

ENSPiRE SESSION 2

Low-Cost Opportunities Including Existing Building Commissioning (EBCX)



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Empowering You To Save

This webinar explored practical strategies to enhance building energy efficiency with minimal investment. The topics covered include energy scans, existing building commissioning (EBCx), maintenance opportunities, and emerging building automation system (BAS) technologies such as Fault Detection Diagnostics (FDD) and Artificial Intelligence (AI).

An important takeaway is that reducing wasted energy lowers costs and environmental impacts while improving comfort.

Energy Scans: Identifying Savings Opportunities

Energy Scans are brief, low-cost assessments that engage personnel to identify cost-saving measures and improve system reliability. By comparing the expected system behavior to operations and BAS data, companies can detect and reduce excess energy usage and identify faulty equipment. This simple approach often has immediate payback and promotes a culture of energy savings for participants.

Existing Building Commissioning (EBCx)

Taking what you have and making it better EBCx is a recalibration process aimed at enhancing the performance of existing building systems. It has 4 phases: Inspection, Investigation, Implementation, and Persistence. A building is a strong candidate for recommissioning if it has a BAS and shows unjustified utility costs, unexplained energy spikes, frequent equipment failures, or persistent occupant comfort complaints. EBCx can generate up to 31% energy savings with average payback under 2 years!

Top Ten List of EBCx Measures

1. Reduce equipment runtime or simply turn it off.
2. Optimize economizer operation
3. Eliminate simultaneous heating and cooling
4. Optimize supply air temperature
5. Optimize zone/setback temperature set points
6. Eliminate unnecessary lighting hours
7. Optimize ventilation rates – Clean filters and coils!
8. Volume control for pumps and fans
9. Add/optimize chilled water temperature reset
10. Eliminate passing (leaky) valves



Ensuring Long-Term Savings – Persistence Plan

Every EBCx project requires a tailored Persistence Plan to maintain long-term performance. It should focus on systems prone to degradation, engage both building operators and management, and remain practical for consistent implementation. Reliance on BAS alarms alone is insufficient. The plan should provide tangible savings estimates and ensure the investment is paying off.

Fault Detection and Diagnostics (FDD)

FDD helps monitor direct digital controls (DDC) data, alerting operators to faults and opportunities for systems optimization opportunities. FDD software is an analytics tool that can be leveraged by building operators and technicians to help ensure persistent savings after EBCx when paired with strong project management and a rule-based, real-time approach to condition-based maintenance. While newer buildings can often be upgraded easily to include FDD, older ones without BAS may face higher costs.

Leveraging Artificial Intelligence (AI)

AI presents opportunities for enhancing data availability and quality, system integration, ROI, internal capacity, and scalability. Bolt-on DDC solutions such as Brainbox AI are available today and provide real-time optimization insights. While AI improves efficiency, it requires human oversight and comes with long-term financial and staffing considerations.

Access Resources and the session tool kit [here](#):

Access the Session recording [here](#):

June 5, 2025 Presented by

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A BOMA Initiative

Funded by Natural
Resources Canada's Deep
Retrofit Accelerator Initiative

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