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Commissioning Advantage from Siemens

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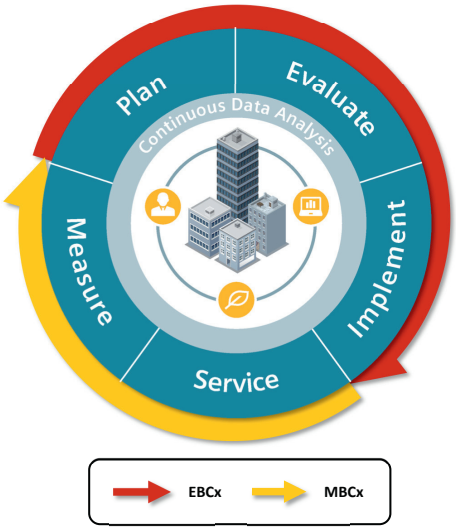
Across Canada, research suggests that buildings account for approximately 12% of all energy consumed (1,057 petajoules). As our demand for energy grows along with our desire to reduce energy consumption, building owners and property managers look for low-risk solutions to reduce utility consumption in buildings. The most effective way to address these concerns is through a comprehensive energy management strategy with an emphasis on building commissioning.

What is a Comprehensive Energy Management Strategy?
A comprehensive energy management strategy is designed to minimize energy spend, reduce environmental impacts, and increase the value and competitiveness of buildings and infrastructure. Of a typical building's total lifecycle cost, approximately 32% results from energy consumption during the operational phase of the building; thus, even minor energy conservation projects can have a major financial impact. A quality-focused building commissioning process has the potential to yield energy savings as quickly as possible. In fact, a combination of Existing Building Commissioning (EBCx) and Monitoring-based Commissioning (MBCx) can provide an excellent opportunity to improve the overall performance of a building and should be part of any sound comprehensive energy strategy.

A Holistic Energy Strategy Includes Five Key Phases
The holistic nature of a comprehensive energy management strategy relies on a combination of people, processes, and technologies and is based on five phases that are inherently recursive and concurrent.

- Plan – actionable, strategic advice to meet goals and improve performance
- Evaluate – identification of improvement areas
- Implement – turnkey delivery of improvements and applied expertise
- Service – maintain and continually improve performance
- Measure – applied technology to ensure savings goals are continually met and additional improvements are identified



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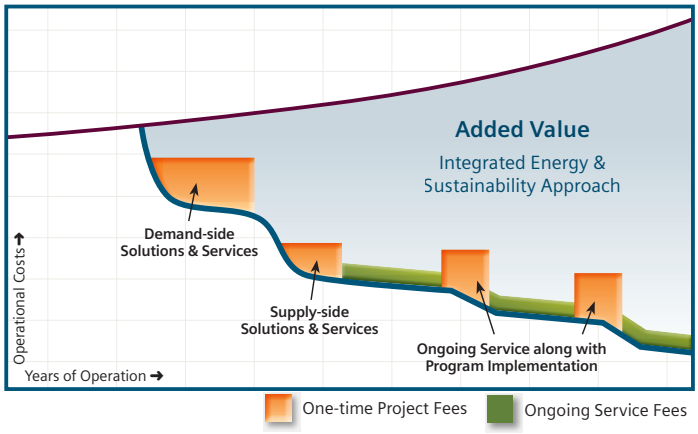
How Building Commissioning Fits into a Comprehensive Energy Management Strategy

By systematically investigating, analyzing, and optimizing building performance, building owners can take advantage of many commissioning benefits, including greater building and occupant comfort, improved employee productivity, and enhanced sustainability.

Generally, building operating costs increase over time, and EBCx can generate some relatively quick energy savings and operational improvements by taking corrective actions that reduce energy demand and consumption. Without a holistic commitment to maintaining these corrective actions, building costs can eventually rise to original levels. Adding MBCx to the approach can enhance the savings generated by EBCx, and may generate new energy and operational savings opportunities if properly implemented.

EBCx and MBCx require some up-front cost and investment of time and resources, but the cost of these measures stands to be significantly lower than the value they add to the holistic energy management strategy.

Existing Buildings: Energy & Sustainability Value Proposition



EBCx: A Crucial Starting Point with Lasting Results

The Commissioning Advantage from Siemens is an existing building commissioning service that identifies operational and infrastructure deficiencies, or problems, within existing buildings. By analyzing utility costs, operational needs, and equipment performance, and using proprietary diagnostic tools, an EBCx project clearly identifies both problems and solutions that will help improve facility performance. EBCx follows a formal process and uses standard templates for testing and documenting building inefficiencies and for planning facility improvement measures, helping you:

- Reduce operating cost and optimize energy use
- Improve building operations and its maintainability
- Improve occupant comfort

Siemens EBCx Energy Engineers and Service Technicians consult with you to audit your facilities, quantify conservation measures and corrective actions and implement customer-selected improvements in the shortest time possible, thereby maximizing energy savings and performance improvements for you.

Benefits of Siemens EBCx Program

- Energy benchmarking – A facility benchmark analysis compares your facilities against industry standards for comparable buildings in similar climates. This report can use either ENERGY STAR or the EMC Utility Data Analysis (UDA) Report. The Energy Star Portfolio Manager will be required to pursue LEED certification.
- Detailed efficiency reporting – A comprehensive EBCx report shows your facilities' mechanical, electrical, and automation inventories, along with facility improvement measures that will improve the operating conditions of your equipment and your buildings.
- Reduced energy and operating costs – EBCx reporting proposes both operational and capital improvements along with their projected costs and savings.
  - Cash flow analysis of potential savings is also available.
- Ongoing training and education – As the last step in the EBCx process, Siemens offers post-project training to building managers and operators to ensure they understand the changes that were implemented and protocols to follow to maintain energy savings and comfort long term.

Maximized Savings Potential

Research by Lawrence Berkeley National Laboratories states that EBCx projects provide energy savings of 10% to 20% with an average simple payback slightly over one year. These projects represent low-risk capital expenditures with the potential to deliver significant operational savings. Siemens delivers a clear advantage through the EBCx program through near real-time identification and implementation of low-cost and no-cost corrective actions—the vast majority of which are improvements and upgrades to the controls system. Maximum energy savings potential will come as a result of combining the quick and impactful benefits of an existing building commissioning project with the long-lasting benefits of monitoring based commissioning. Through this systematic approach only Siemens can offer, building owners can not only maximize their energy savings, but improve building performance and comfort.

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