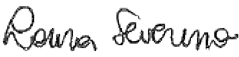




**Validation report form for post-registration changes for
GS project activities
(version 1.0)**

VALIDATION REPORT	
Title of the project activity	CTL Landfill Gas Project
GS Reference number of the project activity	12062
Process track	☒ Prior notification track ☐ Issuance track
Version number of the validation report	3.0Aa
Completion date of the validation report	12/03/2025
Type(s) of PRCs	☒ Corrections ☐ Changes to the start date of the crediting period ☒ Update and/or permanent changes to design certified monitoring plan ☒ Permanent changes to the project design ☐ Changes to PoAs and/or VPA
Version number of GS-PDD to which this report applies	version 12 of 11/03/2025
Project participants	EcoUrbis Ambiental S/A
Host Party	Brazil
Applied methodologies and standardized baselines	ACM0001, Flaring or use of landfill gas version 19 of 14/06/2019
Mandatory sectoral scopes	13 : Waste handling and disposal
Conditional sectoral scopes, if applicable	1: Energy industries (renewable - / non-renewable sources)
Name and UNFCCC reference number of the DOE	RINA Services S.p.A. (RINA)
Name, position and signature of the approver of the validation report	 Laura Severino (Authorized officer signing for the VVB) Decarb & Chain of Custody Product Management

SECTION A. Executive summary

>>>> General description and purpose of the project activity

Purpose and general description of the project

CTL Landfill Gas Project is a landfill gas collection and flare project in Brazil. The project's core idea is to avoid methane emissions from the landfill managed by EcoUrbis Ambiental S.A. in São Paulo municipality (in the state of São Paulo).

Before the Design changes, the project consists of two phases:

- Phase I: LFG capture and flaring and supplying LFG to a costumer through a dedicated pipeline, reducing uncontrolled release to atmosphere;
- Phase II: Generation of electricity from LFG. Part of the electricity will be used for self-consumption and the other part will be exported to the grid.

For the Design changes, it is excluded from the project activity the generation of electricity (not installed) and a supplying LFG to a new costumer through a dedicated pipeline is considered (new delivery point).

The LFG plant construction started in 19/07/2012 and the commissioning date considering Flare 1 operation is 01/04/2013. The commissioning date considering Flare 2 operation is 12/04/2013. The commissioning date considering Flare 3 operation is 06/12/2016. For the supply LFG to consumers through a dedicated pipeline, LFG supply to consumer 1: Since April 28th, 2014 /01/; LFG supply to consumer 2: Since March 1st, 2019 /01/ and LFG supply to consumer 3: Since April 12th, 2024 /29/

The GHG emission reductions were calculated on the basis of the approved methodology ACM0001, Flaring or use of landfill gas version 19 of 14/06/2019.

The project was validated in CDM by LRQA (validation report N° TCOCT100098_ECURB_C issued on 18/03/2012) /21/ and it was registered on 08/05/2012 under the CDM registration reference N° 5947. The second crediting period was validated by Earthood Services Private Limited, validation opinion v 2.0 of 05/10/2020 /23/. The gap validation from CDM to GS4GG was validated by Earthood Services Private Limited, validation report 2.0 of 29/01/2024 /27/; transition annex/GS PD version 5 of 27/01/2024, registered under GS ID 12062.

PP has provided a signed declaration that project will not claim VERs/CERs from the same vintage from Gold Standard (GS4GG) and Clean Development Mechanism (CDM) /32/. Moreover, PP has provided a signed declaration assuming the responsibility to monitor and act cases of double counting /33/.

Location

The project is installed at CTL Ecourbis Landfill, located at Av. Sapopemba, 22,254 – km 32, São Paulo (city), São Paulo (State), Brazil. The geographical coordinates are: 23° 37' 52.17" S and Longitude: 46° 25' 30.29" W), confirmed during the onsite visit.

Scope of validation

The scope of the Validation is to have an independent evaluation of a project activity by a VVB against the GS4GG requirements and principles /24/ and Design Changes Requirements /9/, on the basis of the PDD /2/. Validation is a requirement and it is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of VERs and sustainability development.

Validation process

Validation is conducted using RINA procedures in line with the GS4GG requirements and principles and applying standard auditing techniques. The validation assessment involved a document review of relevant documentation, the interview and/or on-site visit and the reporting. Validation is not meant to provide any consultancy towards the project participants. However, stated request for clarifications and/or corrective actions may have provided input for improvement of the project design.

Design Changes Requirements v 1.1 dated 14.04.2023 /9/ has been followed to validate the design change of an already registered project activity.

Conclusion

RINA Services S.p.A. (RINA), commissioned by EcoUrbis Ambiental S/A, is validating the design changes for the project activity “CTL Landfill Gas Project” in Brazil, GS Registration Reference N° 12062, with regard to the relevant requirements for GS activities.

In conclusion, it is RINA’s opinion that the project activity “CTL Landfill Gas Project” in Brazil, as described in the revised PD version 12 of 11/03/2025 /2/ meets all relevant requirements for GS activities and all relevant host Party criteria and correctly applies the baseline and monitoring methodology ACM0001, Flaring or use of landfill gas version 19 of 14/06/2019 /6/.

SECTION B. Validation team, technical reviewer and approver

>>

B.1. Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Verification findings
1.	Team Leader/ validator/ technical expert TA 1.1; 13.1	IR	Carvalho	Thaís	RINA Brazil	x	x	x	x
2.	Financial expert	IR	Rocha	Mayra	RINA Brazil	x			x

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

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IN	ERDOĞAN	Mehmet	RINA Türkiye
2.	Approver	IN	Severino	Laura	RINA Italy - HO

SECTION C. Means of validation

C.1. Desk/document review

>> The updated PDD version 12 of 11/03/2025 and previous versions /02/, in particular the applicability of the methodology, the additionality, baseline determination, the emission reduction calculations provided in the form of a spreadsheet 2024 10 04 - CTL GS VERs Spreadsheet v7.xlsx /7/, and the documents listed in the table 3 below, were reviewed during the validation.

C.2. On-site inspection

Duration of on-site inspection: 31/07/2024				
No.	Activity performed on-site	Site location	Date	Team member
1.	- Implementation and operation of the proposed project activity; - Baseline and Additionality - Emission reductions calculations - Interviewed key personnel of the plant to confirm the operational and data collection procedures; QA QC procedures - GS Sustainable Indicators - Local stakeholder consultation - Safeguarding Assessment - Compliance with legislation - Sustainable development criteria	CTL landfill	31/07/2024	Thaís Carvalho

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Sprovieri	João	BENG	31/07/2024	CERs calculation, monitoring of the project, data analysis, calibration	Thaís Carvalho
2.	Raimundo	Marcia	EcoUrbis Ambiental S/A	31/07/2024	Project implementation/ project design change, additionality; calibration, monitoring of the project, sustainable indicators	Thaís Carvalho
3.	Pereira	Rafael	EcoUrbis Ambiental S/A	31/07/2024	Project implementation/ project design change, calibration, monitoring of the project.	Thaís Carvalho
4.	Sousa	Marcelio	EcoUrbis Ambiental S/A	31/07/2024	Project implementation/ project design change, calibration, monitoring of the project.	Thaís Carvalho
5.	Gomes	Pedro Henrique	EcoUrbis Ambiental S/A	31/07/2024	Equipments installed, on site inspection	Thaís Carvalho
6.	Santaella	Maysa	EcoUrbis Ambiental S/A	31/07/2024	Monitoring of GS4GG SDG Parameters Grievance Mechanism	Thaís Carvalho
7.	Silva	Severino*	Stakeholder (Neighbour of Project Activity)	31/07/2024	stakeholder	Thaís Carvalho
8.	Alencar	Daiane*	Stakeholder (Neighbour of Project Activity)	31/07/2024	stakeholder	Thaís Carvalho
9.	Sousa	Carlos Eduardo*	Stakeholder (Neighbour of Project Activity)	31/07/2024	stakeholder	Thaís Carvalho
10.	Adolphi	Ruth*	EcoUrbis Ambiental S/A	31/07/2024	Human resources	Thaís Carvalho
11.	Martins	Jefferson	EcoUrbis Ambiental S/A	31/07/2024	Project implementation/ project design change-manager	Thaís Carvalho

* interview by phone

The project area was visited on 31/07/2024, combined with the verification onsite visit. The project employee were interviewed about the implementation status of the project, monitoring equipment and operation of the project activity. During on site the team had interviewed with stakeholders as described above and they have no complaints about the project. They are in a good relationship with the project's employees and also they declared positive opinions for the project activity. Landfill site and biogas facilities have been operated by EcoUrbis Ambiental S/A. RINA verified the logbook available at the entrance of the landfill and no comments are registered. Moreover, RINA verified the continuous input/grievance mechanism through interview with EcoUrbis personnel and stakeholders and also checked the EcoUrbis control of comments received. Most of the comments are received via WhatsApp and are related to the odour /34/.

C.4. Sampling approach

>> Not applicable

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

Areas of validation findings	No. of CR	No. of CAR	No. of FAR
Compliance with PDD form			
Description of project activity		1	
Corrections			
Changes to the start date of the crediting period			
Update and/or permanent changes to design certified monitoring plan	1		
Permanent changes to the project design	8		
Changes to PoAs and/or VPA			
Others (please specify)			
Total	9	1	-

SECTION D. Validation findings**D.1. Compliance with PDD form**

Means of validation	The title of the project activity is defined as “CTL Landfill Gas Project” in the revised PDD /2/ which is in line with the GS4GG Registry. The version and the completion date of the report are available at the cover page of the PDD. “GS4GG Project Design Document Template /8/, version 1.5, which is the version approved at validation.
Findings	N/A
Conclusion	RINA confirms that the PDD is based on the currently valid GS4GG Project Design Document Template /8/, version 1.5.

D.2. Description of project activity

Means of verification	RINA verified during the onsite audit, that only LFG capture and flaring and supplying LFG to a costumer through a dedicated pipeline, reducing uncontrolled release to atmosphere, is implemented. The main equipments installed are: • blowers (serial number-blower 1- 0612313-34764; blower 2-0612312-34764, blower 3- 0612311-34764; blower 4- 05146101-37494) and new blowers installed due to the project design change: 2377A091 and 2377A092; • 3 enclosed flares (Flare 107 and Flare 127 project number 9120943 and flare 147 serial number BF-9173240); • 2 backup diesel generators (serial number diesel generator 1: J12T025108; diesel generator 2- J12T025109); • Several collection wells, manifolds and transmission pipelines; • monitoring equipments (flow meters; gas analyzers, electricity meters and thermocouples); Commissioning of the plant was 01/04/2013, flare 1 started operation in 01/04/2013 and flare 2 started operation in 12/04/2013, and commissioning of flare 3 was on 06/02/2016, confirmed in the previous verification reports /22/ For the supply LFG to consumers through a dedicated pipeline, LFG supply to consumer 1: Since April 28th, 2014 /01/; LFG supply to consumer 2: Since March 1st, 2019 /01/ and LFG supply to consumer 3: Since April 12th, 2024 /29/ (the supply to consumer 3 is the subject of the current Design change validation) The generation of electricity from LFG has not been implemented and is excluded from the updated PD (current Design change validation). RINA verified that all the reference for the energy generation described in the registered PD was correctly revised/excluded in the updated PD /2/ .
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	RINA verified the environmental license applicable to the CTL landfill and biogas plant /28/ to operate the plant in accordance with the Environmental agency requirements (project location/address also confirmed). As per the registered PDD, the geographical coordinates information is in the environmental impact report (EIA) of the CTL landfill and was also confirmed in google Earth during the site visit. Moreover, revised PD also describes the renewal of the concession license on 13/06/2024, valid until 12/10/2044 /35/.
Findings	CAR 1 was raised and correctly closed. Refer to appendix.
Conclusion	Based on the onsite inspection and checking the above documents, RINA confirms that the project activity has been implemented and it is in operation as described above in accordance with the project activity in the revised PDD /2/.

D.3. Corrections

Means of validation	There is a correction in the TDL value reported in the revised PDD, due to a typo mistake. RINA verified the previous ex-ante spreadsheet (2022 10 CTL GS_VERs Spreadsheet v4 JAS(1).xlsx, dated 17/01/2024 /36/) that the TDL value considered is 26.3% and there was typo mistake in the registered PDD /1/. The PDD was revised to consider the correct value of 26.3% (no changes in the updated spreadsheet).
Findings	N/A
Conclusion	RINA verified that the correction is correctly described in the revised PDD.

D.4. Changes to the start date of the crediting period

Means of validation	N/A
Findings	N/A
Conclusion	N/A

D.5. Update and/or permanent changes to design certified monitoring plan

Means of validation	Due to the permanent changes to the project design design described below, the monitoring plan was updated to reflect the current project configuration. $EC_{PJ1,y} = EC_{EC1,y}$: (Quantity of electricity consumed from the grid by the project activity during the year y): updated the value used in the ex-ante estimative. $EG_{PJ,y} = EC_{BL,k,y}$ (Amount of electricity generated using LFG by the project activity in year y) this parameter was excluded, as no electricity generation is forecasted in the revised PD. $F_{CH4,NGy}$ (Amount of methane in the LFG which is sent to the costumer through a dedicated pipeline in year y): updated the value used in the ex-ante estimative Assessment of the sustainability parameters -Proposed Monitored Indicator- Related to SDG Target 7: Amount of methane selling to costumers through dedicated pipeline, updated the ex-ante estimative RINA verified that the values are correctly applied in the revised PD /02/ and spreadsheet /07/, in accordance with the new project design and in line with the applied methodology /06/. RINA verified that the considering the design chages the ex ante estimative for the emission reduction was correctly updated as follow:
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	Year	BEy (tCO ₂)	PEy (tCO ₂)	ERy (tCO ₂)
	From 01/04/2020	751,284	1,967	749,317
	2021	1,066,617	3,446	1,063,171
	2022	1,074,981	3,350	1,071,630
	2023	1,096,077	3,637	1,092,440
	2024	1,182,793	5,370	1,177,423
	Until 31/03/2025	294,765	1,321	293,444
Findings	CR 1 was raised and correctly closed. Refer to appendix.			
Conclusion	RINA verified that update/proposed changes to the monitoring plan are in line with the requirements of the applied methodology and tools, feasible and implemented in accordance with the revised project design. Data management and procedures are sufficient to ensure that GHG emission reductions achieved by or resulting from the project activity can be reported and verified.			

D.6. Permanent Changes to the project design

Means of validation	RINA verified that the revised PDD correctly describes the changes in the project design due to the removal of a component or technology/measure specified in the registered PDD, the power generation plant, and a inclusion of a new LFG delivery point through dedicate pipeline to consumer 3 as follow: • LFG supply to consumer 1 (SJEA): Since April 28th, 2014 (already described in the registered PDD) • LFG supply to consumer 2 (FSL/ZEG 1): Since March 1st, 2019 (already described in the registered PDD) • LFG supply to consumer 3 (METAGAS): Since April 12th, 2024 (subject of the change to the project design) RINA has confirmed the operation start of consumer 3 in the Biocnogas commissioning report /29/. Due to the exclusion of the power plant and the inclusion of consumer 3, there was an update in the forecasted redistribution of LFG available and revenues from LFG selling to consumer 1, consumer 2 and new consumer 3. Moreover, the landfill concession was renewed on June 13th 2024 /35/ and the waste disposal values were update, considering real values until 2023 /37/ and forecasted values from 2024 /38/. RINA verified that the values are correctly described in the revised ex-ante spreadsheet /7/. Due to the changes, the impact in the additionality was analyzed. The credible and alternatives scenarios were correctly updated to: • Scenario 1: LFG1 + E3; • Scenario 2: LFG1 + E3 + (c); • Scenario 4: LFG2 + E3 Considering: LFG1: The project activity implemented without being registered as a CDM project activity (capture, flaring and use of LFG) LFG2: Release of the LFG to atmosphere E3: Electricity generation in existing and/or new grid-connected power plants Alternative (c): Supply of LFG to a dedicated pipeline RINA verified that PP followed the requirements of Design Change Requirements /9/. To demonstrated/discuss the effect of design changes on the validity of the demonstration of additionality, the investment analysis was updated, modifying the key parameters in the original spreadsheet calculations /31/ affected by the actual changes to the project activity /45/.
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¹Currently owned by GASWATT due to contract transferring

Investment analysis

Choice of approach: The the proposed project activity generate financial benefits other than GS/CDM related income, Project participants applied the Option III Benchmark Analysis in line with the “Guidelines on the assessment of investment analysis” - version 05”, paragraph 19 /39/. The financial/economic indicator used for the proposed project activity is the Net Present Value (NPV). There was no change in the assessment provided in the registered PDD /1/.

Benchmark selection.

The benchmark used for this analysis is the value validated in the registered PDD /01/ of 11.75% / according to the in Appendix A (Group 1 - Brazil) of the “Guidelines on the assessment of investment analysis” - version 05./39/. There is not change in the benchmark selection provided in the registered PDD /1/..

The changes in the “Investment Analysis” is the exclusion of the energy generation component and inclusion of a new a LFG costumer supply through a dedicated pipeline and it was cross-checked with the following inputs provided during the validation process.

The list the key parameters changed in the financial analysis is:

- Updated project Revenues from LFG Sales from 2019 until 2036 using real historical data from 2019 to 2023 /40/41/ and an estimate data for 2024 on/41//42/. Also refer to detailed information in CR7.

Input value	Assessment
LFG Sales to SJEa: R\$/year 4.630.408,99	Revenues were verified in the invoices provided by PP from 2019 to 2023 /40/ /41/ and from 2024, estimative from PP considering the requirements of the contract /42/
LFG Sales to FSL/ZEG (currently GASWATT): R\$ / year 1.480.368,37	Revenues were verified in the invoices provided by PP from 2019 to 2023 /40/ /41/ and from 2024, estimative from PP presented in the spreadsheet /41/ considering consumer demand.
LFG sales - Consumer 3 (METAGAS) R\$/year 4.461.546,16	The estimative from PP is presented in the spreadsheet /41/ considering consumer demand.

- Updated project O&M from LFG Station from 2019 until 2036 using real historical data from 2019 to 2023 and an estimate data for 2024 on.

RINA verified that the O&M costs values /43/ applied in the cash flow spreadsheet were revised from 2019, based on real values until 2023, described in detail in the spreadsheet “2024-03 O&M 24-36.xlsx” and support evidence “CUSTOS_BIOGÁS_2015_2023.xlsx” and from 2024 it is based on estimated values “Gestor Biogás rev00.xlsx” and “Projection O&M Costs - LFG Station.xlsx”. For detailed information from PP, refer to **CR 8**

- Updated project CAPEX from 2019 until 2036 using real historical data from 2019 to 2023 and an estimate data for 2024 on

For the Capex the values /44/ applied in the cash flow spreadsheet were revised from 2019, based on real values until 2023, described in detail in the spreadsheet "2024-03 Capex and Revenues 24-36 (Rev2).xlsx"-Sheet "INVEST.2013-2023", and from 2024, based on estimated values presented in the Sheet "INVEST.2024", from 2025 to 2037, the investments are based Sheet "PLANARES". For detailed information from PP, refer to **CR 8**.

- Removed project O&M from Electricity Generation from the entire cashflow
- Removed project Capex from Electricity Generation from the entire cashflow

RINA verified that the O&M and CAPEX for the energy generation was correctly excluded from the analysis /45/

Cash Flow was updated for each alternative scenario as follows:

For the alternative scenario 1 (LFG capture and collection systems and flaring station) does not generate any revenues and has only expenditures.

Benchmark	11.75%
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NPV (25 years)	-97,167.70
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Alternative Scenario 2

For the alternative scenario 2 – The project activity (capture of landfill gas, flaring and supply of LFG to a dedicated pipeline) undertaken without being registered as a CDM/GS project activity

Benchmark	11.75%
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NPV (25 years)	-60,685.36
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Alternative Scenario 4

The alternative scenario 4 (atmospheric release of the landfill gas and electricity generation in the grid) is the continuation of the current practice, which is in compliance with all applicable regulations and policies, and was deemed the most plausible alternative to the project activity. As explained above, the alternative scenario 4 does not generate neither revenues nor expenditures. Therefore, the NPV = 0

RINA verified that considering the project design change, all the scenarios are below the benchmark and still not attractive.

The sensitivity analysis was performed varying the revenues, the capital expenses (CapEx) and operational and maintenance costs (O&M) for the alternative scenarios 1 and 2. All parameters ranging from -10% to +10%, as the result presented below:

	Variation	NPV (kR\$)	NPV (kR\$)	NPV (kR\$)
		Scenario 1	Scenario 2	Scenario 4
CapEx	-10%	-93,765	-57,282	0
	10%	-100,571	-64,088	0
Revenues	-10%	-97,168	-65,632	0
	10%	-97,168	-55,739	0
O&M	-10%	-90,879	-54,397	0
	10%	-103,456	-66,974	0
Base Case	0.0%	-97,168	-60,685	0

	Breakeven point			
	Parameter	Breakeven point		
		Alternative Scenario 1	Alternative Scenario 2	Alternative Scenario 4²
	Capex variation until reach the benchmark (%)	-285.5%	-178.3%	0
	Revenue until the benchmark (%)	N/A ³	142.9%	0
	O&M variation until the benchmark (%)	-168.9%	-109.1%	0
	RINA verified the information presented in the revised PD, and the article mentioned /46/ that confirms that the project is still additional with the inclusion of a new consumer of LFG using a dedicated pipeline and the redistribution of LFG available and revenues from LFG selling to consumer 1 (SJEa) and consumer 2 (FSL/ZEG (GASWATT) and new consumer 3 (Metagas) suppliers. Hence; it is demonstrated that the project activity is still not financially attractive to the investor and no changes in the additionality of the project activity due to the design change. Moreover, PP has updated the common practice analysis considering official data from Brazilian Government (ANP) /47/ for the plants/ installed capacity in Brazil to confirm that the project activity is not common practice.			
Findings	CR 2 to CR 9 to were raised and correctly closed. Refer to appendix.			
Conclusion	It is RINA's opinion that the revised PDD complies with the GS4GG Design Changes Requirements /9/ a. Additionality of the project activity, By assessing the evidences presented and cross-checking the information with references used, it is RINA's opinion that all data, rationales, assumptions, justifications and documentation provided by the project participants to support demonstration of additionality are credible and reliable. RINA confirms that in the investment analysis, the project participants modified only the key parameters in the original spreadsheet calculations affected by the proposed or actual changes to the project activity. The analisys demonstrates that the project is still additional. b. Applicability of the methodology and other methodological regulatory documents with which the project activity has been certified, RINA confirms that the proposed changes do not affect adversely impacts the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents with which the project activity has been registered. TOOL 32 is still applicable to the project activity since the LFG is used to (b) generate heat for external consumption (through a dedicated pipeline) and (c) flared in enclosed flare. There was no additional component in the project activity. c. Compliance with the monitoring plan and the applied methodology, RINA confirms that the proposed changes do not affect adversely impacts the compliance of the monitoring plan with the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents and the RINA verified that the monitoring plan was correctly revised to reflect the change in the project activity.			

² As in this alternative there are no revenues or expenditures, the NPV is zero. Thus, it is not possible to carry out the breakeven point.

³ It is not possible to calculate the breakeven point, since there are not any revenues in Scenario 1.

	d. Level of accuracy and completeness in the monitoring of the project activity compared with the requirements contained in the design certified monitoring plan, RINA confirms that the proposed changes do not affect adversely impacts the level of accuracy of the monitoring compared with the requirements contained in the registered monitoring plan. e. Scale of the project activity, RINA confirms that there is no change in the project scale as it remains large scale project. f. Stakeholder consultation, RINA verified that there is no need to to update the stakeholder consultation, as there there was no additional component in the project design change. Moreover, RINA has interviewed stakeholders during the onsite visit and no complaints about the project activity. g. Sustainable development criteria, RINA verified that the indicator that referred to the energy delivered was correctly removed from the revised PD to comply with the current project design and the estimatives of LFG supplying to consumers through dedicated pipeline was correctly updated. h. Safeguarding assessment, RINA verified the safeguard assessment remains valid, and no additional revision is need. i. Legislation. RINA verified that the project activity remains in compliance with Brazilian legislation. RINA verified that the project activityhas an valid Operational license nº 30012899 for the landfill and biogas plant (EQB) /28/. An update was done in the revised PD to mention the updated regulation applicable for supplying LFG to consumers is Resolution ANP nº 886/2022.
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D.7. Changes to PoAs and/or VPA

Means of validation	N/A
Findings	N/A
Conclusion	N/A

SECTION E. Internal quality control

>> The draft final validation opinion before being submitted to client was subjected to an independent internal technical review to confirm that all validation activities had been completed according to the pertinent RINA instructions.

The technical review is performed by a technical reviewer(s) qualified in accordance with the RINA's qualification procedure

SECTION F. Validation opinion

>> RINA Services Spa (RINA) has performed a validation of post registration changes for the project activity "CTL Landfill Gas Project" in Brazil, GS Registration Reference N° 12062. The validation has been based on the information made available to us.

RINA has performed this validation on the basis of the the GS4GG requirements and principles /24/ and Design Changes Requirements /9/ and approved baseline and monitoring methodology ACM0001, Flaring or use of landfill gas version 19 of 14/06/2019

It is RINA's opinion, the changes in the project design, corrections and update monitoring plan, as outlined in the revised PDD version 12 of 11/03/2025, from the project activity as described in the registered PDD ensure that the level of accuracy and completeness in the monitoring and verification process is not reduces as a

result of the revision; the revisions are in accordance with the applied monitoring methodology and the changes to the project activity comply with the requirements established in the Design Changes Requirements /9/. RINA re-assessed the additionality of the project to confirm that the project remains additional. There was no impact in the scale of the project activity and the applicability of the methodology. Therefore it is RINA's opinion that the post registration change would not adversely affect the conclusions of the validation report of the registered PDD.

Hence RINA requests that the post registration changes from the project activity as described in the revised PDD for the project activity "CTL Landfill Gas Project" may be considered by the Gold Standard Board.

Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER(s)	Certified Emission Reduction(s)
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CRT	Coordination and Technical Control Staff
DCI	Certification Division of RINA Services Spa
DNA	Designated National Authority
EB	Executive Board
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GS4GG	Gold Standard for Global Goal
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
MoV	Means of Verification
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
PDD	Project Design Document
PE	Project Emission
PP(s)	Project Participant(s)
Ref.	Document Reference
RINA	RINA Services S.p.A.
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
UNFCCC	United Nations Framework Convention on Climate Change
VVB	Validation and Verification Body
VVS	Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers



CERTIFICATO DI QUALIFICA PER GLI SCHEMI VOLONTARI* QUALIFICATION CERTIFICATE FOR VOLUNTARY SCHEMES*

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Thais De Lima Carvalho

è qualificato come:
is qualified as:

TEC, VAL, VER, TL, ITRP

per le seguenti aree tecniche:
for the following technical areas:

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.1	Thermal energy generation	1
1.2	Renewables	1
2.1	Electricity distribution	2
13.1	Solid waste and wastewater	13

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	19/07/2016	First issue with new template (this certificate is linked to CDM qualification)

Responsabile di schema
Scheme Leader
Rita Valoroso

*SCHEMI VOLONTARI/ VOLUNTARY SCHEMES: ACR American Carbon Registry, CCB The Climate, Community & Biodiversity Alliance, GS Gold Standard, JI Joint Implementation, SCS Social Carbon Standard, VCS Verified Carbon Standard.

TEC: Technical expert; VAL: Validator; VER: Verifier; TL: Team leader; FIN EXP: Financial Expert; ITRP: Independent technical reviewer

RINA Services S.p.A. è accreditato/riconosciuto da
RINA Services S.p.A. is accredited /recognized by

UNFCCC	quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects
VCSA	per condurre la Validazione e la Verifica di Progetti VCS to carry out Validation and Verification of VCS Projects
GS Foundation	per condurre la Validazione e la Verifica di Progetti GS to carry out Validation and Verification of GS Projects
Ecologica Institute	per condurre la Validazione e la Verifica di rapporti SCS to carry out Validation and Verification of SCS Reports
American Carbon Registry ACR	per condurre la Validazione e la Verifica di Progetti ACR to carry out Validation and Verification of ACR projects
The Climate, Community & Biodiversity Alliance CCB	per condurre la Validazione e la Verifica di Progetti co-benefit CCB to carry out Validation and Verification of co-benefit CCB projects



CERTIFICATO DI QUALIFICA PER GLI SCHEMI VOLONTARI*
QUALIFICATION CERTIFICATE FOR VOLUNTARY SCHEMES*

Si attesta che il sig./sig.ra:
 We declare that Mr/Mrs/Ms:

Rocha Mayra

è qualificato come:
 is qualified as:

TEC, FIN EXP

per le seguenti aree tecniche:
 for the following technical areas:

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Renewables	1

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	19/07/2016	First issue with new template (this certificate is linked to CDM qualification)

Responsabile di schema
 Scheme Leader
 Rita Valoroso

*SCHEMI VOLONTARI/ VOLUNTARY SCHEMES: ACR American Carbon Registry, CCB The Climate, Community & Biodiversity Alliance, GS Gold Standard, JI Joint Implementation, SCS Social Carbon Standard, VCS Verified Carbon Standard.

TEC: Technical expert; VAL: Validator; VER: Verifier; TL: Team leader; FIN EXP: Financial Expert; ITRP: Independent technical reviewer

RINA Services S.p.A. è accreditato/riconosciuto da

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UNFCCC	quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects
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GS Foundation	per condurre la Validazione e la Verifica di Progetti GS to carry out Validation and Verification of GS Projects
Ecologica Institute	per condurre la Validazione e la Verifica di rapporti SCS to carry out Validation and Verification of SCS Reports
American Carbon Registry ACR	per condurre la Validazione e la Verifica di Progetti ACR to carry out Validation and Verification of ACR projects
The Climate, Community & Biodiversity Alliance CCB	per condurre la Validazione e la Verifica di Progetti co-benefit CCB to carry out Validation and Verification of co-benefit CCB projects



**CERTIFICATO DI QUALIFICA
QUALIFICATION CERTIFICATE**

Si attesta che il sig.:
We declare that Mr:

Mehmet ERDOGAN

è qualificato come¹:
is qualified as:

TL – VAL⁴ – VER – TEC – REG-EXP³ – ITR

nello schema²:
for the scheme:

VCS – CCB – GS4GG

per le seguenti aree tecniche:
for the following technical areas:

1.1 – 1.2 – 9.2 – 13.1 – 13.2

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.1	Thermal energy generation	1
1.2	Renewables	1
3.1	Energy demand	3
9.2	Iron, steel and Ferro-alloy production	9
13.1	Waste handling and disposal	13
13.2	Manure	13

in accordo alle istruzioni dell'Unità responsabile (OU) per sostenibilità & cambiamenti climatici.
in accordance with the instructions of the responsible unit (OU) for the sustainability & climate change.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	24.03.2023	First Issue
1	12/04/2023	GS4GG extension
2	24/07/2023	GS4GG VAL extension
3	10/12/2023	TEC SS3 extension
4	31/01/2024	ITR extension

Il Responsabile di schema
Scheme Manager

¹
VAL: Validator
VER: Verifier
TEC: Technical Expert
TL: Team Leader
FIN-EXP: Financial Expert
REG-EXP: Regional Expert
ITR: Independent Reviewer
DET: Determiner

²
CDM: Clean Development Mechanism
VCS: Verified Carbon Standard
GS4GG: Gold Standard for Global Goals
SCS: SocialCarbon Standard
JI: Joint Implementation
ISO14064-2: International standard 14064 part 2
UER: Upstream Emission Reduction
CCB: The Climate, Community & Biodiversity Alliance

³ Turkey

⁴ For GS4GG only

RINA Services S.p.A. è accreditata da UNFCCC, quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM, da VCSA per condurre la Validazione e la Verifica di Progetti VCS, da GS Foundation, per condurre la Validazione e la Verifica di Progetti GS, da Ecologica Institute per condurre la Validazione e la Verifica di rapporti SCS.
RINA Services S.p.A. is accredited by the UNFCCC, as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects, by the VCSA, to carry out Validation and Verification of VCS Projects, by the GS Foundation, to carry out Validation and Verification of GS4GG Projects and by the Ecologica Institute, to carry out Validation and Verification of SCS Reports.

GHG_QUAL_CERT_EN(06-2021)

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Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
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1	Beng Engenharia Ltda	CDM-PDD for project activity “CTL Landfill Gas Project” in Brazil transition annex/GS PD	Version 25 of 05/10/2020 for the second crediting period version 5 of 27/01/2024	PP
2	Beng Engenharia Ltda	Revised GS-PDD for project activity “CTL Landfill Gas Project” in Brazil.	version 06 of 16/07/2024 version 7 of 02/09/2024 version 9 of 17/10/2024 version 10 of 05/11/2024 (final version revised due ITR) version 11 of 06/12/2025 (final version revised due GS review) version 12 of 11/03/2025 (final version due 2 nd round GS review)	PP
3	CDM Executive Board	CDM project cycle procedure for project activities	version 03.0 of 09/09/2021	Others
4	CDM Executive Board	CDM project standard for project activities	version 03.0 of 09/09/2021	Others
5	CDM Executive Board	CDM validation and verification standard for project activities	version 03.0 of 09/09/2021	Others
6	CDM Executive Board	CDM Executive Board: Baseline and monitoring methodology ACM0001, Flaring or use of landfill gas	version 19 of 14/06/2019	Others
7	Beng Engenharia Ltda	Ex-ante VERs spreadsheet (project design change) 2024 07 04 - CTL GS VERs Spreadsheet v6.xlsx 2024 10 04 - CTL GS VERs Spreadsheet v7.xlsx (final version)	Version 1 of 04/07/2024 Version 2 of 04/10/2024	PP
8	GS4GG	TEMPLATE- V1.5-Project-Design-Document	version 1.5 of 29/06/2023	Publicly available
9	GS4GG	Design Changes Requirements	version 1.1 of 14/04/2023	Publicly available
10	GS-Impact Registry Sustaincert	GS12062 CTL Landfill Gas Project- Project Details: https://registry.goldstandard.org/projects/details/4095 Project documents available at: https://platform.sustain-cert.com/public-project/3309	Accessed on 15/07/2024	Publicly available

11	CDM Executive Board	TOOL03 Methodological tool: Tool to calculate project and/or leakage emissions from electricity consumption and monitoring of electricity generation	Version 3 of 22/09/2017	Other
12	CDM Executive Board	TOOL04 Methodological tool: "Emissions from solid waste disposal sites"	version 08.0 of 14/05/2017	Other
13	CDM Executive Board	TOOL05 Methodological tool: "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation"	Version 03.0 of 22/09/2017	Other
14	CDM Executive Board	TOOL06 Methodological tool: "Project emissions from flaring"	version 03.0 of 28/03/2019	Other
15	CDM Executive Board	TOOL08 Methodological tool: "Tool to determine the mass flow of a greenhouse gas in a gaseous stream"	Version 03.0 of 27/11/2016	Other
16	CDM Executive Board	TOOL09 Methodological tool: "Determining the baseline efficiency of thermal or electric energy generation systems"	Version 02.0 of 27/11/2015	Other
17	CDM Executive Board	TOOL10 Methodological Tool: "Tool to determine the remaining lifetime of equipment"	version 1 of 16/10/2009	Other
18	CDM Executive Board	TOOL12 Methodological tool: "Project and leakage emissions from transportation of freight"	version 1.1.0, dated 23/11/2012	Other
19	CDM Executive Board	TOOL07 Methodological tool: "Tool to calculate the emission factor for an electricity system"	Version 07.0 of 31/08/2018	Other
20	CDM Executive Board	TOOL03 Tool to calculate project or leakage CO2 emissions from fossil fuel combustion,	version 3.0, dated 22/09/2017	Other
21	LRQA	Validation report for CTL Landfill Gas Project, reference TCOCT100098_ECURB_C (for CDM project registration)	version 04.1 of 18/03/2012	Other
22	UNFCCC	Project page 5947: https://cdm.unfccc.int/Projects/DB/LRQA_Ltd1332768548.38/view https://cdm.unfccc.int/Projects/DB/LRQA_Ltd1332768548.38/view?cp=1	-	Other
23	Earthood Services Private Limited	Validation opinion for the second crediting period	v 2.0 of 05/10/2020	Other
24	GS4GG	GS4GG Standard Principle&Requirements	version 1.2 of 23/10/2019	Publicly available
25	GS4GG	Validation and Verification Standard	Version 1.0 of 06/03/2023	Publicly available
26	GS4GG	Applicability of Global Warming Potential for Gold Standard for the Global Goals Projects available at https://globalgoals.goldstandard.org/standards/RU-2020-PR-V1.2-GWP-values.pdf	Publication date 03/06/2021	Publicly available
27	Earthood Services Private Limited	Gap Validation report form for GS4GG project activities for the project: CTL Landfill Gas Project	Version 2.0 of 29/01/2024	Publicly available
28	CETESB	Operational license nº 30012899 for the landfill and biogas plant (EQB) (LO 30011270 (EQB).pdf)	Version 03, issued on 09/04/2021 valid until 09/04/2026	PP

29	Biotecnogas	Comissioning report BTG084/23-C, describes the equipments installed and the operation from 12/04/2024	Report dated April/2024	PP
30	Beng Engenharia Ltda	Ex-ante VERs spreadsheet – before project changes: 2022 10 CTL GS_VERs Spreadsheet v4 JAS.xlsx	-	PP
31	Beng Engenharia Ltda	Cash flow, before current project design change (registered PDD) CTL Cash Flow PRC v9 2019 10 02 - Updated All FES .xlsx CTL Cash Flow PRC v9 2019 10 02 only selling LFG Updated FES.xlsx	-	PP
32	Ecourbis	Signed declaration on credits claim (Credits Claim 2024 (assinada).pdf)	26/07/2024	PP
33	Ecourbis	Signed declaration declare that PP will undertake to apply the necessary efforts to avoid double counting of carbon credits arising from biogas collected from the Eastern Waste Treatment Central landfill – CTL (Double counting declaration - rev.1.pdf)	15/10/2024	PP
34	EcoUrbis Ambiental S/A	Register of stakeholder contact (copy verified during the onsite visit)	-	PP
35	Sp Regula	Concession renewal, document 105077309, published on 14/06/2024 (2024 06 13 - Renovação da Concessão Ecourbis.pdf)	-	PP
36	EcoUrbis Ambiental S/A/ BENG	Ex ante spreadsheet “2022 10 CTL GS_VERs Spreadsheet v4 JAS(1).xlsx” for the registered PDD	17/01/2024	PP
37	EcoUrbis Ambiental S/A	Historical data of waste received from 2010 to 2023 (Quantidade Resíduos CTL.pdf)	-	PP
38	CPEA	EIA-RIMA for the expansion of CTL landfill -reference for the forecasted amount of waste from 2024 (Páginas de volume I - EIA RIMA 2017.pdf)	-	PP
39	CDM Executive Board	CDM Guidelines on the assessment of investment analysis -	Version 05	Other
40	EcoUrbis Ambiental S/A	Invoices for the period 2019 to 2023	-	PP
41	EcoUrbis Ambiental S/A	spreadsheet including the invoices report to confirm revenues of project activity until 2023 and forecast for 2024 on. 2024-03 Capex and Revenues 24-36 (Rev2).xlsx	-	PP
42	EcoUrbis Ambiental S/A	Udated contract between SJEa and Ecourbis “15 - 2023.12.29 - Contrato de Fornecimento - Ecourbis x SJEa.pdf”	Dated 29/12/2023	PP
43	EcoUrbis Ambiental S/A	Evidences for the O&M costs: 2024-03 O&M 24-36.xlsx” and support evidence “CUSTOS_BIOGÁS_2015_2023.xlsx” and from 2024 it is based on estimated values “Gestor Biogás rev00.xlsx” and “Projection O&M Costs - LFG Station.xlsx”.	-	PP
44	EcoUrbis Ambiental S/A	Evidences for CAPEX values: “2024-03 Capex and Revenues 24-36 (Rev2).xlsx”- Sheet “INVEST.2013-2023”, and from 2024, based on estimated values presented in the Sheet “INVEST.2024”, from 2025 to 2037, the investments are based Sheet “PLANARES”	-	PP

45	EcoUrbis Ambiental S/A	Cash flow, for the current project design change 2024 10 10 - CTL Cash Flow PRC v10 only flaring (Scenario 1).xlsx 2024 10 10 - CTL Cash Flow PRC v10 Dedicated Pipeline (Scenario 2).xlsx	-	PP
46	CBIE advisory	Presentation Perspectives for the Energy Sector in 2024 (CBIE-Energy perspectives 2024-2032.pdf)	-	PP
47	ANP (Brazilian Government)	<u>Página Inicial — Agência Nacional do Petróleo, Gás Natural e Biocombustíveis (Microsoft Power BI)</u> , accessed on 31/07/2024		

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

Table 1. CRs from this validation

CR ID	1	Section no.	D.5	Date: 07/08/2024
Description of CR				
PP is requested to provide detailed information/evidences for the parameters at validation that were modified/updated in the revised PDD.				
Project participant response				Date: 06/09/2024
All changes were addressed using Gold Standard Design Change Requirements				
<u>Change to the Project Design Phase 2</u>				
There was no implementation in Phase 2 the power generation plant, instead of there was only a supplying LFG to consumers through a dedicated pipeline, as follows:				
• LFG supply to consumer 1 (SJEA): Since April 28th, 2014 • LFG supply to consumer 2 (FSL/ZEG): Since March 1st, 2019 • LFG supply to consumer 3 (METAGAS): Since April 12th, 2024				
This change impacts in the additionality of the project activity. Thus, it was identified three realistic and credible alternative scenarios to the project activity:				
• Scenario 1: LFG1 + E3; • Scenario 2: LFG1 + E3 + (c); • Scenario 4: LFG2 + E3				
Despite the TOOL32 (Positive List) is applicable in this project resulting in automatic additionality for this project as discussed in Sub-step3a, to reinforce the vulnerability of the project, the financial analysis has also been demonstrated for all scenarios.				
<u>Update and/or permanent changes to design certified monitoring plan:</u>				
There was an exclusion of the monitoring parameter ECBL,k,y = EGPJ,y which is the “Net amount of electricity generated using LFG in year y (MWh/yr)” due to the exclusion of the power generation plant from the project activity.				
Documentation provided by project participant				
<i>Revised PDD</i>				
VVB assessment				Date: 10/09/2024
PDD was correctly revised.				
This CR is closed				

CR ID	2	Section no.	D.6	Date: 07/08/2024
Description of CR				
PP is requested to clearly describe the types of change applicable to the project activity (refer to para 3.5.1 of Design Change Requirements v1.1)				
Project participant response				Date: 06/09/2024
<i>Type of changes has been defined according to para 3.5.1 of Design Change Requirements v1.1</i>				
Documentation provided by project participant				

<i>Revised PDD</i>	
2nd Round (16/10/2024): The description of the change related to the Amount of yearly waste disposal updated from 2020 until 2037 has been included in the PDD. Regarding the TDL value, PP decided to maintain the original value of the PDD . Therefore, no change will be assigned. However, a typo mistake was identified in the previous approved PDD (table Data / Parameter TDLy under Section B.7) and a Correction of a design change (value amended from 23.6% to 26.3%) that may be suitable to be submitted under the issuance track, according to INDICATIVE LIST OF DESIGN CHANGES THAT CAN BE SUBMITTED WITH ISSUANCE TRACK under section 8 of the GS4GG Design Change Requirements v1.1, since it correlates to item a) Any corrections to project information of a certified project activity that do not affect the design of the project activity. Such corrections may include typographical errors, location, names and numbers of components, etc. PDD appendix 4 has been updated to address this correction.	
VVB assessment	Date: 10/09/2024
Revised PDD includes the type of changes applicable to the project activity (changes to project design and Update and/or permanent changes to design certified monitoring plan), however, there is no description for the update in the Amount of yearly waste disposal updated from 2020 until 2037 nor the correction in the value of the parameter TDL This CR remains open 2nd round (16/10/2024) RINA verified the previous ex-ante spreadsheet (2022 10 CTL GS_VERs Spreadsheet v4 JAS(1).xlsx, dated 17/01/2024) that the TDL value considered is 26.3% and there was typo mistake in the registered PDD. The PDD was revised to consider the correct value of 26.3% (no changes in the updated spreadsheet). This CR is closed	

CR ID	3	Section no.	D.6	Date: 07/08/2024
Description of CR				
For the changes to the project design, PP is requested to clarify -why the description of phase 1 (already implemented) was revised, excluding the information for the biogas consumers (São João and FSL/ZEG) and moved to phase 2. -provide the complete timeline and evidences for the project design revision, such as starting date, operational starting date, etc... for the new LFG costumer supply through a dedicated pipeline (consumer 3) - detail the use of LFG in the consumer 3 and explain if there is any change for the consumer 1 and 2 (information excluded from the revised PD). -how to assure/guarantee that the will be no double accounted for the Baseline emissions associated with natural gas use (BE_{ENG,y}), considering the LFG consumers and also no double account to the CDM project activity n° 0373, one of the consumers (consumer 1).				
Project participant response				Date: 06/09/2024
- Phase division of the project has been revised and phase 2 excluded - Timeline and evidences were provided in the PDD and to the VVB - As mentioned in Section A.1, the supplying of LFG to the consumers is made using a dedicated pipeline connecting CTL LFG plant to consumers, guaranteeing the high efficiency combustion of the LFG for energy purposes and also honouring the LFG Purchase and Sale Agreements with the consumers - For each consumer, there was provided a signed agreement guaranteeing no double accounting of the project emission reductions. Evidence provided to VVB. 2nd Round (16/10/2024): The timeline for consumer 3 selling implementation is only composed by the operation start date on 21th April 2024, since this implementation represented only one additional selling point in the existing LFG consumer dedicated pipeline. Signed declaration from Ecourbis assuming the responsibility to monitor and act cases of double counting provided to VVB and information regarding double accounting reinserted in the PDD.				
Documentation provided by project participant				
Double counting declaration - rev.1.pdf				

VVB assessment	Date: 10/09/2024
RINA verified that PDD was revised and excluded phase 2. The operational starting date of consumer 3 was correctly revised in the PDD, however, the timeline was not provided. For the double accounting, the signed agreement was not provided to the VVB nor there is any information in the revised PDD. This CR remains open. 2nd round PP clarified the timeline for consumer 3. This point is accepted. RINA verified that the information for double accounting with SJEA was re-inserted in the PDD. Moreover, PP has provided a signed declaration, dated 15/10/2024 (Double counting declaration - rev.1.pdf), assuming the responsibility to monitor and act cases of double accounting. This CR is closed	

CR ID	4	Section no.	D.6	Date: 07/08/2024
Description of CR				
For the revision in the VERs spreadsheet/ex-ante estimative, PP is requested to described all the modification done and clarify the revision of the estimatives for the period before project design change.				
Project participant response				Date: 06/09/2024
For the VERs spreadsheet (ex-ante), the modifications are described below: - Amount of yearly waste disposal updated from 2020 until 2037 - The component of electricity generation was removed from the project activity				
Documentation provided by project participant				
2024 07 04 - CTL GS VERs Spreadsheet v6.xlsx Quantidade Resíduos CTL.pdf 2nd Round (16/10/2024): Waste disposal for 2024 was based on the EIA/RIMA 2017 Waste disposal between 2025 and 2037 was based on "Memorial descritivo – Fase 6" Financial spreadsheet has been amended in order to consider the correct operation period for Consumer 3 2024 10 04 - CTL GS VERs Spreadsheet v7.xlsx				
VVB assessment				Date: 10/09/2024
PP has provided the historical data for the waste disposal until 2023 (Quantidade Resíduos CTL.pdf). PP is requested to clarify the evidences that was used to update the estimative from 2024. Moreover, the spreadsheet does not take into account the correct operational period for consumer 3 and there is an inconsistency in the calculation of values described in line 359, sheet baseline emissions. This CR remains open. 2nd round (17/10/2024) PP provided the evidences for the waste disposal estimated from 2024 (ECO-JUN-FASE6-MEMORIAL_18maio2022_A.pdf). Moreover, the spreadsheets were revised considering the operational date for consumer 3. The inconsistency sheet baseline emissions in the VERs spreadsheet were corrected. This CR is closed				

CR ID	5	Section no.	D.6	Date: 07/08/2024
Description of CR				
Revised PDD does not list the key parameters for the financial analysis that were updated for the post registration change, providing the evidences (including primary assumptions evidences and information from third parties to cross check the information, if available).				
Project participant response				Date: 06/09/2024

Appendix 4 has been amended to include list of the key parameters changed.	
2nd Round: The revenue values between Cashflow and Capex and Revenues spreadsheets have been corrected and both documentation are in accordance. PP clarifies that the correct value to be considered is the “total value of the invoice” since there are commercial discounts involved between biogas seller and buyer.	
Documentation provided by project participant	
<i>2024 10 10 - CTL Cash Flow PRC v10 Dedicated Pipeline (Scenario 2).xlsx</i>	
VVB assessment	Date: 12/09/2024
The value for the revenue for the consumer 2 for the years 2019 and 2023 are not in accordance with the invoices provided and values described in the sheet B.D.NFs, spreadsheet 2024-03 Capex and Revenues 24-36 (Rev2).xlsx. Moreover, PP is requested to clarify in the invoices for SJEa (consumer 1) the values “total products’ value” x “total value of the invoice” This CR remains open 2nd round (18/10/2024) PP has provided the revised spreadsheet with correct values. This CR is closed	

CR ID	6	Section no.	D.6	Date: 07/08/2024
Description of CR				
As per the paragraph 4.1.1 of the GS4GG Design Changes Requirements, considering all the changes applicable to the project activity, PP is requested to provide evidences and better detail the assessment of the impacts of the design changes on the following aspects: - Additionality of the project activity, - Applicability of the methodology and other methodological regulatory documents with which the project activity has been certified, - Compliance with the monitoring plan and the applied methodology, - Level of accuracy and completeness in the monitoring of the project activity compared with the requirements contained in the design certified monitoring plan, - Scale of the project activity, - Stakeholder consultation, - Sustainable development criteria, - Safeguarding assessment, - Legislation.				
Project participant response				Date: 06/09/2024
<i>Section A.4.2 from Appendix 4 has been entirely revisited.</i>				
Documentation provided by project participant				
<i>Revised PDD</i>				
VVB assessment				Date: 10/09/2024
PDD was correctly revised. This CAR is closed				

CR ID	7	Section no.	B.5	Date: 12/09/2024
Description of CR				
PP is requested to explain the reason for the estimated revenue in the last PRC (spreadsheet: CTL Cash Flow PRC v9 2019 10 02 only selling LFG Updated FES (1)) in the tab assumptions why the average revenue per year for the 2 costumers was 11,88 millions/ year and in this PRC even with the inclusion of a new costumer the expected revenue is lower (10,57 millions/year). Please provide evidence of the estimated an the real LFG generated and sold until 2023.				
Project participant response				Date: 16/10/2024

Evidence of the estimated LFG generation is based on methodology ACM0001 v19 as explained in PDD. The real amount of LFG sold was based on the invoices shared with the VVB

It is important to highlight that the projected scenario in the last PRC (2019) is different from the scenario in 2024. Please consider the table 7 of the PDD where the projected LFG price will decrease 42.9%, from 2024 to 2032 according to Brazilian Infrastructure Center. Source: Brazilian Perspectives for the Energy Sector in 2024 (CBIE, 2024). <https://tinyurl.com/59t8hrrh>, available on 11/07/2024.

Also, due to issues related to the COVID pandemic that delayed the import of equipment, among other occurrences, actual revenue from 2019 to 2023 was much lower than the expectation created in the PDD review in 2019.

Documentation provided by project participant

VVB assessment

Date: 18/10/2024

RINA verified that PP revised the cash flow spreadsheet considering the real values from 2019 to 2023 and forecasted value from 2024 on. As per PP explanation, the differences from the registered PDD are mainly due to market conditions. In addition, RINA verified in the previous verifications that the amount of LFG sent to consumers were lower than the estimated ex-ante (that also reflects on less revenues).

This CR is closed.

CR ID	8	Section no.	B.5	Date:	12/09/2024
Description of CR					
PP needs to clarify the difference in OPEX between the registered spreadsheet and the revised one, it is not clear why OPEX has increased even with the exclusion of the power generation plant. PP needs to provide evidence for the values used in spreadsheet 2024-03 O&M 24-3.					
Project participant response					Date:
The evidence is the Accounting results which is public since Ecourbis is a public concession with the São Paulo municipality. Also, evidence of the value used in spreadsheet 2024-03 O&M 24-3 has been provided. File: Gestor Biogás rev00.xlsx					16/10/2024
Documentation provided by project participant					
2024-03 O&M 24-36.xlsx CUSTOS_BIOGÁS_2015_2023.xlsx Gestor Biogás rev00.xlsx Projection O&M Costs - LFG Station.xlsx 2024-03 Capex and Revenues 24-36 (Rev2).xlsx					
VVB assessment					Date:
RINA verified that the O&M costs values applied in the cash flow spreadsheet were revised from 2019, based on real values until 2023, described in detail in the spreadsheet "2024-03 O&M 24-36.xlsx" and support evidence "CUSTOS_BIOGÁS_2015_2023.xlsx" and from 2024 it is based on estimated values "Gestor Biogás rev00.xlsx" and "Projection O&M Costs - LFG Station.xlsx". For the Capex the values applied in the cash flow spreadsheet were revised from 2019, based on real values until 2023, described in detail in the spreadsheet "2024-03 Capex and Revenues 24-36 (Rev1).xlsx"-Sheet "INVEST.2013-2023", and from 2024, based on estimated values presented in the Sheet "INVEST.2024", from 2025 to 2037, the investments are based Sheet "PLANARES"					18/10/2024
This CR is closed.					

CR ID	9	Section no.	B.5	Date:	12/09/2024
Description of CR					

PP is requested to clarify and provide evidence for the assumptions used to estimate future revenues. According to spreadsheet "2024 09 03 - CTL Cash Flow PRC v10 Dedicated Pipeline (Scenario 4)" on the tab "M.C Receita", the captured biogas destined for SJEA is 60%, the captured biogas destined for GASWATT is 10% and the captured biogas destined for METAGÁS is 30%.	
Project participant response	Date: 16/10/2024
The evidence for the projection for SJEA 60% of the LFG captured is the contract signed in Dec/23, effective as of June 13, 2024, along with the renewal of EcoUrbis' concession	
The percentage destined for the other consumers (40%) is based on the future expectative on the demand for each of them.	
Documentation provided by project participant	
15 - 2023.12.29 - Contrato de Fornecimento - EcoUrbis x SJEA.pdf	
VVB assessment	Date: 18/10/2024
PP presented the contract with SJEA to confirm the project of 60% of biogas sent to SJEA. For the other consumers, PP clarified that it is based on consumers' demand.	
This CR is closed	

Table 2. CARs from this validation

CAR ID	1	Section no.	D.2	Date: 07/08/2024
Description of CAR				
Operational starting date of the LFG supply to consumer 3 described in the PD is not in accordance with the evidence verified during the onsite visit.				
Project participant response				Date: 06/09/2024
Date revised in PDD				
Documentation provided by project participant				
VVB assessment				Date:
RINA verified that the PDD was revised in accordance with the evidence verified during the onsite visit (12 th April 2024).				
This CAR is closed				

Table 3. FARs from this validation

FAR ID		Section no.		Date:
Description of FAR				
N/A				
Project participant response				Date:
Documentation provided by project participant				
VVB assessment				Date:

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
01.0	01/07/2024	Validation Report for project design change
Document Type: Form		
Business Function: Registration		
Keywords: post-registration change, project activities, validation report		