Energy at work FORTIS BC™

Participant guide

Industrial Optimization Program

The Industrial Optimization Program helped Richmond's Tree Island Steel upgrade to a high-efficiency natural gas steam plant, qualifying them for a $50,000 rebate.

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1.0 Industrial Optimization Program overview

FortisBC works with owners and long-term lease holders of industrial facilities in British Columbia to encourage greater energy efficiency. The Industrial Optimization Program provides funding to help identify and implement energy conservation measures (ECMs) that reduce the intensity of natural gas and/or electricity consumption for manufacturing and/or transformative processes in which raw materials are transformed into finished goods for the purpose of resale with the use of machines, tools and labour. The program consists of three offers:

Offers	Description	Incentive
Plant Wide Audit	Funding towards a high-level, whole facility audit to identify opportunities to use energy more efficiently. A report will be developed recommending ECMs with cost and savings estimates presented at a +/-50 per cent uncertainty level.	75% of cost[1] up to $10,000[2]
Feasibility Study	Funding towards a detailed study of a specific system or process within a facility to fully investigate an opportunity to use energy more efficiently. A report will be developed to present cost and savings estimates of the ECM(s) at a +/-10 per cent uncertainty level. The Feasibility Study is the basis for determining eligibility for the Technology Implementation offer.	up to 75% of cost
Technology Implementation	Funding towards the installation of high-efficiency equipment as a retrofit, new construction or facility expansion project that will result in more efficient consumption of natural gas compared to standard practice.	up to $1 million[3]

[1]Or the amount stated in your Plant Wide Audit application approval letter. [2]Up to $20,000 if participant is both a FortisBC natural gas and electricity customer and completing a joint natural gas and electricity audit. [3]Only for natural gas or piped propane customers.

2.0 Purpose of this guide

This guide is designed to provide a detailed overview of the Industrial Optimization Program, including the program's objectives, eligibility considerations, incentives and step-by-step guidance on how the program works.

3.0 Program objectives

The purpose of the Industrial Optimization Program is to provide funding assistance for energy-efficiency projects beyond the scope of other incentive programs offered by FortisBC.

The program encourages industrial customers to identify, investigate and implement ECM(s) to use natural gas and/or electricity more efficiently for manufacturing and/or transformative processes where raw materials are transformed into finished goods using machines, tools and labour for the purpose of resale. These industrial process-related activities are common across the food and beverage, greenhouse, agriculture, manufacturing, mining, wood products, pulp and paper and oil and gas sectors.

Upgrade projects commonly undertaken to maximize the efficient use of natural gas and/or electricity include ECMs that will:

- use more efficient equipment or systems
- recover and reuse waste energy
- reduce energy consumption in low production periods
- eliminate unnecessary energy use by shutting off idling or unneeded equipment

4.0 Program benefits

- Projects are tailored to an industrial facility's specific needs.
- The program can provide insight into how energy can be used more efficiently at a particular industrial facility.
- No-cost and low-cost ECM(s) can be identified and quickly implemented.
- Operational costs and energy waste can be reduced.
- Bottlenecks can be eliminated, increasing production and improving the quality and consistency of products.

5.0 Eligibility considerations

The program is available to facilities with the following characteristics:

- receive natural gas or piped propane service from FortisBC and consume a minimum of 10,000 GJ of natural gas annually and/or receive electricity from FortisBC Inc. on Rate Schedules 30, 31, 32 or 33 or from the municipalities of Summerland, Penticton, Grand Forks or Nelson Hydro and consume a minimum of 500 MWh of electricity annually

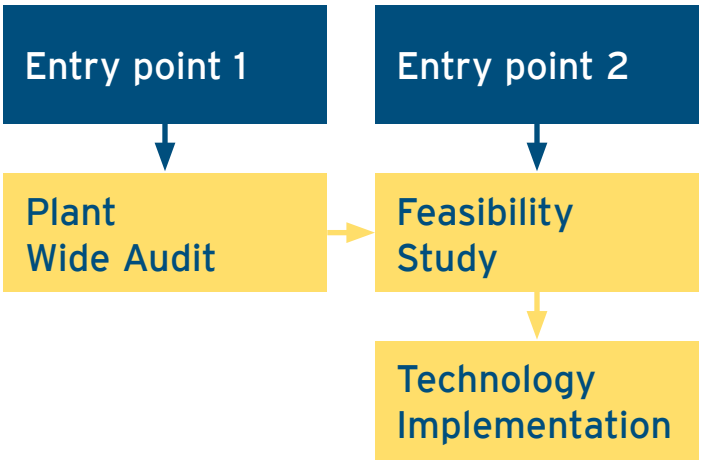
In addition:

- the proposed building or facility must be owned by the participant or leased by the participant under a long-term lease
- the facility must use natural gas and/or electricity for industrial processes

Note: if planning a facility expansion or building new, you may still be eligible to participate. Please contact us to discuss your plans.

6.0 How the program works

There are three offers to the Industrial Optimization Program. The entry point can vary. If you're just starting out and want to know what opportunities exist throughout your facility, we recommend starting with a Plant Wide Audit. If you've already identified ECMs on your own and have a rough cost and savings estimate and would like to investigate the opportunity in detail, we recommend applying for the Feasibility Study.



6.1 Plant Wide Audit

- We can provide funding towards the cost of having a FortisBC approved professional engineering consultant perform a high-level, whole facility audit to identify opportunities to use natural gas and/or electricity more efficiently.
- You must use a FortisBC approved consultant.
- The findings of a Plant Wide Audit will be documented in a report presenting a high-level analysis of a facility's process and production, historical energy consumption breakdown, viable ECMs and their associated cost and savings estimates at a +/- 50 per cent uncertainty level.
- A guide to support you and your selected consultant prepare and submit the Plant Wide Audit proposal and report is available.

6.2 Feasibility Study

- We can provide funding towards the cost of having a FortisBC approved professional engineering consultant fully investigate an opportunity to use natural gas and/or electricity more efficiently.
- You must use a FortisBC approved consultant.
- The findings of the Feasibility Study will be documented in a report presenting a detailed analysis of an ECM for a specific system or process within the facility. Cost and savings estimates will be outlined at a +/- 10 per cent uncertainty level.
- A guide to support you and your consultant prepare and submit the Feasibility Study proposal and report is also available. Eligible ECMs must have a project payback greater than two years. They must also pass the Total Resource Cost (TRC) test to determine whether the combined benefits of the project outweigh its costs.

6.3 Technology Implementation

We can provide funding to help implement qualifying cost-effective ECMs that have been investigated through the Feasibility Study. This funding can help with the cost of installing high-efficiency equipment resulting in the more efficient use of natural gas at the facility.

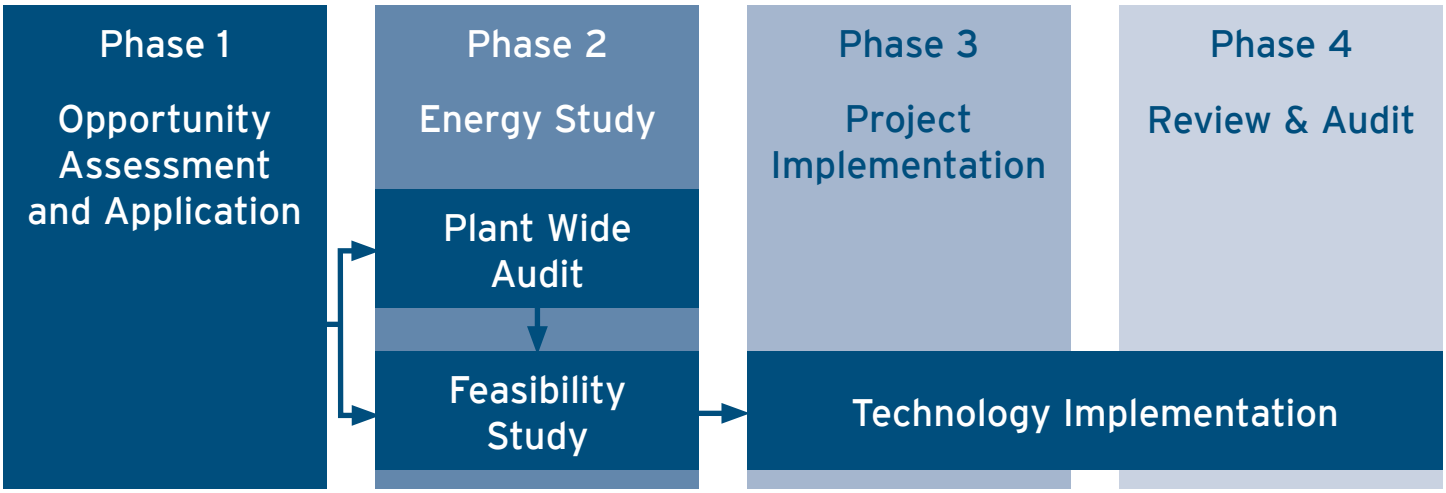
We assess ECM eligibility and incentive determination based on the incremental project cost, where incremental means the difference between the cost to implement the ECM and the cost of implementing the equivalent standard efficiency measure, should there be one.

Please note: FortisBC electricity customers are not eligible to participate in the Technology Implementation offer of the Industrial Optimization Program. However, you may be eligible for incentives for electricity ECMs through the Custom Business Efficiency Program. For details, contact your FortisBC technical advisor or visit **fortisbc.com/CBEP**.

Approved consultants

Plant wide audits and feasibility studies must be conducted by a FortisBC approved consultant. A list of approved consultants is available at **fortisbc.com/consultants**. If you want to use a consultant who hasn't been approved, the proposed consultant must submit a Commercial and Industrial Program Consultant listing application, available via your FortisBC key account manager or technical advisor or by emailing **industrialrebates@fortisbc.com**. We'll determine whether the proposed consultant meets the eligibility requirements.

6.4 Process steps



Phase 1: Opportunity Assessment and Application steps

Step 1: Contact your FortisBC key account manager or technical advisor to discuss your needs and determine where best to begin.

Step 2: Identify an approved consultant and request a proposal to perform a Plant Wide Audit or Feasibility Study.

Step 3: Submit a completed application form and proposal to **industrialrebates@fortisbc.com**.

Step 4: An application review meeting is held between you, the consultant and FortisBC.

Step 5: We review the application and proposal and accept, reject or request modifications.

Step 6: On approval of the application and proposal, we will issue an approval letter indicating approved funding.

Phase 2: Energy Study steps

Step 1: Upon approval of your application, contract with the consultant to perform either the Plant Wide Audit or Feasibility Study.

Step 2: The consultant conducts the energy study, prepares and provides the report and supporting analysis files to you for review.

Step 3: Submit the report and supporting analysis files to **industrialrebates@fortisbc.com** for review. The report must be submitted within six months of application approval.

Step 4: We review the report and accept, reject or request modifications.

Step 5: Upon completion of the review process, a wrap-up meeting is scheduled to discuss the report, next steps and additional opportunities for funding.

Step 6: Submit a copy of the consultant's invoice(s) to us for review.

Step 7: After the report and the invoices have been approved, we'll advance the incentive to you.

Step 8: If you're participating in the Feasibility Study, we'll assess each ECM for eligibility for the Technology Implementation component of the program and issue a Technology Implementation incentive offer where additional funding is available to implement ECMs. This incentive offer will identify the ECMs eligible for incentives and their amount, and include the terms and conditions of the Technology Implementation phase.

Phase 3: Project Implementation steps

Step 1: You have three months to sign and return the Technology Implementation incentive offer to **industrialrebates@fortisbc.com** indicating which eligible ECM(s) will be implemented.

Step 2: You must install the ECM(s) and commission the project within 18 months of returning the completed incentive offer.

Step 3: Submit a completion declaration form to **industrialrebates@fortisbc.com** within 30 days of the ECM becoming operational.

Step 4: Submit your invoices with proof-of-payment within 180 days of FortisBC receiving the completion declaration form.

Phase 4: Review and audit steps

Step 1: We'll conduct an onsite inspection to verify the installation and operation of the ECM(s).

Step 2: Together, we'll agree on an in-service date for the ECM(s).

Step 3: We'll advance the initial Technology Implementation funding payment.

Step 4: Based on the project characteristics, and/or the incentive amount, the project may be subjected to measurement and verification protocols to determine the energy savings of the installed ECM(s). If a portion of the incentive is contingent on the measurement and verification results, the second Technology Implementation payment will be advanced upon successfully meeting the minimum savings threshold outlined in the offer.

Step 5: We may also conduct periodic inspections after the in-service date.

7.0 Incentives

7.1 Plant Wide Audit

We intend to provide 75 per cent of the cost of the report up to a maximum of $10,000 (or $20,000 if you are eligible for incentives to identify both natural gas and electric ECMs), or the amount stated in your Plant Wide Audit application approval letter.

7.2 Feasibility Study

We intend to provide 75 per cent of the cost of the report; however the amount will be assessed on a case-by-case basis at our discretion. The incentive amount will be discussed with you and presented in the Feasibility Study application approval letter.

7.3 Technology Implementation

For ECMs to be eligible, they must have a project payback greater than two years. They must also pass the Total Resource Cost (TRC) test, which determines whether the combined benefits of the project outweigh its costs to both the utility and the customer.

For eligible ECMs identified in the Feasibility Study, the incentive will be the lesser of:

1. an amount required to reduce the project payback to two years (taking all fuels into consideration) and pro-rated based on the proportion of natural gas cost savings to cost savings across all fuel types
2. seventy-five per cent of the incremental project cost
3. $1 million

A	B	C	D	E
Incremental project cost	Annual natural gas savings **($/yr)**	Annual other fuel type savings **($/yr)**	Proportion of natural gas savings to total fuel savings **(B÷(B+C))**	Amount required to reduce payback to two years considering all fuels **[A-(2x(B+C))]**
$600,000	$90,000	$10,000	0.9	$400,000

Incentive offer will be the lesser of 1, 2 or 3

1	2	3
Two-year payback pro-rated by proportion of natural gas cost savings to total fuel savings **(DxE)**	75% of the incremental project cost **(75%xA)**	$1 million
$360,000	$450,000	$1,000,000

Example:

In the above example, the incentive offer would be $360,000. Note: for incentives greater than $100,000 the payment advanced will be contingent on measurement and verification results.

Dual fuel technologies

For ECMs that involve natural gas and other additional fuels, we will prorate the project costs, incremental costs and incentive based on the expected ratio of natural gas savings to total project energy savings. Please note that if natural gas is reduced by implementing an ECM but another fuel is increased by an equal amount, the project is considered to be fuel switching and may not be eligible for incentives. If you have questions, contact your FortisBC key account manager or technical advisor.

7.4 Rebate payment schedule

Plant Wide Audit

The incentive will be issued to you once the Plant Wide Audit report and consultant's invoices have been approved.

Feasibility Study

The incentive will be issued to you once the Feasibility Study report and consultant's invoices have been approved.

Technology Implementation

The incentive will be advanced once the in-service date has been agreed upon and the invoices and proof-of-payment have been approved. The following table describes the payment schedule.

	Payment milestones		
	In-service date	One year after in-service date	Two years after in-service date
Incentives ≤ $100,000	100%	N/A	N/A
Incentives > $100,000	50%	50%, provided first year energy savings achieves minimum savings threshold identified in the incentive offer	if first year energy savings doesn't achieve minimum savings threshold and 50% of incentive has yet to be advanced, the remaining portion will be issued provided average savings across the first two years achieves minimum savings threshold identified in the incentive offer

8.0 Measurement and verification requirements

Based on the project characteristics and/or the incentive offer, the project may be subjected to measurement and verification protocols.

	Measurement and verification requirements
Incentives ≤ $100,000	Subject to random measurement and verification analysis
Incentives > $100,000	Subject to a one year measurement and verification period starting at the agreed upon in-service date. If the minimum savings threshold identified in the Technology Implementation incentive offer is not met for the one-year period after the in-service date, the measurement and verification period will be extended to a second year.

9.0 Additional program requirements

- You must receive approval in writing from an authorized FortisBC representative before commissioning or beginning the Plant Wide Audit and Feasibility Study, or before purchasing or installing any of the proposed ECMs.
- Plant Wide Audit and Feasibility Study proposals and subsequent reports must meet the program's requirement guidelines.
- Proposed projects must not seek to achieve natural gas and/or electricity savings by switching to an alternate fuel source.
- Upon completion of the upgrade project, facilities must still use natural gas and/or electricity as fuel source to serve industrial processes, either solely or in conjunction with other lower carbon energy sources.
- Proposed ECMs must be proven technologies that are commercially and readily available in the market with a reasonable adoption rate. ECMs intended to demonstrate a technology to increase market adoption in British Columbia and/or for purposes of research and development are not eligible under the program.
- FortisBC reserves the right to limit incentives it provides under the program for any reason.

10.0 Contact us

For more information please contact your FortisBC key account manager or technical advisor or the industrial rebates team at **industrialrebates@fortisbc.com** or **1-866-884-8833**.

11.0 Frequently asked questions

Q. Why does FortisBC want my business to reduce its energy use?

A. We're committed to providing customers value for their energy dollar. Plus, helping customers conserve energy is one of the most cost-effective ways for us to meet the province of B.C.'s future energy needs.

Q. What if the consultant I want to work with isn't on your approved list?

A. The consultant must apply to become a FortisBC's Industrial Optimization Program approved consultant by completing and submitting an Industrial Optimization Program consultant listing application and providing all other information related to their skills, qualifications and experience. Application forms are available by emailing **industrialrebates@fortisbc.com**. We will advise you and the consultant in writing within 30 days of receipt of all necessary information whether or not the consultant is accepted into the program.

Q. What happens if I want to change an approved energy conservation measure (ECM) or add a new one to my project?

A. You are required to advise us promptly of any proposed changes to the ECMs that either eliminate or substantially change their design during the course of the design, tender or construction of such measures. The approved report will need to be updated to reflect these changes and sent to us for review. You are responsible for the cost of the energy study report updates and funding adjustments may be made in FortisBC's sole discretion.

Q. I've applied for additional funding through another organization. How does this impact the funding I will receive from FortisBC?

A. You must notify us in writing if you receive contributions or contribution commitments from a third-party organization. In the event the combined total of our funding and third-party contributions exceeds 100 per cent of the FortisBC approved amounts, we'll adjust the funding, or if already paid, you'll be required to repay us for the full amount of the excess.

Q. I have an opportunity to purchase some of the materials and equipment needed for my upgrade project at a discount, but I haven't received approval of my energy study report. Can I purchase the materials and equipment?

A. To qualify for program funding, you're required to have written consent from FortisBC before ordering or purchasing any of the materials or equipment needed to implement the approved ECMs.

Q. How do you define a long-term lease with respect to the requirement that a proposed building or facility must be owned or leased by the participant?

A. Long-term lease means an industrial lease with a term of 120 months or more, with an option to renew for at least 60 months. At the time of application, at least 36 months must be remaining on the current lease.

Q. Am I allowed to receive incentives if my equipment or processes consume a mix of natural gas and another thermal fuel?

A. Yes. Our technical team will assess the situation and prorate the rebate based on the relative amount of natural gas cost savings.

Q: When can I contract or raise a purchase order with the consultant who will be completing the Plant Wide Audit or Feasibility Study?

A: To be eligible for funding, the participant should only contract with the consultant after the Plant Wide Audit or Feasibility Study application and proposal have been formally approved via an approval letter from us.