne	2300	Verified against Pre-feasibility report of 22/01/2012/5/. The cost of biomass varies in season. The cost of rice husk is increased on annual basis from the past few years. The average biomass cost is higher than the estimated cost. The same is cross verified from biomass bills/38/
		Total Biomass requirement	Tonnes/year	42000	Verified against Pre-feasibility report of 22/01/2012/5/. The same is cross verified from biomass bills/38/
		Operation and Maintenance	INR Million	11.9	Project owner has calculated the value as 11.9 INR Million. Thus, the total value of O&M costs is 7 million per year, which is deemed acceptable. The projected is already commissioned and the actual value is less than the estimated value. The same is confirmed from the O&M contract/8/. The parameter is also subjected to sensitivity analysis and the same is not crossing the benchmark even at -100%.
		Service tax on O&M services	%	15.00 %	Project owner has chosen 15.00% for the Service tax on O&M services. The same is confirmed from the notification of CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI dated 06/02/2012/29/
		Insurance & overhead	INR Million / Yr	1.00	Project owner has chosen 1% for Insurance & overhead. The same is confirmed from the Insurance companies' quotation received for this project activity.

		Escalation in Biomass cost, O & M and Insurance	%	5%	Verified against Pre-feasibility report of 22/01/2012/5/.project verification team has referred CERC tariff order for and found that the value considered is 5.72%/29/. VVB has checked the inflation rate published by Ministry of labour and Employment /31/ and found that inflation rate is higher than 5% in every month. Therefore, the Biomass cost, O & M and Insurance as per PFR is acceptable by the project verification team.
		Grid Tariff (fixed for 20 years)	Rs/kWh	5s.15	Verified against Pre-feasibility report of 22/01/2012/5/. Further, the project verification team has checked with the power purchase agreement signed with EVN /9/. The actual tariff based on the PPA (Power Purchase agreement) which is signed after the investment decision date is 5.15 INR/kWh fixed for PPA tenure (20 years) without any escalation. The same found appropriate and acceptable.
		Captive Tariff	Rs/kWh	5.78	PP has chosen the captive tariff from the Karnataka Electricity Regulatory Commission; the project verification team has checked with the DETERMINATION OF TARIFF FOR FY12 by KERC/30/ which was applicable at the time of investment decision and found appropriate and acceptable.
		Escalation in captive tariff	%	5.00%	Verified against Pre-feasibility report of 22/01/2012/5/. VVb has checked the inflation rate published by Ministry of labour and Employment /31/ and found that inflation rate iss higher than 5% in every month. Therefore, the Escalation in captive tariff as per PFR is acceptable by the project verification team.
		Depreciation Rate (Book)	%	5.28%	The value of the same is taken from PSF/01. Project verification team has cross checked the same from the the “Income tax link Depreciation rates for power generating units” and found to be correct and hence accepted. https://incometaxindia.gov.in/Acts/Companies%20Act,%201956/10212000000000 1732.htm
		IT Depreciation Rate	%	7.84%	The value of the same is taken from PSF/01. Project verification team has cross checked the same from the the “Income tax link Depreciation rates for power generating units” and found to be correct and hence accepted.

			https://incometaxindia.gov.in/charts%20%20tables/depreciation%20rates.htm
Income tax rate	%	33.22 %	Project owner has calculated the income tax rate from sourcing the value from TAX rate for AY 2011-12 on Income, Dividend, Wealth, MAT, STT, Capital Gain & Presumptive Income. The tax rate is cross-checked and found to be correct which was applicable at the time of investment decision /25/.
MAT rate	%	20.48 %	Project owner has calculated the income tax rate from sourcing the value from TAX rate for AY 2011-12 on Income, Dividend, Wealth, MAT, STT, Capital Gain & Presumptive Income. The tax rate is cross-checked and found to be correct which was applicable at the time of investment decision /25/.
Salvage Value	%	10%	Project owner has sourced the value from CERC order dated 28/02/2013. The Salvage value rate is cross checked with paragraph 15 of the CERC order dated 06/02/2012 and found to be correct which was applicable at the time of investment decision /29/.

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 project IRR without GCC carbon credit revenues is 5.28% which confirms that the proposed project activity in absence of the GCC carbon credit benefits and compared to the benchmark return on equity 14.75% 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 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

Tariff	NA	5.28%	13.63%	12.00%	5.77
Captive Tariff	NA	5.28%	10.57%	23.60%	7.14
CUF	NA	5.28%	16.39%	8.00%	97.20
Project Cost	9.81%	5.28%	NA	-21.50%	234.37
Biomass Cost	14.04%	5.28%	NA	-11.30%	2040.10
O&M Cost	7.33%	5.28%	0.81%	NA	NA

The results of sensitivity analysis /03/ show that even with a variation of ±10% in tariff, Captive Tariff, CUF, project cost, Biomss cost and O&M cost, project 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.

Project is already operational, Tariff rate of electricity used for investment analysis i.e., tariff 5.15 INR/kWh is sourced from the Pre-feasibility Report applicable at the time of investment decision. The project will breach the benchmark value at a tariff variation of 12.00%. However, the actual tariff based on the PPA (Power Purchase agreement) which is signed after the investment decision date is 5.15 INR/kWh fixed for PPA tenure (20 years) without any escalation. Hence, there is no possibility of breaching the traiff at the rate 12.00%.

Project is already operational, captive tariff rate has been sourced from the tariff order of the state in which the project activity is located. The escalation in the tariff is also considered as it might affect the project IRR. The project IRR is much below the benchmark even after considering the escalation in tariff. The project will breach the benchmark value at a tariff variation of 23.60%. Hence, there is no possibility to breach the captive tariff at the rate 23.60%.

Project is already operational, and the CUF used in the investment analysis is 90% which is sourced from pre-feasibility report applicable at the time of investment decision and the IRR breach the benchmark value at a variation of more than 8.00% increase in the estimated CUF increase. The increase in CUF value to breach the benchmark is highly unlikely as the estimated CUF is based on the manufacturer specifications estimated for project lifetime. However, as per the latest energy generation reports the CUF for the last year is much below the estimated CUF in the IRR calculation. Hence, there is no possibility of breaching the CUF at the rate 8.00%.

The O&M agreement is already in place by the project owner and O&M used in the calculation is higher than the actual O&M. sensitivity analysis reveals that O&M will breach the benchmark at negative values and is hypothetical case. Hence, there is no possibility of further decrease and is highly unlikely.

Project is already operational, the cost of rice husk has been considered from the pre-feasibility report which is based on the prevailing market rate. The cost of rice husk is increased on annual basis from the past few years. sensitivity analysis reveals that biomass cost will breach the benchmark at negative values and is

	hypothetical case. Hence, there is no possibility of further decrease and is highly unlikely. Project is already operational, and the actual project cost is close to the project cost used in the IRR calculation. The project cost considered for investment analysis i.e., 298.56 Mn INR. The cost is sourced from the pre-feasibility report which is based on the negotiations with Supplier. A variation of -21.50% is required for IRR to breach benchmark which is not possible as the project is already commissioned at the estimated cost in the IRR which can be verified from the EPC contracts. The actual cost incurred in commissioning of the project is 275.5 Mn INR. IRR will cross the benchmark only reduction if the project cost reduced to 21.50% for the estimated value and 14% for the actual project cost the same is unlikely to happen.

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 AMS-I.F methodology, emission reductions related to project activities is estimated as follows: $\mathbf{BE_y = EG_{BL,y} \times EF_{CO2,y}}$ Where, BE_y = Baseline emissions in year y (t CO_2/yr) $EG_{BL,y}$= Quantity of net electricity displaced as a result of the implementation of the project activity in year y (MWh/yr) $EF_{CO2,y}$ = Emission factor (tCO_2/MWh) calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" $EG_{BL,y}$ is calculated as the sum of electricity supplied to the process of Rice mill and net electricity supplied to the grid. $\mathbf{EG_{BL,\ Y} = EG_{Process} + EG_{grid,y}}$ $EG_{Process}$ = Net electricity supplied to the process1 and process2 of Rice mill in a year y (MWh/y) $EG_{grid,y}$ = Net quantity of surplus electricity supplied to the grid in a year y (MWh/Y) Where, $\mathbf{EG_{Process,y} = EG_{Gross,y} - EG_{Auxiliary,y}}$ $EG_{Gross,y}$ = Gross electricity generated by the biomass power plant in a year y (MWh/Y) $EG_{Auxiliary,y}$ = Auxiliary power consumption of biomass power plant in a year y (MWh/Y)

$EG_{grid,\ y} = EG_{export,y} – EG_{import,y}$

$EG_{export,y}$ =Net quantity of surplus electricity exported to the grid in a year y (MWh/Y)

$EG_{import,y}$ = Net quantity of imported from the grid in a year y (MWh/Y

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)
32,076

Also, According to "CO2 Baseline Database for the Indian Power Sector, Version 17, Oct 2021 published by Central Electricity Authority (CEA), the emission factor ($EF_{grid,CM,\ y}$) could be used as 0.9088 tCO_2/MWh.

Therefore, annual baseline emission is calculated as below:

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

32,706 MWh x 0.9088 tCO2/MWh = 29,149 tCO_2/yr

Project Emissions (PE_y)
According to AMS-I.F methodology, project emission related to project activities is calculated using the latest version of the TOOL03- Tool to calculate project or leakage CO2 emissions from fossil fuel combustion, version 3/B04/. A diesel generator shall be used for emergency situations and consumption of diesel shall be monitored. Ex-ante Project owner has considered zero project emission, but diesel consumption will be monitored throughout the crediting period.

According to the TOOL03/B04/ CO2 emissions from fossil fuel combustion in process j are calculated based on the
quantity of fuels combusted and the CO2 emission coefficient of those fuels, as follows:

$PEFC,j,y = \Sigma FCi,j,y, \times COEFi,y$

Where,

PEFC,j,y, = CO2 emission from fossil fuel combustion in process j during the year y (tCO2/yr);

FCi,j,y, = Is the quantity of diesel combusted in DG set during the year y (MT/yr);

COEFi,y = Is the CO2 emission coefficient of diesel in year y (tCO2/MT)

i = Diesel combusted in DG set during the year y.

FCi,j,y,DG (mass) = FCi,j,y,DG (vol)* pi,y

Where,

	FCi,j,y, DG(vol) = Quantity of fossil fuel (Diesel)combusted in DG set during the year y (m3/yr) Pi,y = Is the weighted average density of diesel in the year y (Kg/m3) The CO2 emission coefficient COEFi,y is calculated based on option B of " Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" as follows : $COEF_{i,y,} = NCV_{i,y} X EF_{CO2, i,y, Diesel}$ Where, $NCV_{i,y}$ = Is the weighted average net colorific value of diesel in the year y (GJ/mass or volume unit) $EF_{CO2,i,y,Diesel}$ = Is the weighted average CO_2 emission factor of diesel in year y (tCO_2/GJ) i = Diesel combusted in DG set during the year y. Hence, $PE_{FC, j, y, DG} = NCV_{i,y} * FC_{i.j,y, DG (mass)} * EF_{CO2,i,y, Diesel}$ For ex-ante purposes diesel related project emission, project owner has been not considered for simplification. However, the diesel consumption shall be monitored ex-post and for calculation of project emissions. According to TOOL16 – "Project and leakage emissions from biomass", version 5.0/B08/ Project emissions resulting from transportation of biomass residues in year y (PEBRT,y) is applicable for the project activity. As per the paragraph 31 of the Tool 16 "Project and leakage emissions from biomass" version 5.0, As an alternative to the monitoring of the above parameter, parameters needed to calculate the emissions from the transportation, from the following options: (a) For microscale and small-scale project activities, apply a default emission factor of 0.0142 tCO2/tonne of biomass. (b) For large-scale project activities, apply a net-to-gross adjustment of 10%, i.e. multiply the emission reductions determined based on the applied methodology by 0.9 to determine the final amount of emission reductions that can be claimed. Project owner has chosen the alternate option to apply the default value to calculate the emissions from the transportation. Since, the project activity is a 5 MW project which is the small-scale project activity paragraph (a) is applicable. Accordingly, the default emission factor is 0.0142 tCO2/tonne of biomass Hence PEBRT,y = Q biomass (tonnes/year) * EFTransportation (tCO2/tonne of biomass) = 42000 (tonnes/year) * 0.0142 (tCO2/tonne of biomass) = 597 tCO_2/yr

	Leakage Emissions: 1. Leakage due to diversion of biomass residues from other applications in year y (LEBR,Div,y) is applicable for this project activity. As per the Paragraph 50 of Tool 16 “Project and leakage emissions from biomass” version 5.0/B08/, the alternative scenario for the “use” in absence of the project activity is B2: The biomass residues are dumped or left to decay under clearly anaerobic conditions. This applies, for example, to landfills which are deeper than five meters. This does not apply to biomass residues that are stock-piled or left to decay on fields. Project owner has sourced the biomass residues (rice husk), from captive rice mill of Manchukonda Agrotech and deficit quantity of rice husk is sourced from adjacent rice mills (which is within the 200 KM radius of the project boundary); therefore, leakage due to rice husk collection/ transportation of biomass residues is not considered. Moreover, rice husk is a by-product of rice processing unit and is not required any further processing of it to use as fuel; hence, leakage due to biomass residue processing is not considered. As per the report prepared by The Energy and Resources Institute on the biomass availability in Karnataka, the surplus availability of biomass in Raichur district is 410.9 KT/yr. Hence, the leakage emission for the project activity is neglected as the surplus biomass in the region is more than 25% that is utilized including the project activity in the region. The same is confirmed from the Energy and Resources Institute report/19/ and fuel consumption spread sheet/35/ Hence (LEBR,Div,y) =0 2. Leakage due to the transportation of biomass residues outside of the project boundary in year y (LEBRT,y) Since, there is surplus availability of the biomass for the project lifetime with in the project boundary no need to transport the biomass residues from outside the project boundary. Hence (LEBRT,y) = 0 Therefore LEy = 0. **Emission Reductions** Based on the data above, the emission reduction value for the project activity is: $ER_y = BE_y - PE_y - LE_y$ $ER_y = BE_y =$**28,552 tCO_2/yr**

D.3.7 Monitoring plan

Means of Project Verification	Desk Review, Interview
Findings	CL 03, CL 06 and CL 07 were raised and finding is closed. Please refer to Appendix 4 for further details.
Conclusion	The approved baseline and monitoring methodology “AMS I.F” version 5 /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
Operating Margin CO_2 emission factor in year y of Indian national Grid. ($\mathbf{EF_{grid,OM,y}}$)	0.9522	tCO_2e/MWh	The simple OM emission factor has been calculated using the Simple OM method as the low-cost/must run resources constitute less than 50% (for year 2018 to 2021) /16/. The ex-ante vintage data has been used for the OM calculation of the project. The value has been sourced from Baseline CO2 Emission Database, Version 17.0 , Oct - 21 published by Central Electricity Authority (CEA), Government of India. /16/. This is the latest available data vintage is taken for the EF calculations. The simple OM is fixed ex-ante in line with the 'tool to calculate the emission factor for an electricity system" Version 07.0.0 /B05/**.** Hence, accepted by the project verification team.
Build Margin CO_2 emission factor in year y of Vietnam national Grid ($\mathbf{EF_{grid,BM,y}}$)	0.8653	tCO_2e/MWh	As per the "tool to calculate the emission factor for an electricity system" Version 07.0.0 /B05/, the build margin emissions factor is the generation-weighted average emission factor (tCO_2/MWh) of all power units *m* during the most recent year *y* for which electricity generation data is available. Hence, the value has sourced Baseline CO2 Emission Database, Version 17.0, Oct - 21 published by Central Electricity Authority (CEA), Government of India. /16/. The calculation procedures are outlined in the PSF /1/. Hence, accepted by the project verification team.
Combined Margin CO_2 emission factor in year y of Vietnam National Grid ($\mathbf{EF_{grid,CM,y}}$)	0.9088	tCO_2e/MWh	The value is calculated considering 50% operating margin and 50% 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
$EG_{BL,y}$ (Quantity of net electricity displaced as a result of the implementation of the project activity in year y (MWh))	32,076	MWh	The estimated net electricity generated is given, however, the value for the parameter will be verified through review of monthly meter reading records/18/. separate meters are installed for the project activity of 0.2s and 0.5s accuracy class (main meter and check meter) bidirectional meters and digital meter are installed at the Pooling substation to measure and record the net electricity supplied to the grid. The meter details are provided below which was verified during the onsite visit of the project activity. This value is calculated from the Net electricity supplied to the process plant and net electricity supplied to the Grid. EGBL,Y = EGprocess + EGgrid Since the generated electricity is being supplied to process of the captive unit EGprocess will be calculated as the sum of net electricity supplied to the Process 1 and Process 2 Hence EGprocess = EGprocess1 + EGprocess2 The calibration of the meters is being performed as per the national regulations /29/. The calibration and verification for 3 phase meters need to be conducted and maintained every 5 years. The same is consistent with the PSF/1/. The same has been confirmed during the onsite visit /15/.

<table>
<tr><td></td><td></td><td></td><td></td><td>The parameter will contribute to the SDG 7.</td></tr>
<tr><td></td><td>$EG_{Process,y}$ (Quantity of net electricity supplied to the Process in a year y)</td><td>8,019</td><td>MWh</td><td>The estimated electricity supplied to the process is given, however, the value for the parameter will be verified through review of monthly meter reading log records/18/. Digital Meter details are as follows.
<table><tr><td>Meter ID</td><td>Serial number</td></tr><tr><td>Process 1</td><td>KBE0519419</td></tr><tr><td>Process 2</td><td>KBE0519417</td></tr></table>
The generated electricity is being supplied to process of the captive unit $EG_{process}$ will be calculated as the sum of net electricity supplied to Process 1 and Process 2 using digital meter. Meters will be calibrated on the due date. The data will be cross checked by the internal auditing team and manager for any data mismatch or discrepancy. Meters will be regularly cross checked for any defect or malfunctioning and will be repaired or replaced with new meters if found not working. The same is confirmed from the onsite visit /15/ and PSF/1/.</td></tr>
<tr><td></td><td>$EG_{grid,y}$ (Net Electricity generated and delivered to the grid by the power plant in year y)</td><td>24,057</td><td>MWh</td><td>The estimated electricity supplied to the grid is given, however, the value for the parameter will be verified through review of monthly meter reading records/18/ and invoices/18/. Meter details are as follows.
<table><tr><td>Meter</td><td>Serial number-new meter</td><td>Serial number-old meter</td></tr><tr><td>Main meter</td><td>19007789</td><td>15199586</td></tr><tr><td>Check meter</td><td>19007826</td><td>15625423</td></tr></table></td></tr>
</table>

				The calibration of the meters is being performed as per the national regulations /29/. The meter is installed at the substation is under the scope of GESCOM. The calibration and verification for 3 phase meters need to be conducted and maintained every 5 years. The same is consistent with the PSF/1/. The same has been confirmed during the onsite visit /15/ and national regulation/16/
	$FC_{diesel,j,y}$, Quantity of Diesel consumed onsite in a year, y	At actual record	Numbers	Project activity may use the Diesel for Diesel generators in case of emergency. Project owner will maintain and monitor the diesel records for the calculation of project emission from fossil fuel combustion. The data recorded will be monitored by the fuel purchase bills. The same is confirmed from the PSF/1/ and Onsite visit/15/.
	$EF_{CO2,Diesel,y}$ Weighted average CO2 emission factor of Diesel in year y	74.8	tCO_2/GJ	The calculation of project emission from diesel, the emission factor is sourced from IPCC Default value from 2006 Guidelines, Volume 2, Chapter 2, Table 2.2. The same is confirmed from the IPCC Guidelines/36/
	$NCV_{i,y,diesel}$ Weighted average net calorific value of fossil fuel (Diesel) combusted in the project activity during the year y	43.3	TJ/Gg	The default value of Weighted average net calorific value of fossil fuel (Diesel) combusted in the project activity is taken from IPCC Default value from 2006 Guidelines, Volume 2, Chapter 1, Table 1.2. The same is confirmed from the IPCC 2006 guidelines /36/.
	$P_{i,y}$ Weighted average density of fossil fuel (Diesel) combusted in year y	810	Kg/m^3	The default value of Weighted average density of fossil fuel (Diesel) is sourced from the Bharat petroleum website. The same is conformed from the Bharat petroleum website/37/.
	$Q_{biomass,i}$ Dry quantity of different types of renewable biomass combusted in the Project Activity in year y.	At actual record	Tonnes/year	The quantity of biomass will be measured by using the Weigh bridge. Fuel quantity will be measured and recorded in the logbook for each batch of fuel and for each type of fuel separately. the quantity of dry biomass using the following formula –

				Dry weight of biomass = Gross weight of biomass × (1- % moisture content in biomass fuel) The parameter will be continuously monitored, and data will be maintained. The same is confirmed from the purchase receipts/38/
	$M_{biomass,i}$ Moisture content of different type of renewable biomass combusted in the project activity	At actual record	%	Moisture content of each type of renewable biomass fuel combusted in the project activity will be conducted from on-site laboratories where measurements are carried out as per national standards. The parameter will be continuously monitored, and data will be maintained. The same is confirmed from the laboratory report/24/
	$NCV_{biomass,i}$ Net Calorific Value of each type of renewable biomass fuel combusted in the project activity	At actual record	Kcal/kg	Net Calorific Value of each type of renewable biomass fuel combusted in the project activity will be conducted from Third Party laboratory accredited by NABL. The parameter will be continuously monitored, and data will be maintained. The same is confirmed from the laboratory report/24/
	$\mathbf{D_{f,m}}$ Return trip round distance between project site and biomass collection site	At actual record	Kilometers	Project will use transportation between project site and biomass collection site. The distance will be verified from sources such as maps or other official sources. Project owner will continuously monitor the parameter. The same is confirmed from the plant log records/38/
	Replacing fossil fuels with renewable sources of energy	32076	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	28,552	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
	Suspended Particulate matter (SPM) emissions	At actual record	µg/m3	project activity may generate SPM emissions in the flue gas from the stack. The same will be monitored according to the Air pollution Act, 1981/39/. The parameter will be continuously monitored, and data will

				be maintained. The same is confirmed from the laboratory report/24/
	Generation of wastewater	At actual record	Liters	The project activity may generate wastewater during the operation of the project activity and domestic use. The same will be monitored according to the Water pollution prevention and control act/40/. The parameter will be continuously monitored, and data will be maintained. The same is confirmed from the log records/38/ and the onsite visit/15/
	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/.
	Avoiding discrimination when hiring people from different race, gender, ethnics, religion, marginalized groups, people with disabilities	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/.
	Reducing / increasing accidents/incidents/fatality	At actual record	Numbers	The project activity may have the possibility of accidents/incidents/fatality in project sites during the operation of the project activity. The same will be monitored and verified through employment incident register 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/.

	Amount of electricity generated	32076	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.
	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/.
	Amount of emissions reductions achieved by project under UNFCCCs/ GCC market mechanism	28,552	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	CAR 10 was raised, and finding is closed. Please refer to Appendix 4 for further details.
Conclusion	The start date of the project is 18/11/2016, which is the start date of commercial operation of the project /4/. Crediting period has been chosen as fixed 10 years from 18/11/2016 to 17/11/2026. 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 18/11/2016 to 17/11/2026. Technical lifetime for the project activity is 20 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 involves power generation for rice processing etc. through combustion of biomass in fluidized bed boiler in place procurement of grid power resulting in reduction of Green House Gas Emission. The host party, Ministry of Environment and Forestry, Government of India has considered harnessing the clean energy. The project being a renewable energy biomass-based power project, it does not fall under the purview of the Environmental Impact Assessment (EIA) notification of the Ministry of Environment and Forest, Government of India/06/. Thus, this project is very much in line with the host country government initiative of reduction of green-house gas emission towards climate change mitigation initiatives. For the operation of the project activity the project has received Consent to operate from the State Pollution Control Board, Karnataka, Boiler operational license from Inspectorate of Boilers, Electrical Inspectorate License to install the project plant. As per the List of Projects or activities required prior environmental clearance thermal power projects Thermal Power plants up to 15MW based on biomass are exempt. This project activity is biomass-based steam generation for captive use. Therefore, EIA is not required. 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 proposed project activity is the biomass power generation project, which is not listed in any of the categories of the schedule; therefore, the project is considered environmentally safe and EIA is not required.

D.6. Local stakeholder consultation

Means of Project Verification	Desk review and Interviews
Findings	No findings in this section
Conclusion	It has been indicated in the PSF /1/ that the local stakeholder consultation has been done for the project activity on 12/05/2022 at Project site- Raichur district, Karnataka. 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.

D.7. Approval and Authorization- Host Country Clearance

Means of Project Verification	Desk Review, Interview
Findings	FAR 01 has been raised refer appendix four for further details.
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

D.8. Project Owner- Identification and communication

Means of Project Verification	Desk Review, Interview
Findings	CAR 02 was raised, and finding is closed. Please refer to Appendix 4 for further details.

Conclusion	<table><tr><td>**Organization name**</td><td>Manchukonda Agrotech Private Limited</td></tr><tr><td>**Country**</td><td>India</td></tr><tr><td>**Address**</td><td>Sy No 156, 159,& 160, Raichur Growth centre industrial area, Raichur, Karnataka-584101, India.</td></tr><tr><td>**Telephone**</td><td>(+91)- 9606304444</td></tr><tr><td>**Fax**</td><td>-</td></tr><tr><td>**E-mail**</td><td>info@manchukonda.in</td></tr><tr><td>**Website**</td><td>www.manchukonda.in</td></tr><tr><td>**Contact person**</td><td>Manchukonda Narasimha</td></tr></table> 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 23/10/2022 to 06/11/2022. 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 23/10/2022 to 06/11/2022. 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 01, CAR 07 and CAR 08 was raised, and finding is closed. Please refer to Appendix 4 for further details.

<table>
<tr><td>Conclusion</td><td>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.

<table>
<tr><td>Indicators for environmental impacts</td><td>Legal Requirement Status</td><td>Monitoring</td><td>Do no harm assessment Evaluation and Score</td></tr>
<tr><td>Environment – Air; CO_2 emissions</td><td>No mandatory law/regulation is related to the same.</td><td>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.</td><td>Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.</td></tr>
<tr><td>Environment – Air; Suspended particulate matter (SPM) emissions</td><td>Air pollution Act, 1981</td><td>Suspended particulate matter may be present in the flue gas from the stack. The parameter will be monitored complying with the applicable regulations, and records will be maintained. The same is confirmed from t/ and On-site visit/15/</td><td>Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.</td></tr>
<tr><td>Replacing fossil fuels with renewable sources of energy</td><td>No mandatory law/regulation is related to the same.</td><td>The project activity will replace fossil fuel with the installation of renewable biomass energy for the power generation, which would have been otherwise generated from the fossil fuel dominant grid connected power plants. The same is monitored through the monthly power generation report /18/. The same is confirmed during the onsite visit/15/.</td><td>Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.</td></tr>
</table>

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 +3.</td></tr>
</table>

D.11. Social Safeguards (S+)

Means of Project Verification	Desk Review, Interview

<table>
<tr><td>Findings</td><td>CAR 07 and CL 04 was raised, and finding is closed. Please refer to Appendix 4 for further details.</td></tr>
<tr><td>Conclusion</td><td>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.
<table>
<tr><td>Long-term jobs (> 1 year) created/ lost</td><td>Host country minimal wage requirements</td><td>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.</td><td>Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.</td></tr>
<tr><td>Avoiding discriminati on when hiring people from different race, gender, ethnics, religion, marginalize d groups, people with disabilities (SJ04</td><td>Not Applicable</td><td>Project activity will not have any discrimination practices. The same will be monitored and verified through HR policy, Employee salary slips/38/.</td><td>Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.</td></tr>
<tr><td>Occupation al health hazards</td><td>The Factories Act, 1948 & EHS policy of company</td><td>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/.</td><td>Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.</td></tr>
<tr><td>Reducing / increasing</td><td>The Factories Act, 1948 &</td><td>The project activity may have the possibility of Reducing /</td><td>Evaluation found</td></tr>
</table></td></tr>
</table>

	accidents/Incidents/fatality (SHS03)	EHS policy of company	increasing accidents/Incidents/fatality in project sites due to human intervention or technical failure or emergency. The same will be monitored and verified through employment training records /38/ and on-site visit/15/.	Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.
	Exploitation of Child labour	The Child labour (prohibition and regulation), Act 1986 & code of conduct policy of the organization	Project owner ensures that no child labour is working at the site. The same will be monitored and verified through employment training records /38/ and on-site visit/15/.	Evaluation found Harmless. The same is acceptable to the GCC project verification team. Hence the scoring +1 is acceptable.
	Avoidance of human trafficking and forced labour (human	code of conduct policy of the organization	Within the project activity, Project owner ensures that there is no exploitation of human resources as forced labour. The same will be monitored and verified through code of conduct policy /38/ and on-site visit/15/.	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.

	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 09 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 7. Ensure access to affordable, reliable, sustainable and modern energy for all	The project activity that commissioned on 2021 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 268,308 tCO_2 meeting the SDG target 13.2. 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	FAR 01 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 18/11/2016 and end date is 17/11/2026. 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 09 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 Manchukonda Agrotech Private Limited for project verification of the project activity "5 MW Biomass Based Power Generation project in Raichur". The project verification was performed based on rules and requirements defined by GCC for the project activity.

The project activity is a Biomass 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 AMS-I.F: Renewable Electricity Generation for Captive use and mini grid, version 5.0 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 285,520 tCO_2e/year over the 10 years crediting period starting from 18/11/2016 .

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 with regard to 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 "5 MW Biomass Based Power Generation project in Raichur".

a. Has correctly described the Project Activity in the Project Submission Form including the applicability of the approved methodology AMS-I.F, version 5.0 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 28,552 tCO_2e per annum 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 3 SDGs, which is likely to achieve the silver 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 Carbo 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
TDD	Technical design document
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
EVN	Vietnam Electricity

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
MAPL	Manchukonda Agrotech Private Limited
LCMR	Low Cost Must Run
MENA	Middle East & North Africa
NREL	National Renewable Energy Laboratory
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
UNIDO	United Nations Industrial Development Organization
USPP	Utility Scale Power Plant
VAT	Value Added Tax
VB	Verification Body
AFBC	Atmospheric Fluidized Bed Combustion

Appendix 2. Competence of team members and technical reviewers

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. Vikash Kumar Singh

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, South Africa, and Spanish speaking countries		

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	Expiry Date
1st January 2023	31st December 2023

Mr. Amit Anand
CEO

CCIPL_FM 7.9 Certificate of Competency_V2.1_012023

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

Appendix 3. Document reviewed or referenced

No.	Author	Title	References to the document	Provider
1	Manchukonda Agrotech Private Limited	PSF: 5 MW Biomass Based Power Generation project in Raichur	Version 02, dated 14/10/2022 (Initial) Version 06 Dated 14/10/2023. (final)	Project Owner
2	Manchukonda Agrotech Private Limited	Emission reduction calculation spread sheet	Version 01, dated 19/06/2022 (Initial) Version 05 Dated 03/10/2023. (final)	Project Owner
3	Manchukonda Agrotech Private Limited	Financial analysis worksheet of 5 MW Biomass Based Power Generation project in Raichur	Version 01, dated 19/06/2022 (Initial) Version 05 Dated 03/10/2023. (final)	Project Owner
4	GESCOM	Commissioning Certificate	18/11/2016	Project Owner
5	Manchukonda Agrotech Private Limited	Pre-feasibility Report dated 22/01/2012. Detailed project report dated 20/08/2013	22/01/2012 20/08/2013	Project Owner
6	Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India (GOI)	The guidelines on Environmental Impact Assessment http://environmentclearance.nic.in/writereaddata/EIA_Notifications/36_SO3977€_14082018.pdf http://environmentclearance.nic.in/writereaddata/EIA_Notifications/1_SO1533E_14092006.pdf		Publically available
7	Manchukonda Agrotech Private Limited	EPC Contract In relation Manchukonda Agrotech Private Limited and Theral Sysytems (Hyderabad) Pvt.Ltd	01/02/2014	Project Owner
8	Manchukonda Agrotech Private Limited	O&M for the 5 MW Biomass Based Power Generation project in Raichur		Project Owner

9	GESCOM	Power purchase agreement with Gulbarga supply Company Limited(GESCOM).	25/10/2016	Project Owner
10	AFBC Boiler	Manufacturer Specification		Project Owner
11	SBI	prime lending rate published by the public sector bank of India	13.08.2011	Publicly available
12	Manchukonda Agrotech Private Limited	Letter of Authorization including and Legal status of the project owner (Manchukonda Agrotech Private Limited)	30/05/2022	Project Owner
13	Government of Karnataka (Electrical Inspectorate)	Electrical safety approval for electrical installation pertaining to Biomass power plant	23/07/2016	Publicly available
14	Manchukonda Agrotech Private Limited	Calibration certificates & Meter test certificates of the energy meters connected to the project activity.	10/08/2016 29/10/2016 07/03/2017 27/06/2018 18/01/2019 21/12/2019 21/03/2020 24/04/2021 13/04/2022	Project Owner
15	CCIPL	Onsite visit documents dated 28/12/2022	28/12/2022	CCIPL
16	CEA	National grid emission factors were published by Central Electricity Authority (CEA), Government of India https://cea.nic.in/wp-content/uploads/baseline/2022/02/database_17_.zip		Publicly available
17	Department of factories, Boilers, Industrial Safety and Health	Boiler Certifications	2016-2022	Others
18	Manchukonda Agrotech Private Limited	Monthly Generation Report / JMR invoices	2023	Project Owner
19	The Energy and Resources Institute	Study on the sustainability of Biomass based power generation in Karnataka	October 2012	Publicly available
20	ICAO	CORSIA eligibility https://www.icao.int/environmental-protection/CORSIA/Pages/TAB.aspx		Project Owner
21	RBI	RBI Inflation rate forecast https://m.rbi.org.in/Scripts/PublicationsView.aspx?id=18731		Publicly available
22	Manchukonda Agrotech Private Limited	Minutes of meetings (LSC)- 5 MW Biomass Based Power Generation project in Raichur	10/03/2021	Project Owner
23	Karnataka State Pollution Control Board	Consent for operation from KSPCB		Project Owner
24	MSV Laboratories	Fuel Analysis Report	2016-2022	Project Owner

25	Tax Guru	Income tax rate from sourcing the value from TAX rate for AY 2011-12 on Income, Dividend, Wealth, MAT, STT, Capital Gain & Presumptive Income. https://taxguru.in/income-tax/tax-rate-applicable-for-a-y-2011-12-on-income-dividend-wealth-mat-stt-capital-gain-and-presumptive-income.html	26/12/2013	Publicly available
26	Manchukonda Agrotech Private Limited	RESOLUTION PASSED IN THE BOARD MEETING OF MANCHUKONDA AGROTECH PRIVATE LIMITED		Project Owner
27	The Karnataka State Registration and stamps department official's multipurpose co-operative society Ltd.	Land Deed		Project Owner
28	State Bank of Hyderabad	Sanction of Term Loan	01/07/2013	Project Owner
29	CERC	CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2012	06/02/2012	Publicly available
30	Karnataka Electricity Regulatory Commission	DETERMINATION OF TARIFF FOR FY12		Publicly available
31	Ministry of labour and Employment	Inflation Rate https://labourbureau.gov.in/rate-of-inflation		Publicly available
32	Ministry Of Law and Justice	The Electricity Act, 2003 https://cercind.gov.in/Act-with-amendment.pdf		Publicly available
33	Govt. of India Ministry of Power	National Electricity Policy 2005 https://powermin.gov.in/en/content/national-electricity-policy		Publicly available
34	CENTRAL ELECTRICITY REGULATORY COMMISSION	THE ELECTRICITY REGULATORY COMMISSIONS ACT, 1998 https://cercind.gov.in/ElectReguCommiAct1998.pdf		Publicly available
35	Manchukonda Agrotech Private Limited	Fuel consumption and fuel cost report		Project owner
36	IPCC	IPCC Default value from 2006 Guidelines		Publicly available
37	BPCL	BPCL: HIGH SPEED DIESEL (BS VI)		Publicly available
38	Manchukonda Agrotech Private Limited	1) Employment details related to the project activity 2) Salary details of employees associated with the project activity		Project owner

		3) Training Details 4) HR policy 5) Operational Log records 6) Rice Husk Bills		
39	DEPARTMENT OF ENVIRONMENT NOTIFICATION	Air pollution Act, 1981		Publicly available
40	CPCB	Water pollution prevention and control act		Publicly available
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: AMS-I.F: Renewable Electricity Generation for Captive use and mini grid, version 5.0		Others
B03	GCC	PSF template V3.2- 2020		Others
B04	UNFCCC	Methodological tool 03: Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion version 3.0		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
B08	UNFCCC	Methodological tool 16: Project and leakage emissions from biomass version 5.0		Others
B09	UNFCCC	Methodological tool 21: Demonstration of additionality of small-scale project activities, Version 13.1		Others

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

Table 1. CLs from this Project Verification

CL ID	01	**Section no.**	D.10 / D.11	**Date:** 23/10/2023
Description of CL				
Project Owner is requested to provide documents viz. legal requirement, monitoring records related to Environmental and social safeguards.				
Project Owner's response				**Date: 27/04/2023**
The project activity is in line with the applicable laws and regulations, the permissions obtained for the implementation and the evidence for the Environmental and social safeguards have been provided.				
Documentation provided by the Project Owner				

Boiler certification *Consent to Establish and operate from pollution control board*
GCC Emission Reduction Verifier's assessment **Date:** 06/06/2023
Project owner has provided Boiler certification and Consent to Establish and operate from pollution control board and found to be appropriate. PO is requested to provide the supportive documents for the following: 1. Environmental safeguards and social safeguards claim i.e., training records, employee salary slips, HR policy etc. 2. All the Monitoring parameters i.e., laboratory test report of moisture content and net calorific value, Log records of biomass collection to the site etc. Hence CL 01 9s open.
Project Owner's response **Date:** 19/06/2023
The evidence for the applicable Environmental and social safeguards such as training records, Employee salary slips, HR policy of the Organization, Laboratory test report has been submitted.
Documentation provided by the Project Owner
Training records *Employee salary slips* *HR policy* *Laboratory test report*
GCC Emission Reduction Verifier's assessment **Date:** 03/10/2023
Project owner has provided Training records, Employee salary slips, HR policy and Laboratory test report and same found to be appropriate. Hence CL 01 is closed.

CL ID	02	**Section no.**	D.1	**Date:** 23/10/2023
Description of CL				
The completion date of PSF mentioned in PSF is 14/10/2022. However, the PSF submission date mentioned in GCC project portal is 22/06/2022. PO is requested to clarify the same.				
Project Owner's response				**Date: 27/04/2023**
After the initial submission of PSF, GCC has raised few observations which required few changes in the PSF. Hence the date 22/06/2022 mentioned in the GCC project portal is of initial submission and the date 14/10/2022 is during the completeness check by GCC.				
Documentation provided by the Project Owner				
GCC Emission Reduction Verifier's assessment				**Date:** 06/06/2023
The justification provided by the Project owner found to be appropriate. Therefore, GCC project verification team have accepted the same. Hence, CL 02 is closed.				

CL ID	03	**Section no.**	D.3.7	**Date:** 23/10/2023
Description of CL				
Project Owner is requested to provide the national regulation/standard with respect to calibration frequency of the energy meters.				
Project Owner's response				**Date: 27/04/2023**
National regulations for the frequency of calibration of the energy meters has been provided in the section B.7.1 of the PSF.				
Documentation provided by the Project Owner				
Updated PSF				
GCC Emission Reduction Verifier's assessment				**Date:** 06/06/2023
Project Owner has revised the section B.7.1 of the PSF and found to be appropriate. Hence CL 03 is closed.				

CL ID	04	**Section no.**	D.13	**Date:** 23/10/2023

Description of CL	
Background: Project owner is requested to comply to the requirements of paragraph 21 and 22 of the GCC Project Sustainability Standard version 3. *1. Project owner is requested to provide Credible evidence for each of the applied 4 SDGs for the project activity (7, 8,9, 13) including a demonstration as how the project activity contributes to sustainable development goals as claimed. Further PO is requested to demonstrate the SDGs as per the latest standard.* *2. According to para 22 of GCC Project Sustainability Standard version 3, Project Owners shall assess the implementation and relationship, linkage and impact of the chosen SDG goals, as stated in section F of the registered PSF, on Environment and Social impacts, as stated in section E of the registered PSF, of the project activity.*	
Project Owner's response	**Date: 27/04/2023**
1. SDG 9 has been removed from the claimed SDGs now the SDGs claimed are 7,8 and 13. The contribution by the project activity on each SDG has been explained in the section F of the PSF in line with the guidelines mentioned in the project sustainability standard and the evidence has been provided. *2. The description on the linkage of project activity and the SDGs have been updated in the section F and the applicable Environmental and social parameters for the claimed SDGs have been addressed in the section E of the PSF.*	
Documentation provided by the Project Owner	
Updated PSF	
GCC Emission Reduction Verifier's assessment	**Date:** 06/06/2023
Project owner has removed the SDG 9 and revised the description on the linkage of project activity and the SDGs have been updated in the section F and the applicable Environmental and social parameters for the claimed SDGs have been addressed in the section E of the PSF. The revisions found to be appropriate. Hence CL 04 is closed.	

CL ID	05	**Section no.**	D.3.5	**Date:** 23/10/2023
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." *1. PO is requested to demonstrate all major events chronologically with dates in the section B.5 of the PSF i.e., PO should include the major event such as investment date, purchase date etc. in a chronological order.* *2. PO is requested to assess the levels of variations at which the benchmark will be crossed and also justify why such variations are not realistic or likely to happen and also include the effect of variation of interest on debt on the IRR and the likelihood of the same.* *3. PO is request to Conclude that even with actual values (of main parameters), the IRR doesn't breach the benchmark or within the sensitivity limit.* *4. PO is requested to specify the investment decision date and also to substantiate the basis for selection of investment decision date.* *5. PO is request to provide the break up of the project cost.* *PO is requested to provide all documents as stated in annexure 1 of VVB plan (supportive document for actual project cost, O & M agreements, factory license, Loan agreement, Biomass cost etc.)*				
Project Owner's response				**Date:** 27/04/2023

1. *All major events involved in the implementation of project activity such as investment date, purchase date, etc are added with dates in section B.5 of the PSF.* 2. *The total revenue from the project activity is dependent on the Tariff, Plant Load Factor, Project Cost, Biomass Cost and O&M Cost which constitute more than 20% of the project costs. These factors have been subjected to a 10% variation on either side and the values at which these parameters will breach the benchmark have been mentioned and the variation of 10% in debt does not breach the benchmark and the same can be verified. The explanation for the effects of parameters on the benchmark has been explained in the section B.5 of the PSF.* 3. *Even with the actual values of the main parameters the IRR doesn't breach the benchmark and is within the sensitivity limit.* 4. *The EPC contract was signed on 01/02/2014 which is considered as the investment decision date for this project activity and the copy of the EPC contract has been submitted.* 5. *Breakup of project cost has been provided in the Detailed Project Report.*
Documentation provided by the Project Owner
Updated PSF, EPC Contract, Detailed Project Report
GCC Emission Reduction Verifier's assessment **Date:** 06/06/2023
Project owner has included all the major events involved in the implementation of project activity such as investment date, purchase date, etc are added with dates in section B.5 of the PSF. Further PO has assessed and concluded the levels of variations at which the benchmark will be crossed the same is demonstrated in the section B.5 of the PSF and PO has submitted EPC contract and DPR and found to be appropriate. Hence. CL 05 is closed.

CL ID	06	**Section no.**	D.3.7	**Date:** 23/10/2023
Description of CL				
1. *PO is requested provide the supporting documents to describe the monitoring approach and the monitoring parameters as per para 51 of section B .7.2 and paragraph 48 of B.7.1 in the PSF guidelines.* 2. *PO is requested to provide plant log records for the Quantity of Diesel consumed, Biomass, Distance between collection point and project site etc.* 3. *PO is requested to provide Laboratory testing report for the Moisture content and Net calorific value of biomass.* 4. *Further PO is requested to provide the data source for all the parameters in the ER sheet.*				
Project Owner's response				**Date:** 27/0/2023
1. *Supporting documents for the parameters considered in the section B.7.1 of the PSF have been provided.* 2. *Log records for the diesel consumption will be provided during the time of verification. The actual km travelled for biomass transportation will be checked during emission reduction verification and the leakage will be calculated accordingly. The same has been mentioned in the section B.7.1 of the PSF. At this stage, the biomass is procured within 200 KM of distance from the project activity.* 3. *The laboratory reports for the parameter's moisture content and calorific value of rice husk have been provided.* 4. *The source for the parameters considered for the calculation of emission reductions have been updated in the ER sheet.*				
Documentation provided by the Project Owner				
Updated ER sheet, updated PSF				
GCC Emission Reduction Verifier's assessment				**Date:** 06/06/2023
Justification provided by the PO regarding the diesel consumption is found to be acceptable. PO has revised the ER sheet and the revisions found to be appropriate.				

The laboratory reports for the parameter's moisture content and calorific value of rice husk are missing in the shared documents, PO is requested share the same. In section B.7.1 of the PSF Value(s) of monitored parameter of Dry quantity of different types of renewable biomass combusted in the Project Activity in year y is given as value zero for the Red Gram Stack and Cotton Stack but in the document provided named fuel consumption the Red Gram Stack and Cotton Stack is used as fuel PO is requested to clarify the same. Hence, CL 06 is open.

Project Owner's response	**Date:19/06/2023**
3. The laboratory reports for the parameter's moisture content and calorific value of rice husk have been submitted.	
Documentation provided by the Project Owner	
Laboratory reports of fuel	
GCC Emission Reduction Verifier's assessment	**Date:** 03/10/2023
PP has provided Laboratory reports of fuel the same and found to be appropriate. Hence, CL 06 is closed.	

CL ID	07	**Section no.**	D.3.7	**Date:** 23/10/2023
Description of CL				
As discussed in the section B.7.4 the monthly meter readings are taken by DISCOM, PO has signed PPA with the GESCOM and same is not consistent with the details provided in the section B.7.4 of the PSF. PO is requested to clarify the same. Further, PO is requested to provide the Electrical Inspectorate License of the project plant.				
Project Owner's response				**Date:** 27/04/2023
The PPA is signed with GESCOM (Gulbarga Electricity Supply Company Limited) for a term of 25 years and is kept consistent throughout the PSF. The Electrical Inspectorate License of the project plant has been submitted.				
Documentation provided by the Project Owner				
Updated PSF Electrical inspectorate license				
GCC Emission Reduction Verifier's assessment				**Date:** 06/06/2023
Project Owner has revised the PSF as mentioned above and found to be appropriate. Hence, CL 07 is closed.				

Table 2. CARs from this Project Verification

CAR ID	01	**Section no.**	D.2	**Date:** 23/10/2023
Description of CAR				
Background: Project Owner is requested to comply paragraph 8 (a) of GCC PSF Filling instructions. Project Owner is requested to provide the average life time of the main equipment's related to the project activity based on manufacturer's specifications and industry standards. Further, PO is requested to provide the supportive for the technical specification of the equipment's. Distance between project site and KPTCL sub-station is mentioned as 2.1 km in the A.3 of the PSF the same is not consistent with the observation from the OSV. PO is request to clarify the same and provide correct distance. As this project is Biomass based power plant in some areas of PSF i.e., last paragraph of A.3, first paragraph of A.6 etc. it is mentioned as solar Energy, PO is requested to rectify the same.				

The GPS coordinates of the project site (DMS) is not the correct one. PO is requested to provide correct Geo-Coordinates in the section A.3 and basic information table of the PSF.
Project Owner's response **Date:** 27/04/2023
The details of the average lifetime of the equipment's involved in the project have been provided in the section A.3 of the PSF and the evidence has been submitted. *The distance between the project site and the KPTCL sub-station is 3 km and the same is corrected in the PSF.* *Necessary corrections have been done in sections A.3 and A.6 of PSF.* *The accurate GPS coordinates of the project site has been updated in the section A.3 and the cover page of the PSF.*
Documentation provided by the Project Owner
Updated PSF, Technical specification sheet of main equipment's
GCC Emission Reduction Verifier's assessment **Date:** 06/06/2023
Project owner has revised the PSF as mentioned above the correction done in the section A.3 and A.6 of the PSF found to be appropriate. The average lifetime of the equipment is missing in the section A.3, PO has requested include the same. Hence CAR 01 is open.
Project Owner's response **Date:** 19/06/2023
The lifetime of the equipment has been updated in the section A.3 of the PSF.
Documentation provided by the Project Owner
Updated PSF
GCC Emission Reduction Verifier's assessment **Date:** 03/10/2023
Project owner is revised the PSF as mentioned above and same found to be appropriate. Hence CAR 01 is closed.

CAR ID	02	**Section no.**	D.2/D.8	**Date:** 23/10/2023
Description of CAR				
Background: The requirements of paragraph 12 of GCC PSF Filling instructions *Project Owner is requested to provide latest LOA and company incorporation certificate of the project activity.*				
Project Owner's response				**Date:** 27/04/2023
The LON (letter Of Nomination) and the company incorporation certificate has been provided.				
Documentation provided by the Project Owner				
LON & Company incorporation certificate				
GCC Emission Reduction Verifier's assessment				**Date:** 06/06/2023
PO has provided the LON & Company incorporation certificate and found to be appropriate. Hence CAR 02 is closed.				

CAR ID	03	**Section no.**	D.1	**Date:** 23/10/2023
Description of CAR				
PO is requested to mention all the applicable Methodologies, applicable Tools, GCC rules and requirements in the ''Applicable Rules and Requirements for Project Owners'', Basic information of the PSF.				
Project Owner's response				**Date:** 27/04/2023
The cover page of the PSF has been updated with all the applicable methodologies, Tools and GCC rules and requirements.				
Documentation provided by the Project Owner				
Updated PSF				
GCC Emission Reduction Verifier's assessment				**Date:** 06/06/2023
PO has updated the cover page of the PSF with all the applicable methodologies, Tools and GCC rules				

and requirements. PO has requested to demonstrate the applicability of the TOOL 21 in the section B.2 of the PSF. Hence, CAR 03 is open.
Project Owner's response **Date:** 19/06/2023
The applicability conditions of the tool 21 have been incorporated in the section B.2 of the PSF.
Documentation provided by the Project Owner
Updated PSF
GCC Emission Reduction Verifier's assessment **Date:** 03/10/2023
Project owner has demonstrated applicability conditions of the tool 21 as mentioned above, the same found to be appropriate. Hence, CAR 03 is closed.

CAR ID	04	**Section no.**	D.3.1	**Date:** 23/10/2023
Description of CAR				
Background: The requirements of paragraph 12 of GCC PSF Filling instructions *PO is requested to correct the title of selected methodology in B.2 of the PSF. Further Po is requested to demonstrate the selected methodology properly as some of the applicable conditions are demonstrated twice.* *PO is requested to demonstrate all the applicability condition of Tool 03: Tool to calculate project or leakage CO2 emissions from fossil fuel combustion version 3.0 in the B.2*				
Project Owner's response				**Date:** 27/04/2023
Necessary correction in the title of methodology is done in section B.2 of the PSF. The repeated applicability conditions have been deleted. *All the applicability conditions of TOOL 03: Tool to calculate project or leakage CO2 emissions from fossil fuel combustion version 3.0 in the section B.2 of the PSF have been updated.*				
Documentation provided by the Project Owner				
Updated PSF				
GCC Emission Reduction Verifier's assessment				**Date:** 06/06/2023
Project Owner has revised the section B.2 of the PSF as mentioned above, the revisions found appropriate. Hence, CAR 04 is closed.				

CAR ID	05	**Section no.**	D 3.4	**Date:** 23/10/2023
Description of CAR				
Background: PO is requested to comply paragraph 27 & 28 of GCC PSF Filling instructions *PO is requested to demonstrate relevant national and/or sectoral policies in B.4 of the PSF. Further PO is requested to Provide a transparent description of the baseline Provide a list of facilities, systems, and equipment in the baseline scenario, and clearly explain how the same types and levels of services provided by the Project Activity.*				
Project Owner's response				**Date:** 27/04/2023
Relevant national and sectoral policies along with the details of baseline scenario have been added in the section B.4 of the PSF.				
Documentation provided by the Project Owner				
Updated PSF				
GCC Emission Reduction Verifier's assessment				**Date:** 06/06/2023
Relevant national and sectoral policies is missing in the section. PO is requested to provide minimum 2-3 national and sectoral policies in the PSF. Hence CAR 05 is copen.				
Project Owner's response				**Date:** 19/06/2023
The relevant national and sectoral policies applicable for the project activity have been updated in the section B.4 of the PSF.				

Documentation provided by the Project Owner	
Updated PSF	
GCC Emission Reduction Verifier's assessment	**Date:** 03/10/2023
Project owner has revised relevant national and sectoral policies applicable for the project activity have been updated in the section B.4 of the PSF and the same found to be appropriate. Hence CAR 05 is closed.	

CAR ID	06	**Section no.**	D.3.5	**Date:** 23/10/2023
Description of CAR				
Background: PO is requested to comply paragraph 28 of Tool 27 Investment Analysis Version 12.0 *PO is requested to cover a range of +10 per cent and –10 per cent while demonstrating sensitivity analysis.*				
Project Owner's response				**Date:** 27/04/2023
The sensitivity analysis has been revised and now covers a range of +10 percent and -10 percent.				
Documentation provided by the Project Owner				
Updated PSF and updated IRR sheet				
GCC Emission Reduction Verifier's assessment				**Date:** 06/06/2023
PO has complied to the requirement of paragraph 28 of Tool 27 Investment Analysis Version 12.0. The revision made on the PSF and IRR sheet found to be appropriate. Hence CAR 06 is closed.				

CAR ID	07	**Section no.**	D.10/D.11/D.12	**Date:** 23/10/2023
Description of CAR				
Project Owner is requested to provide the supporting documents to describe the monitoring approach and the monitoring parameters as per para 51 of section B .7.2 in the PSF guidelines.				
Project Owner's response				**Date:** 27/04/2023
Supporting documents for the parameters considered in the section B.7.1 of the PSF have been provided.				
Documentation provided by the Project Owner				
Fuel consumption details *Laboratory test reports* *Details of employees* *HR policy*				
GCC Emission Reduction Verifier's assessment				**Date:** 06/06/2023
CAR 07 will be closed with subjected to the closure of CL 01.				
Project Owner's response				**Date:** 19/06/2023
The supporting documents like Laboratory test reports, Details of employees, HR policy of the organization has been submitted and the same found to be appropriate. Hence CAR 07 is closed.				
Documentation provided by the Project Owner				
GCC Emission Reduction Verifier's assessment				**Date:** 03/10/2023
Project Owner has submitted the laboratory test reports, Details of employees, HR policy of the organization. Hence, CAR 07 is closed.				

CAR	08	**Section no.**	D.10	**Date:** 23/10/2023
Description of CAR				
1. PO is requested to comply Appendix 01 of environmental safeguards and social safeguards V.3.0. As per latest standards of environmental safeguards and social safeguards following shall be addressed in the PSF: Child labour/forced labour, Threatened livelihood*, Accidents /Incidents /Fatalities*, Job creation, Sanitation / health issues, Women empowerment, Air / Water Emissions/ Discharges.* *2. PO needs to substantiate each of the stated criteria for Environmental Safeguard, Social Safeguard*				

with credible evidence. *3. PO is requested to provide procedure for hazardous waste handing, disposal of Fly ash.*
Project Owner's response **Date: 27/04/2023**
1. *As per the latest standards of environmental safeguards and social safeguards following has been addressed in the PSF: Child labour/forced labour*, Threatened livelihood*, Accidents /Incidents /Fatalities*, Job creation, Sanitation / health issues, Women empowerment, Air / Water Emissions/ Discharges.* 2. *The evidence for the Environmental Safeguard and Social Safeguard has been submitted.* 3. *The procedure for the handling of hazardous waste and the disposal of fly ash has been updated in the PSF.*
Documentation provided by the Project Owner
GCC Emission Reduction Verifier's assessment **Date:** 06/06/2023
PO has revised the PSF as per latest standards of environmental safeguards and social safeguards. procedure for the disposal of fly ash is missing in the PSF, PO is requested provide the same. evidence for the Environmental Safeguard and Social Safeguard will be close subject to the closure of CL 01. Hence CAR 08 is open.
Project Owner's response **Date:** 19/06/2023
The procedure for disposal of fly ash has been updated under the parameter Fly ash emissions (EA06) in the section E.1 of the PSF.
Documentation provided by the Project Owner
Updated PSF
GCC Emission Reduction Verifier's assessment **Date:** 03/10/2023
Project owner has revised the PSF as mentioned above and the same found appropriate. Hence, CAR 08 is closed.

CAR ID	09	**Section no.**	D.13	**Date:** 23/10/2023
Description of CAR				
1. Project Owner is requested to demonstrate, how the project activity is meeting the CORSIA requirements under para 16 of section A.6 of the PSF. *Further PO is requested to demonstrate GCC standard for double counting. Ie., PO is requested to demonstrate the Project activity is not registered or applied/rejected under any other GHG programmes like CDM, GS, VCS and how they have complied on standards on avoidance of double counting.*				
Project Owner's response				**Date:** 27/0/2023
1. *The CORSIA requirements for the project activity have been updated in the section A.6 of the PSF and is demonstrated. The declaration by the project owner stating that the project is not registered under any other mechanism has been submitted.*				
Documentation provided by the Project Owner				
Updated PSF				
GCC Emission Reduction Verifier's assessment				**Date:** 06/06/2023
PO has revised the section A.6 of the PSF and found to be appropriate. Hence, CAR 09 is closed.				

CAR ID	10	**Section no.**	D.4	**Date:** 23/10/2023
Description of CAR				

1. Start date of project activity is mentioned as 18/11/2016 and end date is 17/11/2016. The same is not complying the requirements. PO is requested to correct the same. *PO is requested to comply the paragraph 55 and 56 of GCC PSF Filling instructions. Further, PO is requested to provide the actual start and end date of the project activity in the PSF.*
Project Owner's response **Date:** 27/04/2023
1. *The start date and the end date of the crediting period has been updated in the section C of PSF.*
Documentation provided by the Project Owner
Updated PSF
GCC Emission Reduction Verifier's assessment **Date:** 06/06/2023
PO has revised the start date of the project activity, the revisions found to be appropriate. Hence CAR 10 is closed.

Table 3. FARs from this Project Verification

FAR ID	01	**Section no.**	D.14	**Date:** 14/06/2023
Description of FAR				
The ER Verifier should certify CORSIA Label (C+) till 31 Dec 2020. Once the Host Country Authorization is provided later, this can be verified in first or subsequent verifications.				
Project Owner's response				**Date:** DD/MM/YYYY
Documentation provided by Project Owner				
GCC Project Verifier assessment				**Date:** DD/MM/YYYY

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[9];
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

[9]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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