




Validation report form for
Gold Standard Project activity

BASIC INFORMATION

Title of the Project Activity (PA)	Implementation of clean energy technology in rural areas of India-1
GS Reference Number	GS11655
Version number of the validation report	4.0
Completion date of the validation report	23/02/2023
Version number of PDD to which this validation report applies	Version 05, dated 22/02/2023
Start Date of PA	01/06/2021
Project Participant	Greneity Infocom Service Private Limited Green Mission Welfare Society
Host Party	India
SDG Targeted:	1.SDG 3: Good health and wellbeing (3.9) 2.SDG 7: Affordable and Clean Energy (7.1) 3.SDG 8: Decent work and Economic Growth (8.5.2) 4.SDG 13: Climate Action (13.2)
Applied methodologies and standardized baselines	AMS-I.E. Switch from non-renewable biomass for thermal applications by the user - Version 12
Mandatory sectoral scopes	01
Activity Requirements applied	Community Services Activities
Product Requirements applied	GHG Emissions Reduction & Sequestration Product Requirements
Name and UNFCCC reference number of the VVB	E-0052:Carbon Check (India) Private Limited
Name, position and signature of the approver of the validation report	 Amit Anand, CEO

SECTION A.Executive summary

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Purpose and general description

Greneity Infocom Service Private Limited (the PP) has appointed the VVB, Carbon Check (India) Private Ltd. to perform an independent validation of the Gold Standard PA "Implementation of clean energy technology in rural areas of India-1" in India (hereafter referred to as "PA"). This report summarises the findings of validation of the project, performed on the basis of Gold Standard criteria Gold standard for global goals (GS4GG), as well as criteria given to provide for consistent project operations, monitoring and reporting. This report contains the findings and resolutions from the validation and a validation opinion.

The project activity objective is to replace the commonly used inefficient wood fired mud stove technology, with efficient biogas-based cook stove, which is clean and sustainable. The project activity involves installation of household biogas plants located in the state of Punjab, India with capacity – 4m³. The generated biogas from the plants will be used in the households of Punjab, India for the purpose of cooking and other thermal energy needs as confirmed from the site visit and baseline survey report/09/ prepared by the environment and Energy Management Group, Bhopal. All the biogas plants are constructed and maintained by Green Mission Welfare Society (GMWS) as verified from the technical specification sheets/03/and commissioning certificates/23/. The number of plants involved in the project activity is cross verified with the data base/12/, undertaking letter submitted by the PP/20//21/ and interview with the PP. The thermal energy generated through the project activity replaces the equal amount of thermal energy which otherwise would have been supplied from the woody biomass based stove technology. Therefore, the project activity helps in reducing 53,605 tCO₂/year

The project activity has been implemented in households. The PA targets multiple beneficiaries and locations in the Punjab, with an initial focus on the rural households. Emission reductions attributable to the PA are additional to any that would occur in the absence of the PA in accordance with the Gold standard for global goals (GS4GG) requirements for additionality. Greenhouse gas (GHG) emission reductions achieved through saving of non-renewable biomass will result in carbon credits following GS certification rules and procedures.

The purpose of validation is to have a thorough and independent assessment of the proposed PA against the applicable GS requirements, in particular, the project's baseline, monitoring plan and the PA's compliance with relevant Gold standard criteria and host Party criteria. These are validated to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all Gold Voluntary projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of voluntary emission reductions (VERs).

Location

The proposed project is located in Bhatinda, Barnala, Fatehgarh Sahib, Gurdsapur, Jalandhar and Sangrur districts of Punjab.

Scope of the validation

The validation scope is defined as the independent and objective review of the project design document (PDD /01/). The PDD /01/ is reviewed against the relevant criteria (see above) and decisions by the Gold standard, including the approved baseline and monitoring methodology.

The validation is not meant to provide any consulting towards the project participant. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design.

While carrying out the validation, CCIPL determines if the PA complies with the requirements of the paragraph 37 of the CDM Modalities & Procedures, the applicability conditions of the selected methodology /B03/, guidance issued by the Gold Standard and also assess the claims and assumptions made in the PDD /01/ without limitation on the information provided by the project participants.

Validation Process

The validation consists of the following four phases:

- i. A desk review of the project design documents
 - A review of the data and information;
 - Cross checks between information provided in the PDD /01/ and information from sources with all necessary means without limitations to the information provided by the project proponent;
 - Submission of Validation work plan to the PP
- ii. Follow-up interviews with project stakeholders
 - Interviews with relevant stakeholders in host country with personnel having knowledge of the project development via telephone, email, online etc.;
 - Cross checking between information provided by interviewed personnel with all necessary means without limitations to the information provided by the project proponent;
- iii. Reference to available information relating to projects or technologies similar projects under validation and review based on the approved methodology /B03/ being applied for the appropriateness of formulae and accuracy of calculations.
- iv. The resolution of outstanding issues and the issuance of the final validation report and opinion.

The report is based on the assessment of the PDD /01/ 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 /B03/ and their underlying formulae and calculations.

This report contains the findings and resolutions from the validation and a validation opinion on the proposed PA thus confirming the Project design in the documents is sound and reasonable and meets the stated requirements and identified criteria.

Conclusion

The selected baseline and monitoring methodology /B03/ is applicable to the project and correctly applied. Carbon Check (India) Private Ltd. therefore recommends the project to the Gold Standard for registration.

Carbon Check (India) Private Ltd. concludes the validation with a positive opinion that the GS PA "Implementation of clean energy technology in rural areas of India-1", as described in the PDD /01/, meets all applicable GS requirements, including those specified in the CDM Project Standard for PA /B02/, GS4GG Principles and requirements version 1.2, GS4GG activity requirements version 1.2, GHG Emissions Reduction & Sequestration Product Requirements Version 1.4, relevant methodologies, tools and guidelines and article 12 of the Kyoto Protocol, paragraph 37 of CDM modalities and procedures, subsequent decisions by the COP/MOP and CDM Executive Board.

SECTION B.Validation team, technical reviewer and approver

B.1.Validation team members

No.	Role	Type of resource	Last name	First name	Affiliation	Involvement in			
						Desk review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader / Local Assessor	IR	Gedam	Pallavi	CC IPL	X	X	X	X
2.	Technical Expert	IR	Singh	Vikash Kumar	CC IPL	–	X	X	–
3.	Trainee Assessor	IR	Deepak Kadam	Campal	CC IPL	X	–	X	X

B.2.Technical reviewer and approver of the validation report

No.	Role	Type of resource	Last name	First name	Affiliation
1.	Technical reviewer	IR	C	Indumathi	CC IPL

Audit Team Experience:

Pallavi Gedam: She is qualified as Team Leader in TA 1.2 and 3.1 and involved in various validations and verifications under CDM, VCS and Gold Standard (GS) projects. She has also attended Several Gold Standard VVB webinar trainings including training on GS4GG. She holds a Bachelor of Science degree in Chemistry and Master of Science degree in Environmental Science from University of Mumbai. She also a qualified Lead Auditor in ISO 14001:2015 Environmental Management System. She has been involved in number of GS validation and verification projects (as trainee Assessor) GS10898 PoA (GS 10899 to GS 10921) VPA 001 to VPA 023, GS7776 PoA (GS 10716 (VPA 01), GS 916 PoA , GS5417 (VPA 12) GS 5418 (VPA 13).

Vikash Kumar Singh: Qualified lead assessor and internal technical reviewer for offset projects validations and verifications under CDM, VCS and Gold Standard (GS) and actively been involved in the validation and verification or internal technical review of more than 200 GHG offset projects. He is qualified as technical expert for TA 1.2, 3.1,4.1,13.1 and 13.2 under CDM SS categorisation. He has undergone extensive training in the validation and verification of carbon offset projects including the accreditation requirements for the VVBs. He has also received accreditation from the California Air Resources Board (ARB) under Executive Order H2-13-174 as a GHG offset lead verifier for carbon offsets projects and is a specialist for the livestock protocol. Currently, he is employed with Carbon Check in the capacity of Compliance Officer. He holds a Bachelor of Science degree in Environment & Water Management and Master of Science degree in Environmental Management. He has been involved in number of GS validation and verification projects (as internal technical reviewer and team leader) in the following Gold Standard Projects:

GS 1078, GS 1044, GS 976, GS 850, GS 916 PoA (GS 1231 (VPA 01) GS 1029 (VPA 02), GS 1030(VPA 03), GS 1031(VPA 04) and GS 4364.

He has also attended Several Gold Standard VVB webinar trainings including training on GS4GG.

Indumathi C: She is appointed Team Leader /Technical Expert for technical area TA 1.1, 1.2,3.1,13.1 & 13.2 and Technical Reviewer. She has actively been involved in the validation and verification or internal technical review of more than 200 GHG offset projects including projects with SDG component She is having more than 13 years of experience, she is certified Energy Manager, Bureau of Energy Efficiency, Govt. of India. She carried out technical reviews for climate change mitigation projects under different carbon credit mechanisms (UNFCCC, Gold Standard and Voluntary Carbon Standard) for various sectors like renewable energy (solar, wind, hydro, biomass), energy efficiency (cook stoves) and waste to energy (biogas).

SECTION C.Means of validation

C.1.Desk/document review

>> List of all documents reviewed or referenced during the validation is provided in Appendix-3.

C.2.On-site inspection

Duration of on-site inspection: 07/09/2022 to 08/09/2022				
No.	Activity performed on-site	Site location	Date	Team member
1.	<ul style="list-style-type: none">•General information about the project.•Barriers faced/overcome in the processes (additionality)•Local Stakeholder consultation processes•Legal/ Statutory Clearances and Agreements Signed•Baseline determination•Application of appropriate Methodology•Operation and maintenance Procedures•Technical details of project•Data monitoring and storage practices•Calibration and maintenance requirement of the equipmentMonitoring Methodology	Punjab	07/09/2022 to 08/09/2022	Pallavi Gedam and Vikash Kumar Singh
2.	Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the PDD	Punjab	07/09/2022 to 08/09/2022	Pallavi Gedam and Vikash Kumar Singh

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Garg	Ms. Shivani (Managing Director)	Greneity Infocom Service Private Limited	07/09/2022 to 08/09/2022	<ul style="list-style-type: none"> • Discussion on Project Design and eligibility criteria • Proposed Technology to be used in the PA • PP Management System Manual • Discussion on project funding and involvement of any ODA • Discussion on the PA PDD and ER sheet • Discussion on the GS preliminary review comments • Sustainability aspects of the PA SDG impacts 	Pallavi Gedam
2.	Singh	Mr. Rajbir	Green Mission Welfare Society	07/09/2022 to 08/09/2022	<ul style="list-style-type: none"> • Discussion on Project Design and eligibility criteria • Proposed Technology to be used in the PA • PP Management System Manual • Discussion on project funding and involvement of any ODA • Sustainability aspects of the PA • SDG impacts • Safeguarding principles 	Pallavi Gedam
3.	Singh	Mr. Harpal	RET (Renewable Energy Technician) and Local stakeholder	07/09/2022 to 08/09/2022	Discussion on local stakeholder consultation and implementation procedures.	Pallavi Gedam
4.	Sharma	Mr. Arjun	Greneity Infocom Service Private Limited	07/09/2022 to 08/09/2022	Discussion on the implementation procedures and Operation and maintenance.	Pallavi Gedam
5.	Singh	Mr. Jagdish	Households	07/09/2022	Local stakeholder consultation and Baseline survey of the project activity	Pallavi Gedam
6.	Singh	Mr. Amdeep	Households	07/09/2022	Local stakeholder consultation and Baseline survey of the project activity	Pallavi Gedam
7.	Singh	Mr. Dilaver	Households	07/09/2022	Local stakeholder	Pallavi Gedam

					consultation and Baseline survey of the project activity	
8.	Singh	Mr. Narbir	Households	07/09/2022	Local stakeholder consultation and Baseline survey of the project activity	Pallavi Gedam
9.	SINGH	Mr. Gurpreet	Households	07/09/2022	Local stakeholder consultation and Baseline survey of the project activity	Pallavi Gedam
10.	Singh	Mr. Manpreet	Households	07/09/2022	Local stakeholder consultation and Baseline survey of the project activity	Pallavi Gedam
11.	Singh	Mr. Amrik	Households	07/09/2022	Local stakeholder consultation and Baseline survey of the project activity	Pallavi Gedam
12.	Singh	Mr. Kaka	Households	07/09/2022	Local stakeholder consultation and Baseline survey of the project activity	Pallavi Gedam
13.	Singh	Mr. Nirmal	Households	07/09/2022	Local stakeholder consultation and Baseline survey of the project activity	Pallavi Gedam
14.	Singh	Mr. Ajit	Households	07/09/2022	Local stakeholder consultation and Baseline survey of the project activity	Pallavi Gedam
15.	Singh	Mr. Tehal	Households	08/09/2022	Local stakeholder consultation and Monitoring survey of the project activity	Pallavi Gedam

C.4.Sampling approach

As the target population is homogeneous, PP has proposed simple random sampling plan using 90/10 as confidence/precision. This is in line with the applied methodology /B03/. The sample size for each parameter is determined following guidelines for Sampling and Surveys for CDM Project activities and Programme of Activities Ver. 4.0 (EB86, Annex 4) /B08/.

In line with paragraph 26 of the Sampling Standard, the validation team has applied acceptance sampling approach through on site visit interviews on the baseline survey as part of validation. The project participant had applied sampling approach to determine the baseline, a representative baseline survey /10/ was conducted by the representatives of Project participant. The validation team has chosen acceptance sampling in accordance with paragraph 28 of the sampling standard /B08/.

Applying paragraph 39 (c) of the sampling standard, version 09 /B08/, a sample size of 11 households was chosen (with no discrepant records). A sample size of 11 for was determined, based on an AQL of 0.5% and UQL of 20%; producer risk and consumer risk of 10 % each in determining the VVB 's sample size Acceptance number (c) thus determined for the sample is 0. However, VVB interviewed 11 samples from the baseline survey done by project participants.

The information provided in the baseline survey /10/, has been cross checked during the Onsite visit. As a part of acceptance sampling, the Validation team could confirm the baseline survey data /10/ with no discrepant records. Thus, PP's set of records has been accepted in line with § 33 of the sampling standard, version 09 /B08/.

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

Areas of validation findings	No. of CL	No. of CAR	No. of FAR
Project design document	-	1	-
Identification of project type	-	-	-
Description of project activity	2	9	-
Management system	-	-	-
Start date, crediting period type and duration	-	2	-
Environmental impacts	-	-	-
Local stakeholder consultation	-	5	-
Application and selection of methodologies and standardized baselines	-	-	-
-Application of methodologies and standardized baselines	-	-	-
-Deviation from methodology and/or methodological tool	-	-	-
-Clarification on applicability of methodology, tool and/or standardized baseline	-	-	-
-Project boundary, sources and GHGs	-	-	-
-Baseline scenario	-	3	-
-Demonstration of additionality	-	-	-
-Proof of Project eligibility	-	2	-
-Safeguarding Principles Assessment	-	2	-
-Estimation of emission reductions or net anthropogenic removals	2	1	-
-Monitoring plan	-	-	-
Sustainable development co-benefits	2	1	-
Stakeholder Inputs & Grievance Mechanism	-	1	-
Others (GS Preliminary review)	-	1	-
Total	6	28	-

SECTION D. Validation findings

D.1. Project Activity

D.1.1. Project design document

Means of validation	DR,I
Findings	CAR 23 had been raised in this regard and successful resolved. Please refer appendix 4 for details.
Conclusion	<p>The PDD for the project activity "Implementation of clean energy technology in rural areas of India-1", in India, version 05 dated 22/02/2023, submitted by Greneity Infocom Service Private Limited. has been the basis for the validation process.</p> <p>Validation team confirms that the PDD is prepared using GS4GG PDD template version 1.2 of 14/10/2020 which is the latest and correct template to use and section 7.1 of CDM VVS for PA (version 03.0) /B02/ have been appropriately met.</p>

D.1.2. Identification of project type

Means of validation	DR,I
Findings	-
Conclusion	<p>The proposed GS project activity falls under renewable energy supply as it involves generation of biogas using the digesters, which replaces the conventional fire wood to meet the thermal energy needs of households of Punjab in India.</p> <p>CC IPL based on review of PDD and interviews confirms that the proposed GS PA complies with Community Services Activity Requirements V1.2 and it is not A/R PA. The assessment in compliance with § 37 CDM VVS for PAs (version 03.0) /B02/ and GS4GG requirements /B01/.</p>

D.1.3. Description of PA

Means of validation	DR,I
Findings	CAR 05, CAR 07, CAR 08, CAR 09, CAR 10, CAR 13, CAR 14, CAR 22, CAR 26 CL 02, CL 03 had been raised in this regard and successful resolved. Please refer appendix 4 for details.
Conclusion	<p>The description of the project activity contained in the PDD /01/ is transparent, detailed and provides a clear overview of the project. Its content was confirmed by means of document review /01/ and interviews to validate the accuracy and completeness of the project description.</p> <p>The purpose of the project activity is a retroactive project, includes 11,000 digesters which were implemented between June, 2021 and February, 2022 to the household in the state namely Punjab of India which replaces traditional cooking stoves. The project stoves are having better efficiency compared to baseline cooking system and therefore results in saving firewood compared to baseline scenario. All the biogas plants are constructed and maintained by certified Renewable Energy Technicians (RETs) which work under the framework conditions of Green Mission Welfare Society (GMWS) the developer of the project activity. Each project biogas user included in the project activity has entered into an agreement with GMWS to be part of the project activity and thereby transferring the carbon credit ownership rights to GMWS /08/. GMWS and Greneity Infocom Service Private Limited has agreement for the right of carbon credit generated from the project activity and invest necessary financial needs for the project /09/. Thereby, project ownership and transfer rights are clearly defined and in place.</p> <p>The thermal energy generated from use of biogas under the project activity replaces the equal amount of thermal energy which otherwise would have been supplied from the woody biomass (firewood) based stove technology. Thus, the project helps in mitigating harmful GHGs in the atmosphere. As per baseline study /10/, baseline quantity of firewood consumed in pre-project scenario is as given below depending on the capacity of system. Capacity of biogas system installed capacity 4m³.</p> <p>As per the baseline survey report /10/ the average fuel wood consumption 14.65 kg fuelwood daily i.e. 5.34 tons of fuelwood annually. Accordingly, 11,000 biogas system of different capacity results in reduction of 53,605 tCO₂ emission reductions per year.</p> <p>The project activity is the green field activity, which involves installation of new household biogas system in the households where prior to the implementation of the project activity fire wood was in use for thermal energy needs. This was verified during on-site visit and from the baseline survey report /10/. The baseline scenario is the use of fire wood for domestic thermal energy needs. Hence, it complies with the applied methodology /B03/.</p> <p>Technology 'Deenbandhu model' used for the biogas systems. Deebandhu Model bio digester is the fixed underground digester chamber, which converts the cow dung and other organic waste material fed through the inlet chamber into biogas by</p>

anaerobic digestion. The methane gas generated rises and released through the outlet chamber. The output slurry or waste generated from the digester will be used as fertilizer. The technology is MNRE (Ministry of New and Renewable Energy), India approved technology.

The project is envisaged to include household biogas plants installed in the states of Punjab in India commissioned from 10/06/2021/22/ onwards with a target plant of 11,000 in total. In accordance with § 39 of CDM VVS for PAs (version 03.0) /B02/ and § 2.1.1 of the GS4GG PA requirements the validation team has assessed the geographical boundary of the PA. This was as checked and confirmed by reviewing the PDD /01/ and on-site visit. Review of PDD reveals the definition of the boundary for the PA in terms of a geographical area has been transparently defined, and used in establishing the boundary of the PA.

The PP has taken into consideration all applicable national and/or sectoral policies and regulations within that chosen boundary. This conforms to the requirement of CDM VVS for PAs (version 03.0) /B02/. and GS4GG PA requirements. /B05/

As per the GS4GG clause 3.4.3 (principle and requirement) states '*the Project start date shall be the earliest date on which the Project Developer has committed to expenditures related to the implementation of the Project*'. In this case the start date is the earliest date of purchase order placed for the biogas challahs from the supplier /25/. It has been verified that 01/06/2021 is the date on which the PP has committed first expenditure for the project activity which represents and justifies the start date of the project activity. It has been noted that the project is a retroactive project which means the start date has occurred prior to the first submission of preliminary review information to GS (clause 3.4.7 under principle and requirement).

The first submission to GS for preliminary review was done on 10/05/2022 as per the PDD /01/. Clause 3.4.7.4 (principle and requirement) states 'Retroactive Projects shall submit for Preliminary Review within 1 year of the Project Start Date'. Therefore, project start date cannot be prior to 10/05/2021 as per GS requirement for retroactive projects. In that way the start date of 01/06/2021 for this retroactive project meets the GS requirements. The commissioning reports of first batch of biogas projects on 10/06/2021 and the purchase order placed for the biogas challahs was on 01/06/2021 was verified by the validation team /25/ and confirms the start date to be accurate.

5 year crediting period has been chosen for the project, starting from 01/06/2021 or from the date prior to two years from the date of registration with GS registry whichever is later. Since, it is the retroactive project, PP has chosen the period 2 years prior to the date of registration. This is in line with GS requirements.

PA using methodology AMS-I.E. version 12 /B03/ will replace energy generated due to biogas which replaces non-renewable biomass under project activity. This conforms to the requirement of §41 of CDM VVS for PAs (version 03.0) /B02/.

From the desk review of PDD /01/ and interviews of the PP representatives, it is revealed that this Project VVB s not involve any ODA funding. Thus, the validation team considers no ODA funding has been involved under this Project. This is further confirmed by the undertaking /19/ provided by the PP.

Based on assessment above, CCIPL confirms that the description of the proposed CDM PA in the PDD is accurate and complete and it provides an understanding of the PA, and the project is in line with the applied methodology /B03/ and GS4GG requirements /B01/.

D.1.4. Management system

Means of validation	DR,I
Findings	--

Conclusion	<p>Validation team reviewed the PDD /01/ confirms that clear and transparent information about responsibilities, records handling, training, technical review procedures, record keeping, documentation control and measures for continual improvements. The same has been confirmed during the on-site visit interviews with representatives of PP and document review /01/. The validation team concludes that the operational and management plan described in the PDD /01/ is complete. This is deemed appropriate by the validation team. Greneity Infocom Service Private Limited and Green Mission Welfare Society are the Project Participants (PP) of this PA. Greneity Infocom Service Private Limited is the entity which communicates with the Gold Standard/SustainCert act as a Project developer. Their Roles & Responsibilities/ Competencies have been provided in the section B of the GS PDD.</p> <p>Validation team confirms the compliance of the requirements of CDM PS for PA (version 03.0) /B02/ and CDM VVS for PA (version 03.0) /B02/.</p>
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D.1.5. Start date and duration of PA

Means of validation	DR, I
Findings	CAR 13 and CAR 17 had been raised in this regard and successfully resolved. Please refer appendix 4 for details
Conclusion	<p>Start date of the PA is 01/06/2021 /25/ is the date on which the PP has committed first expenditure for the project activity which represents and justifies the start date of the project activity. The validation team also reviewed the PDD /01/ and found that the duration of the PA is 5 years crediting period /25/. In this case the start date is the earliest date of purchase order placed for the biogas challahs from the supplier /25/.</p> <p>Based on the above assessment, the validation team concludes that the description and determination of the start date of the proposed PA is in conformance with the requirements of paragraph 3.1.1 of GS4GG Project of Activity requirements version 1.2./B05/</p>

D.1.6. Environmental impacts

Means of validation	DR,I
Findings	--
Conclusion	<p>The project VVB s not have any negative environmental impact and VVB s not require any specific licence/approval from host country. Other positive environmental impacts are discussed in section D.3 below.</p> <p>Therefore, validation team confirms that the project VVB s not result any negative environmental and social impact and meets the sustainable development criteria as defined by GS requirements.</p>

D.1.7. Local stakeholder consultation

Means of validation	DR,I
Findings	CAR 02, CAR 16, CAR 18, CAR 24, CAR 25 had been raised in this regard and successfully resolved. Please refer appendix 4 for details
Conclusion	<p>The local stakeholder consultation is found conducted following guideline as outlined in GS4GG 'stakeholder consultation & Engagement procedure, requirement and guidelines' and a stakeholder consultation report is prepared /15/. VVB cross checked the information provided in the stakeholder report during document review.</p> <p>The stakeholder meetings were held on 05/06/2022 at Gram Panchayat Village Dekh, District Bathinda and Gram Panchayat Village Deepgarh, District Barnala Punjab, India.</p> <p>The stakeholders were invited via local newspaper advertisement, notice in public places and personal invitations and the documents were made available</p>

to the VVB. The same also confirmed from stakeholders during site visit. All the steps found performed as per the guideline. No negative comment or grievance found recorded during the stakeholder meeting. VVB also noted during site visit that no negative comments from stakeholders from the project activity. It is also noted that a continuous grievance mechanism as detailed during stakeholder meeting is found in practice at site. Stakeholders are found aware of continuous grievance mechanism system. It is also noted from PP, the feedback round as required under the GS started immediately after the end of the stakeholder meeting and stakeholders were asked to provide feedback to the concerned personnel within 2 months after the stakeholder report is circulated. Email to relevant stakeholders along with the project documents are circulated on 10/05/2022 and 10/07/2022 for feedback. However, until 10th, July 2022 no comment received. Since, a continuous grievance mechanism is in place the feedback round meets the GS4GG requirements

Validation team has checked the supportive document i.e., Minutes of LSC meeting, public invitation, personal invitations, Email to stakeholders, Attendance sheet, LSC evaluation forms and photos /14/ to confirm the LSC and found inline with the GS4GG STAKEHOLDER CONSULTATION AND ENGAGEMENT REQUIREMENTS.

Since the project is a retroactive project (Start date of the project is 01/06/2021), PP has conducted integrated stakeholder consultation and stakeholder feedback round as per the requirement of para 6.1.4 of GS4GG STAKEHOLDER CONSULTATION AND ENGAGEMENT REQUIREMENTS Version 1.2 which is found acceptable. An email and form invitation were sent to the stakeholders on 05/05/2022 along with the project documents. Stakeholders feedback Round (SFR) was from 10/05/2022 and 10/07/2022. As discussed with PP, no comments have been received.

D.1.8. Application of methodologies and standardized baselines

Means of validation	The small-scale project activity utilizes Version 12.0 of AMS-I.E: "Switch from Non-Renewable Biomass for Thermal Applications by the User" /B04/.		
	Under section B.2 of the PDD /01/, project has been assessed for all the applicability conditions of the applied methodology.		
	No	Applicability conditions in Version 12.0 of AMS-I.E	Characteristics of the project activity
1.	Project participants are able to show that non-renewable biomass has been used in the project region since 31 December 1989, using survey methods or referring to published literature, official reports or statistics.	Survey was conducted to check since when villagers were using firewood. It is evident from the survey that all villagers have been using firewood for more than 35 years hence meets the criteria.	The validation team reviewed the baseline survey conducted by Environment and Energy Management Group, Bhopal /10/, This is deemed appropriate to the Validation team. Thus, the eligibility criteria is met.
2.	In the case that technologies using renewable biomass are used under the project activity, this methodology is	Biomass is not used in the project activity. Hence, the conditions are not applicable.	The project is biogas based cooking system. Biomass is not used in the project activity. The same is confirmed during the onsite visit. Hence,

	<p>applicable where all emissions related to processing of biomass are fully accounted for and biomass is sourced from biomass residues and/or a dedicated plantation of the CDM project activity, meeting the following conditions:</p> <p>(a) For projects that use biomass residues, prior to the implementation of the project activity, the biomass residues have not been collected and used but been left for decay and would, in the absence of the project activity, continue to be left for decay; and</p> <p>(b) For projects that use biomass residues from a production process (e.g. production of sugar or wood panel boards), the implementation of the project VVB s not result in an increase of the processing capacity of raw input (e.g. sugar, rice, logs, etc.) or in other substantial changes (e.g. product change) in this process; and</p> <p>(c) The biomass used by the project facility is not stored for more than one year; and</p> <p>(d) In the case biomass from dedicated plantations are used, the applicability conditions of TOOL16 “Project and leakage emissions from biomass” are</p>		<p>the condition is not applicable.</p>	
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	satisfied.		
3.	For electric cook stoves with integrated renewable energy device or with grid connected renewable energy system employing net metering, project participants shall demonstrate that, on an annual basis, at least 80% of the electricity generated is consumed by the electric cook stoves (i.e. 20% or less of electricity is consumed by other loads connected).	The project VVB s not involve any electric cook stove and hence the condition is not applicable for the project.	The project does not involve any electric cookstove. The same is confirmed during the onsite visit and hence the condition is not applicable for the project.
4.	For electric cook stoves, in all cases under paragraph 2(d) above where back-up diesel generators are used, this methodology is only applicable when no more than 1% of total electricity supply occurs from back up diesel generators on an annual basis.	The project VVB s not involve any electric cook stove and hence the condition is not applicable for the project.	The project does not involve any electric cookstove. The same is confirmed during the onsite visit and hence the condition is not applicable for the project.
5.	Under this methodology, emission reductions cannot be claimed only due to fuel-switch aspect and proposed project activities shall introduce new renewable energy based technologies, i.e. technology switch is also involved.	The project activity involves technology switch from conventional firewood based cooking system to renewable biogas based cooking system. Hence, the criteria are met.	Based on the on-site visit and document review, the technology involves switch of conventional firewood cooking to biogas based cooking technology. Hence meets the methodology criteria.
6.	Project participants shall describe in the PDD/PoA-DD the proposed method for distribution of project devices and how the double	Each of the bi-digesters shall be allocated a unique id against each end users. End user and project implementer shall have an	The validation team by means of on-site visit interviews confirms that the proposed method for installation of project devices includes the method to avoid double

		counting of emission reductions has been addressed, for example, using methods such as unique identifications of product and end-user locations (e.g. programme logo), to prevent double counting of emission reductions from the project devices (e.g. between end users, distributors and producers of stoves, producers of renewable energy, producers of processed renewable biomass).	agreement to avoid any double counting.	counting of emission reductions such as unique identifications of product, end-user details (name, address etc). Therefore, the validation team confirms that the record keeping system will eliminate double counting. The same is confirmed from the project database.
	7.	For project activities introducing bio ethanol cook stove, project participants shall demonstrate that the bioethanol cook stove are designed, constructed and operated to the requirements (e.g. with regard to safety) of a relevant national or local standard or comparable literature. Latest guidelines issued by a relevant national authority or an international organization may also be used.	The Project is using biogas digesters and bio- ethanol is not used and safety requirement VVB s not arise here. Hence, the criteria is met.	The bio- ethanol is not used related to the project activity. The same is confirmed form the onsite visit. Hence, not applicable
Findings	-			
Conclusion	CCIPL hereby confirms that the selected baseline and monitoring methodology has been approved by Gold standard, and is applicable to the Project, which complies with all the applicability conditions therein and the selected version is valid at the time of submission of the proposed project activity.			

D.1.9. Deviation from methodology and/or methodological tool

Means of validation	No deviation from the applied methodology or methodological tool is applied in the project activity.
Findings	N/A

Conclusion	N/A
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D.1.10. Clarification on applicability of methodology, tool and/or standardized baseline

Means of validation	No clarification on the applied methodology or methodological tool is applied in the project activity
Findings	N/A
Conclusion	N/A

D.1.11. Project boundary, sources and GHGs

Means of validation	<p>According to § 16 of applied methodology AMS-I.E. version 12.0, “<i>The project boundary is the physical, geographical site of the use of biomass or the renewable energy.</i>”</p> <p>The information was validated during the On-site visit conducted by the validation team and same has been demonstrated in section B.3 of the PDD.</p>
Findings	-
Conclusion	The project boundary confirmed during the on-site visit along with the documentary evidence was found in conformance with the applied baseline methodology. All sources of GHG emissions required by the methodology have been included in the project boundary and are justified in reference to the project activity. There are no project emissions/leakage emissions of any sort which are not addressed by the applied methodology occurring because of the project activity. There are no project emissions/leakage emissions of any sort which are not addressed by the applied methodology occurring because of the project activity.

D.1.11.1. Baseline scenario

Means of validation	DR, I
Findings	CAR 04, CAR 20, CAR 27 had been raised in this regard and successfully resolved. Please refer appendix 4 for details
Conclusion	<p>As per applied methodology AMS-I. E, version 12.0, the baseline is pre-defined as “the use of fossil fuels for meeting similar thermal energy needs as those provided by the project devices”.</p> <p>In order to independently assess the primary fuel used for cooking purpose, the assessment team interviewed both project and non- project households. The Zeist of interview is provided below:</p> <p>Crop residues: it was confirmed by users that wheat, paddy, mustard and sunflower are major crop in the region and residue of these crops (straw and husk) has economic value as these are preferred by industries as primary fuel in boilers. Farmers and aggregators of the region sell these residues to industries and hence same cannot be considered as primary fuel for cooking purposes.</p> <p>Dung cakes: During interview it was confirmed by users that dung cakes cannot be considered as primary fuel for cooking purposes due to following reason:</p> <ul style="list-style-type: none"> • Large amount of smoke generation during combustion, poor ventilation and small sizes of houses • Difficulty in combustion due to high moisture content especially during rainy and winter season • Bad odour generation during combustion • Cultural and other issues <p>LPG: Majority of household don't have LPG connection and those who got initially under Pradhan Mantri Ujjwala Yojna (PMUY) in 2016-17 had also stopped using it due high refilling cost and availability of fuel wood free of cost or at cheaper cost. From the summary provided above it can be safely concluded that the survey conducted by independent third party appointed by Project developers reflects the ground reality and firewood is primary fuel used in the region.</p>

Further, the assessment team verified the Survey and KPT methodology adopted by the independent agency to crosscheck whether the KPT was conducted in accordance with requirements of clean-cooking protocol. Assessment team verified the KPT results conducted in both project and non-project households and found it be in reasonable range. Assessment team confirms that there is no publicly available information/literature available with regards to firewood usage in the project area. All the GS registered projects have adopted survey approach to establish the same. Therefore, baseline scenario identified is credible for the project activity. The baseline survey was performed by a third party covering various districts of Punjab/10/. VVB during the course of validation has reviewed the baseline study and witnessed sample households in regards to following two dimensions:

- ✓Appropriates of the overall approach of the study and it's representativeness
- ✓Appropriateness of the baseline study, including the check to target end-users

In order to assess, the above, VVB has opted, the following methods:

- ✓Independent desk review of the data sources as available on public domain
- ✓On-site inspection interview/document review at PP's office to check PP's criteria for checking of feasibility of any region / household for participation as part of the project
- ✓Interview with the households to confirm the baseline condition.

Based on assessment as per the methods above, verification team confirms the following:

- ✓VVB during the on-site inspection had interviewed/reviewed documents at PP's office. This review was carried along with PP's key personnel (who are involved in the planning/feasibility as well as field operations (during project implementation and post implementation as well). During this review VVB has noted that PP conducts a commercial feasibility study of any new region prior to project implementation to check the proportion of non-biomass/liquid fuels, such as LPG and in case that the proportion of non-biomass/other fuels is significant, the region is discarded. Furthermore, at the time of implementation, households are checked for eligibility as well and this is a part of the survey questionnaires and also the form during project implementation as well. Households indicating LPG/ as their primary/main fuel are ineligible for the carbon project. VVB has also noted that PP has conducted 3rd party study to establish the baseline (duration, quantification, and actual scenario regarding the fuel usage etc.) in the targeted households post its feasibility study. Only households which were using non-renewable biomass are considered for the project and the same was also confirmed during the on site inspection. The publically available reports categorize the fuel-use categories explicitly around **main/primary** fuel use and not around exclusive use. VVB believes that the project situation due to its way of selecting eligible households does not actually related with the circumstances in general of the regions.

	<p>The conclusion in this regard is being provided below.</p> <p>It was found that either three stone and/or inefficient/traditional wood stove were used by the households in the baseline and thus the baseline study and the scenario as indicated in the PDD is actual depiction of the project and thus acceptable to the VVB.</p> <p>Validation team confirms that the baseline scenario is identified as per the applied methodology. All data parameters are used correctly while estimating the baseline emissions. The baseline scenario represents the most possible scenario in absence of the project activity. The same is also justified in section B.4 of PDD. This is in conformance with §12.1.5 (b) of GS4GG Project Activity requirements version 1.2.</p>
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D.2.1. Demonstration of additionality

Means of validation	DR,I
Findings	-
Conclusion	<p>As per paragraph 4.1.9 of GS4GG Community services activity requirements, version 1.2, Projects that meet any of the following criteria are considered as deemed additional and therefore are not required to prove Financial Additionality at the time of design certification:</p> <p>(a)Positive list (Annex B of this document) (b)Projects located in LDC, SIDS, LLDC (c)Microscale projects</p> <p>PP has demonstrated additionality as per paragraph 1.1.3 of Annex B – Positive list of GS4GG Community services activity requirements, version 1.2, Project activities solely composed of isolated units where the users of the technology/measure are households or communities or institutions and where each unit results in ≤ 1.8 GWhth of energy savings per year or ≤ 600 tonnes of emission reductions per year are deemed automatically additional. As per clause 3.5.1.5 of GS4GG principles and requirements a retroactive project must submit project documents within one year of the project start date. PP has submitted initial project documents on 10/05/2022 to GS. Therefore, the prior consideration is met for the project activity as per GS4GG rules. Ongoing Financial Need: As per clause 3.5.2.2 of GS4GG principles and requirements/B01/, the proposed project activity falls under the ‘Positive List’ and hence under Principle 5 – Financial Additionality & Ongoing Financial Need, the project is considered deemed additional and therefore not required to prove Financial Additionality at the time of Design Certification.</p> <p>This is in conformance with the requirements of the CDM PS for PAs (version 03.0) /B02/ and CDM VVS for PAs (version 03.0) /B02/ and GS4GG requirements/B01/.</p>

D.2.2. Proof of project eligibility

Means of validation	<p>GENERAL ELIGIBILITY CRITERIA:</p> <p>Eligible Project Types: As per section 4.1.3 of the GS4GG Principles and Requirements document states following for automatic eligibility for a project “A Project type is automatically eligible for Gold Standard Certification if there are Gold Standard approved Activity Requirements and/or Impact Quantification Methodologies associated with it or it’s referenced in the Gold Standard Product Requirements.” The Gold Standard has published Community Services Activity Requirements; therefore, the project activity falls under the list of Pre-identified eligible project and is automatically eligible for Gold standard certification. The project type is installation biogas plant, which is eligible under community service activity requirements. Therefore, the project is automatically eligible for GS certification.</p> <p>Location of the Project: The project’s host Party is in the states of Punjab, India and eligible as per Gold Standard.</p>
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Project Area, Project Boundary and Scale: Project boundary geographical area is defined as the territorial boundary in the districts Fatehgarh Sahib, Bhatinda, Barnala, Sangrur and Gurdaspur of the state Punjab, India. Project activity falls under small scale project activity. The installed thermal capacity of the project is 39.42 MWth which is below the threshold of small-scale projects (45 MWth). Hence, the project qualifies for small scale projects.

Host Country Requirements: The project's host Party is India and eligible as per Gold Standard requirements. The project VVB s not have any negative environmental impact and VVB s not require any specific licence/approval from host country, Moreover, there are no legal, environmental, ecological and social regulations /law that mandatorily enforces the implementation of the project activity. Hence, host country criteria in regards compliance with applicable Host Country's legal, environmental, ecological and social regulations is meet. The proposed project activity is deemed to be eligible under gold standard GS4GG.

Contact Details: Project contact details has been given in Appendix 1 of the PDD.

Legal Ownership: Legal ownership of the GS carbon credit generated from the project activity is transferred to Green Mission Welfare Society as verified from end user agreements /08/. Green Mission Welfare Society has signed agreement with Greneity Infocom Service Pvt Ltd to take all necessary action required for registering the project under suitable Voluntary Standard along with complete assistance during operation and maintenance of the biogas plants included in the project activity/09/.

Other Rights: Not applicable. The project is implementation as per individual users choice and hence no other rights are required.

Official Development Assistance (ODA) Declaration: The project VVB s not involve any ODA. This has been also supported with declaration of ODA as per GS requirement /19/.

Eligibility under Gold Standard Community Services Activity (CSA) Requirements

Eligible Project Types : As per section 3.1.1 (a) of GG4GG Community Services Activity Requirements ver.1.2 document states following Renewable energy types such as solar (photovoltaic and solar thermal electricity generation), tidal/wave, wind, hydropower, geothermal, waste to energy and renewable biomass that are connected to mini grid or off grid solutions for targeted users and/or applications". The project type is installation biogas plant, which is eligible under community service activity requirements. Therefore, the project is automatically eligible for GS certification.

GENERAL ELIGIBILITY CRITERIA - Type of project:- As per section 3.1.1 (a) of GG4GG Community Services Activity Requirements ver.1.2. The project type is installation biogas plant, which is eligible under community service activity requirements. Therefore, the project is automatically eligible for GS certification.

GENERAL ELIGIBILITY CRITERIA – Project Area, Boundary and scale: Project boundary geographical area is defined as the territorial boundary in Fatehgarh Sahib, Bhatinda, Barnala, Sangrur and Gurdaspur of the state Punjab, India. Project activity falls under small scale project activity. The installed energy output thermal capacity of the project is 39.42 MWth which is below the threshold of small-scale projects (45 MWth) and eligible as per Gold Standard.

GENERAL ELIGIBILITY CRITERIA – Legal Ownership: Legal ownership of the GS carbon credit generated from the project activity is transferred to Green Mission Welfare Society as verified from end user agreements /08/. Green Mission Welfare Society has signed agreement with Greneity Infocom Service Pvt Ltd /09/ to take all

	<p>necessary action required for registering the project under suitable Voluntary Standard along with complete assistance during operation and maintenance of the biogas plants included in the project activity.</p> <p>Therefore, the proposed project activity is deemed to be eligible under gold standard GS4GG</p> <p>GS4GG Gender Sensitive requirements</p> <p>The project directly benefits to women and women's rights. The project directly contributes towards the national mission for empowerment of women through improvement of health and attaining vision for empowerment of women under national policy for women 2016 (Women participation will be ensured in the efficient use and spreading the use of solar energy, biogas, smokeless chulas and other technological applications to have positive influence on their life styles and a long term impact on meeting sustainable development goals).In summary, the project takes care of gender equality and women.</p> <p>Under section D.2 of the GS PDD /01/, PP has provided the assessment that project complies with 'gender sensitive' requirements which is found correct and deemed acceptable. The same was also verified during the onsite visit with stakeholder interview.</p> <p>Therefore, the proposed project activity is deemed to be eligible under gold standard GS4GG.</p>
Findings	CAR 06, CAR 28 had been raised in this regard and successfully resolved. Please refer appendix 4 for details
Conclusion	CCIPL confirms that the project is eligible for GS4GG as per requirements of GS4GG.

D.3. Safeguarding Principles Assessment

Means of validation	<p>PP has done the safeguarding principles assessment analysis and presented assessment in the GS PDD /01/. The assessment has been performed in accordance with requirements prescribed in the GS4GG Principles & Requirements, Version 1.2 & Safeguarding Principles & Requirements, Version 1.2.</p> <p>The detailed assessment of safeguarding principle is provided in Appendix 5 below:</p>
Findings	CAR 15, CAR 19 has been raised and successfully resolved. Refer Appendix 4 of this report for more details.
Conclusion	Validation team has carried out on site interviews to cross check the safeguarding principle assessment conducted by the PP. GS VVB has also reviewed the initial GS local stakeholder consultation report/16/ and GS4GG PDD /01/ and found that the PP has assessed all the required critical safeguarding principle in project activity. It has been found that the PA fulfil all the principles like Human Rights, Labor standards, environment protection, and anti-corruption. Validation assessment has been provided in the below Appendix 5.

D.4. Estimation of emission reductions or net anthropogenic removals

Means of validation	<p>As per "AMS I.E- Switch from non-renewable biomass for thermal applications by the user, Version 12, the baseline emissions (BE_y) are calculated as:</p> $BE_y = B_y \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected_fossil_fuel}$ <p>Where,</p> <p>BE_y = Baseline emissions during the year y in t CO₂e B_y = Quantity of woody biomass that is substituted or displaced in tonnes f_{NRB} = Fraction of woody biomass used in the absence of the project activity in</p>
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year y that can be established as non-renewable biomass (f_{NRB})
 $NCV_{biomass}$ = Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.0156 TJ/tonne)
 $EF_{projected_fossil_fuel}$ = Emission factor for the substitution of non-renewable woody biomass by similar consumers. Use a value of 64.4 tCO₂/TJ

By is determined by using option (a) paragraph 27 of the methodology as follows:
 “Calculated as the product of the number of households multiplied by the estimate of average annual consumption of woody biomass per household that is displaced by the project activity (tonnes/ household/year)”;

$$B_y = NHH \times (BCBL_{,HH,y} - BCPJ_{,HH,y})$$

Where,

NHH = Number of households in the project activity, number

$BCBL_{,y}$ = Average annual consumption of woody biomass per household before the start of the project activity, tonnes/household/year

$BCPJ_{,HH,y}$ = If it is found that pre-project devices were not completely displaced but continue to be used to some extent, average annual consumption of woody biomass per household in the pre-project devices during the project activity, tonnes/household/year

$BCBL_{,HH,y}$ for the project has been considered based on the survey

Assessment of $f_{NRB,y}$

PP has calculated the f_{NRB} as per CDM Methodological Tool: “Calculation of fraction of non- renewable biomass” (v03.0). Validation team confirms that it has checked f_{NRB} calculation spread sheet prepared as prepared by PP.

As per the applied methodological tool, In the case of ex ante calculation of f_{NRB} , the parameter f_{NRB} shall be estimated using the most recent historical year for which data is available. Review of f_{NRB} calculation revealed that all the data used for the calculation is latest available data at the time of validation.

Review of f_{NRB} spread sheet prepared by PP reveals that the estimation of domestic consumption was derived from the following table and the data sources were verified as a part of validation:

Description of indicators	units	Total quantity	reference
Total woodfuel consumption (HW*N+CE)	Ton/year	456,000	India State of Forest Resources 2019, volume 1, chapter 10, pg 160, table 10.2
Annual wood consumption as timber for other use (NE)	Ton/year	3,682,554.334	value calculated by using section 7.4.7 (Annual fuelwood consumption) India State of Forest Resources 2011, chapter no 7

The total woody biomass consumption for Punjab as per the f_{NRB} calculation by PP is estimated to be **4138554.334** t/yr, which is deemed appropriate to the VVB.

PP has correctly calculated the renewable biomass by using the following equation of the tool:

$$RB = \sum (MAI_{forest,i} \times (F_{forest,i} - P_{forest})) + \sum (MAI_{other,i} \times (F_{other,i} - P_{other}))$$

The Mean Annual Increment of woody biomass growth per hectare in subcategory i

of forest areas (t/ha/yr) and other areas is considered as 0.695 for Punjab. This parameter has been taken from the published paper "Phyto mass carbon pool of trees and forests in India¹; checked and confirmed by the VVB. The extent of forest in sub-category i (ha) (**Fforest,i**) and **Extent of Other Wooded Land (Fother,i)** have been taken from India State of Forest Resources 2021, chapter 13, page no. 427, the verified value for these parameters are 253,000 ha and 8,000 ha respectively. Extent of non-accessible area (e.g. protected area where extraction of wood is prohibited, geographically remote area) within forest areas (ha) is taken 0 (it's a area under tiger reserve and in Punjab there is no such area. The extent of non-accessible area (e.g. protected area where extraction of wood is prohibited, geographically remote area) within other wooded land areas (ha) is optional as per the tool and not considered by the PP and the same is deemed acceptable to the VVB.

The difference between woody biomass consumption (**4,138,554.334** t/yr) and renewable biomass (**181,395** t/yr) is considered to be non-renewable i.e. 3,957,159 t/yr. Non-renewable biomass utilisation in Punjab is, therefore, validated as 3,957,159 t/yr. The fraction of non-renewable biomass is the quotient of the non-renewable and the total biomass. The fraction of non-renewable biomass for Punjab is, therefore, validated as 95.61%

Validation team's confirms the following:

- The detailed methodology (including the calculation) of conducting the f_{NRB} has been provided in the report /spread sheet /04/.
- The calculation has been done in accordance with the CDM Methodological Tool: "Calculation of fraction of non-renewable biomass" (v03.0) including the equation used and the data source as required by the tool.
- All the reference and data source used for the calculation/study has been listed and assessed by the VVB.

In the opinion of validation team, the calculation of f_{NRB} is correct and in line with the CDM Methodological tool: Calculation of the fraction of non-renewable biomass (v03.0) and thus acceptable to the validation team.

Project Emissions (PEy):

As per applied methodology AMS-I.E, version 12, project emissions are accounted for below activities:

- CO₂ emissions from on-site consumption of fossil fuels due to the project activity
- CO₂ emissions from electricity consumption by the project activity
- Methane emission from solid waste disposal or waste water
- Project emissions related to cultivation of feedstock
- Project emissions from transportation

The project activity does not involve any of the above activity and hence, project emissions for the project activity is not applicable.. However, while determining By as per equation 3 of the applied methodology, firewood consumed by pre-project devices during the project activity shall be monitored and applied ex-post. This is to be accounted.

Leakage Emissions (LEy):

Leakage emissions (related to the non-renewable woody biomass saved by the project activity shall be assessed based on ex post surveys of users and the areas from which this woody biomass is sourced (using 90/30 precision for a selection of samples). The following potential source of leakage shall be considered: The

¹ <https://moef.gov.in/wp-content/uploads/2019/06/Pacific.pdf> (page no. 16 of Asia-Pacific Forestry Sector Outlook Study II India Outlook Study 2020)

	<p>use/diversion of non-renewable woody biomass saved under the project activity by non-project households/users that previously used renewable energy sources. If this leakage assessment quantifies an increase in the use of non-renewable woody biomass used by the non-project households/users that is attributable to the project activity, then By is adjusted to account for the quantified leakage. Alternatively, By is multiplied by a net to gross adjustment factor of 0.95 to account for leakages, in which case surveys are not required.</p> <p>PP has opted default option, and By shall be adjusted with adjustment factor of 0.95 to account leakage.</p> <p>Emission reductions: Emission reductions are to be estimated based on the equation below:</p> $ER_y = BE_y - PE_y - LE_y$ $ER_y = 53,605 \text{ tCO}_2\text{e/year}$
Findings	CAR 21, CL 05, CL 06 has been raised and successfully resolved. Refer Appendix 4 of this report for more details.
Conclusion	Based on the calculations and results presented in the sections above the implementation of the project activity will result in an average ex-ante estimation of emission reduction conservatively calculated to be 53,605 tCO ₂ e per year. The calculation of the emission reductions has been ensured by the validation team based on the VER calculation sheet./02/.

D.5. Monitoring plan

Means of validation	Data and parameters fixed ex-ante:				
		Data/parameter	Unit	Value applied	Assessment
	1	Number of households in the project activity in year y (N_{HH})	number	11,000	Validation team through reviewed of the documents and On site visit interviews. The number of biogas plants considered number of households as individual system represents individual household. The numbers are as per project database which are cross checked from sample commissioning reports /23/
	2	Average annual consumption of woody biomass per household before the start of the project activity ($BC_{BL,HH,y}$)	tonnes/household/year	5.34	The baseline fire-wood consumption is as per third party survey report /10/ and baseline survey record and survey questionnaire /11/. Therefore, the results of survey used in this project is considered reliable.
3	Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass ($f_{NRB,y}$)	%	95.61	f_{NRB} is calculated for Punjab following procedure outlined in the applied methodology and as per the latest Tool 30 version 03. Recent data referred in Forest Survey	

				of India report 2021 has been used. The value is fixed for the entire crediting period.
4	Net calorific value of the non-renewable woody biomass that is substituted ($NCV_{biomass}$)	TJ/tonne	0.0156	Default value as given in the applied methodology is used for the project activity. Hence accepted /B03/.
5	Emission factor for the substitution of non-renewable woody biomass	tCO ₂ /TJ	64.4	Default value as given in the applied methodology is used for the project activity. Hence accepted /B03/.

Data and parameters to be monitored:

	Parameter	Description/Assessment
1	Average annual consumption of woody biomass per household in the pre-project devices during the project activity, if it is found that pre-project devices were not completely displaced but continue to be used to some extent. ($BC_{PJ,HH,y}$)	To be monitored at least once in every two years applying similar method like Kitchen Performance Test. Project developer shall only account only those users/households who uses firewood for cooking in baseline. Therefore, this shall be monitored among project users and accordingly accounted in emission reduction calculations. The annual consumption of woody biomass per household in the pre-project devices during the project activity from the end users from supply point to cross check the monitored results. The samples to be selected from those households who uses fuelwood for cooking.
2	Number of households (biogas system) in the project activity in operational per year (N_{HH})	To be monitored at least once in every two years. Monitoring consists of checking of representative sample, to ensure that biogas systems are operating. PD will also keep records of water procured by end users from supply point to cross check the monitored results. The samples to be selected from those households who uses fuelwood for cooking.
3	Unemployment rate, by sex, age and persons with disabilities	To be monitored annually Provided training for improving employability. Thereby improving Quality of Employment. Two training shall be provided in a year.
4	Quantitative employment and income generation (8.5.2)	To be monitored annually Number of people employed for the maintenance and servicing of biogas systems. 10 permanent employment is cross checked through HR records/13/.
5	Access to affordable and clean energy services (7.1.2)	To be monitored at least once in every two years. Number of biogas systems operational under the project activity. The samples to be selected from those database.
6.	Improvement in health and decrease in illness (3.9.1)	To be monitored at least every two years. The number of people with improved health and decreased illness will be tracked through

		interviews with end users. The samples will be chosen from those databases.
Findings	-	
Conclusion	CC IPL confirms that the monitoring plan mentioned in the PDD is in accordance with the requirements mentioned in the monitoring methodology and the local regulatory requirements, as well the monitoring arrangements described in the monitoring plan are feasible within the project design. CC IPL is of the opinion that the monitoring plan will give opportunity for real measurement of achieved emissions reductions for the crediting period.	

D.6.Sustainable development co-benefits

Means of validation		Parameter	Description/Assessment
		1.	Good health and well-being (SDG 3)
2.	Affordable and Clean Energy (SDG 7)	<p>Mitigation Measure: Number of households with access to clean energy.</p> <p>Way of monitoring:</p> <ul style="list-style-type: none"> • How: Survey to confirm if plants were working. • When: Annually or biannually • Who: Third Party survey <p>Estimated contribution: 11,000 households are expected to have access to clean energy.</p> <p>The indicator is rightly chosen for the project activity and monitoring is in line with applied methodology and chosen indicator.</p>	
3.	Decent Work and Economic Growth (SDG 8)	<p>Monitoring parameter: Employment generation from the project and quality trainings to employees</p> <p>Way of monitoring:</p> <p>PP shall keep employment records, payment records, training records as part of monitoring this parameter.</p> <p>Estimated contribution: 10 permanent employment is expected to generate from the project activity.</p> <p>The indicator is rightly chosen for the project activity and monitoring is in line with applied methodology and chosen indicator.</p>	

	<p>VVB has verified the SDG tool submitted related to the project activity. The tool used is found to be of the latest version available and found inline the claimed SDGs. The relevant indicators were appropriately chosen.</p> <p>Mechanism to input continuous grievances: As part of continuous grievance mechanism PP has highlighted the mechanism in stakeholder consultation report and also in the PDD. A grievance register shall be kept at panchayat office to record any grievance raised by stakeholders. Since, the project is retroactive project implementation is already, and no comments received yet. The stakeholders found aware of the grievance mechanism system. Therefore, the continuous grievance input mechanism is in place.</p>
Findings	-
Conclusion	CC IPL confirms that sustainability monitoring plan and indicators included in the PDD confirm to the sustainable development requirements of GS4GG.

D.7. Stakeholder Inputs & Grievance Mechanism

Means of validation	<p>Discussion of continuous input /grievance mechanism As part of the grievance mechanism in place, the local stakeholders are encouraged to approach the PP through following avenues i.e. in-person, e-mail, and telephone to express their grievance, if any. Through meet agenda review and discussion with PP validation team understand that PP had discussed environmental and social aspects of project activity along with sustainability goals selected by project activity with local stakeholders.</p> <p>The project proponent informed the users about the input and grievance mechanism. They were informed about the maintenance of a grievance expression book which would be maintained to have a continuous account of stakeholder's feedback. Grievance Expression Process Book have been located at panchayat offices as the stakeholders' chosen places. All the sites are appropriate publicly accessible location where local stakeholders can provide their feedback about the project.</p>
Findings	-
Conclusion	Validation team has checked the corresponding documents /17/ and found inline with the GS4GG requirements. The validation team confirms that the project activity meets the Gold Standard requirements for stakeholder feedback/ grievance mechanism.

SECTION E. Internal quality control

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The final validation report has undergone a technical review and quality review before being submitted to the project participant and Gold Standard. A technical reviewer qualified in accordance with CCIPL's qualification scheme for CDM/GS validation and verification performed the technical review.

SECTION F. Validation opinion

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The VVB (Carbon Check (India) Private Ltd.) hereafter referred to as CCIPL, has been appointed by Greneity Infocom Service Private Limited (the PP) to perform validation of their PA "Implementation of clean energy technology in rural areas of India-1". The validation was performed on the basis of the UNFCCC criteria for the Clean Development Mechanism and GS4GG requirements. The scope of the validation is defined as an independent and objective review of the project design document (PDD) /01/, meets all applicable GS requirements, including those specified in the CDM Project Standard for PA /B02/, GS4GG Principles and requirements version 1.2 and other relevant GS4GG applicable rules /B01/, relevant methodology /B03/, tools and guidelines and article 12 of the Kyoto Protocol, paragraph 37 of CDM modalities and

procedures, subsequent decisions by the COP/MOP and CDM Executive Board. The project's baseline establishment and monitoring plan and other relevant documents. The information in these documents is reviewed against CDM Validation and Verification Standard for PA, Version 03.0 /B02/, Kyoto Protocol requirements, CDM Modalities & Procedures and subsequent decisions and guidance by the COP/MOP and CDM Executive Board and GS4GG requirements.

The report is based on the assessment of the PDD /01/ undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews, stakeholder interviews, review of the applicable/applied methodology /B03/ and their underlying formulae and calculations.

The Validation team confirms the contractual relationship signed between the VVB, CCIPL and Greneity Infocom Service Private Limited. The team assigned to the validation meets the CCIPL internal procedures including the UNFCCC requirements for the team composition and competence. The validation team has conducted a thorough contract review as per UNFCCC and CCIPL's procedures and requirements.

Validation methodology and process

The validation has been performed as per the requirements described in the Gold Standard for the Global Goals Principles & Requirements (version 1.2); and CDM VVS for PA (version 03.0) /B02/ and constitutes the review and completion of the following steps:

- Desk review of the PDD /01/, and ER spread sheet /02/
- Review of the applied monitoring methodology AMS-I.E version 12" /B03/
- On site visit (07/09/2022 to 08/09/2022)
- Issuance of Draft Validation Report
- Resolution of CARs and CLs raised during verification
- Issuance of Final Validation Report.

The PA will result in emissions reductions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the PA is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the PA.

The validation did not reveal any information that indicates that the PA can be seen as a diversion of ODA funding /19/.

The PDD /01/ contains monitoring plan for the monitoring of the emission reductions from the PA. The monitoring arrangement described in the monitoring plan is feasible within the project design and its CCIPL's opinion that the project participants are able to implement the monitoring plan.

Carbon Check (India) Private Ltd. concludes the validation with a positive opinion that the GS PA "Implementation of clean energy technology in rural areas of India-1", as described in the PDD /01/, meets all applicable CDM/GS requirements, including those specified in the CDM Project Standard for PA /B03/, GS4GG PA requirement /B01/ relevant methodology /B02/ and article 12 of the Kyoto Protocol, paragraph 37 of the CDM modalities and procedures and the subsequent decisions by the COP/MOP and CDM Executive Board.


Carbon Check (India) Private Ltd., therefore, requests the registration of the project activity as a GS PA with Gold Standard.

Appendix 1.Abbreviations

Abbreviations	Full Texts
BE	Baseline Emission
CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd.
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction
CER	Certified Emission Reduction
CL	Clarification Request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
COP/MOP	Conference of Parties/ Meeting of Parties
DNA	Designated National Authority
DR	Document Review
EB	Executive Board
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas
GS	Gold Standard
GS4GG	Gold Standard for global goals
GWh	Giga Watt Hours
I	Interview
IPCC	Intergovernmental Panel on Climate Change
kW	Kilo Watt
kWh	Kilo Watt Hours
LE _y	Leakage
LoA	Letter of Approval
LSC	Local Stakeholder Consultation
LS	Local Stakeholder
MoV	Means of Validation
MOC	Modalities of Communications
NA	Not applicable
NGO	Non-Government Organisation
ODA	Official Development Assistance
OSV	On Site Visit
PE	Project Emission
PA	Project Activity
PDD	Project Design Document

PP	Project Participant
PS	Project Standard
PCP	Project Cycle Procedure
SD	Sustainable Development
T	Tonne
UNFCCC	United Nations Framework Convention on Climate Change
VPA	Voluntary Project Activity
VVS	Validation and Verification Standard
VVB	Validation and Verification Body

Appendix 2. Competence of team member and technical reviewers



Carbon
CHECK

Carbon Check (India) Private Ltd.

Ms. Pallavi Gedam

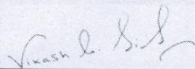
has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

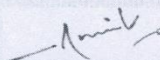
Validator **Team Leader** **Technical reviewer**
Verifier **Technical Expert** **Local Assessor¹**

In the following Technical Areas:

TA 1.1	<input type="checkbox"/>	TA 4.1	<input type="checkbox"/>	TA 9.1	<input type="checkbox"/>	TA 13.1	<input type="checkbox"/>
TA 1.2	<input checked="" type="checkbox"/>	TA 5.1	<input type="checkbox"/>	TA 9.2	<input type="checkbox"/>	TA 13.2	<input type="checkbox"/>
TA 3.1	<input checked="" type="checkbox"/>	TA 5.2	<input type="checkbox"/>	TA 10.1	<input type="checkbox"/>	TA 14.1	<input type="checkbox"/>



Mr. Vikash Kumar Singh
Compliance Officer



Mr. Amit Anand
CEO

Date of Approval
29/11/2021

Valid Till
28/11/2022

Revision History of the Document

01/03/2020 ² 01/09/2020 24/12/2020 29/11/2021	Interim Revision for office address change Interim Revision for CCIPL logo change Annual Revision Revision in response to qualification as Team Leader and Technical Expert
---	--

¹ India

² Please refer to previous version of competency certificates for the revision history.

CARBON CHECK (INDIA) PRIVATE LIMITED
CIN: U74930DL2012PTC232495
Regd. Off: 2071/38, 2nd Floor, Naiwala, Karol Bagh, New Delhi - 110005
Corporate off: Unit No. 1701, Logix City Centre Office Tower, Plot No. BW-58, Sector-32 Noida, Uttar Pradesh
Tel: +91 120 4373114 | **URL:** www.carboncheck.co.in | **e-mail:** info@carboncheck.co.in



Carbon Check (India) Private Ltd.

Vikash Kumar Singh

has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

Validator Team Leader Technical reviewer
Verifier Technical Expert Local Assessor¹

In the following Technical Areas:

TA 1.1 TA 4.1 TA 9.1 TA 13.1
TA 1.2 TA 5.1 TA 9.2 TA 13.2
TA 3.1 TA 5.2 TA 10.1 TA 14.1

Mr. Amit Anand
CEO

Date of Approval
24/12/2021

Valid Till
23/12/2022

Revision History of the Document

01/03/2020²
01/09/2020
24/12/2020
24/12/2021

Interim Revision for office address change
Interim Revision for CCIPL logo change
Annual Revision
Annual Revision

¹ India, South Africa, Spanish speaking countries

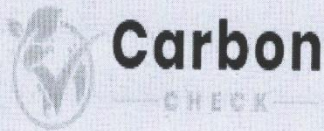
² Please refer to previous version of competency certificates for the revision history.

CARBON CHECK (INDIA) PRIVATE LIMITED

CIN: U74930DL2012PTC232495

Regd. Off: 2071/38, 2nd Floor, Naiwala, Karol Bagh, New Delhi - 110005

Corporate off: Unit No. 1701, Logix City Centre Office Tower, Plot No. BW-58, Sector-32 Noida, Uttar Pradesh
Tel: +91 120 4373114 | URL: www.carboncheck.co.in | e-mail: info@carboncheck.co.in



Carbon Check (India) Private Ltd.

Ms. Indumathi. C

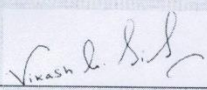
has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

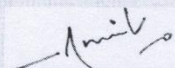
For following functions:

Validator Team Leader Technical reviewer
Verifier Technical Expert Local Assessor¹

In the following Technical Areas:

TA 1.1 TA 4.1 TA 9.1 TA 13.1
TA 1.2 TA 5.1 TA 9.2 TA 13.2
TA 3.1 TA 5.2 TA 10.1 TA 14.1


Mr. Vikash Kumar Singh
Compliance Officer


Mr. Amit Anand
CEO

Date of Approval
24/12/2021

Valid Till
23/12/2022

Revision History of the Document

01/03/2020 ²	Interim Revision for office address change
01/09/2020	Interim Revision for CCIPL logo change
24/12/2020	Annual Revision
24/12/2021	Annual Revision

¹ India.

² Please refer to previous version of competency certificates for the revision history.

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Appendix 3. Documents reviewed or referenced

S. No.	Document
/01/	GS PDD for the project activity 1. Implementation of clean energy technology in rural areas of India-1 dated 10/05/2022 2. Implementation of clean energy technology in rural areas of India-1 dated 22/02/2023
/02/	<ul style="list-style-type: none"> •Emission reduction calculation spread sheet correspond to /01-1/ •Emission reduction calculation spread sheet correspond to /01-2/
/03/	Technical specification of the biogas Deenbandhu model
/04/	GS11655_GS4GG _Preliminary Review
/05/	Project activity data base
/06/	Evidence for the start date of the project activity
/07/	Company registration certificate from the PP
/08/	Proof of right of relinquishment of VERs from the end users of the biogas plant
/09/	Tri-party agreement between Greneity Infocom Service Pvt Ltd, Green Mission Welfare Society and end user for funding and right transfer.
/10/	Baseline survey report conducted by environment and Energy Management Group, Bhopal Dated: 14/05/2021
/11/	Baseline Sample survey records and survey questionnaires
/12/	Project database
/13/	HR employment records (contractual and permanent)
/14/	Training Records of project staff at site
/15/	Local stakeholders Consultation; <ul style="list-style-type: none"> •Minutes of local stake holder consultation process •Invitation to stakeholders •Email Invitation to stakeholders •Attendance sheet of LSC •LSC evaluation forms •Photos Non-technical description
/16/	Stakeholder Consultation Report
/17/	Procedure for Grievance Mechanism
/18/	Monitoring survey scanned forms and survey data sheet
/19/	Declaration for non-receiving of ODA for project
/20/	Declaration from the project proponent that the project is not creating any other form of environmental credit under any specific program.
/21/	Declaration from the project proponent that the project has not or shall not claim carbon credits any other scheme after Registration of the project under GS.
/22/	Declaration on double counting, target group and distribution mechanism.
/23/	Commissioning Certificate by Green Mission Welfare Society
/24/	Evidence for unique identification of the digester.
/25/	Purchase order issued to the bio gas stove supplier dated 01/06/2021

Background documents

S. No.	Document
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/B01/	<ul style="list-style-type: none"> •GS4GG Principles & requirements version 1.2 •GS4GG Safeguarding principles & requirements version 1.2 •GS4GG Stakeholder-Consultation requirements version 1.2 •GS4GG Gender-Equality-Requirements-Guidelines version 1.1 •GS4GG Community Services Activity Requirements (version 1.2)
/B02/	<ul style="list-style-type: none"> •CDM VVS for PA (version 03.0) •CDM PS for PA (version 03.0) •CDM PCP for PA (version 03.0)
/B03/	<p>Applied baseline and monitoring methodologies and Tools</p> <ul style="list-style-type: none"> •AMS-I.E. Switch from non-renewable biomass for thermal applications by the user - Version 12 •Tool 30: Calculation of the fraction of non-renewable biomass, version 03.
/B04/	Site Visit And Remote Audit Requirements And Procedures version 1 dated 17/11/2021
/B05/	GS4GG Project of Activity requirements version 1.2
/B06/	GHG Emissions Reduction & Sequestration Product Requirements, version 2.1 dated 24/02/2022
/B07/	<ul style="list-style-type: none"> •Template Key Project Information & Project Design Document (PDD), version 1.2 dated 14/10/2020 •TEMPLATE GUIDE Key Project Information & Project Design Document v.1.2
/B08/	<ul style="list-style-type: none"> •“Standard for sampling and surveys for CDM project activities and programme of activities” (version 09.0) •Guidelines for sampling and surveys for CDM project activities and Programme of Activities (version 04)

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

Table 1. CARs from this validation

CAR ID	01	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, FAR#1 was raised by GS as follows: "PP shall supply supporting data for all parameters in time for validation/design review, or allocation may be delayed. This includes and is not limited to: ER spreadsheets, individual study calculations, survey results, study reports etc".				
PP response				Date: 20/09/2022
All the supporting documents are now submitted to the VVB				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
PP has provided the supporting documents, which have been checked and verified by the validation team. Hence, this CAR is closed.				
CAR ID	02	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, FAR#2 was raised by GS as follows: "PP shall provide the original versions of evaluation forms and 4-5 representative samples of the evaluation forms in English. PP shall ensure that the blind sustainable development assessment is conducted in the consultation meeting.".				
PP response				Date: 20/09/2022
Blind sustainable Development was conducted during physical stakeholders' consultations. All the attendees were asked the following:				
<ul style="list-style-type: none"> • Whether they have access to clean air post project activity • Whether they face indoor air pollution post project activity • Whether they will volunteer for the project activity • Whether the biogas plants are functioning well 				
To all the above questions stakeholder unanimously agreed and gave positive response. No negative comments were received. All stakeholders were appraised of the project. Also, local RET explained the process of free operation & maintenance throughout the project lifetime and its impact of climate change by reducing greenhouse gases during the meeting.				
Further, SDG parameters and its monitoring has been explained in the PDD version 02. Original versions along with translated forms are submitted				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
PP has conducted the blind sustainable development assessment in the consultation meeting, this has been checked and verified by the validation team. PP has provided the original versions of the evaluation forms and 4-5 representative samples. Hence, this CAR is closed.				
CAR ID	03	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, FAR#3 was raised by GS as follows: "The start date shall be justified in line with the definitions of the start date. For distributed technology projects only, the start date is defined as the implementation of the first unit under the project. The relevant evidence for the start date shall be provided at the time of validation. The VVB shall provide opinion on the same at the time of validation.".				

PP response	Date: 20/09/2022
The start date is in line with the definitions of the start date of GS4GG principles and requirements. The evidences of purchase order and triparty agreement has been provided to the VVB for validation	
Documentation provided by PP	
-	
VVB assessment	Date:10/10/2022
The start date of the PA is in line with definitions of the GS4GG principles and requirements. Evidence of purchase order and triparty agreement has been cross-checked and verified by the validation team. Hence, this CAR is closed.	

CAR ID	04	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, FAR#4 was raised by GS as follows: "The project activity is indicated to be a bundle of 11,085 household biogas plants located in Punjab state of India commissioned between 01st June 2021 and 30th June 2022, replacing inefficient woody biomass (firewood) based stove technology. Acknowledging the latest available 2011 Census of India and the data pertaining to 'PERCENTAGE OF HOUSEHOLDS BY AVAILABILITY OF FUEL USED FOR COOKING for (rural) households in Punjab significant source of fuel is indicated as LPG/PNG, cow dung cake and crop residue apart from some portion as firewood at 17.03%. PP to clarify as to how the same is taken into account and VVB to provide their assessment on the baseline fuel."				
PP response				Date: 20/09/2022
The baseline study, was carried out by the third party in 2021. As per the primary survey conducted in the targeted households of Punjab, it is evident that 100% of the targeted households included in the project activity, utilizes firewood as the baseline fuel owing to its easy availability. Sample of Survey details are provided to VVB. Also, the survey questionnaire is in line with the sampled questionnaire provided in methodology AMS IE version 12, Appendix 2. Questionnaire provides various options of the baseline fuel to choose from along with its reasons. Please refer Section C of the sampled questionnaire where same is mentioned to seek responses for other fuel types (depending upon actual usage which can be any of the option including crop residue, cow-dung, etc.). The survey questionnaires give the users various options from the fuel sections to choose from as per their preferences and the reasons for the consideration it as their primary fuel. Hence, firewood is established as the baseline fuel in targeted population of Punjab. Therefore, it can be concluded that Firewood is the baseline fuel in the targeted population of Punjab. Baseline results/survey documents is submitted to VVB. PP has estimated the baseline fuel based on the methodology requirement -AMS IE version 12, pg11- Where it states that in Box 3. Non-binding best practice example 3- When estimating By using options (a) and (b) in paragraph 29, project participants should conduct a survey to determine the usage of different fuels/stoves by end-users in the project area before the start of the project activity and at the renewal of each crediting period, as per Appendix 2 of this document. As stated above, third party primary survey was conducted to assess the baseline fuel and questionnaire framed was in accordance to the Appendix 2 of the methodology applied (AMS I E). Hence, firewood as the baseline fuel in the Punjab project area has been established.				
Documentation provided by PP				
-				
VVB assessment				Date: 10/10/2022
The verification team has cross-checked and verified the baseline study carried out by third party. Based on the onsite visit and the document review it can be established that firewood is the baseline fuel in the targeted population of Punjab. Hence, this CAR is closed.				

CAR ID	05	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, FAR#5 was raised by GS as follows: "The example of carbon title waiver and agreement between project developer and project				

implementer shall be validated by VVB”.	
PP response	Date: 20/09/2022
The commission certificate between the project implementer and end user along with the end user agreement between project developer and project implementer is submitted to the VVB.	
Documentation provided by PP	
VVB assessment	Date: 10/10/2022
PP has provided the commission certificate between the project implementer and end user along with the end user agreement between project developer and project implementer, which has been verified by the validation team. Hence, this CAR is closed.	

CAR ID	06	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, FAR#6 was raised by GS as follows: “As per Principles and Requirements paragraph 4.1.49, retroactive projects are supposed to provide evidence of prior consideration. PD to clarify how the project meets the requirement of this paragraph and produce evidence which shall be validated by the VVB”.				
PP response				Date: 20/09/2022
PP has revised the PDD version 02. Now the information related to the prior consideration is proved in the section B.5. of the PDD. The same is as follows; Start date of the project 01/06/2021 Final commissioning date 05/02/2022 Time of first Submission to GS 10/05/2022 SCR meeting date 05/06/2022 Initiation of SFR 10/05/2022				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
PP has provided the revised PD, which has been verified by the validation team. The revised PD now details the timelines related to the project activity. VVB has cross verified the same with the following evidences.				
Events	Date	Evidences verified		
Tri-party Agreement between PP, Implementing partner and End user	15/05/2021	Agreement copy		
Purchase order placed for biogas challahs (Start date of the project)	01/06/2021	Purchase order copy		
First unit commissioning	10/06/2021	Commissioning certificate cross verified with database		
Final Commissioning date	05/02/2022	Commissioning certificate cross verified with database		
Date of first submission to GS	10/05/2022	Screenshot of the SC app		
Date of initiation of SFR	10/05/2022	Invitation e-mail copy		
End date of SFR	10/07/2022	Invitation e-mail copy		
Date of Listing	25/07/2022	Sustain cert mail		
VVB appointment date	08/08/2022	Contract copy		
Hence, this CAR is closed.				

CAR ID	07	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, FAR#7 was raised by GS as follows: “PDD to provide timeline of project activities from start”.				

PP response	Date: 20/09/2022
<p>PP has revised the PDD version 02. Now the information related to the prior consideration is proved in the section B.5. of the PDD. The same is as follows; Start date of the project 01/06/2021 Final commissioning date 05/02/2022 Time of first Submission to GS 10/05/2022 SCR meeting date 05/06/2022 Initiation of SFR 10/05/2022</p>	
Documentation provided by PP	
VVB assessment	Date: 10/10/2022
<p>PP has provided the revised PD, which has been verified by the validation team. Hence, this CAR is closed.</p>	

CAR ID	08	Section no.	PDD	Date: 19/09/2022
Description of CAR				
<p>During the preliminary review of the PDD, CAR#1 was raised by GS as follows: “As the Project Area overlaps with that of several other Gold Standard or other voluntary and compliance standard programmes of a similar nature, the PD shall confirm that the project is not registered with any other voluntary or compliance schemes. Demonstrate that no potential for double counting of impacts if the Project Area overlaps with that of another Gold Standard or other voluntary or compliance standard programme of a similar nature”.</p>				
PP response				Date: 20/09/2022
<p>Each of the bio digesters involved in the project activity has designated Unique Identification number which was cross checked during validation/verification site visit also. Further, an undertaking has been provided by the PP stating the that the project is not registered with any other voluntary or compliance schemes .</p>				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
<p>PP has provided the supporting documents which have been verified by the validation team. Hence this CAR is closed.</p>				

CAR ID	09	Section no.	PDD	Date: 19/09/2022
Description of CAR				
<p>During the preliminary review of the PDD, CAR#3 was raised by GS as follows: “Demonstrate the activity is NOT located in a host country, region, locality or state that has an emission reduction cap enforced OR has the possibility to trade emissions that include the scope of the proposed project”.</p>				
PP response				Date: 20/09/2022
<p>In the host country where the project is located there is no host country, region, locality or state that has an emission reduction cap enforced. However, if in future any such mechanism is enforce; then the project proponent adheres to the rules and regulations enforced.</p>				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
<p>PP has demonstrated that activity is not located in a host country, region, locality, or state that has an emission reduction cap enforced OR has the possibility to trade emissions that include the scope of the proposed project. Hence, this CAR is closed.</p>				

CAR ID	10	Section no.	PDD	Date: 19/09/2022
Description of CAR				
<p>During the preliminary review of the PDD, CAR#4 was raised by GS as follows: “Demonstrate that the project is in compliance with applicable Host Country’s legal, environmental, ecological and social regulations”</p>				

PP response	Date: 20/09/2022
Project Owner has voluntarily implemented the project activity and there is no legal, environmental, ecological and social regulations /law that mandatorily enforces the implementation of the project activity or there are no other law/regulations that prevents the project owner to set up the project activity. Hence, project activity is in compliance with applicable Host Country's legal, environmental, ecological and social regulations. The same is mentioned in Section A.1.1. of the PDD version 02	
Documentation provided by PP	
VVB assessment	Date: 10/10/2022
PP has demonstrated that that the project is in compliance with applicable Host Country's legal, environmental, ecological and social regulations. Hence, this CAR is closed.	

CAR ID	11	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, CAR#5 was raised by GS as follows: "Please complete continuous grievance mechanism in PDD".				
PP response				Date: 20/09/2022
The PDD has revised. The revised PDD version 02 now covers the complete continuous grievance mechanism				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
PP has provided the revised PDD, which has been verified by the validation team. Hence, this CAR is closed.				

CAR ID	12	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the VPA, CAR#6 was raised by GS as follows: "PD to expound on how the project ensures that the safeguarding principle 6.1 Labour Rights is adhered to considering that the project is implemented by technicians and maintenance team who might be employed by a project representative/participant who is not project developer.".				
PP response				Date: 20/09/2022
Most of the technicians and maintenance team staff has been employed by the project developer and has one field representative, who ensures that the each of the staff employed in the project activity has adhered to the requirements of safeguarding principle 6.1 Labour Rights				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
PP has described how the project activity has adhered to the requirements of safeguarding principle 6.1 Labour Rights. PP has provided salary slip of an employee as an evidence, which has been verified by the validation team. Hence, this CAR is closed.				

CAR ID	13	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, CAR#7 was raised by GS as follows: "The PDD is missing data /parameter table 10 and 18".				
PP response				Date: 20/09/2022
Parameter 10 of AMS I E, version 12- "Date of commissioning of project device of type I" Since project activity is retroactive wherein all the 11,085 plants are already commissioned and PP has no plans to further add any other plants during the project duration. Hence, this parameter has not been considered for monitoring and thereby same is not given in the PDD version 2 Parameter 18 of AMS I E, version 12- <i>HGp,y,i</i> - Quantity of thermal energy generated by the new renewable energy technology i in the project in year y Applicable if the option from paragraph 29(d) above is chosen for baseline calculations, however, PP				

has chosen 29 (a) for baseline calculation. Hence, this is not applicable.	
Documentation provided by PP	
VVB assessment	Date: 10/10/2022
PP has justified the omission of Parameter 10 and Parameter 18 of the applied methodology AMS I E, version 12. The justification is deemed acceptable by the verification team. Hence, this CAR is closed.	

CAR ID	14	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the VPA, CAR#8 was raised by GS as follows: “In section B.6.1 of the PDD, B_y = Quantity of woody biomass that is substituted or displaced in tonnes, makes reference to paragraph 27 (a) of the methodology, the PDD should update and refer to the correct paragraph of the methodology”.				
PP response				Date: 20/09/2022
Section B.6.1 of the PDD version 02 has been revised				
Documentation provided by PP				
VVB assessment				
				Date: 10/10/2022
PP has provided the revised PDD, which has been verified by the validation team. Hence, this CAR is closed.				

CAR ID	15	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, CAR#8 was raised by GS as follows: “PD to complete the SDG tool by filling all the required cells D58:E64, H58:I64, L58:M64 and O58:Q64”.				
PP response				Date: 20/09/2022
SDG tool has been updated				
Documentation provided by PP				
VVB assessment				
				Date: 10/10/2022
PP has updated the SDG tool to fill all required cells D58:E64, H58:I64, L58:M64 and O58:Q64. Hence, this CAR is closed.				

CAR ID	16	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, CAR#9 was raised by GS as follows: “Please clarify whether transfer of carbon rights from the use of project stoves has been transparently discussed during local stakeholder consultations. Evidence of the same to be availed to VVB during validation”.				
PP response				Date: 20/09/2022
Evaluation forms distributed during stakeholder consultation round provides the option to the attendees to provide their feedback on carbon rights transfer on their own willingness after being briefed during the meeting about the same. Sample evaluation forms are submitted				
Documentation provided by PP				
VVB assessment				
				Date: 10/10/2022
PP has clarified whether transfer of carbon rights from the use of project stoves has been transparently discussed during local stakeholder consultations. Evaluation forms have been provided as evidence, which have been verified by the validation team. Hence, this CAR is closed.				

CAR ID	17	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, CAR#10 was raised by GS as follows:				

“Please submit the appropriate evidence of the Project Start Date and the basis of crediting period start date.”	
PP response	Date: 20/09/2022
The start date is in line with the definitions of the start date of GS4GG principles and requirements. The evidences of purchase order and triparty agreement has been provided to the VVB for validation. For the retroactive projects, crediting period starts 2 years prior to the date of registration and therefore same has been considered	
Documentation provided by PP	
VVB assessment	Date: 10/10/2022
PP has provided evidence of Project start date and basis of crediting period start date, which has been verified by the validation team. Hence, this CAR is closed.	

CAR ID	18	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, CAR#11 was raised by GS as follows: “All the attendees of LSC meeting shall be invited for further feedback/comment during SFR.”				
PP response				Date: 20/09/2022
Project documentation was provided in the local panchayat office for the local people. Same was informed to all the attendees during meeting to provide their feedback on the project. Also, log book has been maintained in the local panchayat office where in local people can register their feedback/suggestion				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
PP has demonstrated that all the attendees of LSC meeting shall be invited for further feedback/comment during SFR. Hence, this CAR is closed.				

CAR ID	19	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, CAR#12 was raised by GS as follows: “All the safeguarding principles assessment shall be supported with evidence/references/expert’s opinion. The PP shall provide them for validation.”				
PP response				Date: 20/09/2022
The PDD has revised. The revised PDD version 02, appendix 1 now covers all the safeguarding principles assessment with evidence/references/expert’s opinion.				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
PP has provided the revised PD, which has been checked and verified by the validation team. Hence, this CAR is closed.				

CAR ID	20	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, CAR#13 was raised by GS as follows: “PP to clarify further the basis and representativeness of the annual fuelwood use cited as 5.35. PP should demonstrate the actual implementation of sampling approach to estimate the proportion of baseline fuels displaced and its compliance with the reliability requirements (i.e., confidence/precision) according to “Standard: Sampling and surveys for CDM project activities and programme of activities”. VVB to provide their assessment as to how the baseline fuel consumption has been checked and confirmed also with reference to other cross-checks.”				
PP response				Date: 20/09/2022
The kitchen performance test was performed in the sampled households to understand an average				

consumption of fuelwood usage per household. The survey results on household's fuel consumption are as follows:

Simple random sampling was adopted while performing the survey. Sampling was conducted according to "Standard: Sampling and surveys for CDM project activities and programme of activities". Wherein as per the guidelines provided by UNFCCC, for the representative sampling methods, sample size shall be chosen for a 90/10 precision (90% confidence interval and 10% margin of error) for parameter values used to determine emission reductions. 50% proportion has been considered and therefore 263 sample.

50% proportion has been considered and therefore 263 samples were obtained. However, to be on conservative side 300 samples were considered and to have adequate presentation from Punjab. Also, as per calculation below shows 300 sample size meets the relative precision

Calculator to check if the precision has been met or not after a sampling survey is conducted

Input	Value	Notes
Actual sample size	300	
Sample proportion	0.5000	
Standard error of the proportion	0.0289	
Precision associated with a proportion	0.0475	
Relative precision	9.5%	

Since, relative precision is under 10% hence sample size meets the criterion.

Documentation provided by PP

VVB assessment

Date: 10/10/2022

PP has submitted the sampling sheet inline with the sampling standard, this has been checked and verified by the validation team. Hence CAR is closed.

CAR ID	21	Section no.	PDD	Date: 19/09/2022
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Description of CAR

During the preliminary review of the PDD, CAR#14 was raised by GS as follows:
 "PP to provide the exact reference to the values used in the determination of fNRB, also noting that the values are inconsistent and incorrectly presented across the PDD. Further, the most recent available dataset is to be used for the determination of fNRB. VVB to provide their assessment as to how they have checked and confirmed the underlying values. VVB to provide their assessment on the same as to how it is in accordance with TOOL30."

PP response

Date: 20/09/2022

Value for the parameter -Extent of forest in sub-category i (ha) has been applied from latest report of Forest Survey of India,2019. However, for the other parameters data is applied from report of Forest Survey of India,2011. Since, these were the latest data publicly available from authenticated govt sources during time of Project development.

Parameter- Non-domestic wood consumption (Annual fuelwood consumption in household sector and consumption of wood in House construction, Furniture and Agriculture) is available latest in 2011 report and hence FSI,2011 report is used. Moreover, TOOL30 version 03 – "Calculation of the fraction of non-renewable biomass" -allows usage of different vintage parameters, however, the vintage of the data for certain parameters shall not be before year 2000. Therefore, fNRB calculated was in accordance

Documentation provided by PP

VVB assessment

Date: 10/10/2022

PP has submitted the revised PD, fNRB values are determined with the references and consistent through out the PD, this has been checked and verified by the validation team. Hence CAR is closed.

CAR ID	22	Section no.	PDD	Date: 19/09/2022
Description of CAR				
Title page of the PD indicates the section contained in the document. However, it is found that sections are incorrectly labelled. PP is requested not to alter the template as per the template filling guideline.				
PP response				Date: 20/09/2022
PP has corrected the same in PDD version 02.				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
PP has provided the revised PD. However, the title page is found to be consistent with the template. Hence, the CAR 22 is closed.				

CAR ID	23	Section no.	PDD	Date: 19/09/2022
Description of CAR				
In section A.1.1, PP needs to provide contact details of the PP Green mission welfare society along with legal registration details and documentation by the governing jurisdiction that proves that the entity owns the ownership of the credits gain by this project.				
PP response				Date: 20/09/2022
As per the PDD filling guidelines, Section A.1 and Section A1.1. VVB sn't require the contact details. However, cover letter submitted to Sustain Cert mentioning PP's details at the time of listing is submitted to the VVB. Section A.1.2 states that Greneity and Green mission welfare society has signed agreement where in Green mission has transferred carbon rights to the Greneity. Agreement copy has been submitted to VVB. Certificate of Incorporation of Greneity has already been submitted				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
PP has provided the agreement wherein Green Mission has transferred carbon rights to Greneity. The validation team has verified the evidence. Hence, this CAR is closed.				

CAR ID	24	Section no.	PDD	Date: 19/09/2022
Description of CAR				
Section E.1 states that " <i>stakeholder consultation is planned on 05/06/2022</i> ". PP is requested to provide the details of stakeholder consultation under <i>relevant</i> sections.				
PP response				Date: 20/09/202220/09/2022
PP has given a brief of this in section E.1 of PDD 02. Also, Detailed Stakeholder Consultation report is submitted				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
PP has provided the revised PDD E.1 and submitted the detailed stakeholder consultation report. The revision in the PDD found appropriate. Further, the stakeholders' consultation report is reviewed and found that the same is in line with the requirements. . Hence, this CAR 24 is closed.				

CAR ID	25	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, FAR#1 was raised by GS as follows: "VVB shall confirm if the physical meeting is conducted it should be in line with Gold Standard Stakeholder Consultation and Engagement Requirements."				
PP response				Date: 20/09/2022
Stakeholder consultation round was conducted on 5 th June,2022. The following stakeholders were invited to participate in the meeting though an email/personal invitations: (A) Local people. (C) Sarpanch (Local policymakers and representatives of local authorities)				

(D) National government officials or National Focal Point viz Designated National Authority (DNA)
 (E) Local non-governmental organizations (NGOs),
 (F) A Gold Standard representative at help@goldstandard.org
 (G) Relevant international Gold Standard NGO Supporters of Asia and all Gold Standard NGO Supporters located in India.

The same is provided in the Section B.1 of the SCR version 02.

Documentation provided by PP

VVB assessment **Date: 10/10/2022**

PP has provided the revised PDD, which has been verified by the validation team. Hence, this CAR is closed.

CAR ID	26	Section no.	PDD	Date: 19/09/2022
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Description of CAR

During the preliminary review of the PDD, FAR#2 was raised by GS as follows:
 "VVB to assess the funding aspect of the project activity."

PP response **Date: 20/09/2022**

Tri party agreement between, PP , Implementing party and End User regarding funding of the biogas plant has been submitted

Documentation provided by PP

VVB assessment **Date: 10/10/2022**

PP has provided the tri party agreement, which has been verified by the validation team. Hence, this CAR is closed.

CAR ID	27	Section no.	PDD	Date: 19/09/2022
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Description of CAR

During the preliminary review of the PDD, FAR#2 was raised by GS as follows:
 "VVB shall verify the survey results and whether it is acceptable, or any other additional literature source is needed to validate".

PP response **Date:**

Documentation provided by PP

VVB assessment **Date: 10/10/2022**

The validation team has verified the survey results and found them acceptable. Hence, this CAR is closed.

CAR ID	28	Section no.	PDD	Date: 19/09/2022
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Description of CAR

During the preliminary review of the PDD, FAR#2 was raised by GS as follows:
 "VVB to review prior consideration documentation and evidence and provide an opinion on the same."

PP response **Date:**

Documentation provided by PP

VVB assessment **Date: 10/10/2022**

The validation team has reviewed the prior consideration documentation and evidence and found it acceptable. Hence this CAR is closed.

Table 2.CLs from this validation

CL ID	01	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, CL#1 was raised by GS as follows: "Please clarify and indicate the number of biogas and/or the number of households as contribution towards SDG 7".				
PP response				Date: 20/09/2022
Section B.6.2 of the PDD version 02 has been revised. The revised PDD version 02 now covers the above.				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
PP has provided the revised PDD, which has been verified by the validation team. Hence this CL is closed.				
CL ID	02	Section no.	PDD	Date: 19/09/2022
Description of CAR				
During the preliminary review of the PDD, CL#2 was raised by GS as follows: "Demonstrate that the project is in compliance with applicable Host Country's legal, environmental, ecological and social regulations."				
PP response				Date: 20/09/2022
Project Owner has voluntarily implemented the project activity and there is no legal, environmental, ecological and social regulations /law that mandatorily enforces the implementation of the project activity or there are no other law/regulations that prevents the project owner to set up the project activity. Hence, project activity is in compliance with applicable Host Country's legal, environmental, ecological and social regulations. The same is mentioned in Section A.1.1. of the PDD version 02.				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
PP has provided the revised PDD, which has been verified by the validation team. Hence this CL is closed.				
CL ID	03	Section no.	PDD	Date: 19/09/2022
Description of CAR				
1. Table 1 under 'Key Project Information' describes SDGs targeted. Estimated annual average for SDG 7 'Affordable and clean energy' is indicated as 100%. However, the applied value for SDG 7 VVB s not match the same in the SDG impact sheet. 2. Similarly, after reviewing the PD it is found that Baseline value for SDG 3 'Good health and wellbeing' is not demonstrated in the SDGs impact sheet. Clarification in requested.				
PP response				Date: 20/09/2022
1. Table 1 of the PDD version 02 has been revised along with SDG impact Tool version 02 2. SDG impact tool version 02 has been revised				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
1.PP has provided the revised PDD, which has been verified by the validation team. Hence this CL is closed. 2.PP has provided the revised SDG impact tool, which has been verified by the validation team. Hence this CL is closed.				

CL ID	04	Section no.	PDD	Date: 19/09/2022
Description of CAR				
In section B.6, most relevant SDG target corresponding to SDG 8 is indicated as SDG target 8.5.2. However as per the SDG impact sheet , the same is indicated as 8.5. PP needs to clarify regarding this discrepancy.				
PP response				Date: 20/09/2022
PDD version 02 has been revised				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
PP has provided the revised PDD, which has been verified by the validation team. Hence this CL is closed				

CL ID	05	Section no.	PDD	Date: 19/09/2022
Description of CAR				
In section B.6.1 the value of Renewable Biomass (RB) is indicated as 128,500 000. Clarification is requested.				
PP response				Date: 20/09/2022
Section B.6.1 of the PDD version 02 has been revised				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
PP has provided the revised PDD, which has been verified by the validation team. Hence this CL is closed.				

CL ID	06	Section no.	PDD	Date: 19/09/2022
Description of CAR				
In section B.6.4, total net benefit is calculated incorrectly. PP needs to clarify regarding this discrepancy.				
PP response				Date: 20/09/2022
PP has corrected the same in PDD version 02				
Documentation provided by PP				
VVB assessment				Date: 10/10/2022
PP has provided the revised PDD, which has been verified by the validation team. Hence this CL is closed.				

Appendix 5: SAFEGUARDING PRINCIPLES & REQUIREMENTS

Assessment Questions/ Requirements	Justification of Relevance (Yes/potentially/no)	How Project will achieve Requirements through design, management or risk mitigation.	Mitigation Measures added to the Monitoring Plan (if required)	VVB Assessment
Principle 1. Human Rights				
<p>1.The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights</p> <p>2.The Project shall not discriminate with regards to participation and inclusion</p>	No	<p>1.The Project is not in conflict with the economic livelihood or other issue of the local community. Thus, the Project VVB s not cause any human rights abuse and respects internationally proclaimed human rights issue.</p> <p>2.Project activities are not expected to cause any human rights abuse. As a member of United Nations and part of UN Agreement on Human Rights, it is ensured by law in India that no action can be taken against human rights.</p>	Not required	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the onsite visit audit to confirm the same.
Principle 2. Gender Equality				
1.The Project	No	1. The project is	Not	The project directly

<p>shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women</p> <p>2. Projects shall apply the principles of nondiscrimination, equal treatment, and equal pay for equal work</p> <p>3. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks</p> <p>4. (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)</p>		<p>implemented at households. It VVB s not involve any women workforce which may lead to sexual harassment.</p> <p>The project VVB s not restrict of women's rights or access to resources. The project recognizes women's ownership rights regardless of marital status.</p> <p>2. Yes. The project involves construction of biogas digesters at households. Trained labors are used for the same. Local people are engaged for the same. No discrimination either in gender or any other form is followed to engage local people.</p> <p>3. India ratified the International Convention on the Elimination of All Forms of Racial Discrimination on 03/12/1968 with certain reservation. The project activity is in line with</p>	<p>required</p>	<p>benefits to women and women's rights. The project directly contributes towards the national mission for empowerment of women through improvement of health and attaining vision for empowerment of women under national policy for women 2016 (Women participation will be ensured in the efficient use and spreading the use of solar energy, biogas, smokeless chulas and other technological applications to have positive influence on their life styles and a long term impact on meeting sustainable development goals). In summary, the project takes care of gender equality and women rights.</p>
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		<p>strategy of elimination of discrimination.</p> <p>4. Summary of opinions and recommendations of an Expert Stakeholder is required in case of Gender responsive project activity which is not the case for the project activity.</p>		
Principle 3. Community Health, Safety and Working Conditions				
<p>1.The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community</p>	No	<p>The project leads to safe working condition and improvement in health as it will replace firewood as fuel with biogas which is clean and safe. All the participants/staffs are well trained and are well aware of the in operational and maintenance issues as well as health & safety related topics.</p>	Not required	<p>The project biogas system VVB s not involve any hazardous material during construction and its operation. With the biogas system, users have access to cleaner fuel compared to firewood. In addition, firewood based cooking system has high indoor air pollution and a risk to fire-hazard. In comparison to that, biogas is clean smokeless fuel, and due to its maintained pressure, there is no risk of any fire hazard or accident from the project activity. Hence, the project only leads to safe working conditions and improved in health of end users. The parameter 'Improvement in health and decrease in illnesses' under this principle shall be</p>

				monitored by PP at least once in two years.
Principle 4.1 Sites of Cultural and Historical Heritage				
VVB s the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture?	No	The project area covers households which VVB s not have any structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture. No cultural heritage/ indigenous people are replaced by the project. Hence, not applicable.	Not required	The project is implemented in existing households where the fire-wood usage is replaced with biogas as fuel. This VVB s not involve any damage to cultural heritage or displacement and resettlement and rights of indigenous people. The project activity takes place in households. Hence, this parameter is safeguarded by the project activity.
Principle 4.2 Forced Eviction and Displacement				
VVB s the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	The project activity takes place within individual households. Therefore, no relocation of people takes place.	Not required	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the onsite visit audit to confirm the same.
Principle 4.3 Land Tenure and Other Rights				
VVB s the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership? For Projects	No	There are no uncertainties regarding land tenure, access rights, usage rights or land ownership. The biogas digesters are developed for the	Not required	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the onsite visit audit to

involving land use tenure, are there any uncertainties with regards to land tenure, access rights, usage rights or land ownership?		users and will belongs to them. They will have the all the rights to use and maintain the same.		confirm the same.
Principle 4.4 - Indigenous people				
Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples?	No	No. The project involves household biogas digesters in the state of Punjab, India. Therefore, it VVB s not involve any negative influence towards indigenous people	Not required	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/employee and stakeholders were interviewed during the onsite visit audit to confirm the same.
Principle 5. Corruption				
1.The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	No	Project activity is an installation of biogas digesters at households in the state of Punjab, India and VVB s not contribute to or reinforce corruption of any kind. Indulgence in corruption is an illegal activity in the host country and the local labor compliance takes into account of the same. PP VVB s not involve and is not complicit in any kind of corruption. India has ratified UN convention against	Not required	The project involves installation of household biogas plants in rural households which VVB s not require any specific permit or approval from any authority. The end users as owner of biogas system is taking part in the project activity with agreement to project developer to share benefits from the project to be developed as GS project. Once, commissioned the system runs successfully upto its lifetime with proper maintenance. Greneity has agreed for regular operation and maintenance of each project biogas system as confirmed during

		Corruption in 2011.		onsite visit and interview with end users. Therefore, the project VVB s not have any scope for corruption or corrupt practice. The principle is safeguarded by the project activity.
Principle 6.1 Labour Rights				
3. The Project Developer shall ensure that all employment is in compliance with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions	No	1.The project proponent is committed to the employee's workplace health & safety during all phases of the project. All employees will attend health & safety trainings. This is issued in the Labour code on Occupational Safety, Health and Working Conditions and UN Agreement on Human Rights .	Not required	Labour rights & negative economic consequences: The project is not labour intensive as it VVB sn't involve major construction works, employing labours is not within the scope of the project. Trained RETs with the help of trained technical staff construct biogas system and once commissioned, only periodic maintenance is needed which is done by trained technical personnel. Therefore, there is no forced labour or child labour involved in the project activity. India (host country) has set of rules and acts in place for the protection of labour and employee. Therefore, the safeguarding principle under discussion will not have negative impact.
4. Workers shall be able to establish and join labour organisations		2.The project respects fundamental right of employee. There is law in India since 1926 by The Trade Unions Act, 1926 which protects rights of industrial trade unions and their members. PP and appointed contractors will not involve in any form of forced or compulsory labor. India has ratified		
5. Working agreements with all individual workers shall be documented and implemented and include: a)Working hours (must not				

<p>exceed 48 hours per week on a regular basis), AND</p> <p>b)Duties and tasks, AND</p> <p>c)Remuneration (must include provision for payment of overtime), AND</p> <p>d)Modalities on health insurance, AND</p> <p>e)Modalities on termination of the contract with provision for voluntary resignation by employee, AND</p> <p>f)Provision for annual leave of not less than 10 days per year, not including sick and casual leave.</p> <p>6. No child labour is allowed (Exceptions for children</p>		<p>ILO “C029 – Forced Labor Convention” .</p> <p>3.PP and their subcontractors complying with all relevant national laws regarding child labor. PP will not employ children in any shape or form for their works. India has ratified ILO “C138 – Minimum Age Conventions” and “C182 – Worst Forms of Child Labor Convention” .</p> <p>4. PP and their subcontractors complying with all relevant national laws regarding child labor. PP will not employ children in any shape or form for their works. India has ratified ILO “C138 – Minimum Age Conventions” and “C182 – Worst Forms of Child Labor Convention” .</p> <p>5.The project owner is committed to the safe and healthy working conditions all phases of the project. All employees will attend trainings health & safety.</p>		
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<p>working on their families' property requires an Expert Stakeholder opinion)</p> <p>7. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures</p>		<p>This issue is protected by Labor code and UN Agreement on Human Rights .</p>		
<p>Principle 6.2 Negative Economic Consequences</p>				
<p>1. VVB s the project cause negative economic consequences during and after project implementation?</p>	<p>No</p>	<p>The project has lifetime of 20 years and expected to run beyond the project certification period. With carbon finance it is further strengthen to operate 100% project systems with continuous maintenance. Thus, there is no negative economic consequences during and after project</p>	<p>Not required</p>	<p>The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative/ employee and stakeholders were interviewed during the onsite visit audit to confirm the same.</p>

		implementation.		
Principle 7.1 Emissions				
Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	No. The project will replace firewood use with biogas. Hence, it will reduce greenhouse gas emissions over the Baseline Scenario.	Not required	The project being implementation of household biogas system replaces firewood which leads to overall emission reductions. The energy supply is not hampered compared to baseline.
Principle 7.2 Energy Supply				
Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	No. The project uses inhouse cattle dung only. Cow dung and other household waste shall be used as a feed source for the digesters. There is no use of Wood or Biomass in the project activity.	Not required	The justification provided by PP was foundadequate based on the sectoral expertise of validation team. Further PP representative/ employee and stakeholders were interviewed during the onsite visit audit to confirm the same
Principle 8.1 Impact on Natural Water Patterns/Flows				
Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	No	The project activity is installation of biogas digesters for energy generation to meet domestic requirements. Individual household-based biogas digesters are planned to be installed which are small in size and will not have any impact on the natural or pre-existing patter of water courses.	Not required	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative /employee and stakeholders were interviewed during the onsite visit audit to confirm the same.

Principle 8.2 Erosion and/or Water Body Instability				
Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? Is the Project's area of influence susceptible to excessive erosion and/or water body instability?	No	No. The risk of erosion is unlikely by the project.	Not required	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative /employee and stakeholders were interviewed during the onsite visit audit to confirm the same.
Principle 9.1 Landscape Modification and Soil				
VVB s the Project involve the use of land and soil for production of crops or other products?	No	The project will not involve use of land and soil for production of crops or other products.	Not required	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative /employee and stakeholders were interviewed during the onsite visit audit to confirm the same.
Principle 9.2 Vulnerability to Natural Disaster				
Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	No. The project happens at individual households. There is no activity which can affect adversely the natural system to cause earthquake, landslides, erosion, flooding, draught or other extreme climatic conditions.	Not required	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative /employee and stakeholders were interviewed during the onsite visit audit to confirm the same.
Principle 9.3 Genetic Resources				

Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	Not applicable. The project VVBs not involve any crop production or cultivation.	Not required	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative /employee and stakeholders were interviewed during the onsite visit audit to confirm the same.
Principle 9.4 Release of pollutants				
Could the Project potentially result in the release of pollutants to the environment?	No	The project activity is installation of biogas digesters for energy generation to meet domestic requirements. The project would lead to improving of indoor air pollution that occurs due to use of wood based chula's or cookstoves in the baseline. However, Bio Slurry is managed in appropriate manner as a manure. Beneficiaries using bio slurry on their land to improve soils fertility.	Not required	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative /employee and stakeholders were interviewed during the onsite visit audit to confirm the same.
Principle 9.5 Hazardous and Non-hazardous Waste				
Will the Project involve the	No	The project activity is	Not required	The project involves use of household biogas

<p>manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?</p>		<p>installation of biogas digesters for energy generation to meet domestic requirements. There are no hazardous waste generated due to the project. The slurry generated as part of the biodigester shall be used as fertilizer.</p>		<p>systems which VVB s not involve any landscape modification or leads to vulnerable natural disasters. It also VVB s not involve any manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials. It leads to negligible pollution (air pollution due to firing of firewood) compared to baseline scenario as the project technology replaces firewood consumption compared to baseline scenario. Hence, the principle is safeguarded by the project activity.</p>
Principle 9.6 Pesticides & Fertilisers				
<p>Will the Project involve the application of pesticides and/or fertilisers?</p>	<p>No</p>	<p>The project activity is installation of biogas digesters for energy generation to meet domestic requirements. There are no hazardous waste generated due to the project. The slurry generated as part of the biodigester shall be used as fertilizer.</p>	<p>Not required</p>	<p>The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative /employee and stakeholders were interviewed during the onsite visit audit to confirm the same.</p>
Principle 9.7 Harvesting of Forests				
<p>Will the Project involve the harvesting of forests?</p>	<p>No</p>	<p>Not applicable. The project happens at individual households.</p>	<p>Not required</p>	<p>The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP</p>

				representative /employee and stakeholders were interviewed during the onsite visit audit to confirm the same.
Principle 9.8 Food				
VVB s the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	Not applicable. The project activity is biogas digester installation happens at individual households.	Not required	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative /employee and stakeholders were interviewed during the onsite visit audit to confirm the same.
Principle 9.9 Animal husbandry				
Will the Project involve animal husbandry?	No	Not applicable. The project activity is biogas digester installation happens at individual households.	Not required	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative /employee and stakeholders were interviewed during the onsite visit audit to confirm the same.
Principle 9.10 High Conservation Value Areas and Critical Habitats				
VVB s the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No	Not applicable. The project activity is biogas digester installation happens at individual households.	Not required	The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative /employee and stakeholders were interviewed during the onsite visit audit to confirm the same.

Principle 9.11 Endangered Species				
<p>a. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)?</p> <p>b. VVB s the Project potentially impact other areas where endangered species may be present through transboundary affects?</p>	No	Not applicable. The project activity is biogas digester installation happens at individual households.	Not required	<p>The justification provided by PP was found adequate based on the sectoral expertise of validation team. Further PP representative /employee and stakeholders were interviewed during the onsite visit audit to confirm the same.</p>