2019 Conference Program

Innovative, big picture thinkers who are moving the building industry to the next level.
Schedule Overview: Thursday, October 17th

### Registration, Exhibits & Networking Breakfast
7:30 am - 8:30 am  
Highland Hall

### Plenary Session: Conference Kick-Off & Opening Feature
Passive House on a Large Scale - Applying Lessons Learned  
8:30 am - 10:00 am  
AC223

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<th>Time</th>
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<tr>
<td>10:00 am - 10:15 am</td>
<td>Networking Break &amp; Exhibits - Solutions Centre Expo</td>
<td>Highland Hall</td>
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| 10:15 am - 11:45 am   | Breakout Session 1: PH On Campus - Part 3 Case Studies  
• University of Victoria Student Housing and Dining Project: A Case Study in Large-scale Passive House Design  
• Case Study: Leading by Example: Humber College Building Nx Retrofit  
• Passive House Premium Erne Campus: Inspiring the Future of Education  
10:15 am - 11:45 am  
AA112                                                             |                    |
| 11:45 am - 12:45 am   | Networking Lunch & Exhibits - Solutions Centre Expo                                                                                       | Highland Hall      |
| 12:45 pm - 1:45 pm    | Breakout Session 2: Technical Solutions for Part 9 Buildings  
• It Starts with Design  
• Schematic Design: Setting up for Success  
• Simplified Certification Pilot for Single Family Homes  
10:15 am - 11:45 am  
HL001                                                             |                    |
| 2:00 pm - 3:30 pm     | Build it Right, Build it Tight - Hands-On Detailing Workshop  
*TICKETS REQUIRED TO ATTEND THIS SESSION*  
2:00 pm - 3:30 pm  
HL010                                                             |                    |
| 3:45 pm - 4:45 pm     | Build it Right, Build it Tight - Hands-On Detailing Workshop  
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HL010                                                             |                    |
| 5:00 pm - 6:00 pm     | Certification Ceremony & Networking Reception                                                                                           | Highland Hall      |
Schedule Overview: Friday, October 18th

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7:30 am - 8:15 am
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Annual General Meeting
8:15 am - 8:50 am
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Plenary Session: Be Smart. Build Smart.
9:00 am - 10:00 am
AC223

Networking Break & Exhibits - Solutions Centre Expo
10:00 am - 10:15 am
Highland Hall

Breakout Session 9: Technical Solutions for Multi-Family Buildings
• Balancing Passive House with OBC in Multi-Residential Buildings
• Lessons learned from overheating at a multi-unit Passive House residence in BC
• Free Cooling options for Passive House Multi-family Residential Applications
10:15 am - 11:45 am
AA112

Breakout Session 10: Advancing High-Performance Standards
• Advancing Building Standards
• PER Calculation Updates
• Exploring Passive House Technologies in the College Sector
10:15 am - 11:45 am
HL001

Networking Lunch & Exhibits - Solutions Centre Expo
11:45 am - 12:45 am
Highland Hall

Breakout Session 11: Detailing Big Buildings
• Review of Certified Passive House Details for Commercial Buildings
12:45 pm - 1:45 pm
HL001

Breakout Session 12: Building for the Future
• Embodied carbon and real zero carbon building
• Resilience Planning in Passive House Design
12:45 pm - 1:45 pm
HL001

Networking Break & Exhibits - Solutions Centre Expo
1:45 pm - 2:00 pm
Highland Hall

Breakout Session 13: An exploration of Carbon Friendly Multi-Family Projects
• Radiance Cohousing – Collaborating to Build Passivhaus in Saskatoon
• Platforms for Life: New Models for Affordable Net Zero Projects
2:00 pm - 3:30 pm
AA112

Breakout Session 14: Making it Happen - Moving procurement forward
• Streetsville Library: A Feasibility Study
• IPD Integrated Project Delivery as a procurement model for Passive House Project
2:00 pm - 3:30 pm
HL001

Build it Right, Build it Tight - Hands-On Detailing Workshop
*TICKETS REQUIRED TO ATTEND THIS SESSION*
2:00 pm - 3:30 pm
HL010

Networking Break & Exhibits - Solutions Centre Expo
3:30 pm - 3:45 pm
Highland Hall

Closing Remarks & Closing Feature
Building as a Conscious Act: Finding Opportunity in Health, Resiliency and Community
3:45 pm - 5:00 pm
AC223
About Passive House Canada

Passive House Canada is a national non-profit professional association advocating for the Passive House high-performance building standard. Passive House is recognized internationally as the proven best way to build for comfort, affordability and energy efficiency of residential, institutional and commercial buildings, through all stages of design, construction, and livability.

Our mission is to make the International Passive House standard of building performance understood, achievable and adopted by government, industry, professionals, and homeowners across Canada through education, advocacy, events, and building projects.

We were founded in 2013 as the Canadian Passive House Institute West (CanPHI West) and became Passive House Canada | Maison Passive Canada in 2016 in response to demand from the building community to form a single national organization. We facilitate the adoption of the Passive House Standard through our advocacy work, education program, and nation-wide events.

Our head office is in Victoria, BC, with course conductors, volunteers and members across Canada. We are an affiliate of the International Passive House Association and a member of the North American Passive House Network, working in collaboration with local governments and other organizations to transform our built environment.
Membership Information

Passive House Canada has membership services available to assist individuals, companies, governments, academic institutions, affordable housing and non-profits to increase their knowledge, capacity, and training in the Passive House standard.

By joining Passive House Canada as a member, you become part of a global community of professionals who are committed to designing, engineering, and building a future that will better serve communities and environments across the planet.

As a member you will enjoy many unique benefits including, but not limited to:

• Discounts on courses, webinars, events and PHPP software;
• Access to technical resources, presentations, building policies and the passive house community;
• Exclusive Passive House Canada Member marketing materials for on-site and company-wide communications;
• Participate actively in the growing Passive House community;
• Feature your Passive House projects on the Projects map and enjoy unlocked company profile details, and added exposure on social media and communications;
• Post jobs on the job board, plus added exposure on social media and communications; and
• Showcase your professional services on Passive House Canada’s Member Directory.

Become a Passive House Canada member today and join a community of like-minded professionals who are dedicated to a more sustainable future through the transformation of Canada’s built environment and development of high-performance buildings.

For more information on becoming a member, contact Christine Bobyn, Manager of Member Services at christine.bobyn@passivehousecanada.com.
Letter from Conference Chair

Dear Friends and Colleagues,

It is an honour to welcome you to the 2nd Annual Passive House Canada Conference. The vibrant City of Toronto is a market with great potential. The GTA has aggressively started to design and build to high-performance standards. In the last year communities such as Hamilton, Windsor-Essex and Oxford County have developed a multitude of Passive House projects of varying type and scale.

The conference theme is “Innovate. Educate. Advance.” We want to highlight the innovation that many of our members and industry leaders have made in the construction and retrofit of Passive House buildings. We want to highlight how the increase in locally available materials and components are helping to drive the market forward. Furthermore, we want to illustrate the advancement made in regions dedicated to low-energy buildings through models such as the Toronto Green Standard and the Zero Emissions Buildings Framework.

Join me in recognizing the hard work of our Conference Program Committee: Cillian Collins, Pamela Doherty, Sheida Shahi, Dan Gronross and Neil Norris, who have worked diligently to deliver a full complement of captivating and informative speakers, topics and projects. I would also like to extend my appreciation to the Passive House Canada staff and volunteers who worked tirelessly to make this conference a reality and to acknowledge everyone who took the time to submit session proposals. Lastly, thank you to our dedicated sponsors who have been instrumental in making this conference possible. Their innovation, industry vision, products and efficiencies all contribute to the transformation of the industry towards high-performance buildings and the Passive House standard in Canada.

I invite our members and participants to take advantage of our few days together, to make connections, learn from each other, enhance the community and strategize on ways to advance building standards across Canada.

Sincerely,

Deborah Byrne
2019 Passive House Canada Conference Chair
Passive House Canada, Board Chair
Participant Information

General Conference Information

Conference Venue
University of Toronto Scarborough
1265 Military Trail
Scarborough, ON

All conference education sessions will take place on campus.
All participants are required to check in at the registration desk upon arrival to collect their name badge.

Hotel/Conference Shuttle Schedule

Day 1 - Buses departing Westin Prince hotel for University of Toronto Scarborough
Depart 0710   Arrive 0730
Depart 0725   Arrive 0745
Depart 1220   Arrive 1240
Depart 1230   Arrive 1250
Depart 1615   Arrive 1645
Depart 1730   Arrive 1750

Day 1 - Buses departing University of Toronto Scarborough for Westin Prince Hotel
Depart 1130   Arrive 1150
Depart 1145   Arrive 1205
Depart 1545   Arrive 1605
Depart 1700   Arrive 1720
Depart 1800   Arrive 1820
Depart 1815   Arrive 1835

Day 2 - Buses departing Westin Prince hotel for University of Toronto Scarborough
Depart 0710   Arrive 0730
Depart 0725   Arrive 0745
Depart 1220   Arrive 1240
Depart 1230   Arrive 1250
Depart 1600   Arrive 1620
Depart 1630   Arrive 1650
**Day 2** - Buses departing University of Toronto Scarborough for Westin Prince Hotel

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**Registration**

Conference registration fees include access to all education sessions, grazing lunches, coffee breaks and access to the Solutions Centre expo.

**Name Badges**

Your name badge is your admission ticket to all conference sessions, lunch and coffee breaks. **Please wear it at all times as you will need to scan into the session rooms.** At the end of the conference, we are that you recycle your name badge at one of the name badge recycling stations or leave it at the Registration Desk.

Please note that if you loose your badge, a re-print charge of $25 will apply.

**Continuing Education Credits**

Passive House Canada is an AIBC and BC Housing continuing education provider offering accredited activity for continuing education learning units. **In order to qualify for learning credits, your name badge must be scanned as you enter the seminar room at the beginning of each session.**

- AIBC: Up to 10.75 Core LUs
- OAA: Up to 12 hours (self-reporting)
- PHI: ID: V159-2018-CA - 16 credit points
- BC Housing (HPO): Up to 12 Hours

All participants will receive a certificate of attendance after the conference.

**Registration and Information Desk Hours**

The Registration and Information Desk, located in Highland Hall will be open during the following dates and times:

- **Thursday**  October 17  7:30am – 6:00pm
- **Friday**  October 18  7:30am – 5:00pm
If you need assistance during the conference, please visit the registration desk.

WIFI Information

Wifi is available on campus. Please see the registration desk for log in information. For more information about wifi on campus, please visit https://wireless.utoronto.ca/connect/

Social Functions

Wednesday October 16th: Welcome Cocktails for the PHC Conference

5:30pm – 8:00pm, Westin Prince Hotel, 900 York Mills Road

Advance ticket purchase required.

Passive Buildings Canada is pleased to invite all attendees of the PHC Conference for an information cocktail reception & meet and greet. Staff, board, volunteers of Passive Buildings Canada and Passive House Canada will be on hand at this event hosted at the official hotel for the conference.

This networking reception requires advance ticket purchase ($20) and ticket includes hors d’oeuvres and two-beverage ticket. Click here to purchase tickets.

Thank you to the event sponsor Vetta Building Technologies!
Conference Program

Thursday, October 17th

7:30 AM - 8:30 AM • Highland Hall Event Centre

**Registration, Exhibits and Networking Breakfast**

8:30 AM - 9:00 AM • AC223 Plenary Session Lecture Theater

**Conference Kick-Off!**

9:00 AM - 10:00 AM • AC223 Plenary Session Lecture Theater

**Opening Feature: Passive House on a Large Scale - Applying Lessons Learned**

Lois Arena, Steven Winter Associates and Deborah Moelis, Handel Architects

At 26 stories and 270,000 sq. ft. The House at Cornell Tech in New York City is one of the largest Passive House buildings in the world. The lessons learned from this project are now being applied on an even larger scale: Sendero Verde, in New York City’s Harlem neighborhood takes the principles of market rate multifamily Passive House design and squeezes the budget to meet low-income housing, as per New York City Housing Preservation & Development standards.

When complete, Sendero will be the largest PH building in the world and a model for all to follow, showing that deep sustainable design is possible and affordable.

The talk will explore the design and completion of The House and how lessons learned are being applied to a mixed-use, 100% affordable housing project. Deborah and Lois will explore some of the obstacles that have been overcome to implement PH at such scales and compare and contrast the 352-unit market-rate tower, completed and certified, with the 699-unit affordable housing Sendero Verde project, soon to start construction.

10:00 AM - 10:15 AM • Highland Hall Event Centre

**Networking Break & Exhibits - Solutions Centre Expo**

10:15 AM - 11:45 AM • AA112 - Breakout Lecture Hall

**Breakout Session 1: PH On Campus - Part 3 Case Studies**
University of Victoria Student Housing and Dining Project: A Case Study in Large-scale Passive House Design

David Adams, University of Victoria
Kaz Bremner, Perkins + Will
Chris Doel, Integral Group
Marine Sanchez, RDH Building Science

With a deep commitment to climate action and greenhouse gas mitigation, the University of Victoria has directed that its new 782-bed student housing and dining project be designed to the Passive House standard. Realizing this level of performance requires focus, creativity, and constant evaluation of performance measures. The Residence is among the few projects aiming to achieve Passive House certification with a fully equipped commercial kitchen. The project consists of two buildings including a 600-seat dining hall, a commercial kitchen (8,700 meals/day), meeting spaces and academic classrooms. The design adopts a wide range of measures to reduce the high-energy intensity embedded with the kitchen operation, including high-efficiency ventilation design, kitchen layout optimization and utilization of waste heat sources. Join Marine and Kaz in this conference session and gain practical guidance on how to incorporate energy-efficient measures into large buildings and how some challenges are not a barrier to delivering PH buildings.

Case Study: Leading by Example: Humber College Building Nx Retrofit

Holly Jordan, B+H Architects
Steven Murray, Morrison Hershfield
Rui Raposo, Humber College

Building Nx is undergoing a deep energy retrofit at Humber College’s North Campus. The retrofitted 1980’s building, a 5-storey office space for faculty, is registered for both Passive House EnerPHit and Net Zero Carbon Building – Design certifications. The scope of the project included a complete upgrade of the existing glass block and insulated metal panel system and replacement of existing mechanical and electrical systems for an ultrahigh-performance envelope and energy efficient BAS. Project representatives (architect, building envelope specialist, and owner) will discuss design, technical performance, and owner experience to provide a comprehensive understanding of the Passive House EnerPHit achievement.

Passive House Premium Erne Campus: Inspiring the Future of Education

Barry McCarron, South West College

South West College (SWC) is delighted to present the development of our new college campus on the site of the old Erne Hospital located in Enniskillen, Northern Ireland. The building is currently in the construction stage and has progressed significantly since works began on site in April 2018. This new 7,025m² (TFA) further education college campus building is specified to the
Passive House Premium standard. The existing campus building (8,898m²) which uses 152 kWh/m²/year and used 100,000L of heating oil in 2017 at a cost of ~£55,000.00 pounds. This new building represents a 97% reduction in energy, which will equate to ~£52,000 per year in heating savings. This new campus building from South West College represents an excellent demonstration of a proactive approach to energy efficient building design against the backdrop of the imperative for zero energy buildings.

10:15 AM - 11:45 AM • HL001 - Breakout Lecture Hall

**Breakout Session 2: Technical Solutions for Part 9 Buildings**

**It Starts with Design**

Michael Ingui, Baxt Ingui Architects

We really did learn (and then forgot) most of this in school. Passive House brings it all back and quickly. The essential lesson of shading – siting the house properly – considering how you will service the building – how a few key decisions make all of the difference in the world.

We are a design firm that has bends Passive House to fit our needs only to realize that if we started with the Passive House Consultants early (Pre-SD) that what we learned set our designs free.

No turning back – no do overs – cleaner – easier spaces – worked out and tested so we have the confidence to design better spaces with more ease. The first time!

**Schematic Design: Setting up for Success**

Lukas Armstrong, Cover Architectural Collaborative Inc.

Achieving PH certification requires consideration of PH strategies from the very start. However, the schematic design must be completed before the first PHPP file can be built. Often the initial PHPP model reveals significant design issues, leading to costly rework and client frustration. This seminar will walk through a number of critical conversations and decisions that can help avoid significant redesign at the end of schematic design. During the seminar we will go through an abridged schematic process for a typical single family home, and review the schematic design process for an existing part 9 and part 3 case study.

**Simplified Certification Pilot for Single Family Homes**

Cameron Laidlaw, Peel Passive House Consulting

Neil Norris, Passive House Canada

Chris Petit, Passive House Canada

This session will discuss a simplified certification methodology for single family Passive homes with several North American certifiers and PHI representative.
11:45 AM - 12:45 PM • Highland Hall Event Centre

**Networking Lunch & Exhibits - Solutions Centre Expo**

12:45 PM - 1:45 PM • AA112 - Breakout Lecture Hall

**Breakout Session 3: Technical Solutions for Part 3 Buildings**

*Kelly Fisher, Kearns Mancini Architects*

Through the implementation of BIM for all aspects of project work, from Schematic Design to Passive House Energy modeling, efficiencies to the design process can be achieved. Working alongside an iterative design development process, allows designers to understand and evaluate the impact design changes can have, as they relate to PHPP Verification. Through the creation of Passive House BIM Content used to quantify and report data for PHPP inputs, significant efficiencies can be made in data collection and entry which is favorable for quick design decisions and energy analysis to be evaluated prior to full Architectural design revision and cost analysis.

**Factory assembly: the new way to build PH Assemblies**

*Deborah Byrne, Kearns Mancini Architects*
*Joshua Fede, Coreslab Structure*
*Irene Rivera, Kearns Mancini Architects*

The YWCA Project is the first mid-rise precast Passive House building in Canada. The concrete precast panels offer an affordable solution that in one envelope achieves air tightness and continuous insulation. This eliminates the need for multiple trades, reducing the time on site and allows for higher quality finish by manufacturing most of the major building components off site. Factory assembly buildings can be the future of PH envelopes. However, in order to succeed, all the members of the team need to be involved and work together from the beginning.

12:45 PM - 1:45 PM • HL001 - Breakout Lecture Hall

**Breakout Session 4: It’s All in the Details - Part 9 Technical**

**Moderators:** Erika Mayer, 475 Building Supply & Passive Buildings Canada and Duncan Patterson, Legalett

**Detailing Your Passive House Envelope**

*Jeremy Clarke, Simple Life Homes*
*Jonathan Kearns, Kearns Mancini Architects Inc.*
*Ed Marion, Passive House Ontario*
*Terrell Wong, Stone’s Throw Design & Passive Buildings Canada*
Those who have designed and built to Passive House standard are well acquainted with the devil in the details. Passive House construction can be highly technical but there are also ways in which passive house construction techniques can be simplified and adopted into common practice. This session will feature a moderated conversation on the top considerations in detailing amongst peers working in the GTA, including a panelized builder, a PH consultant, and two architects. The panel members will discuss their approaches to successfully implement design detailing into construction and provide their insights for best practices on several common Passive House construction scenarios, with an opportunity for audience members to also bring their own high level detailing questions.

1:45 PM - 2:00 PM • Highland Hall Event Centre

**Networking Break & Exhibits - Solutions Centre Expo**

2:00 PM - 3:30 PM • AA112 - Breakout Lecture Hall

**Breakout Session 5: EnerPHit Towers - Case Studies**

Moderator: Andrew Peel, Peel Passive House

**Riverside Tower Retrofit**

Andrew Peel, Peel Passive Consulting

The 255 Riverside Drive Tower retrofit is North America’s first live-in tower EnerPHit project. The challenges of meeting EnerPHit on a large building are compounded by residents staying during construction work. Learn how the team has approached the design and construction to reimagine what’s possible in retrofitting an existing tower.

**Market Transformation - Kickstarting Large-Scale EnerPHit Projects in Ontario (Ken Soble Tower)**

Ya’el Santopinto, ERA Architects
Cara Sloat, Reinbold Engineering Group
Graeme Stewart, ERA Architects
Chris Van Dongen, Entuitive Corporation
Joshua Vanwyck, JMV Consulting

Using the 500 MacNab Tower Renewal EnerPHit project as a case study, this session will examine considerations related to: design; approvals; procurement; and construction as compared to a traditional retrofit. Panelists will include the Architect, Passive House Consultant, Mechanical Engineer and Construction Manager. Since large-scale EnerPHit projects are still uncommon in the Ontario market, this session will outline learnings, challenges and recommendations to aid building owners, design teams and constructors in
engaging in EnerPHit projects in Ontario.

**Canada’s Largest EnerPHit Study: Twin Towers, North Vancouver, BC**

*Jeff Clarke-Janzen & Ben Mills, HiH Energy*

If implemented, Twin Towers in North Vancouver would be the world’s largest multifamily EnerPHit project (combined 26 stories and TFA of 9,760 m2). HiH Energy and Morrison Hershfield performed a feasibility study for BC Housing & Affordable Housing to outline a retrofit pathway to meet EnerPHit requirements as well as complete operational de-carbonization. At 42 years of age, the envelope components require attention and mechanical systems are end of life. HiH will discuss the approach to this challenging problem, results (including 3rd party costing) and recommendations to assist other groups to get the most out of their EnerPHit project.

2:00 PM - 3:30 PM • HL001 - Breakout Lecture Hall

**Breakout Session 6: All in the Family - Part 9 Case Studies 1**

**The Pretty River Passive House – Challenges and Solutions**

*David Hill, Builder & Homeowner*

When designing and building a Passive house for the first time there are several challenges that you may be faced with. This presentation brings the audience through the life of the successful Pretty River project, with detailed photos of every stage of the build, along with highlighting the challenges faced when it comes to achieving the rigorous Passive House standard. Having been heavily involved in both the design and construction of the building, homeowner David Hill is the perfect candidate to discuss the dos and don’ts when taking on a project such as this.

**Re(de)fining Affordability: A PEI Passive House Case Study**

*Lorrie Rand, Habit Studio Inc., Passive Buildings Canada*

House 7 is a modest, 2 storey, single family home, constructed in rural PEI in 2018 by Trout River Homes. As Trout River Homes’ seventh Passive House, the details and construction methods were informed by their experiences on preceding projects. House 7 meets PHI targets but is not a certified project. After construction a SEEFAR case study was done by SRP Canada, analyzing the total cost of home ownership of the house, compared with the same design built to code minimum. Technical details, economic data and projections will be shared by the designer and energy modeler.

**Passive House on Reserve**

*Crystal Sedore, Yale First Nation*

Yale First Nation completed 2 certified Passive buildings in 2017 in partnership with Metric Modular. There was a severe housing crisis that needed to be
addressed in a hurry. Our tenants are all lower income and our existing homes on reserve were costing up to $800/month to heat. We had to do something fast!

2:00 PM - 3:30 PM • HL010 - Classroom Workshop

**Build it Right, Build it Tight - Hands-On Detailing Workshop**

Jesse Matthews, RDH Building Science
Marcel Studer, Econ Group Ltd.

*TICKETS REQUIRED TO ATTEND THIS SESSION*

Lessons learned from building to high levels of air-tightness for over a decade, tips & tricks for success during planning and construction. The audience will learn hands-on some membrane & tape installation skills during the session.

3:30 PM - 3:45 PM • Highland Hall Event Centre

**Networking Break & Exhibits - Solutions Centre Expo**

3:45 PM - 4:45 PM • AA112 - Breakout Lecture Hall

**Breakout Session 7: Occupant Health & Comfort**

**The Application of the Passive House Standard to Health Care Facilities: Lessons Learned from a Feasibility Study and a Post Occupancy Evaluation**

Ghazal Ebrahimi & Alex Hutton, Fraser Health Authority

Vancouver Coastal Health (VCH) has been looking for ways to build facilities that perform beyond LEED Gold, which is the provincial mandate in BC. As part of this effort, a Passive House feasibility study was conducted for a residential care facility in Vancouver. The results of this study will be discussed and energy, carbon, and cost related findings will be compared with a LEED Gold scenario. The presenters will also explain how a post occupancy evaluation of another of VCH’s Passive House facility helped the organization to recognize other co-benefits of Passive House such as occupants’ health and future climate adaptation.

Panelists: Marianne Touchie, University of Toronto & Kady Cowan, IESO

3:45 PM - 4:45 PM • HL001 - Breakout Lecture Hall

**Breakout Session 8: All in the Family - Part 9 Case Studies 2**

**Infill Passive House Design in Toronto - Challenges and Solutions**
Melissa Furukawa, Peel Passive House Consulting
Germain Vaisman, Cool Earth Architecture

The density and spread of already established neighbourhoods in the Greater Toronto Area has resulted in a large quantity of sites that may not be ideal for Passive House design. Infill Passive House projects present new challenges to meeting the Passive House Standard. Key among these are optimizing solar heat gains during the winter, planning constraints, and competing client requirements. This session aims to lead a discussion on the challenges and design solutions for infill Passive House design in Toronto via three case study examples.

**Eugenia Lake House**

Andrew Peel, Peel Passive House Consulting
William Dewson, Dewson Architects

The Eugenia Lake House is a 370 m2 (TFA) Passive House nestled against the shores of beautiful Eugenia Lake in Flesherton, Ontario. This session explores the design challenges and solutions to creating a Passive House that achieves a superior aesthetic and unusual functionality in a demanding climate. Navigating requirements for specific lake views, interconnecting corner sliding doors, a tailored HVAC, a pizza oven, a curved clerestory ceiling and intermittent occupancy required creativity, a fine attention to detail, and a deep commitment to performance. What emerges is a multi-generational home that is a beacon of possibility for the area.

5:00 PM - 6:00 PM • Highland Hall Event Centre
**Certification Ceremony & Networking Reception in Solutions Centre Expo**

Friday, October 18th

7:30 AM - 8:30 AM • Highland Hall Event Centre
**Registration & Networking Breakfast in Solutions Centre Expo**

8:15 AM - 8:50 AM • AC223 - Plenary Session Lecture Theater
**Annual General Meeting**

9:00 AM - 10:00 AM • AC223 - Plenary Session Lecture Theater
**Be Smart - Build Smart**
Moderator: Jenny McMinn, Urban Equation
Christian Cianfrone, Zero Emissions Buildings Exchange (ZEBx), Executive Director
Zachary May, Ministry of Municipal Affairs and Housing, Province of British Columbia
Richard Yancey, Building Energy Exchange (BE-Ex), Executive Director

Fostering innovation, industry knowledge and capacity building is critical to the successful advancement of low-energy building construction. For a particular construction market, these objectives can be greatly accelerated through the creation of Building Centres of Excellence. Christian Cianfrone, Executive Director of The Zero-Emissions Building Exchange (ZEBx, Vancouver) and Richard Yancey, the Executive Director of the Building Energy Exchange (BE-Ex, New York), will discuss the important role Centres of Excellence can play to support policy making and market transformation for low-energy construction in their cities.

10:00 AM - 11:45 AM  •  Highland Hall Event Centre

Networking Break & Exhibits - Solutions Centre Expo

10:15 AM - 11:45 AM  •  AA112 - Breakout Lecture Hall

Breakout Session 9: Technical Solutions for Multi-Family Buildings

Balancing Passive House with OBC in Multi-Residential Buildings

Niall Byrne and Christian Tirona, Integral Group

This presentation will provide an overview of the MEP system design for a Passive House Multi-Residential Community Housing project in Windsor, ON. Focusing on the system selection rationale and how the Passive House requirements can be integrated with OBC needs as well as the MEP strategies, this presentation will also touch on the challenging plug-load, DHW and occupancy rate considerations for community housing projects and its impact on the primary energy demand requirements of Passive House.

Lessons Learned From Overheating at a Multi-Unit Passive House Residence in BC

Monte Paulsen, RDH Building Science

Passive House and other high-performance multi-unit buildings are more prone to overheating than single-family residences. This session will review lessons learned after an overheating incident at a multi-unit building in Northern BC: What design errors contributed to the incident, what operator choices contributed to the incident, what steps will be taken to avoid a repeat
Free Cooling Options for Passive House Multifamily Residential Applications

Hugh Crowther, Swegon

The outstanding thermal performance of a Passive House envelope can cause a multifamily building to require cooling at ambient temperatures as low as 0°C. Introducing mechanical cooling to resolve overheating will make it almost impossible to achieve the energy performance goals for the project when it is considered how many BIN hours there are between 0 and 25°C. This program will review current methodologies being used on a range of PH multifamily projects to achieve free cooling by leveraging the ventilation system and apartment control systems. Integrating free cooling with mechanical air conditioning will also be discussed including control algorithms.

10:15 AM - 11:45 AM • HL001 - Breakout Lecture Hall

Breakout Session 10: Advancing High-Performance Standards

Advancing Building Standards

Lisa King, City of Toronto

The City of Toronto is part of a cross-Canada movement among cities to advance energy codes and standards in new and existing buildings to make significant cuts in greenhouse gas emissions. This session will provide an overview of the recent changes in requirements for new construction under the Toronto Green Standard V3, in effect for over one year, and the implied shifts and design implications for the building industry. The session will also highlight how the City plans to tackle emissions from the existing buildings sector. What are some of the emerging trends, challenges and achievements so far? Join the conversation about what you think needs to happen next to advance building standards.

PER Calculation Updates

Neil Norris, Passive House Canada
Andrew Peel, Peel Passive House
Elena Reyes Bernal, Passive House Institute

As a greater number of large multi-unit residential projects aim for Passive House Certification, achieving set PER targets can be a challenge. This is especially true for projects with greater occupant density, where appliances, hot water usage and plug loads are all contained within a smaller treated floor area and where elevators, hallway lighting and other building systems used for normal building operation also need to be factored in. This can create uncertainty as to what types of large residential projects designs can
reasonably achieve the PER targets. As such, the Passive House Institute (in collaboration with ZEBx, the City of Vancouver and other partners) are currently developing a new PER target tool to allow for methodical adjustments of the PER targets. This presentation will outline the information behind the PER tool as well as how it can be used in future projects to provide greater assurance that well designed larger multi unit residential buildings can achieve certification.

Exploring Passive House Technologies in the College Sector
Shannon Pirie, School of Architectural Technology at Sheridan College

The rapid pace at which building science evolves provides many opportunities for faculty in the college Architectural Technology sector to expand the boundaries of standard course content. This session will present a unique design-build project that was completed in 2017 at Sheridan College in Mississauga. Beginning with a virtual build that included story-boarding, materials research, and energy calculations, and ending with a day of construction in partnership with our Skilled Trades faculty, students were led on a journey highlighting Passive House methodology. The purpose of this session is to reinforce the relationship between the Passive House community and post-secondary education.

11:45 AM - 12:45 PM • Highland Hall Event Centre
Networking Lunch & Exhibits - Solutions Centre Expo

12:45 PM - 1:45 PM • AA112 - Breakout Lecture Hall

Breakout Session 11: Detailing Big Buildings

Review of Certified Passive House Details for Commercial Buildings
Peter Barrett, Dörken Systems Inc.
Alejandra Nieto, Rockwool

Designing to Passive House standard with steel studs and mass type assemblies requires increased attention to thermal bridging and air tightness detailing. To assist designers and builders in achieving passive house enclosure targets, working with Passive House Academy and Passive House Institute, a series of certified details and calculations have been developed using stone wool insulation for commercial type buildings. This session will examine thermal-bridge free details for both steel stud and mass wall types, discuss proven thermally efficient insulation attachment methods, and review air tightness strategies using vapour permeable water resistive /air barrier membranes.

Thomas Moore, Steven Winter Associates, Inc.

With the combination of multiple cladding products and back-up walls it has become challenging for the PH consultant to estimate the effective thermal resistance of wall assemblies and make informed modeling assumptions early in design. To anticipate the thermal efficiency ‘de-rate’ of non-combustible assemblies and to assist the development of a PHPP a supporting wall guide has been prepared utilizing 3-D heat transfer modeling. This wall guide captures assembly variables such as back-up wall, attachments, shelf angles, and unique thermal bridges. It informs PHPP users with effective thermal efficiency values and helps make Passive House more approachable at scale.

12:45 PM - 1:45 PM • HL001 - Breakout Lecture Hall

**Breakout 12: Building for the Future**

Moderator: Ted Kesik, University of Toronto

**Embodied Carbon and Real Zero Carbon Building**

Chris Magwood, Endeavour Centre

If we are attempting to prevent runaway climate change, our buildings must strike a balance between embodied carbon emissions – created during the harvesting and manufacturing of materials – and operational emissions. There’s a lot to consider, including the carbon intensity of the fuel source, the carbon intensity of the materials and the operational efficiency. This presentation compares multiple scenarios for the same four-story, eight-unit residential building, and shows how the same building can either be a climate change driver or a climate change cure by striking the right carbon balance at the design stage.

**Resilience Planning in Passive House Design**

Alexander Hay, Risk, Resilience & Security Planner, Southern Harbour

Bala Gnanam, Building Owners and Managers Association of Greater Toronto Area (BOMA Toronto)

The combination of Passive House with resilience planning allows one to realise far greater benefit than their sum. To be sustainable, you must be resilient. A high performance envelope enables resilience by buying time when resources are most critical during an event. Conversely, resilience planning identifies what design arrangements are required where to what purpose. High performance in practice is realized through a synergy of resilience planning and building/ envelope design.

1:45 PM - 2:00 PM • Highland Hall Event Centre
Networking Break & Exhibits - Solutions Centre Expo

2:00 PM - 3:30 PM  •  AA112 - Breakout Lecture Hall

Breakout Session 13: An exploration of Carbon Friendly Multi Family Projects

Moderator: Scott Kennedy, Cornerstone Architecture

Radiance Cohousing – Collaborating to Build Passivhaus in Saskatoon

Michael Nemeth, Bright Buildings

Radiance Cohousing is a 9-unit townhouse-style cohousing development located in Saskatoon, Saskatchewan. Completed in the fall of 2018, it’s is on track to becoming Canada’s first Passivhaus certified cohousing project. Residents worked together to manage the development of their own homes. Sustainability and building community were priorities for the group. This case study will explore the features of the project including:

- participated in wood-fibre insulation pilot, fastening 28cm of low-embodied carbon rigid insulation onto 2×6 walls insulated with mineral wool (R60)
- Canadian manufactured Passivhaus-certified windows, oriented for solar gain
- each unit served by a Passivhaus-certified ERV for constant fresh air. A centralized air-source heat pump system (VRF) provides heating and cooling for all the units.
- with a compact, multi-family built form, cohousing complements Passivhaus well

Platforms for Life: New Models for Affordable Net Zero Projects

Troy Grant, Standing Stone Developments
Monte Paulsen, RDH Building Science

Platforms-for-Life is a generative mixed-use urban housing system for sustainable carbon neutral buildings, with a primary focus on affordability while accommodating evolving desires and needs of individuals, families, and communities. It is systematically driven by digital design, customization, adaptation, automation and collaboration.

Corvette Landing is a 12-storey development designed to transition the still low-density Township of Esquimalt BC. Planned and developed as a prefabricated mass-timber hybrid building, it combines a low carbon footprint with a high level of livability and expedited construction.

The presentation will discuss the convergence of design, systems building, Passive House, digitally assisted prefabrication and automation with sound economics.
Breakout Session 14: Making it Happen - Moving procurement forward

Moderator: Deborah Byrne, Kearns Mancini

**Streetsville Library: A Feasibility Study**
Shalini Srivastava-Modi, City of Mississauga

The City of Mississauga targets to achieve massive Corporate GHG reduction by 2050. In order to keep working towards this goal, several projects are being evaluated; one of those was the feasibility of retrofitting Streetsville Library, a standalone building, to EnerPHIT standards and eventually Net-Zero by installing solar panels on the site.

This paper presents the entire process of this undertaking and explains why this Feasibility Study was not deemed successful. The discussion focuses on road blocks and lessons to be learnt to work with the vast pool of existing municipal buildings that are inefficient.

**IPD Integrated Project Delivery as a Procurement Model for Passive House Project**
Joseph Day, EllisDon Corporation
Nigel Tai, Diamond Schmitt

Passive House projects are a result of carefully engineered design (consultant input) executed with high-quality site control (constructor input). Collaboration between the two-halves of our industry is fundamental.

IPD, a new project procurement model in Canada, is an inclusive process where all disciplines work as one, creating faster delivery times, lower costs, and a more enjoyable process for the entire team, including the owner. It aligns with the necessary components to a successful PH project:

- Front end engineering design;
- Early trade input and constructability review;
- High-quality construction;
- Collaborative environment of learning and innovation;
- Deep understanding of project objectives across disciplines

2:00 PM - 3:30 PM • HL010 - Classroom Workshop

**Big Buildings Case Study 4: At UBC**

Moderator: Michael Nemeth, Principal, Bright Buildings Consulting

**Build it Right, Build it Tight - Hands-On Detailing Workshop**
Jesse Matthews, RDH Building Science
Marcel Studer, Econ Group Ltd.

*TICKETS REQUIRED TO ATTEND THIS SESSION*

Lessons learned from building to high levels of air-tightness for over a decade, tips & tricks for success during planning and construction. The audience will learn hands-on some membrane & tape installation skills during the session.

3:30 PM - 3:45 PM • Highland Hall Event Centre

Networking Break & Exhibits - Solutions Centre Expo

3:45 PM - 4:00 PM • AC223 - Plenary Session Lecture Theater

Closing Remarks

4:00 PM - 5:00 PM • AC223 - Plenary Session Lecture Theater

Closing Feature: Building as a Conscious Act: Finding Opportunity in Health, Resiliency and Community

Eric Corey Freed, Morrison Hershfield

100,000 years ago, humans had a near extinction. From those 2000 people came the billions we have today. Now we are facing a new threat of extinction.

In the next decade, more than 6,000 cities, states, and provinces around the world will try to do something that has eluded humanity for 50 years: reduce their carbon emissions. But at our rate of urbanization, we’re building the equivalent of a city the size of New York every five weeks.

Ideas that seem crazy today will seem sane in 10 years. In a world where we will “do anything” to end homelessness (except build homes); will “do anything” to end hunger (except provide food); and will “do anything” to cut emissions (except use less coal), we need new, bold solutions to our address our built environment.

In this talk, we'll journey through an inspirational look at the global crises facing the world and a variety of ways to transform your business to adapt to a warmer, wetter world. Learn from our work with hundreds of municipalities, agencies, and companies to reduce their carbon, boost their performance, slash their operational expenses, and provide healthy spaces for everyone. Learn how to link design to outcome and uncover new ways to expand your business.

Design affects everything. The typeface in your child’s textbook affects their ability to comprehend the information. The ceiling height of your office af-
Saturday, October 19th

**Passive House Project Tours (Ticketed Event)**

Tickets available for purchase via the conference registration page on our website. Deadline to purchase tickets is October 17th at Noon.

8:30am - 4:00pm • Westin Prince Hotel, 900 York Mills Road, North York Toronto

**Golden Horseshoe Tour**

The first stop on this tour is the Swegon Manufacturing Plant for a factory tour followed by tours of Hamilton Passive House Projects including Parkdale Landing, Hughson St. Baptist Passive House and the Ken Soble Tower Transformation. Transportation is provided and a boxed lunch is included. Tour tickets are non-refundable.

Ticket holders please meet at 8:15am in the lobby of the Westin Prince Hotel. Bus departs at 8:30am.

9:30am - 4:00pm • Westin Prince Hotel, 900 York Mills Road, North York Toronto

**York Loop Tour**

The tour will start at the Swegon Manufacturing Plant for a factory tour followed by tours of The NX Building at Humber College and the Sammon Passive House in the Danforth. Transportation is provided and a boxed lunch is included. Tour tickets are non-refundable.

Ticket holders please meet at 9:15am in the lobby of the Westin Prince Hotel. Bus departs at 9:30am.
Venue Maps

University of Toronto Scarborough

Highland Hall
Exhibitors

BOOTH 1 – Schöck North America
Schöck manufactures structural components for concrete, steel and wood that provide thermal and sound insulation, as well as structural reinforcement. They are the originator and world’s largest producer of structural thermal breaks, with over 10 million installations in 38 countries. Isokorb® Structural Thermal Breaks insulate and support concrete and steel structures where they penetrate the continuous insulation of the building envelope, reducing heat loss, preventing condensation and mold, and improving occupant comfort.

BOOTH 2 – Neufenster
NeüFenster Doors and Windows Inc. is the exclusive distributor for Internorm products in Canada. With 86 years of experience, Internorm is Europe’s largest window brand and distributes its premium products via 11 Internorm offices and more than 1,400 distribution partners in 22 countries. Internorm offers market-leading product quality through specialist dealers of high competency, right from the initial consultation, through to installation and up to after-sales service. With 9 Passive House certified products, Internorm represents the leading expertise in energy efficient windows and doors, and is market leading in Europe for highly thermally insulating window systems.

BOOTH 3 – Simple Life Homes
Simple Life Homes manufactures and supplies prefab panels for high performance buildings. We use advanced technology and equipment in our shop, to design, engineer and build panels for your project. By using precise off-site construction in a controlled environment, we’re able to shorten project schedules all while increasing quality and performance. Our team is dedicated to fighting climate change through the built environment by using materials that sequester and store carbon, to help mitigate the effects our buildings
have on the earth. Be certain your building will perform as it was designed by choosing Simple Life Homes to supply prefab building panels for your next project.

BOOTH 4 – Minotair

Come see live the fully operational PentaCare V12 from Minotair. This is the all-in-one compact evolutive D+HVAC equipment for Passive Houses, multifamily buildings and anyone who wants to live indoor with one of the best indoor climates possible.

The PentaCare V12 is 4 machines in 1 being: an Active Heat Recovery HRV + a Dehumidifier + a Ducted Air Source Heat Pump + an HEPA MERV 15 Air Filtration device. That cutting edge technology equipment strives at taking care of 5 things: Dehumidification + Heating + Ventilation + Air filtration + Cooling (D+HVAC). Ventilation wise, it’s the only one capable of Net Zero Positive Ventilation© as certified by the HVI as the most efficient of all HRVs and ERVs with a record-setting SRE of 116%. Meaning the PentaCare V12 outputs more heat energy that the electrical energy it uses. Only from Minotair, the Science of air.

BOOTH 5 – NZP Fenestration

NZP FENESTRATION specializes in manufacturing tilt-n-turn windows and doors, including a series which is PassivHaus certified. Our windows allow us to incorporate large openings into the plans. Ex: lift and slide doors of 21’ x 9’ in 2 panel, parallel sliding doors and tilt-n-turn window of 4’x 8’. With a Ug factor of 0.58, our triple glazing is one of the most efficient in its class and meeting PassivHaus standards.

Our mission is to provide our customers with the best practices in the manufacture of tilt-and-turn windows and custom-made sliding doors by leveraging technological advances in materials and hardware to meet the highest energy standards and promote the emergence of healthy and sustainable homes.

Our company advocate integrity, a strong work ethic and innovation at all lev-
All these qualities make us a reliable, professional, trustworthy company close to your home.

**BOOTH 6 – Fentro Technologies**

Fentro Technologies Inc. provides window and door manufacturers with cutting edge solutions to the ever-growing demand for better quality, energy efficient and well-designed window and door systems. To begin with, Fentro offers high quality uPVC Window and Door Profile Systems and Pre-assembled Lift and Slide Patio doors under the KÖMMERLING brand. With state-of-the-art German technology, the KÖMMERLING 76 mm double and centre seal systems are ideal for renovations and new construction. On the other hand, Fentro’s pre-assembled Lift and Slide Patio doors combines elegance with functionality that suits the sophisticated taste of the customer. Fentro likewise offers high quality Hardware manufactured by SIEGENIA featuring its best in class Titan AF series. In addition, Fentro supplies window and door handles and accessories made by world renowned European manufacturers. These include Hoppe handles, CES locking systems, Wemaro specialized Tools, PHI shims and blocks, and SPAX screws.

**BOOTH 7 – Dettson**

Dettson Industries is a Canadian-based HVAC manufacturer founded in 1962. We develop a multitude of oil and electric based products that we OEM to some of the largest HVAC manufacturers. With new homes getting tighter, heating and cooling loads are dropping. Yet we see oversized heating and cooling equipment, leading to stratification issues, shortened life of the equipment and an increased cost. We are solving these issues by educating builders and ultimately, homeowners, about choosing the right-sized equipment for their home. Dettson can help with sizing, duct design and education for the contractor and the homeowner.

**BOOTH 8 – Vetta Technologies**
Vetta windows, doors and ventilation products will advance the performance of your next Passive House project. Our windows are manufactured by Inwido Polska, a subsidiary of Inwido a Swedish company which is the largest window manufacturer in Europe. The plant also produces their own sealed glass units allowing us to offer numerous glazing options making difficult projects possible.

CAL entry doors offer superior workmanship and security. Dream up a design and they will create it for you. We have not only proven the performance of both our windows and doors in certified Passive House projects across Canada but our products are virtually 100% recyclable being wood with aluminum clad exteriors.

Stay tuned for our new HRV which will outperform many other products on the market.

At Vetta we are not just salespeople. We live and understand Passive homes and we will do everything to make your next project a success.

BOOTH 9 – Small Planet Supply

Small Planet Supply ULC is a North-American company dedicated to the mission of creating both classic and modern high-performance buildings. In keeping with this mission, our company supplies and educates building-industry designers and builders in the use of toxin-free, energy-efficient building materials as well as energy-saving mechanical systems. Products we carry include: KlimaGuard, SIGA, Henry Products, Zehnder ventilation systems, Sanden Sanco heat pump water heaters, Hanno Band, Thermacork 100% natural cork insulation, Prosoco, Havelock Wool, and Roxul mineral wool insulation.

With two warehouse locations (Vancouver, British Columbia and Tumwater, Washington), a knowledgeable customer team, and an online store that’s open 24 hours a day, we can help you with your high-energy building project needs.

BOOTH 10 – Amvic Building System

Amvic Building System is a manufacturer of expanded polystyrene (EPS) in-
sulation based in North America, offering a diverse range of high performing and innovative insulation products for the construction industry. Our products range from do-it-yourself to full envelope construction systems, geotechnical fill and more. Our presence spans across three manufacturing facilities in Canada, as well as two licensed partner manufacturers in the US. Combined with an extensive salesforce and distributor network, we offer strongly competitive pricing and on demand continent-wide shipping.

Our key product lines include SilveRboard, EnviroSheet rigid board insulation, hydronic radiant PEX panels and insulated concrete forming including Amvic ICF and Amdeck, giving Amvic a diverse portfolio to help meet the energy efficiency and sustainability goals of any project.

**BOOTH 11 – Glavel**

Based in Canada and launched at Greenbuild 2013 in Philadelphia, GlasCurtain offers cutting-edge Fibreglass-Framed Curtain Wall Systems that improve occupant comfort and reduce whole building operational costs by upwards of 20%. Completely manufactured in Canada, CAN/ULC-S134 certified, and exclusively designed for Triple-Glazed applications, GlasCurtain is dedicated to advancing envelope performance, particularly in the face of more stringent Energy Step Codes, LEED v4, LBC, WELL, and ultimately Passive House requirements.

**BOOTH 12 – Elastochem**

Elastochem is a Canadian leader of high-performing polyurethane and epoxy-based products, producing spray polyurethane foam insulation, coatings, sealants, adhesives and primers. Insulthane® Extreme is a closed cell spray foam insulation that utilizes an HFO Blowing agent which delivers an ultra-low Global Warming impact (GWP) of 1 and an R-value of 6.1 per inch.

Wrapsulate® is a vapour permeable, water-blown, exterior spray foam insulation that also functions as an air & water control layer.

Designing with spray foam insulation can aid passive house designers by delivering much needed air tightness while reducing the number of components & layers needed to achieve an effective exterior wall enclosure. Come stop by the booth to learn more about the environmental benefits of choosing spray foam insulation for your next project.
BOOTH 13 – Rothoblaas Construction

Rothoblaas is an Italian multinational with its roots in the Alpine region; a leading developer and provider of high technology solutions for all those involved in the construction with wood sector.

Always engaged in finding solutions for the improvement of the sector, today Rothoblaas is one of the leading companies worldwide in the development of products and services dedicated to the wood carpentry industry, and continues to export know-how from the heart of the Italian Alps to the world.

BOOTH 14 – Swegon (Swegon & GPA)

Swegon North America is a leader in the application engineering, design and supply of commercial indoor climate and ventilation solutions. We focus on creating comfortable indoor environments by providing our customers with complete, energy-efficient HVAC solutions. By focusing on system design, rather than product features, we provide the ultimate value to our customers by acting as an extension of their design team.

BOOTH 14 – GPA (Swegon & GPA)

GPA Inc. (Gorski, Plener and Associates Inc.) is a manufacturer’s representative for the HVAC Industry, serving the Greater Toronto Area (GTA), Kingston, Hamilton and Southwestern Ontario regions.

BOOTH 15 – City of Toronto

The Better Buildings Partnership (BBP) and the City of Toronto have a goal to reduce the GHG emissions in the city by 80% by 2050. Through the BBP & the Home Energy Loan Program (HELP), the city provides funding, expertise and support to improve the energy efficiency and reduce the emissions of Toronto’s residential, commercial, industrial and institutional buildings.
BOOTH 16 & 21 – RAICO

RAICO Bautechnik GmbH develops and distributes high-performance glazing systems for aluminum timber and steel curtain walls, aluminum windows, aluminum doors, and glass roofs. A technology leader in the industry, RAICO was the first company to receive Passive House certification for THERM+ curtain wall and glass roof systems, as well as FRAME+90/120 window systems.

RAICO products and services set the standard for sophisticated design solutions, enabling Blackcomb Façade Technology to fully meet our customers’ individual requirements.

BOOTH 17 – SIGA

SIGA is a leader in the development and production of high-performance adhesive tapes and membranes for air- and weather tight building envelopes. SIGA’s vision is a world with zero-energy loss buildings. Today, approximately 50% of the world’s energy requirements are consumed to heat and cool buildings. With smart design and SIGA’s innovative products, this energy requirement can be massively reduced.

Diamond Schmitt Architects

BOOTH 18 – Diamond Schmitt Architects

Diamond Schmitt Architects is a leading Canadian full-service architectural firm with offices in Toronto, Vancouver and New York. Our firm has received international recognition for projects that achieve design excellence, display a deep understanding of the context in which they are located and are innovative in the ways in which user satisfaction is provided. As architects we embrace our role in guiding and facilitating sustainable design objectives and energy efficiency on all our projects. Diamond Schmitt are actively involved in research and the application of sustainable design strategies in order to lessen this impact on the environment.
BOOTH 19 – Kearns Mancini Architects

Kearns Mancini Architects Inc. (KMAI) is a Toronto-based architectural practice pursuing projects that improve the way we live through intelligent change. The firm brings its experience, design skills and technical expertise to create spaces that delight and transform learning, living, working, care and hospitality facilities. KMAI leverages its design, technical and consulting expertise to transform and enhance environments for working, dwelling, learning and healing. Since 1984, KMAI has developed a reputation for leveraging leading-edge methodologies to create architectural solutions for their clients—whom they consider partners—to build for a better future.

True sustainability comes from measures and practices we make to limit our impact on the earth, allowing us to live as we do today without continued long-term effects on the planet. We collectively, have been working on Passive House since 2009.

BOOTH 20 – 475 Building Supply

475’s mission is to supply essential knowledge and critical building components that will lead a transformation of the North American construction industry toward making durable high-performance, Passive House and zero-energy buildings. We excel because we offer best-in-class products delivered in a timely manner from regional fulfillment centers based near Vancouver and Toronto, and support them with intense attention to customer service, bountiful knowledge resources and local on-the-ground support.

BOOTH 22 – Rockwool

At the ROCKWOOL™ Group, we are committed to enriching the lives of everyone who experiences our solutions. Our expertise is perfectly suited to tackling many of today’s biggest sustainability and development challenges, from energy consumption and noise pollution to fire resilience, water scarcity and flooding. Our range of products reflects the diversity of the world’s needs, supporting our stakeholders in reducing their own carbon footprint along the way.
BOOTH 24 – Dörken Systems Inc.

Dörken delivers innovative, high-performance air and moisture barriers for commercial and residential construction sold under the DELTA® brand name. A North American manufacturer based out of Beamsville, Ontario, Dörken Systems Inc. is a subsidiary of Ewald Dörken AG, a leading European developer and manufacturer of waterproofing and drainage products sold worldwide. Dörken is known for delivering premium products while providing educational programs and full technical support. For more information, call +1 (888) 433-5824 or visit www.dorken.com.

BOOTH 25 – EnerSign

ENERsign GmbH is a leading German producer of high-performance windows and doors with more than two decades of specialization and experience on the Passive House market. The PHI-certified superinsulated ENERsign®primus product line of window and door combine seamless aesthetics and technical integration with one of the highest thermal performance available on the marketplace.

Our patented ENERsign®primus System is a wood-aluminum window perfectly designed to provide the best possible energy efficiency with minimal sight lines and clean overall aesthetics. The ENERsign®door, ENERslide lift+slide and the ENERsky framless oversized windows complete the product offering with exceptional products.

The wall integrated ENERsign®primus aluminum clad wood windows offer a high degree of both thermal and visual comfort from low conductivity native, natural woods. The surrounding slender visual frame profiles create minimal sight lines while the extra deep profile depth provides excellent stability.

BOOTH 26 – Pretium Engineering

Pretium is a specialist building science and structural consulting engineering firm with 25+ years’ experience serving property Owners, Managers, and Designers. We collaborate with strong industry partners to create a well-rounded design team, tailored to each project, and capable of delivering the full scope of services to achieve the Passive House or EnerPHit standard.

Key Services: 1) Passive House and EnerPHit consulting, 2) design support and construction quality assurance for new construction, 3) building surveys
and capital planning, 4) investigation, design, specifications, tendering, project management, inspection for repair/restoration, 5) structural engineering, and 6) forensic services and litigation support.

Visit pretiumengineering.com and contact a local office to see how “Working Together, Better” can work for you!

BOOTH 27 – Federated Insurance

As Canada’s only national direct writer of commercial insurance, we foster loyal relationships with clients through our exclusive network of more than 120 licensed representatives nationwide.

We can trace our roots all the way back to 1890 to a group of farm dealers in Minnesota. In 1920, the company’s Canadian division was formed, and our focus on serving Canadians with risk management excellence hasn’t wavered since.

We provide specialized property & casualty, life/health/group benefits, and home & auto insurance, focusing on a defined range of commercial classes of business, including: Home Builders, Electrical/Mechanical/Trade Contractors, Retail/Wholesale, Manufacturing.

Thanks to this niche focus and our direct model approach, we’ve become the recommended insurer for more than 60 Trade Associations and Buying Groups across Canada. These relationships help us better understand our customers so that we can provide them with customized risk management solutions that meet their evolving insurance needs.

BOOTH 28 – GlasCurtain

Based in Canada and launched at Greenbuild 2013 in Philadelphia, GlasCurtain offers cutting-edge Fibreglass-Framed Curtain Wall Systems that improve occupant comfort and reduce whole building operational costs by upwards of 20%. Completely manufactured in Canada, CAN/ULC-S134 certified, and exclusively designed for Triple-Glazed applications, GlasCurtain is dedicated to advancing envelope performance, particularly in the face of more stringent Energy Step Codes, LEED v4, LBC, WELL, and ultimately Passive House requirements.
BOOTH 29 – Ventacity Systems
Managing ventilation is the key to achieving healthy, comfortable and efficient buildings. As building spaces have become tighter and the connection between air quality and productivity is better understood, it is more important than ever to achieve both energy efficiency and building health. Ventacity Smarter Ventilation Management provides decreased building energy usage, resulting in lower operating costs, and improved building health and occupant comfort for better productivity, satisfaction and building value.

BOOTH 30 – Aerobarrier Canada
Aerobarrier is an innovate & award-winning Air Sealing technology that will seal the smallest of holes (size of a hair follicle) up to 5/8” span in a consistent simple & safe process. Through a patented process of pressurizing the house and releasing a mist of sealant into the home we use the air currents to seek out & seal any unwanted leakage areas throughout the home enabling builders get to any level of Airtightness consistently with their preferred building materials.

BOOTH 31 – Fenestration Canada
Fenestration Canada aims to support their members across Canada by providing education, networking, and technical resources. As a national organization for manufacturers of windows and doors, Fenestration Canada also aims to connect fenestration industry stakeholders and address regulatory issues that affect their members.

BOOTH 32 – Armatherm
Armatherm™ is one of the leading suppliers of structural thermal break materials for the construction industry. Our goal is to provide architects, structural engineers and building design professionals with effective solutions to prevent thermal bridging.

Thermal bridging has been recognized as a significant factor in building envelope heat loss. Armatherm™ thermal break materials have low thermal conductivity and high strength and have been designed and tested to prevent thermal bridging.

Armatherm™ thermal bridging solutions can be used anywhere a penetration or transition exists in a building envelope creating a thermal bridge. Armatherm™ structural thermal break materials minimize heat loss at balcony, canopy, parapet, masonry shelf angle and cladding connections.

BOOTH 33 – Fourth Pig

The Fourth Pig Green & Natural Construction produces high performance energy efficient buildings with a focus on the passive house approach. We pay close attention to the embodied carbon and the health impacts of our materials. The result is comfortable buildings that are good for the planet and good for your health. We have staff trained and experienced with passive house building, net zero and carbon zero buildings. We do new builds, renovations, we act as air barrier consultants and more.

We are pleased to be joined at our booth by our friends Tooketree Passive Homes - who manufacture SEED Building Systems (Sustainable, Ecological, Efficient, Durable) to create pre-fabricated, energy-efficient, sustainable homes that meet Canada’s highest and most rigorous health and environmental standards.

Come talk to the Fourth Pig and Tooketree Passive Homes about your passive house build!
Thank you to all of our partners and sponsors.