



# THE PATH TO LOWER CARBON BUILDINGS

A seminar jointly presented by the Eastern Canada Chapter of the BCA,  
the ASHRAE Toronto Chapter and BOMA Toronto

Generously sponsored by BOMA Toronto

Monday, March 4, 2019

2 PM - 5 PM

Paradise Banquet and Convention Centre, 7601 Jane Street, Vaughan, ON L4K 1X2

Registration - [www.torontoashrae.com](http://www.torontoashrae.com)

Register soon to take advantage of early bird rates	Seminar Only		Dinner Only		Both	
	Up to Feb. 25	After Feb. 25	Up to Feb. 25	After Feb. 25	Up to Feb. 25	After Feb. 25
Life Member	\$30	\$35	\$30	\$40	\$50	\$65
Members	\$60	\$70	\$65	\$75	\$105	\$125
Guest	\$70	\$80	\$75	\$85	\$125	\$145
Student	\$35	\$40	\$35	\$45	\$60	\$75
YEA	\$55	\$70	\$60	\$70	\$95	\$120

Member refers to members of any of the organizing organizations: BCA, ASHRAE and BOMA. A registration code will be available to members. For further information, contact Beatriz Salazar at 647 835 8075.



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The building industry has recently seen a series of efforts in pursuit of low carbon buildings. The recognition of the link between green house gas emissions and the use of fossil fuels in buildings suggests the industry should work towards a carbon free future. This seminar will look at various aspects of building design and operation that will lead to lower carbon buildings.

## Topics

### 1. Heat Recovery in Commercial Buildings

Using recovered heat in place of fossil fuel based systems. The drive to reduce the use of fossil fuels in commercial buildings will force the consideration of the alternative means of providing building heating. The energy crisis of the 70's led to the use of recovered heat for building heating with mixed results. This presentation will take a second look at heat recovery and the potential for displacing fossil fuel consumption.

**Speaker: Mike Loughry, HH Angus**

### 2. Multi-residential GAHP Retrofit Case Study

The Atmospheric Fund will share their experience with a gas absorption heat pump retrofit in a multi-residential setting. The presentation will provide an overview of the project and will discuss design, operational performance, and lessons learned.

**Speaker: Keith Burrows, The Atmospheric Fund (TAF)**

### 3. Overview of Reporting of Energy Consumption and Water Use Regulation

The Ministry will provide an overview of Ontario Regulation 506/18, Reporting of Energy Consumption and Water Use, touching on which properties must report, by when, and who does what. The value of building benchmarking and reporting will be discussed, including uses for building benchmarking data and savings achieved in other jurisdictions with reporting requirements. The session will conclude on plans for Year 2 implementation, including mapped locations of properties expected to report, as well as communications and outreach efforts by the Ministry and how seminar participants can complement the Ministry's outreach.

**Speaker: Linda Poirier, Ministry of Energy**

### 4. Selling Energy Conservation: Business Case Prioritization to Improve Everyone's Bottom Line

Mike Mulqueen will provide an overview of available electricity incentive programs and smart energy conservation strategies that can deliver long-term cost savings. The presentation will share insights from energy sales professionals through a series of case studies that illustrate customer journeys and success stories in leveraging available incentives for planned and unplanned capital upgrades. The key learnings will be increased incentive program knowledge and deeper insight into how to successfully sell energy efficiency to decision makers by effectively communicating non-energy benefits, understanding customer business models and budgeting processes and strengthening supply chain relationships.

**Speaker: Mike Mulqueen, Toronto Hydro**

### 5. CaGBC's Zero Carbon Building Standard

To meet Canada's GHG reduction targets, bold new approaches are required to drive innovation. For its part, the Canada Green Building Council (CaGBC) has created a new zero carbon standard for assessing the carbon performance of commercial, institutional, and multi-family buildings in Canada. The CaGBC Zero Carbon Building Standard is a unique, made-in-Canada solution to achieving our climate change commitments, providing a path for both new and existing buildings to reach zero carbon.

**Speaker: Jeff Ranson, CaGBC**

### 6. Discussions and Questions

**Moderator: Michael Loughry, HH Angus**

## ASHRAE Toronto Chapter Dinner Meeting - 6 pm

Seminar attendees are invited to attend the ASHRAE Toronto Chapter dinner meeting following the seminar. The dinner meeting presentation features a presentation by Dave Underwood on "The Future of Smart Grid and ASHRAE Standard 201". This introduction to Standard 201 will define an abstract, object-oriented information model to enable appliances and control systems to manage electrical loads and generation sources to communicate information about these electrical loads to the utilities and other electrical service providers. The determined model will allow "smart grid" interaction between electrical loads and electrical generation facilities.

#### BCA - The Building Commissioning Association

The BCA is committed to creating and supporting the highest standards for the commissioning profession. Through professional development programs, nationally-recognized certifications, tools and market outreach the BCA has earned its leadership role in accelerating best practices and promoting cross-industry collaboration.  
[www.bcxa.org/eastern-canada](http://www.bcxa.org/eastern-canada)

#### ASHRAE - The American Society of Heating, Air Conditioning and Refrigerating Engineers

ASHRAE is organized and operated for the exclusive purpose of advancing the arts and sciences of heating, refrigeration, air conditioning and ventilation, the allied arts and sciences and related human factors for the benefit of the general public.  
[www.torontoashrae.com](http://www.torontoashrae.com)

#### BOMA Toronto - Building Owners and Managers Association of The Greater Toronto Area

BOMA Toronto's membership includes over 750 real estate professionals, representing 80 per cent of all commercial and industrial real estate companies in the GTA and beyond. These individuals are all leading building owners, property and facility managers, developers, leasing agents, and service providers.  
[www.bomatoronto.org](http://www.bomatoronto.org)

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## Seminar Speaker Bios



**Mike Loughry**  
HH Angus

Mike is a Technical Leader and Senior Engineer in HH Angus' Technology Division. He has been involved in all aspects of building construction from initial concept through occupancy and operations. He is a Past-president of both the ASHRAE Toronto Chapter and the Building Commissioning Association Eastern Canada Chapter. He has many years experience with buildings using heat recovery systems.



**Keith Burrows**  
The Atmospheric Fund

Keith is the program manager for TAF's TowerWise retrofit program. He and his team are responsible for delivering energy retrofit projects and analyzing building performance and indoor environmental quality data for multi-residential retrofits. He is a LEED Accredited Professional and holds Master's degrees in Computer Science from Boston University and Sustainable Design Studies from Boston Architectural College.



**Linda Poirier**  
Ministry of Energy

Linda has been a Senior Advisor at the Ontario Ministry of Energy since 2004. Between 2002 and 2004, Linda worked for OZZ Corporation, a private company that managed the roll-out of smart meters to Ontario electric utilities. From 1984 to 2002, Linda was employed in field operations and policy roles at Hydro One.



**Mike Mulqueen**  
Toronto Hydro

Mike Mulqueen leads energy conservation for Toronto Hydro's Commercial Sector, managing a team of energy experts who help customers reduce and control energy costs through efficiency projects. Previously he managed Toronto Hydro's Multi-Unit Residential Sector and low-income programs, and prior to joining Toronto Hydro he was a Senior Environmental Planner for the City of Toronto where he helped to develop and implement the City's green building policies, Sustainable Energy Strategy and Climate Change Plan. Mike is a Certified Energy Manager and earned a Master of Urban Planning Degree from McGill University and a combined Honours Bachelor of Arts Degree in Philosophy and Economics from McMaster University.



**Jeff Ranson**  
Canada Green Building Council

As the GTA Regional Director for the Canada Green Building Council Jeff leads green building market engagement in southern Ontario through advocacy, education and community building. His leadership roles in the green building industry include serving as a sustainability and innovation expert on the Waterfront Toronto Design Review Panel, and formerly as the founding Executive Director and current advisory board member of the Toronto 2030 District and Manager of Education for Sustainable Buildings Canada.



**T. David Underwood, P.E.**  
Dinner Speaker

David Underwood has served ASHRAE for many years at the chapter, region and society. He was the founder of Isotherm Engineering Ltd. and Evaporative Tower Services Inc in Ontario, Canada. Mr. Underwood is a Fellow in ASHRAE. He has received the Distinguished and Outstanding service awards and the William J. Collins award. Mr. Underwood is the 2015-2016 Presidential member. Mr. Underwood has extensive experience in training operators and technicians through his role in Commissioning systems as a primary function of our design/build firm.