

VALIDATION REPORT

ENERGY EFFICIENCY AND SOLID WASTE DIVERSION ACTIVITIES WITHIN THE QUEBEC SUSTAINABLE COMMUNITY



Document Prepared By SGS United Kingdom Limited

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Summary:

SGS United Kingdom Limited has preformed the validation of the project "Energy Efficiency And Solid Waste Diversion Activities within the Quebec Sustainable Community" (hereafter referred to as 'The Project') based on the requirements of the VCS Project Standard Version 3.3

The project uses Client Facility Groups that are based in the region of Quebec, Canada, to reduce GHG reductions through energy efficiency and waste diversion activities. This project uses the VCS Methodology VM0018 "Energy Efficiency and Solid Waste Diversion Activities within a Sustainable Community" version 1.0.

The report and the annexes describe a total of 31 findings which include:

- 19 Corrective Action Requests (CARs)
- 04 Clarification Requests (CLs)
- 08 Observations (Obs); and,
- 1 Forward Action Request (FAR)

In our opinion, the project meets all relevant criteria set out in VCS standard version 3.3.

The project has applied methodology VM0018 Version 1.0 approved on 20/02/2012. It is demonstrated that the project is not the most likely baseline scenario. Emission reductions attributed to the validated project activity instances will be additional to any that would occur in the absence of the project activity.

The total emission reductions from the project (grouped project category) are projected to be 22,852,000 t of CO₂e over a 10 year crediting period, averaging 2,285,200 t of CO₂e annually. The emission reduction forecast is an estimate at this stage and it is deemed likely that the stated amount can be achieved given the underlying assumptions do not change and the conditions stated in the report are met.

• "Energy Efficiency and Solid Waste Diversion Activities within the Quebec Sustainable Community" is recommended by SGS to the VCS for registration.



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1 INTRODUCTION

1.1 Objective

Will Solutions Inc has commissioned SGS to perform the validation of the project 'Energy Efficiency and Solid Waste Diversion Activities within the Quebec Sustainable Community' with regards to the relevant requirements for VCS Standard (VCS standard version 3.3). The purpose of a validation is to have an independent third party assessment of the project design. In particular, project's baseline, monitoring plan (MP), compliance with VCS standard version 3.3 are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Verified Carbon Units (VCUs). The VCS standard version 3.3 criteria refer to the VCS criteria and the VCS standard version 3.3 rules and modalities and related decisions by the VCS.

1.2 Scope and Criteria

The scope of the validation is defined as an independent and objective review of the project description documents, project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against VCS standard version 3.3 requirements, applicable rules and associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of VCU's. This project being a grouped project identifies the initial project activity instances and the geographic areas within which new project activity instances can be developed. The validation and eligibility criteria for the inclusion of project activity instances are also stated in this report.

The validation is not meant to provide any consulting towards the Project Proponent (PP). However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 Level of assurance

SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of VCU's.

The level of assurance of the validation report is reasonable assurance engagements.

1.4 Summary Description of the Project

The project aims to reduce GHG (Greenhouse Gas) emissions through Energy Efficiency and Solid Waste Diversion activities. Client facilities (within the province of Quebec) are grouped together in a sustainable community to optimise their energy and resources which are then recorded using the ICT platform which logs the performance of each facility and calculates the equivalent GHG reductions. The sectors covered under the project are set out below:

Energy Efficiency

The project is applicable to energy conservation measures where a project activity is the construction of a new facility, the retrofit of an existing facility or process/management changes of existing facilities. As per the methodology applicable for this project, ECMs (Energy Conservation Measures) may occur for maintenance, energy conservation and heat recovery, the following categories apply:

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- · Building envelope modifications
- Heating, ventilation and air conditioning (HVAC);
- Heat generation (including industrial thermal energy systems);
- Chilling/cooling systems;
- Lighting and lighting control;
- Building mechanical infrastructure;
- Appliances and industrial processes (including heating and cooling requirements and process modification);
- · Electric motors;
- Equipment optimisation;
- Maintenance.

Waste Diversion

The project also covers diversion of waste for other productive uses and alternative waste disposal options. As permitted by the methodology, only emissions associated with methane avoidance are eligible. This project is applicable to the following activities:

- Waste minimisation
- Cardboard recycling
- Organic composting
- Aerobic decomposition

Electronic tracking platform

The energy efficiency and solid waste diversion activities are tracked using an ICT tracking platform which can monitor and log the individual and group performance for each individual client facility. This measure allows for the grouped client facilities to record their emission reduction activities which are then available for verification.

2 VALIDATION PROCESS

2.1 Method and Criteria

The validation is performed primarily as a document review (desk based and site visit) of the project description (version 01.1 dated 20/12/2011, version 01.2 dated 24/11/2012, version 2.0 dated 05/07/2013) and version 2.1 dated 11/07/2013). The assessment is performed by trained assessors through checking the project description against the VCS Standard Version 3.3 criteria and corresponding validation findings recorded in UK findings review document.

The site visit was performed from the 11/11/2012-15/11/2012 by validation team members.

The report is based on the findings of document reviews, site visit and stakeholder consultations and responses from the project participants to the findings raised in this report.

The report and the annexed validation describe a total of 31 findings which include:

- 19 Corrective Action Requests;
- 04 Clarification Requests; and
- 08 Observations.

All the findings raised during the validation assessment of the project activity are closed. FAR 1 is raised regarding the periodic checks required for the mandatory regulations regarding GHG emissions as applicable and project's participation and listing in other GHG programmes (avoid double counting issues). The observations (8) raised as a part of this assessment (1,3,8,9,21,23,24,28) are listed in the



UK findings document but these have not been discussed in the main body of the report because these pertain to minor issues which are of an editorial nature.

2.2 Document Review

The validation is performed primarily as a document review of the publicly available project documents and other supportive documents. The assessment is performed by trained assessors using validation protocols.

2.3 Interviews

During the site visit to the project activity interviews were carried out at sites of the project instances and project participant's representatives. The details are as follows;

Date	Name	Position	Short Description of Subject Discussed
11/11/2012- 15/11/2012	Christophe Kaestli	CertiConseil Inc. President	Consultant for the project. Issues discussed related to baseline, additionality, benchmark, implementation of the project and the measures for calculating emission reductions.
12/11/2012 and 15/11/2012	Martin Clermont	Will Solutions, CEO and the designer of the VM0018	The project developers' involvement in project activity instances and timelines. Review of emission reduction monitoring ICT platform and the method of how the system is used/ implemented to track carbon reductions over a range of clients.
12/11/2012	Michel Dessureault	Will Solutions VP Finance & Administration	Project finances. Creation of the emission reduction platform and the method of how the system is used/implemented to track carbon reductions over a range of clients.
13/11/2012	Bastien Deschenes	Boisaco-Chef de la direction (Company: Boisaco)	Subjects discussed included baseline and project scenario incl. reasons for switching to biomass fuelled system, scenario before implementation of the project.
13/11/2012	Tommy Coulombe	RPM-QHSE Associate	Baseline and project activity scenario. General plans for the site/business. Process's for plastic recycling.
14/11/2012	Mr. Lachance	Mayor of Saint Gedeon	Discussed the town of St Gedeon emission reduction efforts including how it is the first municipality in Quebec to have carried out the energy saving measures. Discussed the scenario before implementation of the project. Also discussed the future reductions that are planned for the town.

2.4 Site Inspections

The onsite inspections were conducted to verify the physical situation and complement the desk based assessment of the project boundary, baseline, additionality and the monitoring aspects. The following sites were visited:

- 1. Montreal(Headquarters)
- 2. Saint Gedeon (project activity instance)
- 3. Boisaco (project activity instance)
- 4. Beauceville (project activity instance)

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Specific technological details of the measures to be implemented under the project were not documented by the project proponents at the time of the site visit.

The project activity instance sites at Boisaco, Saint Gedeon and Beauceville were inspected and personnel were interviewed to assess that the initial project activity instances identified, can deliver emission reductions which are real and measurable. The description of the project activity instances at Saint Gedeon and Beauceville were excluded from the project description because the documentation regarding the exact description of technology and precise information regarding baseline and additionality assessment could not be obtained by the deadline for completion of validation (12th July 2013).

2.5 Resolution of Any Material Discrepancy

No material discrepancies are observed throughout the validation assessment of the project activity.

3 VALIDATION FINDINGS

3.1 Project Design

Project scope, type, technologies and measures implemented

The project activity provides Energy Efficiency and Waste Diversion activities within the Province of Quebec, Canada. This is a grouped project where individual or grouped facilities join the project activity and use emission reduction ICT platform to record their energy efficiency and waste diversion levels. As per the VCS Standard version 3.3 this project falls under the category of a grouped project and it structured to allow expansion through inclusion of project activity instances subsequent to project validation.

This Validation is based on the complete assessment of the PD and the initial project activity instances identified in the PD version 2.1 dated 11/07/2013. The details provided below give information on the technology and their eligibility under the project.

No	Scope (Energy Efficiency 'EE'/Waste Management 'WM')	Technology Type	Measure implemented	Year starting in place	Estimated yearly tCO2e/Year
I	Energy Efficiency	Butane/Propane to biomass timber wood drier transformation, Boisaco	Biomass Project	1 st January 2010	Figure claimed by PP is 7516 tCOe/Year. This should be limited to a maximum of 5,000 tCOe/Year¹ – because of the maximum allowance limit as per applicability conditions (sec.4, pg 17 VM0018) for each project unit is 5,000 tCO2e/Year
II	Waste Management	Methane emissions arsing due to landfilling of the biomass are	Boisaco Methane emission avoidance	1 st January 2010	652

¹ The figure of the maximum of 5 000 tCO₂e per Project Activity Instance at Boisaco facility will be confirmed during verification

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avoided, Boisaco		

CL 02 was raised because under section 1.8 of the PD the GHG reduction technologies that have been listed do not match the list mentioned in the methodology i.e. Maintenance, energy conservation, heat recovery and waste minimisation. The PP clarified that the term Waste minimisation is generally associated to waste reduction on site. Waste reduction is defined in the VM0018 as an alternative process to landfill. The text in the PD has been modified to take out the term 'minimisation'. CL2 was closed following revision of the PD.

CAR 05 was raised because no initial project activity instances were clearly described in the PD. New instances meeting these pre-established criteria can be added to the project, subject to project validation. Refer to VCS standard version 3.3 clause 3.4.2. 'Grouped project should have one or more clearly defined geographical areas within which project activity instances may be developed. Such geographic areas should be defined using geodetic polygons as set out in section 3.10 of VCS standard'. Such geodetic polygons were not identified in the PD (Project Design). The PP responded 'Activity instances have been listed specifically Appendix 9 of the PD, the criteria for a project unit to be included in the SC project are: To be located in Quebec, Implement project activities which have taken place after January 1st 2007 and to limit to 5,000 tCO₂e /year and per project unit the GHG abetment'. The initial project activity instances identified above are within the geographical polygon of the project boundary.

New project activity instances developed within the project boundary will be eligible to be added and claim emission reductions under this project. As per the methodology VM0018 'the maximum emission reductions from an individual project unit is limited to 5,000 tCO₂e/ year from each of the micro energy efficiency and/or waste diversion project units. Therefore, through a combination of energy efficiency and waste management activities, project units within a grouped project could have a maximum combined abatement threshold of 10,000 tCO₂e/ year. While each client facility, or project unit, may only contribute a modest abatement (10,000 tCO₂e/ year or less), the total sum of abatement from all project units within this entire grouped project may exceed the combined threshold of 10,000 tCO₂e/ year'. The other eligibility criteria for inclusion of project activity instances are as following:

- Located inside the Quebec territory (ref PD appendix 10);
- Be implemented after 1st January 2010;
- Be a registered member of the SCSP project;
- Be auditable and verifiable:

CAR5 was merged with CAR4: information regarding the geographical coordinates for the project is accepted while specific coordinates on each project activity instance should be provided to ensure that these lie within the project boundary.

Two project activity instances (Boisaco site) which have been identified to demonstrate compliance with the following categories:

- Heat generation (including industrial thermal energy systems);
- Methane avoidance due to aerobic decomposition



Besides the above criteria, new project activity instances meeting the following eligibility criteria of may be included subsequently.

- The size and scale of the technologies involved for new project activity instances should be limited to 5,000 tCO₂e/year for a individual project unit
- A combination of energy efficiency and waste management activities are limited to have a maximum abatement threshold of 10,000 tCO₂e/year.
- Follow combined tool for establishing baseline and determine additionality (mandatory step as per VM0018)

Project proponent and Project start date

Will Solutions Inc. (formerly Gedden) is the 'Project Proponent' for this project. It is the entity (Sustainable Community Service Provider- SCSP) that will provide the services to stimulate greenhouse gas (GHG) reduction activities such as energy efficiency and waste handling to Client Facilities. Will Solutions Inc contractually maintain ownership of the environmental attributes associated with actions that reduce the Client Facilities' overall GHG emissions. The contractual format drawn between the project proponent and the client facilities was checked i. The terms and conditions outlined in the contract establish the conditions for the customer's access and utilisation of the Will Solutions Inc. (Gedden) Sustainable Community business solution. Specific contracts reached between the project proponent and the client facilities in Boisaco, Recyle RPM, St. Gedeon, RPM Environment and 780 Brewster were also obtained and checked (dt.01/01/2010, 13/12/2011, 23/03/2013)ii. The project start date is established based on the confirmation of start of project operations on Boisaco site (also ref. para regarding project crediting period below).

Project Location

The geographic area applicable for inclusion of new project activity instances includes the entire province of Quebec, Canada as a common geographic cluster. The polygon and the geographical coordinates defining the Quebec's limit territory are detailed in Appendix 10 of the PD.

Project crediting period

CAR 06 was raised because the crediting period stated in the PD was not in line with the standard crediting period under the VCS: reference Project Standard version 3.3 section 3.8.1. (For non-AFOLU projects and ALM projects focusing exclusively on reducing N2O, CH4 and/or fossil-derived CO2 emissions, the project crediting period shall be a maximum of ten years which may be renewed at most twice).

The crediting period of the project starts on January 01/01/2010 and ends on 31/12/2019

This information was validated based on confirmation provided by the client facility at Boisacoⁱⁱⁱ and also a MEMO from Will Solutions Inc (dated 26th June 2013)^{iv}. CAR 06 was closed following revision of the PD.

CL27 was raised because Section 1.3 of the PD mentioned Will Solutions Inc. as a promoter of the project while they are declared as a PP. This issue was closed following a correction in the PD. CL 27 was closed.



Project activity

Project compliance with applicable laws, statutes and other regulatory frameworks,

The project meets all Canadian Federal and Provincial requirements standards and regulations. The project is being implemented on a voluntary basis beyond all applicable regulations i.e. energy efficiency and waste management. There are no regulations which address minimum energy efficiency performance at the client facility covered by the SC. The analysis of the Quebec legal framework related to GHG emissions as provided in section 1.11 and on Appendix 4 of the PD. This information was reviewed during the site visit and was found to be correct.

Emissions trading programs and other binding limits

Although Canada has opted out of the Kyoto protocol, there is a regulation in the state of Quebec respecting cap and trade system for GHG allowance aimed at cutting 20% emissions emission reductions by 2020. It was checked that the following conditions apply for this regulation (ref Appendix 4, PD):

- 1. Definition of site (facility) covered by this regulation; large final emitters ≥ 25 000 mt/ site/ year.
- 2. Small final emitters (SME) are not covered by this regulation.
- 3. Applicable for Quebec Emissions allowances scheme

CL 29 was raised because the PD did not clarify whether there are any mandatory requirements regarding energy efficiency measure or waste management practises in the state of Quebec. The PP clarified that 'Code National du Bâtiment and Code de la Construction du Québec' is applicable, its provincial equivalent has been added, however, the code is not enforced as such.

This was checked through the documentary evidence (letter from Ministry of Climate Change Air and Water, Quebec province dated 22nd June 2012^{vi}) which confirmed that the local government is aware that this project is applying for registration under Verified Carbon Standard. The project proponent has stated in the PD that if such a regulation comes into place then the baseline and additionality would need to be re-assessed. CL29 was closed while **FAR1** was issued to check the status of implementation of this regulation and adjust the eligible emission reductions during each periodic verification (also see below).

Ownership and Right of use

The project proponent has a contract (appendix 2 of the PD) with some of the client facilities regarding the right of use. This format was discussed with the financial manager for the project proponents during the site visit and it was found to be robust. The text confirms that the rights of use to emission reductions rest with the project proponents. As stated above, copies of specific contracts signed between the project proponent and the project activity instances (client facilities) were also obtained.

Other forms of environmental credit sought or received:

FAR1 is issued for reasons stated above and also to confirm that no other forms of environmental credits besides VCU's are being sought or received by the project proponent, which might categorise as double counting issues. This was following a communication to Martin Clermont (cc SGS) from VCSA dated 17/06/2013.

Rejection by other GHG programs

The project has not been rejected by any other GHG programme, this was confirmed with the PP during the site visits and this was also checked through the UNFCCC and Gold Standard websites.



Additional information relevant to the project - Not Applicable

Eligibility criteria for grouped projects

CAR 25 was raised because the following requirements regarding the project description as outlined in VCS Standard Version 3.3 were not detailed:

Project Description for Grouped Projects:

As per VCS standard v3.3 section 3.4.12 'A grouped project shall be described in a single project description, which shall contain the following (in addition to the content required for non-grouped projects)':

- 1) A delineation of the geographic area(s) within which all project activity instances shall occur. Such area(s) shall be defined by geodetic polygons
- 2) One or more determinations of the baseline for the project activity in accordance with the requirements of the methodology applied to the project.
- 3) One or more demonstrations of additionality for the project activity in accordance with the requirements of the methodology applied to the project.
- 4) One or more sets of eligibility criteria for the inclusion of new project activity instances at subsequent verification events.
- 5) A description of the central GHG information system and controls associated with the project and its monitoring.

Note – Where the project includes more than one project activity, the above requirements shall be addressed separately for each project activity, except for the delineation of geographic areas and the description of the central GHG information system and controls, which shall be addressed for the project as a whole.

CAR 25 was closed after the above requirements were included in the Project description for the project. The above requirements and their validation are included above in section 3.1, and in the subsequent sections of this report.

CAR 26 was raised because VCS standard v3.3 section 3.4.11 states the following requirements for inclusion of new project activity instances to be included in the grouped project:

Inclusion of New Project Activity Instances -

Section 3.4.10 Grouped projects provide for the inclusion of new project activity instances subsequent to the initial validation of the project. New project activity instances shall:

- 1) Occur within one of the designated geographic areas specified in the project description.
- 2) Comply with at least one complete set of eligibility criteria for the inclusion of new project activity instances. Partial compliance with multiple sets of eligibility criteria is insufficient.
- 3) Be included in the monitoring report with sufficient technical, financial, geographic and other relevant information to demonstrate compliance with the applicable set of eligibility criteria and enable sampling by the validation/verification body.
- 4) Be validated at the time of verification against the applicable set of eligibility criteria.
- 5) Have evidence of right of use, in respect of each project activity instance, held by the project proponent from the respective start date of each project activity instance (i.e., the date upon which the project activity instance began reducing or removing GHG emissions).



In response the PP included the following activities instances which have been listed in Appendix 9. The response from the PP is discussed in relevant sections of this report and **CAR26** was closed.

- 1. Biomass Energy Project Instance Boisaco
- 2. Methane Emission Avoidance Project Instance Boisaco

Leakage management for AFOLU projects (Not Applicable)

Commercially sensitive information

This has been stated in the relevant sections of this report.

Any further information- Not Applicable

3.2 Application of Methodology

3.2.1 Title and Reference

The Project Proponents have applied the VCS approved methodology VM0018 "Energy Efficiency and Solid Waste Diversion Activities within a Sustainable Community" version 1.0. http://v-c-s.org/methodologies/VM0018

3.2.2 Applicability

"VM0018 Energy Efficiency and Solid Waste Diversion Activities within a Sustainable Community" is justified in section 2.2 of the VCS PD. The project activity has been developed in line with the VCS registered methodology and is confirmed to be the most applicable methodology for this project.

The following eligibility conditions have been checked and confirmed:

The methodology is applicable for grouped projects for the quantification of direct and indirect reductions of GHG emissions arising from energy efficiency and waste management project activity instances.

It was confirmed that the project activity is designed for grouped client facilities to achieve
emission reductions through energy efficiency and waste diversion schemes. Site visit confirmed
that several client facilities have signed up to this work and will contribute to GHG emission
reductions through energy efficiency and waste diversion systems.

The requirements of this methodology have been designed to meet micro energy efficiency and/or waste diversion project units, where the maximum emission reductions from an individual project unit is 5,000 tCO₂e/year. Therefore, through a combination of energy efficiency and waste management activities, project units within a grouped project could have a maximum combined abatement threshold of 10,000 tCO₂e/year. While each client facility, or project unit, may only contribute a modest abatement (10,000 tCO₂e/year or less), the total sum of abatement from all project units within this entire grouped project may exceed the combined threshold of 10,000 tCO₂e/year.

 This has been confirmed through site visit and document review (please refer to Annex 9 of the VCS PD). The micro energy efficiency from Boisaco's energy efficiency unit should be limited to maximum emission reductions of 5,000 tCO₂e/year. No energy efficiency activity instances or

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methane avoidance activity instances exceeds the abatement threshold of 10,000 tCO₂e/year which is in compliance with the VCS approved methodology.

This methodology is applicable for grouped projects for the quantification of direct and indirect reductions of GHG emissions arising from energy-efficiency and waste-diversion projects at client facilities. Projects can be located in residential, commercial, institutional, or industrial buildings/facilities. The project proponent must demonstrate right of use in respect of the project's GHG emission reductions, which may, for example, entail securing right of use from client facilities.

A sample contract has been provided by the PP to show the terms and conditions which apply to both the PP and the project instance. Under section 2.2 of the sample contract it is stated that "In counterpart, the Client assigns and transfers his title in all benefits arising from reductions in greenhouse gas emissions ("GHG"), arising from the membership and the use of the SC Will solution, including all title and interest in the carbon credits generated by them". This has been assessed by the validation team and found to be in accordance with the methodology. It was checked that Will solutions has undertaken Gedden after 22/08/2012. A "print out" of the Quebec Internal Revenue Service weblink is available at https://www.registreentreprises.gouv.qc.ca/RQAnonymeGR/GR/GR03/GR03A2 19A PIU RechEnt PC/PageRechSimple.aspx?T1.CodeService=S00436&Clng=F&WT.co f=2be17f68214fb0ecbcd12992573306 [insert 'Gedden' in search filed) where in the very last part called 'Nom' shows that Gedden was enforced till 2011-08-22 and Will Solutions overtook at the date.

CAR 22 was raised requesting the client to provide specimens of actual signed contract with all operational client instances should be provided. The PP responded by providing sample contracts (in French and English) which are included as appendix 2 in the PD. The sample contracts and a copy of the contract signed with the client facilities for few initial project activity instances (Boisaco included) were checked and accepted. **CAR22** was closed.

This methodology is applicable to ECMs where the project activity is the construction of new facilities, the retrofit of existing facilities, or process/management changes of existing facilities that result in a reduction of energy use per unit of productivity. The ECMs must occur in conjunction with the following: Building envelope modifications, Heating, ventilation and air conditioning (HVAC), Heat generation (including industrial thermal energy systems), Chilling/cooling systems, Lighting and lighting control, Building mechanical infrastructure, Appliances and industrial processes (including heating and cooling requirements and process modification), Electric motors, Equipment optimization.

Under section 1.8 of the PD for the project activity, it is clearly stated that the project is applicable to energy efficiency measures and has listed the activities associated with this type of activity. From document review and site visit it is confirmed that the project activity, including the project activity instances are in accordance with the methodology in terms of the measures it will accept as part of its project. The details of the project activity instances provided in section 1.8 of the PD outline the measures being implemented for the project activity which contribute to emission reductions

This methodology is applicable where the project activity is the diversion of waste for other productive uses and alternative disposal options. This methodology is only applicable to quantify emission reductions associated with methane avoidance. This methodology is not approved for quantifying emission reductions associated with landfill gas flaring or electricity/energy production.

Under section 1.8 of the PD for the project activity, it clearly states that the project is applicable to waste diversion measures and has listed the activities associated with this type of activity. The technical details of the project activity instance for methane avoidance were checked to confirm that emission reductions are only claimed for methane avoidance activities.



3.2.3 Project Boundary

The project boundary for client facilities is defined as a project instance or grouped sustainable community that is within the province of Quebec. Each site will have its geographical location recorded and as the number of participants increases each one will also have the geographical coordinates of its site recorded and reported.

CAR 30 was raised regarding the exclusion of "disposal of equipment from the site" and is considered to be negligible by the PP. The PP clarified that where the development of a site and the disposal of equipment and the related transport is not negligible in terms of GHG emissions, the GHG emissions will be integrated at the Project Units level and will be integrated in the SC project.

The issue was closed as the emissions related to various sources and sinks are considered de-minimus. Also the methodology outlines quantification of sources of emissions for each instance, this has been done for the two project activity instances included during validation of the project design. Hence **CAR 30** was closed.

The project boundary for Boisaco project activity instance -1 is limited to the drying process, while that for methane avoidance project is the waste generation and disposal (process related and physical boundaries). The project boundary for the two project activity instances (ex-ante and ex-post) has no major changes except for technological changes. It was checked on site that no new sources of emissions have been created within the project boundary due to the implementation of project.

3.2.4 Baseline Scenario

The methodology requires identification of baseline and that all sources of GHG emissions are selected and their inclusion or exclusion is justified, followed by the procedure for determining the baseline scenario and demonstrating additionality (ref section 5.2 and section 6, VM0018). The discussion on baseline as outlined in the PD ensures compliance (general) at the project proponent's level. The PP has also identified the baseline scenario for two categories of project instances as detailed in appendix 9 of the PD. Review of the project activity instances (document review and on site interviews) indicate that the methodological requirements are met. The information available for the new project activity instances will need to be checked later when the actual data is available and is presented for verification. Information related to the sources of emissions as outlined in sections 5.2 of the methodology VM0018 in specific context of the two projects at Boisaco was validated during the site visit.

The PP also confirmed that determination of baseline scenario (and additionality) will be undertaken for each client facility with an ex-ante audit from 12-24 months (new project activity instances), the information on the following will be included:

- 1. Perimeter of the project unit.
- 2. Determination of the Unit of productivity.
- 3. Collection of data related to GHG emissions, being energy consumption, biomass usage, methane avoidance.
- 4. In the case of new buildings the baseline scenario will be the actual CCQ and/or Leed Canada 2009 energy performance requirement.



CAR 04 was raised because ECMs did not show their technology specifications (baseline compared to the project scenario i.e. improved efficiency from installation of the technology or avoided methane).

The PP clarified that the following apply:

- Existing buildings: in existing buildings the baseline is the total energy balance sheet before the implementation of new behaviour changes and/or technologies and after, eventually with integration of fuel switching
- New construction; for new construction the baseline is the prescribed energy performance of the CNB and/or ASHRAE 90.1 and the SC combustible mix compared to the actual energy mix.
- Waste diversion: for waste diversion, the baseline is the actual waste management of Client Facility and the reduction of methane avoidance induced by implementation of new behaviour changes and/or technologies.

The above justification was accepted because the project activity instances claiming emission reductions from measures undertaken in existing buildings and waste diversion activities, will undergo ex post audits to determine their baseline. Later, the project activity instance comprising of energy efficiency measures in the building sector was excluded for inclusion and corresponding validation because the details of the project activity instance were not available for validation (see para below).

The technical description for energy efficiency measures for other project activity instances provided in appendix 9 to the PD did not offer sufficient clarity for a validation confirmation. Also, the evidence regarding the quantity of waste (for methane avoidance activities) and the documentation/evidences regarding the technical specifications of equipment (old and new) for activities falling under" energy efficiency measures" was not available. Information regarding the specific details (i.e. model no., manufacturer, year of installation, previous equipment, lifetime, efficiency, capacity etc), useful lifetime of the existing baseline equipment, historical data should be made available at the time of verification. **CAR** 4 was raised and then closed after inclusion of project activity instance related information (see below).

CAR 07 was raised because initial project activity instances as included in the project description should clearly document the current status and pre-project status for baseline determination. Project activity instances for energy efficiency and waste management procedures should be described in detail. This was not documented in the PD. In response the PP has included Appendix 9 and a list of initial project activity instances. The PP states that this list is not complete as 5,200 facilities which have signed to the initiative but contract signatures are underway/ pending. The issues raised in this CAR were merged with CAR4 due to common elements related to baseline determination contained in the two CARs (4&7).

CAR 10 was raised because project specific information is required regarding the prior activities to show that the project wasn't implemented to create GHG emissions primarily for removal/destruction. The PP responded by saying the SC project is an agglomeration of small GHG reduction activities related to ECM and Waste Management: the related project units are related to Client Facilities with processes and production. The Project units are the outcome of decisions made by management to address Client Facility efficiency while contributing to environmental citizen concerns. No client units (project activity instances) would be in a position to get an economic gain for the sole sale of the related GHG reductions. The revised text has been added to the PD along with Appendix 9. The data from appendix 9 provides information on ex ante data and the future estimated emission reductions. Due to the level of emission



reductions being generated at each activity instance <10,000 tCO $_2$ e per year and through interviews with employees of the facilities (Boisaco) mentioned in Appendix 9 it is confirmed that these projects were not implemented to generate removals/reductions in emissions. The response from the PP was accepted by the assessment team therefore **CAR10** was closed.

CAR12 was raised to confirm that if ex ante data is to be used for determining baseline then information available from theoretical estimates/historical consumption for each operational project instance should be used. In response the PP states Baseline scenario for each Project Unit is done: Perimeter of the project unit, Determination of Unit of productivity and Collection of data related to GHG emissions, being energy consumption, biomass usage, methane formation avoidance. In the case of new buildings, the baseline scenario will be the actual CNB energy performance requirements. The examples projects have had their ex ante data broken down in Appendix 9 for clarity. CAR 12 was merged with CAR4, as above.

As per the discussions on site and the invoices provided by the project proponents, the baseline is determined based on the energy consumption and is deemed appropriate for Boisaco facility - Butane/Propane to biomass timber wood drier transformation. It was checked that a total volume of 2 ,544,334L of Butane was delivered to Boisaco tank in 2008 (verified through invoices^{vii}). A total volume of 65,338L of Propane was also delivered to Boisaco. Propane is used to pre-heat the Butane when outside temperature is lower than minus 10 °C.

Year 2008 is considered representative of the fuel usage by the project activity instance given that the data is complete and the energy, emission intensity figures show that 2008 was an optimised year (since 2001) with a energy intensity of (0.954) compared to previous years (0.984) which makes an emission intensity of 0.061 compared to 0.062, hence considered appropriate.

The exact details of timeline involved for the change in different burners is not known at the time of issuance of this report (VCS deadline of 12/07/2013), hence the exact status of implementation would need to be re-verified for certification of emission reductions. Also, as discussed in the above paragraphs a maximum amount of $5,000 \text{ tCO}_2\text{e}$ can be claimed for fuel switch process in Boisaco. The lifetime of the burners is about 30 years and because the burners were installed in 1990, PPs are eligible to claim emission reductions due to fuel switch for the first crediting period.

The quantity of biomass consumed by the furnace is 721 t/year, this is the basis of calculation of avoided emissions and this was checked through the internal records from the loader operator for biomass furnace. $652 \text{ tCO}_2\text{e}/\text{Year}$ is being claimed by the PPs for the methane avoidance project at Boisaco. The exact amount of emission reductions will be verified during verification against the original records. The project started operations on 01/01/2010, but some datasets were missing for the period January to April 2010, hence there is a minor discrepancy in the reported figures. The exact emission reductions claimed, underlying calculation spreadsheets outlining the procedures and the formulae used, will need to be rechecked against the records/log sheets at the time of verification.

3.2.5 Additionality

The methodology VM0018 requires 'Regardless of the specific project type being proposed, the project proponent must follow the step-wise approach specified in the CDM Combined Tool to Identify the Baseline Scenario and Demonstrate Additionality' to identify the baseline scenario and demonstrate additionality'. The tool shall be applied with baseline alternatives and project scenarios categorised by



project units. The cost savings associated with energy efficiency shall be included in the investment analysis.

CAR11, **13**, **and 14** were raised regarding the discussion in the PD to be in compliance with the combined tool for assessment of baseline and demonstration of additionality.

The PPs are following the approach for demonstration of additionality at the client facility level (each project instance – Appendix 9 to PD) and also the Project Proponent level.

The additionality at the SCPP project (umbrella project) is established while the information presented is not exactly as per the steps outline in the combined tool for assessment and demonstration of additionality.

The PPs argued that if the SC project was not created, the present situation prevails wherein in absence of incentives to change existing practices prevail and there is no measure of GHG reductions in Project Units. This is established that carbon finance was being considered by PPs since 2006-07 through the evidence and corresponding references^{viii} listed in appendix 3 of the PD. The PP has provided chronology of documented evidence to demonstrate historically the presence of Sustainable Community project inside the Quebec market since 2006^{ix}. Original copies of correspondences with various funds, municipalities and individual facilities to demonstrate that the client facilities (business owners) considered carbon financing while implementing the project activities are available (appendix 3 of the PD).

The chronology of the project proponent's actions to seek carbon funding demonstrates that they were exploring the ways to find the best standard in 2009-10, and selected VCS as the standard to submit a new methodology for approval (VM0018). The PP then selected the period 2010-2019 for the crediting period which identify a starting date (as defined and required under VCS standard)

Carbon finance is the sole economic return the SCPP has: the SC project finances all the efforts to start GHG small reductions in Project Units, to track them, to agglomerate them, to have them verified and to sell them.

Interviews were held with the client facilities during the site visits. It was confirmed that the revenues from the sale of carbon credits are instrumental in implementation and continuity of project activity instances

Moreover there are no mandatory requirements for avoiding methane emissions due to anaerobic decomposition of landfills for waste categories included in this project i.e. timber processing units.

The common practice is to maintain the status quo where:

- a. Existing buildings maintain status quo or meet minimum requirements without any additional investment in advanced technologies (more energy efficient).
- b. For new buildings to comply with strict minimum imposed by the CNB
- c. Waste diversion: to maintain actual landfilled waste management practice.

CAR 11 was raised because the discussion on the baseline scenario should be in line with the methodology and the CDM Combined tool. This is an important step and must be fully discussed in the PD. The main barriers listed for the project activity instances are related to the lack of access to capital, technologies and skilled labour. Also availability of cheap electricity to sparsely populated areas is listed as other barriers. It was argued that the listed barriers are subjective and do not provide comparability to similar projects implemented in the region without revenues from the sale of carbon credits. **CAR11** was closed after the client included the steps for demonstration of additionality as per the combined tool.



CAR 13 and CAR14 were raised because the methodology provides a list of alternatives that should be considered (at minimum) for the baseline scenario. These CARs were later merged with CAR 11 because the issues were related to determination of baseline and demonstration of additionality.

The Project Proponent's argument that additional revenues from VCUs would help overcome the increased risk associated with the barrier. For this, it is not transparently demonstrated that the expected revenues from the sale of VCUs are significant when put into relation with the risk(s) caused by the barrier(s) and/or total cost of the project. It cannot be established that in similar circumstances (in similar industries/sectors, in companies of similar size and ownership structure, in similar projects) the barriers actually prevented the implementation of other project(s). Regarding investment barriers, there is no evidence that the financing of the project activity instances is assured only due to the benefit of the VCS or that the barriers listed cannot be overcome through additional finance.

The discussion on additionality in section 2.5 of the PD lists the steps involved to demonstrate additionality, this steps are not in exact compliance with the 'combined tool' but these provide reasonable assurance that the project is additional. This opinion is also based on the investment analysis calculations presented by the project proponent (ref. file 'irr-Will Solutions (SCSP*)), the validity of the key input values is confirmed as these have been audited by Project Proponent's financial accountants.

The project proponents have listed the various steps outlined in the combined tool for the two project activity instances in the annexure 9 to the additionality. The information regarding the alternatives for this project activity instances is general but deemed appropriate considering interviews held with project proponents on site and investment analysis calculations provided in investment analysis (ref. 02.Activity I and II IRR.xlsx)^{xi} The key input values contributing to total costs for Boisaco Biomass dryer project economics have been audited from public website of Quebec Government (Energy Efficiency Agency)^{xii}. The document confirms an aid of CAD \$ 8450 and a total investment of CAD \$ 2094286. The electricity rates are available from the official Hydro-Quebec price list and the applicable taxes applied were checked from provincial and federal rates applicable in Québec^{xiii}: 11.9%, and 15% respectively. The costs of equipment and maintenance are found reasonable (Boisaco's internal records and suppliers - Cascades and Kruger).

The description reflects the actual situation wherein the project proponent would have continued to use Butane/Propane fuels for drying purposes and the biomass being dumped in the landfill in the absence of the project activity.

3.2.6 Quantification of GHG Emission Reductions and Removals

Quantification of baseline and project emissions

The approaches for calculation of baseline and project emissions is discussed in section 3.1 of the PD, these are deemed appropriate in the context of the project activity instances planned under this project. The exact figures for baseline and project emissions are not elaborated under section 3.4. The information regarding the figures applied for calculating baseline emissions are detailed above in section 3.2.4. The project emissions related to the biomass energy project are due to 7121 MT of biomass being transported 5 to 6 daily transport from the sawmill to the furnace (600 meters). 3252 L of diesel corresponds to a conservative distribution of loader usage between its usage for loading the biomass furnace and its regular usage (internal records on diesel tank filling and usage distribution of 33% is the cumulative additions of the loader transports (data logs checked). Since fill replacement of the burners



had not occurred at the time of site visit, the data logs showed Butane and propane usage, hence the usage was also recorded in appendix 9 to the PD.

Also refer to the discussion on 'uncertainties associated with calculation of emissions' in the section below.

Quantification of leakage

The discussion on leakage has been provided in section 3.3 of the PD. As stated in the PD and required by the methodology, specific assessment should be undertaken while the data generated for the project activity instances is made available for verification. Also, the discussion about total GDP of Quebec's retail activities and mass balance under the section 'leakage' is considered redundant in the context of standard definition of leakage. Financial analysis of leakage talks about total GDP of Quebec's retail activities and not the specific details of the project instances. The methodology (section 7.4) requires that the likelihood of leakage is based on specific project activities. The PP was requested to demonstrate this in relation to the project instances under this project.

CAR 17 was raised on this issue. The leakage applicable for project activity instances should be quantified unless considered de-minimus. **CAR 17** was closed.

Summary of GHG emission reductions or removals

A total of net emission reduction of $22,852,000 \text{ tCO}_2\text{e}$ is estimated under this project. The PP claims that this figure is a projection based on more than 5,200 Sustainable community members who are likely to join the project (upon signing the contract). These figures need to be further checked against the actual records.

Uncertainties associated with the calculation of emissions

As discussed above, the calculation of emissions will be verified against actual data when it is made available for verification. The methodology is flexible and it offers a range of approaches for calculation of emissions taking into account the inherent uncertainties associated with the calculations.

CAR 15 and 16 were raised because equations for the baseline emissions and project emissions were not incorporated into the PD as per the methodological requirements. These CARs were merged as CAR 15, although the PP has inserted the applicable equations for the calculation of baseline and project emissions, the above CARs remain open because the approach for calculation of overall emission reduction was still not clear, there was no information for the calculation of total emission reduction figures as stated in the emission reduction table in section 3.4 of the PD. It was not clear which equations/formulae are used and how have the figures listed in the last column (estimated net GHG reductions) arrived. The PPs have submitted a summary of the emission reductions based on a figure approved by the Agency of energy efficiency under the umbrella ministry of Natural resources, Government of Quebec. The PP has confirmed that Will Solutions went into negotiation with AEEQ from March 2009 up to the official signature of an agreement accepted on June 20th 2010 and signed by both parties; Mr. Martin Clermont as CEO of Gedden and by Ms. Luce Asselin, CEO of the AEEQ, on July 28th 2010. At the signature of the agreement (Will-AEEQ) the estimation was endorsed the Government of Quebec, which was 30,550,000 tCO₂e. This included the GHG reduction emissions associated with activities related to energy efficiency, methane avoidance and transport optimisation. Following the methodology approval process and decision of PPs, to take out transport optimisation activities from its



methodology (in spring 2011), the PPs adjusted the yearly GHG reduction emission /facility and adjust in its Project Document (PD) a revised volume of 22,852,000 tCO₂e.

The figure of 22,852,000 is an estimate of emissions. A more accurate figure is not available at this stage but the justification is considered justified given that the project proponents have an agreement with more than 5,200 facilities (approximately 10,000 by the end of year 2019) for inclusion under the umbrella project which are likely to be finalised upon contract signatures.

CAR 18 was raised because information on the steps and calculations for direct calculation of emission reductions were missing in the PD. This was merged with CAR 15. CAR 15 was closed following the above justification.

3.2.7 Methodology Deviations

There are no methodology deviations applicable for this project.

3.2.8 Monitoring Plan

Data and parameters available at validation, Data and parameters monitored

Section 4 of the PD outlines the methodological approach for direct calculation of emission reductions. While the general approach is correct, specific values applied for project activity instances are not available for validation at this stage

CAR31 was raised because the data and parameters to be monitored as mentioned in the PD were not exactly as specified in the methodology. The monitoring of parameters such as CH₄, N₂O and CO₂ were not mentioned. The methodology also requires reporting of the CO₂ emission factor for electricity drawn from the grid, the thermal energy and fraction of methane captured in the SWDS gas. The PD did not mention these parameters. The factors considered redundant were also deleted while PP revised the PD to include the information on relevant parameters and hence **CAR31** was closed.

The data for calculation of baseline and project emissions is validated in this report are checked on the basis of copies of invoices, load shift records, operator's internal reports, invoice reconciliation and financial statements.

Applicability and eligibility of monitoring equipment and procedures

The general information on monitoring equipment and procedures as described in section 4 of the PD is deemed sufficient for monitoring of emission reductions under the project.

SGS recommends a sampling approach for verification; however the sampling will follow general principles of sample size determination, materiality and reasonable assurance.

3.3 Environmental Impact

Due to the nature of the methodology the environmental impact from the PP (will Solutions) does not require a EIA assessment as they only provide the ICT platform to allow the individual project instances, facility per facility, to monitor their emission reductions through energy efficiency and waste diversion activities.



CL 19 was raised requiring the client to confirm that an Environmental Impact Assessment (EIA) is not a requirement in the province of Quebec. The PP responded by stating that for the size and the type of Project Units, there is no requirement for an EIA. Whenever the size of the project is requiring an EIA, an addendum will be added where the client will confirm that the project is conforming to regulations. The text in the PD was revised modified and **CLA19** was closed.

3.4 Comments by stakeholders

Under section 6 of the PD, the comments received from stakeholders are listed and the general feedback to the project activity has been positive. Stakeholders are keen to be part of the project activity to meet their corporate targets and also to change their operational behaviour.

CAR 20 was raised in response to no information being provided on the forms of media used to invite the stakeholders to the consultation and the list of participants. Personal communications and presentations were used as a medium for stakeholder consultations. No outstanding concerns have been observed hence **CAR 20** was closed.



4 VALIDATION CONCLUSION

SGS United Kingdom Limited has been contracted by Will Solutions Inc to perform a validation of the project: "Energy Efficiency and Solid Waste Diversion within the Quebec Sustainable Community"

The Validation was performed in accordance with the VCS standard version 3.3 requirements and host country criteria, as well as, criteria given to provide for consistent project operations, monitoring and reporting.

SGS reviewed of the project description documentation, using a risk based approach and conducted follow-up interviews.

19 CARs and 04 CLs and 8 Obs were raised. At the time of issuance of this report all CARs are closed and 1 FARs is issued.

Signed on behalf of the Validation Body by Authorized Signatory SGS United Kingdom Limited

Date:11/07/2013	Date: 11/07/2013
Siddhill	himself
Siddharth Yadav	Linda Hu
Lead Assessor:	Technical Reviewer

References:

ⁱ General contract form- Sample contract dated 07/10/2012

[&]quot; Proof of contracts with Boisaco

iii Boisaco start date confirmation

iv Memo regarding start date confirmation from Will solutions Inc.



Project Description and Project Activity instance documents and related Appendices:

PD-version 01.1 dated 20/12/2011, version 01.2 dated 24/11/2012, version 2.0 dated 05/07/2013 and version 2.1 dated 11/07/2013 (Final version)

Project Activity Instance - Boisaco Case I dated 11/07/2013

Project Activity Instance - Boisaco Case II dated 11/07/2013

^v Quebec legislative framework summary

vi Letter of endorsement from Mr. Charles Larochelle,, Assistant Deputy Minister, Ministry of Climate Change, Air and Water Government of Quebec province dated 22June 2012

vii Butane invoices for Boisaco (file dated 05/07/2013)

^{viii} Proof of carbon finance was being considered by PPs since 2006-07 through the evidence and corresponding references listed in appendix 3 of the PD

ix Carbon finance was considered by PP since 2006

^x Financial Analysis Calculations – Will Solutions PD 'irr-Will Solutions' (SCSP)

xi Financial Analysis Calculations - Project Activity Instances for Boisaco- I and II IRR.xlsx

xii Available at http://www.efficaciteenergetique.mrnf.gouv.qc.ca/innovation-technologique/technoclimat/projets-soutenus/ last accessed 09/07/2013 at 0645 Hrs GMT

kttp://www.revenuquebec.ca/fr/entreprise/impot/societes/taux_imposition.aspx, Fédéral - http://www.cra-arc.gc.ca/tx/bsnss/tpcs/crprtns/rts-fra.html , last accessed 09/07/2013 at 0700 Hrs GMT