

Energy Training

for the

Public Sector

Course Catalogue



The Canadian Coalition
for Green Health Care
Coalition canadienne pour
un système de santé écologie

2022

Table of Contents

WORKSHOPS 3

1. Customized Dollars-to- $\$$ ense (D2 $\$$) Workshop 3
2. Operating for Energy Efficiency – The Way to a Sustainable Future 4
3. Energy Efficient Building Operations (EEBO) 5
4. Climate Change Resiliency 5
5. Patterns in Energy Management Behaviour 6
6. Existing Building Commissioning (EBCx) 6
7. RETScreen® Expert 7

Legend:

	In Person Training		Technical Staff
	Virtual Training		Energy Staff
	Customizable		Management/Supervisors
	Incentive Available		General Staff
	Duration (# of Days)		

Courses and workshops are offered through your local Association. They are offered on an institutional basis.

Please contact your sector representative below for further information or to schedule your workshop:

Healthcare Sector



Canadian Coalition for Green Health Care

Kent Waddington
Communications Director

kent@greenhealthcare.ca

(613) 720-4889

Municipal Sector



Local Authority Services

Christian Tham
Municipal Program Specialist

ctham@amo.on.ca

(647) 932-3774

WORKSHOPS

1. Customized Dollars-to- $\$$ ense (D2 $\$$) Workshop



Course Description

The workshop will help you to identify and act upon energy savings opportunities in your buildings. Key outcomes of the workshop include:

- Understanding how energy behaves and is used in a facility
- Influencing energy use through operational action in various systems
- Improving energy efficiency through maintenance
- Estimating energy use using simple calculations for equipment

The workshop incorporates a treasure hunt including a building walkthrough, examination of building automation systems (if available), and identification and estimation of energy savings opportunities. Practical demonstrations of lights, pumps, and fan systems are also available.

Participants may choose from 30 standard training modules to create a unique and customized D2 $\$$ solution for their organization. List of available modules:

- | | | |
|--|--|--|
| • Strategic Energy Management | • Management Systems for Energy | • Benchmarking with Portfolio Manager |
| • Behavior Change | • Financial Analysis of Energy Savings | • Business Case for Energy Savings |
| • Alternative Financing Approaches | • Energy Fundamentals | • Energy Rates |
| • Seven Steps to Saving Energy | • Tools for Energy Audit | • Energy Savings Calculations |
| • Motors, Fans, Pumps, and VSDs | • Heating System Savings | • Cooling Systems Savings |
| • Lighting System Savings | • Building Envelope Savings | • Compressed Air |
| • Heat Recovery | • Renewable Energy | • Recommissioning Basics |
| • Recommissioning Process | • HVAC Control System Basics and Opportunities | • Fundamentals of Energy Monitoring |
| • Analytical Tools for Energy Monitoring | • Monitoring and Verification of Savings | • Sub-Metering |
| • EMIS Fundamentals | • EMIS Audit | • EMIS Implementation and Case Studies |

This workshop is eligible for up to a 75% incentive through the [IESO's SaveONenergy Training & Support Incentive](#).

2. Operating for Energy Efficiency – The Way to a Sustainable Future



Course Description:

This tailored version of the standard Dollars-to-Sense (D2\$) workshops focuses on in-depth content not found in D2\$ workshops related to pools/arenas, wastewater/water treatment plants, and net zero carbon emissions (e.g. net zero energy). The workshop incorporates an on-site treasure hunt to teach attendees to find real conservation opportunities and calculate the business case. As appropriate invited subject matter experts will be brought in to provide additional value.

Focus area: Pool/Arenas

Opportunities in Pool/Arena Operations: Balancing Energy & Comfort

- Ventilation and Dehumidification
- Pipeworks, taps and showers
- Insulation
- Boilers
- Pool filtration and Pumping
- Backwashing
- Lighting
- Pool Maintenance

Focus Area: Wastewater/Water Treatment Plants

Opportunities in Wastewater/Water Treatment Plant Operations: Balancing Energy & Compliance

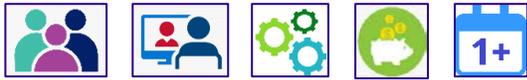
- Equipment review: pumps, blowers, mixers, filters, mixers, filters, HVAC
- Headworks / Primary Treatment
- Aeration Controls: Dissolved Oxygen (DO) Controls
- Secondary / Tertiary Clarification, RAS Pumping
- Disinfection / Digestion
- Metering and Monitoring

Focus Area: Zero Carbon Emissions

Participants will learn how to effectively partner with management to identify and implement low carbon energy management strategies. Participants will complete a series of interactive learning modules to progressively improve understanding of global and North American context for: carbon policy, impacts and opportunities, understanding carbon in a business model, technical strategies for managing carbon, and how these elements merge to evolve a comprehensive strategy.

- Conservation Culture in an organization
- General Climate Change Awareness
- Broader and local impacts of climate change
- Organizational roles, responsibilities, and commitments in a low carbon economy
- Energy & cost savings opportunities associated with municipal low carbon initiatives

3. Energy Efficient Building Operations (EEBO)



Course Description

The workshop provides flexible, on-site technical training to building and operation staff focused on a facility and systems of your choice to achieve energy efficiencies and operational savings.

The content is determined in consultation with your organization and is chosen from modules including: fundamentals of energy, understanding the bill, controlling energy with BAS, the impact of HVAC, ice plant, lighting & building envelope. The workshop is hands-on and highly interactive including physical demonstrations (lights, pumps & fans, refrigeration), calculation worksheets, graphic slides, role-plays, case studies and discussion to create an effective learning environment. This workshop can incorporate an Energy Treasure Hunt component if desired. Key outcomes include:

- Identification of wasted energy in a facility
- Improved efficiency through maintenance
- Estimation of energy use and equipment cost
- Review of electricity profile to find savings

The IESO's SaveONenergy Training & Support incentive covers up to 50% or \$300/person/day of each workshop fee for eligible participants.

4. Climate Change Resiliency



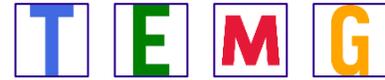
Course Description

This interactive workshop is designed to introduce attendees to the basics of climate change and how it can impact Canada's public sector and community infrastructure. Facilitators will lead participants through a variety of topic areas including:

- Risk Assessment to identify and assess climate change vulnerabilities
- Infrastructure/systems risk management and reduction strategies
- Climate change mitigation and adaptation strategies
- Identify organizational data for climate change resiliency evaluation
- Energy supply and use
- Reduce your ecological footprint while gaining knowledge of climate change best practices
- Tools to benchmark progress against self and others

Using the facilitator's slide deck, this workshop will assist participants in evaluating their facilities and organisational protocols and increase their resilience to climate change impacts.

5. Patterns in Energy Management Behaviour



Course Description

Inspired by Energy Connect; and exclusively delivered by Kady Cowan, an award-winning energy performance program, this workshop embraces the complexity of human behaviour, social decision-making and traditional energy management.

The focus of this training is to identify circumstances, barriers and practices that amplify past energy investments and evolve new energy saving opportunities. This method will embed durable environmentally sustainable solutions across your enterprise by linking invisible behaviour to social and technological systems already in place that complement and accelerate your energy, carbon and business objectives.

Energy behaviour approach starts with people who run and maintain the buildings. Working together with the building operators, this training will identify circumstances, barriers and practices that amplify past energy investments and evolve new energy savings opportunities.

Workshop Outcomes:

- To create momentum for human behaviour focussed energy savings in facilities
- To be introduced to general concepts of behaviour change and action learning
- Use a case study to emphasize behaviour change that results in energy savings
- Create a 1-page action plan to integrate workshop concepts and implement in day-to-day work

6. Existing Building Commissioning (EBCx)

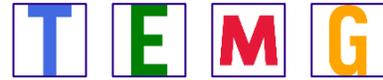


Course Description:

Existing Building Commissioning (EBCx) is the process of optimizing and making necessary adjustments to a facilities' Building Automation Systems (BAS) and equipment to ensure they meet the current facility requirements. EBCx has been proven to reduce operating costs and improve indoor environmental quality (IEQ) and add value to real estate assets. The workshop will provide a step-by-step approach on implementing and ensuring value from an EBCx, along with practical examples from a variety of commercial and institutional building cases. A strong focus will be placed on operational efficiency of HVAC systems.

- Outline the advantages of EBCx
- Describe the process used and determine key indicators in EBCx
- Assess the savings potential including supporting analysis for an adjustment
- Draft a plan and determine key players for implementing EBCx
- Pinpoint critical elements to ensure sustainable results

7. RETScreen® Expert



Course Description

RETScreen® Expert workshops are geared towards all staff who want to monitor energy performance of a building and verify savings from conservation projects. Several offerings exist depending on skill level:

- **RETScreen Performance Analysis for the Public Sector**

Attendees will be provided an introduction to RETScreen® Expert followed by a strong focus on the principles, concepts, and functions of performance analysis. Content includes:

- Introduction to software;
- Fundamentals of Performance Analysis;
 - Importing utility and activity data;
 - Access weather data and align all data for analysis;
 - Create regression, CUSUM, and M&V charts for utility data.
- Analysis to create & interpret a performance report from an individual's building;
- Tips for including results in energy conservation plans;
- Review of regulatory requirements.

- **RETScreen Project Analysis for the Public Sector**

This RETScreen® workshop will help attendees analyze the effectiveness of their energy conservation projects, the feasibility of various energy efficiency technologies, and build a business case. Examples will be drawn for many technologies, buildings and project types.

Explores the principles, concepts, and functions of RETScreen® Expert:

- Introduction to software;
- Fundamentals of Project Feasibility Analysis;
 - Entering project/building related data;
 - Setting parameters for analysis;
 - Energy, carbon & financial results;
 - Create various reports.
 - Hands-On practice
- Demonstration of Performance Analysis to verify savings.
- Tips for including results in plans and reports.