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ASHRAE LONDON CANADA CHAPTER #116

TOPIC:

40 Years of Lessons Learned – Part 1 – Energy Efficiency.

How to design energy efficiency into “No Catalog” Air Handling Systems

Presenter:

Vernon Solomon

Founder

Environmental Systems Corporation

Monday March 18, 2024

5:00pm to 6:00pm = Social; 6:00pm to 7:00pm = Dinner; 7:00pm = Presentation

**The Clubhouse at The Factory
100 Kellogg Lane**



Registration Link:

<https://forms.gle/1PgKFceGLesbrnYM6>

\$85 – Members | \$25 - Students

March Topic

40 Years of Lessons Learned – Part 1 – Energy Efficiency. How to design energy efficiency into “No Catalog” Air Handling Systems

Catalog systems are designed and tested before they go into production, the discussion will be around the thought and design process when you are designing one off custom solution to meet a specific set of requirements, not found in selections from a catalog.

What are the design aspects that can be used to improve energy efficiency and provide mission critical uptime. The discussion will go from understanding that although we cannot bend the laws of physics, we can use them to our advantage, using real project examples.

March Presenter

Vernon Solomon Founder Environmental Systems Corporation

Vern has founded 5 companies since 1983, three thriving and innovating, and two learning experiences. Innovative ventures have been based around the core competency of almost 50 years in the Industrial HVAC/R / Temperature / Humidity Control and 40+ years in Cleanrooms and Biological Safety Containment for a wide range of industries, and construction from a refrigeration mechanics perspective.



Mentoring on conceptual design teams is where he adds the greatest value. Ideas not details are his strength.

Vern has spoken at 20+ industry events on energy and operational efficiencies in designing and maintaining Critical Environments.

2023-2024 Chapter President's Message

To our local membership,

The 2024 ASHRAE winter conference was just concluded and saw a large gathering of industry professionals with thousands in attendance! There was a heavy theme on topics such as decarbonization, climate change, and AI use in the HVACR world. The Hamilton chapter won a decarbonization initiative challenge for a project on a multi-plenum fan array coupled with double skin facades and advanced carbon bio-fixation, this is an exciting prize for them and all of us in the region are excited for them, congratulations Hamilton!

Decarbonization, a central theme of the conference, remains at the forefront of ASHRAE's mission. It is imperative that we continue to explore and implement technologies and strategies that minimize our carbon footprint, contributing to a more sustainable and resilient built environment. We will continue to try and recruit speakers on this topic.

The golf tournament is going to be held in the spring again and we will be returning to Fire Rock Golf course! Stay tuned for details.

We will be gearing up for our research donation drive to support Canada research. If you are an individual or company who would be interested in helping support the advancement of ASHRAE's mission while keeping your donated dollars in Canada, please let us know!

If any members are interested to volunteer for the chapter, please contact me at jeff.armstrong@trane.com or anyone listed on the board!

Jeff Armstrong, P.Eng.



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Professional Development

Need hours for your professional development requirements? Be sure to attend a chapter meeting. Professional Engineers Ontario requires members to have yearly professional development training recorded through the Practice Evaluation and Knowledge (PEAK) program. Other groups may also require continuing education.

Chapter Upcoming Meetings

Monday March 18th – Chapter Technical Meeting
Topic: How to design energy efficiency into “No Catalog” Air Handling Systems
Speaker: Vernon Solomon

Monday April 8th – Chapter Technical Meeting, **in Hamilton**
Joint meeting with ASHRAE Hamilton and ASHRAE Toronto
Topic: An owners’ perspective on building decarbonization
Speaker: William Dean, P.Eng.,

Monday May 7th – Chapter Technical Meeting
Topic: The Future of HVAC Energy Efficiency - Pushing the Boundaries of HVAC Efficiency
Speaker: Mark W Fly. P.E, Distinguished Lecturer


***** be sure to check web site for latest information *****
<http://LondonCanada.AshraeChapters.org>

ASHRAE Society Engineering Job Board


The ASHRAE society Engineering job is a publicly accessible job board where all companies can create job postings for HVACR related jobs. The resource is available at <https://jobs.ashrae.org/>



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ASHRAE RESEARCH

Hello ASHRAE London Members,

My name is Glenn Kernaghan and I am the Chapter Research Promotion Chair for this year. Our Research Promotion goal for this year is \$10,000 and look forward to reaching this goal through your continued support.

This year we will be recognizing donors at a RP Donor Recognition meeting by displaying individual and company donors prior to one of the technical presentations. Donors will also be recognized in the monthly newsletter and on the London Chapter website. To donate online please visit:

<http://www.ashrae.com/donate>

Current Donors:

Glenn Kernaghan, Aaron Hampel, Tom Deslippe, Richard Hammond

Current Honour Roll Individual Donors:

Jeff Armstrong, Tom Pollard, Christopher Zettler

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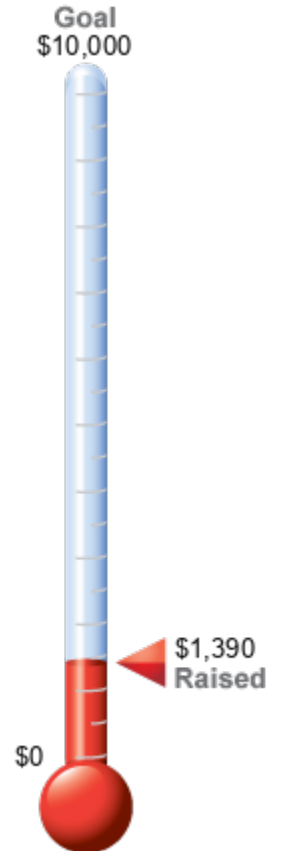
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<u>Contribution Levels</u>	<u>Individual</u>	<u>Company</u>
Honour Roll	\$150 +	\$500 +
Major Donor (Bronze)	\$250 - \$999	\$500 - \$999
Major Donor (Silver)	\$1000 - \$2,499	\$1000 - \$2,499

If any questions, please contact:

Glenn Kernaghan

glennkernaghan@gmail.com





ASHRAE Standard 90.1-2022 Receives Model Energy Code Determination from the DOE

ATLANTA (March 5, 2024) – ASHRAE received a determination issued by the U.S. Department of Energy (DOE) stating that ANSI/ASHRAE/IES Standard 90.1-2022, Energy Standard for Sites and Buildings Except Low-Rise Residential Buildings, will increase energy efficiency in commercial buildings subject to the code.

The standard achieved this determination through the DOE's technical analysis estimating that buildings meeting 90.1-2022 (as compared to the previous 2019 edition) would result in a national average site energy estimate savings increase from 9.8% to 14% (reference as "net" savings).

"With the intensified demand for decreased energy consumption and carbon reductions in existing buildings, Standard 90.1 continues to offer essential guidance in shaping building regulations and amplified energy legislation," said 2023-23 ASHRAE President Ginger Scoggins, P.E., Fellow ASHRAE. "The DOE's latest determination further solidifies Standard 90.1 as the cornerstone for achieving energy efficiency goals and ultimately moves us closer towards widescale, global building decarbonization of the built environment."

The following are DOE's estimates of national savings in commercial buildings:

9.8% site energy savings

9.4% source energy savings

9.3% carbon emissions savings

Standard 90.1-2022 marks the first time onsite generation of renewable energy systems is incorporated as a prescriptive requirement of the standard, recognizing the role of renewables in new construction, echoing similar requirements in several state and local building codes and better positioning new commercial buildings to achieve net zero energy in the future. Other key changes include customizable energy credits, a new mechanical system efficiency performance option, requirements to address thermal bridging, expanded criteria for whole-building air-leakage testing, updated lighting power allowances, and additional guidance for using emissions in addition to traditional site, source and cost-based metrics.

States are required to certify within 2 years of DOE's affirmative determination that the provisions of its commercial building code regarding energy efficiency have been reviewed and, as necessary, updated codes to meet or exceed the updated edition of Standard 90.1.

Learn more about DOE's model energy code determination, including specific requirements and deadlines, at: energycodes.gov/determinations.

About ASHRAE

Founded in 1894, ASHRAE is a global professional society committed to serve humanity by advancing the arts and sciences of heating ventilation, air conditioning, refrigeration, and their allied fields.

As an industry leader in research, standards writing, publishing, certification and continuing education, ASHRAE and its members are dedicated to promoting a healthy and sustainable built environment for all, through strategic partnerships with organizations in the HVAC&R community and across related industries.

The Society is showcasing integrated building solutions and sustainability in action through the opening of the ASHRAE Global Headquarters building in metro-Atlanta, Georgia.



ASHRAE Announces Nominees for 2024-25 Slate of Officers and Directors

ATLANTA (January 22, 2024) – ASHRAE is pleased to announce its nominees for the 2024-25 slate of officers and directors.

Nominations for officers and directors were made by the ASHRAE Nominating Committee from a list recommended by individual members and from Chapters Regional Conferences.

The 2024-25 nominees are as follows:

President-Elect:

Bill McQuade, P.E., Fellow ASHRAE, LEED AP

Treasurer:

Sarah Maston, PE, BCxP, LEED AP

Vice Presidents:

Devin Abellon, P.E.

Ken Fulk, P.E., Life Member ASHRAE

Directors and Regional Chairs:

Charles Bertuch, P.E. (Region I)

Genevieve Lussier (Region II)

Sherry Abbott-Adkins (Region III)

Rob Craddock (Region XI)

Bassel Anbari, P.E. (Region-at-Large)

Directors-at-Large:

Carrie Brown, Ph.D.

Patrick Marks, P.E.

David Yashar, Ph.D.

Alternate Director-at-Large:

Suzanne LeViseur, P.E., HBDP, Fellow ASHRAE

ASHRAE members will vote on the nominees via electronic ballot in May. M. Dennis Knight, P.E., BEMP, Fellow Life Member ASHRAE, will serve as ASHRAE President for the 2024-25 Society Year.

For more information on the 2024-25 slate of officers and directors, visit ashrae.org/2024-2025slate.

ASHRAE Releases Guide on the Role of Grid Interactivity in Decarbonization

ATLANTA (November 2, 2023) – ASHRAE has released a new guide focusing on the critical role of grid interactivity in the decarbonization process.

The [Grid-Interactive Buildings for Decarbonization: Design and Operation Resource Guide](#) is the second in a series of guides developed by the [ASHRAE Task Force For Building Decarbonization \(TFBD\)](#) and provides information on maximizing carbon reduction through buildings' interaction with the electric power grid.

"Grid-interactive buildings actively engage with the energy grid. They utilize smart technologies, renewable energy sources, and energy storage systems to optimize energy consumption and generation. This allows them to respond in real-time to grid signals, thereby reducing overall demand and GHG emissions," said ASHRAE TFBD chair Kent Peterson P.E., Presidential Fellow. "Integrating buildings with the electrical grid is a critical component in the decarbonization process. It's an emerging focus for building professionals, and ASHRAE is thrilled to provide new guidance as we collectively work towards a more sustainable, resilient, and energy-efficient built environment."



Decarbonizing the electric grid necessitates a fundamental shift towards a dynamic, two-way relationship between buildings and the grid. This approach enables buildings to respond flexibly to grid conditions, including time-varying carbon emissions rates. In recent years, the significance of this two-way communication has grown, driven by the integration of renewable energy sources, grid reliability concerns and the impact of extreme weather conditions. These factors have prompted utilities, grid operators and the building community to reassess the role buildings can play in supporting grid reliability and decarbonization by reshaping their energy consumption patterns.

The guide offers best practices, design considerations and operational guidelines to target the three primary value streams of grid integration:

1. **Reduced Carbon Emissions:** Learn how to make significant contributions to reducing carbon emissions through smart building-grid interaction.
2. **Cost Savings:** Discover strategies to optimize energy usage and save on operational costs.
3. **Resiliency:** Enhance your building's ability to withstand and adapt to changing grid conditions, ensuring uninterrupted operations.

While the guide primarily focuses on commercial and multifamily buildings, it also includes relevant aspects for the residential and industrial sectors. In addition to design guidance, the resource guide provides operational recommendations for both new and existing buildings, empowering them to optimize their available demand flexibility.

The Grid-Interactive Buildings for Decarbonization: Design and Operation Resource Guide can be purchased from the [ASHRAE Bookstore](#) or by contacting ASHRAE Customer Service by phone at 1-800-527-4723 (United States and Canada), 404-636-8400 (worldwide) or fax 678-539-2129.

The [ASHRAE Task Force For Building Decarbonization \(TFBD\) webpage](#) includes technical resources, information, videos and publications to expedite the adoption of climate change mitigation policies and reaffirms the Society's goals stated in the ASHRAE Vision 2020 report, approved by ASHRAE's board of directors, as well as the [ASHRAE Position Document on Building Decarbonization](#), to achieve net zero GHG emissions in operation for all new buildings by 2030.

ASHRAE will host the seminar "*Grid-Interactive Buildings for a Decarbonized World*" where the guide, as well as project case studies that helped in the guide's development, will be presented. The seminar will take place at the [2024 ASHRAE Winter Conference](#), January 20-24, 2024 in Chicago. Conference registration is open now.

ASHRAE Pocket Guide 10th Edition

Now available in the ASHRAE Bookstore! The ASHRAE Pocket Guide 10th edition serves as a user-friendly, offline reference for engineers without easy access to complete ASHRAE Handbook volumes. This latest edition has been revised to include updates from the four current volumes of the ASHRAE Handbook series, from the 2019 editions of ASHRAE Standards 15, 34, 62.1, 62.2, and 90.1, and the 2020 edition of Standard 55. Learn more about what is included in the 10th edition and purchase your copy today.

<https://www.ashrae.org/technical-resources/bookstore/ashrae-pocket-guide-for-air-conditioning-heating-ventilation-refrigeration-10th-ed>

New ASHRAE Certification Study Guide

Now available in the ASHRAE Bookstore

The NEW **Certification Study Guide: Building Commissioning Professional (BCxP)** joins the growing suite of ASHRAE



Certification tools to help you reach your professional goals.

Looking for something else? Also available are the **Certification Study Guides for Certified HVAC Designer (CHD)** and **Building Energy Modeling Professional (BEMP)**.

Tune-in to the ASHRAE Journal Podcast

Tune into conversations between leading ASHRAE experts as they discuss what HVAC engineers need to know to design better systems and grow the HVAC&R industry. Available on all podcast platforms.

<https://www.ashrae.org/news/ashraejournal/ashrae-journal-podcast>