VERIFICATION REPORT VIÑALES BIOMASS POWER PLANT

Report ID	*24-006*
Project title	*Viñales biomass power plant*
Project ID	*1186*
Verification period	*01-January-2021 to 31-Dicember-2023*
Original date of issue	*13-November-2024*
Most recent date of issue	*03-December-2024*
Version	*2*
***VCS Standard* Version**	VCS Standard V.4.7
Client	*Maderas S.A.*

Prepared by	*Verifit Colombia S.A.S*
Approved by	*Sergio Cruz* *Director of Certification*
Work carried out by	*Marcelo Sebben (Team Leader, TE, LE)* *Ricardo Lopes (Team Member)* *Sergio Cruz (Technical Reviewer, TRE)*

Summary:

Description of the verification of the project

"Viñales biomass power plant" is a project activity that consists in the installation of a 41 MW condensing-extracting turbo generator machine and of a biomass fluidized-bed boiler of 210 ton/hr of high pressure steam capacity. The new boiler replaces a smaller capacity (heat only) boiler and also generates electricity to feed the Viñales Sawmill and its electricity surplus is fed into the Chilean National Grid (SEN).

The project activity will achieve emission reductions by generating clean energy to the Vinãles Plant and to the Grid by burning biomass (industrial woody residues) in this cogeneration power plant and by avoiding methane emission due to biomass disposal.

The project applies the CDM approved methodology ACM0006 – Consolidated methodology for electricity and heat generation from biomass --- Version 12.1.1.

The project is located inside the Viñales Sawmil, located in Comune of Constitución, Maule Region, Chile.

The commissioning date was on July/2012 but the start of project crediting period was on 01/07/2014.

The purpose and scope of verification

Maderas S.A. has contracted Verifit to conduct the 4th verification of the project "Viñales biomass power plant".

The scope of the verification is to establish/verify that:

- the valid version of MR template was used and correctly filled up (v.4.4);
- the project activity has been implemented and operated as per the registered PD and that all physical features (technology and monitoring equipment) of the project are in place;
- the monitoring report and other supporting documents provided are complete in accordance with the latest applicable version of the completeness checklist for requests for issuance of VCUs, verifiable, and in accordance with applicable requirements of the VCS Version 4,

- the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and approved methodology;
- the data are recorded and stored as per the monitoring methodology.
- This project does not refer to a grouped project and therefore, there are no new instances to be included at the present monitoring period.

The monitoring period

This 4th verification process refer to the period from 01/01/2021 to 31/12/2023 (both days included).

The method and criteria used for verification

The verification process has been conducted in accordance with requirements of ISO 17029:2019, ISO14065:2020 and ISO14064-3:2019 and Verifit's Management System.

The number of findings raised during verification

During the present VCS verification, 09 CL and 07 CARs were raised and successfully closed.

Any uncertainties associated with the verification

The verification of this monitoring period has achieved a reasonable level of assurance. Also the materiality threshold of 5% has been achieved as per VCS Standard paragraph 4.18 from project scales (achieving less than 300,000 tCO2e/year. This materiality has been achieved as no sampling has been carried out.

Summary of the verification conclusion

VERIFIT Colombia S.A.S has performed the verification of the VCS project "Viñales biomass power plant", with VCS Project ID 1186, for the monitoring period from 01/01/2021 to 31/12/2023 (both days included).

The verification team has confirmed the implementation of the project as per description in the VCS-PD, the monitoring plan of the PD and the application of the monitoring methodology (ACM0006 v.12.1.1). In addition, it was confirmed that the monitoring system is in place and the emission reductions are calculated without material misstatements.

The verified emission reductions amount to **460,837** tCO2e in the above-mentioned monitoring period.

CONTENTS

1 INTRODUCTION

1.1 Objective

Maderas S.A. has contracted Verifit to conduct the 4th verification of the project "Viñales biomass power plant" for the period from 01/01/2021 to 31/12/2023 (both days included) according to the requirements of the Verified Carbon Standard Version 4.7.

1.2 Scope and Criteria

The scope of the verification is to establish/verify that:

- the project activity has been implemented and operated as per the registered PD and that all physical features (technology, project equipment and monitoring and metering equipment) of the project are in place;
- the monitoring report and other supporting documents provided are complete in accordance with the latest applicable version of the completeness checklist for requests for issuance of VCUs, verifiable, and in accordance with applicable VCS Version 4 requirements;
- the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology;
- the data are recorded and stored as per the monitoring methodology.

The verification of this monitoring period is based on the registered VCS-PD, MR and GHG emission reduction calculation spreadsheet and supporting documents.

1.3 Level of Assurance

The verification of this monitoring period has achieved a reasonable level of assurance. Also, the materiality threshold of 5% has been achieved as per VCS Standard paragraph 4.1.10 from project scales (achieving less than 300,000 tCO2e/year. This materiality has been achieved as no sampling has been carried out. All information were provided and duly checked by the verification team as follows.

The verification team has identified the impact of errors observed and those were corrected by PP during verification for all monitoring parameter at individual level. The extrapolation is not applicable as 100% of data was checked.

Monitored Parameter (Symbol / Description)	Reporting Frequency	Number of Discrete Data (Total) Total (100%)	Sample selected for verification Sample (100%)	Type of error identified	Impact on ERs	
					ERs impacted (Sample)	ERs impacted (Population based on extrapolation)
Biomass residues categories and quantities used in the project activity. For biomass residues categories for which scenarios B1: B2: or B3: is deemed a plausible baseline alternative, project participants shall demonstrate that is a realistic and credible alternative scenario BRPJ,n,y, BRB4,n,y,	Monthly and Yearly aggregated from continuous monitoring (every load entry)	100%	100%	N/A	Impact in data	Same impact as no sampling was conducted

$BRB1/B3,n,y$						
$EF_{FF,y,f}$	IPCC default	1 (100%)	100%	N/A	Impact in data	Same impact as no sampling was conducted
$EF_{CH4,BR}$	Applied methodology	1 (100%)	100%	N/A	Impact in data	Same impact as no sampling was conducted
$EF_{CO2,LF,i}$	Not applicable	N/A	N/A	N/A	N/A	N/A
$HC_{BL,y}$	Monthly and Yearly aggregated from continuous monitoring (every load entry)	100%	100%	CAR 04	Impact in data	Same impact as no sampling was conducted
$EL_{PJ,gross}$, $EL_{PJ,imp}$, $EL_{PJ,aux}$	Monthly and Yearly aggregated from continuous monitoring	100%	100%	CAR 04 CAR 05	Impact in data	Same impact as no sampling was conducted
NCV_{BR}	Aggregated every six months	100%	100%	N/A	Impact in data	Same impact as no sampling was conducted
Moisture Content of the biomass residues	Monthly and Yearly aggregated from continuous monitoring	100%	100%	CAR 04	No impact	No impact

	(every load entry following internal procedure)					
P_y	Yearly values obtained from sawmill	100%	100%	N/A	No impact	No impact
LOC_y	Monthly and Yearly aggregated from continuous monitoring	100%	100%	CAR 04	No impact	No impact
$FC_{i,y:}$	Monthly and Yearly aggregated from continuous monitoring, calculated or provided by service suppliers	100%	100%	CAR 04	Impact in data	Same impact as no sampling was conducted
NCV_i	IPCC default values applied	100%	100%	CAR 04	No impact	No impact
$EF_{CO2,i}$	IPCC default values applied	100%	100%	N/A	No impact	No impact
Parameters related to transport of biomass ($Df_{,m}$, $FR_{f,m,}$)	Monthly and Yearly aggregated from continuous monitoring (every load entry)	100%	100%	CAR 05	Impact in data	Same impact as no sampling was conducted

EF_{grid} (it includes all param. used for calculating EF_{grid} – $FC_{i,m,y}$, $FC_{i,k,y}$, $NCV_{i,y}$ $EF_{CO2,i,y}$; $EF_{CO2,m,i,y}$; $EG_{m,y}$, $EG_{k,y}$, $EF_{CO2,LE}$)	Monitored once a year	100%	100%	CAR 06	No impact	No impact

Based on the above table it can be confirmed that the materiality threshold -is not reached for the registered PA as per VCS Standard.

1.4 Summary Description of the Project

"Viñales biomass power plant" is a project activity that consists in the installation of a 41 MW condensing-extracting turbo generator machine and of a biomass fluidized-bed boiler of 210 ton/hr of high pressure steam capacity. The new boiler replaces a smaller capacity (heat only) boiler and also generates electricity to feed the Viñales Sawmill and its electricity surplus is fed into the Chilean National Grid (SEN).

The characteristics of the installed boiler and generator are as follows/08/:

Table 1: Technical description of generator

Characteristic	**Unit**	**value**
Manufacturer	-	Brush HMA b.v.
Type	-	Syncronous Generator
Serial number	-	410135
Output	KVA	51,000
Cos phi	-	0.8
Type	-	DG215ZP-04
Speed	Rpm	1500

Table 2: Technical description of Biomass Boiler

Characteristic	**Unit**	**value**

Manufacturer	-	Metso Power Oy
Type	-	Fluidized bed boiler
Serial number	-	110060
Maximum work pressure	Kg/cm²	104
Heating surface	M²	8,290

The project activity will achieve emission reductions by generating clean energy to the Vinãles Plant and to the Grid by burning biomass (industrial woody residues) in this cogeneration power plant and by avoiding methane emission due to biomass disposal.

The project is listed at VCS and can be accessed by the following link: https://registry.verra.org/app/projectDetail/VCS/1186

- Project proponent and other entities involved in the project: the project proponent is Celulosa Arauco y Constitución S.A. The entity who signed Verification Contract is Maderas S.A. Arauco Bioenergia S.A is responsible for describing the MR and ER calculations
- Project Category: Renewable energy generation from biomass grid-connected
- Methodology: ACM0006 – Consolidated methodology for electricity and heat generation from biomass --- Version 12.1.1
- Operation Start Date: 19/05/2012, which is the date the project activity started generating electricity.
- Crediting Period: from 01/07/2014 to 30/06/2024 – 10 years – renewable;
- Project scale: the PA is defined as a "Project" type (< 300,000 tCO_2e/y).
- Project Location PA: located inside the Viñales Sawmil, located in Comune of Constitución, Maule Region, Chile. Coordinates the plant is/24/:

Latitude	Longitude
35.371° S	72.412° W

- Conditions prior to project initiation: The project is a greenfield power plant and prior to the project installation the electricity would be generated by Power Plants connected to the National Grid and biomass not consumed would be either left to decay in aerobic conditions or would be burned in piles.
- Project compliance with applicable laws, statutes and other regulatory frameworks: The project currently operating as per registered VCS-PD/03/. The compliance with the applicable laws and regulations can be evidenced through Environmental License issued by RCA 80/2009/08/

The project activity corresponds to the installation of a greenfield biomass power plant in Chile. The project description is complete, accurate and reflect the information stated in the evidences provided.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The verification process is conducted as per internal MSG Manual and in accordance with criteria laid down by VCS version 4 requirements (VCS version 4 refers to VCS Program edition). The verification process includes the following steps:

- contract with PP for the scope and appointment of verification team and technical review team;
- completeness check of Monitoring Report version 1;
- desk review of Monitoring Report and corresponding ER sheet by verification team and planning of onsite audit (including sampling approach to be applied). The list of all documents as well as their versions are detailed in Appendix IV of this report;
- on-site inspection by verification team;
- follow up activities e.g., interviews;
- reporting and closure of findings (CARs/CLs/FARs) and preparation of draft verification report;
- independent technical review of the draft verification report and final/revised documentation (e.g., Monitoring Report, corresponding ER sheet and evidences). The list of all documents as well as their versions are detailed in Appendix IV of this report;
- reporting and closure of TR comments/findings (CARs/CLs/FARs) and final approval for the decision made;
- issuance of final verification report to contracted PP (or authorized representatives).

2.2 Document Review

A desk review was conducted by the verification team that included:

- a review of the data and information presented to verify its completeness;

- a review of the registered monitoring plan, the monitoring methodology including applicable tool(s) and, where applicable, the applied standardized baseline, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures;
- an evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions;
- supporting documents.

A complete list of documents/evidences reviewed is included as Appendix IV.

2.3 Interviews

#	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1	Rodriguez	Christian	Arauco Bioenergia	28/08/2024 29/08/2024 30/08/2024	ER calculations Data aggregation, MR description On site inspection	Marcelo Sebben
2	Torreblanca	Isaac	Celulosa Arauco y Constitución	28/08/2024	EF calculations	Marcelo Sebben
3	Urrutia	Ricardo	Bioenergia Viñales Arauco	29/08/2024	Project description, compilation of monitored data, Job data, no net harm and site visit	Marcelo Sebben
4	Amialeada	Carlos	Bioenergia Viñales Arauco	29/08/2024	Measurement instruments Electricity Calibration and maintenance, site visit	Marcelo Sebben
5	Letelier	Eduardo	Bioenergia Viñales Arauco	29/08/2024	Operations of biomass boiler	Marcelo Sebben

7	Saglietto	Vicente	Bioenergia Viñales Arauco	29/08/2024	Description of project activity, technical information regarding LPG consumption	Marcelo Sebben
8	Letelier	Daniela	Bioenergia Viñales Arauco	29/08/2024	Laboratory analysis, biomass measurement	Marcelo Sebben
10	Lopes	Luis	Bioenergia Viñales Arauco	29/08/2024	Truck control and biomass measurement	Marcelo Sebben
11	Bustos	Nelson	Arauco y Constitución	30/08/2024	Social aspects and continuous communication with stakeholders Grievance mechanism	Marcelo Sebben

* The interview with Mr. Nelson Bustos has been carried out remotely. He is not located at the project plant as he is corporative employee.

2.4 Site Visits

Duration of audit: 28/08/2024 to 30/08/2024				
#	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	Opening Meeting: Santiago Office Introduction, scope and objective of work, roles and responsibilities of audit team, resources required, and timetable of the onsite audit including venue for closing meeting and any concerns from PP.	Santiago Office	28/08/2024	Marcelo Sebben
2.	Implementation and operation of project activity (project boundary, technology, project equipment, monitoring and metering equipment) as per registered PDD/previous verification.	Santiago Office	28/08/2024	Marcelo Sebben

3.	Management and monitoring procedures followed at project site.	Santiago Office	28/08/2024	Marcelo Sebben
4.	Download of Raw data and Monitoring parameters and relevant document (evidences and cross-check)	Santiago Office	28/08/2024	Marcelo Sebben
5.	Review of - ER calculations - biomass balance calculations - Emission Factor calculations - Review of biomass balance in geographical area	Santiago Office	28/08/2024	Marcelo Sebben
6.	Review of EF calculations - FCi,m,i,y, FCi,k,y - NCVi,y - EFCO2,i,y, EFCO2,m,i,y - EGm,y, EGk,y - EGm,y, EGk,y	Santiago Office	28/08/2024	Marcelo Sebben
7.	Verification of monitoring equipment - Biomass residues Categories and quantities used - weighbridges - BRPJ,n,y, weighbridges - BRB4,n,y - weighbridges - BRB1/B3,n,y- weighbridges - EFCO2,LE - HCBL,y – flow meters, pressure meters and thermocouples - ELPJ,gross: electricity meters - ELPJ,imp: electricity meters - ELPJ,aux: electricity meters - NCVBR,n,y: measured external laboratories - Moisture content: digital scale, oven, moisture analyser. Calibration certificates	Viñales power plant	29/08/2024	Marcelo Sebben

8.	- Stakeholder Engagement and Consultation - Stakeholder Consultation and Ongoing Communication - Grievance Redress Procedure - Public comments - Risks to Stakeholders and the Environment - Respect for Human Rights and Equity - Propriety rights - Ecosystem Health	Viñales power plant	29/08/2024	Marcelo Sebben
9.	Methodology Deviations Project deviations Sustainable Development Contributions (SDGs) -	Santiago Office	30/08/2024	Marcelo Sebben
10.	Review of any missing information, pendencies	Santiago Office	30/08/2024	Marcelo Sebben
11.	Compilation of the audit findings.	Santiago Office	30/08/2024	Marcelo Sebben
12.	Closing Meeting: Submission of the audit findings to the client and agreement on the issues raised and agreement on timelines.	Santiago Office	30/08/2024	Marcelo Sebben

2.5 Resolution of Findings

The findings may be of following types: CAR – Corrective Action Request, CL – Clarification Request and FAR – Forward Action Request.

During the present verification, 09 CL and 07 CARs were raised and successfully closed.

The list of findings and their resolution are presented at Appendices IV of this report.

2.5.1 Forward Action Requests

No FAR has been raised during this verification process.

2.6 Eligibility for Validation Activities

Verifit Colombia S.A.S holds the accreditation for verification of the sectoral scope.

3 VALIDATION FINDINGS

3.1 Methodology Deviations

The project activity complies with the applied methodology ACM0006 – Consolidated methodology for electricity and heat generation from biomass --- Version 12.1.1 and all applicable tools.

No deviations were observed.

3.2 Project Description Deviations

The crediting period start date has been changed and approved in previous monitoring period. Therefore, the verification team has not assessed this change during this verification process.

During this monitoring period, the following project deviations apply:

1. it has been observed that the section 1.5 of the MR has been completed stating the company Maderas S.A as Project owner and responsible for signing contract with VVB. In the PD, in section 1.3, it was informed that Celulosa Arauco y Constitución S.A is project participant, but the company called Aserraderos Arauco S.A is the project owner, but nothing has been mentioned in the section 1.4 of the PD "Other entities involved in the project". In this monitoring report, it is being clarified that Maderas S.A, which is a Subsidiary of Celulosa Arauco y Constitución S.A has incorporated Aserraderos Arauco S.A. As Maderas S.A is responsible for signing contract with VVB, it has been now placed in section 1.5 of the MR as "Other entities involved". The VVB confirms that Maderas S.A was responsible for signing contract with VVB and that it is a Subsidiary of Celulosa Arauco y Constitución S.A. No impact in the implementation and operation of project activity occurred due to this replacement.
2. Serial number of Equipment weighbridge used for measuring the parameter "Biomass residues categories and quantities used in the project activity" was wrongly described in the PD. This occurred due to a typographic error. The correct serial number of the equipment that was operational until 14/02/2022 was 152069. This information is correctly included in the MR. The validation team confirms that this deviation does not an impact on the applicability of the methodology, additionality, or the appropriateness of the baseline scenario and that the calibration certificates corroborate with information on the serial number of the equipment and that the information provided is accurately described in the table "calibration" on section 4.3 of the VR.
3. On 14/02/2022 the same equipment mentioned in deviation 2 above has been replaced by the equipment Weighbridge Avery Weigh-Tronix type ZM 301, serial

number 211550531. This replacement occurred due to malfunction of the previous one. This equipment has the same accuracy class (CLASS III (+/- 30kg) and therefore, does not an impact on the applicability of the methodology, additionality, or the appropriateness of the baseline scenario. The validation team confirms that this equipment was the one installed during the on-site inspection and the calibration certificates provided are accurately described in the table "calibration" on section 4.3 of the VR.

3.3 New Project Activity Instances in Grouped Projects

Not applied. This project does not correspond to a grouped project.

3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes ☒ No

4 VERIFICATION FINDINGS

4.1 Project Details

Item	Evidence gathering activities, evidence checked, and assessment conclusion:
Audit history	The registration of this project activity on VCS/Verra Standard has been granted on 17/06/2013. 1st verification comprehended the monitoring period between 01/07/2014-31/12/2014 2nd verification comprehended the monitoring period between 01/01/2015-31/12/2016 3rd verification comprehended the monitoring period between 01/01/2017-31/12/2020 This process corresponds to the 4th verification period, comprehending the monitoring period between 01/01/2021-31/12/2023

	For this verification process, NOVS form has been submitted on 06/08/2024 and the on-site inspection has started on 28/08/2024
Double counting and participation under other GHG programs	The verification team confirms that the project is not receiving or seeking credit for reductions and removals from a project activity under another GHG program. Interviews have been conducted with project participants and the main GHG programs have been checked for confirmation/29/ The project participants, during the on-site inspections and through interviews carried out, have provided all information required on whether it was registered and active under any other GHG programs. The project activity has been rejected when registering under CDM prior to the registration of the project activity under VCS. The reasons for rejection was the lack of prior consideration. As per VCS Standard section 3.23.14, item 1, no information needs to be included in the MR as it has been rejected prior to VCS Validation. Information is public available in the CDM website/30/
No double claiming with emissions trading programs or binding emission limits	the GHG emission reductions generated by the project have not been included in any emissions trading program or any other mechanism that includes GHG allowance trading. Interviews have been conducted with project participants who confirmed this information.
No double claiming with other forms of environmental credit	The project has not received nor sought any other form of environmental credit, and neither has become eligible to do so since validation or previous verification. Interviews have been conducted with project participants who confirmed this information.
Supply chain (scope 3) emissions double claiming	The project activity corresponds to generation of renewable energy from biomass. Therefore, it is confirmed the project proponent is not a buyer or seller of a product whose emission footprint is changed by the project activity.

<table>
<tr><td>Sustainable development contributions</td><td>Three SDGs have been defined in the MR as required by VCS, taking into account the Sustainable Development contributions defined in the VCS-PD
• SDG Indicator: 7.2.1: Total Renewable energy produced. It refers to the amount of renewable energy dispatched to the grid. Refers to the parameter as EL PJ, gross,y.
• SDG Indicator: 8.5: The indicator corresponds to the amount of jobs generated due to the project activity and to the comparison of the wage with minimum wage from country/23/. The results were provided to the verification team and are as follows/22/:
<table><tr><th>Jobs quantity during the MP</th><th>% of Jobs receiving above minimum wage</th></tr><tr><td>2021 - 84</td><td>2021 – 100%</td></tr><tr><td>2022 - 84</td><td>2022 – 100%</td></tr><tr><td>2023 - 82</td><td>2023 – 100%</td></tr></table>• SDG Indicator: 13.0: Tonnes of greenhouse gas emissions avoided or removed. It refers to the amount of Emission Reductions achieved during this monitoring period (refer to total ERs achieved stated in section 5 below</td></tr>
<tr><td>Additional information relevant to the project</td><td>No commercial sensitive information has been excluded from the documents made public by the PP.</td></tr>
</table>

4.2 Safeguards and Stakeholder Engagement

4.2.1 Stakeholder Identification

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Item	Evidence gathering activities, evidence checked, and assessment conclusion
Stakeholder identification	The local stakeholder consultation or public audience are one of the phases of the Environmental Impact Assessment.

	This consultation occurred during the construction phase of the project activity and was a requirement for obtaining the operational license. The consultation was validated during the validation phase of this project activity. As per information provided by PP, the information regarding the project activity has been provided through following media: • Television: Interviews in TV programs. • Radio: Interviews. • Press: Articles describing the proposed project, leaflets with information about Climate Change and the proposed project activity. • Door-to-door presentation of the project to the local community. • Meetings with local stake holders. The following stakeholders have been identified at that time: • Environmental authorities of the VII Region. • Viñales personnel. • Local business community. • Small and middle size sawmills. • CORMA (the Wood Corporation). • Fisherman federation of the VII Region. • Other professionals and members of the workforce of the VII Region.
Legal or customary tenure/access rights	This section is not applicable considering that the plant is installed in a private area and no customary tenure or access rights have been identified.
Stakeholder diversity and changes over time	The main group of stakeholders identified are the ones linked to small and medium-sized sawmills, due to the use by the project activity of leftover biomass. No changes over time have been identified.
Expected changes in well-being	It has been observed during the on-site inspection and through interviews carried out that Viñales is engaged with

	local communities and provides benefits to them and to the whole country such as: 1. Generation of renewable energy 2. Increasing the market opportunities for by-products from small and medium-sized sawmills 3. Improvement of the quality and safety of local, industrial, and household electricity supply leads to fewer power supply interruptions for the community. 4. Improvements in local sawmill operations include more efficient removal of by-products, allowing better use of available space The verification team confirms that this information is accurate and it is duly described in the MR section 2.1.
Location of stakeholders	The most part of stakeholders daily impacted by the project activity are the subcontractors as the community is relatively distant from the project plant. The verification team confirms that this information is accurate and it is duly described in the MR section 2.1.
Location of resources	The project plant is located in a private area and therefore there is no access to resources from neighbor communities that might have been prevented. Verification team has confirmed this information during on-site inspection.

4.2.2 Stakeholder Consultation and Ongoing Communication

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Ongoing consultation	The company provides open channel through telephone and website for all members of community, employees, and stakeholders/26/. It could be observed by interviews to the project proponents and by report provided to the

	verification team /26/ that the grievance mechanism is currently in place and active.
Date(s) of stakeholder consultation	The local stakeholder consultation or public audience are one of the phases of the Environmental Impact Assessment and were carried out on July /2008. This consultation occurred during the construction phase of the project activity and was a requirement for obtaining the operational license. The consultation was validated during the validation phase of this project activity.
Communication of monitored results	During the monitoring period, the company carried out several programmes associated with communities in areas of education, sports, potable water. It was said by the Company' social representative, that the project is constantly sought by Educational community due to generation of renewable energy through biomass, contributing with sustainable development of the Country. The company results are yearly provided to the community through Yearly Reports/33/
Consultation records	The stakeholder consultation records are duly provided in the registered PD. Stakeholders consultation is carried out at the validation process and it is not repeated along the crediting period. Information has been duly observed in the PD and confirmed during the interviews carried out at the on-site inspection.
Stakeholder input	Benefits from project activity have been identified by the stakeholders during the stakeholder consultation, such as creation of positive economic environment into the community (jobs, services, etc). The verification team confirms that this information has been duly included in the MR.

4.2.3 Free, Prior, and Informed Consent

Item	Evidence gathering activities, evidence checked, and assessment conclusion

Consent	FPIC is not carried out for this project activity. The company is located in a private land and therefore no FPIC is needed.
Outcome of FPIC discussion	Not applicable due to the nature of the project activity

4.2.4 Grievance Redress Procedure

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Grievance received and steps taken to resolve the grievance including the outcomes of the resolution	The company provides open channel through telephone and website for all members of community, employees, and stakeholders/26/. It could be observed by interviews to the project proponents and by report provided to the verification team /26/ that the grievance mechanism is currently in place and active.
Grievance redress procedure	The records of ongoing consultation were provided to the verification team. No comments were directly related to the project activity./34/

4.2.5 Public Comments

Comments received	Actions taken by the project proponent	Evidence gathering activities, evidence checked, and assessment conclusion
No comments have been received	Not applied	No public comments have been received after the public consultation period. Constant communication is being maintained with community related to general requests (jobs, sponsorship, doubts). But none of them are directly related to the project activity. List of stakeholders contact (0800) have been checked as evidence.

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4.2.6 Risks to Local Stakeholders and the Environment

4.2.6.1 Management Experience

The management experience has been proved through information on all GHG Project activities that the company is being conducted. They are currently responsible for 6 GHG project activities registered and currently active in CDM and one in VCS (this one). Therefore, it could be confirmed the management experience in this matter. Evidence of project activities have been provided /35/.

4.2.6.2 Risk Assessment

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Natural and human induced risks to stakeholders' wellbeing	The following risks have been identified: Natural Risks: 1. Seismic activity (earthquakes) due to Chile's location 2. Forest fires in dry seasons 3. Climate impacts on biomass availability Human-Induced Risks: 1. Operational - Fire hazards from sawdust - Equipment accidents - Dust explosions - Chemical exposure 2. Health & Safety - Respiratory issues - Noise exposure - Physical injuries

	- Heat stress The project proponent have provided evidences that these risks have already been mapped and mitigation measures are in place. The following mitigation measures have been identified: 1. Engineering Controls, such as Fire suppression systems, Dust collection/ventilation, Machine guards, Seismic-resistant design and Spill containment 2. Safety Measures, such as Required PPE (respiratory, hearing, etc.), Emergency response equipment, Regular safety inspections, Clear emergency routes and First aid stations. 3. Administrative such as Safety training, Operating procedures, Emergency plans, Work rotation and Incident reporting 4. Environmental such as Air/water monitoring, Waste management, Emission controls and Environmental audits 5. Health & Monitoring such as Regular health checks, Exposure monitoring, Medical surveillance 6. Community Management such as Stakeholder meetings, communication channels and Environmental reporting These evidences have been observed during the on-site inspection and are considered accurate.
Risks to stakeholder participation	The following risks have been identified: - Workers (health & safety) - Local community (environmental impacts) - Business owners (operational risks) - Supply chain partners (resource risks) The following mitigation activities are in place

	1. Workers: PPE and safety equipment, Health screenings, Safety training, Emergency response training, Clear procedures and Health insurance 2. Local Community: Environmental monitoring, Regular communication, Community feedback system, Local employment priority, Emergency notifications and Development programs 3. Business Owners: Insurance coverage, Maintenance schedules, Quality control, Emergency funds, Business continuity plans and Regular audits 4. Supply Chain Partners: Long-term contracts, Multiple suppliers, Inventory management, Safety protocols, Communication systems and Backup plans These evidences have been observed during the on-site inspection and are considered accurate.
Working conditions	The following risks have been identified: • Physical hazards: Risk of electrocution from high-voltage equipment • Mechanical hazards: Moving machinery parts (turbines, pumps, conveyors) • Thermal hazards: Exposure to extreme heat from boiler and steam systems Noise exposure: Continuous high noise levels from machinery. • Chemicals hazards Hazardous materials: risks from handling and storing fuels As mitigation measures, the following has been identified: Training programs and labour policies to ensure good working conditions.

	This evidence have been observed during the on-site inspection and are considered accurate.
Safety of women and girls	No risk have been identified. Information considered reliable by verification team.
Safety of minority and marginalized groups, including children	No risks have been identified as the company has policies and procedures in place to ensure equal conditions and protection for all employees. Information has been confirmed during the interviews conducted at the on-site inspection.
Pollutants (air, noise, discharges to water, generation and release of hazardous materials and chemical pesticides and fertilizers	The risks identified are linked to waste generation, energy, and noise have been effectively managed in accordance with the necessary standards. The verification team observed that the waste management is in accordance with applied regulations and that ashes are duly applied as soil improvement. Electricity generated is monitored in accordance National Regulations and air quality is controlled in accordance with Ministry of Health regulations. Information has been checked during the on-site inspection and it is considered accurate.

4.2.7 Respect for Human Rights and Equity

4.2.7.1 Labor and Work

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Discrimination	It has been observed that no risk is identified. Inclusive labor policies and practices that ensure equal opportunities are in place and have been duly checked during the on-site inspection
Sexual harassment	It has been observed that no risk is identified. Protocol for prevention, reporting and addressing any incidents of harassment are in place and have been duly checked during the on-site inspection

Gender equity in labor and work	It has been observed that no risk is identified. Programs to empower and promote the participation of women at all levels of the organization are in place and have been duly checked during the on-site inspection
Forced labor	It has been observed that no risk is identified. Labor rights and guarantees the freedom of workers, both its own and those of contractor companies, to choose their employment. These conditions are in place and have been duly checked during the on-site inspection
Child labor	It has been observed that no risk is identified. Strict hiring policies that prohibit the employment of minors are in place and have been duly checked during the on-site inspection
Human trafficking	It has been observed that no risk is identified. Protocols and procedures for the safe and legal hiring of workers, both its own and those of contractor companies are in place and have been duly checked during the on-site inspection

4.2.7.2 Human Rights

Risks identified	Evidence gathering activities, evidence checked, and assessment conclusion
No risks have been identified	Grievance mechanism and training sections have been used as evidence for confirming this information.

4.2.7.3 Indigenous Peoples and Cultural Heritage

Risks identified	Evidence gathering activities, evidence checked, and assessment conclusion
No risks have been identified	No indigenous communities or significant cultural heritage sites have been identified in the project area. Information duly confirmed during the on-site inspection.

4.2.7.4 Property Rights

Risks identified	Evidence gathering activities, evidence checked, and assessment conclusion
No Risks identified.	Celulosa Arauco y Constitución S.A is the project owner. The ownership is confirmed through RCA 80/2009/09/.

4.2.7.5 Benefit Sharing

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Summary of the benefit sharing plan	No benefit sharing plan is in place for this project activity. Information confirmed during the interviews carried out during the on-site inspection.
Benefit sharing during the monitoring period	No benefit sharing plan is in place for this project activity. Information confirmed during the interviews carried out during the on-site inspection.

4.2.8 Ecosystem Health

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Impacts on biodiversity and ecosystems	No risks have been identified. The project activity corresponds to renewable energy generation inside a manufacturing plant and therefore, this risk is not significant. PD information and on-site inspection have been used as evidences.
Soil degradation and soil erosion	No risks have been identified. The project activity corresponds to renewable energy generation inside a manufacturing plant and therefore, this risk is not significant. PD information and on-site inspection have been used as evidences.
Water consumption and stress	No risks have been identified. The project activity corresponds to renewable energy generation inside a manufacturing plant and therefore, this risk is not significant. The water usage to process is duly authorized by competent authorities. Interviews and on-site inspection have been used as evidences.

4.2.8.1 Rare, Threatened, and Endangered species

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Species or habitat	No risks have been identified. The project activity corresponds to renewable energy generation inside a manufacturing plant and therefore, this risk is not significant. PD information and on-site inspection have been used as evidences.
Areas needed for habitat connectivity	No risks have been identified. The project activity corresponds to renewable energy generation inside a manufacturing plant and therefore, this risk is not significant. PD information and on-site inspection have been used as evidences.

	Evidence gathering activities, evidence checked, and assessment conclusion
Habitats for rare, threatened, and endangered species	No risks have been identified. The project activity corresponds to renewable energy generation inside a manufacturing plant and therefore, this risk is not significant. PD information and on-site inspection have been used as evidences.
Areas for habitat connectivity	No risks have been identified. The project activity corresponds to renewable energy generation inside a manufacturing plant and therefore, this risk is not significant. PD information and on-site inspection have been used as evidences.

4.2.8.2 Introduction of Species

Species introduced	Evidence gathering activities, evidence checked, and assessment conclusion
Not applicable.	No risks have been identified. The project activity corresponds to renewable energy generation inside a manufacturing plant and therefore, this risk of introducing species is not significant as no species are introduced in the environment due to this project activity. PD information and on-site inspection have been used as evidences.

Existing invasive species	Evidence gathering activities, evidence checked, and assessment conclusion
Not applicable	No introduction of species are part of the project activity as it refers to renewable energy project. PD information and on-site inspection have been used as evidences.

	Evidence gathering activities, evidence checked, and assessment conclusion
Invasive species	Not applicable as no invasive species are being introduced due to the project activity.

4.2.8.3 Ecosystem conversion

Item	Evidence gathering activities and evidence checked
Ecosystem conversion	Not applicable to this project activity

4.3 Accuracy of Reduction and Removal Calculations

The approved VCS methodology ACM0006 – Consolidated methodology for electricity and heat generation from biomass --- Version 12.1.1. is applied to the project activity;

GHG emission reduction is calculated as baseline emissions minus project emissions. No leakage is accounted as per PDD, considering that there is no new biomass type being used in the project activity during this monitoring period.

Baseline emissions occur due to generation of renewable energy and displacement from grid electricity consumption and due to avoidance of methane generation due to biomass disposal

Project emissions are generated due to fossil fuel consumption in the boiler due to operational reasons, fossil fuel consumption due to biomass transportation inside the Project's plant, due to biomass freight from external biomass and due to biomass burning.

Baseline emissions are calculated as follows:

Baseline emission was calculated using the following equation (#2 from applied meth):

$$BEy = EL_{BL,GR,y}.EF_{EG,GR,y} + \sum FF_{BL,HG,y,f}.EF_{FF,y,f} + EL_{BL,FF/GR,y}.min(EF_{EG,GR,y}, EF_{EG,FF,y}) + BE_{BR,y}$$

Where:
BE_y = Baseline emissions in year y
$EL_{BL,GR,y}$ = Baseline minimum electricity generation in the grid in year y
$EF_{EG,GR,y}$ = Grid emission factor in year y
$FF_{BL,HG,y,f}$ = baseline fossil fuel demand form process heat in year y
$EF_{FF,y,f}$ = CO2 emission factor for fossil fuel type f in year y
$EL_{BL,FF/GR,y}$ = baseline uncertain electricity generation in the grid or on-site
$EF_{EG,FF,y}$ = CO2 emission factor for electricity generation with fossil fuels at project site in the baseline in year y

BE_{BR} = Baseline emissions due to disposal of biomass residues in year y

Parameters accounted for this monitoring period are:
$EL_{BL,GR,y}$: calculated as per equation 3 of the applied methodology
$EF_{EG,GR,y}$: calculated as per "tool to calculate emission factor for an electric system" version 02.1.1
$FF_{BL,HG,y,f}$: fossil fuel attributed to start-up and operational conditions of recovery boiler and auxiliary boiler as per pg 72 of the registered PDD.
$EF_{FF,y,f}$: calculated as per "tool to calculate project or leakage CO2 emissions from fossil fuel combustion" version 2
$EL_{BL,FF/GR,y}$: considered equal to zero conservatively

BE_{BR}: calculated as per equation 35 of the applied methodology as follows:

$$BEy = BE_{BR,B1/B3,y} + BE_{BR,B2,y}$$

Where
$BE_{BR,\,B1/B3,y}$ = baseline emissions due to aerobic decay or uncontrolled burning of biomass residues in year y
$BE_{BR,\,B2,y}$ = baseline emissions due to anaerobic decay of biomass residues in year y (not applicable for this project activity)

$BE_{BR,\,B1/B3,y}$ is calculated as per equation 36 of the applied methodology.

$$BE_{BR,B1/B3,y} = GWP_{CH4} \cdot \sum_{n} BR_{B1/B3,n,y} \cdot NCV_{BR,n,y} \cdot EF_{BR,n,y}$$

<u>The results are as follows for BE calculations:</u>

<u>The BEy results are as follows:</u>

BE_{2021} = 130,797

BE_{2022} = 147,422

BE_{2023} = 202,413

BE_{total} = 480,632 tCO_2e

Project emissions

According to the applied methodology ACM0006 equation 37, project emissions were calculated as folllows (only applicable terms were included):

$$PEy = PE_{FF,y} + PE_{GR1,y} + PE_{TR,y} + PE_{BR,y}$$

Where:
PEy = Project emissions in year y
$PE_{FF,y}$ = Project emissions from fossil fuel consumption at the project site in year y
$PE_{GR1,y}$ = Project emissions due to grid electricity imports in year y
$PE_{TR,y}$ = Project emissions due to transport of biomass to the project plant
$PE_{BR,y}$ = Project emissions due to combustion of biomass during year y

For this project activity the following apply
$PE_{FF,y}$: measurement of all diesel consumption in the transportation and mechanical processing of biomass and fuel oil consumption in all boilers related to project activity
$PE_{GR1,y}$: measurement of all electricity imports from grid to the project activity

$PE_{TR,y}$: measured as per equation 40 and 41 of the applied methodology

The PEy results are as follows:

PE_{2021} = 6,478

PE_{2022} = 5,882

PE_{2023} = 7,435

PE_{total} = 19,795 tCO_2e

Leakage emissions

As per registered PD, no leakage is to be applied to this project activity.

Therefore **LEy = 0**

Fixed parameters: The following parameter was kept fixed along the crediting period and is being used for calculation of emission reductions

- Biomass residues categories and quantities used for the selection of the baseline scenario and assessment of additionality: The values are mentioned in the MR and are in accordance with registered PD. These values were not applied in the ER calculations.
- **Px**: Quantity of the main product of the production process produced in year x from plants operated at the project site.
    - 352,686 m3/yr of sawn timber from the sawmill
    - 88,203 m3/yr of processed wood products from the remanufacture plant
- **$CAP_{HG,h}$:** Baseline capacity of heat generator h (GJ/h): value applied is equal to 210 GJ/h
- **$LFC_{HG,h}$**: Baseline load factor of heat generator h. Value applied equal to 90%
- **GWP_{CH4}**: Global Warming Potential of methane valid for the commitment period: value applied equal to 28 tCO2/tCH4.
- **$EF_{burning,\ CH4,k,y}$:** CH4 emission factor for uncontrolled burning of the biomass residue type k during year y
    - Biomass residues from industrial operations (mainly sawdust and bark from sawmills): 0.0008742 (tCH4/GJ) or 874.2 (Kg CH4/TJ)
    - Biomass residues from forestry operations (mainly branches from harvesting, pruning and thinning operations): 0.00010146 (tCH4/GJ) or 101.46 (Kg CH4/TJ)
- **$EF_{CH4,BR}$:** CH4 emission factor for the combustion of biomass residues in the project plant. Value applkied is equal to 41.1 kg $_{CH4}$/TJ using conservativeness factor of 1.37 from Table 5 (maximum uncertainty).
- **$h_{BL,HG,BR,\ boiler}$**: Heat efficiency of the boiler (heat generator) that would have been installed in the baseline scenario: value applied equal to 85%
- **$EF_{CO2,f}$**: Default CO2 emission factor for freight transportation activity f
    - 245 g CO_2/t km for light vehicle
    - 129 g CO_2/t km for heavy vehicle

Monitored parameters:

The monitored parameters presented in the monitoring plan and have been assessed as follows:

1. Biomass residues categories and quantities used in the project activity	
Criteria/Requirements	Assessment Observation

Measuring / Reading / Recording frequency	This parameter refers to the biomass categories consumed in the project activity. It is measured continuously during the monitoring period. The following biomasses apply: - Sawdust and bark produced from on-site industrial operations which in absence of PA would be used in heat and power generation on site (B4) and in the PA are used in heat and power generation. - Sawdust and bark produced from on-site industrial operations which in absence of PA would be dumped or burned in open air (B1/B3) and in the PA are used in heat and power generation. - Sawdust and bark produced off-site from third parties industrial operations which in absence of PA would be dumped or burned in open air (B1/B3) and in the PA are used in heat and power generation. - Bark, branches from harvest or pruning produced off-site from forest operations which in absence of PA would be dumped or burned in open air (B1/B3) and in the PA are used in heat and power generation (not consumed during this monitoring period).
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	Each biomass category has its corresponding monitoring equipment. Refer to the parameters below.
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Each biomass category has its corresponding monitoring equipment. Refer to the parameters below.
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Each biomass category has its corresponding monitoring equipment. Refer to the parameters below.
Calibration frequency / interval	Each biomass category has its corresponding monitoring equipment. Refer to the parameters below.

Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Each biomass category has its corresponding monitoring equipment. Refer to the parameters below.
Is the calibration of measuring equipment carried out by an accredited person or institution?	Each biomass category has its corresponding monitoring equipment. Refer to the parameters below.
Is(are) the calibration(s) valid for the entire reporting period?	Each biomass category has its corresponding monitoring equipment. Refer to the parameters below.
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Each biomass category has its corresponding monitoring equipment. Refer to the parameters below.
How were the values in the monitoring report verified?	Refer to each biomass description in the parameters below
If applicable, has the reported data been crosschecked with other available data?	The information was cross checked against the information observed during on-site visit, interviews performed, data system analysis (SAP system) and information used in the previous monitoring periods/33/
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Correct and conservative data has been transferred to the monitoring report
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applicable

2. **For biomass residues categories for which scenarios B1, B2 or B3 is deemed a plausible baseline alternative, project participants shall demonstrate that this is a realistic and credible alternative scenario.**	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	This parameter refers to the quantity of available biomass from the consumed biomass types in the geographic region of the project activity. Considering that no new biomasses are consumed in the project activity, the analysis of quantity of biomass used in the defined region is not needed as already has been carried out at validation phase and, according to

	the monitoring plan, only need to be monitored in case of new biomasses types are included.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes. Only at the beginning of crediting period or in case any other biomass type is included in the PA.
Monitoring equipment	N/A
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	N/A
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
Calibration frequency / interval	N/A
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	N/A
Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
Is(are) the calibration(s) valid for the entire reporting period?	N/A
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A
How were the values in the monitoring report verified?	The information has been checked at the on-site inspection, interviews carried out with project participants and previous monitoring reports.
If applicable, has the reported data been crosschecked with other available data?	The information has been checked at the on-site inspection, interviews carried out with project participants and previous monitoring reports
Does the data management ensure correct transfer of data and reporting of emission	Yes.

reductions and are necessary QA/QC processes in place?	
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applicable

3. $BR_{PJ,n,y}$ - Quantity of biomass residues of category n used in the project activity in year y (tonnes on dry-basis)	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	The parameter refers to the amount of biomass residue consumed in the project activity: it corresponds to the following biomass types: - Sawdust and bark produced from on-site industrial operations which in absence of PA would be used in heat and power generation on site (B4) and in the PA are used in heat and power generation. - Sawdust and bark produced from on-site industrial operations which in absence of PA would be dumped or burned in open air (B1/B3) and in the PA are used in heat and power generation. - Sawdust and bark produced off-site from third parties industrial operations which in absence of PA would be dumped or burned in open air (B1/B3) and in the PA are used in heat and power generation. - Bark, branches from harvest or pruning produced off-site from forest operations which in absence of PA would be dumped or burned in open air (B1/B3) and in the PA are used in heat and power generation (not consumed during this monitoring period). For each category above, the biomasses are measured as follows: - Sawdust and bark produced from on-site industrial operations transported to the project activity through pneumatic duct (sunder dust) – $BR_{PJ,1,y}$. - Sawdust and bark produced from on-site industrial operations transported to the project activity through trucks and measured at weighbridge – $BR_{PJ,2,y}$.

	- Sawdust and bark produced from off-site industrial operations transported to the project activity through trucks and measured at weighbridge – $BR_{PJ,3,y}$. - Bark, branches from harvest or pruning produced off-site from forest operations and transported to the project activity through trucks and measured at weighbridge – $BR_{PJ,4,y}$. (not consumed during this monitoring period)
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes. For parameter transported through pneumatic ducts, its quantity is calculated as per PDD pg 113. For parameters transported by trucks, it is measured every truck entrance (valid for on-site and off-site biomass)
Monitoring equipment	<u>Sawdust and bark transported by pneumatic duct:</u> no equipment is applied. Quantity is estimated as per PDD pg 113 calculated by internal provider. The information is direcly provided in SAP. The value is transformed from m^3ST to ton by project participants, by applying wood density/13-2/ and conversion from m^3St (estero m^3) to solid m^3/13.3/ <u>Sawdust and bark procuded on-site and off-site transported by trucks:</u> Type: Weighbridge 1 GSE 460 Accuracy class: Class III (+/- 30kg) Serial number: 152069 Replaced with the following equipment on 14/02/2022 Type: ZM 301 Accuracy class: Class III (+/- 30kg) Serial number: 211550531
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national	Yes. Refer to the equipment description above

standards, or as per the manufacturer's specification?	
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	yes
Calibration frequency / interval	Every 6 months (biannual) for weighbridge
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes.
Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes
Is(are) the calibration(s) valid for the entire reporting period?	Refer to Calibration table below the parameters monitored
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	yes
How were the values in the monitoring report verified?	For the biomass transported by pneumatic ducts, the calculation has been checked/13-5/ and for the quantities measured at weighbridges, the measuring procedure has been followed during the site visit: information is completed at every entrance and transferred to a electronic spreadsheet. This data is then aggregated and stored at company's server. The information has been checked directly at company's server.
If applicable, has the reported data been crosschecked with other available data?	The cross-check of data was based on the boiler efficiencies obtained from energy and mass balance and compared to the provider's information.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. Correct and conservative data has been transferred to the emission reduction calculations
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applicable

4. $BR_{B4,n,y}$: Quantity of biomass residues of category k used in the project activity in year y for which the baseline scenario is B4 (tonnes on dry-basis)	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	The parameter refers to the amount of biomass residues to which baseline scenario's fate is B4 (used for generating heat/power) and which is consumed in the project activity. The actual amount of biomass that would be consumed in the baseline scenario is calculated based on the amount of steam (heat) consumed by the sawmill process, which, in the baseline scenario would be consumed anyways. Therefore, the amount of biomass B4 consumed is calculated based on the amount of heat to process and the amount of biomass needed for generating this heat.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	Although all biomass is duly measured/calculated as determined in the parameter BR_{PJ} above, the amount of biomass with fate B4 is calculated based on the amount of biomass needed for generating the heat required by the process. The equipment used for measuring biomass is Weighbridge 1 GSE 460. Refer to parameter BRpj above.
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Refer to parameter BRpj above
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Refer to parameter BRpj above
Calibration frequency / interval	Refer to parameter BRpj above
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Refer to parameter BRpj above

Is the calibration of measuring equipment carried out by an accredited person or institution?	Refer to parameter BRpj above
Is(are) the calibration(s) valid for the entire reporting period?	Refer to parameter BRpj above
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Refer to parameter BRpj above
How were the values in the monitoring report verified?	The values were compared to the ones obtained in the calculation spreadsheet.
If applicable, has the reported data been crosschecked with other available data?	The cross-check of data was based on the boiler efficiencies obtained from energy and mass balance and compared to the provider's information.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. Correct and conservative data has been transferred to the emission reduction calculations
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applied.

5. $BR_{B1/B3,n,y}$: Quantity of biomass residues of category n used in the project activity in year y for which the baseline scenario is B1 or B3 (tonnes on dry-basis)	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	The parameter refers to the amount of biomass residues to which baseline scenario's fate is B1/B3 (dumped or burned in open air) which is consumed in the project activity. The actual amount of biomass that is consumed in the PA but would be dumped or burned in open air is calculated based on the amount of biomass consumed in the PA which exceeds the amount needed for generating steam (heat) for the sawmill process, which, in the baseline scenario would be consumed anyways. Therefore, the amount of biomass B1/B3 consumed is calculated based on the total amount of biomass consumed by the project activity minus the amount of biomass needed for generating heat to process (fate B4).

Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	Although all biomass is duly measured/calculated as determined in the parameter BR_{PJ} above, the amount of biomass with fate B1/B3 is calculated based on the total amount of biomass consumed by the project activity minus the amount of biomass needed for generating heat to process (fate B4). The equipment used for measuring biomass is Weighbridges described in the parameter BRpj above.
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Refer to parameter BRpj above
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Refer to parameter BRpj above
Calibration frequency / interval	Refer to parameter BRpj above
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Refer to parameter BRpj above
Is the calibration of measuring equipment carried out by an accredited person or institution?	Refer to parameter BRpj above
Is(are) the calibration(s) valid for the entire reporting period?	Refer to parameter BRpj above
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Refer to parameter BRpj above
How were the values in the monitoring report verified?	The values were compared to the ones obtained in the calculation spreadsheet.

If applicable, has the reported data been crosschecked with other available data?	The cross-check of data was based on the boiler efficiencies obtained from energy and mass balance and compared to the provider's information.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. Correct and conservative data has been transferred to the emission reduction calculations
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applied.

6. $BR_{B5/B8,n,y}$: Quantity of biomass residues of category n used in the project activity in year y for which the baseline scenario is B5, B6, B7 or B8 (tonnes on dry-basis)	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	The parameter refers to the amount of biomass residues to which baseline scenario's fate is B5, B6, B7 or B8 (consumed in other sites for power/heat generation, generation of biofuels, used for non energy purposes or fate not clearly identified). These biomasses fate are not foreseen in the project description and have not been observed during this monitoring period.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	N/A
Monitoring equipment	N/A
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	N/A
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
Calibration frequency / interval	N/A
Is the calibration interval in line with the monitoring plan and/or methodology? If the	N/A

monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	
Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
Is(are) the calibration(s) valid for the entire reporting period?	N/A
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A
How were the values in the monitoring report verified?	N/A
If applicable, has the reported data been crosschecked with other available data?	N/A
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	N/A
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	N/A

7. $EF_{FF,y,f}$: CO2 emission factor for fossil fuel type f in year y.	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	This parameter corresponds to the CO2 emission factor of the fossil fuel consumed in the PA. As no information from fuel supplier was provided, IPCC default value at the upper limit of the uncertainty at a 95% confidence was used for determining this parameter. The fuels consumed in the project activity are diesel and LPG.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	N/A
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the	N/A

monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
Calibration frequency / interval	N/A
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	N/A
Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
Is(are) the calibration(s) valid for the entire reporting period?	N/A
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A
How were the values in the monitoring report verified?	Values were compared to the IPCC data.
If applicable, has the reported data been crosschecked with other available data?	Not applied as default values were used in the calculation.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	N/A

8. $EF_{CH4,BR}$: CH_4 Emission factor for the combustion of biomass residues in the project plant	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	This parameter is determined by the applied methodology, therefore, no monitoring is carried out.

Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	yes
Monitoring equipment	No equipment is applied as this parameter is determined by applied methodology
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Not applied.
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not applied
Calibration frequency / interval	Not applied
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Not applied
Is the calibration of measuring equipment carried out by an accredited person or institution?	Not applied
Is(are) the calibration(s) valid for the entire reporting period?	Not applied
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Not applied
How were the values in the monitoring report verified?	Values from methodology were checked and compared to the ones reported in the ER calculations and MR.
If applicable, has the reported data been crosschecked with other available data?	Not applicable
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Correct and conservative data has been transferred to the emission reduction calculations

In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applicable

9. $EF_{CO2,LE}$: CO_2 Emission factor of the most carbon intensive fossil fuel used in the country	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	Parameter is to be determined in case leakage is to be accounted. As observed in the registered PDD, no leakage is to be accounted for the mentioned biomasses. Moreover, no new biomass type is being consumed in the project activity. Therefore, this parameter is not applicable.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes. Only in case leakage is applicable
Monitoring equipment	Not applied
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Not applied.
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not applied
Calibration frequency / interval	Not applied
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Not applied
Is the calibration of measuring equipment carried out by an accredited person or institution?	Not applied
Is(are) the calibration(s) valid for the entire reporting period?	Not applied

Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Not applied
How were the values in the monitoring report verified?	Value refer to the emission factor of Gas Coke and lignite Coke. Nevertheless, it is not applicable in the current monitoring period.
If applicable, has the reported data been crosschecked with other available data?	Not applicable
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Not applicable
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applicable

10. $HC_{BL,y}$: Baseline process heat generation in year y (GJ).	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	This parameter refers to the amount of heat to process produced by the project activity. Considering that biomass would be consumed in the baseline scenario for heat generation, this parameter is measured to determine the quantity of biomass that would have been consumed in the baseline scenario and discount it from baseline emissions.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes. Parameter is measured continuoulsly
Monitoring equipment	<u>Power Boiler High pressure line</u> TAG: 663-PT-0155 Type: pressure gauge transmitter ENDRESS + HAUSER Accuracy class: ±0.075% Serial number: D500C90109C TAG 663-FT-0156 Type: flow transmitter ENDRESS + HAUSER

	Accuracy class: ±0.075% Serial number: D501F50109D TAG 663-TT-0157 Type: temperature transmitter ENDRESS + HAUSER Accuracy class: ±0.05% Serial number: 0266161 TAG: 665-PT-9040-A/B Type: pressure gauge transmitter ROSEMOUNT Accuracy class: ±0.05% Serial number: 0032601(A)-0032602(B) TAG 665-FT-9030 Type: flow transmitter ROSEMOUNT Accuracy class: ±0.05% Serial number: 0033712 TAG 665-TT-9043-A-B Type: temperature transmitter ROSEMOUNT Accuracy class: ±0.03% Serial number: 0271902(A)-0219846(B) <u>Power Boiler Medium pressure line</u> TAG: 665-PT-9001-A-B Type: pressure gauge transmitter ROSEMOUNT Accuracy class: ±0.05% Serial number: 0032561(A)- 0032562(B)

	TAG: 665-FT-9025 Type: flow transmitter ROSEMOUNT Accuracy class: ±0.05% Serial number: 0033711 TAG 665-FT-9051 Type: flow transmitter ROSEMOUNT Accuracy class: ±0.05% Serial number: 0033713 TAG 665-TT-9026 Type: temperature transmitter ROSEMOUNT Accuracy class: ±0.03% Serial number: 0271897 <u>Power Boiler Low pressure line</u> TAG: 665-PT-9002-A-B-C Type: pressure gauge transmitter ROSEMOUNT Accuracy class: ±0.05% Serial number: 0032598(A)-0036244(B)- 0032600(C) TAG: 665-FT-9019 (steam) Type: flow transmitter ROSEMOUNT Accuracy class: ±0.05% Serial number 0033709 TAG 665-FT-9023 (deaerator steam) Type: flow transmitter ROSEMOUNT

	Accuracy class: ±0.05% Serial number: 0033710 TAG 665-TT-9024 Type: temperature transmitter ROSEMOUNT Accuracy class: ±0.03% Serial number: 0271896
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes. Check each equipment above and evidences in Table "calibration" below.
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	yes
Calibration frequency / interval	Temperature transmitters: 2 years Pressure transmitters: 18 months Flow transmitters: 18 months For calibration details, refer to calibration table below this section.
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	For calibration details, refer to calibration table below this section.
Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes.
Is(are) the calibration(s) valid for the entire reporting period?	Yes

Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes
How were the values in the monitoring report verified?	Values extracted from DCS system have been checked agains data provided at the ER calculations spreadsheet.
If applicable, has the reported data been crosschecked with other available data?	Values have been cross-checked against biomass boiler energy balance
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. QA/QC procedures have been duly applied for obtaining the data.
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applied

11. **$EL_{PJ,gross,y}$: Gross quantity of electricity generated in all power plants which are located at the project site and included in the project boundary in year.**	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	The parameter is measured continuously by one electricity meter and corresponds to the total electricity generated by the turbogenerator. The data is recorded in the Company system and aggregated by DCS.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	yes
Monitoring equipment	TAG N°: 8600-10 Type: Electricity meter Schneider Electric ION 8600 Accuracy class: 0.2% Serial number: LT-1012A701-01
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national	Yes. Refer to the equipment description above

standards, or as per the manufacturer's specification?	
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	yes
Calibration frequency / interval	7 years For further details regarding each equipment refer to table «Calibration» below
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes.
Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes
Is(are) the calibration(s) valid for the entire reporting period?	Refer to table below this section
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	yes
How were the values in the monitoring report verified?	Data applied in the ER calculations was checked against data aggregated from DCS system.
If applicable, has the reported data been crosschecked with other available data?	Data was cross-checked with electricity sales report and generation index (quantity of electricity generated over fuel fired - MWh/tDS). And this amount was compared to the values from previous periods.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Correct and conservative data has been transferred to the emission reduction calculations
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applicable

12. $EL_{PJ,imp,y}$: Project electricity imports from the grid in year y (MWh)	
Criteria/Requirements	**Assessment Observation**

Measuring / Reading / Recording frequency	The parameter is measured continuously by two electricity meter and corresponds to the total electricity imported by the PA from the grid. The data is recorded in the Company system and aggregated by DCS.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	yes
Monitoring equipment	TAG N°: 52-B1 (import power measurement) Type: Electricity meter Schneider Electric ION 8600 Accuracy class: 0.2% Serial number: PT-1012A934-01 TAG N°: 52-B1 (sawmill consumption) Type: Electricity meter Schneider Electric ION 8600 Accuracy class: 0.2% Serial number: PT-1010A242-01
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes. Refer to the equipment description above
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	yes
Calibration frequency / interval	7 years For further details regarding each equipment refer to table "Calibration" below
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes.

Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes
Is(are) the calibration(s) valid for the entire reporting period?	Refer to table below this section
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	yes
How were the values in the monitoring report verified?	Data applied in the ER calculations was checked against data aggregated from DCS system.
If applicable, has the reported data been crosschecked with other available data?	Data was cross-checked with purchase reports.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Correct and conservative data has been transferred to the emission reduction calculations
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applicable

13. $EL_{PJ,aux,y}$: Total auxiliary electricity consumption required for the operation of the power plants at the project site in year y.(MWh)	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	The parameter is measured continuously by six electricity meters and corresponds to the electricity consumption by the following equipment: - Management of biomass residues; - Power boiler; - Administration building. - Pneumatic transportation from sawmill and remanufacturer plants to the project activity (this value is calculated as per PDD pg 94) The measured data is recorded in the Company system and aggregated by DCS and the pneumatic consumption is directly calculated in the ER calculations spreadsheet.

Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	yes
Monitoring equipment	**Viñales_1_6_Manejo_Desechos_Comb** TAG: 669-EI-1603/1604 (1-6) Brand: Schneider Electric Model: Ion 7550 Serial number: LI-1010A261-02 Accuracy: +/- 0.2% **Viñales_1_7_CP_Caldera_Poder** TAG: 669-EI-1703/1704 (1-7) Brand: Schneider Electric Model: Ion 7550 Serial number: LI-1010A263-02 Accuracy class: +/- 0.2% **Viñales_1_8_CP_Caldera_Poder** TAG: 669-EI_1803/1804 (1-8) Brand: Schneider Electric Model: Ion 7550 Serial number: LI-1010A264-02 Accuracy class: +/- 0.2% **Viñales_1_9_CP_Caldera_Poder** TAG: 669-EI-1903/1904 (1-9) Brand: Schneider Electric Model: Ion 7550 Serial number: LI-1010A262-02 Accuracy: +/- 0.2% **Viñales_1_11_Barra_1B_Ed_Administración** TAG: 669-EI-1703/1804 (1-11)

	Brand: Schneider Electric Model: Ion 7550 Serial number: LI-1010A265-02 Accuracy: +/- 0.2%
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes. Refer to the equipment description above
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	yes
Calibration frequency / interval	7 years. For details regarding each equipment refer to the equipment description above
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes.
Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes
Is(are) the calibration(s) valid for the entire reporting period?	yes
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	yes
How were the values in the monitoring report verified?	Data applied in the ER calculations was checked against data aggregated from DCS system.
If applicable, has the reported data been crosschecked with other available data?	Data was cross-checked with energy balance from plant compared to the electricity invoices/21/.
Does the data management ensure correct transfer of data and reporting of emission	Correct and conservative data has been transferred to the emission reduction calculations

reductions and are necessary QA/QC processes in place?	
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	The electricity consumed by the biomass crusher is not being measured during this monitoring period and therefore a temporary deviation is being requested. Refer to the validation report on PRC for further details.

14. $NCV_{BR,n,y}$: Net calorific value of biomass residues of category n in year y (GJ/tonne of dry-basis).	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	This parameter corresponds to the net calorific value of each biomass consumed in the PA. It is measured by external laboratory based on international standards every 6 months, as per monitoring plan.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	The monitoring equipment is controlled by the external laboratory with is duly accredited for this measurement[/34/]. Thus, equipment verification was not conducted by the verification team.
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	The monitoring equipment is controlled by the external laboratory with is duly accredited for this measurement. Thus, equipment verification was not conducted by the verification team.
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	The monitoring equipment is controlled by the external laboratory with is duly accredited for this measurement. Thus, equipment verification was not conducted by the verification team.
Calibration frequency / interval	The monitoring equipment is controlled by the external laboratory with is duly accredited for this measurement. Thus, equipment verification was not conducted by the verification team.
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in	The monitoring equipment is controlled by the external laboratory with is duly accredited for this measurement. Thus, equipment verification was not conducted by the verification team.

accordance with the local/national standards, or as per the manufacturer's specifications?	
Is the calibration of measuring equipment carried out by an accredited person or institution?	The monitoring equipment is controlled by the external laboratory with is duly accredited for this measurement. Thus, equipment verification was not conducted by the verification team.
Is(are) the calibration(s) valid for the entire reporting period?	The monitoring equipment is controlled by the external laboratory with is duly accredited for this measurement. Thus, equipment verification was not conducted by the verification team.
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	The monitoring equipment is controlled by the external laboratory with is duly accredited for this measurement. Thus, equipment verification was not conducted by the verification team.
How were the values in the monitoring report verified?	The values were verified in the analysis report and compared to the ones applied in the ER calculations.
If applicable, has the reported data been crosschecked with other available data?	As per monitoring plan, the measured data is to be cross-checked against data from previous monitoring period or IPCC. The reported data was cross-checked with data from previous monitoring period and the range from IPCC data. The values were similar to previous monitoring periods/33/. And to the data not available in previous MP, the obtained data was within IPCC range.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Correct and conservative data has been transferred to the emission reduction calculations
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applicable

15. **Moisture content of each biomass residue type k**	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	The parameter corresponds to the moisture content of all biomasses consumed in the PA. As the biomasses are accounted in dry basis (unit BDt - bone dry tonne), the moisture content is used for this transformation (wet to dry basis).

	The moisture content of each biomass residue generated externally internally are measured in internal laboratory by sampling. Samples are taken with 95% confidence level as it could be observed in the analyisis procedure/13-7/.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	Electronic moisture analyzer Sartorius MA150C Accuracy class: Class I/+/-0.001 gr. Serial number: 27008246 Laboratory Oven MEMMERT UFE 600 Accuracy class: +/- 0.5% Serial number: G611.0831 Laboratory Digital scale Sartorius TE1502S Accuracy class: 0.01gr Serial number: 27402265
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes. For internal equipment refer to above for each equipment
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	yes
Calibration frequency / interval	12 months calibration frequency for oven and for scales For calibration dates refer table below for details.
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes

Is the calibration of measuring equipment carried out by an accredited person or institution?	yes
Is(are) the calibration(s) valid for the entire reporting period?	For calibration dates refer table below for details
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes
How were the values in the monitoring report verified?	Results from laboratory analysis were compared to the ones used in the ER calculations. The results were directly checked at the monitoirng spreadsheets completed by laboratory analists.
If applicable, has the reported data been crosschecked with other available data?	No cross-check is required by the monitoring plan as measurements are conducted frequently and any inconsistency is mitigated by the application of weighted average in the results.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. Correct and conservative data has been transferred to the emission reduction calculations
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applicable

16. $P_{,y}$: Quantity of main product of the productin process produced in year y from plants operated at teh project site	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	This parameter refers to the amount of products produced by plants operated at the project site. According to the applied methodology, This parameter is used to address the uncertainty of the allocation of biomass under fate B4 (used in the baseline scenario). This parameter is monitored continuously by the production plant (sawmill and remanufacturing plant)
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Not applicable as the parameter directly provided by sawmill/remanufacturing.
Monitoring equipment	Not applicable as the parameter directly provided by sawmill/remanufacturing.

Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Not applicable as the parameter directly provided by sawmill/remanufacturing.
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not applicable as the parameter directly provided by sawmill/remanufacturing.
Calibration frequency / interval	Not applicable as the parameter directly provided by sawmill/remanufacturing.
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Not applicable as the parameter directly provided by sawmill/remanufacturing.
Is the calibration of measuring equipment carried out by an accredited person or institution?	Not applicable as the parameter directly provided by sawmill/remanufacturing.
Is(are) the calibration(s) valid for the entire reporting period?	Not applicable as the parameter directly provided by sawmill/remanufacturing.
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Not applicable as the parameter directly provided by sawmill/remanufacturing.
How were the values in the monitoring report verified?	The values have been directly obtained from SAP system.
If applicable, has the reported data been crosschecked with other available data?	The value has been compared to the one registered as fixed parameter to the maximum design potential.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Not applicable for this parameter
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applicable

17. **LOC_y: Length of the operational campaign in year y (hour)**

Criteria/Requirements	Assessment Observation
Measuring / Reading / Recording frequency	The parameter is obtained in the DCS by discounting from the whole campaign the plant stoppage (one per year) and other significant incidents. Values were available in the DCS system. The measurement of the parameter is in accordance with procedure required by the applied methodology
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	Not applicable. The parameter is based on the DCS time measurement.
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	N/A
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
Calibration frequency / interval	N/A
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	N/A
Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
Is(are) the calibration(s) valid for the entire reporting period?	N/A
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A
How were the values in the monitoring report verified?	Values were checked against information provided in the DCS system and stoppage reports/26/

If applicable, has the reported data been crosschecked with other available data?	No cross-check is required by the monitoring plan.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. Correct and conservative data has been transferred to the emission reduction calculations
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applicable

18. $FC_{i,j,y}$: Quantity of fuel type i combusted in process j during the year y.	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	This parameter corresponds to all fossil fuel consumed due to the project activity. Two fuel types are applicable: - Diesel oil: consumed in the biomass boiler (startup, operational constraints) and for internal transportation - Propane (LPG): consumed in the biomass boiler (start up) <u>Biomass boiler</u> 1. Diesel consumed is measured continuously and aggregated by system DCS. All fuel consumption will be accounted and applied in the project emissions 2. LPG consumption is not measured. Nevertheless, the project participants estimate its consumption based on the diesel consumption as follows: LPG = diesel/625. This approach is based on historical information from plant and is duly accepted for the National Energy Balance by the National Commission of Energy (CNE) <u>Internal Biomass transportation</u> Diesel is consumed in the project activity for on-site transportation of biomass to power boiler.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes

Monitoring equipment	<u>Diesel monitored in the biomass boiler.</u> *663-FT-0508* *Type: Fossil fuel flow transmitter. Endress+Hausser 83F40-AABSAAACBAAK* *Accuracy class: +/- 0.1%* *Serial number: D606EA16000* *663-FT-0522* *Type: Fossil fuel flow transmitter. Endress+Hausser 83F25-AABSAAACBAAK* *Accuracy class: +/- 0.5%* *Serial number: D606E916000*
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes.
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Valid for entire range
Calibration frequency / interval	5 years. For the calibration dates, refer to table below
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	yes
Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes
Is(are) the calibration(s) valid for the entire reporting period?	Check details in table below this section
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes

How were the values in the monitoring report verified?	Diesel consumed in boilers the data was verified in the DCS system. The LPG consumption was based on diesel consumption and therefore, the calculations were checked. Diese consumed from biomass transportation has been obtained from service providers
If applicable, has the reported data been crosschecked with other available data?	For boilers, the consumption was cross-checked with energy and mass balances. From biomass providers, the data was cross-checked within the years in order to check consistency. It could be observed that the consumption index (Lts/hour) is consistent, and therefore, the informed quantities are coherent.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. Correct and conservative data has been transferred to MR. All QA/QC procedures are in place.
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	N/A

19. **$NCV_{i,y}$: Weight average net calorific value of fuel type i in year y.**	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	This parameter corresponds to the NCV of the fossil fuel consumed in the PA. As no information from fuel supplier was provided, IPCC default value at the upper limit of the uncertainty at a 95% confidence was used for determining this parameter. Furthermore, it is calculated as per “Tool to calculate project or leakage CO2 emissions from fossil fuel combustion”.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	N/A
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the	N/A

monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
Calibration frequency / interval	N/A
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	N/A
Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
Is(are) the calibration(s) valid for the entire reporting period?	N/A
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A
How were the values in the monitoring report verified?	Values were compared to the IPCC data.
If applicable, has the reported data been crosschecked with other available data?	Not applied as default values were used in the calculation.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	N/A

20. **$EF_{CO2,i,}$: weighted average CO2 emission factor of fossil fuel type i used in year y.**	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	This parameter corresponds to the CO2 emission factor of the diesel and LPG consumed in the project activity. IPCC default value at the higher limit of the uncertainty

	at a 95% confidence was used for determining this parameter. Parameter applied in the calculation of project emissions due to fossil fuel consumption.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	N/A
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	N/A
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
Calibration frequency / interval	N/A
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	N/A
Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
Is(are) the calibration(s) valid for the entire reporting period?	N/A
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A
How were the values in the monitoring report verified?	Values were compared to the IPCC data.
If applicable, has the reported data been crosschecked with other available data?	Not applied as default values were used in the calculation.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes

In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	N/A

21. *Df,m* : *Return-trip road distance between origin and destination of freight transportatin activity f in monitoirng period m*	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	This parameter corresponds to the average round trip distance of all truck trips that bring Biomass from external sources. The measurement is made through determination of route by satellite map (e.g Google Maps/38/) and the number of trips provided by contractors and checked in the company system (source and type of biomass)
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	Not applied. The route distances are measured by software and the trips number is provided by company system.
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Not applied
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not applied
Calibration frequency / interval	Not applied
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Not applied
Is the calibration of measuring equipment carried out by an accredited person or institution?	Not applied

Is(are) the calibration(s) valid for the entire reporting period?	Not applied
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Not applied
How were the values in the monitoring report verified?	The calculation of parameter was presented to the verification team as well as all sources. The calculation is accurate.
If applicable, has the reported data been crosschecked with other available data?	The distances used in the calculations were compared to the map distances/38/
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Correct and conservative data has been transferred to the emission reduction calculations
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applicable

22. $FR_{f,m}$: *Total mass of freight transported in freight transportation activity f in monitoring period m*	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	This parameter corresponds to the amount of biomass brought from external sources and consumed in the PA. This parameter is used to determine the project emission from freight. The measurements are carried out every truck entrance and registered by the plant operator.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	The equipment applied is the same weighbridge used for measuring the parameter BR_{pj}. Refer to this parameter above
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	The equipment applied is the same weighbridge used for measuring the parameter BR_{pj}. Refer to this parameter above

Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	The equipment applied is the same weighbridge used for measuring the parameter BR_{pj}. Refer to this parameter above
Calibration frequency / interval	The equipment applied is the same weighbridge used for measuring the parameter BR_{pj}. Refer to this parameter above
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	The equipment applied is the same weighbridge used for measuring the parameter BR_{pj}. Refer to this parameter above
Is the calibration of measuring equipment carried out by an accredited person or institution?	The equipment applied is the same weighbridge used for measuring the parameter BR_{pj}. Refer to this parameter above
Is(are) the calibration(s) valid for the entire reporting period?	The equipment applied is the same weighbridge used for measuring the parameter BR_{pj}. Refer to this parameter above
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	The equipment applied is the same weighbridge used for measuring the parameter BR_{pj}. Refer to this parameter above
How were the values in the monitoring report verified?	The set of raw data was checked against data provided from company's system.
If applicable, has the reported data been crosschecked with other available data?	The cross-check of data was based on the energy and mass balance of the power boiler.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. Correct and conservative data has been transferred to the emission reduction calculations
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	Not applicable

23. $FC_{i,m,y}$, $FC_{i,k,y}$: Amount of fossil fuel type i consumed by power plant/unit m and k in year y	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	Parameter corresponds to the amount of fossil fuel consumed by all plants connected to the Chilean grid.

	This information was provided by grid operators (CNE) statistics. Parameter is monitored annually.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	N/A
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	N/A
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
Calibration frequency / interval	N/A
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	N/A
Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
Is(are) the calibration(s) valid for the entire reporting period?	N/A
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A
How were the values in the monitoring report verified?	CNE database was checked
If applicable, has the reported data been crosschecked with other available data?	Not applied
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. Correct data has been reported for EFgrid calculations.

In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	N/A

24. $NCV_{i,y}$: Net Calorific Value (energy content) of fossil fuel type I in year y.	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	Data from national energy balance was used for this parameter. The values are updated annually. The latest available were used in the calculations. This parameter is used for calculation of grid Emission Factor.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	N/A
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	N/A
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
Calibration frequency / interval	N/A
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	N/A
Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
Is(are) the calibration(s) valid for the entire reporting period?	N/A
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A

How were the values in the monitoring report verified?	The values were checked on the CNE's/11-9/
If applicable, has the reported data been crosschecked with other available data?	Not applicable as official data has been used
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. Correct data has been reported
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	N/A

25. $EF_{CO2,I,y}$, $EF_{CO2,m,I,y}$: CO2 emission factor of fossil fuel type i used in power unit m in year y.	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	This parameter corresponds to the CO2 emission factor of the fossil fuel consumed in power plants of the grid. IPCC default value at the lower limit of the uncertainty at a 95% confidence was used for determining this parameter. This parameter is used for EF_{grid} calculation.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	N/A
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	N/A
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
Calibration frequency / interval	N/A
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in	N/A

accordance with the local/national standards, or as per the manufacturer's specifications?	
Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
Is(are) the calibration(s) valid for the entire reporting period?	N/A
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A
How were the values in the monitoring report verified?	Values were compared to the IPCC data.
If applicable, has the reported data been crosschecked with other available data?	Not applied as default values were used in the calculation.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	N/A

26. **$EG_{m,y}$, $EG_{k,y}$: Net electricity generated by power plant/ unit m and k in year y.**	
Criteria/Requirements	**Assessment Observation**
Measuring / Reading / Recording frequency	Parameter corresponds to the amount of electricity generated by all plants connected to the Chilean grid. This information was provided by grid operators (CEN – Coordinador Electrico Nacional) statistics. Parameter is monitored annually and is used for EF_{BM} calculation.
Is the measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology?	Yes
Monitoring equipment	N/A
Is the accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national	N/A

standards, or as per the manufacturer's specification?	
Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	N/A
Calibration frequency / interval	N/A
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	N/A
Is the calibration of measuring equipment carried out by an accredited person or institution?	N/A
Is(are) the calibration(s) valid for the entire reporting period?	N/A
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	N/A
How were the values in the monitoring report verified?	CEN database was checked
If applicable, has the reported data been crosschecked with other available data?	Not applied
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes. Correct data has been reported for EF_{BM} calculations.
In case project participants have temporarily not monitored the parameter, has temporary deviations being applied	N/A

Calibration

The calibration dates of each metering equipment has been assessed as follows:

Parameter	Meter type and S/N	Calibration frequency /18-3/	Accuracy class /18-2/	Calibration dates	Delays
$BR_{PJ,n,y}$, $FR_{f,m}$, $BR_{B1/B3}$, BR_{B4}	Operational until 14/02/2022 Type: Weighbridge 1 GSE 460 Serial number: 152069 Operational from 14/02/2022 onwards: Type: Weighbridge ZM 301 Serial number: 211550531	6 months 6 months	Class III (+/- 30kg) Class III (+/- 30kg)	31/08/2020 22/02/2021 23/08/2021 14/02/2022 16/08/2022 22/02/2023 25/09/2023	No (due to frequency, +/- 15 days tolerance is applied. This calibration is carried out 2 times a year)
$HC_{BL,y}$	TAG: 663-PT-0155 Type: pressure gauge transmitter ENDRESS + HAUSER Serial number: D500C90109C	18 months	±0.075%	04/12/2020 12/11/2021 09/11/2022 07/11/2023	No
	TAG 663-FT-0156 Type: flow transmitter ENDRESS + HAUSER Serial number: D501F50109D	18 months	±0.075%	30/11/2020 13/11/2021 11/11/2022 09/11/2023	No
	TAG 663-TT-0157 Type: temperature transmitter ENDRESS + HAUSER Serial number: 0266161	2 years	±0.05%	03/12/2020 12/11/2021 12/11/2022 10/11/2023	No
	TAG: 665-PT-9040-A/B Type: pressure gauge transmitter ROSEMOUNT Serial number: 0032601(A)-0032602(B)	18 months	±0.05%	03/12/2020 15/11/2021 11/11/2022 09/11/2023	No
	TAG 665-FT-9030 Type: flow transmitter ROSEMOUNT Serial number: 0033712	18 months	±0.05%	01/12/2020 01/12/2021 10/10/2022 08/11/2023	No
	TAG 665-TT-9043-A-B Type: temperature transmitter ROSEMOUNT Serial number: 0271902(A)-0219846(B)	2 years	±0.03%	01/12/2020 10/11/2021 10/11/2022 10/11/2023	No

	TAG: 665-PT-9001-A-B Type: pressure gauge transmitter ROSEMOUNT Serial number: 0032561(A)-0032562(B)	18 months	±0.05%	30/11/2020 01/12/2021 10/10/2022 08/11/2023	No
	TAG: 665-FT-9025 Type: flow transmitter ROSEMOUNT Serial number: 0033711	18 months	±0.05%	02/12/2020 02/12/2021 10/10/2022 08/11/2023	No
	TAG 665-FT-9051 Type: flow transmitter ROSEMOUNT Serial number: 0033713	18 months	±0.05%	01/12/2020 01/12/2021 10/10/2022 08/11/2023	No
	TAG 665-TT-9026 Type: temperature transmitter ROSEMOUNT Serial number: 0271897	2 years	±0.03%	04/12/2020 12/11/2021 10/11/2022 09/11/2023	No
	TAG: 665-PT-9002-A-B-C Type: pressure gauge transmitter ROSEMOUNT Serial number: 0032598(A)-0036244(B)-0032600(C)	18 months	±0.05%	05/12/2020 13/11/2021 11/11/2022 09/11/2023	No
	TAG: 665-FT-9019 (steam) Type: flow transmitter ROSEMOUNT Serial number 0033709	18 months	±0.05%	30/11/2020 30/11/2021 10/10/2022 09/11/2023	No
	TAG 665-FT-9023 (deaerator steam) Type: flow transmitter ROSEMOUNT Serial number: 0033710	18 months	±0.05%	02/12/2020 02/12/2021 10/10/2022 10/11/2023	No
	TAG 665-TT-9024 Type: temperature transmitter ROSEMOUNT Serial number: 0271896	2 years	±0.03%	04/12/2020 12/11/2021 10/11/2022 09/11/2023	No
$EL_{pj,gross}$	TAG N°: 8600-10 Type: Electricity meter Schneider Electric ION 8600 Serial number: LT-1012A701-01	7 years	0.2%	17/11/2017	No
$EL_{pj,imp}$	SE-EI-0006/0007 (import power measurement)	7 years	0.2%	17/11/2017	No

	Type: Electricity meter Schneider Electric ION 8600 Serial number: PT-1012A934-01				
	TAG N°: 52-B1 (sawmill consumption) Type: Electricity meter Schneider Electric ION 8600 Serial number: PT-1010A242-01	7 years	0.2%	17/11/2017	No
$EL_{pj,aux}$	**Viñales_1_6_Manejo_Desechos_Comb** TAG: 669-EI-1603/1604 (1-6) Brand: Schneider Electric Model: Ion 7550 Serial number: LI-1010A261-02	7 years	+/- 0.2%	17/11/2017	No
	Viñales_1_7_CP_Caldera_Poder TAG: 669-EI-1703/1704 (1-7) Brand: Schneider Electric Model: Ion 7550 Serial number: LI-1010A263-02	7 years	+/- 0.2%	17/11/2017	No
	Viñales_1_8_CP_Caldera_Poder TAG: 669-EI_1803/1804 (1-8) Brand: Schneider Electric Model: Ion 7550 Serial number: LI-1010A264-02	7 years	+/- 0.2%	17/11/2017	No
	Viñales_1_9_CP_Caldera_Poder TAG: 669-EI-1903/1904 (1-9) Brand: Schneider Electric Model: Ion 7550 Serial number: LI-1010A262-02	7 years	+/- 0.2%	17/11/2017	No
	Viñales_1_11_Barra_1B_Ed_Administración TAG: 669-EI-1703/1804 (1-11) Brand: Schneider Electric Model: Ion 7550	7 years	+/- 0.2%	17/11/2017	No

	Serial number: LI-1010A265-02				
Moisture content	Electronic moisture analyzer Sartorius MA150C 1. Serial number: 27402265	12 months	Class I /+/- 0.001 gr	13/10/2020 17/11/2021 30/11/2022 16/11/2023	Yes 13/10/2021 to 17/11/2021 and 17/11/2022 to 30/11/2022
	Laboratory Oven MEMMERT UFE 600 Serial number: G611.0831	12 months	+/- 0.5%	13/08/2020 17/11/2021 30/11/2022 16/11/2023	Although delays were observed, it refers to a oven and therefore no influence the value of parameter
	Laboratory Digital scale Sartorius TE1502S 1. Serial number: 27402265 (replaced in 07/11/2023) by Sartorius ENTRIS2202 2. Serial number: 27008246	12 months	Accuracy class: 0.01gr	13/10/2020 17/11/2021 30/11/2022 30/11/2022 16/11/2023	Yes 13/10/2021 to 17/11/2021 and 17/11/2022 to 30/11/2022
$FC_{i,y}$	*663-FT-0508* *Type: Fossil fuel flow transmitter. Endress+Hausser 83F40-AABSAAACBAAK* *Serial number: D606EA16000*	5 years	+/- 0.1%	10/11/2016 09/11/2021 09/11/2022 09/11/2023	No
	663-FT-0522 *Type: Fossil fuel flow transmitter. Endress+Hausser 83F25-AABSAAACBAAK* *Serial number: D606E916000*	5 years	+/- 0.5%	10/11/2016 09/11/2021 09/11/2022 09/11/2023	No

It could be observed that the emission reduction spreadsheet is transparent, traceable and correct, with no manual transposition errors. All calibration certificates have been provided. It could be observed gaps in calibration for moisture analyzers and digital scale (for details refer to table above). For these periods not covered, conservative measures have been

applied, i.e. higher value between maximum permissible error of equipment and error obtained in next calibration, in accordance with CDM VVS for PA, paragraph 366. Measure is considered correct and accurate by the verification team and it could be duly checked in the ER calculations spreadsheet.

4.4 Quality of Evidence to Determine Reductions and Removals

- the metered parameters were checked directly at the company's system and cross-checked with technical specification and energy balances, as evidences to determine emission reduction;
- the records, data and information provided were found valid for the current verification period. The documents were verified during virtual site visit and when possible, were checked directly from its source;
- interviews were performed during on-site visit with involved personnel and PP's representatives;
- the GHG emission reduction calculations were check step by step with PP's representatives;
- the quality of evidences was found of adequate level by the verification team to ensure an accurate quantification of the emission reductions.

4.5 Non-Permanence Risk Analysis

Not applicable for this project activity as it is not AFOLU type.

5 VERIFICATION OPINION

5.1 Verification Summary

The GHG statement is the responsibility of the project proponent, whether the project conforms with the verification criteria for projects set out in VCS Version 4.7.

Verifit's verification approach is based on the understanding of the risks associated with reporting the project activity, estimates of GHG emission data and the controls to be implemented to mitigate these. Verifit planned and performed the verification by obtaining evidence, other information and explanations that Verifit considered necessary to give reasonable assurance that the estimated GHG emission reductions are fairly to be achieved.

This verification was conducted in accordance with requirements of ISO 17029:2019, ISO 14065:2020 and ISO 14064-3:2019.

5.2 Verification Conclusion

This is an unmodified opinion, in accordance with the requirements of ISO 14064-3-2019, that is:

- there is sufficient and appropriate evidence to support material emissions, removals or storage;
- the criteria are appropriately applied to substantial emissions, removals or storage;
- The effectiveness of controls has been evaluated.

VERIFIT, located at CRA 30 # 7 AA – 207 – Torre Scaglia – Medellín – Antioquia – Colombia, contracted by Maderas Arauco SA, whose legal representative is Christian Rodríguez, has carried out the independent third-party verification of the activity of the "Viñales biomass power plant", service order (internal ref number) 24-006.

It is our responsibility to issue an independent verification report about the compliance of the GHG-Project with the requirements of the certification program VCS VERRA, ISO 14064-2:2019 standard and applicable legislation under the framework of the carbon market in Chile. GHG emission reductions were correctly calculated based on the methodology ACM0006 – version 12.1.1 and the monitoring plan proposed in the Project Document-PD registered.

The emission reduction statement is the responsibility of the Celulosa Arauco y Constitución S.A..

VERIFIT confirms that the project "Viñales biomass power plant" in Chile was verified taking into account the following parameters:

- the verification of the GHG-Project has reached a reasonable level of assurance;
- assurance level: 95%, in accordance with VCS
- materiality: 5%, in accordance with VCS (for Scale "Project");
- objective: sale other markets;
- scope and criteria: verification of the project "Viñales biomass power plant" in Chile, in accordance with the requirements of the ACM0006 – version 12.1.1 methodology; ISO 14064:2019 – Part 2, ISO 14064:2019 – Part 3 and applicable legislation under the Chilean Republic;

- The baseline scenario for electricity generation would be that no electricity surplus would be generated and all the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources; The baseline for biomass consumption would be that the biomass which is not consumed due to the project activity would be left to decay under aerobic conditions or under uncontrolled burning.

- no material leaks apply in the GHG project;

- The project meets all the conditions of the methodology applied;

- the calculations of emission estimates were carried out correctly, transparently and conservatively and in accordance with the methodology applied;

- the assessment of environmental and social aspects is adequate and sufficient;

- the project contributes to the fulfilment of the Sustainable Development Goals, especially in relation to SDGs: 7, 8 and 13;

- the monitoring systems and procedures are real and comply with the monitoring systems and procedures described in the monitoring plan;

- the project is in accordance with the legal requirements of Chile;

- all the information has been applied in a coherent way in the Project Document-PD revised;

- in accordance with the provisions of the VCS standard, the associated risk has been taken into account during the verification process, for this purpose the competence and impartiality of the audit team and the consistency of the project information have been considered, with technical and legal requirements applicable in the country (Insurance Certificate).

- based on the processes and procedures conducted, the GHG declaration is materially correct and a fair representation of the GHG data and information, is free from material discrepancies and is prepared in accordance with applicable standards.

In this way, the VVB confirms that the results of the GHG quantification of the "Viñales biomass power plant" are within the materiality described above, in accordance with the formulation and monitoring of the project, complying with the requirements of the reference and the methodology applied. The GHG emission reductions were generated in accordance with the guidelines defined in ISO 14064-2:2019 and the results obtained in the verification carried out under Standard ISO14064-3:2019. The table below discriminates the amount of GHG emission reductions (tCO2e) by the project activity.

Verification period: From *01/01/2021 to 31/12/2023*

Verified GHG emission reductions and carbon dioxide removals in the above verification period:

Vintage period	Baseline emissions (tCO_2e)	Project emissions (tCO_2e)	Leakage emissions (tCO_2e)	Reduction VCUs (tCO_2e)	Removal VCUs (tCO_2e)	Total VCUs (tCO_2e)
01-Jan-2021 to 31-Dec-2021	130,797	6,478	0	124,319	0	124,319
01-Jan-2022 to 31-Dec-2022	147,422	5,882	0	141,540	0	141,540
01-Jan-2023 to 31-Dec-2023	202,413	7,435	0	194,978	0	194,978
Total	**480,632**	**19,795**	**0**	**460,837**	**0**	**460,837**

5.3 Ex-ante vs Ex-post ERR Comparison

Vintage period	Ex-ante estimated reductions/ removals	Achieved reductions/ removals	Percent difference	Explanation for the difference
01-Jan-2021 to 31-Dec-2021	258,093	124,319	-51,83%	The main reason for the reductions is due to the reduction of the grid emission factor during the monitoring period when compared to the value estimated ex-ante. Moreover, the electricity generated was also smaller than the quantity estimated. Therefore, this difference is justified. The percentages are duly demonstrated in the MR and in the ER calculations spreadsheet (tab Summary) and are considered accurate.
01-Jan-2022 to 31-Dec-2022	258,093	141,540	-45,16%	
01-Jan-2023 to 31-Dec-2023	258,093	194,978	-24,45%	
Total	**774,279**	**460,837**	**-40,48%**	

Date: 03/12/2024

VERIFIT Colombia S.A.S.

Sergio Cruz

Certification Director (Final approver)

ISO/IEC 17029:2019
23-OVV-003

APPENDIX I: COMMERCIALLY SENSITIVE INFORMATION

Section	*Information*	*Justification*	*Assessment method and conclusion*
Not applicable			

APPENDIX II: COMPETENCE STATEMENT

Statement of Competence Appointment authorized in accordance with Management System of VERIFIT SAS	
Name	Marcelo Sebben
Education	Bachelor's degree in Chemical Engineering
Roles	
Team Leader	Yes
Validator / Verifier	Yes
Local Expert	Brazil, Argentina, Chile, Colombia, Honduras, Nicaragua, Dominican Republic, Uruguay
Technical Area	1.1, 1.2, 3.1, 7.1, 13.1, 14.1
Financial Expert	Yes
Technical Reviewer	Yes
* Valid until 29/03/2026	
Approved by Sergio Cruz – 06/06/2024	

Statement of Competence Appointment authorized in accordance with Management System of VERIFIT SAS	
Name	Ricardo Lopes
Education	Bachelor's degree in Administration
Roles	
Team Leader	Yes
Validator / Verifier	Yes
Local Expert	Brazil, Argentina, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Honduras, Mexico, Peru
Technical Area	1.1, 1.2, 3.1, 13.1
Financial Expert	Yes
Technical Reviewer	Yes
* Valid until 20/05/2027	
Approved by Sergio Cruz – 06/06/2024	

Statement of Competence Appointment authorized in accordance with Management System of VERIFIT SAS	
Name	Sergio Cruz
Education	Bachelor's degree in Law
Roles	
Team Leader	Yes
Validator / Verifier	Yes
Local Expert	Brazil, Argentina, Chile, Colombia, El Salvador, Guatemala, Honduras, Mexico, Peru
Technical Area	1.1, 1.2, 3.1, 7.1, 13.1
Financial Expert	Yes
Technical Reviewer	Yes
* Valid until 18/07/2026	
Approved by Ricardo Lopes – 06/06/2024	

APPENDIX III: ABBREVIATIONS

Abbreviations	Full texts
BE	Baseline Emission
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CNE	National Council of Energy
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
CL	Clarification Request
DOE	Designated Operational Entity
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
MP	Monitoring Plan
MR	Monitoring Report
PA	Project Activity
PE	Project Emission
PP	Project Participant
QA/QC	Quality Assurance / Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VCS-PD	VCS – Project Description
VCU	Verified Carbon Unit
XLS	Emission Reduction Calculation Spread Sheet

APPENDIX IV: REFERENCES

No.	Title	References
1.	Methodology ACM0006 – Consolidated methodology for electricity and heat generation from biomass	version 12.1.1
2.	Tools 1. TOOL07: Tool to calculate the emission factor for an electricity factor for an electricity system; 2. TOOL03: Tool to calculate project or leakage CO2 emissions from fossil fuel combustion; 3. TOOL09: Tool to determine the baseline efficiency of thermal or electric energy generation systems 4. TOOL01: Tool for the demonstration and assessment of additionality. 5. TOOL05: Tool to calculate baseline, project and/or leakage emissions from electricity consumption 6. TOOL12: Tool for project and leakage emissions from transportation of freight.	Version 03.0.0 Version 02 Version 01 Version 7.0.0 Version 01 Version 1.1
3.	Registered VCS-PD	Version 02 10/05/2013
4.	Monitoring report – draft / revised	version 1 – 22/07/2024 Version 4.4 – 12/11/2024
5.	Monitoring report - final	Version 5.0 – 02/12/2024
6.	ER Spreadsheet – draft / revised	version 1
7.	ER Spreadsheet – final (ER calc 2023-2022-2021. v1.1.4)	Version 1.1.4
8.	Environmental License 1. Environmental License of Viñales Power plant RCA 80/2009	25/03/2009
9.	Ownership of PA RCA 80/2009 where it is stated the project ownership.	25/03/2009
10.	Electricity generation and consumption 1. Monthly Plant Balance – 0X Balance_Planta_Viñales_month YYYY	2021-2023
11.	Number of stoppages	2021-2023

	1. Monthly operational control - Operación PBV mensual - YYYY	
12.	Heat Generation 1. Monthly heat generation spreadsheets extracted from internal system - Resumen operaciones YYYY 2. Correction of heat to process calculations – spreadsheet Heat to process correction v1.2	2021-2023
13.	Biomass consumption in the power boiler 1. 31_Recepción biomasa B_Carbono_month_YY 2. Wood density – Report Centro de Transferencia Tecnólogica Pino Radiata 3. Conversion factor from 3.2 STm³ =1 Solid m³. Information provided by PP 4. Biomass adjustment weighbridge – regarding calibration delay 5. Calculation of remanufacturing quantities 6. Procedure – Biomass collection (PT-PBV-BIO-11 from 06/2014) 7. Work Instruction – Biomass moisture (IT-PBV-BIO-01 from 01/06/20147)	2021-2023 November 2003
14.	Biomass from third parties 1. Thirdparty biomass – origin, distance and quantity of biomass brought to power plant 2. Truck yield certificates (km/L) -Information provided by service providers - CERTIFICADO DE RENDIMIENTO DE CAMIONES	2021-2023
15.	Net calorific value (NCV_{BR}) 1. Reports issued every semester by Universidad de Concepción – Biomass Analysis	2021-2023
16.	Fossil fuel consumption in the power boiler 1. Fossil fuel consumption due to power plant stoppages - Resumen operaciones YYYY 2. Fossil fuel consumption due to biomass internal transportation – Consumo annual YYYY 3. Evidence LPG consumption. The quantity consumed is estimated based on historical consumption and reported annually to the National Energy Balance. The estimated consumption is equal to Diesel Consumption in the Power Boiler, divided by 625. This proportion could be duly observed at National Energy Balance (BNE) from 2018 to 2020 (referring to years from 2017 to 2019).	2021-2023
17.	Energy Balance of Viñales Power Plant 1. RPG APT1 YYYY	2021-2023
18.	Technical Specifications of metering equipment 1. Accreditation of calibration providers	2021-2023

	a. Carta Ineco b. Cientec acreditación c. GSE60series_u_en_37149 d. Memmert-Rep 2016 e. Molinstec Acreditación f. Sartorius-Rep 2016 2. Accuracies a. Endress hauser 33F page 109 b. Endress Hauser 83F Page 15 c. Endress Hausser Cerebar S PMP75 Page 30 d. Endress Hausser PMD75 Page 27 e. Endress Hausser TH53 Page 8 f. ION 7550 Page 3 g. ION 8600 PowerLogic_Specifications_Rev_1_3 h. Memmert UFE600 page 2 i. Range Sartorius MA150 j. Rosemount 644 Page 98 k. Rosemount 2051C 2051T Page 43 l. Sartorius MA150 page 23 m. Sartorius TE150 3. Calibration frequency a. Plant Weighbridge calibration frequency b. Endress+Hauser frequency recommendation c. Memmert d. Rosemount 644 e. Sartorious f. Schneider ION 4. Calibration certificates a. BRpj,n,y b. ELpj,aux,y c. ELpj,gross.y d. ELpj,imp,y e. FCi,j,y f. HCbl,y g. Moisture content h. Equipos 2020 - Spreadsheet with all equipment calibration	
19.	<u>Biomass transport</u> 1. Internal control of biomass transportation per type, weight and date - Despacho CFI Viñales YYYY	2021-2023
20.	<u>Grid Emission Factor Calculation</u> 1. MASTER_Grid_Chile 2. Evidences a. Generación_SEN 2021-2022-2023 b. Consumos-de-Combustibles-SEN	2
21.	<u>QAQC of all parameters</u>	2021-2023

	1. Excel Spreadsheet QAQC with quality assurance and quality control of all parameters in accordance with registered monitoring plan	
22.	<u>SDGs evidences</u> 1. SDG 8 a. Informe Final Programa Energízate con el Medio Ambiente UTALCA 2018 b. RV_ Verificacion Viñales with employees number and minimum wage	2021-2023
23.	<u>Applicable Legislation</u> 1. Law 20.763 – Informs the values of minimum monthly wage in Chile 2. Law N°19.300 regarding general basis of Environment.	18/07/2014
24.	<u>Geographical location of Power Plant</u> 1. The geographical location of power plant has been plotted in Google Maps, which could be evidenced through following link.	https://www.google.com.br/maps/place/35%C2%B022'15.6%22S+72%C2%B024'43.2%22W/@-35.3709956,-72.4141887,554m/data=!3m2!1e3!4b1!4m5!3m4!1s0x0:0xf9899720991814b5!8m2!3d-35.371!4d-72.412
25.	<u>On site Evidences</u> - Pictures of boiler - Pictures of generators - Pictures of unifiliar diagram - Pictures of metering equipment - Pictures of biomass types	29/08/2024
26.	<u>Grievance mechanism</u> 1. https://www.arauco.cl/chile/contactanos/ 2. RE PROGRAMA ENERGIZATE CON EL MEDIO AMBIENTE - PLANTA BIOENERGIA VIÑALES_archivos 3. Informe Final Programa Energízate con el Medio Ambiente UTALCA 2018 4. REPORTE SUSTENTABILIDAD 2021 ARAUCO	-
27.	<u>Technical characteristics of power boiler</u> 1. Design data of the boiler for training.pdf	2021-2023
28.	Validation and Verification Standard for CDM Project Activities	Version 3.0
29.	List of GHG programmes checked	

	1. CDM - https://cdm.unfccc.int/ 2. Gold Standard - https://registry.goldstandard.org/projects?q=&page=1 3. Cercarbono - https://www.ecoregistry.io/projects 4. GCC - https://projects.globalcarboncouncil.com/ 5. BioCarbon - https://biocarbonregistry.com/en/	
30.	Project rejection 1. Evidence of project rejection in CDM - https://cdm.unfccc.int/Projects/DB/DNV-CUK1287571838.72/history	
31.	IPCC publications	https://www.ipcc-nggip.iges.or.jp/public/2006gl/
32.	VCS 1. VCS Standard V.4.7 2. VCS Program Guide V.4.4	https://verra.org/
33.	Communication of monitoring results 1. Yearly reports from Arauco where results are disclosed to stakeholders (Reporte-Integrado-YYYY-ARAUCO)	2021-2023
34.	Ongoing consultation https://www.facebook.com/Arauco.Renovables/videos/595215365719595/ Corma Chile - 💡 Con orgullo destacamos el aporte de las... | Facebook	-
35.	Management experience 1. https://registry.verra.org/app/projectDetail/VCS/1186 2. https://cdm.unfccc.int/Projects/projsearch.html ref numbers 0258, 0346, 0259, 1787, 4052 and 7789	-

APPENDIX V: FINDINGS

Table 1: FARs opened during the previous validation/verification process

FAR	xx	Potential impact in the declaration: Low
Description		Date:
1. Not applicable		
Answer 1: *Answer from PP*		Date: DD/MM/YYYY
Documents provided		
Assessment 1: *Assessment from val/ver team*		Date: DD/MM/YYYY

Table 2: CLs opened during the current validation/verification process

CL	01	Potential impact in the declaration: Low
Description		Date: 04/09/2024
MR section 1.12: 2. table 1: the current project contributions and contribution over the project lifetime were not described as required by instructions for completing the MR for all parameters as follows: a. current project contributions: *Brief description of the quantifiable impact of the project's activities related to the SDG indicator, during the monitoring period* b. contribution over the project lifetime: *Brief description of the cumulative quantifiable impact of the project's activities related to the SDG indicator, over the project lifetime* 3. No information regarding the SDG 8 parameters (total number of jobs and Total number of employees earning above local minimum wage) have been provided to the verification team		
Answer 1: *Answer from PP*		Date: 17/10/2024
We would like to clarify that we have fully addressed the requirements as follows: 1. Current project contributions: We have provided a brief description of the quantifiable impact of the project's activities related to the SDG 8 indicator during the monitoring		

period. This includes data on the total number of jobs and employees earning above local minimum wage.

2. Contribution over the project lifetime: We have also included information on the cumulative impact over the project's lifetime. This covers the total number of jobs created or maintained and the cumulative number of employees earning above local minimum wage since the project's inception.

Documents provided

We have provided the DOE with evidence of the information that was used for reporting.

Assessment 1: *Assessment from val/ver team*	Date: 31/10/2024

1. The table 1 has been completed in accordance with requirements of MR template. Current project contributions indicated the values achieved during this monitoring period, whereas the contribution over the project lifetime indicated values since the start date of CP.
2. SDSG 8:
    a. Regarding the parameter total number of jobs, no evidence has been provided to the verification team **Issue remains open**.
    b. Total number of employees earning above the minimum wage: it is being said that 100% earn above. No evidence has been provided to the verification team. **Issue remains open**.

Due to item 2, CL remains open

Answer 2: *Answer from PP*	Date: 17/10/2024

Evidences have been duly provided

Documents provided

RV Viñales employees

Assessment 2: *Assessment from val/ver team*	Date: 31/10/2024

The PPs have provided evidences from company's HR regarding the number of jobs per year and that they are all above the minimum wage as from Chilean National Legislation.

Information is accurately described in the MR.

CL is closed

CL	02	Potential impact in the declaration: Low
Description		Date: 04/09/2024

MR section 1.13:

1. No information has been provided on commercially sensitive information, unlike required by instructions for completing the MR.

Answer 1: *Answer from PP*	Date: 17/10/2024

All information has been provided to the Verified. No information is considered Sensitive.

Documents provided

MR.

Assessment 1: *Assessment from val/ver team*	Date: 31/10/2024

Information duly included in the in the MR, section 1.13.

CL is closed

CL	03	Potential impact in the declaration: Low

Description — Date: 04/09/2024

MR section 2.1.1:

1. The Subsections “Legal or customary tenure/access rights” and “Stakeholder diversity and changes over time” and “location of resources” have not been completed as required by instructions for completing the MR.

Answer 1: *Answer from PP*	Date: 17/10/2024

Not applicable. The lands are property of the company, there are no conflicts with other stakeholders

Documents provided

Sustainability report.

Assessment 1: *Assessment from val/ver team*	Date: 31/10/2024

Information has been duly completed in the MR. Assessment has been carried out in the related sections of the Verification report.

CL is closed

CL	04	Potential impact in the declaration: Low
Description		Date: 04/09/2024
MR section 2.1.2: 1. Subsection “Ongoing consultation”: it is not being explained how the ongoing consultation procedure is being conducted in the project activity. 2. Subsection “date of stakeholder consultation: The date of stakeholder consultation has not been included unlike required by instructions for completing the MR. 3. Communication of monitored results: It is not clear how the results achieved during the monitoring period have been provided to stakeholders 4. Stakeholder input: information regarding stakeholders input has not been included nor justification has been provided unlike required by instructions for completing the MR.		
Answer 1: *Answer from PP*		Date: 17/10/2024
1. The project has maintained open communication and active community participation, strengthening their relationship. Communication is maintained weekly with local authorities, neighborhood associations, and civil groups via telephone, WhatsApp. Additionally, a telephone is available to receive suggestions and support requests. 2. The meeting took place during July 2008, 3. The project has continuously maintained open communication and active participation with the stakeholders, further strengthening their relationship. The company's annual reports disclose the results of this period. 4. In the initial public consultation, it was noted that there are potential economic and environmental benefits from utilizing residual biomass from small and medium-sized sawmills in the area. This has led to the creation of a positive ecosystem where economic value has been generated, benefiting numerous small and medium-sized carriers. Additionally, by converting biomass waste into energy, the risk of fires has been reduced and the area has gained access to an important renewable energy source.		
Documents provided		
Sustainability report.		
Assessment 1: *Assessment from val/ver team*		Date: 31/10/2024
1. It is being explained it the monitoring report that weekly communication is kept with local authorities, neighbourhood associations and civil groups via telephone and whatsapp. Moreover, a phone line is available for suggestion, complaints or support request. The verification team has interviewed the responsible for stakeholders communication and could confirm the information. 2. Information has been duly included in accordance with registered PD. 3. The company has annuyal reports that disclose the results for the stakeholders and community. Annual reports have been provided to the verification team. Information duly included in the MR. 4. Stakeholders input: information duly included in the MR. **CL is closed**		

CL	05	Potential impact in the declaration: Low
Description		Date: 04/09/2024
MR section 2.1.4: Grievance redress procedure 1. As per instructions for completing the MR, "*Where no grievances were raised, indicate this with NA and demonstrate that the procedure is easily accessible to stakeholders for ongoing consultation*". The demonstration required has not been carried out.		
Answer 1: *Answer from PP*		Date: 17/10/2024
During the monitoring and verification period, it became challenging to maintain effective communication with the various stakeholders due to the pandemic. Typically, communication is handled through the project's public affairs department. Additionally, there are channels such as a telephone line L800 and a website where stakeholders can share their opinions, complaints, and suggestion. According to the public affairs team's report, there were no complaints related to the project. However, isolated cases of road events have occurred due to the transportation of forestry trucks.		
Documents provided		
Evidence of the above is provided to DOE. File CL 05		
Assessment 1: *Assessment from val/ver team*		Date: 31/10/2024
Evidences have been provided which indicated that the company has a grievance channel which is active and receives complaints from the stakeholders and surrounding neighbours. Comments are directed to the responsible person who takes due account of them. **CL is closed**		

CL	06	Potential impact in the declaration: Low
Description		Date: 04/09/2024
MR section 2.2.2: Risk assessment *1.* As per instructions for completing the MR, "*Where no risk was identified, write "No risk identified" in the first column, and provide justification in the second column. Add rows as needed.* Nevertheless, no justification has been provided. *2.* The intrinsic risks to the project activity, such as working conditions, pollutants, among others, have not been identified.		

Answer 1: *Answer from PP*	Date: 17/10/2024
We have identified intrinsic risks associated with working conditions, such as physical hazards, mechanical hazards and thermal hazards and chemicals hazards. Arauco has established training programs and labor policies to ensure good working conditions. Risks associated with pollutants, such as waste generation, electricity and noise have been effectively managed in accordance with the standards in place.	
Documents provided	
Assessment 1: *Assessment from val/ver team*	Date: 31/10/2024
Information has been duly included in the MR. Risks to working conditions, such as physical hazard, mechanical hazards, thermal hazards and chemical hazards have been identified. Moreover, risks of pollutants are intrinsic to the activity and also have been identified. Training programs on health and safety, internal labour policies regarding working conditions and pollutions release (industrial waste, air quality, ashes) have been duly controlled by internal procedures, in accordance with environmental legislation. The risks identified are reliable and the mitigation actions are in accordance with applied legislation. **CL is closed**	

CL	07	Potential impact in the declaration: Low
Description		Date: 04/09/2024
MR section 2.3: 1. 2.3.1: Labour and work: As per instructions for completing the MR, "*Where no risk was identified, write "No risk identified" in the first column, and provide justification in the second column. Add rows as needed.* Nevertheless, no justification has been provided. 2. 2.3.2: Human Rights: As per instructions for completing the MR, "*Where no risk was identified, write "No risk identified" in the first column, and provide justification in the second column. Add rows as needed.* Nevertheless, no justification has been provided. 3. 2.3.3: Indigenous people: As per instructions for completing the MR, "*Where no risk was identified, write "No risk identified" in the first column, and provide justification in the second column. Add rows as needed.* Nevertheless, no justification has been provided. 4. 2.3.4: Property rights: As per instructions for completing the MR, "*Where no risk was identified, write "No risk identified" in the first column, and provide justification in the second column. Add rows as needed.* Nevertheless, no justification has been provided. 5. 2.3.5: Benefit sharing: No information has been provided in this section, unlike required by instructions for completing the MR for the following aspects a. *Summary of benefit sharing plan if applicable* b. Benefit sharing during the monitoring period		
Answer 1: *Answer from PP*		Date: 17/10/2024
Discrimination:		

 No risks of discrimination have been identified, as Arauco has inclusive labor policies and practices that ensure equal opportunities.

 Arauco promotes an organizational culture based on respect and non-discrimination on the grounds of race, gender, age, origin, disability, or other conditions.

Sexual harassment:

 No risks of sexual harassment have been identified, as Arauco has established clear protocols and procedures to prevent, report, and address any incidents of harassment.

 Training and awareness-raising is provided to personnel on harassment issues, and the confidentiality and protection of victims is guaranteed.

Gender equity in labor and work:

 No risks of lack of gender equity have been identified, as Arauco promotes equal working conditions, development opportunities, and remuneration between men and women.

 Arauco has programs to empower and promote the participation of women at all levels of the organization.

Forced labor:

 No risks of forced labor have been identified, as Arauco respects labor rights and guarantees the freedom of workers, both its own and those of contractor companies, to choose their employment.

 Control and audit mechanisms are implemented to ensure compliance with labor regulations and the absence of forced labor.

Child labor:

 No risks of child labor have been identified, as Arauco has strict hiring policies that prohibit the employment of minors.

 Age and documentation verifications are carried out for workers, both its own and those of contractor companies, to ensure compliance with the legislation.

Human Trafiicking:

 No risks of human trafficking have been identified, as Arauco has protocols and procedures for the safe and legal hiring of workers, both its own and those of contractor companies.

 Controls and audits are implemented to prevent and detect possible cases of trafficking or labor exploitation.

Benefit sharing

No benefit sharing plan during the monitoring period

Documents provided

Assessment 1: *Assessment from val/ver team*	Date: 31/10/2024

Information has been duly included in the MR, in accordance with instructions for completing the document.

1. It has been observed during the on-site inspection that the company follows the labour legislation and therefore, no risks on discrimination, sexual harassment, gender equity forced labour, child labour and human traffic has been identified.
2. No risks also have been identified in the respect for the human rights.
3. No indigenous or cultural risks have been identified.
4. The company is duly registered and the environmental license is issued. Therefore, no risks in property rights is expected.
5. The company is a private company and therefore, no benefit sharing plan exists.

CL is closed

CL	08	Potential impact in the declaration: Low
Description		Date: 04/09/2024

MR section 2.4 (all items from 2.4.1 till 2.4.3):

1. As per instructions for completing the MR, "*Where no risk was identified, write "No risk identified" in the first column, and provide justification in the second column. Add rows as needed.* Nevertheless, no justification has been provided for any of the aspects mentioned in the MR template.

Answer 1: *Answer from PP*	Date: 17/10/2024

Impact on biodiversity and ecosystems:

No biodiversity ecosystems have been identified in the vicinity of the project. Due to its nature as an energy project, its impact is limited.

Soild degradation and soil erosion

No soil degradation and soil erosion have been identified in the vicinity of the project. Due to its nature as an energy project, its impact is limited

Water consumption and stress

The plant draws water from the Bio Bio river. The water supply is constant, and there is no strain on this resource

Species or habitat:

No risks identified. It is a renewable energy project, so its impacts are accounted for.

Areas needed for habitat connectivity:

No risks identified. It is a renewable energy project, so its impacts are accounted for.

Documents provided	
Assessment 1: *Assessment from val/ver team*	Date: 31/10/2024

The project activity refers to energy generation from biomass. The company follows all environmental legislation applied to the activity and therefore, no risks on impact on biodiversity and ecosystems, soil degradation/erosion or water consumption and stress has been identified.

CL is closed

CL	09	Potential impact in the declaration: medium
Description		Date: 04/09/2024

In the ER calculations spreadsheet, tab YYYY data (for all Years) it is not clear the rational nor the source of information that determines the quantity of LPG consumed in the power boiler based on the quantity of diesel (LPG [lt/month] = Diesel [lt/month]/625

Answer 1: *Answer from PP*	Date: 17/10/2024

Here are the calculations, and based on them, we have updated the value from 625 to 756.

1. Fuel properties used:

- Calorific value of LPG: 52.2 MJ/kg
- Calorific value of Diesel: 43.3 MJ/kg
- Density of LPG: 0.54 kg/liter
- Density of Diesel: 0.84 kg/liter

2. Conversion results:

- 1000 liters of LPG are equivalent to 755.51 liters of Diesel in terms of energy.
- 1000 liters of Diesel are equivalent to 1323.43 liters of LPG in terms of energy.

3. Interpretation:

- The energy in 1000 liters of LPG is now equivalent to about 756 liters of diesel.
- The energy in 1000 liters of diesel is now equivalent to about 1323 liters of LPG.

Documents provided

Assessment 1: *Assessment from val/ver team*	Date: 31/10/2024

Information not yet clear. As per ER calculation spreadsheet provided, the amount of LPG consumed during the power plant stoppage is a fraction of the amount of diesel consumed, i.e, at every 625 lt of diesel, one litre of LPG is consumed.

However the following is still not clear:

- The justification provided indicates that there is an energy equivalence between Diesel and LPG. However, it does not explain why, in the calculations the amount of LPG is based on a fraction of the amount of Diesel
- It is being stated that an update in the calculations have been carried out. However, no changes in the ER calculations tabs 2023 data, row 82 (valid for all years) have been observed.

CL remains open

Answer 2: *Answer from PP*	Date: 17/10/2024

Energy Consumption Data Summary

Monitoring period Consumption (Liters):

Year	Diesel (Lt)	LPG (Lt)
2023	87,067	139
2022	87,200	140
2021	44,865	72

Key Facts:

1. Data is reported in liters for both Diesel and LPG
2. Conversion factor of 1.6 Lt/m^3 is officially accepted by CEN
3. LPG consumption is proportional to Diesel due to igniter operation sequence
4. Records evidence indicates LPG igniters only operate in sequence with diesel burners

This methodology is validated and accepted by CEN for reporting purposes, maintaining consistent measurement criteria across all monitoring periods.

Specific Ratio Calculation:

- Formula: 1000/625 = 1.6 L/m³
- Where:
  - 1000 represents liters per cubic meter
  - 625 is the diesel conversion factor

2. Propane (GLP) Calculation Methodology:

Basis for Calculation:

- Propane igniter operates only in sequence with diesel burners
- Propane consumption is proportional to diesel usage
- No records available for number of burner start attempts

Documents provided	
ER calculation spreadsheet and historical data reported to CNE.	
Assessment 2: *Assessment from val/ver team*	Date: 31/10/2024
Information has been duly provided by the PP. Official information from CNE (National Energy Commission)/16-3/ has been used to estimate the amount of LPG that is consumed by power plant. Based on information form years 2018, 2019 and 2020, it could be observed that the amount of LPG consumption is equal to amount of 1.6 Litres of LPG each 1000 litres of Diesel consumed. As the amount of diesel is measured, the project participants estimated the amount of LPG equal to Diesel/625). Information has been clarified in the verification report. **CL is closed**	

Table 3: CARs opened during the current validation/verification process

CAR	01	Potential impact in the declaration: Low
Description		Date: 04/09/2024
MR section 1.6: the project start date is not in accordance with information from registered PD and nor the justification has been provided unlike required by instructions for completing the MR.		
Answer 1: *Answer from PP*		Date: 17/10/2024
Start date 19/05/2012 is in accordance with the registered PD:		
Documents provided		
PD.		
Assessment 1: *Assessment from val/ver team*		Date: 31/10/2024

The information is now correctly included and in accordance with registered PD. CAR is closed.

CAR	02	Potential impact in the declaration: Low
Description		Date: 04/09/2024
MR section 1.7: the project crediting period is not in accordance with information from registered PD.		
Answer 1: *Answer from PP*		Date: 17/10/2024
The project crediting period will last for 10 years and will be renewed 2 times, adding up to 30 years in total (3x10 years) In accordance to the PD		
Documents provided		
PD		
Assessment 1: *Assessment from val/ver team*		Date: 31/10/2024
The information related to the crediting period is now in accordance with registered PD. **CAR is closed**		

CAR	03	Potential impact in the declaration: high
Description		Date: 04/09/2024
MR section 4.1: CH4 GWP Is not the latest available information in accordance with VCS Standard paragraph 3.15.4, table 2.		
Answer 1: *Answer from PP*		Date: 17/10/2024
The value for GWP id 28. In accordance with IPCC Fifth Assessment Report (2 In accordance with the VCS standard version 4.7 paragraph 3.15.4 TABLE 2.		
Documents provided		
Assessment 1: *Assessment from val/ver team*		Date: 31/10/2024

Information has been duly updated in the MR and in the ER calculations spreadsheet, in accordance with the VCS standard version 4.7 paragraph 3.15.4 TABLE 2

CAR is closed

CAR	04	Potential impact in the declaration: Low
Description		Date: 04/09/2024

MR section 4.2:

1. parameter HCBL,y: monitored values have not been provided.
2. Parameter Moisture content of the biomass residues: not all calibration dates of Laboratory Digital scale Sartorius TE1502S have been included
3. Parameter LOCy: values provided are not in accordance with ER calculations spreadsheet
4. Parameter FCi,j,y: monitored values have not been provided
5. Parameter $FC_{i,m,y}$, $FC_{i,k,y}$: not clear whether the mentioned values are the ones applied in the EF calculations, considering they are from 2014
6. Parameter $NCV_{i,y:}$ not clear whether the mentioned values are the ones applied in the EF calculations, considering they are from 2014

Answer 1: *Answer from PP*	Date: 17/10/2024

1. HCBL: 364,150 GJ (2023) 461,836GJ (2022) and 459,151 GJ (2021)

2.The laboratory digital scale TE1502S was used during year 2023. Then it was replaced by the following digital scale:

Laboratory Digital scale Sartorius ENTRIS2202

Accuracy class: 0.01gr

Serial number: 27402265

Calibration frequency: 12 months

Dates of calibration: 30/11/2022 – 16/11/2023

Validity: 15/11/2024

We have performed he corresponding adjustement to the calibration gaps.

3. LOCy : 8,337 (2023), 8,430 (2022) and 8,490 (2021) in accordance with the ER calculation spreadsheet.

4. Monitored values provided in the MR.

5. Parameter $FC_{i,m,y}$, $FC_{i,k,y}$ SOURCES: CNE ENERGY BALANCE 2020 AND REVISED 2006 IPCC GUIDELINES FOR NATIONAL GREENHOUSE GAS INVENTORIES.

6. In the National energy balance information was not specify if the Calorific values are net or gross. To be conservative, PP applied the guideline of IPCC 2006 (Volume 2, Chapter 1, page 1-16, section 1.4.1.2): “The difference between NCV and GCV is the latent heat of vaporization of the water produced during combustion of the fuel.

   As a consequence for coal and oil, the NCV is about 5 percent less than the GCV For most forms of natural and manufactured gas, the NCV is about 10 percent less.”

Documents provided	
Assessment 1: *Assessment from val/ver team*	Date: 31/10/2024

1. The monitored values of the parameter HCBL have been duly included in the MR, section 4.2. The values are in accordance with ER calculations and are considered accurate by the verification team
2. The calibration certificates of digital scales as well as the logbook of equipment exchange has been provided to the verification team. It has been observed that the digital scale Serial number: 27008246 has replaced the former scale on 07/11/2023. Information has been duly included in the MR.
3. Values of LOCy parameter are now in accordance with ER calculations spreadsheet, which is coherent with evidence provided (internal system)
4. The monitored values have been duly included in the MR. Information is coherent with evidence provided. The calculations area accurate
5. Information regarding the parameters $FC_{i,m,y}$, $FC_{i,k,}y$ have been duly clarified. The latest value available from national energy balance (2020) has been used in the calculations
6. Information regarding the parameters NCVy have been duly clarified. The IPCC values have been used in the calculations. Information duly provided in the MR.

CAR is closed

CAR	05	Potential impact in the declaration: high
Description		Date: 04/09/2024

The following calibration delays have been observed and no measure has been taken into account

1. Parameter Moisture content:
   a. Electronic moisture analyzer Sartorius MA150C Serial number: 27008246 from period 13/10/2021 to 17/11/2022 and 17/11/2022 to 30/11/2022
2. Laboratory Digital scale Sartorius TE1502S Serial number: 27402265 13/10/2021 to 17/11/2020 and 17/11/2022 to 30/11/2022 and 30/11/2023 to 31/12/2023

Answer 1: *Answer from PP*	Date: 17/10/2024

Adjustments were made based on the scales' maximum detected error (+/- 2 g) and the error propagation formula for a quotient. To be conservative, moisture values must be lower than measured. The wet sample size is approximately 4 kg and moisture values are approximately 50 %, i.e. final moisture weight is approximately 2 kg. So to achieve lower/higher moisture values, original values were decreased/increased by a factor equal to [(0,2/2000)+(0,2/4000)]*100=0,015.
Documents provided
ERcalculation 2023-2022-2021.xls

Assessment 1: *Assessment from val/ver team*	Date: 31/12/2024
To the delayed periods, conservative adjustment has been carried out for the whole months of 11/2021 and 11/2022 in the moisture content of consumed biomass. An increase factor related to the maximum error permissible of the equipment have been applied. By increasing the moisture content, less dry biomass is used in the project activity and therefore, smaller Emission Reductions due to avoided methane emission through biomass anaerobic decay. Information is traceable in the ER calculation spreadsheet tabs 2023 data rows 51 and 53 and in tab 2022 Data, rows 47 and 49. Information is considered accurate by the verification team. **CAR is closed**	

CAR	06	Potential impact in the declaration: high
Description		Date: 04/09/2024
ER calculations Tab: 2023 wet tons: 1. value of cell G49 is not in accordance with evidence provided. Tab 202Y wet tons (all years) 2. The calculation of parameters Df,m and ∑Df,m * FR,f,m does not take into account all data provided in this spreadsheet, i.e, from line 4 until the end of the table. Tab 2021 data, 3. Line 13: the value of parameter EGpj,imp is not in accordance with evidence provided 4. Cell E27: the value of steam of 5 bar for January/2021 is not in accordance with value from evidence provided Tab 2022 data,		

5. Line 13: the value of parameter EGpj,imp is not in accordance with evidence provided
6. Line 15: the value of parameter EGpj,aux is not in accordance with evidence provided
7. cell N27: value not in accordance with evidence provided
8. cell N35: value not in accordance with evidence provided

Tab 2023 data,

9. Line 13: the value of parameter EGpj,imp is not in accordance with evidence provided

Tab Emissions:

10. Line 16: values provided are not being taken and are not in accordance with values informed in tab YYYY data
11. Lines 19 and 20: the emission factor calculation has not been provided to the verification team for all years
12. Line 33: CH4 GWP Is not the latest available information in accordance with VCS Standard paragraph 3.15.4, table 2, nor in accordance with information provided in the MR
13. Line 38: formula applied in this line is not coherent. Moreover, it is not clear where this values are being applied in the calculations
14. Line 52: CH4 GWP Is not the latest available information in accordance with VCS Standard paragraph 3.15.4, table 2, nor in accordance with information provided line 33 of this spreadsheet
15. Units described in cells D76, D86 and D96 are not coherent
16. Line 137: not clear where these values are taken from
17. Line 153: the formula applied is not coherent as it uses data from line 151 (empty) and uses values from
18. Line 158: not clear where these values are taken from
19. Line 161: the parameter η PJ,HG,BR,h (line 139) has not been considered in this formula unlike required for heat calculations.
20. Line 167: not clear where these values are taken from
21. Lline 185: not clear and no justification has been provided on why these values are equal to zero

Line 218: the values cannot be traced in the spreadsheet

Answer 1: *Answer from PP*	Date: 17/10/2024

ER calculations

Tab: 2023 wet tons:

1. value of cell G49 is updated in the ER calculation and evidence is provided.

Tab 202Y wet tons (all years)

2. The calculation of parameters Df,m and ∑Df,m * FR,f,m now take into account all data provided in this spreadsheet.

Tab 2021 data,

3. Line 13: the value of parameter EGpj,imp is now in accordance with evidence provided

4. Cell E27: the value of steam of 5 bar for January/2021 is now in accordance with value from evidence provided.

Tab 2022 data,

5. Line 13: the value of parameter EGpj,imp is now in accordance with evidence provided
6. Line 15: the value of parameter EGpj,aux is now in accordance with evidence provided
7. cell N27: value is now in accordance with evidence provided
8. cell N35: value is now in accordance with evidence provided

Tab 2023 data,

9. Line 13: the value of parameter EGpj,imp is now in accordance with evidence provided

Tab Emissions:

10. Line 16: values provided are now in accordance with values informed in tab YYYY data
11. Lines 19 and 20: the emission factor calculation has now been provided to the verification team for all years 82021 to 2023)
12. Line 33: CH4 GWP Is now the latest value 28, in accordance with VCS Standard paragraph 3.15.4, table 2, nor in accordance with information provided in the MR
13. Line 38: formula is coherent and the values applied in the calculations are clarified.
14. Line 52: CH4 GWP Is now the latest available information in accordance with VCS Standard paragraph 3.15.4, table 2, nor in accordance with information provided line 33 of this spreadsheet
15. Units described in cells D76, D86 and D96 are now coherent.
16. Line 137: traceability of values is shown.
17. Line 153: the formula applied is now coherent.
18. Line 158: is now clear where these values are taken from.
19. Line 161: the parameter η PJ,HG,BR,h (line 139) has now been considered.
20. Line 167: is now clear where these values are taken from.
21. Lline 185: is now clear based on the PD description. About the justification for why these values are equal to zero, well, it can be said that it is not economically feasible to use fossil fuel to generate heat and electricity, considering we have surplus renewable fuel (biomass residues) to use.

Line 2108: values are now traced in the spreadsheet.

Documents provided

ERcalculation spread sheet

Assessment 1: *Assessment from val/ver team*	Date: 31/10/2024

Tab: 2023 wet tons

1. No changes have been carried out. Therefore **issue remains open**

Tab 202Y wet tons (all years)

2. Calculation from tab “2023 wet tons” remain inaccurate. **Issue remains open**

Tab 2021 data,

3. Line 13: the value of parameter EGpj,imp has not been changed and therefore, it is not in accordance with evidence provided. **Issue remains open**
4. Cell E27: the value of steam of 5 bar for January/2021 has been duly corrected and is now in accordance with evidences. **Issue is closed**.

Tab 2022 data,

5. Line 13: the value of parameter EGpj,imp has not been corrected and remain not in accordance with evidence provided. **Issue remains open**
6. Line 15: the value of parameter EGpj,aux has not been corrected and remain not in accordance with evidence provided. **Issue remains open**
7. cell N27: value is has not been corrected and remain not in accordance with evidence provided. **Issue remains open**
8. cell N35: value has not been corrected and remain not in accordance with evidence provided. **Issue remains open**

Tab 2023 data,

9. Line 13: the value of parameter EGpj,imp has been changed but remains not in accordance with evidence provided during the on-site inspection, checked at the projec's database. **Issue remains open**
10. **NEW finding:** Not clear why values from line 15 have been changed. They now refer to the former "Total auxiliary electricity consumption for the operation of the power plant" (line 14). **Issue remains open**

Tab Emissions:

11. Line 16: values provided have been corrected and are now in accordance with values informed in tab YYYY data. **Issue is closed**.
12. Lines 19 and 20: the emission factor calculation has now been provided to the verification team for all years 2021 to 2023 and the calculations are in accordance with TOOL07. **Issue is closed**
13. Line 33: the GWP CH4 is now correct in the ER calculations and MR, in accordance with VCS Standard paragraph 3.15.4, table 2. **Issue closed**
14. Line 38: formula remains not correct: the calculated value is in energy units (GJ) whereas the unit mentioned is in tons. **Issue remains open**
15. Line 52: values of GWP_{CH4} in this row are now correct, in accordance with VCS Standard paragraph 3.15.4, table 2. **Issue closed**
16. Units described in cells D76, D86 and D96 have been duly corrected. **Issue is closed**.
17. Line 137: Values of BRPJ,4,y are now traceable. **Issue is closed**
18. Line 153: the formula remains using information from empty row 151. **Issue remains open**.
19. Line 158: the formula in this row is now traceable and in accordance with monitoring plan. **Issue is closed**.
20. Line 161: No change has been carried out. the parameter η PJ,HG,BR,h (line 139) has still not being considered. **Issue remains open**.
21. Line 167: Information is now clarified in the ER calculations spreadsheet. **Issue is closed**.
22. Lline 185: The information remains not clear. Reference is being made to PD page 61, and a note has been included in the ER calculations. Nevertheless, it is not clear neither in the PD pg 61 nor in the explanation, why fossil fuel used to increase heat and or power generation is being considered equal to zero. **Issue remains open**
23. Line 2108: it is confirmed that values are now traceable in the spreadsheet. **Issue is closed**

Due to the issues 1, 2, 3.5, 6, 7, 8, 9, 10, 14, 18, 20 and 22, the CAR remains open

Answer 2: *Answer from PP*	Date: 06/11/2024

Please review the updated ER calc 2023-2022-2021 v1.1.2 spreadsheet, which includes all adjustments made.

Documents provided

ER calc 2023-2022-2021 v1.1.2

Assessment 2: *Assessment from val/ver team*	Date: 06/11/2024

Tab: 2023 wet tons

1. Changes in the respective value has been observed in the ER calculations spreadsheet. Value is now in accordance with provided evidence. **Issue is closed**

Tab 202Y wet tons (all years)

2. Calculation from tab “2023 wet tons” is now correctly carried out. **Issue is closed**

Tab 2021 data,

3. Line 13: the value of parameter EGpj,imp for the month November has been duly corrected and it is now in accordance with evidences provided to the verification team. **Issue is closed**
4. **Issue is closed**

Tab 2022 data,

5. Line 13: the value of parameter EGpj,imp for the month November has been duly corrected and it is now in accordance with evidences provided to the verification team. **Issue is closed**
6. Line 15: the value of parameter EGpj,aux for the month November has been duly corrected and it is now in accordance with evidences provided to the verification team. **Issue is closed**
7. cell N27: value is has been corrected in accordance with evidence provided. **Issue is closed**
8. cell N35: value is has been corrected in accordance with evidence provided. **Issue is closed**

Tab 2023 data,

9. Line 13: the value of parameter EGpj,imp has been changed and it is now in accordance with evidences provided. **Issue is closed**.
10. **NEW finding:** Values are now in accordance with information from evidences provided. **Issue is closed**

Tab Emissions:

1. **Issue is closed**
2. **Issue is closed**
3. **Issue is closed**
4. Line 38: formula has been corrected and now the units are accurate. **Issue is closed**
5. **Issue closed**
6. **Issue is closed**.
7. **Issue is closed**
8. Line 153: the formula has now been corrected. **Issue is closed**.
9. **Issue is closed**.
10. Line 161: The parameter η PJ,HG,BR,h (line 139) has now being considered in the calculations. **Issue is closed**.
11. **Issue is closed**.
12. Lline 185: The project activity does not increase power generation using fossil fuels as per PD. Therefore, value is equal to zero. **Issue is closed**
13. **Issue is closed**

CAR has been closed

CAR	07	Potential impact in the declaration: high
Description		Date: 04/09/2024
EF calculations The emission factor calculation for all years have not been provided to the validation team		
Answer 1: *Answer from PP*		Date: 17/10/2024
We have now provided the EF calculations for all years, 2021, 2022 and 2023.		
Documents provided		
EF2021, 2022 and 2023		
Assessment 1: *Assessment from val/ver team*		Date: 31/10/2024
The verification team has received the EF calculations for the years 2021, 2022 and 2023 and concluded that the calculations are correct, based on public official information (National Energy Commission – CNE) and IPCC emission factors. Moreover, the calculations have been carried out in accordance with TOOL07. **CAR is closed**		

Table 4: FARs opened during the current validation/verification process

FAR	xx	Potential impact in the declaration: Low
Description		Date: xx
Answer 1: *Answer from PP*		Date: DD/MM/YYYY
Documents provided		
Assessment 1: *Assessment from val/ver team*		Date: DD/MM/YYYY