



Agence de l'efficacité énergétique

MANUFACTURING SECTOR SUPPORT PROGRAM

Detailed Guide for Applicants



AGENCE DE L'EFFICACITÉ ÉNERGÉTIQUE

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Publication number: AEE-11-06-22
June 2011

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PROGRAM BACKGROUND

The goal of the energy strategy launched in 2006 by the Government of Québec is to develop Québec's full energy potential and to use energy more efficiently in a sustainable development perspective. Since energy efficiency is at the heart of this strategy, ongoing financing assistance for such initiatives has been forthcoming.

With the roll-out in 2007 by the Ministère du Développement économique, de l'Innovation et de l'Exportation of the **Action Plan to Support the Manufacturing Sector**, the Government of Québec is providing additional support to help all manufacturing businesses. The action plan has two main goals: (1) invest to counter the negative effects of the rising dollar and relaunch job creation and exports, and (2) invest to help the manufacturing sector ensure a stronger future.

It is in this context that the **Manufacturing Sector Support Program** was set up. Funding comes from Measure 1 of the **2006-2012 Climate Change Action Plan (CCAP)**, whose goal is to establish energy efficiency assistance programs using royalties paid into the **Green Fund**.

The Government of Québec intends to use this program to provide financial assistance for light fuel oil, propane, and butane users that agree to implement energy efficiency measures. The program has a \$15 million budget and will end on March 31, 2013.

PROGRAMS IN BRIEF

AGENCE DE L'EFFICACITÉ ÉNERGÉTIQUE PROGRAMS

The Agence de l'efficacité énergétique (AEE) develops and implements financial assistance programs aimed at increasing energy efficiency, notably the **Manufacturing Sector Support Program**, and at reducing greenhouse gas (GHG) emissions through initiatives targeting fuels, as well as certain multisource applications.

The Agence de l'efficacité énergétique offers a number of programs:

1. Energy Innovation Assistance Program (PAIE)

Financial assistance for the development, demonstration, and pre-commercialization of new energy efficiency technologies and processes as well as emerging energy sources.

2. Technoclimat, a green technologies demonstration program aiming to reduce greenhouse gas emissions

Financial assistance for innovative technology and processes and demonstration projects with good potential for reducing or sequestering GHG emissions, improving energy efficiency to reduce fossil fuel consumption, and replacing fossil fuels with renewable energy sources.

3. Manufacturing Sector Support Program (PASM)

Financial assistance for energy and value analyses, feasibility studies, and process integration analyses as well as for the implementation of energy efficiency measures to reduce the consumption of certain target fuels (light fuel oil, propane, and butane).

4. Heavy Oil Consumption Reduction Program (PRCML)

Financial assistance for energy and value analyses, feasibility studies, and process integration analyses as well as for the implementation of energy efficiency measures to reduce the consumption of heavy fuel oil, including conversion to biomass, natural gas, and less polluting fuels.

This Guide is for applicants who wish to participate in the **Manufacturing Sector Support Program**. Documentation for other AEE programs is available and can be obtained as follows:

- From a program manager – Industries of the Agence de l'efficacité énergétique
- By email at aee@aee.gouv.qc.ca
- At www.aee.gouv.qc.ca
- By telephone at **1-877-727-6655**

Additional information on the Manufacturing Sector Support Program can be obtained at info@mdeie.gouv.qc.ca.

PROGRAM SCOPE

ELIGIBLE APPLICANTS

Any incorporated company or corporate entity with premises in Québec that consumes certain target fuels (light fuel oil, propane, and butane) for its heating and manufacturing requirements and whose North American Industry Classification System (NAICS) code begins with 31, 32, or 33¹.

ELIGIBLE FUELS

For the purposes of applying the **Manufacturing Sector Support Program**, **target fuels** means **light fuel oil, propane, and butane**.

PROGRAM LIMITS

The Agence de l'efficacité énergétique or its authorized mandatory (hereinafter the AEE), reserves the right to limit its financial assistance by taking into account funding from other programs, including those of the Office of Energy Efficiency of Natural Resources Canada and of energy distributors. The amount of assistance may be adjusted according to the financial assistance offered by other sources.

In implementing the program, the AEE reserves the right to:

- Turn down any proposal that does not meet program criteria;
- Ask applicants to make changes to their proposals;
- Limit the number of projects approved in order to stay within budget;
- Limit the funding period;
- Prioritize projects with high consumption reduction targets;
- Amend program terms and conditions without prior notice;
- Terminate the program at any time without prior notice.

Applicants must sign an agreement to complete projects as presented and approved, the only obligation of the AEE being to provide the financial assistance granted. Under no circumstances may the AEE be held liable for any damage or prejudice arising from the program.

¹ Refer to the Statistics Canada website for a complete list of industries that meet this criterion..

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INTRODUCTION

PROGRAM DESCRIPTION

This Guide provides detailed information on the **Manufacturing Sector Support Program**. This program has two components:

- Analysis Component

The AEE provides financial assistance for analyses to determine the potential of improving the energy efficiency of an industrial facility or building. This component includes energy analyses, value analyses, feasibility studies, and process integration analyses related to the consumption of the fuels targeted by the program or that are part of a broader initiative involving these target fuels.

- Implementation Component

The AEE offers financial assistance to promote energy efficiency measures that reduce the consumption of certain target fuels (light fuel oil, propane, and butane). Measures to convert to other forms of fuels are, however, excluded from the program.

Projects proposed under this program must reduce the consumption of certain target fuels (**light fuel oil, propane, and butane**) and, consequently, reduce greenhouse gas (GHG) emissions. This will qualify them as **GHG projects**. The approach used in this Guide makes it possible to study proposals in this context.

PROGRAM PARTICIPATION

The terms and conditions for participation in the two components are described in Parts A and B herein.

Applicants who wish to obtain financial assistance under this program must complete the Application Form (see Appendix 1) and file an electronic version with the AEE, along with a duly signed hard copy version together with all required documents, in accordance with the instructions given below.

FORMS

Applicants can obtain the required downloadable forms by clicking on Project Forms (Excel file) on the Program description page of the Business Clientele/Industries section of the AEE website (www.aee.gouv.qc.ca). This file contains the following four forms:

- Application Form;
- Measure Implementation Plan;
- Detailed Costing Report;
- Performance Report — Measure Implementation Plan.

Each tab of the Project Forms file is identified by the title of the form it contains.

PART A - ANALYSIS COMPONENT

1. ELIGIBILITY OF ANALYSES

1.1 Eligible analyses and studies

The purpose of the analyses and studies is to determine the potential for improving the energy efficiency of a facility or building and, by the same token, reducing the consumption of target fuels and the GHG emissions they generate. They must thus identify concrete energy saving measures that can be implemented. A written report must be drafted and signed by a member in good standing of a professional order of engineers. An Implementation Plan for the recommended measures must also be provided. Eligible analyses and studies (hereinafter the analysis) are as follows:

- Energy analysis of target fuels;
- Overall value analysis of all types of fuels;
- Feasibility analysis of target fuels;
- Analyses of the integration of fuel consumption processes by a firm recognized by CanmetENERGY and Natural Resources Canada. Such analyses may apply to existing plants, plant expansions, new constructions, or new production lines;
- Process integration analyses of fuel consumption using simplification tools recognized by CanmetENERGY and aimed at reducing consumption.

Energy saving measures that have been identified and that require investment may be eligible for financial assistance under the energy efficiency programs offered by the AEE or its partners. In addition to identifying energy saving measures that require investment, the analyses must recommend measures whose return on investment can be achieved without financial assistance from the various energy efficiency programs namely:

- Measures whose return on investment (ROI) period is less than one year;

ROI period is defined as the difference between the eligible costs of the project and the annual net savings arising from energy consumption (or the difference between the decrease and increase in energy costs, all types of energy included).

- Soft measures, that is, measures related to changes in management, operating, or maintenance practices that require little or no capital investment.

1.2 Eligible costs

Eligible costs under the program are those that are solely related to the performance of the analysis and directly related to the **target fuels**. They must also be appropriate, justifiable, and verifiable using generally accepted accounting principles.

Eligible costs include the following:

- The cost of external consultations;
- The cost of in-house employees directly involved in the analysis, up to a maximum ceiling pre-approved by the AEE at the agreement preparation step;
- The cost of renting measurement equipment and devices.

The following costs are not eligible:

- Production losses, waste, and other losses caused by activities related to the analysis;
- The cost of work performed **before** the effective date of the agreement with the AEE.

2. SPEICLA CONDITIONS AND REQUIREMENTS

2.1 Rights and obligations of the AEE

The AEE:

- Reserves the right to turn down proposals if they do not meet program eligibility criteria or if the program budget is exhausted;
- Reserves the right to end or modify the program without prior notice;
- Retains a right of review over analysis mandates to ensure that the deliverables are clearly defined in accordance with program criteria;
- Cannot be held liable for any damage or prejudice whatsoever resulting from the program;
- Must pay the financial assistance granted, subject to the terms and conditions set out in the agreement;
- Must consult the applicant before disseminating information (other than that required for program monitoring) that could cause prejudice to the applicant's competitiveness.

2.2 Commitment of applicants

The applicant:

- Must demonstrate its intention to implement relevant recommendations arising from the analysis;
- Must not undertake an analysis before a written agreement to this effect is signed by the two parties or before receiving an official written notice from the AEE authorizing it to start the analysis;
- Must complete the analysis within the time limit set by the AEE to receive financial assistance under the program;
- Cannot mandate a third party to represent it with the AEE. The financial assistance is strictly reserved for the applicant. The applicant remains fully responsible for the results of the analysis, regardless of who conducts it;
- Must notify the AEE of any financial assistance obtained to perform the analysis;
- Must periodically apprise the AEE of the status of the analysis and also invite the AEE to participate in meetings related thereto;
- Must notify the AEE of the recommendations implemented and energy savings achieved;
- Must provide the AEE with all information and documents required to conduct an accounting audit specific to the analysis and provide access, during regular office hours and with 24 hour's notice, to all information deemed relevant to the accounting audit, and this for a period of up to 24 months after the end of the analysis;
- Must agree to divulge information related to the analysis, including the identity of the applicant, a brief description of the analysis and its cost, the amount of financial assistance received, recommended energy saving measures and associated savings, and, where applicable, savings arising from the implementation of these measures.

An agreement between the AEE and the applicant will confirm the definitive terms and conditions for performing the analysis.

3. FINANCIAL ASSISTANCE

The AEE grants financial assistance for each analysis accepted in accordance with the criteria described in this section. Since the available budget is limited, funding will be allocated on a first come-first serve basis for proposals deemed acceptable by the AEE and until such times as the available budget is exhausted.

The amount of financial assistance, the terms and conditions of which are set out in an **agreement** (see the Business clientele/Industries section at www.aee.gouv.qc.ca to consult a model agreement), covers all eligible measures of an analysis and corresponds to the maximum amount that can be granted. However, if the applicant obtains financial assistance from other sources during the performance of the analysis, the amount of financial assistance set out in the agreement may be decreased in accordance with program criteria.

3.1 Financial assistance granted

A) Energy analyses, value analyses, and feasibility studies

The financial assistance granted by the AEE for these types of analysis cannot exceed the lesser of the following amounts:

- 50% of the eligible cost of the analysis related to target fuels;
- Up to a cumulative maximum of \$25,000 per facility for the duration of the program, which ends on March 31, 2013.

The financial assistance granted by the AEE may be combined with assistance from complementary programs offered by energy distributors or other government agencies. However, the cumulative total of the financial assistance obtained cannot exceed 75% of eligible costs. The applicant must always contribute at least 25% of these costs.

B) Process integration (PI) analysis

The financial assistance granted by the AEE for a PI analysis cannot exceed the lesser of the following amounts:

- 50% of the eligible cost of the analysis;
- Up to a cumulative maximum of \$100,000 per facility for the duration of the program, which ends on March 31, 2013.

The financial assistance granted by the AEE may be combined with assistance from complementary programs offered by energy distributors or other government agencies, with the exception of assistance provided by the AEE under the **Heavy Oil Consumption Reduction Program**. However, the cumulative total of the financial assistance obtained cannot exceed 75% of eligible costs. The applicant must always contribute at least 25% of these costs.

3.2 Time limits

The analyses must be performed within a set time limit. As such, the applicant agrees to begin the work related to any analysis promptly and to submit the **Analysis Report** and all required documents within **six months** of the effective date of the agreement reached with the AEE. This deadline applies to energy analyses, value analyses, and feasibility studies. The deadline for PI analyses is **24 months**.

In the event these requirements are not met, the AEE may withdraw the financial assistance granted and require reimbursement of the financial assistance already paid, if any.

3.3 Payment of financial assistance

Financial assistance for the two types of analysis described above will be paid as follows:

- A first payment of 50% of the contracted assistance following the signing of the agreement;
- Following the acceptance by the AEE of the Analysis Report and the Measure Implementation Plan, a second payment corresponding to the remaining financial assistance based on eligible costs and, where applicable, contributions from complementary programs.

For each payment, the applicant must first provide an **invoice** indicating the following information:

- a) The commercial name of the business to which the assistance is granted;
- b) The file number assigned by the AEE;
- c) The date of the invoice;
- d) The description and total amount of assistance (amount of the financial assistance payment).

3.4 Other financial assistance

The applicant must clearly identify in its proposal all amounts of financial assistance received or applied for.

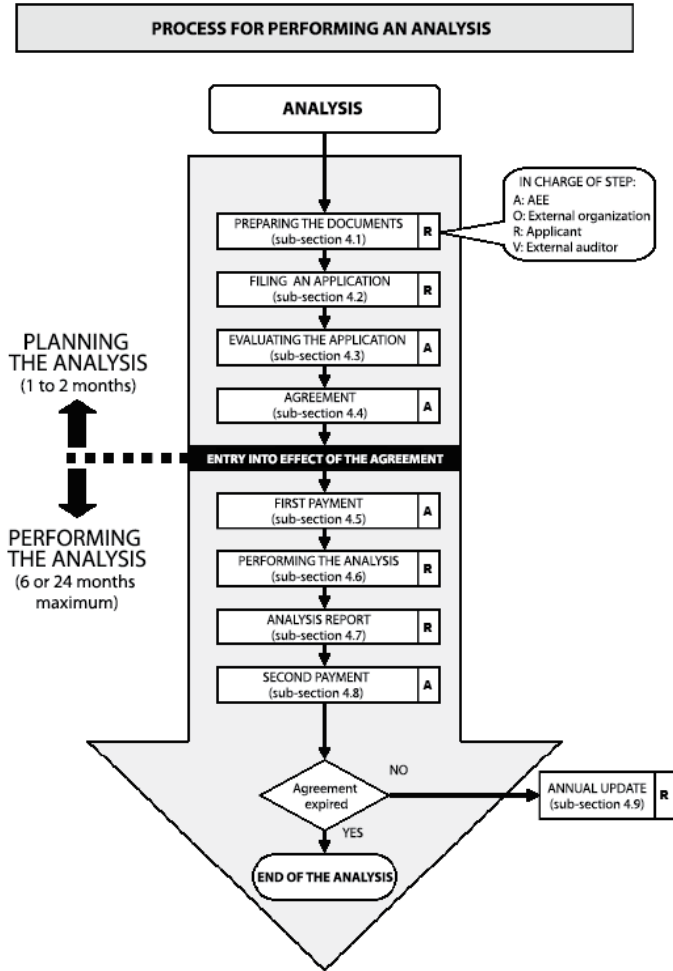
3.5 Adjustment of the financial assistance

If the cost of the analysis is lower than the original estimate or if certain costs are deemed ineligible, the amount of financial assistance originally granted may be re-evaluated or a reimbursement may be required. The amount of financial assistance granted may also be re-evaluated if financial assistance from complementary programs offered by energy distributors or other government agencies is obtained or cancelled in the course of the analysis.

The financial assistance paid to cover the cost of the analysis may in no case exceed the amount provided for in the agreement, even if the cost exceeds the original estimate.

4. PLANNING AND PERFORMING THE ANALYSIS

The process of performing an analysis proposed under the **Manufacturing Sector Support Program** can be summarized as described below. The sub-sections of the Guide describing the activities involved in each step are indicated in parentheses.



PLANNING THE ANALYSIS

This phase includes all the steps leading to the filing of an application with the AEE. It begins with the preparation of the supporting documents that must be enclosed with the application and ends with the signing of the agreement.

4.1 Step 1 - Preparing the documents

Applications for financial assistance must be accompanied by certain documents that make it possible to determine the scope of the analysis and the deliverables.

• Description of the Analysis

The **Description of the Analysis** document must be prepared using the Description of the Analysis model in accordance with the instructions below. This structure makes it possible to associate an analysis with one of the assistance programs offered by the federal government if the applicant also plans on filing an application under one of these programs.

- 1. Introduction:** Describe the main energy efficiency problem at the facility and how it will be analyzed, specifying the method to be used (e.g., pinch analysis for processes or energy analysis of the entire facility)
- 2. Context:** Give a detailed description of the facility, specifying the energy context of the facility, the production or service unit, production type and capacity, public utilities serving the facility, and facility location
- 3. Purposes and goals:** Describe the purposes and goals of the analysis. The purposes of the analysis must be operational and measurable and must be related directly to one or more goals
- 4. Scope of the analysis:** Describe the activities to be undertaken for the analysis and the tasks to be accomplished for each. Each activity must generate a measurable result leading to a conclusion. The tasks to be performed by consultants and by the applicant must be clearly identified
- 5. Documents to produce:** Provide a description of the documents produced, such as the Analysis Report, process diagrams, heat and mass balances, simulation model, reports, detailed calculations, etc.
- 6. Schedule:** Give the start and end dates of the analysis as well as measurable milestones
- 7. Budget:** Describe the amount of work and the costs associated with the analysis. Travel expenses, including living expenses, must be specified
- 8. Expertise:** Identify the people who will perform the analysis and describe the expertise they possess that qualifies them to perform the work

- **Forms**

Applications must be filed using forms provided by the AEE. For the Analysis Component, applicants must complete the electronic versions of the following forms from the Proposed Project Forms Excel file:

- **Application Form** (See Appendix 1);
- The “Estimation of costs” section of the **Detailed Costing Report** (see Appendix 3) presents an estimate of the total costs of the analysis broken down by **energy form**. The cost, number of hours, and detailed description of the work performed by the applicant’s employees must be clearly identified in the “In-house” column.

4.2 Step 2 - Preparing the application

Once the documents have been completed, the applicant must submit electronic **AND** hard copy versions of the following documents to the AEE:

- a) The completed **Application Form**;
- b) A signed version of the same **Application Form**;
- c) The **Detailed Costing Report**;
- d) The **Description of the Analysis**;
- e) If applicable, the **proposal** from the consultant who will be performing the analysis. The proposal must include (i) the description of the mandate, including the goals and scope of the analysis and the protocol, (ii) the list of employees, specifying their roles and responsibilities in performing the mandate, (iii) the list of deliverables, including a brief description of the content of the analysis, (iv) the schedule for the main steps, and (v) the costs of the analysis broken down by **energy form**, specifying the number of hours to be worked and the hourly rate to be paid to the employees, as well as all other applicable costs. If more than one measurement will be used in the analysis, the costs must be presented in table form for each type of measurement and by energy form, if the measurement involves more than one energy form;
- f) Any **other supporting documents**.

If required, clarifications may be made by the AEE prior to the preparation of the application.

- **Filing the application**

The duly completed **Application Form** and supporting documents must be sent by mail to

Agence de l’efficacité énergétique

Direction générale des secteurs de l’innovation technologique, du transport et de l’industrie
5700, 4^e Avenue Ouest, RC
Québec (Québec) G1H 6R1

Or by email to aee@aee.gouv.qc.ca

If the application is sent by email, the supporting documents must be compressed, using the .zip format. We also recommend that applicants follow up to ensure that the AEE has received the documents. The hard copy version must follow within **five working days**.

- **Confirmation of receipt by the AEE**

The AEE will confirm receipt of the application in writing within five working days of receipt of the application and all supporting documents. At the same time, the AEE will notify the applicant of the file number assigned to the analysis as well as the program officer in charge of the file. In order to facilitate exchanges of information, all communications must mention the file number assigned by the AEE.

4.3 Step 3 - Evaluating the application

As soon as it receives the application, the AEE will conduct a preliminary evaluation to determine whether the application is admissible by verifying:

- a) That all the required information on the **Application Form** has been provided;
- b) That a signed copy of the form has been appended;
- c) That the project involves a facility in Québec;
- d) That the proposed analysis is eligible under the criteria set out in sub-section 1.1;
- e) The costs and schedule.

At this stage, the AEE may ask for additional clarifications or refuse an application that is incomplete.

- **Confirmation of the acceptance or refusal of the application**

Applicants will receive a written response within two to four weeks informing them of the acceptance or refusal of their application and, where applicable, the amount of financial assistance granted.

4.4 Step 4 - Agreement

Once an analysis has been accepted, the applicant and the AEE will sign an **agreement** (see model agreement in the Business clientele/Industries section at www.aee.gouv.qc.ca) that sets out the information specific to the analysis and the amount of financial assistance granted.

- **Confirmation of information on the analysis**

In order to draw up the agreement, the AEE will send a document to the applicant presenting the main information on the analysis, including the title, total eligible costs, the cost of work performed by in-house employees, and the key implementation dates. The applicant must confirm or correct this information and initial it.

PERFORMING THE ANALYSIS

This phase includes all the steps involved in performing the analysis. It begins with the first payment of financial assistance and ends with the production of the **Analysis Report**.

4.5 Step 5 - First payment of financial assistance

A first payment, corresponding to 50% of the contracted financial assistance for the analysis will be issued following the signature of the agreement. To receive the payment, the applicant must first issue an invoice that complies with the requirements set out in sub-section 3.3.

The payment is generally issued within thirty days of receipt of the invoice and the supporting documents.

4.6 Step 6 - Performance, follow-up, and monitoring of the analysis

The applicant must perform the analysis as set out in the **Description of the Analysis** and the agreement. The applicant's resource person must regularly inform the AEE program officer of the status of the analysis and immediately advise the officer in writing of any changes made during the performance of the analysis. In such instances, the AEE may evaluate the suitability of the changes with a view to maintaining, reducing, or withdrawing the financial assistance as per the terms and conditions set out in the agreement.

The applicant must also provide the AEE program officer with reasonable advance notice of progress meetings and the final presentation so that the officer can attend.

4.7 Step 7 - Completion of the analysis and filing of the Analysis Report

The applicant must ensure that the analysis is complete and provide the AEE with the following documents no later than **24 months** after the effective date of the agreement:

- a) The **Analysis Report**, based on the **Analysis Report model**, completed in compliance with the instructions given below;
- b) The completed **Detailed Costing Report** (see Appendix 3);
- c) Copies of invoices of eligible expenses and a list of the hours worked by in-house employees;
- d) The updated **Measure Implementation Plan** (see Appendix 2).

In the event the applicant does not provide the required documents by the specified deadline, the AEE may cancel the financial assistance granted and demand reimbursement of the financial assistance already paid, if any. In addition, any other financial assistance received to perform subsequent analyses will be withheld until the situation has been corrected.

- **Analysis Report**

To ensure that all the elements of the analysis have been performed, the **Analysis Report** must be organized as follows:

- 1. Presentation page:** Indicates the title of the analysis, the file number, the name and contact information of the applicant, the date, and the name, contact information, and signature of the consultant;
- 2. Table of Contents;**
- 3. Introduction;**
- 4. Summary of the Analysis:** Presents (a) applicable disclaimers, (b) descriptions of the facilities and systems analyzed, (c) the completed **Measure Implementation Plan** (see Appendix 2), (d) the evaluation of the unit energy costs of the systems analyzed, and (e) the main conclusions of the report;
- 5. Analysis of the Systems:** Presents (a) the methodology used for each proposed measurement, recommended or not, (b) a description of each improvement and a description of problems and proposed solutions (including simplified process diagrams and energy and mass balances from before and after the implementation of each measure), (c) required investments (including a brief description of the work, engineering, fees, financial assistance received, and applicable tax measures), (d) an evaluation of savings or maintenance cost over-runs associated with the implementation of the measures, (e) the calculation of the payback period, (f) the useful life of the measures and the net savings over the useful life, (g) the impact on production, comfort, and health, (h) the environmental impact, including the impact on GHG emissions, (i) other non-energy benefits, and (j) the performance curves of the equipment and recommendations concerning performance guarantees, if applicable;
- 6. Data:** Presents (a) a summary table of readings taken and measurements performed, and (b) a short discussion of the data;
- 7. Results and Recommendations:** Presents the results of the analysis and the main recommendations;
- 8. Appendices:** (a) data sheets, (b) measuring report, (c) descriptions of the measuring instruments or devices used, and (d) all other supporting documents and information.

4.8 Step 8 - Second payment of the financial assistance

The second and final payment, which corresponds to the remaining financial assistance granted for the analysis by the AEE, will be paid once the **Analysis Report** and **Measure Implementation Plan** have been accepted and the invoices and **Detailed Costing Report** for the analysis have been verified. Once the verification is complete and, as warranted, the adjustment terms and conditions set out in sub-section 3.5 have been applied, the AEE will notify the applicant of the amount of financial assistance to which it is entitled. In order to receive the payment, the applicant must issue an invoice corresponding to the amount specified by the AEE, and this in accordance with the requirements set out in sub-section 3.3.

4.9 Annual update

An annual update of the analysis must be made and sent to the AEE **up to the end date of the agreement**. To this end, the applicant must submit a **Performance Report – Measure Implementation Plan** specifying whether the main recommendations of the **Analysis Report** have been implemented or not.

In the event this requirement is not met, the AEE may withdraw the financial assistance granted and require reimbursement of the financial assistance already paid.

PART B - IMPLEMENTATION COMPONENT

1. PROJECT ELIGIBILITY

1.1 Eligible projects

Eligible projects must include a measurable, permanent energy efficiency measure or group of measures involving target fuels that are used directly to produce heat for the needs of the facility. The project must be based on a written recommendation that has been signed by a member in good standing of a professional order of engineers.

The following types of project are eligible:

- Replacement of equipment by equipment that uses target fuels more efficiently;
- Modifications to existing equipment, facilities, or processes that reduce the use of target fuels;
- Installation of new equipment that reduces the total use of target fuels.

Non-eligible projects

The following types of project are not eligible:

- Projects whose payback period (PP) is less than one year or longer than the useful life of the measure implemented;

PP is defined as the difference between the eligible costs of the project and the annual net savings of energy consumption (or the difference between the decrease and increase in energy costs, all types of energy included).

- Projects to convert from a form of fuel or source of energy to another;
- The replacement of equipment for maintenance purposes by equipment that is equivalent in terms of target fuel use;
- Projects for which the energy efficiency of the proposed equipment is lower than industry or generally recognized standards;
- Projects that require capital investment or a permanent slowdown or stoppage of production;
- Projects to bring the facility into compliance with Québec or Canadian laws, regulations, or standards, except laws, regulations, or standards that specifically target reductions in GHG emissions;
- Projects that may have a negative impact on health, safety, or the environment.

1.2 Eligible costs

Eligible costs under the program are those that are solely related to the implementation of the project and that are directly related to the **target fuels**. They must also be reasonable, justifiable, and verifiable using generally accepted accounting principles. They include the following:

- The cost of purchasing and upgrading equipment, including equipment required for measuring energy use;
- The cost of engineering, installation, start-up, and in-house measurement work, including the remuneration of operating employees up to a maximum ceiling pre-approved by the AEE at the agreement preparation step;
- The cost of external engineering work;
- The cost of installing and starting up required equipment when contracted out to a third party;
- The cost of measurements, quantifications, and verifications performed by an external firm;
- The incremental acquisition, installation, and supplementary engineering costs of equipment that is more energy efficient than conventional equipment, in cases where the replacement of a piece of equipment or installation of new facilities leads to an increase in the use of the target fuels.

The following costs are not eligible:

- Production losses, waste, and other losses caused by the implementation of energy saving measures; operating, repair, and maintenance costs; and current business expenditures;
- The cost of purchasing equipment from a subsidiary, division, or manufacturing plant of a same enterprise, excluding transfer costs, which are eligible;
- The cost of work performed **before** the effective date of the agreement with the AEE as well as the cost of equipment for which purchase orders were issued before this date.

2. SPECIAL CONDITIONS AND REQUIREMENTS

2.1 Rights and obligations of the AEE

The AEE:

- Reserves the right to turn down proposals if they do not meet program eligibility criteria or if the program budget is exhausted;
- Reserves the right to end or modify the program without prior notice;
- Cannot be held liable for any damage or prejudice whatsoever resulting from the program;
- Must pay the financial assistance granted, subject to the terms and conditions set out in the agreement;
- Must consult the applicant before disseminating information (other than that required for program monitoring) that could cause prejudice to the applicant's competitiveness.

2.2 Commitment of the applicant

The applicant:

- Is responsible for choosing the energy saving measures associated with the target fuels and for the ensuing GHG emission reductions, as well as the costs and results of the project;
- Must confirm, by applying a recognized procedure (**ISO 14064**), that the GHG emission reductions have actually been attained;
- Cannot begin the project before a written agreement to this effect has been signed by the two parties or before an official written notice from the AEE has been sent authorizing the start of the project;
- Must complete the project within the time limit set by the AEE before receiving financial assistance under the program;
- Cannot mandate a third party to represent it with the AEE. The financial assistance is strictly reserved for the applicant. The applicant remains fully responsible for the results of the project, regardless of who carries it out;
- Must notify the AEE of any financial assistance obtained regarding the project;
- Accepts that the AEE verify the facility and the start-up of the equipment as well as the application of the **Monitoring Plan** during regular office hours;
- Must provide the AEE with all information and documents required to conduct an accounting audit specific to the project and provide access, during regular office hours and with 24 hour's notice, to all information deemed relevant to the accounting audit, and this for a period of up to 24 months after the completion of the project;
- Must agree to divulge information related to the project, including the identity of the applicant, a brief description of the project and its cost, the amount of financial assistance received, the measures to reduce the use of target fuels and their associated GHG emissions, and the results obtained by implementing these measures.

An agreement between the AEE and the applicant will confirm the definitive terms and conditions for implementing the project.

2.3 ISO 14064 standard

Projects proposed under this program are considered GHG emission reduction projects (hereinafter called GHG projects). The AEE has designed a **simplified project planning and implementation process** that applicants must use and that is based on the international **ISO 14064-2** standard setting out GHG project guidelines.

For applicants that do not intend to obtain certification for GHG emission reductions resulting from their projects, the process, which does not lead to GHG emission reduction certification per se, still complies with the broad strokes of the **ISO 14064-2** standard. The documentation produced for the project could thus serve as a basis for a future registration of the project on a recognized register and potentially allow GHG emission reduction certification following validation and verification.

For applicants intending to obtain GHG emission reduction certification, the AEE provides certain instructions that can guide them in the certification process. However, applicants must first target a specific market and adapt their process to it.

Application of **the ISO 14064 standard involves compliance with a number of principles**. Information must be provided in a **transparent** way; the sources, data, and methodologies must be **suitable** for the project; the potential results must be evaluated **accurately**; the information must be **coherent** and allow valid comparisons to be made; GHG emission measurements and relevant data must be **complete**; and **care** must be taken in hypotheses, values, and steps to take. The goal of this approach is to avoid over-estimating emission reductions.

2.4 Calculation of tonnes of GHG emission reductions resulting from the implementation of the measures

The applicant must evaluate the impact on GHG emissions of the energy efficiency measures proposed in the project. To perform this calculation, the applicant must use the **tonne** as the unit of measure and must convert reductions in the use of each type of fuel into tonnes of CO₂ equivalent (CO₂e). The GHG emission reductions resulting from the project must be calculated using the standardized emission and conversion factors proposed by the AEE in the Emission and Conversion Factors table in the Business clientele/ Industries section of the AEE's website (www.aee.gouv.qc.ca).

The number of tonnes of GHGs is calculated by determining the net consumption balance (decreases less increases) for each target fuel whose consumption changes as a result of project implementation, in natural units, multiplied by the corresponding emission factor.

2.5 Ownership of GHG reductions

Applicants keep ownership of the GHG emission reductions resulting from the implementation of funded projects. However, certified reductions in GHG emissions that are eligible for transactions on the carbon market (hereinafter called **carbon credits**) because they exceed regulatory targets that may apply to certain sectors or because they come from unregulated sectors must be entered on a recognized register. All rules imposed by regulations and the market must be complied with to prevent double counting of reductions.

3. FINANCIAL ASSISTANCE

The AEE grants financial assistance for each measure accepted in accordance with program eligibility criteria. A project may thus be accepted in its entirety, partially accepted based on the eligibility of individual measures, or turned down in its entirety if none of the measures is accepted.

Since the available budget is limited, amounts will be allocated based on the date of receipt of eligible projects until the budget has been exhausted.

The amount of financial assistance granted, the terms and conditions of which are set out in an **agreement** (see the Business clientele/ Industries section at www.aee.gouv.qc.ca to consult a model agreement), covers all eligible measures of a project and corresponds to the maximum amount that can be granted.

However, if the goals are not achieved, if the cost of the project is lower than the original estimate, if the applicant obtains other sources or other amounts of financial assistance, or if the savings are a direct or indirect result of a slowdown or stoppage of production, the amount of financial assistance provided for in the agreement may be decreased.

3.1 Financial assistance granted

The financial assistance granted by the AEE for projects cannot exceed the lesser of the following amounts:

- The amount required to reduce the PP to one year;

PP is defined as the difference between the eligible costs of the project and the annual net savings arising from energy consumption (or the difference between the decrease and increase in energy costs, all types of energy included).

- 75% of the eligible costs of the project, including financial assistance from distributor and government programs;
- \$250,000 per project up a cumulative maximum of \$1,500,000 per facility;
- The original amount requested by the applicant at the project preparation step.

The financial assistance granted by the AEE can be combined with assistance from complementary programs offered by distributors or other government agencies. However, the cumulative total of the financial assistance obtained from distributors, other government agencies, and the AEE cannot exceed 75% of eligible costs. The applicant must always contribute at least 25% of the costs.

3.2 Time limits

Projects must be completed within a specific time limit. The applicant must agree to begin the work as of the effective date of the agreement with the AEE so as to be able to provide copies of the first purchase orders within four months of this date. Projects, including the production of the **Project Report**, must be completed within 36 months of the effective date of the agreement. The effective date of the agreement, which can be before the date of signature, is one of the parameters agreed to in advance with the applicant.

If these requirements are not met, the AEE can withdraw the financial assistance granted and require reimbursement of the financial assistance already paid, if any. In addition, any other financial assistance for the implementation of subsequent projects will be withheld until the situation has been corrected.

3.3 Payment of financial assistance

The financial assistance will be paid as follows:

- A first payment of 25% of the amount agreed to at the start of the project on receipt of copies of the first purchase orders for equipment or services required for the project;
- A second payment of 50% of the agreed-to amount following the start-up of the equipment;
- A third payment corresponding to the remaining financial assistance based on the results obtained on completion of the project and on financial assistance obtained from other sources, if any.

For each payment, the applicant must first provide an **invoice** on which the following information must be indicated:

- a) The business name of the enterprise to which the assistance is granted;
- b) The file number issued by the AEE;
- c) The date of the invoice;
- d) The description and total amount of the equipment or service (amount of financial assistance payment).

3.4 Other financial assistance

The applicant must clearly identify in its proposal all amounts of financial assistance applied for.

3.5 Adjustment of the financial assistance

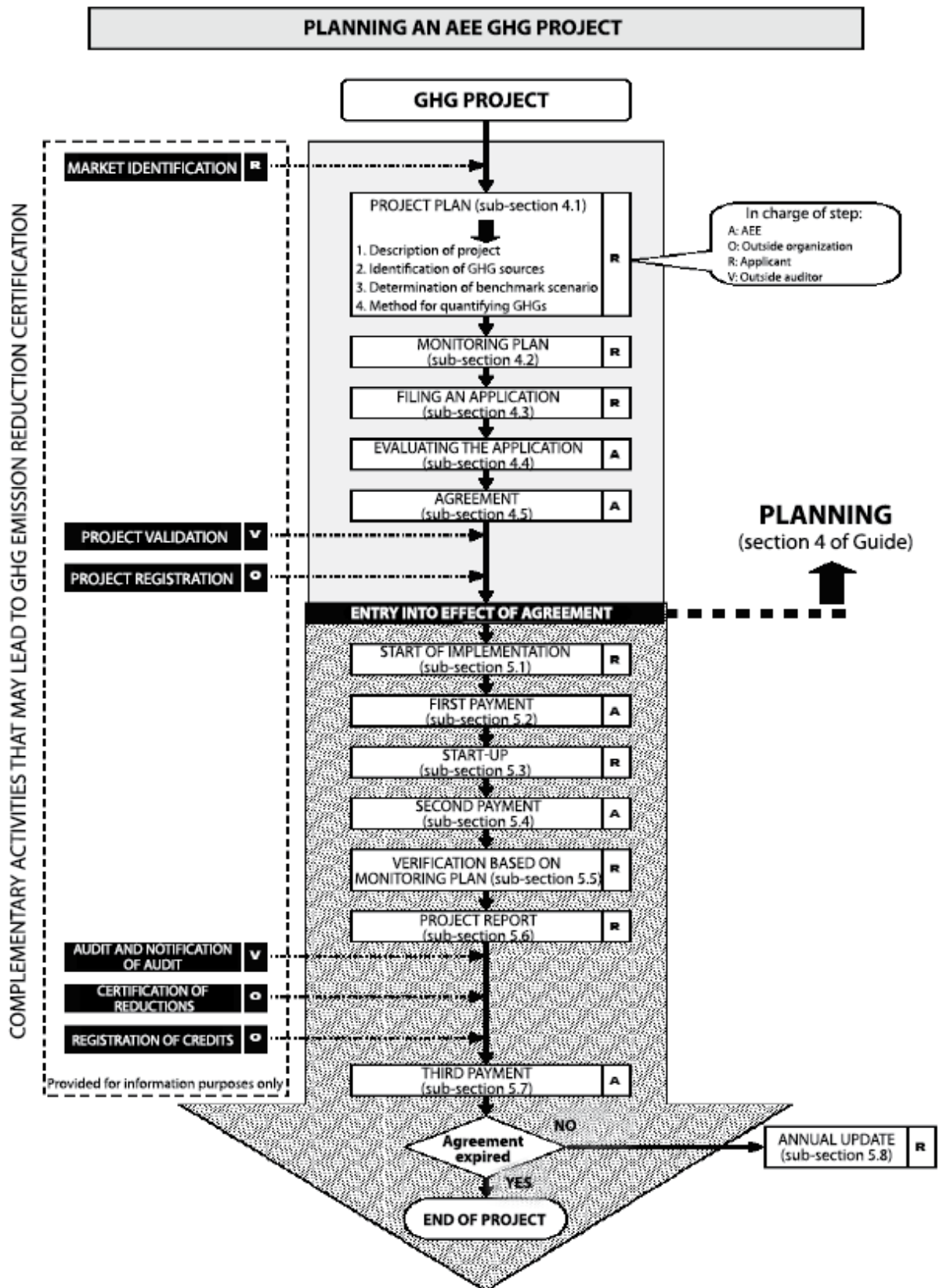
If the cost of implementing the project is lower than the original estimate, if certain costs are deemed ineligible, or if it is shown that the savings are a direct or indirect result of a production slowdown or stoppage, the amount of financial assistance originally granted may be re-evaluated or a reimbursement may be required. The amount of financial assistance granted may also be re-evaluated if financial assistance from complementary programs offered by distributors or other government agencies is obtained or cancelled in the course of the project.

The financial assistance paid for the project may in no case exceed the amount of financial assistance provided for in the agreement, even if the results exceed the goals or if the project costs exceed the original estimates.

4. PLANNING A PROJECT AND FILING AN APPLICATION

The first phase of a project proposed under the **Manufacturing Sector Support Program**, the planning phase, comprises all the steps leading to the filing of an application. A description of each step of this phase is provided below together with a reference to the applicable section of the guide.

Complementary activities that can lead to GHG emission reduction certification are indicated in text boxes for information purposes. They are not, however, required by the AEE.



Market Identification

Applicants intending to obtain GHG emission reduction certification at the end of their project must first identify the carbon market they wish to access or the final user they are targeting since the steps involved in a GHG project may differ from one market or user to another.

4.1 Step 1 - Preparing the Project Plan

The applicant must draft a **Project Plan** based on the Project Plan model and the structure proposed below. The **Project Plan**, which presents the major components and steps of the project, must meet the main requirements set out in the **ISO 14064-2** standard. If the applicant already has a feasibility study or energy analysis report, the information required for the **Project Plan** should normally be found in this report.

- **Section 1 - Description of the project**

The description of the project in the **Project Plan** must contain the following information:

- Title and location of the project;
- Detailed description of the project, including the context, scope, goals, and technologies used;
- Production levels and conditions prevailing before the project and on which the project is based;
- Description of the process for reducing target fuel use and GHG emissions;
- GHG emission reductions attributable to target fuel consumption reductions achievable by the project and expressed in tonnes of CO₂e;
- Identification of risks that may have an impact on project objectives;
- Roles, responsibilities, and contact information of the people involved in the project;
- Information showing that the project meets program eligibility criteria;
- Summary of the environmental impact assessment, if applicable;
- Schedule of main dates and planned activities, monitoring frequency, and project duration.

- **Section 2 - Identifying GHG sources for the project**

In order to measure the impact of the project on GHG emissions, the applicant must select relevant sources of GHG that will be reduced by the project and identify them in the **Project Plan**. By source, we mean a process that emits GHGs into the atmosphere (e.g., combustion of heavy fuel oil). Relevant sources reduced by the project are generally associated with fuels targeted by the implementation of the project and associated activities.

- **Section 3 – Determining the benchmark scenario**

The benchmark scenario **represents what would happen if the project were not implemented** and is determined with respect to the specific characteristics of the project. Once the GHG sources for the project and the benchmark scenario have been identified, they must be compared with each other. To this end, the applicant must identify the relevant GHG sources for the benchmark scenario in the **Project Plan**. The sources must be selected and established using the same criteria as those of the project (Section 2). If it is impossible to use the same criteria, the applicant must explain why.

In order to be representative and to take possible variations in fuel use into account, the benchmark scenario must take into consideration GHG emissions for total, average, partial, and business-as-usual consumption during the **three years preceding the application**. The scenario must, however, be selected and drawn up so as to ensure that the GHG emission reductions are not over-estimated.

- **Method for quantifying the potential reduction in GHG emissions**

The applicant must select or determine the methodology that will be used to quantify the overall project potential for reducing GHG emissions in tonnes of CO₂e. Potential will be calculated as the difference between emissions from relevant project sources and from relevant benchmark scenario sources.

The total annual reduction in GHG emissions attributable to the project can be determined by calculating the net annual consumption balance (decreases less increases) in natural units of all fuels and energy forms whose consumption is modified by the project. This value is then multiplied by the corresponding emission factor. The applicant must use the **tonne** as the unit of measure and must convert the quantity of each type of GHG into tonnes of CO₂ equivalent (CO₂e).

To harmonize the results, the calculations of GHG emission reductions must be performed using the standardized emission and conversion factors proposed by the AEE in the Emission and Conversion Factors table in the Business clientele/Industries section of the AEE's website (www.aee.gouv.qc.ca).

In order to reduce uncertainties about quantifying potential GHG emission reductions as much as possible, the applicant must make sure that quality data and valid information are used for the **Project Plan** and benchmark scenario. If estimates must be used (when measurements of sources cannot be performed, for example), the applicant must come up with prudent hypotheses and values to make sure that GHG emission reductions are not over-estimated. The applicant must also justify the projected reductions over the long-term and show that the risks associated with the implementation of the project will be well managed.

4.2 Step 2 - Preparing the Monitoring Plan

The applicant must draft a **Monitoring Plan** based on the Monitoring Plan model and the structure proposed below. The **Monitoring Plan**, which is used as a quantification protocol, sets out the measurement and verification (M&V) method that will be used to obtain, record, compile, and analyze project and benchmark scenario data once the project has been implemented. It also makes it possible to provide a basis for the annual verification of results and the drafting of reports on GHG emissions.

The **Monitoring Plan** includes the following:

- a) The monitoring objective and its impact on maintaining results;
- b) The roles, responsibilities, and expertise of the people implementing the **Monitoring Plan**;
- c) The start and end dates of the monitoring activities and the impact of possible interactive effects (cross effects);
- d) Key parameters and static conditions that could affect the attainment of objectives;
- e) The types of data and information to declare, including the measurement units;
- f) The source of the data and the description of the sampling procedure;
- g) Data compensation modes in the event data is lost;
- h) The proposed monitoring method, including estimation, modelling, measuring, and calculation methods;
- i) Monitoring duration, frequency, and periods, taking into account the nature of the project;
- j) The measurement equipment and devices used and the data validation methods;
- k) The information management systems, including the data storage facility.

Copies of references used for the calculations, measurement data, and calculation methods must be made available in Excel or graphic form.

• Selecting the monitoring method (measurement and verification or M&V)

Monitoring methods (M&V) vary in terms of accuracy and rigor as a function of each project. The choice of method will depend on the operation cycle of the equipment, the availability of fuel consumption data, the impact of production variations on fuel consumption, and the measurement method as a function of cost.

The AEE does not impose a monitoring protocol or method. The applicant is free to select the method but remains responsible for the validity of the calculations and measurements. However, the AEE does suggest the International Performance Measurement and Verification Protocol (IPMVP)², the guidelines and methods of which are present in the table below. They can be classified according to four options that make it possible to adapt the monitoring to the characteristics of each project.

² The International Performance Measurement & Verification Protocol is an international protocol for the measurement of energy savings.

Measurement options	Types of measurement	Typical applications
Isolation of modifications	<p>Savings are determined by measurement of key parameters of the system to which modifications have been made.</p> <p>Other parameters are estimated using engineering calculations, statistical methods employing characteristics typical of the equipment, and field measurements. However, an error in an estimated parameter must not have a significant impact on the assessment of the savings for this estimate to be considered valid.</p> <p>Short-term measurement frequency over a significant period or continuous measurement before and after implementation of the project.</p>	Equipment for which energy consumption can be measured when in operation but for which certain parameters such as the precise duration of operations are assumed if this information is not available.
	<p>Savings are determined by measurement of all parameters of the system to which modifications have been made.</p> <p>Short-term measurement frequency over a significant period or continuous measurement before and after implementation of the project.</p>	Equipment for which all operational parameters can be measured before and after project implementation.
Whole facility	<p>Savings are determined by the measurement of energy consumed by the whole facility.</p> <p>Short-term measurement frequency over a significant period or continuous measurement before and after implementation of the project.</p>	Overall measurement of facility energy consumption that can be performed by an energy management system, before and after project implementation.
Whole facility	<p>Savings are determined by simulations of energy consumed by the whole facility and are subsequently calibrated using real measurements. The simulations must make it possible to show that the chosen model reproduces the true behaviour of the system.</p>	Data on energy consumption before or after the implementation of the project are not available. Real measurements of energy consumption are used for the period after project implementation to define the model. For the period preceding the implementation, the model is calibrated using measurements obtained after project implementation.

- **Measurement equipment**

The AEE does not impose a choice of measurement equipment. However, the equipment used must be appropriate for the parameter being measured and must be properly dimensioned. Periodic calibration of the equipment is recommended to ensure it does not drift out of calibration.

4.3 Step 3 - Preparing the application

Once the **Project Plan** and **Monitoring Plan** have been finalized, the applicant must submit the following documents to the AEE in electronic **AND** hard copy format:

- a) The completed **Application Form**;
- b) A signed version of the same **Application Form**;
- c) The **Project Plan**;
- d) The **Monitoring Plan**;
- e) The completed **Detailed Costing Report** (see Appendix 3) presenting an estimate of the total cost of the project in the Estimate of Costs section. The cost, number of hours, and details of the work performed by the applicant's employees must be clearly identified in the "In-house" column. External project costs, details of submissions for the purchase and installation of equipment, details of other eligible costs, as well as contingencies must also be included;
- f) The **Measure Implementation Plan** (see Appendix 2) completed **for each energy form** and presenting energy consumption, potential savings, unit prices used, and an assessment of the PP. Increases in fuel consumption must also be detailed;
- g) A **preliminary project implementation schedule that** indicates at least the key dates;
- h) Summary **process (P&ID) and mass balance diagrams** showing or facilitating understanding of the proposed measures;
- i) Available **feasibility studies** and **energy analyses** presenting the proposed measures;
- j) Any other **supporting documents** (data sheets, submissions received, etc.).

If required, the AEE will provide clarifications before the application is filed.

- **Filing the application**

The **Application Form** and accompanying documents must be sent to:

Agence de l'efficacité énergétique

Direction générale des secteurs de l'innovation technologique, du transport et de l'industrie
5700, 4^e Avenue Ouest, RC
Québec (Québec) G1H 6R1

Or by e-mail to aee@aee.gouv.qc.ca

If the application is sent by email, the attached documents must first be compressed and saved as .zip files. We also recommend that the applicant verifies to ensure that the AEE has received the documents. The hard copy version must follow within **five working days**.

- **Confirmation of receipt by the AEE**

The AEE will confirm receipt of the application in writing within five working days of receipt of the application as well as all the supporting documents. At the same time, the AEE will notify the applicant of the file number assigned to the project as well as the program officer in charge of the project. In order to facilitate exchanges of information, all communications must mention the file number assigned by the AEE.

4.4 Step 4 - Evaluating the project

As soon as it receives the application, the AEE will conduct a preliminary evaluation to determine whether the application is eligible by verifying the following:

- a) That all the required information on the **Application Form** has been provided;
- b) That a signed copy of the form has been appended;
- c) That the project involves a facility in Québec;
- d) That the proposed analysis is eligible under the criteria set out in sub-section 1.1;
- e) The costs and schedule;
- f) The content of the **Project Plan** and the **Monitoring Plan**;
- g) The feasibility of the target fuel consumption reduction goals and the resulting reduction in GHG emissions.

At this stage, the AEE may ask for additional clarifications or refuse an application that is incomplete.

- **Confirmation of the acceptance or refusal of the application**

Applicants will receive a written response within two to four weeks informing them of the acceptance or refusal of their application and, where applicable, the amount of financial assistance granted.

4.5 Step 5 - Agreement

Once a project has been accepted, the applicant and the AEE will sign an **agreement** (see model agreement in the Business clientele/Industries section at www.aee.gouv.qc.ca) that sets out the information specific to the project and the amount of financial assistance granted. The agreement to be signed will be sent to the applicant with the confirmation of acceptance.

- **Confirmation of project information**

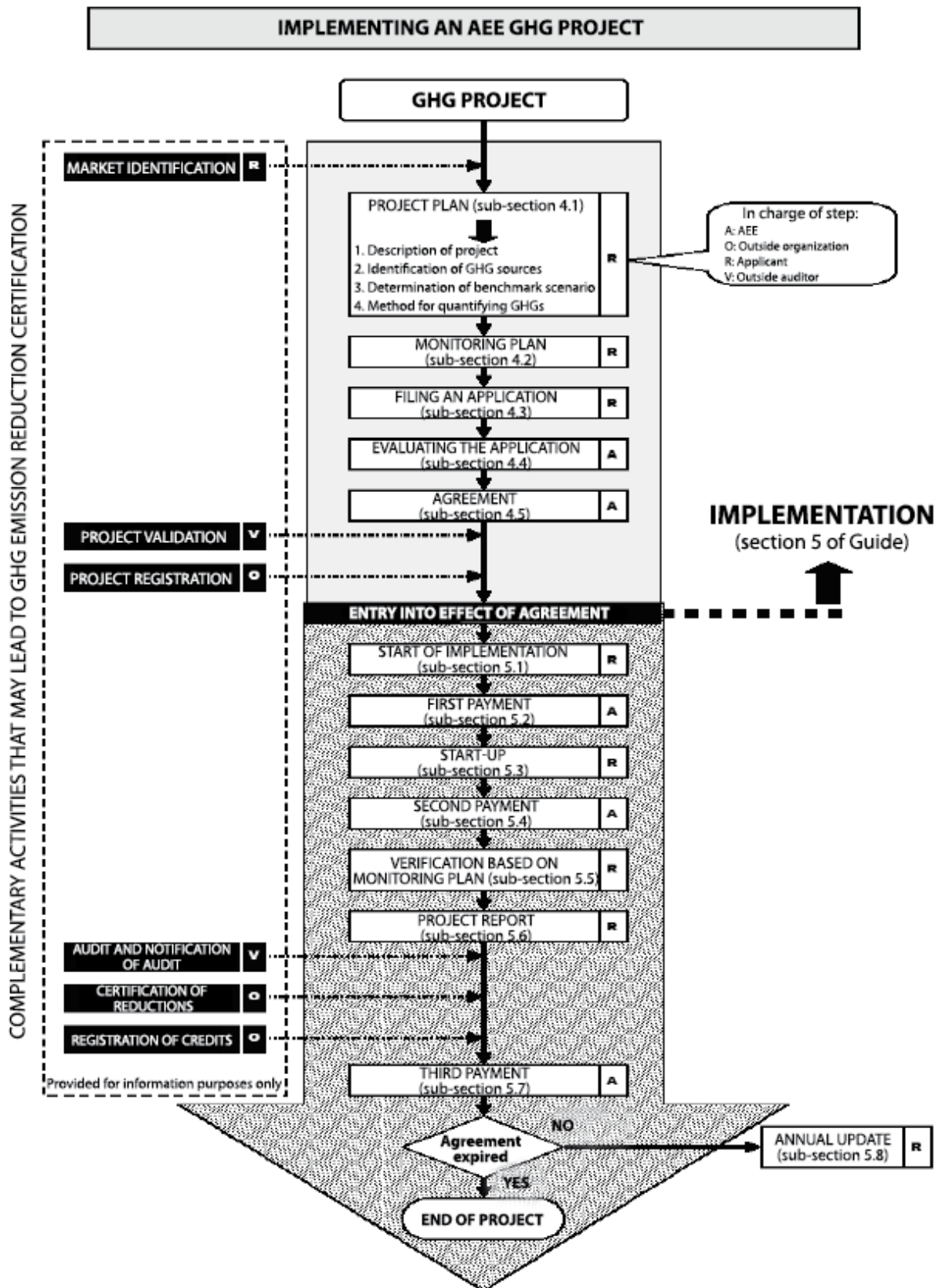
In order to draw up the agreement, the AEE will send a document to the applicant presenting the main information on the project, including the title, total eligible costs, the cost of work performed by in-house employees, and key project implementation dates. The applicant must confirm the information in the document and make appropriate corrections.

Optional	Validating the Project The purpose of the validation step is to attest that the project will generate predetermined GHG emission reductions and confirm compliance with the principles of the ISO 14064 standard. The validation is performed by a third party, the validator, in accordance with the ISO 14064-3 standard. A Notice of Validation will then be issued by the validator. In principle, GHG emission reductions attributable to the project can be certified. All project hypotheses and potential results will be taken into consideration.
Optional	Registering the Project Once the potential reduction in GHG emissions has been validated and confirmed, the project can be registered. The Canadian Standards Association (CSA) GHG CleanProjects™ Registry tags each tonne of verified emission reductions with a unique serial number. This number identifies the project and avoids double counting of future carbon credits. It also ensures that the applicant keeps ownership of the credits and the right to exchange them.

5. IMPLEMENTING AND MONITORING THE PROJECT

The second phase of a project filed under the **Manufacturing Sector Support Program**, the implementing phase, includes all the steps leading to the filing of the **Project Report**. The following diagram shows each step of this phase and refers to the appropriate sub-section of the Guide.

Complementary activities that can lead to GHG emission reduction certification are indicated in text boxes for information purposes. They are not, however, required by the AEE.



5.1 Step 1 - Start of project implementation

The applicant must start the work as of the effective date of the agreement in accordance with the **Project Plan** and the terms and conditions set out in the agreement. Among other things, the applicant must order the first equipment and services for the project and send the following documents to the AEE within four months of the effective date of the agreement:

- a) The updated **Detailed Costing Report**;
- b) Copies of the first **purchase orders** for the project;
- c) The updated **Monitoring Plan**, if available.

The applicant's resource person must regularly inform the AEE program officer of the status of the project and immediately advise the officer in writing of any changes to it. In such instances, the AEE may evaluate the suitability of the changes with a view to maintaining, reducing, or withdrawing the financial assistance as per the terms and conditions set out in the agreement.

The applicant must also provide the AEE program officer with reasonable advance notice of progress meetings and the final presentation so that the officer can attend them. During implementation, the AEE program officer may be present for validation and monitoring purposes during the installation and start-up of equipment and during the performance of activities set out in the **Monitoring Plan**, during normal office hours.

5.2 Step 2 - First payment of financial assistance

A first payment, corresponding to 25% of the financial assistance agreed to for the project, will be issued following AEE validation of the **Detailed Costing Report**, the purchase orders, and, where applicable, the updated **Monitoring Plan** submitted during the preceding step. In order to receive the payment, the applicant must first issue an invoice that complies with the requirements set out in sub-section 3.3.

The payment is generally issued within 30 days of receipt of the invoice and the supporting documents.

5.3 Step 3 - Starting up the equipment and filing the Start-up Report

Once implementation of the project is complete, the applicant starts up the equipment to verify its operation. At the end of this step, the applicant must file the following documents:

- a) The **Start-up Report** for the equipment based on the Start-up Report model and on the instructions given below;
- b) The updated **Detailed Costing Report**;
- c) Copies of **invoices** for the project and details of other eligible costs;
- d) The updated **Monitoring Plan**, where applicable.

• Start-up Report

The **Start-up Report** for the equipment, which must be signed by an engineer who is a member in good standing of a professional order of engineers, must contain the following information:

- The title and file number of the project;
- A brief description of the work performed, if it differs from the initial project;
- A description of any problems encountered during start-up;
- The list of important equipment that has been modified, replaced, or removed, with a detailed description of this equipment;
- The list of new equipment installed, with a detailed description of this equipment;
- The start-up date.

5.4 Step 4 - Second payment of the financial assistance

The second payment, which corresponds to 50% of the financial assistance agreed to for the project, will be paid following AEE validation of the **Start-up Report** for the equipment, the copies of the invoices, the Detailed Costing Report and, where applicable, the updated **Monitoring Report**. In order to receive the payment, the applicant must issue an invoice corresponding to the amount specified by the AEE, and this in accordance with the requirements set out in sub-section 3.3.

The payment is generally issued within 30 days of the date of receipt of the invoice and the required documents.

5.5 Step 5 - Verifying the results as per the Monitoring Plan

Since the project evaluation is based primarily on the potential GHG emission reductions that result from it, the applicant must verify the results obtained and confirm that targets have been attained using the methods specified in the **Monitoring Plan** that was filed with and approved by the AEE.

Results must be verified as per the **Monitoring Plan** as soon as the project is complete. The AEE program officer may be present during verification activities in order to certify that the methods and techniques specified in the **Monitoring Plan** have been fully applied by the applicant.

5.6 Step 6 - Filing the Project Report

Once the project is complete and all the steps of the process have been performed, the applicant must produce and submit the following documents to the AEE within **36 months** of the effective date of the agreement:

- a) The **Project Report** based on the **Project Report** model. The Project Report must comply with the instructions given below;
- b) The updated **Detailed Costing Report**;
- c) Copies of **invoices** for the project and details of other eligible costs;
- d) The updated **Measure Implementation Plan**;
- e) The completed **Performance Report – Measure Implementation Plan** (see Appendix 4).

• Project Report

The **Project Report**, which must be approved by an engineer who is a member in good standing of a professional order of engineers, must include the following information:

- a) The title of the project, the file number, the applicant's contact information, the date of the report, and the period covered;
- b) A brief description of the project, its location, its duration, the goals, and the technologies used;
- c) A description of the benchmark scenario and a demonstration that the reduction in target fuel consumption and the resulting reduction in GHG emissions are in addition to those that would have occurred had the project not been implemented;
- d) A description of the method used to quantify the consumption of the target fuels and the resulting GHG emissions for the benchmark scenario and the project, and confirmation that the proposed **Monitoring Plan** has been implemented;
- e) A **GHG Statement** that details (i) GHG emissions by GHG source for the benchmark scenario in tonnes of CO₂e for the applicable period, and that is based on (ii) GHG emission by source of GHG for the project, expressed in the same units, and (iii) the resulting reduction in GHG emissions;
- f) An assessment of the sustainability of the reductions;
- g) The main conclusions;
- h) Supporting appendices (technical data, Start-up Report, etc.).

Optional	Verifying the Project The verification step ensures that the results of the project have been verified by an independent third party, the auditor, in accordance with the ISO 14064-3 standard. This ensures that the GHG emission reductions are considered real. A Notice of Verification confirming this is issued by the auditor. In principle, verified reductions in GHG emissions may be certified.
Optional	Certifying GHG Emission Reductions Certification of GHG emission reductions resulting from implementation of a project is required for any future exchange of ownership rights on a market. Certification can be obtained from a third party under recognized exchange mechanisms based on the Notice of Verification . Certification guarantees that the reductions in GHG emissions are real and have been verified using approved quantification methods, and leads to what is typically called certified emission reductions.
Optional	Registering GHG Emission Reductions Registering previously certified GHG emission reductions with a recognized organization is also required for future exchanges of ownership rights. This minimizes the risk of double sales and double counting of emission credits or rights. The carbon credits generated are registered in general registries, carry a serial number, and are associated with the project, which has also been registered. They can then be exchanged on the carbon market.

5.7 Step 7 - Third payment of the financial assistance

A third and final payment, which corresponds to the remaining financial assistance granted by the AEE for the project, will be paid once the **Project Report** and the accompanying documents have been validated. The AEE will determine whether projected reductions in target fuel consumption and resulting reductions in GHG emissions have been achieved. It will also determine whether the project has come in within budget. Once this information has been validated and any applicable adjustments set out in sub-section 3.5 applied, the AEE will notify the applicant of the remaining amount of financial assistance to which the applicant is entitled. To receive this payment, the applicant must issue an invoice corresponding to the amount specified by the AEE, in accordance with the requirements set out in sub-section 3.3.

The payment is generally issued within 30 days of the date of receipt of the invoice and the required documents.

5.8 Step 8 - Annual update

Up until March 31, 2013, an annual update of the project must be carried out and sent to the AEE. The applicant must produce an **Annual Update Report** using the format given below. This report will confirm that the performance verification step has been performed as per the **Monitoring Plan** originally filed. The **Performance Report – Measure Implementation Plan** must also be updated and appended to the documents sent to the AEE.

Failure to comply with this requirement may lead to the full or partial withdrawal of the financial assistance granted. Reimbursement of financial assistance already paid may be required.

• Annual Update Report

The **Annual Update Report**, which must be approved by an engineer who is a member in good standing of a professional order of engineers, must include the following information:

- a) The title of the project, the file number, the applicant's contact information, the date of the report, and the period covered;
- b) A description of the benchmark scenario, including adjustments made during the period covered and a demonstration that the reduction in target fuel consumption and the resulting reduction in GHG emissions are in addition to those that would have occurred had the project not been implemented;
- c) A description of the method used to quantify target fuel consumption and the resulting GHG emissions for the benchmark scenario and the project, and confirmation that the proposed **Monitoring Plan** has been implemented;
- d) A **GHG Statement** that details (i) GHG emissions by GHG source for the benchmark scenario in tonnes of CO₂e for the applicable period (annual), and that is based on (ii) GHG emission by source of GHG for the project, expressed in the same units, and (iii) the resulting reduction in GHG emissions;
- e) The main conclusions.

GLOSSARY

The following definitions are specific to the **Manufacturing Sector Support Program**.

Value analysis

Value analysis (value management) is a management method used to optimize a product, service, process, facility, or system. Using a systematic, organized method, each component is analyzed and evaluated in relation to its intended use with a view to reducing costs to a strict minimum while at the same time optimizing its ability to meet the needs of the user.

Energy analysis³

An analysis of the efficiency of the components of a system or industrial process is performed, based on an energy balance, in order to recommend ways to improve energy efficiency. The analysis also makes it possible to define the technical characteristics of systems and equipment as well as their energy consumption and distribution. The term energy audit is generally used for existing systems while energy analysis is used for new systems. An energy audit or analysis can be performed at the design stage, but can also be performed on existing systems and processes.

The goal of an energy audit or analysis is to identify the best applicable energy saving measures (ESM) and evaluate the payback of the measures. More specifically, the objectives are as follows: to estimate the actual energy consumption of the systems in a plant, identify equipment and system inefficiencies, identify ESMs to remediate the inefficiencies, calculate energy consumption after the implementation of the ESMs, estimate the potential energy savings from implementing ESMs on the equipment and systems analyzed, evaluate the implementation costs of each ESM, perform a costing analysis of the implementation of each ESM and compare the costs, estimate the payback period (PP), and make recommendations with regard to implementing ESMs.

In the case of an obvious ESM, the energy analysis or audit must be sufficiently detailed to proceed to the final engineering and implementation steps without the need for a feasibility study.

Biomass

Biomass essentially comes from forest, urban, and agricultural residues. It is subdivided into three categories:

- Forest biomass, which comes from unused trees, branches, and logging residues; tree tops; foliage; and other forest residues
- Agri-food biomass, which comes in large part from animal and plant processing residues and field residues
- Urban biomass, which is composed of municipal, commercial, and industrial waste

³ Drawn from the Vocabulaire de l'efficacité énergétique, Les publications du Québec, 1997, and an adaptation of the guide Programme d'initiatives et d'analyses énergétiques, système de pompage, de ventilation et de compression (SPVC), Hydro-Québec, August 1993.

Certain applications may require the use of **residual forest biomass**. Residual forest biomass means any tree or part of a tree that is part of the allowable cut but that is not used; or trees, shrubs, tree tops or slash, branches, and leaves that are not part of the allowable cut. Products made from wood fibres (e.g., pulp sludge and liquor) as well as materials composed mainly of wood fibres, whether for disposal in landfills or not (such as demolition and salvage wood, pyrolytic oils, etc.) are also considered residual forest biomass. However, materials produced during wood processing (essentially sawdust, shavings, and bark residues) are excluded.

Carbon credit

Credit generated by the reduction, avoidance, or sequestration of GHG emissions as part of a specific project. Carbon credits are also called compensation credits.

Feasibility study⁴

Energy saving measures (ESM) recommended in an energy analysis or audit may require a feasibility study.

A feasibility study must be conducted when:

- The cost-effectiveness of certain recommended ESMs are too uncertain;
- The results of an energy analysis or audit are deemed insufficiently accurate to justify the choice of these ESMs;
- The technical and economic aspects must be studied in greater detail;
- The energy analysis or audit was unable to provide the data required to determine the cost-effectiveness and technical feasibility of the selected ESM.

The main differences between a feasibility study and an energy analysis or audit are:

- The nature of the study (e.g., a complex system);
- The financial and technical rigor of the aspects being studied;
- The accuracy of the results;
- The accuracy objective in evaluating costs and energy savings, i.e., approximately 10%.

Large industry (LI)

The large industry (LI) segment is made up complex, large-scale industrial facilities. These include petroleum refineries, chemical and petrochemical plants, pulp and paper plants, and certain steel and mineral processing plants.

Process integration

Process integration (PI) is a powerful industrial process analysis and optimization tool that can be used to significantly reduce thermal energy consumption, GHG and polluting emissions, and water use. PI goes well beyond conventional energy analyses or audits. It is an approach that analyses a process or a plant in its entirety and not on a piece-by-piece individual equipment basis as is often the case with conventional energy analyses or audits. PI thus draws a complete picture of heat recovery and reuse projects and strategies for the entire process, minimizing heat exhausts and, as a consequence, fuel use.

One of the most common PI techniques, pinch analysis, is generally used to optimize heat exchanges and water networks. This technique makes it possible to systematically analyze a system by taking into account the quantity and quality of energy and water flows.

Since PI is a systematic, rigorous approach based on thermodynamic principles, the more complex the energy system of the process, the more marked the results. The natural market of PI is thus the large industry segment. PI can also be used in the medium size industry (MI) segment where certain processes are complex enough to justify the use of a PI analysis.

Québec has approximately 75 LI plants and some one hundred MI plants that could benefit from a PI analysis. These 175 plants account for a major proportion of GHG emissions from fossil fuels (natural gas and fuel oil).

Light fuel oil

Light fuel oil is a crude petroleum distillate mainly used for heating in residential burners or small liquid fuel burners used in the commercial sector. Light fuel oil is commonly used in residential boilers. It is pale and has a specific gravity ranging from 0.82 to 0.86. Since it is only slightly viscous (1.2 to 3.6 centistokes at 40°C), it can be used without preheating. It is composed mainly of carbon (86%), hydrogen (13%), and sulphur (0.1% to 0.2% by weight). It also contains traces of ash and sediments.

There are three grades of light fuel oil.

- Grade 0 is designed for fuel oil burners in northern regions where the ambient temperature can drop as low as -48°C.
- Grade 1 is designed for atomizing burners for which type 2 is not satisfactory, as well as for certain vaporizing pot-type burners.
- Grade 2 is designed for most atomizing burners (that is, most burners and residential boilers) as well as for certain medium capacity commercial and industrial boilers.

⁴ Adaptation of the Programme d'initiatives et d'analyses énergétiques, système de pompage, de ventilation et de compression (SPVC guide), Hydro-Québec, August 1993.

Heavy fuel oil⁵

Heavy fuel oil is a mixture of hydrocarbons composed of residual fractions from the distillation and processing of crude petroleum. It is characterized by its black colour, elevated specific gravity (0.92 to 0.98), and viscosity. Heavy fuel oil is generally composed mainly of carbon (86% by weight), hydrogen (11% by weight), and sulphur (currently approximately 2% by weight). It also contains other impurities such as ash, metals, and water. Heavy fuel oil is a lower value fuel that is generally worth less than the crude petroleum from which it is produced. It is essentially an industrial fuel that can be used in plants for the production of steam by boilers and in metallurgical operations. It generally needs to be preheated.

There are three grades of heavy fuel oil.

- Grade 4 is a commercial heating oil mainly intended for use with burners not equipped with a preheater. It has a viscosity of 15 centistokes at 40°C.
- Grade 5 is a high viscosity residual-type heating oil (50 centistokes at 40°C) intended for use with burners equipped with a preheater.
- Grade 6 is a very high viscosity residual-type heating oil (360 centistokes at 40°C) intended for burners equipped with a preheater designed for high viscosity fuel oil.

Measurement

Measurement or monitoring is the monitoring or electronic analysis technique used to quantify energy savings. It is used to verify that projected results have been attained under the prescribed conditions and allows corrective actions to be taken.

Medium-sized industry (MI)


The medium-sized industry (MI) segment is composed of smaller, less complex industrial facilities than those of the large industry (LI) segment. This segment includes the agri-food industry (foods and beverages), the textile dyeing industry, smaller chemical and pulp and paper plants, and certain plants in various other sectors.

REFERENCES

Energy efficiency references can be downloaded from the website of the Agence de l'efficacité énergétique: www.aee.gouv.qc.ca.

Setting Canadian Standards for Sulphur in Heavy and Light Fuel Oils, Environment Canada, April 2003.

APPENDIX 1 - APPLICATION FORM



Agence de l'efficacité
énergétique
Québec

APPLICATION FORM

<input type="checkbox"/> Manufacturing Sector Support Program (SMSP)																												
Component <input checked="" type="checkbox"/> VOLET ANALYSE (SEE NDM 1) <input type="checkbox"/> VOLET IMPLANTATION (SEE NDM 2)																												
<input checked="" type="checkbox"/> Heavy Oil Consumption Reduction Program (HOCRP)																												
Type of proposal: <input type="checkbox"/> PROPOSITION SPONTANÉE <input checked="" type="checkbox"/> APPEL DE PROPOSITION																												
Component: <input type="checkbox"/> EFFICACITÉ ÉNERGÉTIQUE (A) <input type="checkbox"/> CONVERSION À LA BIOMASSE (B) <input type="checkbox"/> CONVERSION AU GAZ NATUREL (C) <input type="checkbox"/> CONVERSION AUTRE SOURCE (D)																												
Applicant	Representative (of applicant) / Applicant: _____ Function: _____ Address: _____ Email: _____ City: _____ Postal code: _____ Telephone: _____ Fax: _____																											
Project site	Name plant/institution/business (if different from above): _____ Address: _____ Telephone: _____ City: _____ Postal code: _____ Fax: _____																											
Project manager	Project manager of applicant: _____ (Email: _____) Address (if different from that of the site): _____ Telephone: _____ City: _____ Postal code: _____ Fax: _____																											
Consumption	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Annual consumption for benchmark scenario</th> </tr> <tr> <th>Period from</th> <th>to</th> <th></th> </tr> </thead> <tbody> <tr> <td>Type</td> <td>unit</td> <td>Consumption</td> </tr> <tr> <td>Electricity</td> <td>kWh</td> <td>_____</td> </tr> <tr> <td>Natural gas</td> <td>m³</td> <td>_____</td> </tr> <tr> <td>Heavy fuel oil (No. 1)</td> <td>litres</td> <td>_____</td> </tr> <tr> <td>Light fuel oil (No. 2)</td> <td>litres</td> <td>_____</td> </tr> <tr> <td>Propane</td> <td>litres</td> <td>_____</td> </tr> <tr> <td>Other (specify):</td> <td></td> <td>_____</td> </tr> </tbody> </table>	Annual consumption for benchmark scenario			Period from	to		Type	unit	Consumption	Electricity	kWh	_____	Natural gas	m ³	_____	Heavy fuel oil (No. 1)	litres	_____	Light fuel oil (No. 2)	litres	_____	Propane	litres	_____	Other (specify):		_____
Annual consumption for benchmark scenario																												
Period from	to																											
Type	unit	Consumption																										
Electricity	kWh	_____																										
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Light fuel oil (No. 2)	litres	_____																										
Propane	litres	_____																										
Other (specify):		_____																										
Sector of activity	Main sector of activity of applicant <input type="checkbox"/> Piles et papiers <input checked="" type="checkbox"/> Métallurgie <input type="checkbox"/> Sidérurgie, fonte et affinage <input type="checkbox"/> Mines <input type="checkbox"/> Chimie / pétrochimie <input type="checkbox"/> Alimentation <input type="checkbox"/> Manufacturier Code SICIAN: _____ <input type="checkbox"/> Municipal <input checked="" type="checkbox"/> Institutionnel <input checked="" type="checkbox"/> Commercial (PRCM, seulement) <input type="checkbox"/> Autre (spécifier): _____																											
Project	Firm in charge of project: _____ Engineer in charge of project: _____ CIQ No.: _____ Address: _____ Telephone: _____ City: _____ Postal code: _____ Fax: _____																											
Title of project	Type of project: <input type="checkbox"/> Analyse/Étude <input type="checkbox"/> Étude intégration de procédé <input type="checkbox"/> Implantation <input type="checkbox"/> Conversion <input type="checkbox"/> Réhabilitation (PRCM, seulement) Title of project: _____ Schedule: Project start date of project (YYYYMMDD) _____ Project start date (implementation component only) (YYYYMMDD) _____ Projected end date of project (YYYYMMDD) _____																											
Financial assistance	Total cost: _____ Amount of financial assistance requested: _____ (see note 4) Financial assistance for project from other sources (specify below, if any): <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Source</th> <th>Amount</th> </tr> </thead> <tbody> <tr> <td>_____</td> <td>_____</td> </tr> <tr> <td>_____</td> <td>_____</td> </tr> </tbody> </table>	Source	Amount	_____	_____	_____	_____																					
Source	Amount																											
_____	_____																											
_____	_____																											
Signature of applicant: _____ Date: _____ *The signatory declares that he or she is duly authorized to undertake commitments on behalf of the applicant, that he or she has read and understood the requirements and terms and conditions of the project financing.																												

- Note 1:** The applicant must append the **DESCRIPTION OF THE ANALYSIS**, the **DETAILED COSTING REPORT**, and the consultant's **SUBMISSION** to the form.
- Note 2:** The applicant must append the **PROJECT PLAN**, the **MONITORING PLAN**, the **DETAILING COSTING REPORT**, the **MEASURE IMPLEMENTATION PLAN**, a **PRELIMINARY SCHEDULE**, and all other supporting documents to the form, including a **PROCESS DIAGRAM**, **MASS BALANCE**, **ENERGY ANALYSIS REPORT**, and **FEASIBILITY STUDY**.
- Note 3:** See the *Detailed Guide for Applicants of the HOCRP* for more information.
- Note 4:** The amount of financial assistance requested may be re-evaluated as per the criteria set out by the Agency in the event financial assistance is received from requests for proposals, this field must contain a value. Total eligible costs must be calculated for the energy forms targeted by the program. See the *Detailed Guide for Applicants of the program* for more information.

APPENDIX 3 - DETAILED COSTING REPORT



DETAILED COSTING REPORT

Applicant's name: _____
 AEE agreement no.: _____
 Date updated: _____

ESTIMATE OF COSTS				MONITORING OF COSTS								
1 Name of supplier	2 Description of goods/services purchased	3 Estimated costs (A)		4 True costs (B)		5 Purchase orders			6 Invoice			7 Reason for differences (B-A)
		External	In-house	External	In-house	No.	Date	Costs (A)	Invoice no.	Date	Costs (B)	
A. Acquisition of equipment												
Sub-total		0 \$	0 \$	0 \$	0 \$			0 \$			0 \$	
B. Acquisition of measurement equipment												
Sub-total		0 \$	0 \$	0 \$	0 \$			0 \$			0 \$	
C. Quantification and verification costs												
Sub-total		0 \$	0 \$	0 \$	0 \$			0 \$			0 \$	
D. Engineering costs												
Sub-total		0 \$	0 \$	0 \$	0 \$			0 \$			0 \$	
E. Installation and start-up costs												
Sub-total		0 \$	0 \$	0 \$	0 \$			0 \$			0 \$	
F. Contingencies												
Sub-total		0 \$	0 \$	0 \$	0 \$			0 \$			0 \$	
TOTAL		0 \$	0 \$	0 \$	0 \$							
TOTAL PROJECT COSTS (transfer these amounts to the form)		ESTIMATED COSTS		TRUE COSTS								
		0 \$		0 \$								

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