



# COMMERCIAL BUILDINGS RETROFIT PROGRAM

Program Guide

Version 6.0, October 2021

Funded in part by:  
Financé en partie par :  
**Canada**

New Brunswick  
Nouveau Brunswick

  
**Énergie NB Power**



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# COMMERCIAL BUILDINGS RETROFIT PROGRAM GUIDE

## 1.0 Program Introduction

NB Power is the delivery agent for New Brunswick's energy savings programs, partially funded by NB Power and the Government of Canada through the Low Carbon Economy Leadership Fund and supported by the Government of New Brunswick. The primary objective of the Commercial Building Retrofit Program Guide is to assist owners and operators of commercial buildings to implement energy efficiency projects in order to reduce energy consumption, increase competitiveness, and produce a healthier and more comfortable workspace.

The **Commercial Building Retrofit Program** provides financial incentives to assist Commercial Buildings to identify projects and to offset the capital cost of the implementation of the eligible upgrades. These incentives are:

- a) Up to \$8,000 towards an audit to determine the potential for energy efficiency upgrades in a commercial building; and,
- b) Currently up to \$1.1 million towards the implementation of the energy efficiency upgrades chosen. The implementation funding is per gigajoule of electricity saved and based on project costs reducing non-electric fuels. This is intended for projects that have not yet been started. These incentives encourage the implementation of multiple measures in projects that would not proceed, or which would proceed on a significantly smaller scale without assistance. More details are outlined in Section 3 – Financial Incentives.

**Important Note:** Please do not start the retrofit project or incur costs until all parties have signed a Program Agreement and notification of approval from NB Power has been received.

Funds are allocated on a first-come, first-serve basis. NB Power reserves the right to limit the number of projects it accepts and to reject applications if analysis of the project's eligibility, and/or program requirements indicate the criteria will unlikely be satisfied, and/or the Program budget has been exceeded for the fiscal year.

## 2.0 Eligibility and Requirements

It is important to read all the requirements in this section. Both building types and mandatory building requirements must be met to be eligible for the program and the subject building must contain eligible measures.

## 2.1 Eligible Building Types

The following types of buildings are eligible:

- Commercial or institutional buildings such as, but not limited to: agricultural buildings, arenas, grocery stores, health care facilities, hotels, institutional buildings (colleges, hospitals, schools, universities, nursing homes), provincial buildings, office buildings, places of worship, recreational facilities, restaurants, retail buildings, stand-alone warehouses, water and wastewater treatment plants and pumping stations.
- Municipally owned buildings.
- Multi-unit residential buildings that have 3 or more units.
- Mixed-use commercial/residential buildings, including houses that have been modified for commercial use.
- Multi-building/national accounts, NB Power will accept multi-building owners that have similar building types such as franchisees, drug store chains, food chains, etc.
- Occupancy changes within a building. NB Power will accept any building type where a change in occupancy will be occurring during the renovation. Special audit requirements for buildings changing their occupancy type are detailed in Section 5 - Audit Requirements.
- Added capacities within a building are acceptable as long as the addition will save energy in comparison to the current common equipment that would have been installed without an energy consult. An example of adding capacity: A building currently does not have air conditioning, but energy efficient air conditioning will be added to the building post energy audit. Special audit requirements for buildings adding capacity are detailed in Section 5 - Audit Requirements.

## 2.2 Ineligible Building Types

The following types of buildings are not eligible for this program but may be eligible for other NB Power programs. More information can be found at <https://www.saveenergy.nb.ca/en/save-energy/>.

- Manufacturing facilities (including attached warehouses and facilities).
- Residential buildings such as houses, duplexes, and townhouses.
- Federally owned buildings.

## 2.3 Mandatory Building Requirements

Eligible buildings as listed in Section 2.1 must also meet other requirements as follows:

- The building must be 2 years old or more.
- The building must have a permanent address in New Brunswick.
- The organization must own, manage or lease the building.
- A one-year summary or baseline of the utility bills must be provided.
- A copy of one month's electricity bill must be provided regardless of whether a tenant is responsible for the utility bills.
- If a building is connected to another structure, the following requirements apply:
  - If the space is connected to another structure such as through a pedway or if it is served by a district heating or cooling plant, it must be clearly distinguishable as an independent unit and have a separate utility meter or a detailed engineering analysis to support the current energy use and consumption profile.
  - A building consisting of two wings with a common wall and a common heating system will be considered as one building.
  - Multiple eligible buildings served by a central heating plant with the same owner are eligible.

## 2.4 Eligible Measures

NB Power will accept all proven energy saving measures that have been tested and/or approved by a recognized third party such as Canadian Standards Association (CSA), the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), the Illuminating Engineering Society of North America (IESNA) or similar organizations that lead to a reduction in energy use. To maximize potential savings and incentive amount, multiple measures in each building are required in the energy audit report. Section 5 – Audit Requirements provides further information. For measures to be eligible they need to provide energy savings. The following are some common examples that can be eligible if they will result in energy savings:

- Interior and exterior lighting including controls and light-emitting diodes (LED) fixtures.
- Building envelope, including insulation (ex: for roof, walls, and basement/slab), airgap sealing and glazing.
- Energy Management Controls Systems (EMCS), including direct digital controls (DDC), vacancy/motion sensors and smart thermostats.
- Water heating, including high-efficiency water heaters, heat pumps and solar-assisted technology.
- Motors, including high-efficiency motors and variable speed/variable frequency drives (VSD/VFD).
- Heating, Ventilation and Air-Conditioning (HVAC) systems, including chillers and boilers, economizers, control systems, variable air-volume (VAV) systems, pipe insulation, heat pumps including geexchange projects, space heaters, air conditioners and heat recovery systems.
- Replacement equipment of commercial appliances such as commercial refrigeration equipment, dishwashers or washers and dryers.

- Renewable energy including solar, wind, biomass, and methane capture from waste streams where the energy generated will displace energy consumption currently supplied by a New Brunswick utility company.

## 2.5 Ineligible Measures

The following are examples of ineligible measures:

- Projects or measures that do not reduce energy consumption.
- Projects or measures that are already in progress or that have already been completed.
- Projects in new buildings or new additions to buildings. A new building is defined as a building where construction was completed less than 2 years ago.
- New or unproven technologies not yet substantiated by a recognized third party such as the Canadian Standards Association (CSA), the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), the Illuminating Engineering Society of North America (IESNA) or similar organizations.
- Household appliances that are designed for residential use such as residential refrigerators, residential ranges, residential clothes washers and dryers, and residential dishwashers.
- Portable equipment such as lamps and desk fans.
- Electronic equipment such as desktop computers and fax machines.
- Measures which take the equipment outside its operating range and/or that can negatively impact equipment life (e.g., voltage reduction).

## 2.6 Mandatory Application Requirements

When submitting applications, the following information and materials must be included:

- As described in Section 4 of this guide, (Step 2) SCHEDULE YOUR ENERGY AUDIT OR FEASIBILITY STUDY: participants shall contact an Energy Management Service Provider or a Specialized Service Provider who will conduct the audit/feasibility study and will complete and submit the application form on your behalf.
- The proposed project(s) must have a simple payback period that is at least one year to be eligible for an implementation incentive; where the proposed project is defined as all recommended energy efficiency measures being implemented. Individual energy efficiency measures within the proposed project are permitted to have paybacks of less than one year and, if necessary, the eligible incentive amount will be limited to ensure that the total simple payback period is not less than one year. The simple payback per measure and the total simple payback should be detailed in the energy audit report.
- The audit may include multiple buildings, but a separate Application for each building is required.
- All implementation of approved energy efficiency projects must be completed within 18 months of the date the participant signed the Program Agreement.
  - Implementation of approved energy efficiency projects for Municipalities and Campuses must be completed within 36 months of the signed Program Agreement.
    - Municipalities and campuses are eligible to apply for implementation incentives once per year up to a maximum of three (3) implementation claims within the aforementioned 36 months.

- Buildings that have received maximum implementation incentives through the Commercial Buildings Retrofit Program and/or completed the Program are not eligible to re-apply to enter the program again in that same NB Power fiscal year, whereby the fiscal year is from April 1st to March 31st.
- If construction of approved energy efficiency measures cannot be completed within the Program Agreement timeline, then the participant must formally request an extension to the Program Agreement timeline and NB Power will determine if an extension is acceptable.
- If new energy efficiency measures that were not identified within the original audit are now of interest to the participant, NB Power will accept energy audit amendments up to 6 months prior to the Program Agreement expiration date. Alternatively, buildings having participated in this program in the past can participant again when the Program Agreement has expired.
- Audits that have been completed in the past will be accepted provided that they are no more than 3 years old however, amendments may be requested for new technologies or to reflect building changes. (If you have an audit that is older than three years please contact the NB Power Energy Efficiency Services to discuss the best path forward).

## 3.0 Financial Incentives

### 3.1 NB Power Implementation Incentives

#### Electricity Saving Measures

The incentive for projects reducing electricity is \$30/GJ saved, up to a maximum of \$100,000 except for heat pumps measures that replace electric baseboard heaters and LED light fixtures at \$40/GJ saved, up to a maximum of \$100,000 per fiscal year.

#### Non-Electricity Saving Measures

The incentive for the implementation of energy efficiency measures that reduces both non-electric fuels and Greenhouse Gas emission reductions will be paid at 25% of the total cost of the project excluding taxes but including items such as consultant fees. This incentive will be paid through the Low Carbon Economy Leadership Fund. Funding is available until **December 31, 2023** or until funds are depleted. Incentives are capped at \$1 Million per entity per fiscal year.

Measures reducing both electricity and other fuels will default to the highest energy reduction (ex. majority electric goes to 30\$ per GJ).

### 3.2 NB Power Audit Incentives

#### ASHRAE Level II Initial Audit Incentive

Class I <15,000 ft <sup>2</sup>	Class II 15,000 – 75,000 ft <sup>2</sup>	Class III >75,000 ft <sup>2</sup>
* Max \$1,100	* Max \$2,200	* Max \$3,300

\*50% of audit up to maximum shown

#### ASHRAE Level II Audit Incentive with 2 or more completed measures

Class I <15,000 ft <sup>2</sup>	Class II 15,000 – 75,000 ft <sup>2</sup>	Class III >75,000 ft <sup>2</sup>
** Max \$3,000	** Max \$5,000	** Max \$8,000

\*\*100% of audit up to maximum shown inclusive of the initial audit incentive.

### 3.3 Feasibility Studies

Feasibility studies themselves are not eligible for incentives. The measure(s) described/implemented in the feasibility study will be eligible for incentives.

### 4.0 ASHRAE Level II Requirements

Energy audits are required to meet ASHRAE Level II requirements. This shall include an onsite audit and subsequent report that investigates all building components for potential energy reduction opportunities. These measures can include but are not limited to:

- building envelope
- renewable energy (wind, solar and biomass)
- heating, ventilation, and air conditioning (HVAC)
- process equipment
- commercial kitchen equipment
- hot water
- refrigeration
- lighting/controls
- building management system
- motors
- demand control

NB Power requires the energy audit to be comprehensive so that all options can be considered and the potential to increase energy savings is made available. For example, where more efficient lights create less heat, it is required that the audit report should indicate the extent to which this affects the building's heating load in winter and cooling load in summer.

The comprehensive energy audit shall include the following:

- A written description of the physical characteristics of the building, as well as its current condition, age, and construction type.
- A description of the major existing equipment including lighting, all sources of heating and cooling, their energy consumption and fuel type as well as the manufacturer, model number, physical condition, and years of service.
- A description of the current building automation system (BAS), if applicable. This includes all systems and equipment under BAS control, vintage of the system as well as the type of control software and interface.
- A complete breakdown of the building's current energy consumption by end-use type such as lighting, space cooling, space heating, water heating, ventilation, refrigeration and plug loads.
- A complete breakdown of the building's highest monthly peak demand profile by end-use type such as ventilation heating, space heating, fan systems, pumping systems, humidifiers, etc.
- An analysis of the recommended energy saving measures and their resulting net effect on energy consumption of other systems in the building.

In support of NB Power's efforts to reduce the peak demand, the audit should describe reduction strategies and flexible load opportunities, such as, but not limited to:

- Variability of supply and return fan motor speed with variable frequency drives.
- Variability of other motor loads with variable frequency drives.
- Variability of economizer damper position.
- Short-term disabling of humidifiers; and,
- Duty cycling of non-critical electrical equipment.

The audit should describe both the current equipment and the recommended measures. The audit report needs to provide enough information for NB Power's technical staff to evaluate the proposal without requesting further details.

Include the recommended measures from the audit report that will be implemented on the Summary Report Form received in the Commercial Buildings Retrofit Program Kit.

If capacity is being added (ex: adding air conditioning during the retrofit) or the occupancy will be changed (ex: changing a building from a restaurant to apartments) a modelled approach is required. A baseline model using minimum applicable Code requirements as well as the proposed equipment model must be included in the report. All the baseline assumptions must also be submitted.

## 5.0 Feasibility Study Requirements

NB Power will accept a feasibility study for targeted measure(s) instead of a full energy audit where the participant opted for this path. A feasibility study is a targeted detailed description of a potential energy reduction opportunity. These measure(s) can include but are not limited to:

- building envelope
- renewable energy (wind, solar and biomass)
- heating, ventilation, and air conditioning (HVAC)
- process equipment
- commercial kitchen equipment
- hot water
- refrigeration
- lighting/controls
- building management system
- motors
- demand control

NB Power requires the feasibility study to indicate energy savings, estimated costs, annual savings in dollars and greenhouse gas reductions. Where applicable interactive effects will need to be considered, for example, where more efficient lights create less heat, it is required that the feasibility study should indicate the extent to which this affects the building's heating load in winter and cooling load in summer.

The feasibility study shall include the following:

- An analysis of the recommended energy saving measure(s) and their resulting net effect on energy consumption of other systems in the building.
- Additional energy audit requirements from section 4.0 where relevant to the type of measure proposed. For example, measures impacting heating will need to determine the existing heating end use and may require a model.

The feasibility study should describe both the current equipment and the recommended measure(s). The feasibility study needs to provide enough information for NB Power's technical staff to evaluate the proposal without requesting further details.

## 6.0 Program Steps

### Step 1 Contact an NB Power Commercial Technical Energy Advisor

NB Power Commercial Technical Energy Advisors will provide guidance throughout the Commercial Buildings Retrofit Program process. Contact NB Power at 1 800 663-6272 option 5 or by email [CEES-SEEC@nbpower.com](mailto:CEES-SEEC@nbpower.com).

### Step 2 Schedule your Energy Audit or Feasibility Study

Contact an approved Energy Management Service Provider (EMSP) or Specialized Service Provider (SSP) to schedule an energy audit or feasibility study. The EMSP/SSP will perform the audit/feasibility study, discuss potential projects with you, prepare an audit report/feasibility study and submit an application on your behalf to NB Power. See our website for a list of qualified EMSPs that have successfully entered our program and a list of questions to ask EMSPs.

(<https://www.saveenergynb.ca/en/save-energy/commercial/commercial-buildings-retrofit-program/list-of-service-providers/>)

Feasibility studies can be provided by the same approved energy auditors, our EMSPs. Alternately, the studies can also be provided by approved Specialized Service providers (SSPs). To find a SSP or become one please contact NB Power staff at [CEES-SEEC@nbpower.com](mailto:CEES-SEEC@nbpower.com).

It is the Participant's responsibility as the applicant to ensure that the professional selected has the necessary training, credentials and experience. Retaining the services of a competent energy professional throughout the project will help realize the estimated energy savings.

#### EMSP Qualifications:

Either a Professional Engineer (P Eng), a Professional Technologist (P Tech), a Certified Engineering Technologist (CET), an Architect or a Certified Energy Manager (CEM) must perform the energy audit; this individual must have at least two years' experience evaluating energy systems in commercial buildings.

An Engineer-In-Training under the supervision of a P Eng., a P Tech or a CET with the two years' experience is acceptable, but the supervisor must certify and sign the audit report.

#### SSP Qualifications:

Either a Professional Engineer (P Eng), a Professional Technologist (P Tech), a Certified Engineering Technologist (CET), an Architect, a Certified Energy Manager (CEM) or a Red Seal trades person must perform the feasibility study; this individual must have at least two years of specialized experience in the measure outlined in the feasibility study. An Engineer-In-Training under the supervision of a P Eng., a P Tech or a CET with the two years' experience is acceptable, but the supervisor must certify and sign the feasibility study.

### **Step 3 Submit Program Agreement**

The Commercial Buildings Retrofit Program documents will be sent by email to the Participant once NB Power receives the program application. All necessary forms and information required to successfully participate in the program will be found in this email.

Please return to NB Power:

Program Agreement: sign and return a copy to NB Power to [CEES-SEEC@nbpower.com](mailto:CEES-SEEC@nbpower.com)

After the EMSP has submitted proof of payment, the ASHRAE Level II audit rebate will be issued within 60 days. Acceptable proof of payment is a copy of a paid invoice or a submittal by the EMSP indicating the audit amount and that the participant has paid the EMSP in full.

NB Power requires that a signed Program Agreement and the Audit Report be sent to NB Power before an audit incentive payment is issued. If payment has not been received and a signed Program Agreement has been submitted, please contact your EMSP. See Section 3.1 for a detailed look at audit incentives available.

### **Step 4 Submit the Statement of Work**

Once the audit report/feasibility study has been received, the Statement of Work can be submitted to NB Power.

The audit report/feasibility study provides detailed information on potential energy efficiency projects along with their estimated costs, energy savings, and an estimate of the time it will take for the investment to be paid back as a result of energy savings.

The Statement of Work documents the energy efficiency projects that will be implemented. When the decision has been made to go ahead with some, or all, of the recommended measures in the audit report/feasibility study, enter these in the Statement of Work.

Please send NB Power:

Statement of Work Form. This form is one of the documents sent to you by the Commercial Buildings Retrofit Program Staff. It will inform NB Power of the measures that will be implemented to upgrade the building's level of energy efficiency.

Once the measures have been selected, complete the Statement of Work form indicating the intended projects and email a signed copy to NB Power for approval at [CEES-SEEC@nbpower.com](mailto:CEES-SEEC@nbpower.com)

## Step 5 Receive Approval to Get Started

NB Power will review the completed Statement of Work. A notification will be sent when the projects have been approved. Once the approval from NB Power is received, the participant can commence implementation of the energy efficiency measure upgrades.

**Important:** No project work can begin prior to receiving approval of the Statement of Work from NB Power program staff.

## Step 6 Submit Request for Payment

At this point, the chosen upgrade(s) have been completed. Congratulations. Now it is time to request the incentive payment.

Please send NB Power:

Request for Payment Form. This form is the document sent to you by the Commercial Buildings Retrofit Program Staff. It will describe the work that was completed. Complete and email a signed Request for Payment form along with copies of invoices, receipts, along with key shop drawings or technical data sheets etc. to NB Power at [CEES-SEEC@nbpower.com](mailto:CEES-SEEC@nbpower.com)

Note that the construction costs should not include taxes for the purposes of calculating Low Carbon Economy Leadership Fund incentives but can include associated costs such as consultant fees.

## Step 7 Site Visit

A member of NB Power's staff may perform a site visit to confirm the installation of the energy efficiency measures.

## Step 8 Receive Incentive Payment

Once NB Power has approved your Request for Payment, the incentive for your energy efficient upgrades will be issued within 60 days of NB Power receiving the claim and invoices, along with key shop drawings or technical data sheets.

## 7.0 Get Started

If you still have questions about the Commercial Buildings Retrofit Program after reading this guide, please contact us at:

1-800-663-6272, press 5 (Toll-Free)

[CEES-SEEC@nbpower.com](mailto:CEES-SEEC@nbpower.com)

[Commercial Buildings Retrofit Program \(saveenergynb.ca\)](http://saveenergynb.ca)