

Energy Efficiency And Solid Waste Diversion Activities within the Quebec Sustainable Community

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Summary:

Perry Johnson Registrars Carbon Emissions Services, INC (PJRCES) performed the 1st periodic verification of the emission reductions for VCS (Verified Carbon Standard) grouped project titled "Energy Efficiency And Solid Waste Diversion Activities within the Quebec Sustainable Community" (Project I.D. 929) during the selected monitoring period, which ranged from 01 January 2010 to 31 October 2013 for the 43 PAIs identified in the Monitoring Report, version 2.0, dated 03 February 2014...

The Project has been validated by SGS United Kingdom Limited based on the VCS PD version 2.0, dated 5 July 2013 and reported in the validation report version 3. The Project was registered as a VCS project activity on 11 July 2013 under approved VCS Methodology VM0018 version 1.0 "Energy Efficiency and Solid Waste Diversion Activities within a Sustainable Community".

An off-site desk review and an on-site visit have been conducted to verify the data submitted in the monitoring report. PJRCES verified the asserted emission reductions against the approved consolidated baseline methodology VM0018 version 1.0 "Energy Efficiency and Solid Waste Diversion Activities within a Sustainable Community", on the basis of the VCS Validation and Verification Manual, V3.1, 08 October 2013, as well as criteria given to provide for consistent project operations, monitoring and reporting.

Based on the assessment, PJRCES confirms that the Project is implemented as planned and described in the validated VCS PD. The monitoring plan is in compliance with the applied methodology VM0018 version 1.0 "Energy Efficiency and Solid Waste Diversion Activities within a Sustainable Community" and the actual monitoring has been carried out in accordance with the monitoring plan in the validated VCS PD. The monitoring system is fully in place and the emission reductions are calculated without material misstatements. PJRCES is able to certify that the implementation of the project has resulted in GHG emission reductions of **75,675 tCO2** equivalent during this monitoring period.

PJRCES's opinion regarding the reported emission reductions for the given monitoring period is based on the information sought and also reviews of publicly available information where applicable. ISO-14064 guidelines have been applied in principle to assess the key issues like accuracy, completeness and conservativeness of the information. PJRCES's verification/certification of GHG emissions is limited to this information evaluation.

Issuance and utilization of certified GHG-emission reductions is beyond the scope of PJRCES.



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1 INTRODUCTION

1.1 Objective

Will Solutions, Inc. has commissioned PJRCES, Inc to perform the 1st VCS verification of greenhouse gas (GHG) emission reductions of the grouped project activity "Energy Efficiency And Solid Waste Diversion Activities within the Quebec Sustainable Community" (hereafter referred to as "the Project") for the period, which ranged from 01 January 2010 to 31 October 2013. See Table 6 below for specific verification periods for each client facility.

PJRCES, as the verification body (VB) of the Project, has been accredited as a DOE by UNFCCC and also meets the competence requirements as set out in the ISO 14065:2007.

The verification under VCS Standard, version 3.4, 08 October 2013 is the independent *ex-post* quantification and certification of the GHG emission reductions achieved by a project activity which has completed validation under VCS v3 or validated under a VCS approved GHG program.

The objective of this verification is to verify the reported voluntary emission reductions generated by the Project for the 1st verification monitoring period and to confirm that actual monitoring systems and procedures are in compliance with that described in the monitoring plan and the additional requirements stated by the VCS Association (VCSA).

The above work is carried out through an independent assessment and a written assurance is provided on the GHG emission reductions achieved for the period specified.

1.2 Scope and Criteria

The scope of the verification covers independent objective review and *ex-post* determination of the monitored GHG emission reductions by the project activity "Energy Efficiency And Solid Waste Diversion Activities within the Quebec Sustainable Community".

The specific scope of the verification work involves:

- To verify that the project activity is implemented as per the project details of the validated project design document (PD) or the VCS PD.
- To assess whether the emissions reductions determined are in conformance with the monitoring plan of the VCS PD and the approved methodology.
- To express a conclusion whether reported data are accurate, complete, consistent, and transparent with a reasonable level of assurance and free of omission or material error, based on the review of the reported data and emission reduction calculations.



VERIFICATION REPORT: VCS Version 3

The approach adopted by PJRCES verification team is risk-based, drawing on an understanding of the risks associated with reporting of GHG emissions data and the controls in place to mitigate these. Definition of materiality is: 1) Any misstatement greater than 1% of the Project's GHG assertion and 2) qualitative non-conformities with VCS Standard, version 3.4, 08 October 2013 requirements. Qualitative non-conformities with the VCS Standard, the VCS methodology VM0018 version 1.0 "Energy Efficiency And Solid Waste Diversion Activities within a Sustainable Community", and the validated PD are also considered material during the verification process.

The request for issuance of Verified Carbon Units (VCUs), verified and certified by PJRCES, shall be made by the project proponent to the VCS registry in accordance with the most recent version of the VCS Program Guide, VCS Project Registration & Issuance Process. In view of the above, PJRCES's responsibility is limited only to verification and certification of the GHG emission reductions achieved during the specified period.

1.3 Level of Assurance

In line with VCS Standard, version 3.4, 08 October 2013 requirements and as per ISO 14064-3:2006 paragraph A.2.3.2, a "reasonable level of assurance" is defined for the verification of the project.

This implies that, based on the process and procedures conducted, PJRCES confirms that the GHG assertion in the monitoring report:

- is materially correct and is a fair representation of the GHG data and information, and
- is prepared in accordance with VCS requirements, the validated PD and the approved methodology for information pertaining to GHG quantification, monitoring and reporting.

PJRCES has carried out the verification work as per this requirement and has prepared this report to a reasonable level of assurance with a maximum allowable materiality threshold of 1% as outlined in Section 5.3.1 of the VCS Standard, version 3.4, 08 October 2013.

1.4 Summary Description of the Project

TABLE 1					
Title of the Project Activity	Energy Efficiency And Solid Waste Diversion Activities within the Quebec Sustainable Community				
Location of the project activity	Quebec Province, Canada				
Commercial Operation Date	01 January 2010				
Project Participants	Will Solutions, Inc. from Boloeil, Canada				
Baseline and Monitoring	VM0018 version 1.0 "Energy Efficiency And Solid Waste				
methodology:	Diversion Activities within a Sustainable Community"				
VCS Project I.D	929				



Project's crediting period	01 January 2010 to 31 December 2019 (Renewable for another 10 years)
Annual estimated emission reduction. in redistered PD	2,285,200 t CO ₂ e
·····, ···;	
Verification Period covered in	The verification period for this report varies by site and/or
this Report	PAI, but are all between 01 January 2010 to 31 October
	2013. See the Table of Verification Period Status below.
Emission reduction for this	<mark>75,675 t CO₂e</mark>
monitoring period	

As per the registered VCS PD, this grouped project would target a large range of "Client Facilities", all located inside the Province of Quebec, mainly small to medium sized companies, part of the industrial, commercial or institutional sector, and/or property of several and different owners and grouped together inside a "Sustainable Community" or "cluster".

The aggregated GHG emissions from small final emitters (SFE) of GHGs (warehouses, supermarkets, restaurants, shops, governmental and municipal buildings and offices, etc.) would make up a significant component of regional GHG emissions and hence, is a significant opportunity to reduce real GHG emissions. Towards the objective of enabling SFE's participate in offset origination activities, this project, as per VCS rules and regulations has been defined as a "Grouped Project", enabled through Will Solutions proprietary Information and Communication Technology (ICT) as well as the use of an electronic tracking platform.

As a grouped project, energy efficiency and solid waste diversion activities (project activity instances) have been initiated by a Sustainable Community Service Promoter (SCSP) at various client facilities grouped and located inside the Province of Quebec. These project activity instances could be located in residential, commercial, institutional, or industrial buildings/facilities. The SCSP will use a consolidated Information and Communication Technology-enabled data monitoring and collection system to track activity data for the client facilities under the project activity. Even though the activities of Client Facilities vary, energy consumption and waste management practices have been found similar across many businesses and organizations. This project is meant to work with and support the provision of single window reporting and measurement provided by a third party to capture the information required to quantify emissions reductions.

This project has been designed to be simple, yet rigorous to apply, measure, and monitor. The main Project objectives are:

- i. To gradually group together inside a "Sustainable Community or cluster", up to 10,000 Clients Facilities, located inside the Province of Quebec, that will achieve together a potential 22 852 000 tCO₂e of GHG emission reductions for the period 2010-2020;
- 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 the internationally recognized voluntary carbon credits market;
- iii. To collect ground data in real time, and consequently, stimulate and enhance Industrial Commercial and Institutional (ICI) facilities for a better sustainable behaviour;



iv. This approach stimulates and rewards all the small actions carried out by the ICI sites: to divert industrial and commercial waste from landfill, for a more efficient waste recovery and for increasing energy efficiency in buildings.

The Project has already been validated by SGS United Kingdom Limited based on the VCS Project Description (VCS PD) Version 2.0, dated 5 July 2013 and reported in the validation report version 1.0 dated 11 July 2013. The Project was registered as a VCS project activity on 30 July 2013 (Project I.D. 929) under approved VCS methodology VM0018 version 1.0 "Energy Efficiency And Solid Waste Diversion Activities within a Sustainable Community".

The VCS Project start date is 1 January 2010 on which the Project began generating GHG emission reductions.

The monitoring period for the Project under VCS ranges from 01 January 2010 to 31 October 2013. See the Table 5 below for specific monitoring periods for each site and/or PAI. This verification report presents the verification process carried for nine client facilities covering 43 PAIs in two categories i.e. energy efficiency and waste diversion activities. The details regarding the client facilities and PAIs covered are as provided in Table 2 below:



TABLE 2							
S.No.	Client Facility	Energ	y efficiency PAI	Waste Diversion PAI			
		Existing	New (added after the registration of the project activity)	Existing	New (added after the registration of the project activity		
1.	Boisaco	3		1			
2.	Recyc RPM Beauceville	13	1				
3.	Arena Saint -Gedeon	1					
4.	Town Hall Saint - Gedeon	1					
5.	Garage Saint -Gedeon	1					
6.	RPM Environment	1	1				
7.	780 Brewster	1			2		
8.	Recyc PHP		4				
9.	Recyc RPM Saint- Damien		13				
Total	43 PAIs	21	19	1	2		

2 VERIFICATION PROCESS

2.1 Method and Criteria

The Project verification process is based on the VCS Standard, version 3.4, 08 October 2013 and is conducted using standard auditing techniques to assess the correctness of the information provided by the project participants.

For verification of emission reductions, PJRCES's approach involves broadly three steps:

- a) Completeness check and desktop review of the monitoring report;
- b) Onsite inspection and issuance of findings from the audit;
- c) Resolution of the findings and preparation of the verification report.



The prepared report and other supporting documents underwent an internal quality control before being deliverable to the client.

The following team members from PJRCES were involved in these steps:

TABLE 3					
Name	Role	Areas covered			
Zhang Xiaojun Johnsen	Team Leader/Verifier	Supervision of "Desktop review, site visit, interviewing project representatives, issuance and closure of findings, final report and certification preparation."			
Scott Jones	Team Member	"Desktop review, site visit, interviewing project representatives, issuance and closure of findings, final report and certification preparation."			
Anjana Sharma	Independent Technical Reviewer	Technical review			

2.2 Document Review

On receipt of the Monitoring Report from the client, the completeness of information made available as per VCS Standard, Version 3.4, 08 October 2013 requirements was reviewed.

A desktop review was further carried out to assess the following:

- a) The validated VCS PD Version 2.0 dated 5 July 2013 with the monitoring plan;
- b) The VCS Monitoring Report version 1.0 dated 12 November 2013;
- c) The emission reduction calculation spreadsheet.
- d) The VCS validation report version 1.0 dated 11 July 2013.

A complete list of all documents reviewed is attached in Appendix I of this report.

2.3 Interviews

From 25 November 2013 to 27 November 2013, PJRCES performed an on-site visit and interviewed with project stakeholders to confirm selected information and to resolve issues identified in the document review. Prior to that, PJRCES has checked and confirmed that the Project has been listed on the project pipeline dated 24 March 2010 in the VCS project database.



TABLE 4					
Interviewed personnel	Organization	Interview topics			
Martin Clermont	Will Solutions, Inc.(Project Owner)	Project Design and implementationTechnical equipment, calibration and operation			
Christophe Kaestli (Team leader)	Certi Conseil (Project Developer)	 Monitoring Plan and management procedures Monitoring data 			
Tommy Coulombe	RPM - Beauceville	 Data uncertainty and residual risks (QA/QC) Environmental Impacts 			
Nicolas Morel	Boisaco	Compliance with National Laws and Regulations			
Jonathan Gauthier	Boisaco				
Patricia Marchand	Will Solutions (Vice President)				

2.4 Site Inspections

PJRCES carried out the site visit from 25 November 2013 to 27 November 2013, upon the Energy Efficiency And Solid Waste Diversion Activities within the Quebec Sustainable Community Project located within the Province of Quebec, Canada. The details of the personnel interviewed in the site visit have been detailed in section 3.3 above.

During the site visit, PJRCES visited three client facilities along with Will Solution's headquarters (central control for data collection and storage), which altogether accounted for 30 PAIs. The 30 PAIs accounted for approximately 89% of the current emission reductions for this 1st monitoring period. The client facilities were selected based on the following parameters: normal level of sampling (Square root of the number of project activity instances, square root of 43 = 7 PAIs); Recyc RPM locations (St. Damien and Beauceville) were selected due to their combined high level of emission reductions; and the Boisaco location was selected at random by PJRCES. The three client facilities visited comprised a total of 30 PAIs, which was well above the minimum requirement of 7. During the site visits, PJRCES verified the following:

- a) Visual inspection on key physical components and configuration of the operation and monitoring system;
- b) Physical inspection of the equipment, material processed, calibration of scales;
- c) Implementation status of the project, training plan and staff training records;
- d) Production log, including daily operation and maintenance record
- e) Information processes for generating, aggregating and reporting the selected monitored parameters, including, but not limited to production matrices for recycled plastic;
- f) Invoice cross-check information;



- g) Assumption adopted and calculation of the project emission, baseline emission and leakage;
- h) QA/QC procedures.

2.5 Resolution of Findings

Based on the site inspection and review of documents & records, issues that needed correction, further elaboration, researched or added in order that the project activity meets the VCS Standard, version 3.4, 08 October 2013 and can achieve credible emission reductions were identified.

Findings established during the verification can either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified.

A Corrective Action Request (CAR) is raised, if one of the following situations occurs:

- a. Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- b. Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- c. Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;
- d. Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

A Clarification Request (CL) is raised, if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.

A Forward Action Request (FAR) is raised, for actions if the monitoring and reporting require attention and/or adjustment for the next verification period.

To guarantee the transparency of the verification process, the concerns raised are documented with more details in Appendix II of this report.

2.5.1 Forward Action Requests

FAR 1: A more robust QA/QC procedure should be considered for manually entered data.

2.5.2 Eligibility for Validation Activities

Not applicable



3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

Not applicable

3.2 Methodology Deviations

Not applicable

3.3 **Project Description Deviations**

Not applicable

3.4 Grouped Project

Not applicable

4 VERIFICATION FINDINGS

4.1 **Project Implementation Status**

[General]

The Energy Efficiency and Solid Waste Diversion Activities within the Quebec Sustainable Community project document was prepared by Will Solutions Inc. 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).

At the Sustainable Community Service Promoter (SCSP), the project has been implemented since January 1st, 2010. At the time of the project validation, 22 PAIs had been implemented at seven client facilities. These nine client facilities are indicated in Table 5 below. At the time of this verification activity, there have been 21 new PAIs added, 4 at the existing client facilities and 17 at new client facilities. The details of the new PAIs along with their eligibility against the pre-defined eligibility criteria (as defined in VCS PD) has been provided in table 5 below:



TABLE 5										
Client Facility	New PAI	EE PAI	WM PAI	Located In Quebec Province	Impl. After Jan 2010	Added within two years of start date	SCSP project	Generic PAI based on scope 3 and 13	Be auditable and verifiable	GHG reduction inferior to 5 000 MT eCO ₂ /year
PHP Recycling	4	4	0	\checkmark	\checkmark	\checkmark	\checkmark	Generic PAI IV	\checkmark	\checkmark
Recyc RPM, St Damien	13	13	0	\checkmark	\checkmark	\checkmark	\checkmark	Generic PAI IV	\checkmark	\checkmark
780 Brewster	2	0	2	\checkmark	\checkmark	\checkmark	\checkmark	Generic PAI II	\checkmark	\checkmark
Recyc RPM Beauceville	1	1	0	\checkmark	\checkmark	\checkmark	\checkmark	Generic PAI VIII et V	\checkmark	\checkmark
RPM Env. (Blainville)	1	1	0	\checkmark	\checkmark	\checkmark	\checkmark	Generic PAI IV	\checkmark	\checkmark

Table of Verification Period Status for the PAIs covered by this first verification starting on 01 January 2010:

	TABLE 6					
No.	Facilities	Period covered in 2013 for the First Verification				
1	Boisaco	April 2010 to March 2013				
2	Recyc RPM Beauceville	January 2013 to October 2013				
3	Arena Saint -Gedeon	January 2010 to October 2013				
4	Town Hall Saint -Gedeon	January 2010 to September 2013				
5	Garage Saint -Gedeon	January 2010 to September 2013				
6	RPM Environment	September 2013				
7	780 Brewster	September 2013				
8	Recyc PHP	September 2013				
9	Recyc RPM Saint- Damien	October 2013				

Any PAIs added after the registration of the project are confirmed to be eligible against the Sustainable Community Project Units/PAI/BU classification and eligibility requirements Table identified in the "Eligibility New PAI" tab within the Monitoring Report, Version 2.0, dated 03 February 2014.

The total GHG emission reductions for the PAIs (43) included in this verification are **75,675 tCO2e**.



This grouped project is implemented as of the first implementation of the first PAI since 01 January 2010, which was confirmed against the daily operation records by the verification team. The only current Waste Diversion PAIs implemented are Boisaco and 780 Brewster. All the components of the project activity were in place and well operated, and no change to the project design was observed during the site visit. The operation and maintenance records for the three facilities visited have been provided during the site visits. No special event which would affect the monitoring of the project was observed during the given monitoring period.

[Generation system, verified against the registered PD]

As discussed above, PJRCES has performed an on-site visit for a sample project activity instances to verify the real implementation of the Project against the description in its registered VCS PD Version 2.0 dated 05 July 2013, and verified that emission reductions identified in the monitoring calculation spreadsheet for the Energy Efficiency and Solid Waste Diversion Activities within the Quebec Sustainable Community project.

The project boundary has been found to be consistent with that in the registered VCS PD Version 2.0 dated 05 July 2013. As per the registered VCS PD Version 2.0 dated 05 July 2013 and VCS validation report 11 July 2013, a sampling of the sources of GHG emissions attributable to the project activity were verified. The client facilities were selected based on the following parameters: normal level of sampling (Square root of the number of project activity instances, square root of 43 = 7 PAIs); Recyc RPM locations (St. Damien and Beauceville) were selected due to their combined high level of emission reductions; and the Boisaco location was selected at random by PJRCES. The three client facilities visited comprised a total of 30 PAIs, which was well above the minimum requirement of 7.

Details of the three sites visited and their verification details are provided in Table 7 and the section below.

TABLE 7				
Client Facility	Generic PAI EE	Generic PAI WM		
Recyc RPM Beauceville	14	0		
Recyc RPM St. Damien	13	0		
Boisaco	3	1		

RPM Beauceville

[Recyc RPM Beauceville, verified against the registered PD]

As stated in the table above, there are 14 PAIs (energy efficiency) at this client facility. Also as stated above that the facility fully complies with eligibility critera for energy efficiency instances as defind in the applied baseline and monitoring methodology for the project activity (VM0018, version 1). In this respect the facility falls into the category of appliances of industrial processes where the project proponents have

switched from more GHG intensive method to less GHG energy intensive method in its plastic recyscling activities.

Brief description of the energy efficiency activity carried out at this PAI:

The PAI is a new facility on which implementation started on 01 January 2013 and the facility started its plastic recycling plastics operation in April 2013. It consists of shredding recycled plastic. Once shredded, the recylced plastic is sorted by type and baled accordingly. The shredded plastic is then sent to the Recyc RPM St. Damien Facility for further processing. The technical processes involved in the recycling of the plastic is in line with the Epa Warm Model. The technological processes are as follows:

- Electronic and physical sorting of plastic by types: processes are based on plastic properties, such as differentiated density by types and laser light reflexion and diffraction,
- Contamination elimination: processes are based on electromagnetic properties of contaminants and chemical dissolvent to remove labels and inks.
- Plastic reprocessing: processes encompass hot filtering, extrusion, granulation.

This PAI is based on Energy Efficiency on Recycling Activities and the emissions reductions are resulted from the considerably reduced amount of energy required from the technical operations of recycling process. The facility has maximized processes efficiency and energy recovery of all accessories processes, such as sludge treatment, plastic flakes drying, intrants re-usage and/or recycling, such kraft box. In result of maximization of process efficiencies total amount of energy consumed is reduced resulting into low level of emissin reducitons as compared to the previously implemented technology and the process. The amount of emission reductions claimed under the PAI are based on the differennce between the total energy savings acheived trough the energy efficiency measures through technological improvements undertaken in the facility as part of becoming eligible under the VCS project acitivty.

During the on-site visit to the RPM Beauceville facility, it was verified that the site began implemention of the project for this PAI on 01 January 2013. Through the physical onsite visit, it was confirmed that the facility and its plastic recycling operations meet PAI eligibility criteria and the operational specifications of the registered VCS PD Version 2.0, dated 05 July 2013. The eligibility requirements verified on-site were compared against those identified in the "Eligibility New PAI" tab within the Monitoring Report, Version 2, dated 03 February 2014. As per the eligibility requirements, it was confirmed that this PAI meets the eligibility requirements.

The primary parameter monitored and reported is the quantity of plastic recycled via a shredder, which is then separated into the various types of plastics via magnetic and optical sorting.

Onsite scales have been utilized for transfer of recycled plastic from the Beauceville facility to the St. Damien facility.

Recyc RPM St. Damien

[RPM, verified against the registered PD]

This site also has 13 energy efficiency PAIs. As stated above that the facility fully complies with eligibility critera for energy efficiency instances as defind in the applied baseline and monitoring methodology for



the project activity (VM0018, version 1). In this respect the facility falls into the category of appliances of industrial processes where the project proponents have switched from more GHG intensive method to less GHG energy intensive method in its plastic recycling activities.

Brief description of the energy efficiency activity carried out at this PAI:

The PAI has been noted to be transferred from a project activity under another greenhouse gas scheme (CSA Carbon Program), however, it may be noted that the transfer of the facility was subject to meeting the eligibility criteria which was duly confirmed by the PPs and verified by the PJRCES verification team by reviewing the facility background documentation. As part of verifying the eligibility of the facility to the VCS project, it was specifically analysed and reviewed that economic crises of 2008-2009, in particular, significant drop in the price for virgin material, severely damaged the commercial survival of the facility with the risk of closure of operations unless a complete technical overhaul is undertaken with the aim of achieving production improvements and efficiency enhancements. It was noted and verified that such significant level of capital investment in an uncertain economic scenario was not turning out to be commercially viable unless additional revenues were secured from the carbon credits through its inclusion into the VCS project activity. The PPs proceeded to refurbish the St Damien operations in facing the challenge imposed by the virgin material price by undertaking major improvements on the layout of the production process in order to achieve:

- A doubling of the recycled material recovery rate, reaching a whopping 91%;,
- Energy efficiency measures at all level of the operations (dryer energy recovery, cardbox recycling, sludge recovery etc)

Since this introduction of technological measures were of such a magnitude that it qualified the operations of the facility to considered as a fresh start of the activity and thus making it eligible under the VCS project activity.

\The PAI consists of shredding recycled plastic and receiving shredded recycled plastic from Recyc RPM Beauceville. Once shredded, the recylced plastic is then separated into the various types of plastics via magnetic and optical sorting. Sorted plastic is then heated and sent through an extruder to make pellets for manufacturing. The technical processes involved in the recycling of the plastic is in line with the Epa Warm Model. The technological processes are as follows:

- Electronic and physical sorting of plastic by types: processes are based on plastic properties, such as differentiated density by types and laser light reflexion and diffraction,
- Contamination elimination: processes are based on electromagnetic properties of contaminants and chemical dissolvent to remove labels and inks.
- Plastic reprocessing: processes encompass hot filtering, extrusion, granulation.

Further details of the technical processes involved in the St. Damien site are presented in Appendix II of the report.

This PAI is based on Energy Efficiency on Recycling Activities. The facility has maximized processes efficiency and energy recovery of all accessories processes, such sludge treatment, plastic flakes drying, intrants re-usage and/or recycling, such kraft box. Total reductions are based on the difference of



emission factors between processing virgin resin versus recycled plastic. This PAI is based on Energy Efficiency on Recycling Activities. Total reductions are based on the difference of emission factors between processing virgin resin versus recycled plastic

During the on-site visit to the RPM St. Damien facility, it was verified that the site began implemention of the Project on 01 January 2010. Through the physical onsite visit, it was confirmed that the plastic recycling operations meet the same specifications of the registered VCS PD Version 2.0 dated 05 July 2013. Although the facility has been involved in recycling activities since 1989 but the details and scope of its recycling activities are unspecified. From the publicly available information resources it was validated that in response to several policy measures introduced by local government of Quebec relating to waste sector, the company re-designed its business operations with particular focus on recycling of post-consumption plastic waste originating from municipal solid waste. As part of the verification activity and determine the eligibility of the facility to the project activity a review of these policy measures was undertaken by PJRCES. This review highlighted that the policy measures résiduelles 1998-2008" relating to the solid waste management including the MSW. The plan of action was confirmed to be providing policy directions rather being an instructive policy action without any mandatory and/or obligation to the Quebec's municipality to implement solution to divert municipal solid waste from landfill.

It may also be noted that although under the Plan of Action Quebec has the mandate to promote and develop the reduction, the reuse, the recuperation and the recycling of wastes and their valorisation in view of the resources conservation. RQ tried to stimulate the plastic's recycling activities inside the Quebec territory. However, it turned out to be extremely difficult to do so, because the economic instability at worldwide level create a direct and unstable effect on the price of the plastic recycled and jeopardize the viability of recycling plants. In fact almost all of them were not able to recycled plastic waste in Quebec. Hence, the policy and Plan of Action never evolved towards a concrete policy action with mandatory and obligatory requirements for the recycling facilities in the region.

In consideration of the overall policy environment in Quebec and also in result of re-shaping of business operations allowed the <u>Recyc RPM St. Damien</u> owners to design and implement their business operations as a carbon reduction project and was submitted to CSA Carbon Program in 2003 and has been in operations since then.

The eligibility requirements verified on-site were compared against those identified in the "Eligibility New PAI" tab within the Monitoring Report, version 2.0, dated 03 February 2014. As per the eligibility requirements, it was confirmed that this site meets the eligibility requirements.

The primary parameter monitored and reported is the quantity of plastic recycled via a shredder, which is then separated into the various types of plastics via magnetic and optical sorting. Sorted plastic is then heated and sent through an extruder to make pellets for manufacturing.

All outgoing shipments are weighed via an external scale. Scale number A-032, SN: 1625500031 was certified by Measures Canada and expires in August 2014. The scale was also last calibrated by Balance Express on 12 June 2013 and was due for recalibration in December 2013.



<u>Boisaco</u>

[Boisaco, verified against the registered PD]

This client facility covers four PAIs, out of which, one is under the waste diversion category and the other three are energy efficiency.

Brief description of the waste diversion activity carried out at the one WM PAI:

The Boisaco facility processes lumber for commercial use. The bark that is removed from the lumber was previously disposed of in landfills. The project was developed to convert the bark to energy to power two dryers.

Brief description of the energy efficiency activity carried out at the three EE PAI:

The energy efficiency activity takes into account the reduction in consumption of Propane and Butane used at the three on-site dryers due to the use of biomass for heating the three associated furnaces.

During the on-site visit to the Boisaco facility, It was verified that the site began implemention of the four current PAIs in April 2010. Through the physical onsite visit, it was confirmed that the Biomass energy operations meet the same specifications of the registered VCS PD Version 2.0 dated 05 July 2013.

The primary parameter monitored and reported for the WM PAI is the quantity of biomass consumed. The biomass or bark from trees is loaded into the furnace using a front end loader. Each load of biomass is equal to approximately 4,520 kg. There are currently four dryers (Serial # 99241-2 Sechor Mec Dry Kiln located at the furnace location #4 was the newest and only identifiable serial No.) on-site with three of the dryers running off of steam from the biomass and one dryer using propane and butane.

The primary parameter monitored and reported for the EE PAIs is the Propane and Butane consumption, which is monitored by invoices.

[Operation and maintenance of the current monitoring period]

The project was in normal operation as reflected in MR Version 1.0 dated 12 November 2013. There are no events or situations that occurred during this monitoring period which may impact the applicability of the methodology VM0018 Version 1.0.

[Management and QA/QC]

Management and operational system is in place. QA/QC procedures stipulated in the registered VCS PD Version 2.0 dated 05 July 2013 have been followed. Each site is designated with a person who is responsible for collecting their own on-site data. The data is then reviewed for accuracy against typical numbers expected, seasonal conditions, etc. Once reviewed, the data is the sent to Mr. Christophe Kaestli with Certi Conseil, consult of the project developer. Mr. Kaestli is then responsible for collecting the Tracking Platform software. Patricia Marchand, Will Solution's Vice President, is then responsible for maintaining the data within the Tracking Platform software. The staffs were well trained and qualified. During the site visit, PJRCES was able to confirm that data collection and management system were in place and it is effective.

All required equipment and procedures are available and implemented in an appropriate manner. All necessary monitoring instruments are installed. All required instruments including standby and operating procedures for the same have been implemented in an appropriate manner.



4.2 Accuracy of GHG Emission Reduction and Removal Calculations

A total of 43 PAIs at 9 facilities were included in the verification activity. Three PAIs, Boisaco Methane Emission Avoidance (1 PAI) and 780 Brewster WM (2 PAIs), were identified as waste diversion PAIs while the remaining 40 PAIS were identified as Energy Efficiency PAIs.

4.2.1 Energy Efficiency Baseline

Emissions Adjusted Baseline EE = the energy efficient needed to adjust it		ency activities related baseline emissions plus any adjustments to the conditions of the monitoring period	
Emissions Adjusted Baseline EE = Emissions Adjusted Emissions Adjusted U		d Building/System Energ Jnit Operation	y Consumption w/o ECM + EMISSIONS Adjusted Maintenance +
Emissions Adjusted Building Energy Consumption w/o ECM		=	Emissions under SS B7 Adjusted Building/System Energy Consumption (w/o ECMs)
Emission	1S Adjusted Maintenance	=	Emissions under SS B8 Adjusted Maintenance
Emissions	S Adjusted Unit Operation	=	Emissions under SS B9 Adjusted Unit Operation: Biological/Chemical/Mechanical Processes

Baseline Calculation for Boisaco PAI I Biomass Energy Project

2010 Baseline Emissions (BE) = SS B7 + SS B8 + SS B9 SS B7 Butane = ((2,544,334 L * 0.001764 t eCO2/L)*116%) = **5,199 t eCO2** SS B7 Propane = ((65,338 L * 0.001544 t eCO2/L)*116%) + 0 + 0 = **117 t eCO2**

2010 Total BE = (5,199 t eCO2 + 117 t eCO2) + 0 + 0 = 5,316 t eCO2

Based on the above methodology, the entire baseline emissions for all Energy Efficiency PAIs covered under the current verification period have been verified.



4.2.2 Solid Waste Diversion Baseline

Emissions Adjusted Baseline WASTE	= the waste related baseline emissions plus any adjustments needed to adjust it to the conditions of the monitoring period
Emissions Adjusted Baseline WASTE	 Emissions Adjusted Energy Consumption from Waste Processing + Emissions Adjusted Waste Decomposition and Methane Release

Emissions Adjusted Energy Consumption from Waste Processing= Emissions under SS B10 Adjusted Energy Consumption from Waste Processing

Emissions Adjusted Waste Decomposition and Methane Release = Emissions under SS B14 Adjusted Waste Decomposition and Methane Release

Boisaco PAI II Methane Avoidance Emission

= SS B10 + SS B14
= 0 + (7,121 MT * 0.0616 t eCO2/MT)
= 439 t eCO2

Based on the above methodology, the baseline emissions for the Solid Waste Diversion PAI covered under the current verification period has been verified.

4.2.3 Energy Efficiency Project Emission

As per the applied methodology and monitoring parameters for recycling activities the energy savings are based on the acual quanity of plastic material recycled calculated through the weight of the plastic material at the recycling facility. For the calculation of associated emission reductions for differentiate types of plastic the combined emission factors for different plastics recycled (or diversed from landfills) is based on values provided by EPA. Appendix IV as an extract of the monitoring report (Table VII of on page 23) provide the details of the parameters and values of the emission factors, description of sources and details of the measurements.

Emissions Project EE = S	= sum of the energy efficiency related emissions under the project scenario			
Emissions Project EE = E	= Emissions Building/System Energy Consumption with ECM + Emissions Maintenance + Emissions Unit Operation			
Emissions Building Er	ergy Consumption with ECM	=	Emissions under SS P7 Building/System Energy Consumption (with ECMs)	
	Emissions Maintenance	=	Emissions under SS P8 Maintenance	
E	MISSIONS Unit Operation	=	Emissions under SS P9 Unit Operation: Biological/Chemical/Mechanical Processes	



Project Emissions Calculation for Boisaco PAI I Biomass Energy Project

2010 Project Emissions (PE) = SS P7 + SS P8 + SS P9

SS P7 Butane = (504,447 L * 0.001764 t eCO2/L) + 0 + 0

= 890 t eCO2

SS P7 Propane = (14,820.565,338 L * 0.001544 t eCO2/L) + 0 + 0

= 13 t eCO2

SS P8 Diesel = 10,000 L * 0.002789 t eCO2/L

= 28 t eCO2

2010 Total PE = (890 t eCO2 + 13 t eCO2) + 28 t eCO2 + 0= 931 t eCO2

2010 Project Reduction = BE - PE = 5,316 t eCO2 - 931 t eCO2 = 4,385 t eCO2

Based on the above methodology, the entire baseline emissions for all Energy Efficiency PAIs covered under the current verification period have been verified.

4.2.4 Solid Waste Diversion Project Emissions

Emissions Project WASTE = sum of the waste related emissions under the project scenario			
Emissions Project WASTE = Emissions Energy Consumption from Waste Processing + Emissions Waste Decomposition and Methane Release + Emissions Energy Consumed from Alternative Processing of Waste Use + Emissions Process Emissions from Alternative Processing of Waste			
Emissions Energy Consumption from Waste Processing =	Emissions under SS P10 Energy Consumption from Waste Processing		
Emissions Waste Decomposition and Methane Release =	Emissions under SS P14 Waste Decomposition and Methane Release		
Emissions $_{\rm Energy}$ Consumed from alternative processing of waste / use =	Emissions under SS P16 Energy Consumed from alternative processing of waste / use		
Emissions Process Emissions from Alternative Processing of Waste =	Emissions under SS P17 Process Emissions from Alternative Processing of Waste		

Boisaco PAI II Methane Avoidance Project Emission

2010 Project Emissions (PE) = SS B10 + SS B14



= 0 + 0

= 0 t eCO2

2010 Project Reduction = BE - PE = 439 t eCO2 - 0 t eCO2 = 439 t eCO2

Based on the above methodology, the baseline emissions for the Solid Waste Diversion PAI covered under the current verification period has been verified.

4.3 Monitoring Parameters

4.3.1 Energy Efficiency

Data / Parameter	Quantity of Waste - Recyc RPM Beauceville and St. Damien			
Data unit	Kg or MT			
Description	Weight of waste which is diverted from landfill for being			
	recycled, re-use.			
Measured /Calculated	The weight o	of waste is repor	rted on the Bill of Loadir	ig and
/Default:	the Invoice o	f each shipmen	nt.	
Measurement Frequency	At each ship	ment or a mont	hly basis.	
	Evidences w	ill be recorded of	on Invoices.	
QA/QC Procedures	The SPSC system applies the following QC/QA			
calibration	procedures:			
	Data	i comparison wi	ith past performance	
	 Data 	i comparison wi	ith 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. 			
Verification Observations/Assessment	A weigh scale is used to verify weights of outgoing final product. Data are recorded per shipment and aggregated monthly. The weigh scale is calibrated every six months as required.			
	The relevant information of the weigh scale has been shown in the Table below:			
			Final Product scale	
		Scale No.	A-032	
	SN 1625500031			
	Calibration August 2014			
	Due Date August 2014			
	Calibration entity Measures Canada			
	· · · · · · · · · · · · · · · · · · ·			
Conclusions	PJRCES confirmed that:			
	The equipment for monitoring is appropriately certified and			



calibrated and is in accordance with the registered VCS PD Version 2.0 dated 05 July 2013.
• QA/QC procedures have been applied in accordance with the registered VCS PD Version 2.0 dated 05 July 2013.

Data / Parameter	Volume or Quantity of Fuel – Boisaco PAI I		
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.		
Measured /Calculated /Default:	The Bill of Lading and the Invoice of each Fuel delivery is consolidated. End of period residual fuel volume evaluation could be estimated.		
Measurement Frequency	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.		
QA/QC Procedures Applied, including calibration	 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 applied to be a profile at patent devices 		
Verification Observations/Assessment	The invoices reviewed for Propane and Butane deliveries correlate with the calculations conducted by the project proponent.		
Conclusions	 PJRCES confirmed that: The methods for monitoring is appropriate and is in accordance with the registered VCS PD Version 2.0 dated 05 July 2013. QA/QC procedures have been applied in accordance with the registered VCS PD Version 2.0 dated 05 July 2013. 		

4.3.2 Waste Diversion

Data / Parameter	Quantity of Waste - Boisaco PAI II
Data unit	Kg or MT
Description	Weight of biomass which is diverted form landfill for conversion to energy.
Measured /Calculated /Default:	The weekly number of loads delivered to the furnace is reported on the document titled Nombre de Godet pour alimentation des usiness secondaires.



Measurement Frequency	Recorded upon each shipment and aggregated on a weekly basis.		
QA/QC Procedures Applied, including calibration	 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. 		
Verification Observations/Assessment	Weekly aggregate of number of loads of biomass are recorded on the Nombre de Godet pour alimentation des usiness secondaires were verified against the matrices provided.		
Conclusions	 PJRCES confirmed that: The methods for monitoring is appropriate and is in accordance with the registered VCS PD Version 2.0 dated 05 July 2013. QA/QC procedures have been applied in accordance with the registered VCS PD Version 2.0 dated 05 July 2013. 		

The monitoring has been carried out in accordance with the monitoring plan contained in the registered VCS PD Version 2.0 dated 05 July 2013. All parameters were monitored and determined as per the monitoring plan.

4.4 Quality of Evidence to Determine GHG Emission Reductions and Removals

Based on the document review and physical site inspection, PJRCES can confirm that all necessary documentation were collected, referenced and aggregated and were easily accessible in hard-copy and electronic format. Measurements are performed by calibrated equipment, and the key data were cross-checked via other sources. No assumptions are used that have any material influence on reported emission reductions.

The evidence provided was sufficient for verification of the project and consistent with the requirements of the VCS Standard 3.3 (October 4, 2012), VM0018 (Version 1.0), the registered VCS PD and the Project Monitoring Report and meets generally accepted evidentiary standards for best practice in GHG accounting.

As outlined above, the input data for calculating the emission reductions, the calculating process and the results are complete and transparent. Therefore, PJRCES is able to confirm the accuracy of the emission reductions.

4.4.1 Leakage

At Project Unit level, the leakage is de minimus.



4.4.2 Net GHG Emission Reductions and Removals

TABLE 8					
Year	Baseline emission or removals (tCO2e)	project emission or removals (tCO2e)	Leakage emission(tCO2e)	Net GHG emission reductions or removals (tCO2e)	
2010	41,952	19,989	De minimus	21,962	
2011	42,999	19,948	De minimus	23,051	
2012	39,110	18,677	De minimus	20,434	
2013	21,321	11,092	De minimus	10,228	
Total	145,382	69,707		75,675	

Therefore, the emission reductions in this monitoring period are:

PJRCES confirms that appropriate methods and formulae for calculating baseline emissions, project emissions and leakage have been followed, and the assumptions, emission factors and default values that are applied in the calculation have been justified. PJRCES confirms that the data and parameters, including spreadsheet formulas and connections, conversions, aggregations, are consistent with the data and parameters set out in the monitoring plan. All the data is consistent with the data sources.

4.5 Non-Permanence Risk Analysis

Not Applicable

5 VERIFICATION CONCLUSION

PJRCES, Inc. has carried out verification of the emission reductions achieved by the project "Energy Efficiency And Solid Waste Diversion Activities within the Quebec Sustainable Community" against the VCS guidance Version 3.4, 4 October 2012. The Project monitoring report, Project design document and the necessary evidence requested during the verification process have been supplied to enable PJRCES to arrive at an opinion on the Energy Efficiency And Solid Waste Diversion Activities within the Quebec Sustainable Community Project. The emission reductions generated from the grouped project, where energy efficiency and solid waste diversion activities have been initiated by a Sustainable Community Service Promoter (SCSP) for an assortment of Client Facilities grouped and located inside the Province of Quebec, have been compiled in a transparent manner, the data was found to be accurate within the uncertainty limits of the measurement equipment, and emission reduction calculations were found to include all the required sources.

PJRCES confirms that the Energy Efficiency And Solid Waste Diversion Activities within the Quebec Sustainable Community Project, developed by Will Solutions, inc, was implemented as per the VCS validated PD and that the emission reductions presented in the monitoring report version 2.0 dated 03 February 2014, are correctly determined as per the VCS Standard, Version 3.4, 08 October 2013 and the approved VCS Methodology VM0018 version 1.0 "Energy Efficiency and Solid Waste Diversion Activities



within a Sustainable Community". Furthermore, the Project monitoring report and emission data calculations are considered accurate, complete, transparent, and free of material misstatements. The GHG emission reductions submitted in this first verification report are considered verified to a reasonable level of assurance.

TABLE 9						
Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)		
2010	41,952	19,989	De minimus	21,962		
2011	42,999	19,948	De minimus	23,051		
2012	39,110	18,677	De minimus	20,434		
2013	21,321	11,092	De minimus	10,228		
Total	145,382	69,707		75,675		

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



APPENDIX I: DOCUMENTS REVIEWED

No.	Type of document				
1	Will Solutions, Inc.: Monitoring Report for Energy Efficiency And Solid Waste Diversion Activities within the Quebec Sustainable Community, Monitoring Period: 01 January 2010 to 31 October 2013, version 1.0 dated 12 November 2013.				
2	Will Solutions, Inc.: Monitoring Report, Version 2.0, dated 03 February 2014 calculation spread sheet for the 1 st Verification Monitoring Period.				
3	Boisaco: Propane and Butane invoices and and monthly aggregation record for fuel consumption from 01 April 2010 to 31 March 2013.				
4	Boisaco: Weekly records for biomass loads delivered to the furnace from 01 April 2010 to 31 March 2013.				
5	Boisaco: Daily production reports and weekly aggregation records for total production from 01 April 2010 to 31 March 2013.				
6	Recyc RPM: Bills of lading per shipment of recycled plastic and monthly aggregation of production by weight and sale amount.				
7	Recyc RPM: Quality Management Manual dated 01 October 2012.				
8	RPM: Calibration certificates for the off-site weigh scale A-032				
9	Contracts for RPM and Boisaco				
10	IPCC 2006, Table 1.2 of Chapter 1 of Vol. 2 (Energy) of 2006 IPCC Guidelines on Nation al GHG Inventories				
11	Approved VCS methodology VM0018 version 1.0, Energy Efficiency And Solid Waste Diversion Activities within a Sustainable Community.				
12	EPA's Waste Reduction Model (WARM), version 12, dated February 2012.				
13	Will Solutions, Inc.: Implementation process of the Sustainable Community Solution, dated July 2012				
14	SGS United Kingdom Limited: VCS Validation report for the Energy Efficiency And Solid Waste Diversion Activities within the Quebec Sustainable Community Project, version 1, dated 11 July 2013.				
15	Will Solutions, Inc.: Project Description (PD) for the Energy Efficiency And Solid Waste Diversion Activities within the Quebec Sustainable Community Project, version 2.0 dated 5 July 2013.				
16	VCS Standard, Version 3.4, 08 October 2013				
	http://www.v-c-s.org/sites/v-c-s.org/files/VCS%20Standard%2C%20v3.4.pdf				
17	VCS Program Guide, Version 3.4, 4 October 2012				
	Intp://www.v-c-s.org/sites/v-c-s.org/mes/vC3%20PTogram%20Guide%2C%20V3.4.pdf VCS Validation and Varification Manual, V2.1, 08 October 2012				
18	http://www.v-c-s.org/sites/v-c-				
	s.org/files/VCS%20Validation%20Verification%20Manual%2C%20v3.1_1.pdf				



APPENDIX II: RESOLUTION OF CORRECTIVE ACTION /CLARIFICATION / FORWARD ACTION REQUESTS

Draft Report Clarification (CL), Corrective Action Request (CAR) or Forward Action Request (FAR) requested by verification team	Summary of Project owner response	Verification team conclusion		
CAR 1 Editorial Mistake Total Production ('000 PMP) on the 2013 12 08 Monitoring-Nov 13-V8 spreadsheet is inconsistent between tab BPEmission- PAI I and BPEmission-PAI II.	Total Production values were reviewed and correctly entered into revised 2014 01 02 Monitoring-Nov-V9 spreadsheet.	OK It is now correct on both tabs in spreadsheet CAR 1 was closed		
CAR 2 Editorial Mistake The total production identified on tab BPEmission-PAI I in the 2014 01 02 Monitoring-Nov-V9 for 2011 indicates 92,383.142 and read 92,883.142.	Correct production quantity has been revised on spreadsheet.	OK The total Production ('000 PMP) has been correctly entered into spreadsheet. CAR 1 was closed		
CAR 3 Missing Data Butane invoice, dated 07 January 2013, was not included in the Butane aggregation spreadsheet and therefore not included in the monitoring spreadsheet used to calculate total ER.	Missing Butane value has been added to the butane aggregate spreadsheet and the correct total amount of Butane has been revised on the 2014 01 02 Monitoring-Nov-V9 spreadsheet.	OK The total Butane consumption for the dryer has bee correctly calculated. CAR 2 was closed.		
CAR 4 Incorrect Calculation Total PE for Butane and Propane on the 2013 12 08 Monitoring-Nov 13-V8 was double calculated.	Total PE for Butane and Propane has been recalculated and a revised monitoring spreadsheet released.	OK It is now correct. CAR 3 was closed.		



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FAR 1 QA/QC		
A more robust QA/QC procedure should		
be considered for manually entered data.		



APPENDIX III: ADDITIONAL INFORMATION REGARDING ELIGIBIGILTY OF ST. DAMIEN SITE TO THE PROJECT ACTIVITY

Introduction

In consideration to the questions raised by Verified carbon Standard (VCS) secretariat on the start date and eligibility of the St. Damien site to the project activity, following additional information is presented with the aim of clearly stipulating that the facility fully adheres to the eligibility requirements as specified in the VCS standard and the approved baseline and monitoring methodology.

Transfer of the Facility to the VCS Project Activity

As illustrated in section 4.1 pf the verification report that the PAI was transferred from another project activity which was under another greenhouse gas scheme (CSA Carbon Program). However, the project was noted to be commercially hit by the drop in the price of virgin material during the economic crises of 2008-2009 was considered by the facility operators to be closed down. This was verified from an official letter written to the Minister of Environment Quebec MDDEFP. In the official letter, it was clearly referenced that the site is under sever commercial pressures with the high risks of closures. Under the prevailing global economic crises and local market conditions, the facility operators were left with the options of closure of operations unless a complete technical overhaul is undertaken with the aim of aim of achieving production improvements and efficiency enhancements.

However, such significant level of capital investment in an uncertain economic scenario was only considered to be commercially viable with stable and additional revenues from the carbon credits through its inclusion into the VCS project activity. As under the CSA program the facility was not issued any carbon credits since 2007.

The PPs proceeded to refurbish the St Damien operations in facing the challenge by undertaking major improvements on the layout of the production process in order to achieve:

- A doubling of the recycled material recovery rate, reaching a whopping 91%;
- Energy efficiency measures at all level of the operations (dryer energy recovery, cardbox recycling, sludge recovery etc.).

Since this introduction of technological measures were of such a magnitude that it qualified the operations of the facility to be considered as a fresh start of the activity and thus making it eligible under the VCS project activity. In addition, in becoming part of the VCS project activity the facility operators had to undertake even more additional technical and operational optimization measures to comply with specific operational and monitoring requirements. All those measures were duly undertaken and verified during the verification process. Since these operational and



monitoring requirements would not have been undertaken in the absence of facility not becoming the part of the VCS project activity which determines its implementation status from the date of the transfer.

Based on the above consideration, we were able to verify that the facility is eligible under the requirements of the standard and also the eligibility requirements specified in the methodology.

Details of Technical Processes of the St. Damien Facility

As illustrated in the monitoring as well as in the verification reports that the facility is a plastic recycling facility and in line with the Epa Warm Model, Recyc RPM has set-up the necessary technological processes to recycle plastics in their St Damien facility. The overall processing includes a number of technical instruments and measures in completing the overall recycling and processing process. Such measures include: conveyors bets, electromagnetic foreign parts elimination, grease sperators, washing screw and basin, Dryers and hydroclyclone and vibrating screen.

Key technological processes in recycling of the plastic in the facility includes following:

- Electronic and physical sorting of plastic by types: processes are based on plastic properties, such as, differentiated density by types and laser light reflection and diffraction,
- Contamination elimination: processes are based on electromagnetic properties of contaminants and chemical dissolvent to remove labels and inks.
- Plastic reprocessing: processes encompass hot filtering, extrusion, granulation.

For illustration purpose the graphical presentation of implemented technological measures are presented in the figure below.

As part of the implementation of technology measures to comply with the requirements of the project eligibility, the facility operators specifically updated following technological process:

- Heating, ventilation and air conditioning (HVAC)
- Heat generation (including industrial thermal energy systems)
- Appliances and industrial processes (including heating and cooling requirements and process modification)
- Equipment optimization

Based on the above consideration it can be realized St. Damien facility maximized processes efficiency and energy recovery of all accessories processes, such sludge treatment, plastic flakes drying, intrants re-usage and/or recycling, such kraft box. Hene, in accordance with the VM0018,



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the PAI is eligible in the category of the process/management changes of existing facilities that result in a reduction of energy use per unit of productivity. As per our verification the Recyc RPM PAI in St Damien is fully compliant with the requirement of the methodology.





Appendix IV

Seneric PAI IV Saving Energy on Recycling Activities					January 2010 up to October 31th 2013		
IV		IV	N	IV	IV	IV	N
Saving Energy on Recycling Savin		Saving Energy on Recycling		Saving Energy on Recycling	Saving Energy on Recycling	Saving Energy on Recycling	
Activities	S	Activities	Saving Energy on Recycling Activities	Activities	Activities	Activities	Saving Energy on Recycling Activities
EF HDPE (Σ CO2/0	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)
t eCO ₂ /1'000	0 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
Combined Emission F	Factor for HDP	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/MDP
EPA		EPA	EPA	EPA	EPA	EPA	EPA
0.71		1.15	0.99	0.895	0.775	1.25	0.93
EPA Net Emission Fa	actor	EPA Net Emission Factor	EPA Net Emission Factor	EPA Net Emission Factor	EPA Net Emission Factor	EPA Net Emission Factor	EPA Net Emission Factor
Parameters for Project	ct 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.
HI Christophe		PET	PVC	LDPE	PP	PS	PC/ABS/MDPE
O Kaestli:		Option A	Option A	Option A	Option A	Option A	Option A
P: Option A:		P9	P9	P9	P9	P9	P9
t Parameter		t	t	t	t	t	t
V(Option B:	lastic	Volume of recycled plastic	Volume of recycled plastic	Volume of recycled plastic	Volume of recycled plastic	Volume of recycled plastic	Volume of recycled plastic
W	r 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
Amount of HDPE deli	vered	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
At each delivery		At each delivery	At each delivery	At each delivery	At each delivery	At each delivery	At each delivery
t		t	t	t	t	t	t
Calibrated weighting of	devices	Calibrated weighting devices	Calibrated weighting devices	Calibrated weighting devices	Calibrated weighting devices	Calibrated weighting devices	Calibrated weighting devices
Double check: seller	and buyer weig	Double check: seller and buyer weig	Double check: seller and buyer weight	Double check: seller and buyer weigh	Double check: seller and buyer weig	Double check: seller and buyer weig	Double check: seller and buyer weight
Emission avoided with recycled plas Emission avoided with recycled plast Emission avoided with recycled plastic		Emission avoided with recycled plasti	Emission avoided with recycled plas	Emission avoided with recycled plas	Emission avoided with recycled plastic		
HDPE Volume delivered PET Volume delivered PVC Volume delivered LE		LDPE Volume delivered	PP Volume delivered	PS Volume delivered	PC/ABS/MDPE Volume delivered		
Project Units/PAI using similar technology may used different fossil combustibles. In such instance, Emission Factors will be defined accordingly.							



VERIFICATION REPORT: VCS Version 3