



ENERGY EFFICIENCY AND SOLID WASTE DIVERSION ACTIVITIES WITHIN THE QUEBEC SUSTAINABLE COMMUNITY 8TH MONITORING REPORT

Will

Project title	Energy efficiency and solid waste diversion activities within the Quebec Sustainable Community
Project ID	929
Monitoring period	01-January-2023 to 31-December-2023
Original date of issue	20-November-2024
Most recent date of issue	11-April-2025
Version	1.2
VCS Standard Version	4.7 – updated 16 April 2024
Prepared by	WILL Solutions Inc. Claudia Lesage, GHG Quantification Manager

CONTENTS

PROJECT DETAILS	4
1.1 Summary Description of the Implementation Status of the Project	4
1.2 Audit History.....	5
1.3 Sectoral Scope and Project Type	5
1.4 Project Proponent	5
1.5 Other Entities Involved in the Project	6
1.6 Project Start Date	7
1.7 Project Crediting Period	7
1.8 Project Location	7
1.9 Title and Reference of Methodology	8
1.10 Double Counting and Participation under Other GHG Programs	8
1.11 Double Claiming, Other Forms of Credit, and Scope 3 Emissions.....	8
1.12 Sustainable Development Contributions	9
1.13 Commercially Sensitive Information.....	12
2 SAFEGUARDS AND STAKEHOLDER ENGAGEMENT	12
2.1 Stakeholder Engagement and Consultation.....	12
2.2 Risks to Stakeholders and the Environment.....	15
2.3 Respect for Human Rights and Equity	17
2.4 Ecosystem Health	19
3 IMPLEMENTATION STATUS	21
3.1 Implementation Status of the Project Activity	21
3.2 Deviations	21
3.3 Grouped Projects	25
3.4 Baseline Reassessment.....	32
4 DATA AND PARAMETERS.....	33
4.1 Data and Parameters Available at Validation	33
4.2 Data and Parameters Monitored.....	38
4.3 Monitoring Plan.....	41
5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS	41
5.1 Baseline Emissions	44

5.2	Project Emissions	44
5.3	Leakage Emissions	49
5.4	GHG Emission Reductions and Carbon Dioxide Removals	54
APPENDIX 1: COMMERCIAL SENSITIVE INFORMATION.....		56
APPENDIX 2: ADDRESSING DOUBLE COUNTING RISKS CONCERNS		57
APPENDIX 3: RESULTS FOR THE EMISSION REDUCTIONS OF 2019-2023		57
APPENDIX 4: DATA, PARAMETERS, AND MONITORING PLAN		60
APPENDIX 5: SDG CONTRIBUTIONS SUPPORTING EVIDENCE		72

1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The Energy Efficiency and Solid Waste Diversion Activities within the Quebec Sustainable Community project is a grouped project led by WILL Solutions Inc. ("WILL") as the unique project proponent (Sustainable Community Service Promoter (SCSP)), to quantify and generate GHG emission reductions in conformance with the VCS Methodology VM0018 Energy Efficiency and Solid Waste Diversion Activities within a Sustainable Community (version 1.0).

This grouped project, implemented since January 1st, 2010, generates emission reduction through the aggregation of implemented project activity instances (PAI) that reduce emissions via reduced energy demand and methane avoidance from waste diversion. Each implemented PAI is categorized according to 10 Generic PAI listed in section 3.3 which encapsulates the types of technologies or measures eligible to the Quebec Sustainable Community (QSC) as described in the renewed Project Description in May 2021.

This grouped project is intended to stimulate and finance owners and operators of ICI (Industrial, Commercial, and Institutional) buildings, also referred to as "Client Facilities" – large and small – located in the Province of Quebec, in Canada, for their GHG emission reduction efforts, by providing access to the voluntary carbon credit markets and beyond any regulated compliance.

This group project is designed to be simple, yet rigorous in its application, measurement, and monitoring. Even though the eligible activities vary, energy consumption and waste management are similar across many organizations. The main objectives are as follow:

- a. To gradually aggregate into a "Sustainable Community or cluster", up to 2,000 Client Facilities, located in the province of Quebec, Canada that will achieve an estimated 34,250,000 tCO₂e of GHG emission reductions for the period 2020-2029.
- b. To collect ground data in real-time, and consequently, stimulate and improve ICI building's sustainability.
- c. To stimulate and finance small-scale actions carried out by ICI sites that aim to avoid methane emissions by diverting waste from landfills with more efficient waste recovery management, reducing energy demand, and increasing energy efficiency in buildings.

The total GHG emission reductions generated in the monitoring period from January 1st, 2023, to December 31st, 2023, amount to 635,357 tCO₂e. This is attributed to the 2,456 PAIs active under this period, among which 49 PAIs are newly included in this Monitoring report.

In this regard, for this monitoring period, the yearly average is equivalent to 258 tCO₂e per PAI.

1.2 Audit History

Audit type	Period	Program	Validation/verification body name	Number of years
<i>Project Validation</i>	11-07-2013	VCS	SGS United Kingdom Ltd.	n.a.
<i>1st Monitoring Report</i>	01-01-2010–31-10-2013	VCS	Perry Johnson Registrars Carbon Emissions Services, Inc (PJRCES)	3 years and 10 months
<i>2nd Monitoring Report</i>	01-11-2013–31-12-2015	VCS	Perry Johnson Registrars Carbon Emissions Services, Inc (PJRCES)	1 year and 2 months
<i>3rd Monitoring Report</i>	01-01-2016–31-12-2016	VCS	Earthood Services Limited (ESL)	1
<i>4th Monitoring Report</i>	01-01-2017–31-12-2018	VCS	Earthood Services Limited (ESL)	1
<i>5th Monitoring Report</i>	01-01-2019–31-12-2019	VCS	Earthood Services Limited (ESL)	1
<i>Project Renewal</i>	01-01-2020–31-12-2029	VCS	Earthood Services Limited (ESL)	n.a.
<i>6th Monitoring Report</i>	01-01-2020–31-12-2021	VCS	LGAI Technological Center, S.A. (APPLUS+)	2
<i>7th Monitoring Report</i>	01-01-2022–31-10-2022	VCS	Earthood Services Limited (ESL)	1
<i>8th Monitoring Report</i>	01-01-2023 – 31-12-2023	VCS	Earthood Services Limited (ESL)	1

1.3 Sectoral Scope and Project Type

Sectoral scope¹	Sectoral scope 3 and sectoral scope 13
Project activity type	Energy demand; Waste handling and disposal

1.4 Project Proponent

Organization name	Will Solutions Inc.
--------------------------	---------------------

¹ Projects, activities, or methodologies may be developed under any of the 16 VCS sectoral scopes: <https://verra.org/programs/verified-carbon-standard/vcs-program-details/#sectoral-scopes>

Contact person	Claudia Lesage
Title	GHG Quantification Manager
Address	Beloeil, Province of Quebec, Canada, J3G 5Z5
Telephone	1 438 897-8007
Email	claudia@solutionswill.com

Organization name	Will Solutions Inc.
Contact person	Martin Clermont
Title	President, Founder, Engineer, and Carbon Expert
Address	Beloeil, Province of Quebec, Canada, J3G 5Z5
Telephone	1 438 897-8009
Email	mclermont@solutionswill.com

Organization name	Will Solutions Inc.
Contact person	Anne-Marie Gendron
Title	Chief Operating Officer (COO)
Address	Beloeil, Province of Quebec, Canada, J3G 5Z5
Telephone	1 438 897-8001
Email	amgendron@solutionswill.com

1.5 Other Entities Involved in the Project

There are no other entities involved in the project.

1.6 Project Start Date

Project start date	01-January-2010
Justification	The project began generating GHG emission reductions in 01-January-2010.

1.7 Project Crediting Period

Crediting period	Ten years, twice renewable
Start and end date of first or fixed crediting period	First period: 01-January-2010 to 31-December-2019 Renewal period: 01-January-2020 to 31-December-2029

1.8 Project Location

All Client Facilities included in the grouped project are located inside the province of Quebec, Canada. They are linked by and grouped under a common geographic boundary – in this case the territory of the Province of Quebec – where regional conditions (i.e., electricity source, climate, waste processing schemes, etc.) and regulations (i.e., waste and emission regulations, etc.) are similar among different Client Facilities.

The map displayed below illustrates the territory of the Province of Quebec, which shares 12,000 km of land, rivers, and maritime borders with Ontario, Nunavut, Newfoundland and Labrador, Prince Edward Island, New Brunswick, Nova Scotia, and the United States. The 11 geodesic coordinates define the boundaries of the polygon encasing the Province of Quebec's territory. In this monitoring report, 90 Client Facilities are declared, with 57 that have provided the required data, which comprise 2,456 PAI, are all located within this polygon. A separate KML file has been provided to demonstrate all Client Facilities and their PAIs are situated within the polygon.

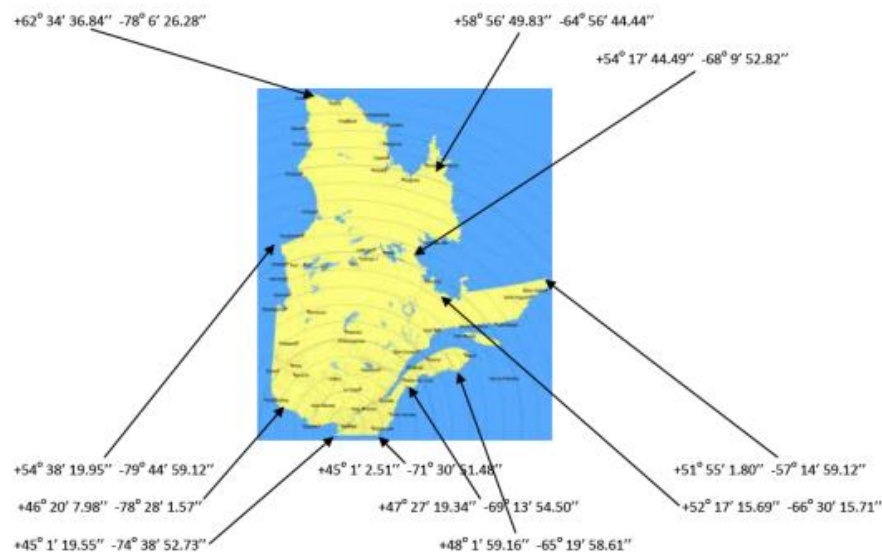


Figure 1 Geodesic coordinates of the polygon covering the Province of Quebec territory.

1.9 Title and Reference of Methodology

Type (methodology, tool or module).	Reference ID, if applicable	Title	Version
Methodology	VM0018	Energy Efficiency and Solid Waste Diversion Activities within a Sustainable Community	1.0

1.10 Double Counting and Participation under Other GHG Programs

1.10.1 No Double Issuance

Is the project receiving or seeking credit for reductions and removals from a project activity under another GHG program?

☐ Yes ☒ No

1.10.2 Registration in Other GHG Programs

Was the project registered or seeking registration under any other GHG programs?

☐ Yes ☒ No

1.11 Double Claiming, Other Forms of Credit, and Scope 3 Emissions

1.11.1 No Double Claiming with Emissions Trading Programs or Binding Emission Limits

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit?

☐ Yes ☒ No

The GHG reductions quantified in this Monitoring Report are not included in an emissions trading program or any other mechanism that includes GHG allowance trading. To ensure this, Will Solutions systematically excludes from its Monitoring Reports all facilities that are involved with the RSPEDE. More information on how the project proponent avoids double counting risks with the SPEDE can be found in Appendix 2.

1.11.2 No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system?

☐ Yes ☒ No

1.11.3 Supply Chain (Scope 3) Emissions

Do the project activities affect the emissions footprint of any product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

If yes:

Is the project proponent(s) or authorized representative a buyer or seller of the product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

If yes:

Has the project proponent(s) or authorized representative posted a public statement on their website saying, "Carbon credits may be issued through the Verified Carbon Standard project [project ID] for the greenhouse gas emission reductions or removals associated with [project proponent or authorized representative organization name(s)] [name of product(s) whose emissions footprint is changed by the project activities]."

☐ Yes ☒ No

1.12 Sustainable Development Contributions

The Sustainable Community (SC) solution consolidates project activity instances (PAI) that reduce emissions. These PAIs involve reducing energy demand and diverting waste from landfills to avoid methane emissions within the Province of Quebec, Canada.

By enhancing energy efficiency, reducing energy demand, and adopting sustainable waste management practices, the SC project directly contributes to SDGs 9, 10, 11, 12, 13 and 17. The description of each SD contributions and their progress is provided in Table 1 below and evidence of the project's SD contributions are provided in Annex B and Appendix 5.

WILL Solutions is in line with the Quebec government's Strategy 2023-2028². Strategy 2023-2028 is the Quebec government's response to the United Nations' 2030 Agenda for Sustainable Development. It is also aligned with the principles of the Paris Climate Agreement to which Quebec is contributing.

² <https://cdn-contenu.quebec.ca/cdn-contenu/adm/min/environnement/publications-adm/developpement-durable/strategie-gouvernementale/strategie-gouv-developpement-durable-2023-2028-enbref.pdf>

Table 1: Sustainable Development Contributions

Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
1)	9.3	Number of client facilities (SMEs) with access to financial services	Implemented activities to increase	800K CAD\$ paid up during the monitoring period to Sustainable Community Client Facilities (SMEs) to implement GHG reduction projects. 2,456 reduction projects (PAI) realized over 150 SMEs with most located in remote area on 13 of the 17 administrative regions of Quebec.	2,8 M CAD\$ over the project lifetime to Sustainable Community SMEs to implement GHG reduction projects. 8.8% of Quebec's population (near 800,000 people), associated to innovative projects through their organizations (SME, municipalities, and NGOs). Over 2,400 reduction projects (PAI) realized by over 150 SMEs with most located in remote areas, on 13 of the 17 administrative regions of Quebec.
2)	10.2	By 2030, empower and promote the social, economic, and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.	Implemented activities to increase	8.8% of the Quebec's population territory, located mainly in remote areas, has participated through their organizations (SME, municipalities, and NGOs), to the group project.	The renewal of our group project by VCS in May 2021 for another 10-year period (starting January 1 st , 2020, to December 31, 2029), combined with driving climate action allow higher inclusion inside the Quebec's territory.

3)	11.A	Support positive economic, social, and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.	Implemented activities to increase	14% of Quebec's municipalities (160 municipal organisations over 1,130 Quebec municipalities) participating to the Sustainable Community project, which is in line to mitigate climate risks.	14% of Quebec's municipalities (160 municipal organisations over 1,130 Quebec municipalities) participating to the Sustainable Community project, which is in line to mitigate climate risks.
4)	12.5	By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.	Implemented activities to increase	As calculated, 450,701 tCO ₂ e from waste emissions was avoided through the reduction of waste generation, recycling, reuse, and composting, mainly realized in remote regions.	The renewal of our group project by VCS (May 2021) over the period of 2020-2029 will allow to reach ≈10,000,000 tCO ₂ e associated with the reduction of waste generation. Over the period 2020-2029, the group project has enabled the reduction of 2,474,124 tCO ₂ e associated with the reduction of waste.
5)	13.0	Tonnes of greenhouse gas (GHG) emissions avoided and reduced.	Implemented activities to increase	635,357 tCO ₂ e of greenhouse gas emissions (GHG) avoided and/or reduced.	5,69 million tCO ₂ e of greenhouse gas emissions (GHG) avoided and/or reduced.
6)	17.17	Number of contributing NGO and partnership to the sustainability movement.	Implemented activities to increase	No further changes this monitoring period	14 NGOs directly associated to the Sustainability movement.

1.13 Commercially Sensitive Information

Information concerning the names of the companies (i.e. Client Facilities) taking part in the grouped project is not disclosed out of respect for the law³ on the protection of personal data, as well as for reasons of commercial competitiveness. See Appendix 1 for further details.

2 SAFEGUARDS AND STAKEHOLDER ENGAGEMENT

2.1 Stakeholder Engagement and Consultation

2.1.1 Stakeholder Identification

There have been no changes in the stakeholder make up since the Project Description renewal validation realized by Verra on May 2021, and no change since the latest monitoring report.

Stakeholder Identification	N/A ; Stakeholders have not changed during this monitoring period.
Legal or customary tenure/access rights	N/A ; Legal or customary tenure/access rights have not changed during this monitoring period.
Stakeholder diversity and changes over time	N/A ; Stakeholders have not changed during this monitoring period.
Expected changes in well-being	N/A ; does not apply to this project type
Location of stakeholders	N/A ; Stakeholders have not changed during this monitoring period.
Location of resources	N/A ; does not apply to this project type

2.1.2 Stakeholder Consultation and Ongoing Communication

³ <https://www.quebec.ca/nouvelles/actualites/details/loi-25-nouvelles-dispositions-protegeant-la-vie-privee-des-quebecois-certaines-dispositions-entrent-en-vigueur-aujourd'hui-43212>

Ongoing consultation	As the project proponent, WILL maintains ongoing and regular communications with project stakeholders such as social development partners, collaborators, members (Client Facilities) and VCU buyers throughout the monitoring period. Methods used to engage local stakeholders include ongoing communications through social media platforms, newsletters, as well as the media and news section on the project proponent's website. In addition, stakeholders can provide at any time their input or concerns over the project through email correspondence or phone calls. A GHG auditor from WILL's team is specifically assigned to each client facility and represents a privileged interlocutor and a point of contact available at all times to receive questions, comments or inputs. Each client facility or VCU buyer also has access to a dedicated account manager who can be contacted at any time. In its latest sustainability report⁴ published in September 2024, WILL reported that it has produced over 100 publications that promote sustainability on its website, blog and social media (LinkedIn, Facebook, Twitter, and Instagram). In addition, the promotion of GHG reduction projects and communications regarding the ongoing status of the project were realized through webinars, newsletters, and virtual meetings.
Date(s) of stakeholder consultation	01-01-2023 to 31-12-2023 (ongoing communications)
Communication of monitored results	The monitoring results are communicated through our yearly sustainability report as well as individual carbon credit portfolio for participating client facilities. The monitoring results are also available on our website to facilitate the customer journey for our stakeholders interested in this documentation⁵.

⁴ <https://solutionswill.com/wp-content/uploads/2024/11/Sustainable-Development-Report-2023-2024-Will-Solutions-EN.pdf>

⁵ Published monitoring results on the project proponent website: <https://solutionswill.com/en/our-community/sustainable-communities-project-documentation/>

Consultation records	The quantification manager and the sales manager are responsible for collecting, documenting, and addressing the inputs and concerns, when applicable.
Stakeholder input	No comments, input, or concerns from local stakeholders were received for this monitoring period. However, if comments or concerns are received, the project proponent will address the comments or concerns raised by the stakeholders when appropriate.

2.1.3 Free, Prior, and Informed Consent

Consent	The client facilities and the PAIs included in the group project are small-scale and do not affect property rights, usage, or resources. Each client facility retains full ownership of its facilities and resources. The project does not alter or infringe upon ownership rights in any way. The role of the PP is limited to coordinating the grouped project, without any claim or control over the properties or operations of the participating client facilities. In this regard, the PP has a written procedure in place to ensure that the adhesion of all Client Facilities to the grouped project is carried out with FPIC's underlying principles - transparency, informed decision-making, and ongoing engagement. In addition, the scope of this grouped project does not include natural resources extraction, land development, and other activities that may impact LPs and LCs rights, lands, or livelihoods.
Outcome of FPIC	The outcome of the FPIC process is the signature of a contractual agreement between the client facility and the project proponent which confirms all parties have voluntarily joined the grouped project. The scope of this project does not include natural resources extraction, land development and other activities that may impact LPs and LCs rights, and therefore the group project and the PAIs have not encroached on land,

relocated people without consent, and forced physical or economic displacement.

2.1.4 Grievance Redress Procedure

Grievances received	Resolution and outcome
N/A	No grievances were raised during this monitoring period. Stakeholders can communicate grievances through email correspondence, phone calls or by filling in a contact form. Emails, phone numbers and contact forms are available on the project proponent website.

2.1.5 Public Comments

Summary of comments received	Actions taken
No comments received	N/A

2.2 Risks to Stakeholders and the Environment

2.2.1 Management Experience

The project proponent, WILL, leads a group project focused exclusively on ex-post source reduction activities, with participating client facilities who are the project developers implementing reduction initiatives directly impacting their own operations or the physical locations they operate. Given the nature and small-scale of these projects – such as boiler conversions or landfill avoidance – the eligible activities do not pose adverse impacts to surrounding communities or stakeholders.

WILL's management team, with over 10 years of experience in carbon accounting, has been actively supporting the implementation of project activity instances since 2010. Each team member is well-trained and experienced, having completed ISO-14064-1 and ISO-14064-2 training.

For technical aspects of the projects, such as boiler replacements for example, client facilities as project developers engage specialized experts to ensure the highest level of technical accuracy and compliance.

2.2.2 Risk assessment

The project proponent has implemented proactive strategies to mitigate the identified risks. As a certified B Corporation for the period 2022-2025⁶, the project proponent has earned commendable ratings for their contributions to employee welfare, customer satisfaction, community engagement, and environmental stewardship.

	Risk identified	Mitigation or preventative measure(s) taken
Natural and human-induced risks to stakeholders' wellbeing	No risk identified	WILL has actively engaged stakeholders in climate action through over 100 communications, including webinars and social media posts. They have facilitated webinars aimed at the community and encouraged participation in climate-related activities eligible to the group projects. Additionally, WILL maintains a dedicated webpage for stakeholders to submit comments at any time, ensuring open and continuous dialogue. Will's management team remains available to discuss risks to stakeholders' wellbeing and possible mitigation strategy.
Risks to stakeholder participation	No risk identified	WILL has actively engaged stakeholders in climate action through over 100 communications, including webinars and social media posts. They have facilitated webinars aimed at the community and encouraged participation in climate-related activities eligible to the group projects. Additionally, WILL maintains a dedicated webpage for stakeholders to submit comments at any time, ensuring open and continuous dialogue.
Working conditions	No risk identified	PP has established internal policies that align with the standards required for B Corp certification, demonstrating their commitment to workers. ⁷

⁶ See section on Community <https://www.bcorporation.net/en-us/find-a-b-corp/company/solutions-will/>

⁷ See section on Workers: <https://www.bcorporation.net/en-us/find-a-b-corp/company/solutions-will/>

Safety of women and girls	No risk identified	PP has established internal policies that align with the standards required for B Corp certification, demonstrating their commitment to workers and community ⁸ .
Safety of minority and marginalized groups, including children	No risk identified	PP has established internal policies that align with the standards required for B Corp certification, demonstrating their commitment to workers and community ⁹ .
Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical pesticides and fertilizers)	No risk identified	The PP has established internal policies that align with the standards required for B Corp certification, demonstrating their commitment to the environment ¹⁰ . The company commits to ongoing maintenance and disclosure of its environmental impact in its annual reports ¹¹ .

2.3 Respect for Human Rights and Equity

2.3.1 Labor and Work

	Risks identified ¹²	Mitigation or preventative measure(s) taken
Discrimination	No risk identified	The project proponent as well as Client Facilities operate with respect for Human Rights and Equity in accordance with existing laws and regulations in Quebec and Canada.
Sexual harassment	No risk identified	The project proponent as well as Client Facilities operate with respect for Human Rights and Equity in accordance with

⁸ See section on Community <https://www.bcorporation.net/en-us/find-a-b-corp/company/solutions-will/>

⁹ See section on Community <https://www.bcorporation.net/en-us/find-a-b-corp/company/solutions-will/>

¹⁰ See section on Environnement <https://www.bcorporation.net/en-us/find-a-b-corp/company/solutions-will/>

¹¹ Sustainability Report (2022-2023) <https://solutionswill.com/wp-content/uploads/2023/07/Sustainable-Development-Report-2022-2023-Will-Solutions-EN-July-2023.pdf>

¹² The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

		existing laws and regulations in Quebec and Canada.
Gender equity in labor and work	No risk identified	The project proponent as well as Client Facilities operate with respect for Human Rights and Equity in accordance with existing laws and regulations in Quebec and Canada.
Forced labor	No risk identified	The project proponent as well as Client Facilities operate with respect for Human Rights and Equity in accordance with existing laws and regulations in Quebec and Canada.
Child labor	No risk identified	The project proponent as well as Client Facilities operate with respect for Human Rights and Equity in accordance with existing laws and regulations in Quebec and Canada.
Human trafficking	No risk identified	The project proponent as well as Client Facilities operate with respect for Human Rights and Equity in accordance with existing laws and regulations in Quebec and Canada.

2.3.2 Human Rights

Risks identified	Mitigation or preventative measure(s) taken
No risk identified	The project proponent and Client Facilities operate in compliance with provincial and federal legislation and in full respect of IPs and LCs rights.

2.3.3 Indigenous Peoples and Cultural Heritage

Risks identified	Mitigation(s) or preventative measure taken
No risk identified	The project proponent and Client Facilities operate in compliance with provincial and

federal legislation and full respect of the IPs and LCs rights.

2.3.4 Property Rights

Risks identified	Mitigation or preventative measure(s) taken
No risk identified	The project proponent and Client Facilities operate in compliance with provincial and federal legislation and full respect of the IPs and LCs rights as well as property rights.

2.3.5 Benefit Sharing

Summary of the benefit sharing plan	The Project Proponent (WILL Solutions) is a Canadian entity that produces high-quality greenhouse gas (GHG) reduction converted into carbon credits. Will Solutions guides its members (i.e. Client Facilities) (mainly SME, municipalities and NPOs) free of charge on a customized GHG reduction journey, recommending and qualifying projects (PAI) in energy efficiency and waste management – all initiatives that reduce a carbon footprint. Once implemented, WILL measures the resulting GHG reductions and converts them into high-quality, measurable, and auditable carbon credits available for sale, with 80% of the proceeds returned to its members.
Benefit sharing during the monitoring period	See above comment.

2.4 Ecosystem Health

	Risk identified	Mitigation or preventative measure(s) taken during the monitoring period
Impacts on biodiversity and ecosystems	No risk identified	PAIs included in this group project are small-scale and associated to the sectoral scope 3 and 13. PAIs are always implemented within buildings or

		close to existing infrastructure which leads to minimal to no disruptive impacts on biodiversity and ecosystems.
Soil degradation and soil erosion	No risk identified	PAIs included in this group project are small-scale and associated to the sectoral scope 3 and 13. PAIs are always implemented within buildings or close to existing infrastructure which leads to minimal to no impacts on soil such as degradation and soil erosion.
Water consumption and stress	No risk identified	PAIs included in this group project are small-scale and associated to the sectoral scope 3 and 13. PAIs included in this group project, from both sectoral scopes, do not lead to significant increase in water consumption and stress
Usage of fertilizers	No risk identified	PAIs included in this group project are small-scale and associated to the sectoral scope 3 and 13, therefore do not involve the use of fertilizers.

2.4.1 Rare, Threatened, and Endangered species

Species or habitat	N/A, this is not an AFOLU project.
Areas needed for habitat connectivity	N/A, this is not an AFOLU project.

	Risks identified	Mitigation or preventative measure(s) taken
Habitats for rare, threatened, and endangered species	No risk identified	This is not an AFOLU project.
Areas for habitat connectivity	No risk identified	This is not an AFOLU project.

2.4.2 Introduction of species

This grouped project is not involved with planting or species introduction; therefore, this section is not applicable.

Species introduced	Classification	Justification for use	Adverse effects and mitigation
N/A	N/A	N/A	N/A

Existing invasive species	Mitigation measures to prevent the spread or continued existence of invasive species
N/A	N/A

	Risks identified	Mitigation or preventative measure(s) taken
Invasive species	N/A	N/A

2.4.3 Ecosystem conversion

	Risks identified	Mitigation or preventative measure(s) taken
Ecosystem conversion	No risk identified	This grouped project is not an ARR, ALM, WRC or ACoGS project and is not involved with ecosystem conversion; therefore, this section is not applicable.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The project activity has been consistently operational throughout the monitoring period, and the maintenance of operations of all PAIs included in this monitoring report has been duly verified with supporting evidence. No events have had significant impacts on the GHG reductions or monitoring during this monitoring period.

Client facilities that did not provide sufficient data and evidence are excluded and considered to have zero net emission reduction in this report. For this monitoring period, 187 PAIs from 33

Client Facilities were considered to have zero net emission reductions. The table below presents clearly how many Client Facilities and PAIs are considered, excluded, and added during this monitoring period:

	2023	
	Client Facilities	PAI
Considered during this monitoring period	54	2,407
Excluded from this monitoring period	33	189
Added during this monitoring period	3	49
Total	90	2,645

The reasons attributed to excluded Client Facilities and PAIs are specified in the Annex B.

There have been no changes to the project proponent during the monitoring period. The grouped project remains solely under the oversight and management of the project proponent as indicated in section 1.4 of this Monitoring Report.

3.2 Deviations

3.2.1 Methodology Deviations

There are no deviations to the VM0018 methodology in this Monitoring Report.

3.2.2 Project Description Deviations

1. Description of the Deviation

For this monitoring period of 01-01-2023 to 31-12-2023, the project deviates from the approved Project Document (PD) renewal version 1.2 for project ID929 in the procedure to calculate baseline and project emissions, specifically the data and parameters available at validation.

The approved PD requires the following parameters to be used and available at validation for the calculation of waste decomposition and methane release: oxidation factor (OX), fraction of degradable organic carbon (DOC_r), fraction of degradable organic carbon by weight (DOC_w), methane correction factor (MCF), and decay rate (k_d).

The project during this monitoring period has instead used default emission factors from the U.S. Environmental Protection Agency Waste Reduction Model (EPA WARM) (version 16).

2. Reason and Justification for Deviation

For this monitoring period, the deviation to use landfill default emission factors from the EPA WARM instead of default values of the CDM Tool 04 was determined to be more accurate due to regional specificity and relevance to the Province of Quebec.

Essentially, the WARM is developed with North American context in mind, whereas the CDM's Tool 04 is designed for global context. For example, the EPA WARM is tailored to reflect the

waste composition and landfill practices prevalent in North America, whereas the CDM Tool 04 is based on broader, global datasets that may not accurately represent Quebec's situation. In addition, the WARM takes into consideration the climatic conditions relevant to North America, whereas the CDM Tool 04 has a wider range of climate conditions which are less specific to Quebec. Selecting emission factors from the WARM ensures that high-quality, and region-specific data representative of North American context are used.

In addition, the WARM allows the customization of results based on landfill gas recovery practices, and anaerobic digestion practices, and provides default values.

3. Deviation Outcomes and Impacts

The impacts of the deviation are non-significant.

Following the CDM's *Guidelines on Assessment of Different Types of Changes from the Project Activity as Described in the Registered PDD* (EB 48 report Annex 67)¹³, the deviation does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario.

a) Additionality:

Emission factors from the EPA WARM have always been used to calculate emission reductions from sectoral scope 13 PAIs in the past seven monitoring reports for this group project. Therefore, this does not impact the validity of the investment analysis or barrier analysis established at the time of the project registration, thus, it is not affecting additionality.

b) Changes in the scale of the project activities

Using emission factors from the EPA WARM has no impact on the scale of the grouped project activity or the project activity instances.

c) Applicability of the methodology:

Using emission factors from the EPA WARM does not impact the applicability of the methodology. The primary objectives and principles of the VM0018 methodology remain consistent regardless of the emission factors used. The core goal is to calculate GHG reductions from project activities that divert waste for alternative disposal options and avoid methane emissions accurately, and the EPA WARM provides scientifically validated emission factors for this purpose.

d) Baseline scenario:

The baseline scenario for sectoral scope 13 remains the same, which is the anaerobic decomposition of a waste type in a landfill. The emission factors from the WARM used to calculate the baseline scenario are specifically selected for a landfill management scenario per waste type.

¹³ CDM's *Guidelines on Assessment of Different Types of Changes from the Project Activity as Described in the Registered PDD* (EB 48 report Annex 67): https://cdm.unfccc.int/EB/048/eb48_repan67.pdf

In conclusion, the deviation the project deviation is applied due to a significant increase in accuracy and reliability when calculating baseline and project emissions, since the WARM is more representative of the North American context.

3.3 Grouped Projects

In this monitoring period, 3 new Client Facilities and 2 former Client Facilities with 49 new PAIs have been added to the grouped project. Each new project activity instance fully meets the eligibility criteria set out in the project description. For each new PAI, the eligibility criteria are addressed as follow:

Criteria 1: Must be located inside the Quebec territory

To demonstrate PAIs are located inside the Quebec territory, geographic coordinates are provided in a KML file as requested in the VCS Standard v.4.7. At the time of verification, the VVB is given access to each individual calculation spreadsheet and evidence documentation to confirm the location of each new PAI on the Client Facility's site.

Criteria 2: Be implemented after January 1st 2015

To demonstrate PAIs are implemented after January 1st, 2015, Client Facilities must provide evidence documentation to confirm the implementation date of a new PAI. At the time of verification, the VVB is given access to evidence documentation to confirm the implementation date of each new PAI.

Criteria 3: Be a registered member of the SCSP project

To demonstrate each new Client Facilities are registered to the SCSP project, each Client Facility must sign an adhesion contract. At the time of verification, the VVB is given access to adhesion contracts to confirm registration of each new Client Facility as a member of the SCSP project.

Criteria 4: Having or using a similar technology or measure as the generic PAI that are based on scope 3 and 13

Each new PAI must be associated with a relevant generic PAI¹⁴ which are based on either the sectoral scope 3 or 13. The table below provides the list of 10 generic PAI to which PAIs can be associated according to the technology or measure it uses.

¹⁴ Generic PAIs have processes or outcomes which go beyond BAU practices and are defined as more efficient when compared to common practices. The Generic PAIs were validated by the VVB and the VCS Program in the renewal of the Project Description on May 24, 2021. New PAIs are recognized as additional if they can be associated with a generic PAI.

Generic PAI		Sectoral Scope 3	Sectoral Scope 13
I	Biomass Energy Project	✓	
II	Methane Emission Avoidance		✓
III	Torrefied Biomass Combustible		✓
IV	Saving Energy on Recycling Activities	✓	
V	Heat Recovery	✓	
VI	-		
VII	Energy Efficiency – Demand Side	✓	
VIII	Energy Conversion	✓	
IX	Energy Conservation	✓	
X	Energy Efficiency – Demand Side from New Building or Major Renovation	✓	
XV	Land Application of biosolids		✓

Criteria 5: Be auditable and verifiable

Each new PAIs are audited and requested to provide supportive documentation to allow verification. At the time of verification, the VVB is given access to each individual calculation spreadsheet and evidence documentation for verification.

Criteria 6: The project unit (PAI) GHG reductions are inferior to 5,000 tCO₂e/year

GHG reductions for each individual PAI must be inferior to 5,000 tCO₂e/year. At the time of verification, the VVB is given access to each individual calculation spreadsheet to confirm the emission reductions for each PAI is aligned with the 5,000 tCO₂e/year capacity limit.

Below is provided the relevant information on new project activity instances included in this monitoring report to demonstrate how each new PAI meets the eligibility criteria listed above, and as set out in the PD. For each criterion, evidence is made available to the VVB.

Client Facility 0113	New PAI(s): 11 (consolidated)	Summary Description: Energy conversion from fossil fuel to electric evaporators for maple syrup production	
Criteria 1: Be implemented after January 1st 2015			Satisfied ✓
a) 30/01/2017 b) 30/10/2019 c) 30/12/2019 d) 13/03/2019	e) 28/01/2019 f) 30/07/2022 g) 01/02/2022 h) 25/10/2022	i) 29/11/2022 j) 15/06/2020 k) 02/03/2020	
All PAIs are eligible for crediting from the later of their respective start date indicated above.			
Criteria 2: Must be located inside the Quebec territory			Satisfied ✓
a) Saint-Léon-le-Grand, QC b) Biencourt, QC	e) Dégelis, QC f) Sainte-Rita, QC	i) Saint-Athanase, QC j) Pohénégamook, QC	

c) Lac au Saumon, QC d) Témiscouata-sur-le-Lac, QC	g) Saint-Athanase, QC h) Grande-Rivière, QC	k) Val-des-Lacs, QC
Evidence of the location of these PAIs is provided for this monitoring period.		
Criteria 3: Be a registered member of the grouped project (ownership evidence)		Satisfied ✓
The CF signed the adhesion contract on 07/12/2017.		
Criteria 4: Use of a technology or measure similar to the Generic PAIs specified in the PD		Satisfied ✓
These PAIs are associated to the generic PAI VIII: Energy Conversion as specified in the PD and the sectoral scope 3. As per the definition of the generic PAI VIII, these PAIs convert an energy source from fossil fuels to cleaner form of energy, in this case, hydroelectricity, which emits less GHG through the replacement of a fossil fuel boiler to an electric boiler for heat generation.		
Criteria 5: Be auditable and verifiable		Satisfied ✓
These PAIs were successfully audited by the PP, and the CF was able to provide sufficient and relevant evidence documentation to verify the accuracy and integrity of the data received.		
Criteria 6: GHG reductions are inferior to 5,000 tCO₂e/year capacity limit		Satisfied ✓
For this monitoring period, the total reductions generated by the 11 new PAIs is 263 tCO ₂ e. Therefore, reductions do not exceed the capacity limit of 5,000 tCO ₂ e/year set in the VM0018.		
Methodology Applicability Conditions (conditions not already addressed above)		Satisfied ✓
Condition 1: This methodology is applicable for grouped projects for the quantification of direct and indirect reductions of GHG emissions arising from energy efficiency and waste management project activity instances at client facilities.		
These new PAIs are energy efficiency projects being added to the group project ID929.		
These new PAI enable a reduction in fossil fuels consumption through purchase and use of electric boilers.		
Condition 2: Projects can be located in residential, commercial, institutional, or industrial buildings/facilities.		
☒ Industrial building		
Condition 3: Use and Application of Technology and Measures of the PAI (as per the methodology)		
These PAIs involve the installation of electric boilers in replacement of evaporators powered by fossil fuels, in this case fuel oil no.2, diesel, and gasoline for heat generation. These PAI reduce fossil fuel consumption. Therefore, this project is aligned with the type of measures covered by the methodology.		
Are subject to the baseline scenario determined in the PD for the specified project activity		Satisfied ✓
The baseline scenario represents the situation before the project implementation where fossil fuels are used as the heating energy source.		
Not be or have been enrolled in another VCS project		Satisfied ✓
The CF has confirmed not being enrolled in another VCS project.		
Additionality: Investment Analysis		Satisfied ✓
The project proponent conducted an investment analysis using the internal rate of return (IRR) as the financial indicator for the PAIs on a consolidated basis. The analysis was conducted for a 7-year period, with an average benchmark IRR of 16%. The IRR calculations included the gross margin, EBITDA, and PAT.		
The PAIs yielded a negative IRR, indicating that it is a loss-making activity. However, the investment analysis shows that with revenues from carbon credits, losses are reduced which allows the conclusion that the carbon credits are additional to the PAI.		

Client Facility 0122	New PAI(s): 4 (consolidated)	Summary Description: Energy conversion from fuel oil to a biomass network of 4 buildings
Criteria 1: Be implemented after January 1st 2015		Satisfied ✓
The start date of the 4 PAIs is 11/06/2015. The PAIs are eligible for crediting from the later of their respective start date indicated above.		
Criteria 2: Must be located inside the Quebec territory		Satisfied ✓
All 4 PAIs are located in Sayabec, Quebec. Evidence of the location of these PAIs is provided for this monitoring period.		
Criteria 3: Be a registered member of the grouped project (ownership evidence)		Satisfied ✓
The CF signed the adhesion contract on 25/03/2021.		
Criteria 4: Use of a technology or measure similar to the Generic PAIs specified in the PD		Satisfied ✓
These PAI are associated to the generic PAI I: Biomass Project as specified in the PD. As per the definition of the generic PAI I, these PAIs use heat as the dominant mechanism to convert biomass into energy.		
Criteria 5: Be auditable and verifiable		Satisfied ✓
These PAIs were successfully audited by the PP, and the CF was able to provide sufficient and relevant evidence documentation to verify the accuracy and integrity of the data received.		
Criteria 6: GHG reductions are inferior to 5,000 tCO₂e/year capacity limit		Satisfied ✓
For this monitoring period, the total reductions generated by the 4 new PAIs is 151 tCO ₂ e. Therefore, reductions do not exceed the capacity limit of 5,000 tCO ₂ e/year set in the VM0018.		
Methodology Applicability Conditions (conditions not already addressed above)		Satisfied ✓
Condition 1: This methodology is applicable for grouped projects for the quantification of direct and indirect reductions of GHG emissions arising from energy efficiency and waste management project activity instances at client facilities.		
These new PAIs are energy efficiency projects being added to the group project ID929. These new PAI enable a reduction in fossil fuels consumption through purchase and use of a biomass heating network.		
Condition 2: Projects can be located in residential, commercial, institutional, or industrial buildings/facilities.		
☒ Institutional building		
Condition 3: Use and Application of Technology and Measures of the PAI (as per the methodology)		
These PAIs involve the installation of a biomass heating network in replacement of fuel oil boilers. These PAI reduce fossil fuels consumption. Therefore, this project is aligned with the type of technologies or measures covered by the methodology.		
Are subject to the baseline scenario determined in the PD for the specified project activity		Satisfied ✓
The baseline scenario represents the situation before the project implementation where fossil fuels are used as the heating energy source.		
Not be or have been enrolled in another VCS project		Satisfied ✓
The CF has confirmed not being enrolled in another VCS project.		
Additionality: Investment Analysis		Satisfied ✓
The project proponent conducted an investment analysis using the internal rate of return (IRR) as the financial indicator for the PAIs on a consolidated basis. The analysis was conducted for a 7-year period, with an average benchmark IRR of 16%. The IRR calculations included the gross margin, EBITDA, and PAT. The PAIs yielded a negative IRR, since the initial income is negative. However, the investment analysis results show that with revenues from carbon credits, losses are reduced. Despite the loss being significant, it can be concluded that the revenue from the carbon credits is additional to the PAIs.		

Client Facility 0216	New PAI(s): 1	Summary Description: Energy conversion of the heating system from propane to electricity
Criteria 1: Be implemented after January 1st 2015		Satisfied ✓
The start date of the PAI is 06/12/2022. The PAI is eligible for crediting from the later of their respective start date indicated above.		
Criteria 2: Must be located inside the Quebec territory		Satisfied ✓
The PAI is located in La Baie, Quebec. Evidence of the location of the PAI is provided for this monitoring period.		
Criteria 3: Be a registered member of the grouped project (ownership evidence)		Satisfied ✓
The CF signed the adhesion contract on 11/04/2024.		
Criteria 4: Use of a technology or measure similar to the Generic PAIs specified in the PD		Satisfied ✓
The PAI is associated to the generic PAI VIII: Energy Conversion as specified in the PD. As per the definition of the generic PAI VIII, this PAI converts the primary energy source from fossil fuels (i.e. propane) to a cleaner form of energy (hydroelectricity), which emits less GHG through the replacement of propane boiler to an electric boiler.		
Criteria 5: Be auditable and verifiable		Satisfied ✓
The PAI was successfully audited by the PP, and the CF was able to provide sufficient and relevant evidence documentation to verify the accuracy and integrity of the data received.		
Criteria 6: GHG reductions are inferior to 5,000 tCO₂e/year capacity limit		Satisfied ✓
For this monitoring period, the total reductions generated by the PAI is 92 tCO ₂ e. Therefore, reductions do not exceed the capacity limit of 5,000 tCO ₂ e/year set in the VM0018.		
Methodology Applicability Conditions (conditions not already addressed above)		Satisfied ✓
Condition 1: This methodology is applicable for grouped projects for the quantification of direct and indirect reductions of GHG emissions arising from energy efficiency and waste management project activity instances at client facilities.		
These new PAIs are energy efficiency projects being added to the group project ID929. These new PAI enable a reduction in fossil fuels consumption through purchase and use of electric boilers.		
Condition 2: Projects can be located in residential, commercial, institutional, or industrial buildings/facilities.		
☒ Industrial building		
Condition 3: Use and Application of Technology and Measures of the PAI (as per the methodology)		
This PAI involves the installation of an electric system in replacement of a propane boiler, which was previously used for heating. Therefore, this project is aligned with the type of technologies or measures covered by the methodology.		
Are subject to the baseline scenario determined in the PD for the specified project activity		Satisfied ✓
The baseline scenario represents the situation before the project implementation where propane is used as the heating energy source.		
Not be or have been enrolled in another VCS project		Satisfied ✓
The CF has confirmed not being enrolled in another VCS project.		
Additionality: Investment Analysis		Satisfied ✓
The project proponent conducted an investment analysis using the internal rate of return (IRR) as the financial indicator for the PAI. The analysis was conducted for a 7-year period, with an average benchmark IRR of 11%. The IRR calculations included the gross margin, EBITDA, and PAT. The financial analysis demonstrates that the PAI yields a negligible return, with IRRs of -1% and -2% with and without carbon credits, respectively. These figures fall significantly below the average benchmark IRR of 11%, underscoring the		

project's lack of financial attractiveness in the absence of additional incentives. With carbon credit revenues, the IRR is nearing 0%, remaining well under the 11% benchmark. While the improvement is modest, it highlights the importance of carbon credit revenues in enhancing the project's financial performance and helping offset its higher ownership costs, demonstrating clear financial additionality.

Client Facility 0216	New PAI(s): 1	Summary Description: Landfill avoidance of post-production biomass through recycling and reuse
Criteria 1: Be implemented after January 1st 2015		Satisfied ✓
The start date of the PAI is 30/09/2020. The PAI is eligible for crediting from the later of their respective start date indicated above.		
Criteria 2: Must be located inside the Quebec territory		Satisfied ✓
The PAI is located in La Baie, Quebec. Evidence of the location of the PAI is provided for this monitoring period.		
Criteria 3: Be a registered member of the grouped project (ownership evidence)		Satisfied ✓
The CF signed the adhesion contract on 11/04/2024.		
Criteria 4: Use of a technology or measure similar to the Generic PAIs specified in the PD		Satisfied ✓
This PAI is associated with the generic PAI II: Methane Avoidance as specified in the PD. As per the definition of the generic PAI II, this PAI applies and uses a measure where post-production biomass is diverted from landfill and reused to avoid methane emissions. Therefore, this is aligned with the type of technologies or measures covered by the PD.		
Criteria 5: Be auditable and verifiable		Satisfied ✓
The PAI was successfully audited by the PP, and the CF was able to provide sufficient and relevant evidence documentation to verify the accuracy and integrity of the data received.		
Criteria 6: GHG reductions are inferior to 5,000 tCO₂e/year capacity limit		Satisfied ✓
For this monitoring period, the total reductions generated by the PAI is 2,032 tCO ₂ e. Therefore, reductions do not exceed the capacity limit of 5,000 tCO ₂ e/year set in the VM0018.		
Methodology Applicability Conditions (conditions not already addressed above)		Satisfied ✓
Condition 1: This methodology is applicable for grouped projects for the quantification of direct and indirect reductions of GHG emissions arising from energy efficiency and waste management project activity instances at client facilities.		
This new PAI is a waste management project being added to the group project ID929. This new PAI enables the avoidance of landfilling and methane emissions through the reuse of post-production biomass.		
Condition 2: Projects can be located in residential, commercial, institutional, or industrial buildings/facilities.		
☒ Industrial building		
Condition 3: Use and Application of Technology and Measures of the PAI (as per the methodology)		
This PAI involves a waste management approach that diverts from landfill post-production biomass through reuse which leads to methane emission avoidance. Therefore, this project is aligned with the type of technologies or measures covered by the methodology.		
Are subject to the baseline scenario determined in the PD for the specified project activity		Satisfied ✓
The baseline scenario represents the emissions from the landfill scenario of biomass.		
Not be or have been enrolled in another VCS project		Satisfied ✓

The CF has confirmed not being enrolled in another VCS project.	
Additionality: Investment Analysis	Satisfied ✓
The project proponent conducted an investment analysis using the internal rate of return (IRR) as the financial indicator for the PAI. The analysis was conducted for a 7-year period, with an average benchmark IRR of 11%. The IRR calculations included the gross margin, EBITDA, and PAT. The financial analysis demonstrates that the PAI offers no meaningful IRR, regardless of whether carbon credit revenues are included. This is significantly below the average benchmark IRR of 11%, underscoring the project's lack of financial viability without additional incentives. With carbon credit revenues, the IRR is remaining well under the 11% benchmark. While the improvement is modest, it highlights the importance of carbon credit revenues in enhancing the project's financial performance and helping offset its higher ownership cost, demonstrating clear financial additionality.	

Client Facility 1002	New PAI(s): 24	Summary Description: Landfill avoidance of post -production biomass through reuse
Criteria 1: Be implemented after January 1st 2015		Satisfied ✓
The start date of the PAI is 28/09/2015. The PAI is eligible for crediting from the later of their respective start date indicated above.		
Criteria 2: Must be located inside the Quebec territory		Satisfied ✓
The PAI is located in Chibougamau, Quebec. Evidence of the location of the PAI is provided for this monitoring period.		
Criteria 3: Be a registered member of the grouped project (ownership evidence)		Satisfied ✓
The CF signed the adhesion contract on 26/03/2024.		
Criteria 4: Use of a technology or measure similar to the Generic PAIs specified in the PD		Satisfied ✓
This PAI is associated with the generic PAI II: Methane Avoidance as specified in the PD. As per the definition of the generic PAI II, this PAI applies and uses a measure where post-production biomass is diverted from landfill and reused to avoid methane emissions. Therefore, this is aligned with the type of technologies or measures covered by the PD.		
Criteria 5: Be auditable and verifiable		Satisfied ✓
The PAI was successfully audited by the PP, and the CF was able to provide sufficient and relevant evidence documentation to verify the accuracy and integrity of the data received.		
Criteria 6: GHG reductions are inferior to 5,000 tCO₂e/year capacity limit		Satisfied ✓
For this monitoring period, the PAIs reduced an average of 2,696 tCO₂e. Therefore, reductions do not exceed the capacity limit of 5,000 tCO₂e/year set in the VM0018. All individuals PAIs were checked as to not exceed the limit.		
Methodology Applicability Conditions (conditions not already addressed above)		Satisfied ✓
Condition 1: This methodology is applicable for grouped projects for the quantification of direct and indirect reductions of GHG emissions arising from energy efficiency and waste management project activity instances at client facilities.		
This new PAI is a waste management project being added to the group project ID929. This new PAI enables the avoidance of landfilling and methane emissions through the reuse of post-production biomass.		
Condition 2: Projects can be located in residential, commercial, institutional, or industrial buildings/facilities.		
☒ Industrial building		

Condition 3: Use and Application of Technology and Measures of the PAI (as per the methodology)	
This PAI involves a waste management approach that diverts from landfill post-production biomass through reuse which leads to methane emission avoidance. Therefore, this project is aligned with the type of technologies or measures covered by the methodology.	
Are subject to the baseline scenario determined in the PD for the specified project activity	Satisfied ✓
The baseline scenario represents the emissions from the landfill scenario of biomass.	
Not be or have been enrolled in another VCS project	Satisfied ✓
The CF has confirmed not being enrolled in another VCS project.	
Additionality: Investment Analysis	Satisfied ✓
The project proponent conducted an investment analysis using the internal rate of return (IRR) as the financial indicator for the PAIs on a consolidated basis. The analysis was conducted for a 7-year period, with an average benchmark IRR of 16%. The IRR calculations included the gross margin, EBITDA, and PAT.	
The PAIs yielded a negative IRR. However, with carbon credits revenues, losses are significantly reduced by over 50%. While the project still incurs a substantial loss, the IRR analysis highlighted the value of carbon credits as an essential source of revenue, demonstrating their additionality for the project.	

Client Facility 1204	New PAI(s): 8 (consolidated)	Summary Description:	
		Energy conversion of propane forklifts to electric forklifts	
Criteria 1: Be implemented after January 1st 2015			Satisfied ✓
a) 19/12/2020	d) 22/04/2022	g) 14/09/2023	
b) 20/09/2022	e) 20/09/2022	h) 14/09/2023	
c) 16/03/2022	f) 09/11/2022		
All PAIs are eligible for crediting from the later of their respective start date indicated above.			
Criteria 2: Must be located inside the Quebec territory			Satisfied ✓
All 8 PAIs are located at the CF site in Ste-Croix De Lotbinière, Quebec.			
Evidence of the location of these PAIs is provided for this monitoring period.			
Criteria 3: Be a registered member of the grouped project (ownership evidence)			Satisfied ✓
The CF signed the adhesion contract on 16/10/2017.			
Criteria 4: Use of a technology or measure similar to the Generic PAIs specified in the PD			Satisfied ✓
These PAIs are associated to the generic PAI VIII: Energy Conversion as specified in the PD and the sectoral scope 3. As per the definition of the generic PAI VIII, these PAIs convert an energy source from fossil fuels to a cleaner form of energy, in this case, hydroelectricity, which emits less GHG through the replacement of propane forklifts to electric ones.			
Criteria 5: Be auditable and verifiable			Satisfied ✓
These PAIs were successfully audited by the PP, and the CF was able to provide sufficient and relevant evidence documentation to verify the accuracy and integrity of the data received.			
Criteria 6: GHG reductions are inferior to 5,000 tCO2e/year capacity limit			Satisfied ✓
For this monitoring period, the total reductions generated by the 8 new PAIs is 129 tCO2e. Therefore, reductions do not exceed the capacity limit of 5,000 tCO2e/year set in the VM0018.			

Methodology Applicability Conditions (conditions not already addressed above)	Satisfied ✓
Condition 1: This methodology is applicable for grouped projects for the quantification of direct and indirect reductions of GHG emissions arising from energy efficiency and waste management project activity instances at client facilities.	
These new PAIs are energy efficiency projects being added to the group project ID929.	
These new PAIs enable a reduction in fossil fuels consumption through purchase and use of electric forklifts.	
Condition 2: Projects can be located in residential, commercial, institutional, or industrial buildings/facilities.	
☒ Industrial building	
Condition 3: Use and Application of Technology and Measures of the PAI (as per the methodology)	
These PAIs involve the purchase of electric forklifts in replacement of forklifts powered by fossil fuels, in this case propane. These PAIs reduce fossil fuel consumption. Therefore, this project is aligned with the type of measures covered by the methodology.	
Are subject to the baseline scenario determined in the PD for the specified project activity	Satisfied ✓
The baseline scenario represents the situation before the project implementation where propane forklifts are used as the energy source.	
Not be or have been enrolled in another VCS project	Satisfied ✓
The CF has confirmed not being enrolled in another VCS project.	
Additionality: Investment Analysis	Satisfied ✓
The project proponent conducted an investment analysis using the internal rate of return (IRR) as the financial indicator for the PAIs on a consolidated basis. The analysis was conducted over an 7-year period, with an average benchmark IRR of 16%. The IRR calculations included the gross margin, EBITDA, and PAT.	
The financial analysis demonstrates that the PAI results in an IRR of 2% without carbon credit revenues. This is significantly below the average benchmark IRR of 16%, underscoring the project's lack of financial attractiveness in the absence of additional incentives. With carbon credit revenues, the IRR increases to 3%, remaining well under the 16% benchmark. While the improvement is modest, it highlights the importance of carbon credit revenues in enhancing the project's financial performance and helping offset its higher ownership cost, demonstrating clear financial additionality.	

Due to the high volume of information on each new Client Facility and new PAIs, the project proponent has provided supplemental spreadsheets to the VVB which demonstrates and justifies how each new project activity instance fully meets the eligibility criteria set out in the project description and the additionality demonstration.

3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes ☒ No

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

All data and parameters available at validation and used to quantify the eligible GHG emissions reductions for each PAI in this monitoring report is supported by evidence made available to the VVB. For each Client Facility included in this monitoring report, a calculation spreadsheet was used, and the reductions quantifications (baseline and project emission reductions) were agglomerated. For further details on each Client Facility quantification sheets, see Annex B.

Data / Parameter	EF Thermal Energy CO ₂ e
Data unit	Kg CO ₂ e per GJ
Description	CO ₂ e emissions factor for local generation of thermal energy
Source of data	For the Territory of interest, the project proponent must identify the most appropriate CO ₂ e emission factor for the source of thermal energy used under the project scenario. Regional data (for example: US Department of Energy's Form EIA-1605 Appendix N. Emission factors for Steam and Chilled/Hot Water) shall be used. In its absence, IPCC defaults must be used from the most recent version of IPCC Guidelines for National Greenhouse Gas Inventories providing they are deemed to reasonably represent local circumstances. The project proponent must choose the values in a conservative manner and justify the choice.
Value applied	All emission factors (EF) used for the calculation of this consider the CH ₄ , N ₂ O and CO ₂ emissions. All values applied and used for the calculations are described for each generic PAI in the Appendix 4.
Justification of choice of data or description of measurement methods and procedures applied	Thermal Energy generation characteristics are likely to remain relatively stable over a year's time.
Purpose of data	The EF Thermal Energy are used for: - The Calculation of baseline emissions - The Calculation of project emissions
Comments	N/A

Data / Parameter	EF Fuel i N ₂ O
Data unit	Kg N ₂ O per L, m ³ , or other

Description	N ₂ O emissions factor for combustion of each type of fuel (EF Fuel _i N ₂ O)
Source of data	For both mobile and stationary fuel combustion for the Territory of interest, the project proponent must identify the most appropriate emission factors for the source of thermal energy used under the project condition. Regional data (for example: EPA's AP 42, Compilation of Air Pollutant Emission Factors) shall be used. In its absence, IPCC defaults must be used from the most recent version of IPCC Guidelines for National Greenhouse Gas Inventories providing they are deemed to reasonably represent local circumstances. The project proponent must choose the values in a conservative manner and justify the choice.
Value applied	All emission factors (EF) used for the calculation of this consider the CH ₄ , N ₂ O and CO ₂ emissions. All values applied and used for the calculations are described for each generic PAI in the Appendix 4.
Justification of choice of data or description of measurement methods and procedures applied	This is one of the most comprehensive fuel emission factor databases available.
Purpose of data	The EF Fuel are used for: • The Calculation of baseline emissions • The Calculation of project emissions
Comments	N/A

Data / Parameter	EF Fuel _i CH ₄
Data unit	Kg CH ₄ per L, m ³ , or other
Description	CH ₄ emissions factor for combustion of each type of fuel (EF Fuel _i CH ₄)
Source of data	For both mobile and stationary fuel combustion for the Territory of interest, the project proponent must identify the most appropriate emission factors for the type of fuel used under the project scenario. Regional data (for example: EPA's AP 42, Compilation of Air Pollutant Emission Factors) shall be used. In its absence, IPCC defaults can be used from the most recent version of IPCC Guidelines for National Greenhouse Gas Inventories providing they are deemed to reasonably represent local circumstances. The project proponent must choose the values in a conservative manner and justify the choice.
Value applied	All emission factors (EF) used for the calculation of this consider the CH ₄ , N ₂ O and CO ₂ emissions. All values applied and used for the calculations are described for each generic PAI in the Appendix 4.

Justification of choice of data or description of measurement methods and procedures applied	This is one of the most comprehensive fuel emission factor databases available.
Purpose of data	The EF Fuel are used for: - The Calculation of baseline emissions - The Calculation of project emissions
Comments	N/A

Data / Parameter	EF Fuel _{i CO2}
Data unit	Kg CO ₂ per L, m ³ , or other
Description	CO ₂ Emissions Factor for combustion of each type of fuel (EF Fuel _{i CO2})
Source of data	For both mobile and stationary fuel combustion for the Territory of interest, the project proponent must identify the most appropriate emission factors for the type of fuel used under the project scenario. Regional data (for example: EPA's AP 42, Compilation of Air Pollutant Emission Factors) shall be used. In its absence, IPCC defaults can be used from the most recent version of IPCC Guidelines for National Greenhouse Gas Inventories providing they are deemed to reasonably represent local circumstances. The project proponent must choose the values in a conservative manner and justify the choice.
Value applied	All emission factors (EF) used for the calculation of this consider the CH ₄ , N ₂ O and CO ₂ emissions. All values applied and used for the calculations are described for each generic PAI in the Appendix 4.
Justification of choice of data or description of measurement methods and procedures applied	This is one of the most comprehensive fuel emission factor databases available.
Purpose of data	The EF Fuel are used for: - The Calculation of baseline emissions - The Calculation of project emissions
Comments	N/A

Data / Parameter	OX
Data unit	-

Description	Oxidation factor (reflecting the amount of soil or other material covering the waste)
Source of data	The approved PD requires this factor to be determined using the CDM's "Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site (Version 05.1.0)" (CDM, 2011). The project during this monitoring period has instead used default emission factors from the U.S. Environmental Protection Agency Waste Reduction Model (EPA WARM) version 16, as per the PD deviation.
Value applied	All emission factors (EF) used for the calculation of this consider the CH₄, N₂O and CO₂ emissions. All values applied and used for the calculations are described for each generic PAI in the Appendix 4.
Justification of choice of data or description of measurement methods and procedures applied	The most used tool for calculation landfill gas emission reductions.
Purpose of data	The OX factor is used for: • The Calculation of baseline emissions • The Calculation of project emissions
Comments	N/A

Data / Parameter	DOC ₁
Data unit	-
Description	Fraction of degradable organic carbon (DOC) that can decompose
Source of data	The approved PD requires this factor to be determined using the CDM's "Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site (Version 05.1.0)" (CDM, 2011). The project during this monitoring period has instead used default emission factors from the U.S. Environmental Protection Agency Waste Reduction Model (EPA WARM) version 16, as per the PD deviation.
Value applied	All emission factors (EF) used for the calculation of this consider the CH₄, N₂O and CO₂ emissions. All values applied and used for the calculations are described for each generic PAI in the Appendix 4.
Justification of choice of data or description of measurement methods and procedures applied	The most used tool for calculation landfill gas emission reductions.
Purpose of data	The DOC factor is used for:

	- The Calculation of baseline emissions - The Calculation of project emissions
Comments	N/A

Data / Parameter	DOCj
Data unit	-
Description	Fraction of degradable organic carbon (by weight)
Source of data	The approved PD requires this factor to be determined using the CDM's "Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site (Version 05.1.0)" (CDM, 2011). The project during this monitoring period has instead used default emission factors from the U.S. Environmental Protection Agency Waste Reduction Model (EPA WARM) version 16, as per the PD deviation.
Value applied	-
Justification of choice of data or description of measurement methods and procedures applied	The most used tool for calculation landfill gas emission reductions.
Purpose of data	The DOC factor is used for: - The Calculation of baseline emissions - The Calculation of project emissions
Comments	N/A

Data / Parameter	MCF
Data unit	-
Description	Methane correction factor
Source of data	The approved PD requires this factor to be determined using the CDM's "Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site (Version 05.1.0)" (CDM, 2011). The project during this monitoring period has instead used default emission factors from the U.S. Environmental Protection Agency Waste Reduction Model (EPA WARM) version 16, as per the PD deviation.
Value applied	All emission factors (EF) used for the calculation of this consider the CH₄, N₂O and CO₂ emissions. All values applied and used for the calculations are described for each generic PAI in the Appendix 4.
Justification of choice of data or description of	The most used tool for calculation landfill gas emission reductions.

measurement methods and procedures applied	
Purpose of data	The MCF factor is used for: • The Calculation of baseline emissions • The Calculation of project emissions
Comments	N/A

Data / Parameter	k_j
Data unit	-
Description	Decay rate for the waste type j
Source of data	The approved PD requires the following parameters to be used from the IPCC 2006 Guidelines for National Greenhouse Gas Inventories (adapted from Volume 5, Table 3.3). The project during this monitoring period has instead used default emission factors from the U.S. Environmental Protection Agency Waste Reduction Model (EPA WARM) version 16, as per the PD deviation.
Value applied	All emission factors (EF) used for the calculation of this consider the CH₄, N₂O and CO₂ emissions. All values applied and used for the calculations are described for each generic PAI in the Appendix 4.
Justification of choice of data or description of measurement methods and procedures applied	Deemed to reasonably represent local circumstances.
Purpose of data	The factor is used for: • The Calculation of baseline emissions • The Calculation of project emissions
Comments	N/A

4.2 Data and Parameters Monitored

All monitored data and parameters used to quantify the eligible GHG emissions reductions for each PAI in this monitoring report are supported by evidence available to the VVB. For each Client Facility included in this monitoring report, a calculation spreadsheet was used. For further details on each Client Facility quantification sheets, see Annex B. Each PAI associated to a generic PAI is monitored as described in the tables below.

Data / Parameter	Volume or Quantity of Fuel
Data unit	L, m3, kg or MT
Description	Volume or weight of each type of fuel combusted. This volume or weight of fuel is adjusted for both functional equivalence and units of productivity.
Source of data	The volume of fuel is determined by supplier meters (which are regularly calibrated) and reported on bill of lading and invoices, consolidated monthly or at each tanking.
Description of measurement methods and procedures to be applied	The Bill of Lading and the Invoice of each Fuel delivery is consolidated. End of period residual Fuel volume evaluation could be estimated.
Frequency of monitoring/recording	At each delivery, or a monthly basis, the volume or quantity of Fuel is measured and recorded. Evidence will be recorded on Bill of Lading and Invoices.
Value monitored	Available in individual quantification sheet of each Client Facility
Monitoring equipment	The monitoring equipment includes: Flow meters installed on tanker. By law, flow meters are to be calibrated regularly and in compliance with Measurement Canada requirements.
QA/QC procedures to be applied	The SPSC system applies the following QC/QA procedures: • Data comparison with past performance • Data comparison with similar Project Unit • Data comparison with standard benchmark (Ashrae 90.1, Model National Energy Code for Building MNECB) • Data comparison with sector association. • Project Unit Investigation for root cause analysis of data profile if outside range Project Unit Physical audit to validate the measurement devices conditions and collect related evidence.
Purpose of the data	• Calculation of baseline emissions • Calculation of project emissions
Calculation method	In the case where fuels are tanked, end of period adjustment would be assessed with Client Facility internal gauge: the incertitude linked to this assessment is reduced by the number of times the tank is filled during the period. In case Project Unit is supplied by Client Facility tank, the portion is justified by evidence.
Comments	N/A

Data / Parameter	Electricity
Data unit	kWh
Description	The amount of electricity consumed from the grid.
Source of data	The amount of electricity consumed from the grid is determined by the supplier calibrated kWh meter.
Description of measurement methods and procedures to be applied	The amount of electricity consumed from the grid is determined by the Hydro-Québec calibrated kWh meter.
Frequency of monitoring/recording	Monthly or bimonthly, with consumption statement. Evidence will be recorded on Invoices.
Value monitored	Available of individual quantification sheet of each client facility
Monitoring equipment	The monitoring equipment includes: Electric meters installed at the entry of Client Facility/Project Unit electricity supply. By law, such electric meters are sealed and are to be calibrated regularly and in compliance with Measurement Canada requirements.
QA/QC procedures to be applied	The SPSC system applies the following QC/QA procedures: • Data comparison with past performance • Data comparison with similar Project Unit • Data comparison with standard benchmark (Ashrae 90.1, Model National Energy Code for Building MNECB...) • Data comparison with sector association. • Project Unit Investigation for root cause analysis of data profile if outside range Project Unit Physical audit to validate the measurement devices conditions and collect related evidence.
Purpose of the data	• Calculation of baseline emissions • Calculation of project emissions
Calculation method	If internal meters are required for the Isolation Parameter Measurement option, electrical consumption is determined by meters which are calibrated as per the manufacturer's schedule. Alternatively, the energy consumed by the related electrical devices will be equal to nominal power of the devices over the time of operations.
Comments	N/A

Data / Parameter	Quantity of waste
Data unit	Kg or MT

Description	Weight of waste, which is diverted from landfill for being recycled, re-use.
Source of data	The weight is determined by scale at recycling premises and/or at Project Unit. The weight is reported on the Bill of Lading for each shipment.
Description of measurement methods and procedures to be applied	The weight of waste is reported on the Bill of Lading and the Invoice of each shipment.
Frequency of monitoring/recording	At each shipment or a monthly basis. Evidence will be recorded on Invoices.
Value monitored	Availability of individual quantification sheet of each client facility
Monitoring equipment	The monitoring equipment includes: Weighting balance.
QA/QC procedures to be applied	The SPSC system applies the following QC/QA procedures: - Data comparison with past performance - Data comparison with similar Project Unit - Data comparison with Data comparison with sector association. - Project Unit Investigation for root cause analysis of data profile if outside range Project Unit Physical audit to validate the measurement devices conditions and collect related evidence.
Purpose of the data	- Calculation of baseline emissions - Calculation of project emissions
Calculation method	Waste weight could be expressed in other than SI units, such as ST, Lbs: conversion is made to have waste weight expressed in Kg or MT.
Comments	N/A

4.3 Monitoring Plan

The monitoring plan applied to all Project Units is the same as described in the six previous monitoring reports which is in accordance with the VM0018 methodological requirements. All six previous verification reports were reviewed, controlled, and accepted by the VCS program. The monitoring plan is described in more details below, as well as in Appendix 4.

1. Organizational Structure and responsibilities

The project proponent adheres to the guidelines set out in this monitoring plan to ensure the monitoring is credible, transparent, and conservative.

The responsibilities of the monitoring team are as follow:

- **GHG Quantification Manager:** Responsible for supervising the monitoring process, data management and filling and compiling the monitoring report.
- **Auditing and Quantification team:** Responsible for collecting data, cross-checking, conducting audits, and filling individual data sheets and perform calculations for each Client Facility and PAIs.

2. Methods Used

- **Data Collection**

At the time of registration of the project unit (PAI), an audit of the site of the Project Unit takes place, and physical evidence necessary to determine the baseline scenario is collected. The data and documentation collection and storage are centrally controlled and administered. Additional information on the procedure is detailed in the table and figure provided in Appendix 4. The data collected shall be of sufficient quality to fulfill the quantification requirements and be substantiated by Client Facility records for the purpose of verification.

Further information on the data monitored for each individual Project Unit is available upon request in individual calculation spreadsheets.

- **Data Management System**

To keep safely all documents and records collected during the monitoring, the record keeping include the following practices:

- Electronic recording of values of logged primary parameters for each measurement interval.
- Offsite electronic back-up of all logged data.
- Storage of all documents and records will be kept in a secure and retrievable manner for at least two years following the end of the project crediting period.

- **Monitoring Report**

After the data and physical evidence is collected and sorted, the monitoring report is prepared by the GHG Quantification Manager. It is also ensured that the format and content of the monitoring report are consistent with the monitoring template.

3. Quality Assurance and Quality Control (QA/QC)

The QA/QC is applied to add confidence that all measurements and calculations have been made correctly. The procedures include, but are not limited to:

- At each entry in the Sustainable Community Service Promoter (SCSP) system, controls are run to compare entry to historical data, sectoral and external benchmarks (manual assessment, comparing redundant metered data, and detection of outstanding data/records);
- Investigation may be necessary to get physical evidence of the data entered into the SCSP system;
- Impact of a potential recurring issue will be looked at for all the concerned Project Units;
- Performing recalculations to ensure no mathematical errors have been made.

4. Sampling Approach

The sampling approach includes PAIs located in the Quebec territory and are part of the grouped project, and for which data was collected and stored in the project proponent's centralized system. The sample is partly selective, based on the range of activities (sectoral scope 3 and sectoral scope 13) included in the grouped project. PAIs submitted to the validation/verification body (VVB) are selected at random.

In accordance with the VM0018 methodology (version 1.0) section 8.3, the size of the sample is the square root of the number of PAIs, for each sectoral scope, participating to the group project, rounded to the upper whole number. Evidence of the audit are kept, and discrepancies will be analyzed as well as potential impact on related Project Units.

For this monitoring period, the minimum sampling size for the VVB audit was calculated as indicated in the tables below.

PAIs for verification			
Total Client Facilities	Total number of PAIs sectoral scope 3	Total number of PAIs sectoral scope 13	Total PAIs
57	363	2,093	2,456

		Scope 3 PAIs	Scope 13 PAIs	Total PAIs
Total PAI to be audited (sample)	$\sqrt{n}$	19	46	65

The project proponent has provided a more detailed procedure for determining the selected sample to be taken by the VVB in Annex B, worksheet "Sample for Verification".

Sample defects, if any, shall be treated in accordance with the applied methodology:

- The sample size shall be enlarged to a maximum of 160% of the initial size if the reported values for one or more GHG reduction activities is beyond the acceptable range (defect) and the number of defects exceeds the acceptable quality level.

- The sample size shall be reduced to a maximum of 60% of the initial size if all client facilities reported values are within the acceptable range (no defects) for five consecutive samplings.

5. Non-Conformance Procedure

The project takes an adaptive approach to monitoring plan procedures, altering or adding additional requirements when necessary. The project proponent and the Client Facility documents issues that arise in monitoring and reporting and will adapt procedures to rectify any gaps or inconsistencies in the monitoring plan. This allows for a dynamic and accurate monitoring plan that constantly builds upon and improves previous procedures.

Non-conformances are recorded as separate events, and associated data is excluded from eligibility for crediting. In the instance that there are repeated non-conformances, the project proponent applies an adaptive approach to rectify the situation. Individuals involved in the non-conformance will be contacted, and the reason for the non-conformance will be identified. The procedure will then be adapted to ensure the avoidance of similar non-conformances in the future.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

The baseline emissions (BE_y , in tCO₂e) of all PAI are the summation for each PAI of the product of the baseline emissions factor (EF_3 , in tCO₂/unit of fossil fuel and EF_{13} tCO₂/Mt of waste stream) and the fossil fuel consumption (FF) used before project and the waste stream (WS) before its diversion from landfill management.

$$BE_y = FF_{BL} * EF_3 \quad (\text{sectoral scope 3})$$

$$BE_y = WS_{BL} * EF_{13} \quad (\text{sectoral scope 13})$$

$$FF_{BL,y} = \text{Volume of fossil fuel used before the project}$$

$$WS_{BL,y} = \text{Volume of waste stream before diversion from landfill}$$

$$EF_3 = \text{CO}_2\text{e emission factor of the fossil fuel}$$

$$EF_{13} = \text{CO}_2\text{e emission factor of the waste stream that considers the different management scenario, at landfill, regarding the flaring or no flaring of methane (biogas) and/or its use or not for energy recovery.}$$

Table 2 below shows the calculation for baseline emissions for each Client Facility and their PAIs. In addition, for this monitoring report, a calculation spreadsheet for the detailed quantification of the eligible PAIs is available as Annex B on the Verra registry. Relevant information to complement these calculations is available, when applicable, in the Client Facilities individual calculation spreadsheets.

Client Facilities that did not provide evidence for their PAIs for this monitoring period are excluded from this report.

Table 2: Quantification of baseline emissions of 2023 for each Client Facility

Client Facilities	Nbr of PAIs	FF _{BL,y} or WS _{BL,y}	×	EF ₃ or EF ₁₃	=	BE _y in tCO ₂ e	BE _y in tCO ₂ e (rounded down)
Client Facility 0101	1	121,556.40	x	0.00273394	=	332.33	332
Client Facility 0102	1	232,692.00	x	0.00273394	=	636.17	636
Client Facility 0103	1	114,613.58	x	0.00273394	=	313.35	313
Client Facility 0105	1	176,335.00	x	0.00153929	=	271.43	392
	1	168.67	x	0.720953	=	121.60	
Client Facility 0106	1	22,055.42	x	0.00273394	=	60.30	159
	1	7,050.20	x	0.00277272	=	19.55	
	1	22,055.42	x	0.00273394	=	60.30	
	1	3,850.85	x	0.00273394	=	10.53	
	1	1.02	x	3.655297	=	3.73	
	1	7.72	x	0.811257	=	6.26	
Client Facility 0108	1	27,440.60	x	0.00273394	=	75.02	2,444
	1	9,941.90	x	0.00273394	=	27.18	
	1	4,112.74	x	0.00273394	=	11.24	
	1	130,946.49	x	0.00273394	=	358.00	
	1	470.03	x	3.923765	=	1,844.29	
	1	179.87	x	0.720264	=	129.55	
Client Facility 0112	1	262,106.71	x	0.00273394	=	716.58	716
	26	171,176.98	x	0.00273394	=	467.99	2,479

Client Facility 0113		110,319.83	x	0.00277272	=	305.89	
		2,776.60		0.00153929		4.27	
		4,905.08	x	0.00237785	=	11.66	
	11	40,301.59	x	0.00273394	=	110.18	
		53,507.47		0.00277272		148.36	
		2,495.26		0.00153929		3.84	
		656.05	x	0.00237785	=	1.56	
	17	396,430.46	x	0.00273394	=	1,083.82	
		21,633.32	x	0.00153929	=	33.30	
Client Facility 0114	7	112,760.92	x	0.00273394	=	308.28	723
	1	13,437.14	x	0.00273394	=	36.74	
	3	182.21	x	0.811257	=	147.82	
	16	749.8	x	0.72026406	=	540.05	
Client Facility 0115	1	13,091.86	x	0.00153929	=	20.15	20
Client Facility 0118	8	161,105.42	x	0.00273394	=	440.45	440
Client Facility 0119	1	14,064.00	x	0.00273394	=	38.45	38
Client Facility 0120	1	379.31	x	0.72026406	=	273.20	273
Client Facility 0121	1	235.34	x	3.98948967	=	938.87	938
Client Facility 0122	4	78,484.78	x	0.00273394	=	214.57	214
Client Facility 0201	1	3,984.20	x	0.00193631	=	7.71	7
Client Facility 0202	1	41,872.59	x	0.00153929	=	64.45	388
		90,180.00	x	0.00003653	=	3.29	
		68,409.96	x	0.00153929	=	105.30	
	1	140,180.13	x	0.00153929	=	215.78	
Client Facility 0204	1	20,549.00	x	0.00273394	=	56.18	56
Client Facility 0206	9	5,793,095.42	x	0.00175929	=	10,191.73	11,570
		121,605.46	x	0.00153929	=	187.19	
	1	53,446.00	x	0.02232048	=	1,192.94	
Client Facility 0207	12	9794.07	x	2.08494	=	20,420.05	30,523
	36	14,027.62	x	0.72026406	=	10,103.59	
Client Facility 0211	1	1,012,674.00	x	0.00314256	=	3,182.39	65,960
	1	3.02	x	3.65529736	=	11.04	
	81	77,371.00	x	0.81125709	=	62,767.77	
Client Facility 0213	1	4,309.16	x	0.00193631	=	8.34	221
	1	58.5	x	3.65529736	=	213.83	
Client Facility 0216	1	63019	x	0.00153929	=	97.00	2,129
	1	2504.92	x	0.81125709	=	2,032.13	

Client Facility 0402	1	292,772.13	x	0.00153929	=	450.66	450
Client Facility 0404	1	2,204.33	x	0.00193631	=	4.27	202
		266.55	x	0.00273394	=	0.73	
		2,849,170.41	x	0.00000019	=	5.41	
	1	40,752.67	x	0.00193631	=	78.91	
		4,927.83	x	0.00273394	=	13.47	
		52,674,095.51	x	0.00000019	=	100.08	
Client Facility 0405	6	33,757.93	x	0.81125709	=	27,386.36	27,386
Client Facility 0408	19	22,471.55	x	0.81125709	=	18,230.20	18,230
Client Facility 0701	1	285.66	x	3.65529736	=	1,044.17	1,147
	1	144.15	x	0.72026406	=	103.82	
Client Facility 0702	1	29,455.00	x	0.00273394	=	80.53	80
Client Facility 0703	1	485.64	x	3.98948967	=	1,937.46	2,282
	1	478.4	x	0.72026406	=	344.57	
Client Facility 0706	1	7,498.40	x	0.00153929	=	11.54	45
	1	1.86	x	6.34403565	=	11.80	
	1	4.2	x	2.08680812	=	8.76	
	1	1.46	x	9.79917693	=	14.31	
Client Facility 0707	33	2,293.79	x	2.08494	=	4,782.41	4,782
Client Facility 0708	10	1,531,502.10	x	0.00273394	=	4,187.04	17,177
	22	16,012.27	x	0.81125709	=	12,990.07	
Client Facility 0801	1	46,969.40	x	0.00273394	=	128.41	128
Client Facility 0807	1	568.67	x	0.81125709	=	461.34	6,148
	1	1,121.88	x	0.72026406	=	808.05	
	1	1,334.79	x	3.65529736	=	4,879.06	
Client Facility 0810	18	367,614.67	x	0.00226	=	830.81	830
Client Facility 0901	1	1,242,806.34	x	0.00175929	=	2,186.46	70,340
		28,771.10	x	0.00153929	=	44.29	
	1	1,242,806.34	x	0.00175929	=	2,186.46	
		28,771.10	x	0.00153929	=	44.29	
	1	1,242,806.34	x	0.00175929	=	2,186.46	
		28,771.10	x	0.00153929	=	44.29	
	1	2,836,424.23	x	0.00175929	=	4,990.09	
	3	19,296.00	x	0.81125709	=	15,654.02	
	47	53,010.00	x	0.81125709	=	43,004.74	
Client Facility 1002	24	79,759.47	x	0.81125709	=	64,705.44	64,705
	9	862,239.07	x	0.00193631	=	1,669.56	4,774

Client Facility 1201	1	11,896.60	x	0.00153929	=	18.31	
	1	2,102,772.22	x	0.00000019	=	4.00	
	5	3,801.50	x	0.81125709	=	3,083.99	
Client Facility 1202	1	6,301.09	x	0.00273394	=	17.23	810
		167,839.73	x	0.00193631	=	324.99	
	1	0	x	0.00273394	=	0.00	
		18,648.86	x	0.00193631	=	36.11	
	1	223,249.85	x	0.00193631	=	432.28	
Client Facility 1203	1	34,458.00	x	0.00153929	=	53.04	75
		216,906.67	x	0.00000019	=	0.41	
	1	5,101.00	x	0.00273394	=	13.95	
	1	3,095.00	x	0.00273394	=	8.46	
Client Facility 1204	1	3,988,227.66	x	0.00248614	=	9,915.29	17,441
	1	1,162,779.78	x	0.00193631	=	2,251.50	
	1	39,506.27	x	0.00193631	=	76.50	
	1	357,467.66	x	0.00193631	=	692.17	
	1	112,923.07	x	0.00273394	=	308.72	
	1	1,308,789.99	x	0.00248614	=	3,253.84	
		464,655.47	x	0.00153929	=	715.24	
	8	148,069.23	x	0.00153929	=	227.92	
Client Facility 1205	1	157,921.90	x	0.00273394	=	431.75	962
	1	89,469.42	x	0.00237785	=	212.74	
		114,793.37	x	0.00277272	=	318.29	
Client Facility 1501	10	235,496.00	x	0.00273394	=	643.83	5,123
	10	1,015,028.57	x	0.00226	=	2,293.96	
		152,148.00	x	0.00273394	=	415.96	
		57,383.30	x	0.00153929	=	88.33	
	1	2,072.35	x	0.81125709	=	1,681.21	
Client Facility 1504	1	3,806.82	x	0.003518	=	13.39	1,376
	1	718.86	x	1.895526	=	1,362.62	
Client Facility 1505	5	8,963,413.67	x	0.00153929	=	13,797.31	21,562
		383,895.00	x	0.00193631	=	743.34	
	2	4,562,022.92	x	0.00153929	=	7,022.28	
Client Facility 1506	12	626.64	x	2.08494	=	1,306.51	18,917
	12	5,241.68	x	0.81125709	=	4,252.35	
	12	4,001.51	x	0.72026406	=	2,882.14	
	12	2,669.94	x	3.92376486	=	10,476.20	
Client Facility 1507	1	820.58	x	2.08494	=	1,710.86	7,316
	1	1,847.05	x	0.72026406	=	1,330.36	
	1	1,089.60	x	3.92376486	=	4,275.33	

Client Facility 1508	25	4,957.03	x	0.81125709	=	4,021.43	15,269
	25	314.18	x	0.72026406	=	226.29	
	25	1,607.99	x	3.98948967	=	6,415.06	
	25	6,396.07	x	0.72026406	=	4,606.86	
Client Facility 1509	1	358,733.60	x	0.00153929	=	552.20	18,655
	5	16,152.59	x	0.81125709	=	13,103.90	
	1	6,163.27	x	0.81125709	=	5,000.00	
Client Facility 1510	1	27,372.18	x	0.00277272	=	75.90	11,150
	3	13,206.57	x	0.81125709	=	10,713.92	
	1	98.96	x	3.65529736	=	361.73	
Client Facility 1511	1	12,855.32	x	0.00153929	=	19.79	23
		1,442.86	x	0.00273394	=	3.94	
		114,626.96	x	0.0000019	=	0.22	
Client Facility 1601	76	19,201,517.19	x	0.00153929	=	29,556.74	50,090
	7	25,312.00	x	0.81125709	=	20,534.54	
Client Facility 1602	35	1,485,071.00	x	0.0451	=	66,976.70	66,976
Client Facility 1603	43	33,340.14	x	0.68458228	=	22,824.07	48,763
	43	33,340.14	x	0.72026406	=	24,013.70	
	1	596.54	x	0.81125709	=	483.95	
	1	0.00	x	0.00	=	0.00	
	1	394.38	x	3.65529736	=	1,441.58	
Client Facility 1604	1534	35,282.94	x	0.59852849	=	21,117.85	25,865
	14	5,685.42	x	0.835	=	4,747.33	
Client Facility 1701	1	13,694.00	x	0.00193631	=	26.52	5,845
		479,000.00	x	0.0000019	=	0.91	
	1	1,253.29	x	3.98948967	=	5,000.00	
	1	784.91	x	1.04224727	=	818.07	
Total:	2456						655,895

BEy values have been rounded down for conservativeness.

The baseline emissions BEy = 655,895 tCO₂e

5.2 Project Emissions

The Project Emissions (PE_y, in tCO₂e) of all PAI are the summation for each PAI of the product of the project emission factor (EF₃, in tCO₂/unit of fossil fuel and EF₁₃ tCO₂/Mt of waste stream) and the fossil fuel consumption (FF) used by the project and the (WS) management by the reuse, the recycling or the composting of the waste stream (WS).

$$PE_y = FF_P * EF_3 \text{ (sectoral scope 3)}$$

PE_y = **WS_P** * **EF₁₃** (sectoral scope 13)

FF_{P,y} = Volume of fossil fuel

WS_{P,y} = Volume of waste stream diverted from landfill

EF₃ = CO₂e emission factor of the fossil fuel

EF₁₃ = CO₂e emission factor of the waste stream that considers the different management scenario, at landfill, regarding the flaring or no flaring of methane (biogas) and/or its use or not for energy recovery.

Table 3 below shows the calculation for project emissions for each Client Facility and their PAIs. In addition, for this monitoring report, a calculation spreadsheet for the detailed quantification of the eligible PAIs is available as Annex B on the Verra registry. Relevant information to complement these calculations is available when applicable in the Client Facilities individual calculation spreadsheets.

Client Facilities that did not provide evidence for their PAIs for this monitoring period are excluded from this report.

Table 3: Quantification of project emissions of 2023 for each Client Facility

Client Facilities	Nbr of PAIs	FF _{P,y} or WS _{P,y}	×	EF ₃ or EF ₁₃	=	PE _y in tCO ₂ e	PE _y in tCO ₂ e (rounded down)
Client Facility 0101	1	31,188.00	x	0.00273394	=	85.27	89
		2,166,720.00	x	0.0000019	=	4.12	
Client Facility 0102	1	782,698.00	x	0.00003653	=	28.59	28
		300.00	x	0.00273394	=	0.82	
Client Facility 0103	1	159,023.00	x	0.00003653	=	5.81	102
		35,308.60	x	0.00273394	=	96.53	
Client Facility 0105	1	0.00	x	0.00003653	=	0.00	294
		191,528.80	x	0.00153929	=	294.82	
	1	168.67	x	0	=	0.00	
Client Facility 0106	1	33,549.60	x	0.00153929	=	51.64	121
	1	3,525.10	x	0.00277272	=	9.77	
	1	21,715.76	x	0.00273394	=	59.37	
	1	7,722.00	x	0.00003653	=	0.28	
	1	1.02	x	0	=	0.00	
	1	7.72	x	0	=	0.00	
Client Facility 0108	1	371,440.00	x	0.0000019	=	0.71	26
		6,642.90	x	0.00273394	=	18.16	
	1	235,440.00	x	0.0000019	=	0.45	

	1	2,926.30	x	0.00153929	=	4.50	
	1	1,400,400.00	x	0.0000019	=	2.66	
	1	470.03	x	0	=	0.00	
	1	179.87	x	0	=	0.00	
Client Facility 0112	1	272,602.00	x	0.00003653	=	9.96	12
		1,013.70	x	0.00273394	=	2.77	
Client Facility 0113	26	667,739.23	x	0.0000019	=	1.27	151
		0.00	x	0.00273394	=	0.00	
		2,257.00	x	0.00277272	=	6.26	
		100.00	x	0.00153929	=	0.15	
	11	189,273.00	x	0.0000019	=	0.36	
	17	518,520.00	x	0.00003653	=	18.94	
	7	16,350.31	x	0.0000019	=	0.03	
		45,505.23	x	0.00273394	=	124.41	
Client Facility 0114	1	210,600.00	x	0.0000019	=	0.40	0
	3	182.21	x	0	=	0.00	
	16	749.80	x	0	=	0.00	
Client Facility 0115	1	270,660.00	x	0.0000019	=	0.51	17
		10,828.00	x	0.00153929	=	16.67	
Client Facility 0118	8	320,000.00	x	0.00003653	=	11.69	15
		1,521.00	x	0.00273394	=	4.16	
Client Facility 0119	1	147,240.00	x	0.0000019	=	0.28	0
Client Facility 0120	1	379.31	x	0	=	0.00	0
Client Facility 0121	1	235.34	x	0	=	0.00	0
Client Facility 0122	4	113,591.00	x	0.00003653	=	4.15	63
		21,836.8	x	0.00273394	=	59.70	
Client Facility 0201	1	60,420.00	x	0.0000019	=	0.11	0
Client Facility 0202	1	41,872.59	x	0.00153929	=	64.45	173
		90,180.00	x	0.00003653	=	3.29	
	1	68,409.96	x	0.00153929	=	105.30	
Client Facility 0204	1	129,987.00	x	0.0000019	=	0.25	0
Client Facility 0206	9	2,505,904.16	x	0.00153929	=	3,857.31	3,857
	1	53,446.00	x	0	=	0.00	
Client Facility 0207	12	9,794.07	x	0	=	0.00	0
	36	14,027.62	x	0	=	0.00	
Client Facility 0211	1	21,603,000.00	x	0.00003653	=	789.22	789
	1	3.02	x	0	=	0.00	
	81	77,371.00	x	0	=	0.00	
Client Facility 0213	1	0.00	x	0.00193631	=	0.00	0
	1	58.50	x	0	=	0.00	

Client Facility 0216	1	2,935,200.00	x	0.0000019	=	5.58	5
	1	2,504.92	x	0	=	0.00	
Client Facility 0402	1	850,000.00	x	0.00003653	=	31.05	31
Client Facility 0404	1	133,047.00	x	0.0000019	=	0.25	2
	1	930,960.00	x	0.0000019	=	1.77	
Client Facility 0405	6	33,757.93	x	0	=	0.00	0
Client Facility 0408	19	22,471.55	x	0	=	0.00	0
Client Facility 0701	1	285.66	x	0	=	0.00	0
	1	144.15	x	0	=	0.00	
Client Facility 0702	1	160,359.00	x	0.0000019	=	0.30	0
Client Facility 0703	1	485.64	x	0	=	0.00	0
	1	478.40	x	0	=	0.00	
Client Facility 0706	1	5,768.00	x	0.00153929	=	8.88	8
	1	1.86	x	0	=	0.00	
	1	4.20	x	0	=	0.00	
	1	1.46	x	0	=	0.00	
Client Facility 0707	33	2,293.79	x	0	=	0.00	0
Client Facility 0708	10	3,070,980.77	x	0.00003653	=	112.19	112
	22	16,012.27	x	0	=	0.00	
Client Facility 0801	1	301,787.00	x	0.0000019	=	0.57	0
Client Facility 0807	1	568.67	x	0	=	0.00	0
	1	121.88	x	0	=	0.00	
	1	1,334.79	x	0	=	0.00	
Client Facility 0810	18	749,530.00	x	0.00003653	=	27.38	74
		20,964.00	x	0.00226	=	47.38	
Client Facility 0901	1	198,250.10	x	0.00175929	=	348.78	1,995
		19,633.87	x	0.00153929	=	30.22	
		6,432,000.00	x	0.00003653	=	234.98	
	1	198,250.10	x	0.00175929	=	348.78	
		19,633.87	x	0.00153929	=	30.22	
		6,432,000.00	x	0.00003653	=	234.98	
	1	198,250.10	x	0.00175929	=	348.78	
		19,633.87	x	0.00153929	=	30.22	
		6,432,000.00	x	0.00003653	=	234.98	
	1	4,201,453.39	x	0.00003653	=	153.49	
	3	19,296.00	x	0	=	0.00	
	47	53,010.00	x	0	=	0.00	
Client Facility 1002	24	79,759.47	x	0	=	0.00	0
Client Facility 1201	9	1,703,447.92	x	0.00003653	=	62.23	62
	1	0.00	x	0.0000019	=	0.00	

	1	0.00	x	0	=	0.00	
	5	3,801.50	x	0	=	0.00	
Client Facility 1202	1	103,007.70	x	0.00193631	=	199.45	221
	1	11,445.30	x	0.00193631	=	22.16	
	1	0.00	x	0.00193631	=	0.00	
Client Facility 1203	1	7,825.98	x	0.00153929	=	12.05	14
		900,720.00	x	0.0000019	=	1.71	
	1	258,000.00	x	0.0000019	=	0.49	
	1	106,640.00	x	0.0000019	=	0.20	
Client Facility 1204	1	1,672,223.23	x	0.00248614	=	4,157.38	7,892
	1	1,374,079.00	x	0.00193631	=	2,660.64	
	1	3,061.79	x	0.00193631	=	5.93	
	1	298,262.56	x	0.00193631	=	577.53	
	1	131,965.41	x	0.00153929	=	203.13	
	1	110,659.85	x	0.00153929	=	170.34	
		10,481,226.50	x	0.0000019	=	19.91	
	8	63,668.54	x	0.00153929	=	98.00	
Client Facility 1205	1	78,261.90	x	0.00273394	=	213.96	334
	1	32,515.70	x	0.00237785	=	77.32	
		15,437.10	x	0.00277272	=	42.80	
Client Facility 1501	10	235,496.00	x	0.00226	=	532.22	1,245
		6,269.90	x	0.00273394	=	17.14	
	10	2,072,350.00	x	0.00003653	=	75.70	
		235,496.00	x	0.00226	=	532.22	
		57,383.30	x	0.00153929	=	88.33	
		2,072.35	x	0	=	0.00	
	1	2,072.35	x	0	=	0.00	
Client Facility 1504	1	3,806.82	x	0.000783	=	2.98	2
	1	0.00	x	0	=	0.00	
Client Facility 1505	5	11,343,200.00	x	0.00003653	=	414.40	892
		138,050.00	x	0.00193631	=	267.31	
	2	5,773,240.00	x	0.00003653	=	210.91	
		0.00	x	0.00153929	=	0.00	
Client Facility 1506	12	626.64	x	0	=	0.00	0
	12	5,241.68	x	0	=	0.00	
	12	4,001.51	x	0	=	0.00	
	12	2,669.93	x	0	=	0.00	
Client Facility 1507	1	820.58	x	0	=	0.00	0
	1	1,847.05	x	0	=	0.00	
	1	1,089.60	x	0	=	0.00	
Client Facility 1508	25	4,957.03	x	0	=	0.00	0

	25	314.18	x	0	=	0.00	
	25	1,607.99	x	0	=	0.00	
	25	6,396.07	x	0	=	0.00	
Client Facility 1509	1	4,910.68	x	0.00003653	=	0.18	0
	5	16,152.59	x	0	=	0.00	
	1	6,163.27	x	0	=	0.00	
Client Facility 1510	1	291,240.00	x	0.0000019	=	0.55	0
	3	13,206.57	x	0	=	0.00	
	1	98.96	x	0	=	0.00	
Client Facility 1511	1	349,020.00	x	0.0000019	=	0.66	1
		287.65	x	0.00153929	=	0.44	
Client Facility 1601	76	25,312,000.00	x	0.00003653	=	924.72	924
	7	25,312.00	x	0	=	0.00	
Client Facility 1602	35	1,485,071.00	x	0.000061	=	90.59	90
Client Facility 1603	43	462,922.25	x	0.00193631	=	896.36	896
	43	33,340.14	x	0	=	0.00	
	1	596.54	x	0	=	0.00	
	1	0.00	x	0	=	0.00	
	1	394.38	x	0	=	0.00	
Client Facility 1604	1534	35,282.94	x	0	=	0.00	0
	14	5,685.42	x	0	=	0.00	
Client Facility 1701	1	24.00	x	0.00193631	=	0.05	1
		739,422.00	x	0.0000019	=	1.40	
	1	1,253.29	x	0	=	0.00	
	1	784.91	x	0	=	0.00	
Total:		2456					20,538

PEy values have been rounded down for conservativeness.

The project emissions PEy = 20,538 tCO₂e

5.3 Leakage Emissions

At Project Unit level, the leakage, during the period of January First, 2023, to December 31st, 2023, is *de minimus*, thus LEy=0.

5.4 GHG Emission Reductions and Carbon Dioxide Removals

The Emission Reduction is calculated by subtracting the Project Emissions from Baseline Emissions.

Thus, ER_y = BE_y - PE_y - LE_y

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCU (tCO ₂ e)	Removal VCU (tCO ₂ e)	Total VCUs (tCO ₂ e)
01-Jan-2023 to 31-Dec-2023	655,895	20,538	<i>De minimus</i>	635,357	0	635,357
Total	655,895	20,538	<i>De minimus</i>	635,357	0	635,357

It is important to note that all PAIs from this group project are ex-post and not ex-ante.

Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference
01-Jan-2023 to 31-Dec-2023	2,800,000	635,357	77.31%	1) Recruitment of new Client Facilities and new PAIs into the Sustainable Community project was not as high as expected. 2) Some emission factors in the latest version (v16) of the U.S. EPA WARM have significantly decreased (i.e. the emission factor for wood biomass has decreased by 54%) causing emission reductions to be lower than expected.
Total	2,800,000	635,357	77.31%	

APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

The table below describes the commercially sensitive information included in the monitoring report excluded in the public version.

Section	Information	Justification
5	Client Facility names are anonymized and replaced by Client Facility ID numbers	1) Protecting Client Facility Privacy: Anonymizing client facility names safeguards their privacy, ensuring that sensitive information (e.g. financial and commercial) remains confidential. 2) Mitigating Legal Risks: Anonymizing client facility names ensures that the company adheres to the confidentiality clause outlined in adhesion contract signed with Client Facilities (see clause 9 in adhesion contract). 3) Maintaining Competitive Advantage: Anonymizing client facility names prevents competitors from gaining insights into the Project Proponent's client base, strategies, or market positioning. Enhancing Trust and Professionalism: Anonymizing client facility names demonstrates a commitment to professionalism and discretion, fostering trust between the company and its clients (ie. Client Facilities)

APPENDIX 2: ADDRESSING DOUBLE COUNTING RISKS CONCERNS

2-1 Addressing the double counting risks associated with the SPEDE

The project proponent, WILL Solutions Inc., has addressed the double counting concerns of the VCS Program in the previous six Monitoring Reports regarding the Quebec's Cap-and-Trade System for GHG allowances, named the SPEDE. The RSPEDÉ is the regulation behind the SPEDE and targets:

- Industrial facilities that emit 25,000 metric tons of CO₂ equivalent (t CO₂e) or more per year.
- Producers and importers of electricity, whose GHG emissions associated with the production of that electricity equal or exceed 25,000 t CO₂e per year;
- Distributors of fuels and fossil fuels used in Quebec (gasoline, diesel, propane, natural gas, and heating oil).¹⁵

WILL Solutions Inc. ensures there is no double-counting issue associated with the SPEDE by excluding all the entities listed above from the Sustainable Community project, as well as:

- Excluding any Client Facility that emits $\geq 25,000$ t CO₂e per year.
- Excluding any Client Facility that is subject to the SPEDE.
- Excluding any Client Facility that participates voluntarily to the SPEDE.

All entities registered to the RSPEDÉ, either subjected and participating voluntarily, are publicly disclosed and available on the website of the Ministry of Environment, Climate Change, Wildlife and Parks of Quebec¹⁶. The project proponent is therefore able to easily and regularly verify that none of the facilities of the members of its Sustainable Community are subject to the SPEDE. As of 2021, an estimated 80 facilities and over 40 fossil fuel distributors were regulated¹⁷ under the RSPEDÉ.

More information on the Quebec's Cap-and-Trade system and its scope can be found in its technical overview: <https://www.environnement.gouv.qc.ca/changements/carbone/documents-spede/technical-overview.pdf>

¹⁵ <https://www.environnement.gouv.qc.ca/changementsclimatiques/marche-carbone.asp>

¹⁶ <https://www.environnement.gouv.qc.ca/changements/carbone/participants-inscrits-au-SPEDE.htm>

¹⁷ List of fossil fuel distributors <https://www.environnement.gouv.qc.ca/changements/carbone/etablisements-SPEDE.pdf>

2-2 Addressing the double-counting risks associated with sectoral scope 3 ERs

The project proponent, WILL Solutions Inc., has addressed the double counting concerns of the VCS Program in previous Monitoring Reports regarding the quantification of sectoral scope 3 GHG reductions for the period effective after January 1st, 2015.

WILL Solutions Inc. has concluded that there is no double-counting issue by taking the measures necessary to avoid the risks of double counting associated with the inclusion of sectoral scope 3 PAIs in its Sustainable Community project by doing the following:

1. All GHG reductions from the 363 PAI associated with the sectoral scope 3 in this monitoring report are unique, since the project proponent uses a conservative and rigorous approach that systematically disqualifies and excludes any PAI linked to grid electricity producers and distributors. Sectoral scope 3 PAIs in this Monitoring Report are therefore completely removed from the double counting rhetorical label.
2. All energy and fossil fuel distributors that are regulated under the RSPED are systematically excluded from this project to avoid completely any risk of double-counting.

For the period of January 1st, 2023, to December 31st 2023, scope 3 emissions account for 184,656 tCO₂e of emission reductions. This amount is included in this Monitoring Report and will be serialized under the VCS program.

APPENDIX 3: RESULTS FOR THE EXCLUDED EMISSION REDUCTIONS OF 2019-2023

The project proponent, WILL Solutions Inc. (WSI), asked the VVB to verify in its mandate the net GHG emissions reductions quantified from the period January 1st, 2019 to December 31st, 2023. The amount of these verified GHG reductions represents 824,828 tCO₂e. These verified GHG reductions are excluded from this monitoring report and **will not be serialized under the VCS program**. The project proponent can demonstrate and provide evidence upon request that the 2019-2023 emission reductions reported in Table 4 below were not reported in previous monitoring reports, and therefore that there are no risks of double counting with all previous monitoring reports.

Table 4 List of GHG emission reductions quantified by vintage from the period of January 1st, 2019, to December 31st, 2023.

Year	GHG emissions in (tCO ₂ e)			
	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net emission reductions (tCO ₂ e)
2019	156,654	0	<i>De minimus</i>	156,654
2020	149,349	0	<i>De minimus</i>	149,349
2021	154,103	178	<i>De minimus</i>	154,103
2022	146,761	209	<i>De minimus</i>	146,552
2023	218,917	569	<i>De minimus</i>	218,348
Total 2018-2023	825,784	956	<i>De minimus</i>	824,828

The excluded net GHG emission reductions for the years 2019, 2020, 2021, 2022, and 2023 in the above Table include reductions from both sectoral scope 3 and sectoral scope 13. Detailed yearly calculations for each Client Facility are available upon request.

APPENDIX 4: DATA, PARAMETERS, AND MONITORING PLAN

4-1 The Emission Factor (EF) used in this Monitoring Report

Scope 3 Emission Factors

Table 5 Emission Factors used in this Monitoring report for sectoral scope 3 PAIs

	Sectoral Scope	Source, date issued	Energy Type	Unit	Value tCO ₂ /unit
1	3	RDOCECA/MELCCFP, May 1, 2024	Butane	L	0.00175929
2	3	RDOCECA/MELCCFP, May 1, 2024	Biomass and bark residue	kg	0.00003653
3	3	RDOCECA/MELCCFP, May 1, 2024	Diesel	L	0.00277272
4	3	RIN 1990-2021, 2023	Electricity	KWh	0.00000190
5	3	RDOCECA/MELCCFP, May 1, 2024	Gasoline	L	0.00237785
6	3	RDOCECA/MELCCFP, May 1, 2024	Coal coke	Mt	0.00248614
7	3	RIN 1990-2021, 2023	Natural gas	M ³	0.00193631
8	3	RDOCECA/MELCCFP, May 1, 2024	Fuel oil no. 2	L	0.00273394
9	3	RDOCECA/MELCCFP, May 1, 2024	Fuel oil no. 6	L	0.00314256
10	3	RIN 1990-2021, 2023	Lubricants (Used oils)	L	0.00226000
11	3	Life Cycle Carbon Benefits of Aerospace Alloy Recycling ¹⁸	Recycled metal (FeTi)	Mt	0.00006100
12	3	RDOCECA/MELCCFP, May 1, 2024	Propane	L	0.00153929
13	3	USEPA, WARM v.16, 2023	Grain Material Source Produced	Mt	0.68458228

Web references:

RDOCECA/MELCCFP, May 1, 2024. <https://www.legisquebec.gouv.qc.ca/fr/pdf/rc/Q-2.%20R.%2015.pdf> (link opens a PDF).

RIN 1990-2021, 2023. https://publications.gc.ca/collections/collection_2023/eccc/En81-4-2021-3-fra.pdf

Scope 13 Emission Factors

Emission factors for scope 13 project activity instances are from the U.S. Environmental Protection Agency Waste Reduction Model (WARM) version 16 (December 2023). The emission factors use the following values for OX, MCF and K_j and uses the default values since they are reflective of the conditions of the territory covered by this grouped project

OX = 0.2, as used by the WARM

¹⁸ Eckelman, M.J, Ciacci, L., Kavlak, G., Nuss, P., Reck, B.K. & Graedel, T.E. (2014). Life cycle carbon benefits of aerospace alloy recycling. Journal of Cleaner Production, 80, 38-45. <https://doi.org/10.1016/j.jclepro.2014.05.039>

MCF = 1, default for anaerobic managed solid waste disposal sites.

K_j = 0.052/year (“National Average”), corresponding to a weighted average¹⁹.

Table 6 Emission Factors used in this Monitoring report for sectoral scope 13 PAIs

	Sectoral Scope	Source, date issued	Waste Type	Unit	Value tCO ₂ e/unit
1	13	USEPA, WARM v.16, 2023	Food/Organic waste (composted)	Mt	0,72026406
2	13	USEPA, WARM v.16, 2023	Food/Organic waste (anaerobic digestion)	Mt	0.59852849
3	13	USEPA, WARM v.16, 2023	Corrugated container	Mt	3.65529736
4	13	USEPA, WARM v.16, 2023	Mixed paper (primarily residential)	Mt	3.92376486
5	13	USEPA, WARM v.16, 2023	Mixed paper (general)	Mt	3.98948967
6	13	CDM AMS-III-E	Sewage & septic sludges	Mt	2.084940
7	13	USEPA, WARM v.16, 2023	Asphalt shingles	Mt	0.02232048
8	13	USEPA, WARM v.16, 2023	Dimensional lumber	Mt	0.81125709
9	13	USEPA, WARM v.16, 2023	Mixed Plastics	Mt	1.04224727
10	13	BEAM 2022 (ECCC)	Digestate spreading	Mt	0.83500
11	13	USEPA, WARM v.16, 2023	Green residues; Putrescible	Mt	0,72026406

Web reference: <https://www.epa.gov/warm/versions-waste-reduction-model#v16>

¹⁹ EPA WARM Documentation for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM): https://www.epa.gov/system/files/documents/2024-01/warm_management_practices_v16_dec.pdf

4-2 Data and parameter description /Generic PAI

Table 7 Data and Parameter PAI (generic) | Biomass Energy Project

Generic PAI Reference Number					
	Description of Generic PAI	Biomass Energy Project	Biomass Energy Project	Biomass Energy Project	Biomass Energy Project
3.1	Data/Parameter available at validation	EF Propane ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)	EF Butane ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)	EF Diesel ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)	EF Electricity ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)
a	Unit	t eCO ₂ /L	t eCO ₂ /L	t eCO ₂ /L	t eCO ₂ /kWh
b	Description	Combined Emission Factor for Propane	Combined Emission Factor for Butane	Combined Emission Factor for Diesel	Emission Factor for Electricity
c	Source of data	IPCC, Environment Canada, AEE	IPCC, Environment Canada, AEE	IPCC, Environment Canada, AEE	AEE
d	Value applied	0,001544	0,001764	0,002789	0,000003
d	Description of measurement	IPCC-UNFFCC / Env. Canada / AEE	Official Emission Factors Determination	Official Emission Factors Determination	Official Emission Factors Determination
e	Purpose of data	Parameters for Baseline and Project Em.	Parameters for Baseline and Project Em.	Parameters for Project Emission	Parameters for Project Emission
3.2	Data/Parameter monitored				
a	Data	Propane	Butane	Diesel	Electricity
	Option A or Option B Measurement	Option A	Option A	Option A	Option A: nominal
	Source/Sink identification	B7 and P7	B7 and P7	P7	P7
b	Data Unit	L	L	L	kWh
c	Description	Used in Dryer 1, 2 and 3	Used in Dryer 1, 2 and 3		
d	Source of data	Meter from distributor	Meter from distributor	Meter from Boisaco Tank Station	Meter from HydroQuebec
e	Description of measurement	Amount of Propane delivered	Amount of Butane delivered	Volume of Diesel tanked in the loader	Number of kWh used
f	Frequency	At each delivery	At each delivery	At time of tanking	At each HQ billing period
g	Value monitored	Liters	Liters	Liters	kWh
h	Monitoring equipment	Fuel Distributor Meter	Fuel Distributor Meter	Fuel Distributor Meter	HQ Electricity Meter
i	QA/QC procedures	Delivery in line with Tank nominal value	Delivery in line with Tank nominal value	Delivery in line with tank nominal value	Ex-ante comparison
j	Purpose of data	Baseline scenario for drying PMP	Baseline scenario for drying PMP	Project scenario biomass moving	Project scenario for drying PMP
k	Calculation method	Propane Volume consumed	Butane Volume consumed	Usage portion estimate	Nominal Aggregate Electrical Motor installed
l	Comments	Project Units/PAI using similar technology may used different fossil combustibles. In such instance, Emission Factors will be defined accordingly.			

Table 8 Data and Parameter PAI II (generic) Methane Avoidance Emission

Generic PAI Reference Number		II
Description of Generic PAI		Methane Emission Avoidance
3.1	Data/Parameter available at validation	EF DOC ₁ (Σ CO ₂ /CH ₄ /N ₂ O)
a	unit	t eCO ₂ /MT
b	Description	Combined Emission Factor for Fraction of Degradable organic Carbon (by weight)
c	Source of data	IPCC, Environment Canada, AEE
d	Value applied	0,0616
d	Description of measurement	IPCC-UNFFCC / Env. Canada / AEE
e	Purpose of data	Parameters for Baseline and Project Em.
3.2	Data/Parameter monitored	
a	Data	Volume of Biomass
	Option A or Option B Measurement	Option A
	Source/Sink identification	B7
b	Data Unit	t
c	Description	Used in Biomass Furnace
d	Source of data	Number of Loads
e	Description of measurement	Cumulative amount of biomass in the furnace
f	Frequency	At each load
g	Value monitored	Loader shovel
h	Monitoring equipment	Weighting bridge
i	QA/QC procedures	Monthly calibration of the loader
j	Purpose of data	Methane Emission Avoidance
k	Calculation method	Comparison from B7 and P7
		Project Units/PAI using similar technology may use different fossil combustibles. In such instance, Emission Factors will be defined accordingly.
l	Comments	

Table 9 Data and Parameter PAI (generic) III Torrefied Biomass Combustible

Generic PAI Reference Number		III
Description of Generic PAI		Torrefied Biomass Combustible
3.1	Data/Parameter available at validation	EF DOC _j (Σ CO ₂ /CH ₄ /N ₂ O)
a	unit	t eCO ₂ /MT
b	Description	Combined Emission Factor for Fraction of Degradable organic Carbon (by weight)
c	Source of data	IPCC, Environment Canada, AEE
d	Value applied	0,0616
d	Description of measurement	IPCC-UNFFCC / Env. Canada / AEE
e	Purpose of data	Parameters for Baseline and Project Em.
3.2	Data/Parameter monitored	
a	Data	Volume of Biomass
	Option A or Option B Measurement	Option A
	Source/Sink identification	B7
b	Data Unit	t
c	Description	Used in Biomass Furnace
d	Source of data	Number of Loads
e	Description of measurement	Cumulative amount of biomass in the furnace
f	Frequency	At each load
g	Value monitored	Torrefied Biomass Combustible Volume
h	Monitoring equipment	Weighting bridge
i	QA/QC procedures	Monthly calibration of the loader
j	Purpose of data	Methane Emission Avoidance
k	Calculation method	Comparison from B7 and P7
		Project Units/PAI using similar technology may use different fossil combustibles. In such instance, Emission Factors will be defined accordingly.
l	Comments	

Table 10 Data and Parameter PAI (generic) IV Saving energy on recycling activities

Generic PAI Reference Number	IV	IV	IV	IV	IV	IV	IV
Description of Generic PAI	Saving Energy on Recycling Activities	Saving Energy on Recycling Activities	Saving Energy on Recycling Activities	Saving Energy on Recycling Activities	Saving Energy on Recycling Activities	Saving Energy on Recycling Activities	Saving Energy on Recycling Activities
3.1 Data/Parameter available at validation	EF HDPE ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)	EF PET ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)	EF PVC ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)	EF LDPE ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)	EF PP ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)	EF PS ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)	EF PC/ABS/MDPE ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)
a unit	t eCO ₂ /1000 Lbs	t eCO ₂ /1000 Lbs	t eCO ₂ /1000 Lbs	t eCO ₂ /1000 Lbs	t eCO ₂ /1000 Lbs	t eCO ₂ /1000 Lbs	t eCO ₂ /1000 Lbs
b Description	Combined Emission Factor for HDPE	Combined Emission Factor for PET	Combined Emission Factor for PVC	Combined Emission Factor for LDPE	Combined Emission Factor for PP	Combined Emission Factor for PS	Combined Emission Factor for PC/ABS/MDPE
c Source of data	EPA	EPA	EPA	EPA	EPA	EPA	EPA
d Value applied	0.71	1.15	0.99	0.895	0.775	1.25	0.93
e Description of measurement	EPA Net Emission Factor	EPA Net Emission Factor	EPA Net Emission Factor	EPA Net Emission Factor	EPA Net Emission Factor	EPA Net Emission Factor	EPA Net Emission Factor
f Purpose of data	Parameters for Project Emission.	Parameters for Project Emission.	Parameters for Project Emission.	Parameters for Project Emission.	Parameters for Project Emission.	Parameters for Project Emission.	Parameters for Project Emission.
3.2 Data/Parameter monitored							
a Data	HDPE	PET	PVC	LDPE	PP	PS	PC/ABS/MDPE
Option A or Option B Measurement	Option A	Option A	Option A	Option A	Option A	Option A	Option A
Source/Sink identification	P9	P9	P9	P9	P9	P9	P9
b Data Unit	t	t	t	t	t	t	t
c Description	Volume of recycled plastic	Volume of recycled plastic	Volume of recycled plastic	Volume of recycled plastic	Volume of recycled plastic	Volume of recycled plastic	Volume of recycled plastic
d Source of data	Weighting Balance or Bridge	Weighting Balance or Bridge	Weighting Balance or Bridge	Weighting Balance or Bridge	Weighting Balance or Bridge	Weighting Balance or Bridge	Weighting Balance or Bridge
e Description of measurement	Amount of HDPE delivered	Amount of PET delivered	Amount of PVC delivered	Amount of LDPE delivered	Amount of PP delivered	Amount of PS delivered	Amount of PC/ABS/MDPE delivered
f Frequency	At each delivery	At each delivery	At each delivery	At each delivery	At each delivery	At each delivery	At each delivery
g Value monitored	t	t	t	t	t	t	t
h Monitoring equipment	Calibrated weighing devices	Calibrated weighing devices	Calibrated weighing devices	Calibrated weighing devices	Calibrated weighing devices	Calibrated weighing devices	Calibrated weighing devices
i QA/QC procedures	Double check: seller and buyer weight	Double check: seller and buyer weight	Double check: seller and buyer weight	Double check: seller and buyer weight	Double check: seller and buyer weight	Double check: seller and buyer weight	Double check: seller and buyer weight
j Purpose of data	Emission avoided with recycled plastic	Emission avoided with recycled plastic	Emission avoided with recycled plastic	Emission avoided with recycled plastic	Emission avoided with recycled plastic	Emission avoided with recycled plastic	Emission avoided with recycled plastic
k Calculation method	HDPE Volume delivered	PET Volume delivered	PVC Volume delivered	LDPE Volume delivered	PP Volume delivered	PS Volume delivered	PC/ABS/MDPE Volume delivered
l Comments	Project Units/PAI using similar technology may use different fossil combustibles. In such instance, Emission Factors will be defined accordingly.						

Table 11 Data and Parameter PAI (generic) V Heat Recovery

Generic PAI Reference Number	V	V
Description of Generic PAI	Heat Recovery	Heat Recovery
3.1 Data/Parameter available at validation	EF Propane ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)	EF Electricity ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)
a unit	t eCO ₂ /L	t eCO ₂ /kWh
b Description	Combined Emission Factor for Propane	Emission Factor for Electricity
c Source of data	IPCC, Environment Canada, AEE	AEE
d Value applied	0.001544	0.000003
e Description of measurement	IPCC-UNFCCC / Env. Canada / AEE	Official Emission Factors Determination
f Purpose of data	Parameters for Baseline and Project Em.	Parameters for Project Emission
3.2 Data/Parameter monitored		
a Data	Propane	Electricity
Option A or Option B Measurement	Option A	Option A: nominal
Source/Sink identification	B7 and P7	P7
b Data Unit	L	kWh
c Description	Used for Heating buildings	Used for Heating buildings
d Source of data	Meter from distributor	Meter from HydroQuebec
e Description of measurement	Amount of Propane delivered	Number of kWh used
f Frequency	At each delivery	At each HQ billing period
g Value monitored	Liters	kWh
h Monitoring equipment	Fuel Distributor Meter	HQ Electricity Meter
i QA/QC procedures	Delivery in line with Tank nominal value	Ex-ante comparison
j Purpose of data	Baseline scenario for heating Building	Baseline scenario for heating Building
k Calculation method	Propane Volume consumed	Installed Nominal Electrical Equipment
l Comments	Project Units/PAI using similar technology may use different fossil combustibles. In such instance, Emission Factors will be defined accordingly.	

Table 12 Data and Parameter PAI (generic) VII Energy Efficiency Demand Side

Generic PAI Reference Number		VII	VII
Description of Generic PAI		Saving Energy on Recycling Activities	Saving Energy on Recycling Activities
3.1	Data/Parameter available at validation	EF Oil N°6 (Σ CO ₂ /CH ₄ /N ₂ O)	EF Electricity (Σ CO ₂ /CH ₄ /N ₂ O)
a	unit	t eCO ₂ /L	t eCO ₂ /kWh
b	Description	Combined Emission Factor for Oil N°6	Emission Factor for Electricity
c	Source of data	IPCC, Environment Canada, AEE	AEE
d	Value applied	0,001544	0,000003
d	Description of measurement	IPCC-UNFFCC / Env. Canada / AEE	Official Emission Factors Determination
e	Purpose of data	Parameters for Baseline and Project Em.	Parameters for Project Emission
3.2	Data/Parameter monitored		
a	Data	Oil N°6	Electricity
	Option A or Option B Measurement	Option A	Option A: nominal
	Source/Sink identification	B7	P7
b	Data Unit	L	kWh
c	Description	Used in Furnace to heat building	Used to heat building
d	Source of data	Meter from distributor	Meter from HydroQuebec
e	Description of measurement	Amount of Oil N°6 delivered	Number of kWh used
f	Frequency	At each delivery	At each HQ billing period
g	Value monitored	Liters	kWh
h	Monitoring equipment	Fuel Distributor Meter	HQ Electricity Meter
i	QA/QC procedures	Delivery in line with Tank nominal value	Ex-Ante Comparison Baseline/Project scenario for lighting and heating building
j	Purpose of data	Baseline scenario for heating building	heating building
k	Calculation method	Oil N°6 Volume consumed	Nominal Electrical Heater installed
l	Comments	Project Units/PAI using similar technology may use different fossil combustibles. In such instance, Emission Factors will be defined accordingly.	

Table 13 Data and Parameter PAI (generic) VIII Fuel Switching

Generic PAI Reference Number		VIII		
Description of Generic PAI		Fuel Switching	Fuel Switching	Fuel Switching
3.1	Data/Parameter available at validation	EF Propane ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)	EF Oil N° 2 ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)	EF Electricity ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)
a	unit	t eCO ₂ /L	t eCO ₂ /L	t eCO ₂ /kWh
b	Description	Combined Emission Factor for Propane	Combined Emission Factor for Oil N° 2	Emission Factor for Electricity
c	Source of data	IPCC, Environment Canada, AEE	IPCC, Environment Canada, AEE	AEE
d	Value applied	0,001544	0,002734	0,000003
d	Description of measurement	IPCC-UNFFCC / Env. Canada / AEE	IPCC-UNFFCC / Env. Canada / AEE	Official Emission Factors Determination
e	Purpose of data	Parameters for Baseline and Project Em.	Parameters for Baseline and Project Em.	Parameters for Project Emission
3.2	Data/Parameter monitored			
a	Data	Propane	Oil N°2	Electricity
	Option A or Option B Measurement	Option A	Option A	Option B
	Source/Sink identification	B7 and P7	B7 and P7	B7 and P7
b	Data Unit	L	L	kWh
c	Description	Used in Dryer 1, 2 and 3	Used in Furnace to heat building	
d	Source of data	Meter from distributor	Meter from distributor	Meter from HydroQuebec
e	Description of measurement	Amount of Propane delivered	Amount of Oil N°2 delivered	Number of kWh used
f	Frequency	At each delivery	At each delivery	At each HQ billing period
g	Value monitored	Liters	Liters	kWh
h	Monitoring equipment	Fuel Distributor Meter	Fuel Distributor Meter	HQ Electricity Meter
i	QA/QC procedures	Delivery in line with Tank nominal value	Delivery in line with Tank nominal value	Ex-Ante Comparison
j	Purpose of data	Baseline/Project scenario for heating building	Baseline/Project scenario for heating building	Baseline/Project scenario for heating building
k	Calculation method	Propane Volume consumed	Oil N°2 Volume consumed	Nominal Electrical Lighting and Equipment
l	Comments	Project Units/PAI using similar technology may used different fossil combustibles. In such instance, Emission Factors will be defined accordingly.		

Table 14 Data and Parameter PAI (generic) IX Energy conservation

Generic PAI Reference Number		IX
Description of Generic PAI		Energy Conservation
3.1	Data/Parameter available at validation	EF Oil N° 2 ($\Sigma \text{CO}_2/\text{CH}_4/\text{N}_2\text{O}$)
a	unit	t eCO ₂ /L
b	Description	Combined Emission Factor for Oil N° 2
c	Source of data	IPCC, Environment Canada, AEE
d	Value applied	0,000822
d	Description of measurement	IPCC-UNFFCC / Env. Canada / AEE
e	Purpose of data	Parameters for Baseline and Project Em.
3.2	Data/Parameter monitored	
a	Data	Oil N°2
	Option A or Option B Measurement	Option A
	Source/Sink identification	P7
b	Data Unit	L
c	Description	Avoided emissions from Oil N° 2 extraction
d	Source of data	Volume of Oil N° 2 recovered
e	Description of measurement	Amount of Oil N°2 delivered
f	Frequency	At each delivery
g	Value monitored	Liters
h	Monitoring equipment	Volume determined by drums
i	QA/QC procedures	Delivery in line with Tank nominal value
j	Purpose of data	Avoided emissions from Oil N° 2 extraction
k	Calculation method	Oil N°2 Volume recovered
l	Comments	Project Units/PAI using similar technology may used different fossil combustibles. In such instance, Emission Factors will be defined accordingly.

Table 15 Data and Parameter PAI (generic) X Energy Efficiency Demand side: New buildings conservation

	Generic PAI Reference Number	X	X	X
	Description of Generic PAI	Energy Efficiency Demand Side: new buildings	Energy Efficiency Demand Side: new buildings	Energy Efficiency Demand Side: new buildings
3.1	Data/Parameter available at validation	EF Gaz Nat (Σ CO ₂ /CH ₄ /N ₂ O)	EF Oil N° 2 (Σ CO ₂ /CH ₄ /N ₂ O)	EF Electricity (Σ CO ₂ /CH ₄ /N ₂ O)
a	unit	t eCO ₂ /M ³	t eCO ₂ /L	t eCO ₂ /kWh
b	Description	Combined Emission Factor for Gaz Nat	Combined Emission Factor for Oil N° 2	Emission Factor for Electricity
c	Source of data	IPCC, Environment Canada, AEE	IPCC, Environment Canada, AEE	AEE
d	Value applied	0,001902	0,002734	0,000003
d	Description of measurement	IPCC-UNFFCC / Env. Canada / AEE	IPCC-UNFFCC / Env. Canada / AEE	Official Emission Factors Determination
e	Purpose of data	Parameters for Baseline and Project Em.	Parameters for Baseline and Project Em.	Parameters for Project Emission
3.2	Data/Parameter monitored			
a	Data	Gaz Nat	Oil N°2	Electricity
	Option A or Option B Measurement	Option A	Option A	Option A: nominal
	Source/Sink identification	P7	B7	B7 and P7
b	Data Unit	M ³	L	kWh
c	Description	Used in Furnace to heat building	Used in Furnace to heat building	Used to light and heat building
d	Source of data	Meter from Gaz Metro	Meter from distributor	Meter from HydroQuebec
e	Description of measurement	Number of M ³ used	Amount of Oil N°2 delivered	Number of kWh used
f	Frequency	At each Gaz Metro billing period	At each delivery	At each HQ billing period
g	Value monitored	M ³	Liters	kWh
h	Monitoring equipment	Gaz Metro Meter	Fuel Distributor Meter	HQ Electricity Meter
i	QA/QC procedures	Ex-Ante	Delivery in line with Tank nominal value	Ex-Ante
j	Purpose of data	Project scenario for heating the building	Baseline scenario for heating building	Baseline/Project scenario for lighting and heating
k	Calculation method	Gaz Nat Volume consumed	Oil N°2 Volume consumed	Nominal Aggregate Electrical Motor installed
l	Comments	sed different fossil combustibles. In such instance, Emission Factors will be defined accordingly.		

4-3 Monitoring Plan

The monitoring plan will be applied to all Project Units as follow:

Category	Activity	Measure Option	Baseline	Project					
			Adjustment	Parameter	Instrument	Frequency	Incertitude	Impact on reduction	Adjustment
Fuel switching	Biomass boiler	Option B		Mass of processed biomass	Loader bucket	Consolidation every week	Estimate of the average mass in the bucket	None	Process yield
Energy efficiency	Heat recovery: process	Option A	Process yield	Volume of fuel	Volume / quantity on invoice*	Continuous	Negligible as measure devices calibrated	None	
	Heat recovery: process	Option B	Process yield	Temperature and debit (enthalpy)	Thermometer / Debit meter	Continuous	Negligible as measure devices calibrated	None	
	Heat recovery: process	Option A		Volume of fuel	Volume / quantity on invoice* when tanking	Transaction based	Residual inventory at the end of the period	Materiality, decrease with tank filling turnover, compensate on the next period	
	Energy efficiency: building heating	Option A	Unit of productivity	Volume of fuel	Volume / quantity on invoice*	Continuous	Negligible as measure devices calibrated	None	Commercial building: unit of productivity
	Energy efficiency: building HVAC	Option A/ Option B	Unit of productivity	Volume of fuel / energy	Volume / quantity on invoice*	Continuous	Negligible as measure devices calibrated	None	Commercial building: unit of productivity
	Energy efficiency: envelope enhancement	Option A	Unit of productivity	Volume of fuel / energy	Volume / quantity on invoice*	Continuous	Negligible as measure devices calibrated	None	Commercial building: unit of productivity
	Energy efficiency: envelope enhancement	Option B	Unit of productivity	Volume of fuel	Volume / quantity on invoice* when tanking	Transaction based	Residual inventory at the end of the period	Materiality, decrease with tank filling turnover, compensate on the next period	Commercial building: unit of productivity
	Energy efficiency: building lighting	Option A	Light intensity	Nominal Wattage	Manufacturer technical data	At the time installation	Negligible as measure devices calibrated	None	

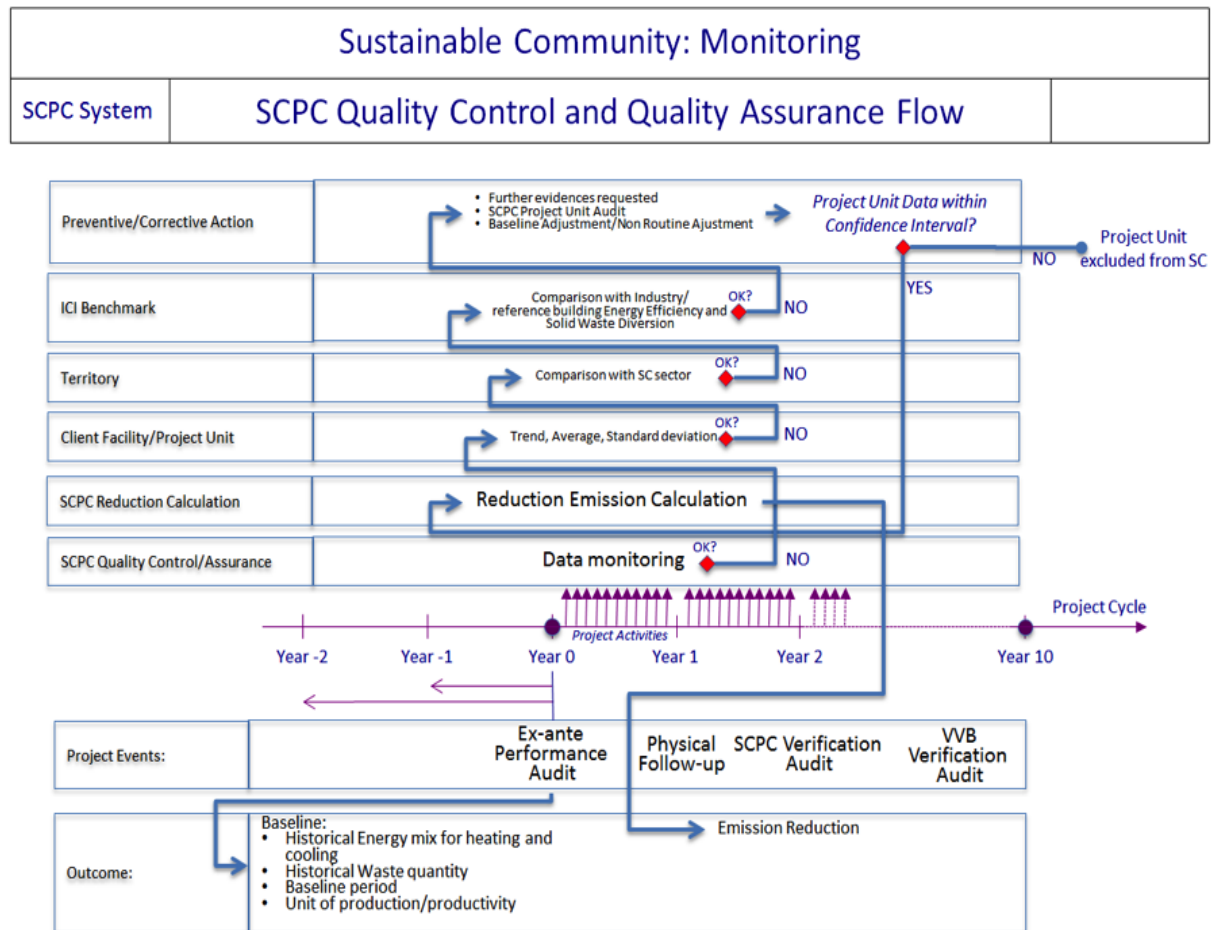
Waste	Waste diversion	Option B		Waste mass / volume	Mass: balance Volume: container	Transaction based	Weight calculation from volume	Materiality as company charged on container
	Waste reduction: substitution of single wood pallets by reusable cardboard palette	Option B		Number of pallets and reuse	Number of travels written on palette/ Bill of lading	Monthly consolidation	Wood pallet end of life at point of destination	Max: Energy substitution if burn

*Energy suppliers are required to have their debit meters regularly calibrated: the invoice is then based on the calibrated debit meter reading.

In addition, a Quality Control of the data is performed as follows:

- At the time of registration of the project unit: a physical audit of the premises of the Project Unit takes place, and physical evidence necessary to determine the baseline scenario is collected;
- At each entry in the SCPC system, controls will be run to compare entry to historical data, sectorial SCPC benchmark and to external benchmark;
- Investigation may be necessary to get physical evidence of the data entered into the SCPC system;
- Impact of a possibly recurring issue will be looked at for all the concerned Project Units.
- For each baseline period, a random sample of Project Units will be audited during the project. The sample size will be the square root of the Project Units participating to the SCPC system. Evidence of the audit are kept discrepancies will be analyzed as well as potential impact on related Project Units;

The figure below provides the SCPC validation/verification data workflow:



In terms of organization, there are six levels where potential problems can be escalated, with different levels of responsibility of the organization. Should the system require, a recourse/appeal will be set in place.

APPENDIX 5: SDG CONTRIBUTIONS

SUPPORTING EVIDENCE

The following documentation describes the evidence for each declared SDG contribution: 9, 10, 11, 12, 13 and 17. Evidence is available directly through publicly accessible referenced documents, including the VCS project documents: Monitoring Reports and their Verification (VVB) reports. When applied, the evidence is provided through a hyperlink to the supporting evidence.

a. First series of evidence in place on the Verra registry:

- Monitoring Report third cohort; July 2019
 - Section 1.10 on Sustainable Development,
 - Section 2.4.1 and 2.4.2 on no net Harm and local Stakeholder Consultation
- The VVB report on the third cohort, July 2019 has confirmed these statements.
- Press release of the 3rd cohort, July 2019
 - Hyperlink: <https://www.newswire.ca/news-releases/will-announces-3-million-tons-of-greenhouse-gas-offsets-released-for-sale-870212697.html>
- The publication on LinkedIn of an article on November 7, 2016: <https://www.linkedin.com/pulse/sustainable-community-solution-catalyst-17-sdgs-martinclermont/?published=t>

b. Second series of evidence in place on the Verra registry:

- Monitoring Report fourth cohort; September 2020,
 - Section 1.11 on Sustainable Development,
 - Section 2.1: on no net Harm and local Stakeholder Consultation
- The VVB report on the fourth cohort; September 2020 has confirmed these statements.
- Press release of the fourth cohort; September 2020:
- Hyperlink: https://solutionswill.com/wp-content/uploads/2020/09/PR_WILLAnnounces-the-Verified-Results-of-its-4th-Cohort-Sept2020.pdf

c. Third series of evidence as Will' Sustainability action plan:

- Will (as project proponent), sustainable development plan action (2018) including scope of monitoring, education, and carbon neutrality: https://solutionswill.com/wp-content/uploads/2020/07/SustainDevelopPlan_20192020.pdf
- 2019: <https://solutionswill.com/wp-content/uploads/2019/12/SD-Plan-Update-2019.pdf>
- 2020: [Sustainable Development Report - 2019-2020 \(June 2020\)](#)

- 2021: Sustainable Development Report - 2020-2021 (June 2021)
- 2022: Sustainable Development Report - 2021-2022 (June 2022)
- 2023: Sustainable Development Report – 2022-2023 (July 2023)
- 2024: Sustainable Development Report 2023-2024 (September 2024)
- A 5th distribution of carbon revenues: <https://www.newswire.ca/news-releases/ipccit-s-t-minus-one-a-5th-distribution-of-carbon-income-895902007.html>
- A 6th distribution of carbon revenues: <https://solutionswill.com/en/the-6th-income-distribution-is-here/>
- A 7th distribution of carbon revenues: <https://www.newswire.ca/news-releases/will-solutions-distributes-2-1m-to-quebec-smes-that-reduce-their-ghg-emissions-845949803.html>

d. Fourth series of evidence; Will's B Corp certification

- B Corp certification in 2018-2019 and in place since March 2019: <https://www.bcorporation.net/en-us/find-a-b-corp/company/solutions-will/>
- Certification renewal under process and scheduled for March 2022.

e. Fifth series of evidence: International Sustainable Community solution.

- Solar Impulse certification for Sustainable Community, completed in July 2020: <https://solarimpulse.com/solutions-explorer/sustainable-community>

f. Last series of evidence; main memoirs prepared and submitted by Will on Voluntary Carbon Markets (VCM):

- June 2021 on the TSVCM: https://solutionswill.com/wp-content/uploads/2021/07/Will-contribution-to-TSVCM-June2021_Flyer_ANG-VFinal.pdf
- January 2021 on Verra consultation on EFCU: https://solutionswill.com/wp-content/uploads/2021/01/Will-contribution-to-VCS-questions-about-EFCU_15Jan2021.pdf
- November 2020 on TSVCM: <https://solutionswill.com/wp-content/uploads/2020/11/Will-contribution-to-TSVCM-V1-V3.pdf>
- August 2020 to Environment Canada and Climate change on carbon pricing: [https://solutionswill.com/wp-content/uploads/2020/08/Federal-carbon-pricing-memoir by WILLSolutions_August2020.pdf](https://solutionswill.com/wp-content/uploads/2020/08/Federal-carbon-pricing-memoir_by_WILLSolutions_August2020.pdf)
- June 2019 comments about the second VCS consultation on the 4.0 VCS program project especially on the issue of the SME's participation and the overlapping Monitoring Report period criteria: <https://solutionswill.com/wp-content/uploads/2019/07/Will-Comments-June-2019-on-VCS-version-4-1-1.pdf>

- July 2018 comments about the first VCS consultation on the 4.0 VCS program project especially on the issue of the SME's participation and the overlapping Monitoring Report period criteria: https://solutionswill.com/wp-content/uploads/2014/01/wills_comment_on_draft_version_4.0_vcs_july_5_2018.pdf