



## Continuous Optimization for Commercial Buildings

### Introduction

It is commonly accepted that, over time, building systems do not operate as optimally as they could, and will use more energy than they should in order to satisfy occupant comfort and lighting requirements. The term “retrocommissioning” is used to identify activities that attempt to optimize the operation of building systems to, in part, reduce energy use by identifying and implementing low-cost operational and maintenance changes.

As challenging as it is to retrocommission a building successfully, it is even more challenging to ensure that the benefits persist. That’s where BC Hydro’s time limited Continuous Optimization Program can help. The program is designed to assist commercial building owners in retrocommissioning their building, and to then help maintain and continually improve the level of efficiency in their building operations. This is a new program offering, and we are looking for customers with a commitment to building operations and energy management to help us pilot the proposed approach.

### Benefits of Continuous Optimization

Continuously improving the efficiency of your building operations can provide these benefits:

- Improve your understanding of how your building uses energy and determine whether the energy use is appropriate for the building
- Take advantage of low-cost operational measures with very short paybacks to achieve typical annual energy use reductions in the order of 10 per cent
- Quantify the electrical energy savings associated with your retrocommissioning efforts and other energy reduction projects
- Ensure the persistence of the energy savings when you undertake operational improvements

- Set and track progress towards performance targets for energy use
- Improve your internal energy reporting systems

### How BC Hydro Can Help

The Continuous Optimization Program offers incentives, tools and support to help you get your building in good working order – and keep it that way. The program has built-in feedback and quality assurance mechanisms designed to give you the information and skills you need to determine whether your energy use is on target, as well as enhance your building’s efficiency over time. As a result, you and your staff will better understand how your building uses energy, improve the efficiency of the building’s operations and maintain the associated savings.

### Who Is Eligible

The Continuous Optimization Program is for commercial buildings that:

- Are greater than 50,000 square feet
- Have a Building Energy Management system in good working order
- Can provide documentation including mechanical and electrical schematics; control drawings; testing, adjusting and balancing reports; and operation and maintenance reports
- Have well-maintained equipment and systems
- Have no major retrofits or tenant improvements planned for the next one to two years.

*The Continuous Optimization Program will help you continually improve the efficiency level of your building operations.*

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## How the Program Works

The Continuous Optimization Program helps qualified commercial buildings improve their operational efficiency through a five-phase process. All steps outlined below will be conducted by a trained and qualified service provider who is a member of the Power Smart Alliance.

### Investigation

BC Hydro will fund the cost to conduct an audit to determine the most cost-effective measures to bring your building's operation up to optimal energy efficiency levels. The audit will include the list of recommended energy efficiency measures, the implementation costs, the resulting energy savings and the paybacks.

### Implementation

You carry out all of the recommended measures that have a simple payback of two years or less, in order to maintain your eligibility and retain the Investigation incentive.\* Because the recommended measures are typically low-cost or no-cost and have such short paybacks, no incentives are provided for implementation.

### Feedback

Based on the maxim "If you don't measure it, you can't manage it," the program will provide you with the information needed to determine whether your energy consumption is on or off target, and to find and correct operational issues when consumption is higher than expected. BC Hydro will assist by providing the following support:

- The installation of an electric interval meter, including upgrading your BC Hydro revenue meter to a pulse meter if required. A pulse meter provides data on energy use every 15 minutes.
- An Enterprise Energy Management (EEM) software service, which will analyze the pulse meter data and allow you to view the results over the Internet. The EEM software will provide:
  - Load profiling
  - Benchmarking (to Energy Star standards)
  - Quantified energy savings

- Exception reporting to notify you when your energy use exceeds an expected level
- Billing analysis
- Standard reporting
- Task tracking

Additional meters (for example, gas, water or steam) may also be added to the EEM reporting system in order to ensure a whole-building energy perspective. In that case, the program may also be used to track greenhouse gas reductions and water conservation initiatives

### Building Operator Training

BC Hydro will fund the cost of having the service provider conduct in-house training for your building operations personnel in the use of the EEM reports and the steps needed for continuous optimization. The training will incorporate aspects of best management practice in building energy management systems.

### Coaching

BC Hydro will fund the cost of having the service provider visit your building every three months for the first year, to ensure that building operators continue to undertake the recommended activities to ensure the persistence of your energy savings.

The Continuous Optimization Program is not about a one-time incentive payment; rather, it is about continuous customer engagement. BC Hydro is prepared and ready to help you manage and improve your building's operation on a continuing basis.

## Getting Started

Start your building on the path of continuous improvement in energy-efficient operation. As a first step, contact your BC Hydro key account representative to determine your eligibility for the Continuous Optimization Program.

- \* **Customers have additional responsibilities under the program; for details speak to your BC Hydro representative.**

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