

Energy Efficiency and Solid Waste Diversion Activities within The Quebec Sustainable Community

MONITORING REPORT



Document prepared by Will Solutions Inc.

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Definitions:

Client Facility	A large range of small companies or business units that contract the Sustainable Community Service Promoter to manage their GHG emitting services. Client Facilities may include commercial, institutional, residential and industrial buildings/facilities including but not limited to warehouses, apartment buildings, hotels, restaurants, educational buildings, shopping malls, food manufacturing plants, chemical manufacturing facilities, and light industrial plants. Client Facilities are typically located in regional or state clusters.
Project Unit	A project activity instance wherein the equipment, processes and facilities are being serviced and impacted by the energy efficiency and waste diversion processing project. The Project Unit must be clearly defined and justified by the project proponent. All non-Project Unit items are covered under the heading of facility operation.
Generic Project Activities Instances	Generic Project Activity Instance whose characteristics have been validated and whose attributes, if met by subsequent PAI, will qualify any further occurrences in the Sustainable Community project.
Project Activities Instances	Further occurrences of a Generic PAI which fulfills all the eligibility criteria defined and therefore is qualified in the Sustainable Community project.

Numbering Convention To facilitate the reading of the document, the following convention has been applied: Generic Project Activity Instance (PAI) is identified by Roman Number (from I to X)



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 document was prepared by Will Solutions Inc. (formerly Gedden) to allow Will Solutions as project proponent (Sustainable Community Service Promoter (SCSP)), to quantify and originate GHG emission **reductions** in conformance with 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 $\leq 25\,000\,tCO_2e$ of GHG emission /year/facility, Small Final Emitters -SFEs), part of the industrial, commercial or institutional (ICI) sector, 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:

- 1. To gradually group together inside a "Sustainable Community within a Territory", up to 10,000 Clients Facilities, located inside the Province of Quebec, that will achieve together a potential 22 852 000 *tCO*₂*e* of GHG emission reductions for the period 2010-2019;
- 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 the internationally recognized voluntary carbon credits market;
- 3. To collect ground data in real time, and consequently, stimulate and enhance Industrial Commercial and Institutional (ICI) facilities for a better sustainable behaviour;
- This approach stimulates and rewards 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 and for increasing energy efficiency in buildings.



Will's Sustainable Community Solution

• At the Sustainable Community Service Promoter (SCSP), the project is implemented since January 1st, 2010. At the Client Facility level, there are different situations: a majority of



Project Units/Project Activity Instances (PAI)/Business Units have adhered to the SC project and running Project Units/PAI. The efforts over the coming months will focus on converting these members and have them to have their Project Units/PAI recorded into the ICT platform. For a portion of Client Facility, PAI are on their way, whether at the conception and development or at early implementation. The Group Approach imposes a progressive phasing of the PAIs, and future monitoring report will account for all the new PAIs which will be integrated to the SC between the time of the first verification and the subsequent ones.

 The total GHG emission reductions for the 74 PAIs actives under the period starting 1er November 2013 up to December 31th, 2015 included in this Monitoring Report are 245 902 tCO₂e. That represents a yearly average of ≈ 1 534 tCO₂e /per PAI.

1.2 Sectoral Scope and Project Type

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

1.3 **Project Proponent**

Organization name	Will Solutions Inc.(WSI)
Contact person	M. Martin Clermont
Title	CEO and carbon expert
Address	Beloeil, Province of Quebec, Canada
Telephone	514-990-2124 ext. 1
Email	mclermont@solutionswill.com

1.4 Other Entities Involved in the Project

Organization name	Certi Conseil Inc.
Role in the project	Special advisor and internal validator as QA/QC of the WSI internal quality program
Contact person	Mr. Christophe Kaestli
Title	Senior Adviser
Address	4124 rue St Hubert, Montréal, QC, Canada
Telephone	514-839-8788
Email	christophe.kaestli@certiconseil.com



1.5 **Project Start Date**

The project starting date is January 1st 2010.

1.6 Project Crediting Period

The project crediting period is 10 years, renewable for 10 years. The starting date is January 1st 2010 and will end December 31rd 2019, renewable for another 10 years.

1.7 **Project Location**

All ICI's Clients 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 Clients Facilities.

The geographical map shown here represents the Province of Quebec and its territory. This 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 8 Clients facilities declared on this monitoring report which are supporting all 74 PAI, are all located inside this polygon. Refer to the Table 2 for the specific geodetic coordinates of each Client Facility, which are also described in Appendix C.



1.8 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 VM00018 in VCS and it was released in 2012.

1.9 **Other Programs**

Not applicable. Will Solutions, the project proponent, does not participate to any other GHG Programs neither regulated nor voluntary; Will Solutions is only active on the VCS program. Will solution, the project proponent, does not participate and does not intend to participate into the Quebec regulated market, as named the SPEDE¹, and neither to the WCI.

The Québec's Cap-and-Trade System for GHG allowances, an Emission Trading System (ETS) will be named in this monitoring report by its French acronym (RSPEDE). Extract from the technical Quebec overview² there is the scope of the RSPEDE:

«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 CO2 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».

«And as of January 1, 2015 (beginning of the second compliance period), any person or municipality that distributes in Québec 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 Québec's GHG emissions».

Furthermore, the project proponent took a conservative approach by excluding all grid electricity claims (scope 2 as defined by energy indirect GHG³) from all the 74 PAI of this Monitoring report, from the period starting January First 2013 up to December 31th, 2015. See more details in appendix A.

1.10 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

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

http://www.mddelcc.gouv.gc.ca/changements/carbone/documents-spede/technical-overview.pdf

Scope 2 are also referred to as Energy Indirect GHG, and are defined as 'emissions from the consumption of purchased electricity, steam, or other sources of energy (e.g. chilled water) generated upstream from the organization'.

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) see more on the following post on LinkedIn: https://www.linkedin.com/pulse/sustainable-community-solution-catalyst-17-sdgs-martin-clermont?published=t

Will Solutions Inc. (WSI), the project proponent, is acting as a social entrepreneur, and its' engagement is to provide the best business solutions and business models that measure the environmental performance of each individual, citizen, company and community and rewards those who are advocate to sustainable development. Will is carbon neutral since 2007 and is committed to return 10% of his net benefit to community projects and initiatives supporting sustainable development. WSI is convinced that this action matches circular and positive economy concepts.

2 IMPLEMENTATION STATUS

2.1 Implementation Status of the Project Activity

The project activity includes a total of 9 Generic PAI types. These Generic PAI types allow for the additionality analysis of the new PAIs of this monitoring report, which are described for each of the 8 Client's facilities in the Table 2. The 8 client facilities and 74 specific PAIs fall into one or more of these 9 Generic PAIs. These Generic PAI types are as follows:

Table 1:

Generic PAI Reference Number					
	Generic PAI (no new Generic PAI on this second monitoring report)	Generic PAI EE	Generic PAI WM		
	Biomass Energy Project	v			
Ш	Methane Emission Avoidance		v		
Ш	Torrified Biomass Combustible		v		
IV	Saving Energy on Recycling Activities	v			
V	Heat Recovery	v			
VI					
VII	Energy Efficiency Demand Side	٧			
VIII	Fuel Switching	٧			
IX	Energy Conservation	٧			
х	Energy efficiency demand side New buildings/major renovations	٧			
	Total	7	2		

2.2 **Deviations**

2.2.1 Methodology Deviations

There is no deviation to methodology.

2.2.2 **Project Description Deviations**

There is no deviation to the project description (PD). The definition of the scope of SPEDE, and its phase 1 and 2 are explained in the section 1.9 and in the Appendix A

2.3 Grouped Project

There were a number of new additions to the Generic PAIs in the SC project. **The Table 2** lists the new occurrences and confirms the eligibility of each additional PAI.

- The additionally, at the project proponent level, was demonstrated, at the satisfaction of the VVB, as per, namely, *Combined tool to identify the baseline scenario and demonstrate additionality* (Version 05.0.0 of the CMD) as requested by the VM0018. The group project (cluster) is additional and is still be a first of its kind, around the world. In addition, as per CDM, Combined Tool to Identify the Baseline Scenario and Demonstrate Additionality and validated by the VVB in July 2013, the additionality of every Generic PAI has been demonstrated and approved. Furthermore, without cost' sharing regrouping all Clients facilities and without the Business model of the project proponent, it will be definitively impossible to bring any of their eligible GHG emission reductions to voluntary market. It is simply not affordable to consider going Client facilities individually for each of their different PAI.
- Each individual PAI, once found eligible is associated to the relevant Generic PAIs: the project proponent has established a list of 10 generic PAI, which were validated by the VVB in the first monitoring report of February 2014, to classified activities. These Generic PAI cover the different micro project (PAI) which Will (project proponent) wants to make adhere to its Sustainable Community Project. The Generic Projects Activity Instance (PAI) have processes/outcomes which overpass business as usual (BAU) practices and defines more efficient ways compared to common practices. On this basis, and as per CMD additionality guideline, the VVB has confirmed the additionality of each Generic PAI. Any new PAI, regrouped in the Sustainable Community group project method is recognized to be additional if it meets the eligibility criteria.

Table 2: Sustainable Community new PAI: Classification and Eligibility

								First November 201	3 up to Decen	nber 31 th 2015
				New PAI: C	lassificati	ion, Eligi	bility and	attributes Compl	iance	
Client Facility; and their geodetic coordinates		New PAI	New PAI in EE	New PAI in WM	Located inside the Quebec territory	Be quantified after January First 2010	Be registered member of the SCSP project	Having a similar or using a similar technologies or measures as the Generic PAI based on scope 3 and 13	Be auditable and verifiable	Project Unit GHG reduction are inferior to 5 000 MT eCO ₂ /year
1	Boisaco; 48.283884, -69.887991	3	2	1	\checkmark	\checkmark	\checkmark	Generic PAI I, II and III	\checkmark	\checkmark
2	Gazon Savard; 48.365358, -71.139104	48	0	48	\checkmark	\checkmark	\checkmark	Generic PAI II	\checkmark	\checkmark
3	Récupère Sol: 48.552387, -71.287180	11	10	1	\checkmark	\checkmark	\checkmark	Generic PAI II and IV	\checkmark	\checkmark
4	Église Notre Dame de Laterrière: 48.308576, -71.108999	1	1	0	\checkmark	\checkmark	\checkmark	Generic PAI VIII	\checkmark	\checkmark
5	70.585430	2	2	0	\checkmark	\checkmark	\checkmark	Generic PAI VIII	\checkmark	\checkmark
6	Eternel Spa; 48.660964, -70.898466	3	2	1	\checkmark	\checkmark	\checkmark	Generic PAI IV and II	\checkmark	\checkmark
7	Pépinière Boucher: 48.585002, -71.357081	1	1	0	\checkmark	\checkmark	\checkmark	Generic PAI VIII	\checkmark	\checkmark
8	Clinique Montfort: 48.414958, -71.237720	1	1	0	\checkmark	\checkmark	\checkmark	Generic PAI VIII and X	\checkmark	\checkmark
							 V V V V X X	Generic PAI Le Biomass Energy Proje Methane Emission Avo Torrified Biomass Con Saving Energy on Rec Heat Recovery Energy Efficiency Den Fuel Switching Energy Conservation I Energy efficiency dem New buildings/major re	exique ct pidance hbustible cycling nand Side Demand and side enovations	
	Total Nber of new PAI	70	19	51						
PAI a	ready declared in the past verification	4	3	1	All from Boisaco					
	Total	74	22	52						

2.4 Safeguards

2.4.1 No Net Harm

Will Solution Inc. (WSI) as project proponent, is not in charge of doing or realizing any physical sustainable project activity instances (PAI) of its members. At the contrary, WSI is mutualizing all the GHG eligible reductions efforts done by each the members of its Sustainable Community project in view 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.

WSI is carefully selecting each project activity instance (PAI) of all new members of SC, which have to respect any environmental regulations. Regrouping all these eligible PAI, mainly on remote area, the SC project is then creating strong benefit socio-economic impacts by *rewarding* economically SME projects directly as well as municipalities focused on Sustainable Development (SD).



2.4.2 Local Stakeholder Consultation

The project got all local and regional stakeholders support required to the Project as mentioned into the Project Document already validated. Furthermore WSI as project proponent continues to adhere new community supports, including NGOs, such as the <u>Reseau SADC</u>, having mission to facilitate microfinance to small and medium entreprises (SME) and municipalities in remote area and recruiting their customer (more than 10 000 SME and municipalities), as new member of the Sustainable Community project.

Knowing directly their customer and their sustainable projects (on energy consumption and waste diversion), they facilitate their recruitment as new member of the Sustainable Community project and in particular to the one having a sensibility to act now on sustainable development. To see more information about the Reseau SADC: <u>http://www.sadc-cae.ca/index.php/en/the-reseau/mission.html</u>. Several post are available on SME impact are available on the LinkedIn account of the project proponent <u>https://www.linkedin.com/company/will-solutions</u>

3 DATA AND PARAMETERS

The Data and Parameters of the SC available at the time of verification have been organized at 2 levels:

- At the Generic PAIs, at a high level
- For each Generic PAI, as it is registered in the ICT platform. The Table 3 presents the 9 Generic PAIs used by the Project proponent

	Generic PAI validated in the first Monitoring report	Generic PAI EE	Generic PAI WM
I	Biomass Energy Project	V	
П	Methane Emission Avoidance		v
Ш	Torrified Biomass Combustible		v
	Saving Energy on Recycling	N	
IV	Activities	v	
v	Heat Recovery	v	
VI			
VII	Energy Efficiency Demand Side	v	
VIII	Fuel Switching	v	
IX	Energy Conservation	V	
х	Energy efficiency demand side New buildings/major renovations	٧	

Table 3 List of Generic PAI

Generic PAls

3.1 Data and Parameters Available at Validation

The hereafter parameters are those of the SC project.

Parameter:	EF Thermal Energy _{CO2e}
Data unit:	Kg CO₂e 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 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 C.
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 ₂ O 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 C.
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 C
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 C.
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 C.
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 C.
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 project 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 C.
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:	<i>k</i> 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 C.
Purpose of the data	 The MCF factor is used for: The Calculation of baseline emissions The Calculation of project emissions
Comments	-

3.2 Data and Parameters Monitored

Here are the Data and Parameters monitored.

Data Unit / Parameter:	Volume or Quantity of Fuel
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	The Bill of Lading and the Invoice of each Fuel delivery is
methods and procedures to be	consolidated. End of period residual fuel volume evaluation
applied:	could be estimated.
Frequency of	At each delivery, or a monthly basis, the volume or quantity
monitoring/recording:	of Fuel is measured and recorder. Evidences will be
	recorded on Bill of Lading and Invoices.
Value applied:	-

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 gaz 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 avidance
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.
Any comment:	

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	The Bill of Lading and the Invoice of each Fuel delivery is
methods and procedures to be	The amount of electricity consumed from the grid is
applied:	determined by the Hydro-Québec calibrated kWh meter
Frequency of	Monthly or bi monthly, with consumption statement.
monitoring/recording:	Evidences will be recorded on Invoices.
Value applied:	-
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	The SPSC system applies the following QC/QA
applied:	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.
Any comment:	

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	At each shipment or a monthly basis.
monitoring/recording:	Evidences will be recorded on Invoices.
Value applied:	-
Monitoring equipment:	The monitoring equipment includes:Weighting balance.
QA/QC procedures to be	The SPSC system applies the following QC/QA
applied.	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
	related evidence.
Calculation method:	Waste weight could be expressed in other than SI units,
	such SI, Lbs: conversion is made to have waste weight
	expressed in Kg or Wit.
Any comment:	



All monitored data used to quantify the eligible GHG emissions reductions for each PAI in this monitoring report were supported by evidence, available to the VVB. A technical data sheet for each Clients facility listed in this monitoring report (Table 2) 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 here below tables:

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

Data and Parameters: Generic PAI I Biomass Energy Project

	Generic PAI Reference Number			1	
	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 ₂ O)	EF Butane (Σ CO ₂ /CH ₄ /N ₂ O)	EF Diesel ($\Sigma CO_2/CH_4/N_2O$)	EF Electricity (Σ CO ₂ /CH ₄ /N ₂ 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	r 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
	Comments	Project Units/PAI using simila	r technology may used different fossil com	bustibles. In such instance, Emission Fa	actors will be defined accordingly.

3.2.2 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 ($\Sigma CO_2/CH_4/N_2O$)
а	unit	t eCO ₂ /MT
		Combined Emission Factor for Fraction of
b	Description	Degradable organic Carbon (by weight)
С	Source of data	IPCC, Environment Canada, AEE
d	Value applied	0,0616
d	Description of measurement	IPCC-UNFFCC / Env. Canada / AEE
0	Purpose of data	Parameters for Baseline and Project Em
32	Data/Parameter monitored	raranelers for Baseline and Project Em.
5.2	Data/1 arameter monitored	Volume of Riomage
a	Option A or Option R Magguromont	Option A
	Source/Sink identification	BZ
h		+
0	Description	llsed in Biomass Furnace
о 4	Source of data	Number of Loads
u		
е	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 used different tossil combustibles. In
		such instance, Emission Factors will be
	Comments	defined accordingly.

Data and Parameters: Generic PAI II Methane Avoidance Emission

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

being implemented, but not yet operational: for information only

	Generic PAI Reference Number	Ш
	Description of Generic PAI	Torrefied Biomass Combustible
3.1	Data/Parameter available at validati	$EF DOC_{1} (\Sigma CO_{2}/CH_{4}/N_{2}O)$
а	unit	t eCO ₂ /MT
		2
		Combined Emission Factor for Fraction of
b	Description	Degradable organic Carbon (by weight)
С	Source of data	IPCC, Environment Canada, AEE
d	Value applied	0,0616
d	Description of measurement	IPCC-UNFFCC / Env. Canada / AEE
е	Purpose of data	Parameters for Baseline and Project Em.
3.2	Data/Parameter monitored	
а	Data	Volume of Biomass
	Option A or Option B Measurement	Option A
	Source/Sink identification	B7
b	Data Unit	t
С	Description	Used in Biomass Furnace
d	Source of data	Number of Loads
е	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
		Desired the Ite (DAL assisted a similar to show shows
		Project Units/PAI using similar technology
		may used different rossil compustibles. In
	Commonts	defined accordingly
1	Comments	uenneu accorungiy.

Data and Parameters: Generic PAI III Torrefied Biomass Combustible

3.2.4 Table 7 Data and Parameter PAI (generic) IV Saving energy on recycling activities

	Generic PAI Reference Number	IV	IV	IV	IV	IV	IV	IV
						Saving Energy on Recycling	Saving Energy on Recycling	
	Description of Generic PAI	Saving Energy on Recycling Activities	Saving Energy on Recycling Activities	Saving Energy on Recycling Activities	Saving Energy on Recycling Activities	Activities	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)
1	aunit	t eCO ₂ /1'000 Lbs	t eCO2/11000 Lbs	t eCO2/11000 Lbs	t eCO2/1'000 Lbs	t eCO2/1000 Lbs	t eCO2/11000 Lbs	t eCO2/11000 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 Ernission.
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
1	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 weig	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 plast	Emission avoided with recycled plast	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
	I Comments		Project L	hits/PAI using similar technology may u	sed different fossil combustibles. In such instand	e, Emission Factors will be defined ac	cordingly.	

Data and Parameters: Generic PAI IV Saving Energy on Recycling Activities

3.2.5 Table 8 Data and Parameter PAI (generic) V Heat Recovery

Data and Parameters: Generic PAI V Heat Recovery

	0 · 5···5 / · · ·		
	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 ₂ O)	EF Electricity ($\Sigma CO_2/CH_4/N_2O$)
а	unit	t eCO ₂ /L	t eCO ₂ /kWh
b	Description	Combined Emission Factor for Propane	Emission Factor for Electricity
С	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
е	Purpose of data	Parameters for Baseline and Project Em.	Parameters for Project Emission
3.2	Data/Parameter monitored		
а	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
с	Description	Used for Heating buildings	Used for Heating buildings
d	Source of data	Meter from distributor	Meter from HydroQuebec
е	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
		Project Units/PAI using similar technology m	nay used different fossil combustibles. In
I	Comments	such instance, Emission Factors	will be defined accordingly.

3.2.6 Table 9 Data and Parameter PAI (generic) VII Energy Efficiency Demand Side

Data and Parameters: Generic PAI 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 ($\Sigma CO_2/CH_4/N_2O$)
а	unit	t eCO ₂ /L	t eCO ₂ /kWh
b	Description	Combined Emission Factor for Oil N°6	Emission Factor for Electricity
с	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		
а	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
С	Description	Used in Furnace to heat building	Used to heat building
d	Source of data	Meter from distributor	Meter from HydroQuebec
е	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
J	Purpose of data	Baseline scenario for heating building	heating building
k	Calculation method	UII N°6 Volume consumed	Nominal Electrical Heater Installed
		Project Units/PAI using similar technology m	nay used different fossil combustibles. In
	Comments	such instance, Emission Factors	s will be defined accordingly.

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

Data and Parameters:	Generic PAI	VIII Fuel	Switching
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	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 ($\Sigma CO_2/CH_4/N_2O$)	EF Oil N° 2 (Σ CO2/CH4/N2O)	EF Electricity (Σ CO ₂ /CH ₄ /N ₂ O)
а	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
с	Source of data	IPCC, Environment Canada, AEE	IPCC, Environment Canada, AEE	AEE
d	Value applied	0,001544	0,002734	0,000003
				Official Emission Factors
d	Description of measurement	IPCC-UNFFCC / Env. Canada / AEE	IPCC-UNFFCC / Env. Canada / AEE	Determination
е	Purpose of data	Parameters for Baseline and Project Em.	Parameters for Baseline and Project Em.	Parameters for Project Emission
3.2	Data/Parameter monitored			
а	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
С	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
е	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
			Baseline/Project scenario for heating	Baseline/Project scenario for heating
j	Purpose of data	Baseline/Project scenario for heating building	building	building
Ŀ	Coloulation mathead			Nominal Electrical Lighting and
к	Calculation method			
		Project Units/PAI using similar technology m	ay used different fossil combustibles. In su	ich instance, Emission Factors will be
	Comments		defined accordingly.	

3.2.8 Table 11 Data and Parameter PAI (generic) IX Energy conservation

Data and Parameters: Generic PAI 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)
а	unit	t eCO ₂ /L
b	Description	Combined Emission Factor for Oil N° 2
с	Source of data	IPCC, Environment Canada, AEE
d	Value applied	0,000822
d	Description of measurement	IPCC-UNFFCC / Env. Canada / AEE
е	Purpose of data	Parameters for Baseline and Project Em.
3.2	Data/Parameter monitored	
а	Data	Oil N°2
	Option A or Option B Measurement	Option A
	Source/Sink identification	P7
b	Data Unit	L
С	Description	Avoided emissions from Oil N° 2 extraction
d	Source of data	Volume of Oil N° 2 recovered
е	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
	Comments	Project Units/PAI using similar technology may used different fossil combustibles. In such instance, Emission Factors will be defined accordingly

3.2.9 Table 12 Data and Parameter PAI (generic) X Energy Efficiency Demand side: New buildings conservation

Data and Parameters: Generic PAI X Energy Efficiency Demand Side: New Buildings

	Generic PAI Reference Number	Х	Х	Х
		Energy Efficiency Demand Side: new	Energy Efficiency Demand Side: new	Energy Efficiency Demand Side: new
	Description of Generic PAI	buildings	buildings	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 ($\Sigma CO_2/CH_4/N_2O$)
а	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
С	Source of data	IPCC, Environment Canada, AEE	IPCC, Environment Canada, AEE	AEE
d	Value applied	0,001902	0,002734	0,000003
				Official Emission Factors
d	Description of measurement	IPCC-UNFFCC / Env. Canada / AEE	IPCC-UNFFCC / Env. Canada / AEE	Determination
е	Purpose of data	Parameters for Baseline and Project Em.	Parameters for Baseline and Project Em.	Parameters for Project Emission
3.2	Data/Parameter monitored			
а	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
С	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
е	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
				Baseline/Project scenario for lighting
j	Purpose of data	Project scenario for heating the building	Baseline scenario for heating building	and heating
				Nominal Aggregate Electrical Motor
k	Calculation method	Gaz Nat Volume consumed	Oil N°2 Volume consumed	installed
	Comments	sed different fossil combustibles. In such insta	nce, Emission Factors will be defined acco	rdingly.

3.3 Monitoring Plan

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

			Sustaine	able Comm	unity: moni ⁻	toring			
			Baseline			Pro	ject		
Category	Activity	Measure Option	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	T ⁺ and Debit (Enthalpy)	Thermometer Debit meter	continuous	negligible æ 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	
	Energy Efficiency: building heating	Option A	Unit of productivity	Volume of fuel	Volume/Quantity on invoice*	continuous	negligible as measure devices	none	Commercial building: unit of
	Energy Efficiency: building HVAC	Option A/Option B	Unit of productivity	Volume of fuel/en ergy	Volume/Quantity on invoice*	continuous	calibrated negligible as measure devices calibrated	none	productwity Commercial building: unit of productivity
	Energy Efficiency: enveloppe enhancement	Option A	Unit of productivity	Volume of fuel/en ergy	Volume/Quantity on invoice*	continuous	negligible as measure devices calibrated	none	commercial building: unit of productivity
	Energy Efficiency: ervelop pe enhan cement	Option B	Unit of productivity	Volume of fuel	Volume/Quantity on Involce [®] 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	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	

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.



Quantification of GHG Emission Reductions and Removals

3.4 **Baseline Emissions**

The baseline emissions (BE_v 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.

- BΕ_v FF_{BL} * **EF**₃ (sectoral scope 3) =
- BE WS_{BL} * EF₁₃ (sectoral scope 13) =
- FF_{BL.v} = Volume of fossil fuel
- WS_{BL,y =} Volume of waste stream
- EF₃ CO₂e emission factor of the fossil fuel
- EF₁₃ CO₂e emission factor of the waste stream and taking into account the different _ management scenario, at landfill, regarding the flaring or no flaring of the methane (biogas) and/or its use or not for energy recovery.

For this second monitoring report, each Client Facility members of the Sustainable Community projects have a specific data sheet for their quantification of each of their eligible PAI and is available in Appendix C. On this specific data sheet, and for each PAI involved on this report, the specific BE, EF and their calculations are detailed by vintage. Relevant information's, to complement these calculations, are available when applying in this specific data sheet.

A summarized data sheet regrouped the summation of all their baseline emissions of GHG per Client facility and is available in Appendix B.

3.5 **Project Emissions**

The Project Emissions (PE_v, 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 PE _y	= =	FF _P * EF ₃ (sectoral scope 3) WS _P * EF ₁₃ (sectoral scope 13)				
FF _{P,y}	=	Volume of fossil fuel				
WS _{P,y}	=	Volume of waste stream				
EF ₃	=	CO ₂ e emission factor of the fossil fuel				
EF ₁₃	=	CO ₂ e emission factor of the waste stream and taking into account the different management scenario, at landfill, regarding the flaring or no flaring of the methane (biogas) and/or its use or not for energy recovery.				

For this second monitoring report, each Client Facility members of the Sustainable Community projects have a specific data sheet for their quantification of each of their eligible PAI and is available in Appendix C. On this specific data sheet, and for each PAI involved on this report, the



specific PE, EF and their calculations are detailed by vintage. Relevant information's, to complement these calculations, are available when applying in this specific data sheet.

A summarized data sheet regrouped the summation of all their projects emissions of GHG per client facility and is available in Appendix B.

3.6 Leakage

At Project Unit level, the leakage, during period November First 2013 – December 31th, 2015, is de minimus, thus LEy=0.

3.7 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	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions (tCO ₂ e)
2013	39 957	2 254	de minimus	37 704
2014	147 586	4 384	de minimus	143 202
2015	69 355	4 359	de minimus	64 996
Total 2013-2015	256 899	10 997	de minimus	245 902

Notes:

The 64 996 tCO₂e representing the net GHG emission reduction of the year 2015 and written in the top Table included the net GHG emissions reductions (all from sectorial scope 3) realized after January First, 2015 which were realized under the Quebec phase II regulated carbon market, the RSPEDE. The amount of the net GHG emissions reductions from sectorial scope 3 and realized after January First, 2015 represents 14 688 tCO₂e. Therefore the vintage 2015 emission reduction (ER) subtracted of 14 688 tCO₂e is equal to 50 308 tCO₂e, as described in the following equation (64 996 – 14 688 = 50 308 tCO₂e). See more detail on the Appendix A.

The breakdown of GHG reductions per group of PAI for each client's facility is described in the below Pivot Table.

VCS

				in tCO2e		
Clients Facilities	ΡΑΙ	Sectoral Scope 3	Sectoral scope 13	Year 2013	Year 2014	Year 2015
Boisaco	1 to 3	V		553	3 234	4 137
	4 to 5		V	292	2 120	2 135
	6 and 7	V		29	848	679
Clinique Montfort	1	V		1	8	8
Eternel Spa	1 - 2	V		61	224	224
	3		V	0	3	3
Pourvoirie Wapishish	1-2	V		42	76	94
Église N.D. Laterrière	1	V		0	29	56
Pépinière Boucher	1	V		0	0	21
Récupersol	1 - 10	V		9 562	9 239	9 470
	11		V	6	116	104
Gazon Savard	48		V	27 157	127 305	48 065
			Total	37 704	143 202	64 996

Pivot Table: breakdown of the GHG reduction per PAI (regrouped in sectoral scope) and vintage. *November first 2013 up to the end of 2015*

A breakdown of the GHG for each client facilities are available in Appendix B.

The breakdown for each PAI are listed on each data sheet of the Appendix C.

The net GHG emissions reductions quantified, from the period January 1^{st} 2010 up to October 31^{th} 2013, were realized under the validate project document at the time the VCS program did not have in place a disposition regarding overlapping period for monitoring reports as described in its version v3.4, issued on October 8^{th} 2013, in the section 3.16.7 of its program. The amount of these verified GHG's reductions represents 269 735 tCO₂e. This amount is excluded of this monitoring report. See more detail on the Appendix D.

APPENDIX A: THE ENERGY EFFICIENCY GHG REDUCTION, QUANTIFIED AFTER 1^{ER} JANUARY 2015

The project proponent, WILL Solutions Inc. (WSI), already recognized that there might be a double counting issue for the quantification for the period effective after January 1, 2015 from all PAI, associated with the sectorial scope 3. The net GHG emission reductions (tCO2e) involves by this possible double counting in this monitoring report is limited to the period of 2015 and for all PAI classified in the sectoral scope 3 and represents a volume of 14 688 tCO2e. WSI, is still working, with the support of all the Sustainable Community members, to collaborate to settle this issue for the benefit of all Quebec' stakeholders in view of an inclusive social acceptance⁴.

A practical solution, simple and respecting at 100% the integrity of the RSPEDE⁵ and assessing the double counting issue, validated at international level, was already submitted, as a white paper analysis and document by the project proponent WSI⁶, in March 2015 to the high level of the MDDELCC administration which has the full authority in this matter. WSI is pursuing its discussions with the MDDELCC to address this matter.

WSI recognize that the market floor unit price of the MDDELCC established at 12.73 \$US at the last public WCI auction held in November 2016⁷ is very below the carbon social cost used by USEPA, which as of 2015 was rated at 36\$US/ tCO2e⁸. Furthermore, the ownership of all GHG emission and the GHG reductions are still in the hand of all non-regulated entities and the question regarding this ownership raises a certain number of issues⁹.

The Québec's Cap-and-Trade System for GHG allowances, an Emission Trading System (ETS) will be named in this monitoring report by its French acronym (RSPEDE). Extract from the technical Quebec overview¹⁰ there is the scope of the RSPEDE:

«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 CO2 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

⁴ Page 17, section about issues require particular attention <u>http://www.vgq.gouv.qc.ca/en/en_publications/en_rapport-annuel/en_fichiers/en_Rapport2016-2017-CDD.pdf</u>

⁵ <u>http://www.mddelcc.gouv.qc.ca/changements/carbone/documents-spede/in-brief.pdf</u>

⁶ Page 23 of this WSI's white paper http://www.solutionswill.com/sites/default/files/u51/memoire_commission_robillard_vfinal.pdf

⁷ <u>http://www.mddelcc.gouv.qc.ca/changements/carbone/revenus-en.htm</u>

⁸ https://www.whitehouse.gov/blog/2015/07/02/estimating-benefits-carbon-dioxide-emissions-reductions

⁹ Page 17, section about issues require particular attention <u>http://www.vgq.gouv.qc.ca/en/en_publications/en_rapport-annuel/en_fichiers/en_Rapport2016-2017-CDD.pdf</u>

¹⁰ Technical Overview of the Québec's Cap-and-Trade, page 7.

http://www.mddelcc.gouv.qc.ca/changements/carbone/documents-spede/technical-overview.pdf v3.4



C&T system». «And as of January 1, 2015 (beginning of the second compliance period), any person or municipality that distributes in Québec 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 Québec's GHG emissions».

The project proponent declared no double counting issue for the quantification of the period effective after January 1, 2013 to December 31th, 2014 from all 74 PAIs, associated to the 8 Clients Facilities and quantified in this report, The 8 Clients Facilities are not included in the Quebec authority list of facilities subject to the RSPEDE <u>http://www.mddelcc.gouv.qc.ca/changements/carbone/couverture-emissions/Rapport-conformite2014.pdf.</u>

The project proponent, WILL, already recognized that there might be a double counting issue for the quantification for the period effective after January 1, 2015 from all PAI, associated with the sectorial scope 3. The following Table 1 described the exposure to a potential double counting issue per PAIs for each Client facilities and their PAI associated to sectoral scope 3.

	2015: GHG reductions by PAI for each Client facilitiy with potential double counting issue					
GHG reductions detailed by PAI for each Client facility	PAI involved in switch fuel	tCO ₂ e (Switch fuel)	PAI involved with Energy Efficiency projects	tCO2e (Energy Efficiency)	Total PAI	Total tCO ₂ e
Boisaco PAI 1	1	1 378,9	0	0	1	1 379
Boisaco PAI 2	1	1 378,9	0	0	2	1 379
Boisaco PAI 3	1	1 378,9	0	0	3	1 379
Boisaco PAI 6	1	467,3	0	0	4	467
Boisaco PAI 7	1	212,0	0	0	5	212
Clinique Montfort PAI 1	1	7,5	0	0	6	8
Eternel Spa PAI 1	1	24,3	0	0	7	24
Eternel Spa PAI 2	1	199,5	0	0	8	200
Pourvoirie Wapishish PAI 1	1	28,4	0	0	9	28
Pourvoirie Wapishish PAI 2	1	65,6	0	0	10	66
Eglise N.D. Latetérière	1	55,7	0	0	11	56
Pépinière Boucher	1	20,8	0	0	12	21
Recupersol PAI 1	0	0	1	0	13	0
Recupersol PAI 2	0	0	1	5 884	14	5 884
Recupersol PAI 3	0	0	1	0	15	0
Recupersol PAI 4	0	0	1	894	16	894
Recupersol PAI 5	0	0	1	0	17	0
Recupersol PAI 6	0	0	1	0	18	0
Recupersol PAI 7	0	0	1	0	19	0
Recupersol PAI 8	0	0	1	2 692	20	2 692
Recupersol PAI 9	0	0	1	0	21	0
Recupersol PAI 10	0	0	1	0	22	0
Gazon Savard	0	0	0	0	0	0
Total	12	5 218	10	9 470	22	14 688

Table 1 Appendix A: list of GHG emission reductions quantified /PAI for each Client facility in this monitoring report and under a potential double counting issue



Furthermore, The project proponent took a conservative approach by excluding all grid electricity claims (scope 2 as defined by energy indirect GHG¹¹) from all the 74 PAI of this Monitoring report, from the period starting January First 2013 up to December 31th, 2015. The following Table 2 described the GHG reductions declared in the monitoring report and associated to all grid electricity claims.

Table 2 Appendix A: list of GHG emission reductions /Client facility in this monitoring report associated to all grid electricity claims.

	2013	2014	2015	
Client facilities	GHG emissions reductions associated to scope 2: the electricity from grid	GHG emissions reductions associated to scope 2: the electricity from grid	GHG emissions reductions associated to scope 2: the electricity from grid	
Boisaco	0	0	0	
Clinique Montfort	0	0	0	
Éternel Spa	0	0	0	
Pourvoirie Wapishish	0	0	0	
Église N.D. Latetérière	0	0	0	
Pépinière Boucher	0	0	0	
Recupersol	Recupersol 0		0	
Gazon Savard	0	0	0	
Total	0	0	0	

N.B. The emission factor (EF) associated with the electricity grid, in the Québec territory, is 2,04 grams of CO_2e / kilowatt-hour. To pretend to claim a GHG reductions a PAI should generate a yearly electric consumption variation of > 490 000 kWh.

¹¹ Scope 2 is also referred to as Energy Indirect GHG, and is defined as 'emissions from the consumption of purchased electricity, steam, or other sources of energy (e.g. chilled water) generated upstream from the organization'._______v3.4

APPENDIX B: QUANTIFICATIONS OF THE BASELINE, PROJECTS AND TOTAL GHG REDUCTIONS

A summarized data sheet regrouped the summation of all the yearly eligible baseline and projects GHG emissions per Client facility participant to this monitoring report and is available in this Appendix B.

APPENDIX C: CLIENTS FACILITIES TECHNICAL DATA SHEET

An individual technical data sheet per Client Facility regrouped the summation of all the yearly baseline and projects GHG emissions of all PAI eligible and is available in this Appendix C.



APPENDIX D: VERIFIED GHG REDUCTIONS PERIOD JANUARY 1ST 2010 UP TO OCTOBER 31TH 2013

The project proponent, WILL Solutions Inc. (WSI), asked to the VVB to verify in its mandate the net GHG emissions reductions quantified, from the period January 1st 2010 up to October 31th 2013. These nets GHG emissions reductions were realized under the validated project document at the time the VCS program did not have in place a disposition regarding overlapping period for monitoring reports as described in its version v3.4, issued on October 8th 2013 in the section 3.16.7 of its VCS program. The amount of these verified GHG's reductions represents 269 735 tCO₂e. <u>This amount is excluded of this present monitoring report</u>.

See the yearly breakdown on this amount in the below table. More information is available in the following pages of this Appendix.

Table 1 Appendix D: list of GHG emission reductions quantified from the period January 1st 2010 up to October 31th 2013

year	Baseline emissions (tCO₂e)	Project emissions (tCO2e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions (tCO ₂ e)
2010	28 681	0	de minimus	28 681
2011	40 046	38	de minimus	40 008
2012	123 004	8 355	de minimus	114 648
(Jan- up to Oct 31 th) 2013	87 980	1 583	de minimus	86 398
otal 2010- October 31 th , 2013	279 712	9 977	de minimus	269 735