ENERGY EFFICIENCY AND SOLID WASTE DIVERSION ACTIVITIES WITHIN THE QUEBEC SUSTAINABLE COMMUNITY *RENEWAL PROJECT DESCRIPTION*

Document Prepared by the quantification team of WILL Solutions and its collaborators

Contact Information Martin Clermont, president and founder

Project Title	*Energy Efficiency And Solid Waste Diversion Activities Within The Quebec Sustainable Community*
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1 PROJECT DETAILS

1.1 Summary Description of the Project

The Energy Efficiency and Solid Waste Diversion Activities within the Quebec Sustainable Community's renewal project document was prepared by Will Solutions Inc. This document presents how, Will Solutions as a project proponent (Sustainable Community Service Promoter (SCSP)), quantifies and originates 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 project targets a large range of Client Facilities, all located inside the Province of Quebec, mainly small to medium sized companies (each one have ≤ 25,000 tCO_2e emission/year/facility, Small Final Emitters - SFEs), which are part of the industrial, commercial or institutional (ICI) sectors, and/or property of several and different owners, and grouped together inside a "Sustainable Community" within a Territory.

This project has been designed to be simple, yet rigorous to apply, measure, and monitor. Even though the activities of SFEs vary, energy consumption and waste disposal are similar across many businesses and organizations.

The main project objectives are:

I. To group together inside a "Sustainable Community within a Territory", from 100 up to 2,000 Clients Facilities (which operate around 12,000 buildings), all located inside the Province of Quebec, that will achieve together a potential 34,250,000 tCO_2e of emission reductions for the period 2020-2029;

II. To stimulate and reward Industrial Commercial Institutional (ICI) business units – large or small facilities – for their efforts to reduce GHG emissions, by giving them access to local and international markets which are based on recognized programs;

III. To collect ground data in real time with the automation of our traceability platform, gradually integrate and use digital technologies, such as IoT, AI, Block Chain and 5G, and consequently, stimulate and enhance Industrial Commercial and Institutional (ICI) client facilities for a better sustainable behaviour;

IV. To stimulate and reward all the small actions carried out by each of the ICI sites: to divert industrial and commercial waste from landfill, for a more efficient waste recovery, for increasing energy efficiency in buildings and to optimize their GHG reduction related to transportation.

The project is implemented since January 1st, 2010. At the Client Facility level, despite that there are different scenarios to cope with the reality of the different business units, a majority of Project Units/Project Activity Instances (PAI)/Business Units have adhered to the SC project and ongoing Project Units/PAI. Since the beginning, WILL Solutions relentless efforts have focused on initiating GHG reduction projects, to stimulate and motivate project promotors to continuously invest in the qualified PAIs.

The location of the project

All ICI Client Facilities associated to the project will be located inside the province of Quebec in Canada. This grouping of Client Facilities bind them to a common geographic cluster (the territory of Province of Quebec), where the regional conditions (i.e. electricity source, climate, waste processing schemes, etc.) and regulations (i.e. waste and emission regulations, etc.) are similar for the different Clients Facilities. The first period 2010-2019 is summarized as follow:

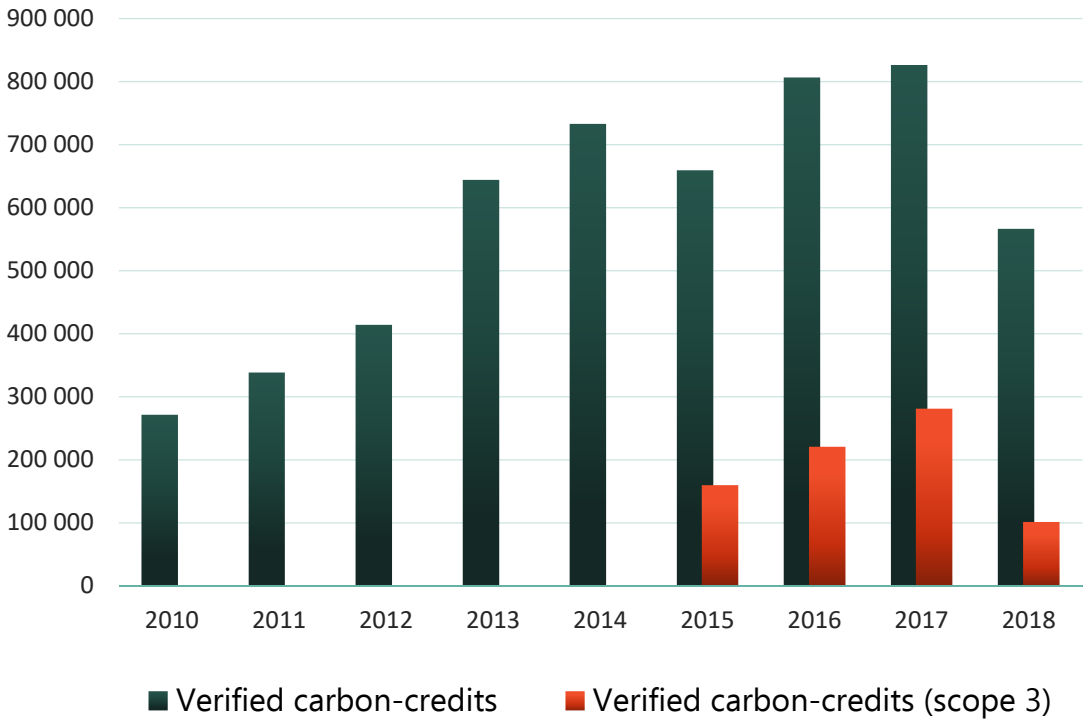
The validation of the first period 2010-2019 of the Project Document established a total of 22,852 Mt of GHG's reductions;

The result of the first nine years period from January First 2010 up to December 31th, 2018 is 5,261,449 tCO_2e reductions verified under the project. A total of 1,911,697 tCO_2e were serialized under VCS and the balance of 3,349,752 tCO_2e is distinctly serialized under Will to address some issues on double counting and overlap reporting period.

We are expecting, for the last year (2019) of the first period a volume between 1 to 2 million tCO_2e to be verified, this will complete the first period with around 7 million tCO_2e which represent 30% of the initial validated volume of 22.85 million tCO_2e.

As shown in the graph below, the progression has been gradual and reflects the efforts required by the promoter to overcome the force of inertia to change, considering that the project was and remains a world first under the VM0018 methodology.

The third cohort of the project started in January 2017 and completed on July 2019, was really the spark of the Community and the propagation of the interest and participation from SME as client facilities. This was made possible with the involvement of 14 NGO acting locally into micro financing and sustainability in some remote areas of the Quebec territory.



More details and some KPI statistics are available in the Appendix 1, which will include the official GHG emission inventories in Quebec for the period 1990-2017.

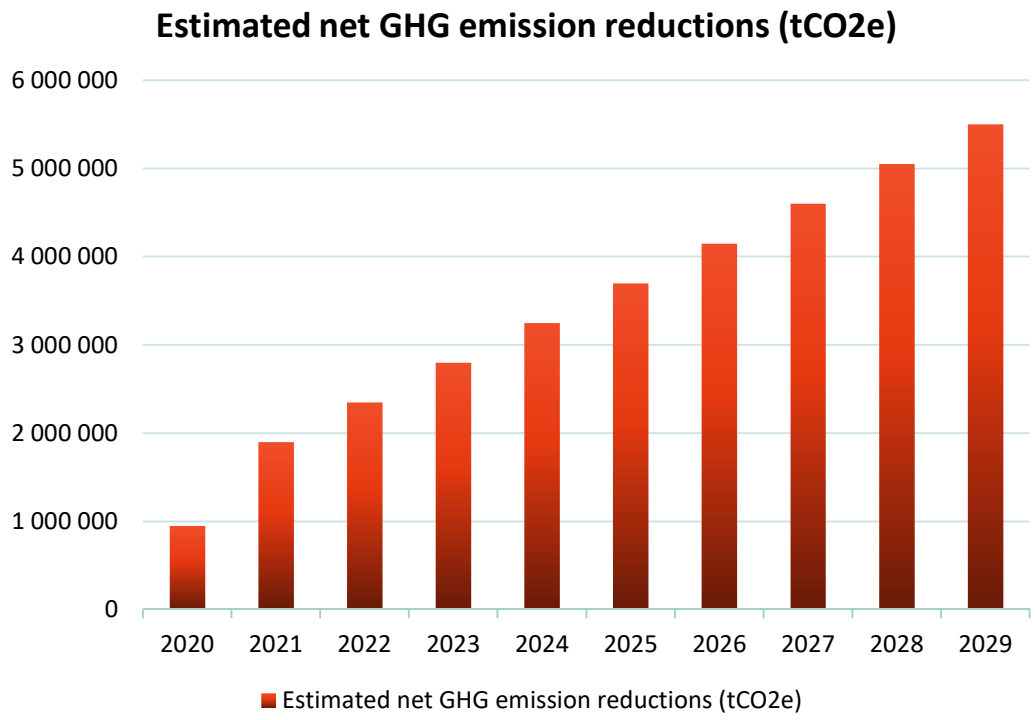
The project renewal is expected to generate GHG emission reductions as the following:

i. A total of 34.250 Mt of GHG reductions over ten years based on sectoral scope 3 and 13. An estimated additional volume, in a range of 7 to 13 Mt of GHG reductions, would be added under sectoral scope 7.

ii. A gradual increase from 950.000 Mt in 2020 to 5.5 Mt of GHG reductions in 2029.

iii. A yearly average of 3.425 Mt of GHG reductions

iv. The graphic below illustrates the projections:



1.2 Sectoral Scope and Project Type

The Sectorial Scopes are 3 and 13, and it is a grouped project.

1.3 Project Eligibility

The renewal of the project respects the updated version of the VCS program, now titled 4.0 published in September 2019, including the transition specifications (grandfather clause) contained in the VCS documentation in autumn 2019. The project was designed according to the VM0018 methodology version 1.0 certified by the VCS program and validated by a recognized VVB in July 2013.

The initial list of generic Project Activity Instances (PAI) used during the initial period (2010-2019) is fully renewed in this renewal. A list of additional generic PAI, (PAI XI to XV) listed in Appendix 3, will be documented at a later stage and after their certification by the VCS program, by an addendum to the VM0018 that will include GHG reductions associated to sectorial 7. These new generic PAI will follow the same attributes as the initial PAI ones. Once the additional PAIs (XI to XV) are assessed for their attributes related to scope 13 and 7, they will integrate as generic project activities the same way as the initial generic PAI used in the first period 2010-2019. For each of these generic projects activities, more detailed information is available in Appendix 3. Their baseline will be determined ex-ante or ex-post and each project activity will be considered additional

following their common practice analysis and association with each generic PAI which are defined in the Appendix 3. Other project activities related to the generic one (listed in Appendix 3) will be eligible if they meet the following criteria:

- Located inside the Quebec territory;
- Be implemented after January First 2015;
- Be a registered member of the SCSP project;
- Having or using a similar technologies or measures as the generic PAI based on scope 3, 13 and 7;
- Be auditable and verifiable;
- Project unit GHG reduction are inferior to 5,000 t CO_2e/year.

For such projects activities, baseline will be determined ex-ante or ex-post, each project activity being considered additional in reference to all project activity instance defined in Appendix 3. Other project activities not covered by the generic one (Appendix 3) will be documented as a new project activity instances to be further reference as above**.** For such activity, Baseline and Additionality will be demonstrated.

1.4 Project Design

The nature of the Sustainable Community project imposes the following structure as per WILL Solutions VM0018 methodology:

- With a group project approach to concatenate the efforts and the GHG reductions of all members of the Sustainable Community.
- With PAIs as members may develop several activities which impact on GHG reductions.

Eligibility Criteria

The eligible criteria remain the same used in the first Project Document which was used in all Monitoring and Verification reports of the first period.

1.5 Project Proponent

The only project proponent of the project is Will Solutions Inc.

Organization name	Will Solutions Inc.
Contact person	Martin Clermont,
Title	President and founder
Address	116 Desjardins, Beloeil, Province of Quebec, Canada

Telephone	514-990-2124 ext. 1
Email	mclermont@solutionswill.com

1.6 Other Entities Involved in the Project

The only project proponent of the project is Will Solutions Inc.

1.7 Ownership

The ownership of each GHG reductions verified is in the sole property of the project proponent. By standard contract between each members of the Community the right of property of the eligible GHG reductions is transfer to Will Solutions and Will Solutions have the obligation to return a % of the sale of each VCU. Standard contract is available on Appendix 2.

1.8 Project Start Date

The project starting date is January 1st 2020 and which is the renewal and the continuation of the first project period (2010-2019).

1.9 Project Crediting Period

The renewal of the project crediting period is 10 years. The starting date is January 1st 2020 and will end December 31rd 2029.

1.10 Project Scale and Estimated GHG Emission Reductions or Removals

The estimated annual GHG emission reduction for the project crediting period is described as the following.

Project Scale	
Project	
Large project	✓

Year	**Estimated GHG emission**

	reductions (tCO_2e)
Year 2020	950,000
Year 2021	1,900,000
Year 2022	2,350,000
Year 2023	2,800,000
Year 2024	3,250,000
Year 2025	3,700,000
Year 2026	4,150,000
Year 2027	4,600,000
Year 2028	5,050,000
Year 2029	5,500,000
Total estimated ERs	34,250,000
Total number of crediting years	10 years
Average annual ERs	3,425,000

N.B. An estimated additional volume, in a range of 7 to 13 Mt of GHG reductions would be added under sectoral scope 7 conditional to the approval of an addendum of the methodology VM0018.

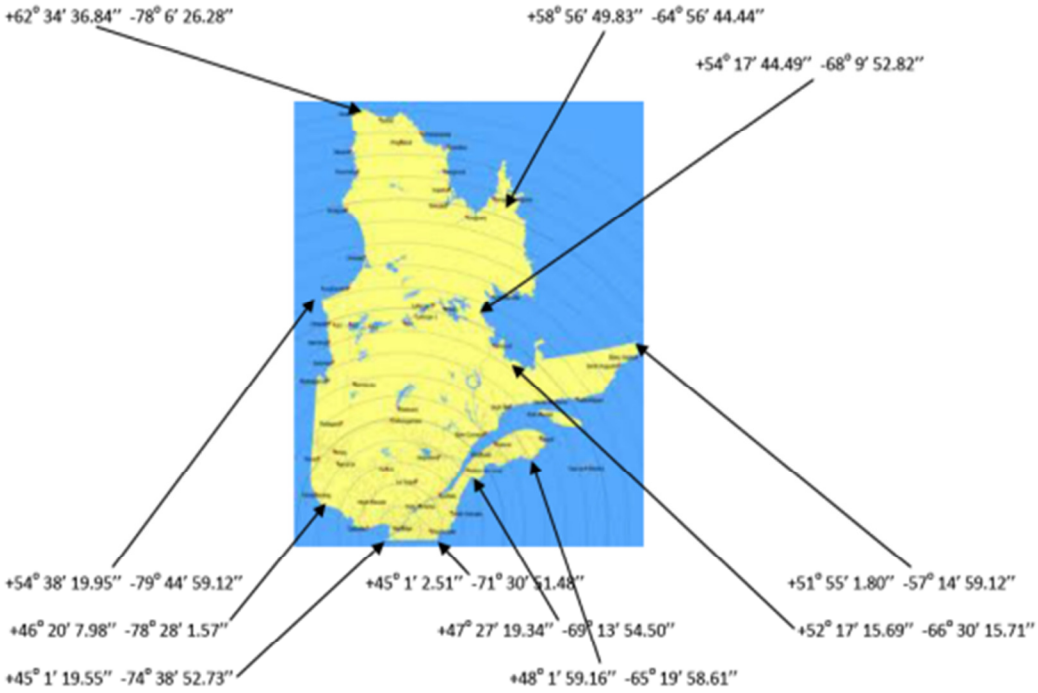
1.11 Description of the Project Activity

The list of the 15 generic PAIs of the project are described and analysed in the Appendix 3.

1.12 Project Location

All ICI's Client Facilities associated to the project will be located inside the province of Quebec's territory in Canada. This grouping of Client Facilities bind them to a common geographic cluster (the territory of Province of Quebec), where the regional conditions (i.e. electricity source, climate, waste processing schemes, etc.) and regulations (i.e. waste and emission regulations, etc.) are similar for the different Client Facilities.

The geographical map shown here represents the Province of Quebec and its territory. The Province shares more than 12,000 km of lands, rivers, and marine borders with Ontario, Nunavut, Newfoundland and Labrador, Prince Edward Island, New Brunswick, Nova Scotia, and United States. The 11 geodesic coordinates of the map represent the limit of the polygon covering the territory of the Province of Quebec. Each of the Client Facilities are all located inside this polygon.



1.13 Conditions Prior to Project Initiation

This is a renewal of the project. The description of the conditions existing prior to project initiation is available on Appendix 1. The project has not been implemented to generate GHG emissions for the purpose of their subsequent reduction, removal or destruction.

The baseline scenario is the same as the conditions existing prior to the project initiation, and the baseline is assessed in Section 3.4 (Baseline Scenario).

1.14 Compliance with Laws, Statutes and Other Regulatory Frameworks

The project is in compliance with all and any relevant local, regional and national laws, statutes, and regulatory frameworks. See the detailed analysis of this review applied to each generic PAI, in Appendix 3.

1.15 Participation under Other GHG Programs

1.15.1 Projects Registered (or seeking registration) under Other GHG Program(s)

The project has not been submitted under any other GHG programs.

1.15.2 Projects Rejected by Other GHG Programs

The project has not been submitted and then rejected by any other GHG programs.

1.16 Other Forms of Credit

1.16.1 Emissions Trading Programs and Other Binding Limits

Will Solutions, the project proponent, does not participate in any other GHG program neither regulated nor voluntary; Will Solutions is only active in the VCS program. Will Solutions, the project proponent, does not participate and does not intend to participate in the Quebec regulated market, named the SPEDE[1], and neither to the WCI.

The Quebec's Cap-and-Trade System for GHG allowances, an Emission Trading System (ETS) will be named in this VCS PD by its French acronym (RSPEDE). Extracted from the technical Quebec overview[2], the scope of the RSPEDE is described as follow:

"Since the start of the first compliance period on January 1st, 2013, persons and/or municipalities that operate any facility whose annual GHG emissions (excluding CO_2 emissions related to the combustion of biomass) are greater than or equal to 25 kt of equivalent CO2 (kt CO2 eq.) have been regulated by the C&T system". They are an estimated 80 facilities regulated under this regulation.

"And as of January 1, 2015 (beginning of the second compliance period), any person or municipality that distributes in Quebec fossil fuels whose combustion meets or exceeds the annual GHG emission threshold of 25 kt CO2 eq. is also covered by the C&T system, thereby encompassing almost 85 % of Quebec's GHG emissions". These fossil fuel distributor regulated under this RSPEDE are estimated at around 40 entities.

1.16.2 Other Forms of Environmental Credit

The project proponent, Will Solutions, was received no other forms of environmental credit (EC) for the first period (2010-2019) and intend to do the same for the actual period 2020 up to 2029.

1.17 Additional Information Relevant to the Project

Leakage Management

There is no leakage issue with this group project.

[1]Web governmental reference to the SPEDE http://www.mddelcc.gouv.qc.ca/changements/carbone/documents-spede/in-brief.pdf
[2] Technical Overview of the Québec's Cap-and-Trade, page 7.
http://www.mddelcc.gouv.qc.ca/changements/carbone/documents-spede/technical-overview.pdf

Commercially Sensitive Information

No commercial sensitive information is applicable for this document.

Sustainable Development

The Sustainable Community Solution (SC) developed by Will Solutions, boosts and rewards active and inclusive participation in the circular economy as well as the positive economy. The SC solution is primarily focused on reducing the "Demand side". The monetization, on the voluntary carbon market, of conscious efforts to reduce energy consumption and virgin resources reconfirms the close relationship between Development, Environment and Humanity.

The SC solution also enhances conscious human gesture, prioritizing the behavioral change that guides the selection and integration of green technologies. The SC solution plays a catalyst role in achieving these objectives and in several sustainable development goals (SDGs) of the United Nations (UN) in particular the SDG, 9, 11, 13 and 17, see more on the following post on LinkedIn: https://www.linkedin.com/pulse/sustainable-community-solution-catalyst-17-sdgs-martin-clermont?published=t. The social impact and the participation of all 150 clients' facilities (all citizens of the municipalities participating, all SME's employees participating and theirs customers), represent around 10% of the Quebec population.

Will Solutions Inc. (WILL), the project proponent and a B Corp certified private company, acts as a social entrepreneur, and its commitment is to provide the best business solutions and business models that measure the environmental performance of each individual, citizen, company and community, and reward those who advocate for sustainable development. WILL is carbon neutral since 2007 and is committed to returning 10% of its net benefit to community projects and initiatives supporting sustainable development. WILL is convinced that this action matches circular and positive economy concepts. WILL obtained in July 2020 the Solar Impulse Label:
https://solarimpulse.com/efficient-solutions/sustainable-community

WILL, as the project proponent, was directly affected by the COVID-19 health crisis (from the beginning of March 2020 up to now). WILL made a corporate decision, with all due respect to our team of auditors, collaborators, members of our project, our VVB and other stakeholders, with the VCS program approval, to carry out this Renewal Crediting Period (RCP) in desk review mode with our VVB.

WILL has also decided to postpone the renewal of our project document (PD), for another period of 10 years (January 1st, 2020 to December 31, 2029) which was scheduled to be done for this summer 2020 concomitant with our 4thverification audit. We plan on using the year 2019 as the baseline scenario for this renewal.

Further Information

In parallel, we have initiated in mid-2019 (with a network of researchers from 5 Canadian universities and two technological partners) a project to automate our traceability platform which is operated in cloud mode, in order to include technological elements of IoT, AI, Block Chain, and 5G. This automation, in addition to the reliability and the reduction of errors in handling the collected data (the evidences) from client facilities and their PAIs (data which represented only in our third cohort over 10,000 evidence and photos, and videos for ≈ 100,000 pages of different types of documents), will allow to group 20 times more members, up to 2,000.

These members might operate around 12,000 buildings in the same cluster. It will be then possible to complete a cohort of verification over a 12-month period, instead of 30 months, which will make possible to address the issue of overlapping periods of the Monitoring Reports under the VCS program. We plan to have this automation in place between 2022 or 2024. This update will resolve the overlapping issue for the next Monitoring report.

2 SAFEGUARDS

2.1 No Net Harm

Will Solutions Inc. (WILL) is a GHG reduction business enabler whose mission is to:

- Catalyze and stimulate the members of the Sustainable Community to undertake projects. This is done upstream through awareness campaigns where potential members are informed of best practices.
- Gather all the evidence related to each reduction and ensure the compliance to the regulations in which the reduction is taking place.
- Trace and reduce the interval confidence uncertainty to a minimum. To this end, the generation of controls and tools which are under development and are ready to be deployed for the next monitoring report, is including IoT, AI, 5G and Block Chain technologies.
- In addition, WILL is mutualizing all the eligible GHG reduction efforts done by the members of its Sustainable Community project to convert them into VCU, sale them and return a minimum of 40% of the gross sales to each members to the extent of each of its GHG reduction efforts. WILL is mutualizing the expertise and the monetization's costs to democratize the participation of all stakeholders of the civil society to tackle the climate issue.

WILL is carefully selecting each project activity instance (PAI) of all new members of SC, which have to respect any environmental regulations. Grouping these eligible PAIs that are mainly located in remote areas, the SC project creates strong beneficial socio-economic impacts by **rewarding** economically SME projects and municipalities that are focused on

Sustainable Development (SD), and that are aligned with the 17 Sustainable Development Goals (SDG) of the United Nations.

WILL Solutions (WILL), (the SCPP) is certified B Corp since March 2019[3]. Since 2018, WILL implemented a Sustainability Plan and produced a yearly report in a base of a continuous improvement on its ecological footprint. The latest report (May 2020) described the carbon footprint of all corporate activity since 2007[4]. WILL purchased carbon offsets, and has been carboneutral since 2007. WILL is an active member, since March 2020 of the group of over 700 B Corp committed to Net Zero by 2030[5].

2.2 Local Stakeholder Consultation

This is a project renewal. Local stakeholder consultation is a continuous operation with communication through social networks. As a certified B Corp, we plan to include in our corporate status the interest of all members of Sustainable Communities as stakeholders.

2.3 Environmental Impact

Non applicable since WILL is not in charge of doing each project at client's facilities. All these projects, when applicable, have received an environmental authorization. WILL as the project proponent, has developed a Sustainability plan voluntarily; the latest yearly report is available on Appendix 4.

2.4 Public Comments

Non applicable

3 APPLICATION OF METHODOLOGY

3.1 Title and Reference of Methodology

The title of the selected methodology is Energy Efficiency and Solid Waste Diversion Activities within a Sustainable Community; it is referenced VM0018.This methodology was developed by Will Solutions Inc. under the VCS program, and it was certified and released in February 2012. Will intends to develop an addendum to this methodology, to be approved by the VCS program, which will include eligible GHG reductions on the sectoral scope 7.

[3] B Corp link https://bcorporation.net/directory/solutions-will
[4] Link to the latest version released on 2020 https://www.solutionswill.com/wp-content/uploads/2019/12/SD-Plan-Update-2019.pdf
[5] https://www.bcorpclimatecollective.org/net-zero-2030

3.2 Applicability of Methodology

All generic PAI respect the applicability conditions of the methodology as described and used in the first period (2010-2019) of the Project Document.

3.3 Project Boundary

See the Appendix 3 for tables related to PAI I to X.

For the PAI XI-XIV project boundaries are as follow:

Source		Gas	Included?	Justification/Explanation
Baseline	Source 1	CO_2	Yes	Inclusion justified by the use of energy
		CH_4	Yes	Inclusion justified by the use of energy
		N_2O	Yes	Inclusion justified by the use of energy
		Other	Yes	Inclusion justified by the use of energy
	Source 2	CO_2	Yes	Inclusion justified by the use of energy
		CH_4	Yes	Inclusion justified by the use of energy
		N_2O	Yes	Inclusion justified by the use of energy
		Other	Yes	Inclusion justified by the use of energy
Project	Source 1	CO_2	Yes	Inclusion justified by the use of energy
		CH_4	Yes	Inclusion justified by the use of energy
		N_2O	Yes	Inclusion justified by the use of energy
		Other	Yes	Inclusion justified by the use of energy
	Source 2	CO_2	Yes	Inclusion justified by the use of energy
		CH_4	Yes	Inclusion justified by the use of energy
		N_2O	Yes	Inclusion justified by the use of energy
		Other	Yes	Inclusion justified by the use of energy

The project is a group project. The map representing the geographic distribution by region of the installations of the clients facilities and their PAIs are in Appendix 5.

3.4 Baseline Scenario

All baseline scenario of each generic PAI are described in Appendix 3. The Emission factors for each baseline were updated with the latest relevant information.

3.5 Additionality

The Sustainable Community project is still additional. At the proponent level, the project is additional, based on the business model, but without carbon revenues, the project is not viable and will not exist. At the level of the 15 generic PAIs: all are additional and it is based on the analysis of the common practices which is detailed and updated for each of the 15 Generic PAI. See Appendix 3.

3.6 Methodology Deviations

We are studying and planning, over the period of this renewal (2020-2029), to amend the VM0018 methodology in order to include the reduction of GHGs linked to sustainable mobility micro-projects (sectoral scope 7) based on generic PAIs related to Client Facilities and their building as the perimeter for calculating eligible reductions. These generic PAIs might include behavioral changes, sharing and participative business models and the conversion of all vehicles to electric vehicles powered by renewable, non-fossil fuels.

4 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

4.1 Baseline Emissions

The baseline emissions ($\mathbf{BE_y}$, in tCO_2e) of all PAIs are the summation for each PAI of the product of the baseline emissions factor ($\mathbf{EF_3}$, in tCO_2/unit of fossil fuel and $\mathbf{EF_{13}}$ tCO_2/Mt of waste stream) and the fossil fuel consumption (**FF**) used before project and the waste stream (**WS**) before its diversion from landfill management.

$\mathbf{BE_y} = \mathbf{FF_{BL}} * \mathbf{EF_3 i}$ (*sectoral scope 3*)
$\mathbf{BE_y} = \mathbf{WS_{BL}} * \mathbf{EF_{13} i}$ (*sectoral scope 13*)

$\mathbf{FF_{BL,y}}$ = Volume of fossil fuel

$\mathbf{WS_{BL,y}}$ = Volume of waste stream

$\mathbf{EF_3}$ = CO_2e emission factor of the fossil fuel

$\mathbf{EF_{13}}$ = CO_2e emission factor of the waste stream and taking into account the different management scenario, at landfill, regarding the flaring or not of methane (biogas) and/or its use or not for energy recovery.

4.2 Project Emissions

The Project Emissions (**PE_y**, in tCO_2e) of all PAIs are the summation for each PAI of the product of the project emission factor (**EF_3**, in tCO_2/unit of fossil fuel and **EF_{13}** tCO_2/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** (*sectoral scope 3*)
PE_y = **WS_P** * **EF_{13}** (*sectoral scope 13*)

$FF_{P,y}$ = Volume of fossil fuel

$WS_{P,y}$ = Volume of waste stream

EF_3 = CO_2e emission factor of the fossil fuel

EF_{13} = CO_2e emission factor of the waste stream and taking into account the different management scenario, at landfill, regarding the flaring or not of methane (biogas) and/or its use or not for energy recovery.

4.3 Leakage

At Project Unit level, the leakage, is de minimus, thus LEy=0.

4.4 Net GHG Emission Reductions and Removals

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

Thus $ER_y = BE_y - PE_y - LE_y$

The net GHG Emission Reductions of the Sustainable Community project are as follows:

Year	Estimated baseline emissions or removals (tCO_2e)	Estimated project emissions or removals (tCO_2e)	Estimated leakage emissions (tCO_2e)	Estimated net GHG emission reductions or removals (tCO_2e)
Year 2020	1,000,000	50,000	*De minimus*	950,000
Year 2021	2,000,000	100,000	*De minimus*	1,900,000
Year 2022	2,500,000	150,000	*De minimus*	2,350,000
Year 2023	3,000,000	200,000	*De minimus*	2,800,000
Year 2024	3,500,000	250,000	*De minimus*	3,250,000
Year 2025	4,000,000	300,000	*De minimus*	3,700,000
Year 2026	4,500,000	350,000	*De minimus*	4,150,000
Year 2027	5,000,000	400,000	*De minimus*	4,600,000

Year 2028	5,500,000	450,000	*De minimus*	5,050,000
Year 2029	6,000,000	500,000	*De minimus*	5,500,000
Total	37,000,000	2,750,000	*De minimus*	34,250,000

5 MONITORING

5.1 Data, Parameters and Monitoring Plan

Each generic PAI (Table 3) and each new PAI associated to generic PAI are monitored specifically as described in this Appendix.

Parameter:	*EF Thermal Energy$_{CO2e}$*
Data unit:	*Kg CO_2e per GJ*
Description:	*CO_2e emissions factor for local generation of thermal energy*
Source of data:	For the Territory of interest, the project proponent must identify the most appropriate CO2e 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) required and used to the calculation of this item are described for each generic project activity instance of this project. These EF are taking account of the CH_4, N_2O and CO_2 emissions. All values applied and used for the calculations are described for each generic project activity instance in the Appendix E.2.
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 the data	The EF Thermal Energy are used for: • The Calculation of baseline emissions • The Calculation of project emissions
Comments	-

Parameter:	***EF Fuel*** $_{i\ N20}$
Data unit:	*Kg N_2O per L, m^3, or other*
Description:	*N_2O emissions factor for combustion of each type of fuel (EF Fuel* $_{i\ N2O}$*)*
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) required and used to the calculation of this item are described for each generic project activity instance of this project. These EF are taking account of the CH_4, N_2O and CO_2 emissions. All values applied and used for to the calculations are described for each generic project activity instance in the Appendix E.2.
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 the data	The EF Fuel are used for: • The Calculation of baseline emissions • The Calculation of project emissions
Comments	-

Parameter:	***EF Fuel*** $_{i\ CH4}$
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* $_{i\ CH4}$*)*
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 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) required and used to the calculation of this item are described for each generic project activity instance of this project. These EF are taking account of the CH_4, N_2O and CO_2 emissions. All values applied and used for to the calculations are described for each generic project activity instance in the Appendix E.2.
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 the data	The EF Fuel are used for: • The Calculation of baseline emissions • The Calculation of project emissions
Comments	-

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 source of thermal energy 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) required and used to the calculation of this item are described for each generic project activity instance of this project. These EF are taking account of the CH_4, N_2O and CO_2 emissions. All values applied and used for to the calculations are described for each generic project activity instance in the Appendix E.2.
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 the data	The EF Fuel are used for: • The Calculation of baseline emissions • The Calculation of project emissions
Comments	-

Parameter:	***OX***
Data unit:	-
Description:	Oxidation factor (reflecting the amount of soil or other material covering the waste)
Source of data:	This factor is 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).
Value applied	All emission factors (EF) required and used to the calculation of this item are described for each generic project activity instance of this project. These EF are taking account of the CH_4, N_2O and CO_2 emissions. All values applied and used for to the calculations are described for each generic project activity instance in the Appendix E.2.
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 the data	The OX factor is used for: • The Calculation of baseline emissions • The Calculation of project emissions
Comments	-

Parameter:	DOC_1
Data unit:	-
Description:	Fraction of degradable organic carbon (DOC) that can decompose
Source of data:	This factor is 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).
Value applied	All emission factors (EF) required and used to the calculation of this item are described inside for each generic project activity instance of this project. These EF are taking account of the CH_4, N_2O and CO_2 emissions. All values applied and used for to the calculations are described for each generic project activity instance in the Appendix E.2.
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 the data	The DOC factor is used for: • The Calculation of baseline emissions • The Calculation of project emissions
Comments	-

Parameter:	***DOCj***
Data unit:	-
Description:	Fraction of degradable organic carbon (by weight)
Source of data:	This factor is 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).
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 the data	The DOC factor is used for: • The Calculation of baseline emissions • The Calculation of project emissions
Comments	-

Parameter:	***MCF***
Data unit:	-
Description:	Methane correction factor
Source of data:	This factor is 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).
Value applied	All emission factors (EF) required and used to the calculation of this item are described for each generic project activity instance of this project. These EF are taking account of the CH_4, N_2O and CO_2 emissions. All values applied and used for to the calculations are described for each generic project activity instance in the Appendix E.2.
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 the data	The MCF factor is used for: • The Calculation of baseline emissions • The Calculation of project emissions
Comments	-

Parameter:	k_j
Data unit:	-
Description:	Decay rate for the waste type j
Source of data:	IPCC 2006 Guidelines for National Greenhouse Gas Inventories (adapted from Volume 5, Table 3.3)
Value applied	All emission factors (EF) required and used to the calculation of this item are described for each generic project activity instance of this project. These EF are taking account of the CH_4, N_2O and CO_2 emissions. All values applied and used for to the calculations are described for each generic project activity instance in the Appendix E.2.
Purpose of the data	The MCF factor is used for: • The Calculation of baseline emissions • The Calculation of project emissions
Comments	-

5.2 Data and Parameters Monitored

Here are the Data and Parameters monitored.

Data Unit / Parameter:	Volume or Quantity of $Fuel_i$
Data unit:	L, m^3, 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 recorder. Evidences will be recorded on Bill of Lading and Invoices.
Value applied:	Available of individual quantification sheet of each client facility
Monitoring equipment:	The monitoring equipment includes: • Flow meters installed on tanker. By law, such flow meters are to be calibrated regularly. • Supplier sealed flow meters installed at client facility, such gas meter.

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.

Calculation method:	In 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 time the tank is filled during the period. In case Project Unit is supplied by Client Facility tank, the portion is justified by evidences.
Comments:	

Data Unit / 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 Bill of Lading and the Invoice of each Fuel delivery is The amount of electricity consumed from the grid is determined by the Hydro-Québec calibrated kWh meter
Frequency of monitoring/recording:	Monthly or bi monthly, with consumption statement. Evidences will be recorded on Invoices.
Value applied:	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.
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.

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:	

Data Unit / Parameter:	Quantity of waste
Data unit:	Kg or MT
Description:	Weight of waste which is diverted form 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. Evidences will be recorded on Invoices.
Value applied:	Available 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.
Calculation method:	Waste weight could be expressed in other than SI units, such ST, Lbs: conversion is made to have waste weight expressed in Kg or MT.
Comments:	

All monitored data used to quantify the eligible GHG emissions reductions for each PAI in this PD were supported by evidence, available to the VVB. A technical data sheet for each Clients facility participating to this monitoring report is available in the Appendix C. Each generic PAI (Table 3) and each new PAI associated to generic PAI are monitored specifically as follows in the tables below.

5.3 Data and Parameter Description /PAI generic

Table 4 Data and Parameter PAI (generic) I Biomass Energy Project

	Generic PAI Reference Number	I	I	I	I
	Description of Generic PAI	Biomass Energy Project	Biomass Energy Project	Biomass Energy Project	Biomass Energy Project
3.1	Data/Parameter available at validati	EF Propane (Σ $CO_2/CH_4/N_2O$)	EF Butane (Σ $CO_2/CH_4/N_2O$)	EF Diesel (Σ $CO_2/CH_4/N_2O$)	EF Electricity (Σ $CO_2/CH_4/N_2O$)
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 Determinatior	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 5 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 validati	EF DOC_j (Σ $CO_2/CH_4/N_2O$)
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
l	Comments	Project Units/PAI using similar technology may used different fossil combustibles. In such instance, Emission Factors will be defined accordingly.

Table 6 Data and Parameter PAI (generic) III Torrefied Biomass Combustible

This PAI (generic) is being implemented, but not yet operational: for information only

	Generic PAI Reference Number	III
	Description of Generic PAI	Torrefied Biomass Combustible
3.1	Data/Parameter available at validati	EF DOC_j (Σ CO_2/CH_4/N_2O)
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
l	Comments	Project Units/PAI using similar technology may used different fossil combustibles. In such instance, Emission Factors will be defined accordingly.

Table 7 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 validati	EF HDPE (Σ CO2/CH4/N2O)	EF PET (Σ CO2/CH4/N2O)	EF PVC (Σ CO2/CH4/N2O)	EF LDPE (Σ CO2/CH4/N2O)	EF PP (Σ CO2/CH4/N2O)	EF PS (Σ CO2/CH4/N2O)	EF PC/ABS/MDPE (Σ CO2/CH4/N2O)
a	unit	t eCO_2/1'000 Lbs	t eCO_2/1'000 Lbs	t eCO_2/1'000 Lbs	t eCO_2/1'000 Lbs	t eCO_2/1'000 Lbs	t eCO_2/1'000 Lbs	t eCO_2/1'000 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*
d	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
e	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 weighting devices	Calibrated weighting devices	Calibrated weighting devices	Calibrated weighting devices	Calibrated weighting devices	Calibrated weighting devices	Calibrated weighting 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 weigh	Double check: seller and buyer weigh	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 plasti	Emission avoided with recycled plasti	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 used different fossil combustibles. In such instance, Emission Factors will be defined accordingly.						

Table 8 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 validati	EF Propane (Σ CO_2/CH_4/N_2O)	EF Electricity (Σ CO_2/CH_4/N_2O)
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*
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	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 Equipement
l	Comments	Project Units/PAI using similar technology may used different fossil combustibles. In such instance, Emission Factors will be defined accordingly.	

Table 9 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 validati	EF Oil N°6 (Σ CO2/CH4/N2O)	EF Electricity (Σ $CO_2/CH_4/N_2O$)
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
j	Purpose of data	Baseline scenario for heating building	Baseline/Project scenario for lighting and heating building
k	Calculation method	Oil N°6 Volume consumed	Nominal Electrical Heater installed
l	Comments	Project Units/PAI using similar technology may used different fossil combustibles. In such instance, Emission Factors will be defined accordingly.	

Table 10 Data and Parameter PAI (generic) VIII Fuel Switching

	Generic PAI Reference Number	VIII	VIII	VIII
	Description of Generic PAI	Fuel Switching	Fuel Switching	Fuel Switching
3.1	Data/Parameter available at validati	EF Propane (Σ CO_2/CH_4/N_2O)	EF Oil N° 2 (Σ CO2/CH4/N2O)	EF Electricity (Σ CO_2/CH_4/N_2O)
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 Equipement
l	Comments	Project Units/PAI using similar technology may used different fossil combustibles. In such instance, Emission Factors will be defined accordingly.		

Table 11 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 validati	EF Oil N° 2 (Σ CO2/CH4/N2O)
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 12 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 validati	EF Gaz Nat (Σ CO2/CH4/N2O)	EF Oil N° 2 (Σ CO2/CH4/N2O)	EF Electricity (Σ $CO_2/CH_4/N_2O$)
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.		

5.4 Monitoring Plan

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

Sustainable Community: monitoring

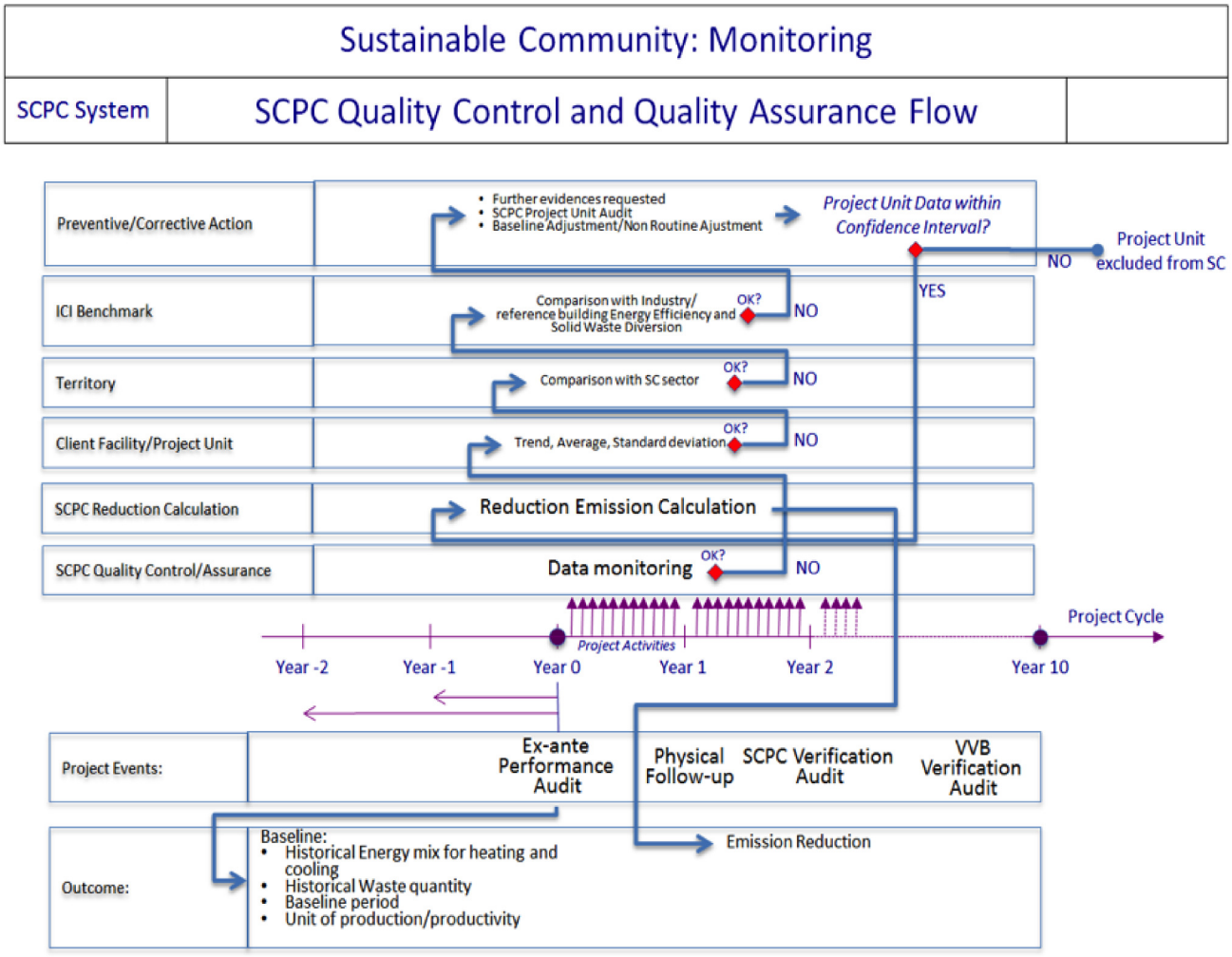
Category	Activity	Measure Option	Baseline Adjustment	Project Parameter	Project Instrument	Project Frequency	Project Incertitude	Project Impact on reduction	Project Adjustment
Fuel switching	Biomass boiler	Option B		Mass of processed biomass	loader bucket	consolidation every week	estimate of the average 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	T° and Debit (Enthalpy)	Thermometer Debitmeter	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: enveloppe 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: enveloppe 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 palettes by reusable carboard palette	Option B		Number of palettes and reusage	Number of travel written on palette/Bill of Lading	Monthly consolidation	wood palette end of life at point of destination	Max: energy subsitution if burn	

*Energy suppliers have to have their debitmeters regusrlay calibrated: th envoice is then based on the calibrated debitmeter reading

In addition a Quality Control of the data will be performed as follows:

- At the time of registration the project unit: a physical audit of the Project Unit premises takes place, and physical evidence necessary to determine the baseline scenario will be 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 evidences of the data entered into the SCPC system;
- Impact of a possibly recurrent 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 course of 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 that potential problems can be escalated, with different level of responsibility of the organization. Should the system require, a recourse/appeal will be set in place.