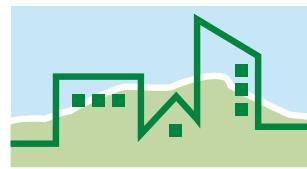
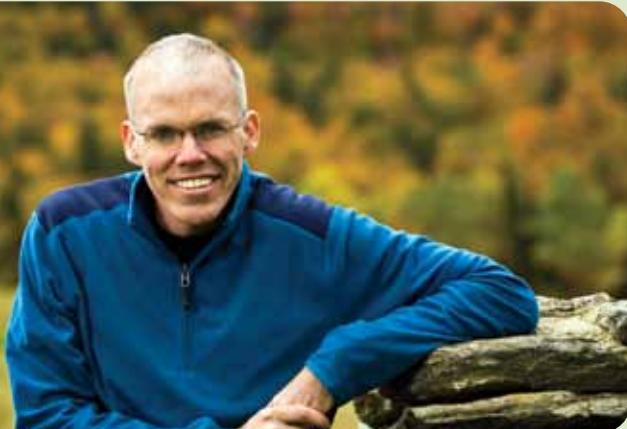


PROGRAM



Efficiency Vermont
BBD
BETTER BUILDINGS BY DESIGN



*What role can regional building professionals play in addressing the threats of climate change? Hear firsthand from a passionate advocate for action—keynote speaker **Bill McKibben**.*

February 3-4, 2016
Sheraton Burlington Hotel &
Conference Center
South Burlington, Vermont





Energy savings that inspire

A whole new world of lighting

Philips is driving the switch to energy-efficient solutions, and shaping the future with exciting new lighting applications and technologies.



We understand lighting

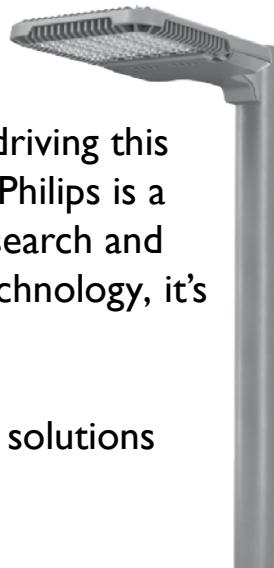
LED lighting is changing the world and Philips is driving this transformation with a whole new world of light. Philips is a leading authority on LEDs, investing deeply in research and product solutions. It's more than a mastery of technology, it's knowing what people need.



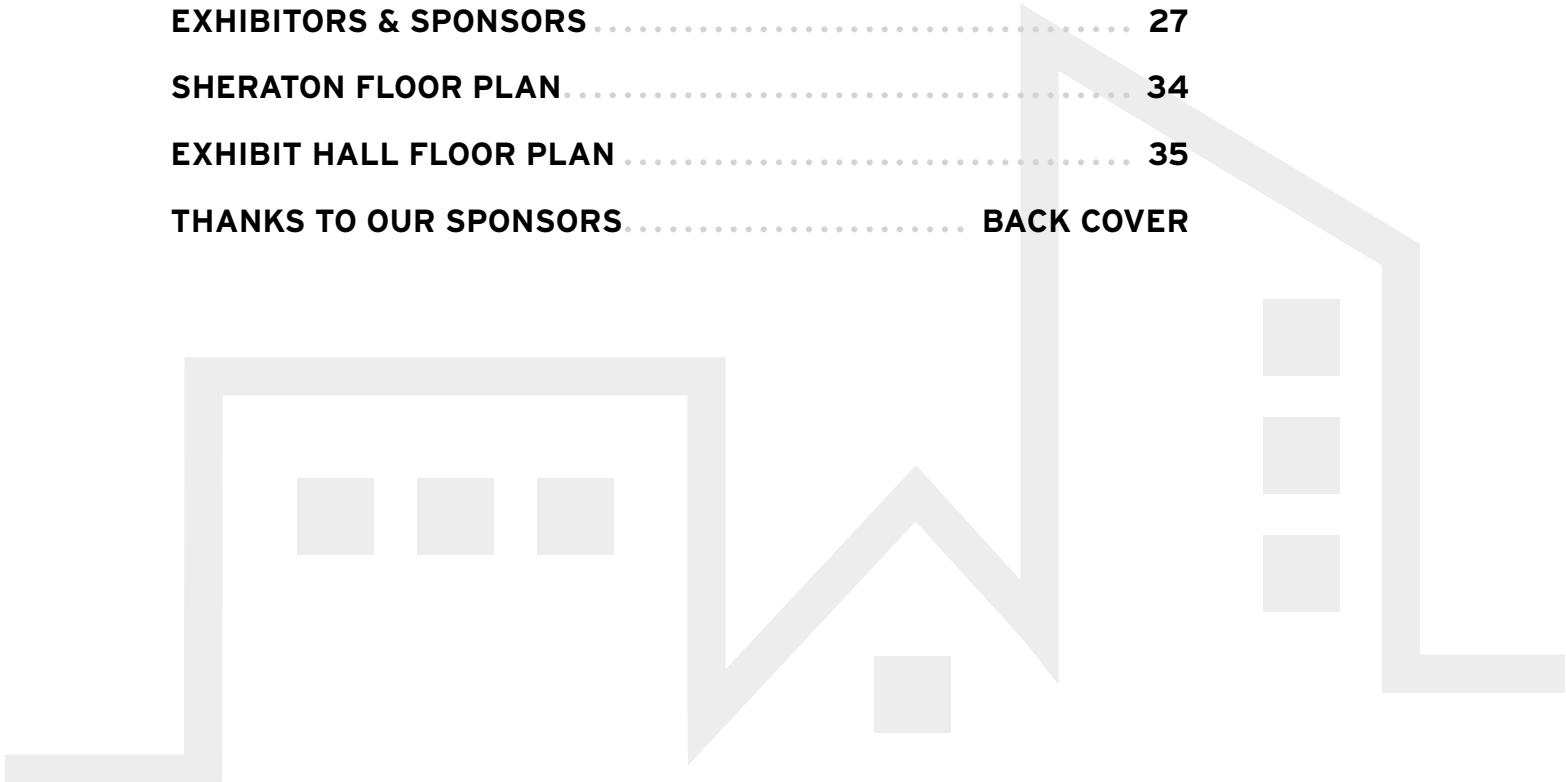
We call it meaningful innovation, and Philips LED solutions reflect this commitment.



PHILIPS



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Efficiency Vermont
BBD
BETTER BUILDINGS BY DESIGN

Where can you find more than 1,200 experts on building durability and energy efficiency? At Better Buildings by Design. This annual not-for-profit conference sponsored by Efficiency Vermont brings together top talent in building technology and design from across the country, and helps keep Vermont-area professionals at the forefront of their fields.

Welcome to Better Buildings by Design 2016, the region's premier building industry conference!

Enjoy two days of interactive learning about building durability, efficiency, and value for both residential and commercial projects. This year's conference kicks off at 8:30 am Wednesday, February 3, with "The Education of an Unlikely Activist," the keynote address from Middlebury College's (and 350.org's) Bill McKibben.

More than 40 workshops will follow, in four learning tracks: Innovative Design, Commercial, Building Systems, and Envelope. Choose from a tremendous range of topics, including evaluating heat pump efficiency, learning the secrets of affordable commercial passive buildings, employing building management systems, marketing high-performance homes, using smart grid and submetering data, financing energy efficiency upgrades in innovative ways, undertaking performance window glazing in historic buildings, making HVAC system improvements via engineered retrofits, and considering organic light-emitting diode technology. Many of the sessions carry continuing education credits from AIA, AEE, BPI, and NATE, among others. In the exhibit hall, attendees can speak with more than 60 exhibitors and sponsors displaying the latest commercial and residential building products, technologies, and services. Discover cutting-edge techniques, materials, equipment, and systems for superior building performance, energy efficiency, and indoor air quality.

Award-winning design and construction on display

Winners of Efficiency Vermont's 2016 Best of the Best Awards in Building Performance and Home Performance with ENERGY STAR®, Residential New Construction, and Commercial New Construction will be announced, and posters of the award winners will be on display throughout the conference.

General public welcome

In addition to the morning keynote, the public is invited and encouraged to attend our Wednesday evening reception. As the largest gathering of building professionals in the Vermont region, BBD is the place to make connections, investigate new practices and technologies, and begin planning any building or renovation project for 2016.

Questions?

We're just a few steps away at the Efficiency Vermont booth, located outside the main exhibit hall.

 Follow us! Better Buildings by Design 2016 on Twitter. #BBD16

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Agenda

Wednesday, February 3

7:00 am	Exhibit Hall opens for registration and breakfast
8:30	Opening Session: Emerald Ballroom Welcome 2016 Efficiency Vermont Awards Keynote Address: The Education of an Unlikely Activist Bill McKibben
10:00	Refreshment break in Lake Champlain Exhibit Hall
10:20	Workshops
11:50	Lunch in Lake Champlain Exhibit Hall & G's Restaurant
1:20 pm	Workshops
2:50	Refreshment break in Lake Champlain Exhibit Hall
3:15	Workshops
4:00	Exhibit Hall open to public until 7:00 pm
4:45	Evening reception in Lake Champlain Exhibit Hall
7:00 pm	Evening reception adjourns

Thursday, February 4

7:30 am	Exhibit Hall opens for registration and breakfast
9:00	Workshops
10:30	Refreshment break in Lake Champlain Exhibit Hall
11:00	Workshops
12:30 pm	Lunch in Lake Champlain Exhibit Hall & G's Restaurant
1:30	Exhibit Hall open to public until 3:30 pm
1:45	Workshops
3:15	Refreshment break in Lake Champlain Exhibit Hall
3:30	Workshops
3:30	Exhibit Hall closes, exhibitor tear down
5:00 pm	Conference adjourns

Bill McKibben



Bill McKibben's work has a singular focus: Global climate change is a threat of extreme urgency and an immediate practical response to it is required. McKibben is not a person you'd expect to find handcuffed and behind bars, but that's where he found himself in the summer of 2011 after leading the largest civil disobedience action in 30 years, protesting the Keystone XL Pipeline in front of the White House.

With the Arctic melting, the Midwest in drought, and Hurricane Irene scouring the Atlantic, McKibben recognized that action was needed if solutions were to be found. Some of those actions would come at the local level, where McKibben joined forces with a Vermont beekeeper keeping his hives as part of the growing trend toward local food. Other solutions would come from a much larger fight against the fossil fuel industry as a whole.

McKibben will reflect on these two necessary and mutually reinforcing sides of the global climate fight—from the center of the maelstrom and from the growing hive of small-scale local answers. With empathy and passion, he will make the case for a renewed commitment on both levels, telling the story of raising one year's honey crop and building a social movement that's still cresting.

Exhibit Hall

Stop by the exhibit hall and talk with more than 60 exhibitors and sponsors displaying the latest residential and commercial building products and services. The exhibit hall is open to the public, free of charge, on Wednesday from 4:00 to 7:00 pm and Thursday from 1:30 to 3:30 pm. Beverages are available in the exhibit hall during scheduled breaks.

TRACK	DAY 1 • 10:20 AM-11:50 AM	DAY 1 • 1:20 PM-2:50 PM	DAY 1 • 3:15 PM-4:45 PM
ENVELOPE	<p>Best Practice Designs for Cost-Effective Approaches to Net-Zero Energy Commercial Building Enclosures C / Intermed. • EMERALD II</p> <hr/> <p>Passive for the Masses—Tunneling Through the Cost Barrier Through Innovative Design and Production Methods R & C / Intro. • EMERALD III</p>	<p>The Challenges of Creating the Perfect Conditions for Proper Machine Processing of Polyurethane Foam R & C / Advanced • DIAMOND I</p>	
BUILDING SYSTEMS	<p>Using Standards and Technology to Create Efficiency in Energy Data Management R & C / Intermed. • EMERALD I</p>	<p>Are You Picking Up What Your Building Is Laying Down? Getting the Vibe from Smart Grid and Submetering Data R & C / Intermed. • EMERALD II</p> <hr/> <p>Making LED Upgrades Easy: Moving from T8 to LED + Controls C / Intermed. • AMPHITHEATRE</p>	<p>What We're Learning about Mechanical Systems in Low-Load Homes R / Intermed. • EMERALD III</p> <hr/> <p>Is It LEDs All the Way? What Architects, Specifiers, and Installers Need to Know R & C / Intermed. • DIAMOND I</p> <hr/> <p>Why Energy-Efficient Buildings Are Healthy Buildings R & C / Intermed. • DIAMOND II</p>
COMMERCIAL	<p>Energy Efficiency Strategies for Complex Projects—the Case of the Waterbury State Office Complex C / Intermed. • DIAMOND I</p> <hr/> <p>Multiple Measure Efficiency Projects—Maximizing Returns for Commercial Buildings C / Intermed. • AMPHITHEATRE</p>	<p>Design Phase Commissioning—the Advantage of Quality Assurance before Construction C / Intermed. • DIAMOND II</p>	<p>Owning the Air: Controlling and Verifying Commercial Building Airtightness C / Intermed. • AMPHITHEATRE</p>
INNOVATIVE DESIGN	<p>The Economics of Net Zero R & C / Intro. • DIAMOND II</p>	<p>Balancing Resiliency—Resilient River Apartment R & C / Intermed. • EMERALD I</p> <hr/> <p>State of the Art—High-Performance Natural Building for Cold Climates R / Intermed. • EMERALD III</p>	<p>Combining Beauty, Craftsmanship, and Energy Efficiency—Presenting Three Just-Big-Enough Houses R / Intermed. • EMERALD II</p> <hr/> <p>LEA Lake Science Center—Preservation & Energy Efficiency R & C / Intermed. • EMERALD I</p>

DAY 2 • 9:00 AM-10:30 AM	DAY 2 • 11:00 AM-12:30 PM	DAY 2 • 1:45 PM-3:15 PM	DAY 2 • 3:30 PM-5:00 PM
High-Performance Glazing and Historic Considerations R & C / Intermed. • AMPHITHEATRE	Interstitial Cavities—Pathways to the Unknown in Your Retrofit R & C / Intermed. • DIAMOND I		All About Windows R / Advanced • DIAMOND II
Energy Models Versus Reality—Where Did Your Savings Go? C / Intermed. • EMERALD I	An Introduction to OLEDs—the Other Solid-State Lighting Technology R & C / Intro. • AMPHITHEATRE	Evaluating Heat Pump Efficiency R & C / Intermed. • EMERALD III	Designing for Performance—A Data-Driven Approach to Complete Building Performance R & C / Intermed. • EMERALD I
Glare Matters—How to Control It R & C / Intro. • DIAMOND I		Indoor Environmental Quality and Energy Performance of 21 Vermont Homes R / Intermed. • EMERALD I	Better Than Before—HVAC System Improvements via Engineered Retrofits C / Intermed. • AMPHITHEATRE
Affordable Passive House Commercial Buildings—Secrets Revealed C / Advanced • EMERALD II	Taming the 900-Pound Gorilla—Using Integrated Design to Create a Net-Zero Dining Hall C / Intermed. • DIAMOND II	Building Enclosure Commissioning (BECx) at the Waterbury State Office Complex—Lessons Learned from the Perspectives of Architect, Builder, and Commissioning Agent C / Intermed. • DIAMOND II	Commercial Net Zero—Design & Construction Lessons Learned through Efficiency Vermont's Commercial Net Zero Pilot Program (Part 2) C / Intermed. • DIAMOND I
What We're Learning in Net-Zero Energy Homes R / Intermed. • EMERALD III	Achieving Net-Zero Energy Affordably Today—the Modular Housing Innovation Project R / Intermed. • EMERALD I	Commercial Net Zero—Design & Construction Lessons Learned through Efficiency Vermont's Commercial Net Zero Pilot Program (Part 1) C / Intermed. • DIAMOND I	How to Build High-Performance Homes for Less Than \$150/Sq. Ft. R / Advanced • EMERALD II
Whole Building Energy Efficiency—a Look at the Energy Champ Challenge in Burlington R / Intro. • DIAMOND II	Innovative Opportunities for Financing Energy Efficiency Upgrades R & C / Intermed. • EMERALD II		Passive House Strategies—Outside the Box R & C / Intermed. • EMERALD III
	Multifamily Retrofits—the Path Forward for Multifamily Efficiency Programs R / Intermed. • EMERALD III		

Workshops

DAY 1: WEDNESDAY, FEBRUARY 3

10:20 AM-11:50 AM CONCURRENT WORKSHOPS

✉ Best Practice Designs for Cost-Effective Approaches to Net-Zero Energy Commercial Building Enclosures

Steve Easley, Steve Easley & Associates

This interactive session is designed to sort through the myriad of insulation choices in order to choose the best insulation system for various types of structures. It will focus on the performance characteristics of new building enclosure approaches and technologies to help you create enclosures that manage thermal and moisture loads to ensure building durability as well as energy efficiency. The presenter will use real-world examples to help you select the best insulation and air barrier system for a given application and write better specifications regarding fenestration, insulation, and air barriers.

Accreditation: AEE, AIA LU/HSW, ASHRAE, CSI, LEED

C / Intermediate
EMERALD II

✉ Passive for the Masses—Tunneling Through the Cost Barrier Through Innovative Design and Production Methods

Adam Cohen, Passiv Science

The climate change emergency has made it a high priority to take high-performance buildings into the mainstream. This presentation will outline the techniques the presenter is employing to design, manufacture, and construct Passive House buildings for the same cost as (or even less than) standard code buildings. The presenter's systems have the potential to change the way we build in North America.

Accreditation: AEE, AIA LU/HSW, ASHRAE, BPI, CSI, LEED, Passive House

R & C / Introductory
EMERALD III

✉ Using Standards and Technology to Create Efficiency in Energy Data Management

AJ Rossman, Smart Resource Labs

There's a lot of talk today about using data to optimize building comfort and save energy costs. These discussions include words such as *data loggers*, *data standards*, *data protocols*, *data analytics*...and more words, such as *Haystack*, *Modbus*, and *BACnet*. It's easy to get overwhelmed unless you know the basics of the tools used for data acquisition, management, and utilization. This presentation will explain key concepts and components in the data value chain and give examples on how standards, protocols, and technology advancements are making continuous energy improvement possible.

Accreditation: AEE, AFE, AIA LU/HSW, ASHRAE, CSI, LEED

R & C / Intermediate
EMERALD I

█ Energy Efficiency Strategies for Complex Projects—the Case of the Waterbury State Office Complex

C / Intermediate
DIAMOND I

Jesse Beck, Freeman French Freeman, Architects
Brian Leet, Freeman French Freeman, Architects
Chris Shumway, Rist-Frost-Shumway Engineering

After the Waterbury State Office Complex was nearly destroyed by Tropical Storm Irene, replacement space was needed for about 1,000 state employees, and all options were on the table. Presenters will discuss how smart decision making at key points in the process led to both energy and cost savings for a \$125 million, LEED Gold project. The design team will discuss how their strategy evolved and adapted to changing conditions over a four-year period, with an emphasis on the initial feasibility study, their approach to campus-wide energy distribution, and the need to fine-tune individual buildings to maximize energy performance.

Accreditation: AEE, AFE, AIA LU/HSW, ASHRAE, CSI, LEED

█ Multiple Measure Efficiency Projects—Maximizing Returns for Commercial Buildings

C / Intermediate
AMPHITHEATRE

Michelle Keller, Burlington Electric Department

Discussions of energy efficiency projects usually focus on a single system: lighting, HVAC, or building envelope. The Burlington Electric Department and a large customer instead organized energy audit results into a prioritization matrix for discussion among building owners, the maintenance team, and the occupants. Many of the proposed measures offered unanticipated synergies. The matrix provided a valuable tool with which to evaluate a full spectrum of efficiency upgrade projects, and a road map for phased implementation over time and budget cycles. This presentation will cover both the steps used in developing the matrix and preliminary results of its implementation.

Accreditation: AEE, AFE, AIA LU/HSW, ASHRAE, CSI, LEED

█ The Economics of Net Zero

R & C / Introductory
DIAMOND II

John Rahill, Black River Design

When you are designing a building to power itself, the economics of how much to invest in energy-saving components is quite tidy. The economic analysis process results in the ability to identify the lowest-cost combination of elements to achieve your net-zero goal. John Rahill will explain how this analysis is an important design tool in bringing rigor to the energy savings discussion.

Accreditation: AEE, AIA LU, ASHRAE, BPI, CSI, LEED

KEY TO WORKSHOP TRACKS

- ✉ Envelope
- ↗ Building Systems
- █ Commercial
- ↘ Innovative Design

R = Residential C = Commercial

1:20 PM-2:50 PM CONCURRENT WORKSHOPS

☒ The Challenges of Creating the Perfect Conditions for Proper Machine Processing of Polyurethane Foam

Henri Fennell, HC Fennell Consulting

This session will introduce the most common causes of problems in field-applied polyurethane foam plastic installations and present guidelines for ensuring proper chemical processing, the most common source of problems. It will start with an overview of the parameters that the foam's chemistry requires for proper processing, then discuss the implications of these needs on how the equipment is set up and used, and how to verify that the processing parameters are being met. We will review industry-standard quality control procedures and then demonstrate additional methods that installers can use to ensure and verify proper processing.

Accreditation: AEE, AIA LU/HSW, ASHRAE, BPI, CSI, LEED

R & C / Advanced

DIAMOND I

C / Intermediate

DIAMOND II

☒ Design Phase Commissioning—the Advantage of Quality Assurance before Construction

Matthew Napolitan, Cx Associates

Brent Weigel, Cx Associates

Design phase commissioning is more than just a requirement for LEED certification. Design phase commissioning is the foundation of a quality assurance process that aligns a building's design with the needs of the building owner and occupants. This presentation will outline and illustrate the essential elements of design phase commissioning and how these elements support the more well known construction phase commissioning activities. Importantly, the presenters will show how design phase commissioning can help project teams manage risk, enhance project delivery, and improve building performance.

Accreditation: AEE, AIA LU/HSW, ASHRAE, CSI, LEED

☒ Are You Picking Up What Your Building Is Laying Down? Getting the Vibe from Smart Grid and Submetering Data

R & C / Intermediate

EMERALD II

R & C / Intermediate

EMERALD I

Ethan Goldman, Vermont Energy Investment Corporation

Buildings are generating more and more data, which might contain messages about how to make those buildings more efficient... if you know how to read the code. Learn how to take advantage of new visualization and analysis tools and techniques that separate the signal from the noise in data from smart meters, energy and environmental submeters, and other sources. Find opportunities for improvement, measure the energy savings of your efforts, and verify that those savings are maintained.

Accreditation: AEE, AFE, AIA LU/HSW, ASHRAE, CSI, LEED

☒ Making LED Upgrades Easy: Moving from T8 to LED + Controls

C / Intermediate

AMPHITHEATRE

R / Intermediate

EMERALD III

Eric Haugaard, Cree Lighting

Dan Mellinger, Vermont Energy Investment Corporation

Thomas Nowakowski, Eaton's Lighting Solutions

For interior commercial lighting, T8 fluorescent has been the leading technology for decades, and LED products are only just becoming viable in this application. The process of replacing T8s with LEDs can be confusing, and the inclusion of controls only complicates the matter. This session will provide tips on how to select and specify LED lumen output for interior ambient lighting applications. Among other things, attendees will learn to compare the attributes and benefits of LED troffers vs. retrofit kits vs. tubes. We will also discuss integrated lighting controls, a recent development that makes the inclusion of occupancy and daylight sensors simple and affordable. Manufacturers will be on hand to discuss the benefits of LED lighting with integrated control technology and to demonstrate products.

Accreditation: AEE, AFE, AIA LU, ASHRAE, CSI, LEED, NCQLP

C / Intermediate

AMPHITHEATRE

☒ State of the Art—High-Performance Natural Building for Cold Climates

Ben Graham, New Frameworks Natural Design/Build

Jacob Deva Racusin, New Frameworks Natural Design/Build

The natural building movement has come of age, and today's professionally executed natural buildings—those built of low-carbon, minimally processed materials—are state-of-the-art, design-rich, well-engineered structures. Further, they can match any environmentally responsible green building in airtightness, energy use intensity, durability, and aesthetics, all while achieving reduced levels of embodied carbon and offering social benefits that are unattainable by their industrially intensive counterparts. In this presentation we will look at case studies, design details, and real-world scenarios to explore the solutions offered by the next generation of natural buildings, with a focus on cold-climate strategies.

Accreditation: AEE, AIA LU/HSW, ASHRAE, BPI, CSI, LEED

The conference provided me with access to people and organizations with exactly the information and capabilities that I was hoping to find by attending this year. I'm eager to return again next year!

3:15 PM-4:45 PM CONCURRENT WORKSHOPS

What We're Learning about Mechanical Systems in Low-Load Homes

Marc Rosenbaum, South Mountain Company

How are air-source, inverter-driven heat pumps working in low-load homes? What about heat pump water heaters? And while we're at it, how are those energy recovery ventilators performing in real installations? We will examine the performance and subtleties of all these technologies. The presenter is a compulsive measurer, and the data collected doesn't always match the hypothesis. We'll also take a look at the cold climate heat pump specification. Finally, for amusement, we'll consider some data taken from some interesting outings in measuring existing fossil fuel systems!

Accreditation: AEE, AIA LU/HSW, ASHRAE, BPI, CSI, LEED, NATE, Passive House

R / Intermediate
EMERALD III

Is It LEDs All the Way? What Architects, Specifiers, and Installers Need to Know

Victor Reno, RE Light Design

LED lighting has made tremendous strides in the last few years, but is it all clear and smooth sailing from now on? This presentation will discuss the state of LED lighting for the architect, specifier, and builder/installer—what is great, good, not so good, and downright bad. Are other light sources obsolete? What do the rapid changes mean for specifiers and installers? Learn what you need to know to feel relatively secure in specifying and using LED lighting.

Accreditation: AEE, AIA LU/HSW, ASHRAE, CSI, LEED, NCQLP

R & C / Intermediate
DIAMOND I

Why Energy-Efficient Buildings Are Healthy Buildings

Barry Stephens, Zehnder America, Inc.

Homes and other buildings are being built to higher standards for energy efficiency. This results in tight, well-insulated structures. With proper ventilation, these buildings are becoming the benchmarks for healthy environments. Without proper ventilation, however, they can become unhealthy. This presentation will outline research into indoor air quality and its impact on health, along with describing the positive outcomes of well-designed ventilation systems.

Accreditation: AEE, AIA LU/HSW, ASHRAE, BPI, CSI, LEED, NATE, Passive House

R & C / Intermediate
DIAMOND II

Owning the Air: Controlling and Verifying Commercial Building Airtightness

Matt Root, CLEAResult

Increasingly, organizations (e.g., the U.S. Army Corps of Engineers) and building codes (2012 IECC) are implementing building enclosure airtightness performance metrics for all building types. This session will review the performance metrics associated with full building testing and describe the various protocols for conducting a building-level test. We will examine the value of these tests as well as the critical steps in the design documents development process to achieve success. Case studies from recent tests ranging up to 200,000 square feet will be used to illustrate the testing process and discuss lessons learned.

Accreditation: AEE, AFE, AIA LU, ASHRAE, CSI, LEED, NATE

C / Intermediate
AMPHITHEATRE

Combining Beauty, Craftsmanship, and Energy Efficiency—Presenting Three Just-Big-Enough Houses

Milford Cushman, Cushman Design Group
Lindsay Jones, Vermont Energy Investment Corporation

This presentation will explore in depth the unique design-related and performance-related choices for 1) a log cabin deep energy retrofit (DER); 2) a new net-zero home in downtown Bristol, Vermont; and 3) a DER of a designer's own home. We will share the owners' unique stories of how they wished to design their homes and then to live in a healthy space that embodied their values, their lifestyle, their physical capability, and their financial capability, and how they see themselves as contributing community members.

Accreditation: AEE, AIA LU/HSW, ASHRAE, BPI, CSI, LEED

R / Intermediate
EMERALD II

LEA Lake Science Center—Preservation & Energy Efficiency

Peter Lowell, Lakes Environmental Association (LEA)
William Turner, Turner Building Science & Design, LLC

During 2015, the Lakes Environmental Association (LEA) of Maine renovated and preserved the beauty of a historic log structure, creating a lake science research center. The building renovation included walls, roofs, and HVAC equipment. This facility will be entered into Maine's 1,000 Home Challenge initiative, which seeks a dramatic reduction in energy usage. In this session describing the project, blower door, infrared, CO₂, and monitored energy use data will be presented.

Accreditation: AEE, AFE, AIA LU/HSW, ASHRAE, BPI, CSI, LEED

R & C / Intermediate
EMERALD I

DAY 2: THURSDAY, FEBRUARY 4

9:00 AM-10:30 AM CONCURRENT WORKSHOPS

High-Performance Glazing and Historic Considerations

R & C / Intermediate
AMPHITHEATRE

John Beeman, AW Hastings & Co
Lazarus Scangas, Arnold & Scangas Architects

This session will discuss achieving R5 ratings and meeting today's energy standards with high-performance window glazing, while maintaining the integrity of historic characteristics of older buildings. Local case studies of the Waterbury State Office Complex and the Housing Trust of Rutland County's Shirley Farr House will be showcased to highlight how this balance is achieved through thoughtful window design and selection.

Accreditation: AEE, ASHRAE, BPI, CSI, LEED, AIA pending

Energy Models Versus Reality—Where Did Your Savings Go?

C / Intermediate
EMERALD I

Jennifer Chiodo, Cx Associates
Eveline Killian, Cx Associates

Energy models are valuable tools for comparing systems, components, and control strategies. But how do models compare to actual performance once buildings are operational? Learn about common causes for deviations in actual savings from modeled projections, based on measurement and calibrated modeling of nearly 100 recent commercial and institutional buildings that included energy efficiency upgrades. This presentation will draw from studies of completed buildings to demonstrate lessons learned for design teams, owners, modelers, and efficiency program administrators.

Accreditation: AEE, AFE, AIA LU, ASHRAE, CSI, LEED

Glare Matters—How to Control It

R & C / Introductory
DIAMOND I

Donna Leban, Light/Space/Design

As LEDs have become increasingly powerful, glare has moved back into the forefront of discussion in committees of the CIE and IES, the governing bodies that write lighting guidelines. How is glare defined, why does it matter, and what can be done to limit potential problems in both exterior and interior environments, particularly for aging populations? We will look at current research and proposed IES guidelines for glare control, as well as consider how to choose luminaires that effectively diffuse LED light sources.

Accreditation: AEE, AFE, AIA LU HSW, ASHRAE, CSI, LEED, NCQLP

Affordable Passive House Commercial Buildings—Secrets Revealed

Adam Cohen, Passiv Science

High-performance commercial buildings cost 10–25% more to build than conventional buildings—right? Adam Cohen of Structures Design/Build, LLC, has been designing and building commercial buildings at costs comparable to those of typical new construction and is achieving Passive House-level results. This workshop will explain the basics of using Passive House design principles for commercial buildings. It will then discuss how buildings such as dental clinics and college dormitories can be built at market rates while achieving Passive House standards. Integrated project management will be covered, as will details, equipment, controls, and ways to capture money typically left on the table.

Accreditation: AEE, AFE, AIA LU, ASHRAE, CSI, LEED, Passive House

What We're Learning in Net-Zero Energy Homes

Marc Rosenbaum, South Mountain Company

We'll look at the energy consumption by end use in a dozen or so net-zero energy capable homes, including net-zero energy, deep energy retrofit, and Passive House, annually and seasonally (and look a bit at the monitoring options used to get the data). We'll compare that usage with production data from solar electric systems, and examine how much of the energy produced is used on site as it is produced. Finally, we'll discuss what's coming in battery systems and play with a new tool that looks at the effects of battery storage on energy used on site.

Accreditation: AEE, AIA LU HSW, ASHRAE, BPI, CSI, LEED

Whole Building Energy Efficiency—a Look at the Energy Champ Challenge in Burlington

Jeremy King, Vermont Gas Systems, Inc.
Brian Reilly, Burlington Electric Department

This presentation will provide an overview of the Energy Champ Challenge, a whole building approach to energy efficiency targeting multifamily buildings in Burlington. The challenge, which is co-managed by Vermont Gas and Burlington Electric Department, starts with a free energy audit and energy coaching for tenants. Once the audit is completed and the owner commits to moving forward, the program covers up to 75% of all recommended weatherization upgrades, saving some occupants thousands of dollars. The presentation will highlight lessons learned, explain financing options, and describe Burlington's housing stock, providing weatherization contractors with insights into how to effectively address this hard-to-reach market.

Accreditation: AEE, AIA LU, ASHRAE, BPI, CSI, LEED

11:00 AM-12:30 PM CONCURRENT WORKSHOPS

Interstitial Cavities—Pathways to the Unknown in Your Retrofit

R & C / Intermediate
DIAMOND I

Elliott Curtin, Weatherization and Renovation of Montpelier (W.A.R.M.), LLC
Kyle McNary, Weatherization and Renovation of Montpelier (W.A.R.M.), LLC

We will explore the different types of interstitial cavities in your retrofit. We will also cover how to identify and address them correctly with diagnostic tools. These overlooked areas can be highly problematic for both homes and commercial buildings.

During the remediation of a leaky building, these areas need to be addressed to reduce the symptoms they create. We will discuss the use of tools such as the infrared camera, blower door, and manometer to ensure that problems in these interstitial cavities have been resolved. This will optimize the building's performance and reduce fuel consumption.

Accreditation: AEE, AIA LU HSW, ASHRAE, BPI, CSI, LEED

An Introduction to OLEDs—the Other Solid-State Lighting Technology

R & C / Introductory
AMPHITHEATRE

John (Jack) Curran, LED Transformations, LLC

LEDs are the main topic of conversation when it comes to lighting. However, there is another solid-state lighting family member that is starting to attract attention. Organic light-emitting diodes, or OLEDs, are beginning to move from being high-priced novelty products to being more mainstream illumination solutions. OLEDs offer new and exciting capabilities wherein the light becomes the luminaire. In this presentation, Jack Curran will provide an introduction for those unfamiliar with the technology. Included will be a comparison of OLEDs with LEDs, highlighting the advantages and disadvantages that OLEDs offer, as well as what the future holds for this unique technology.

Accreditation: AEE, AFE, AIA LU, ASHRAE, CSI, LEED, NCQLP

Taming the 900-Pound Gorilla—Using Integrated Design to Create a Net-Zero Dining Hall

C / Intermediate
DIAMOND II

Bill Maclay, Maclay Architects
Megan Nedzinski, Maclay Architects
Andrew Shapiro, Energy Balance, Inc.

Proctor Academy, an independent school in New Hampshire, is taking on the challenge of building a net-zero dining hall. Dining facilities have large process loads, making net zero difficult to achieve. This session will explore the mechanical and energy aspects of designing an all-electric commercial kitchen and will highlight an intensive, integrated design process employed from the outset of design. Critical considerations: make-up air (the 900-pound gorilla), cooking culture, hot water approaches, and economics. Numerous options were evaluated that used comparative energy modeling and financial analysis both to achieve net-zero energy and as decision-making tools to facilitate timely, cost-effective solutions.

Accreditation: AEE, AIA LU, ASHRAE, CSI, LEED

KEY TO WORKSHOP TRACKS

- ✉ Envelope
- 🔧 Building Systems
- 🏢 Commercial
- ⚡ Innovative Design

R = Residential C = Commercial

11:00 AM-12:30 PM CONCURRENT WORKSHOPS, cont.**☛ Achieving Net-Zero Energy Affordably Today—the Modular Housing Innovation Project**

David Pill, Pill-Maharam Architects

Peter Schneider, Vermont Energy Investment Corporation

Many newer manufactured housing units suffer from poor indoor air quality, high energy costs, and overall poor construction quality. A factory in Wilder, Vermont, builds net-zero energy mobile home replacement units. This session will discuss manufactured and mobile homes, including financing and depreciation, attributes of the net-zero energy replacement modular home, the design and build process, and the comprehensive whole-house monitoring system. We will share detailed energy and environmental data collected from two years of occupancy. We will discuss design challenges associated with cost, prefabrication, and transportation of these units. We will also consider what is needed to bring the project to the Passive House level.

*Accreditation: AEE, AIA LU, ASHRAE, BPI, CSI, LEED*R / Intermediate
EMERALD I**☛ Innovative Opportunities for Financing Energy Efficiency Upgrades**R & C / Intermediate
EMERALD II

Brian Buckley, Northeast Energy Efficiency Partnerships (NEEP)

Chris Burns, Burlington Electric Department

Mark Kelley, Vermont Energy Investment Corporation

This session will focus on financing options available for building retrofits related to energy efficiency and generation. The first section will broadly survey financing options available to building owners for building retrofits. The next section will discuss the Burlington Electric Department's financing programs and incentives. The last section will discuss the varying options for financing energy upgrades available through Efficiency Vermont.

*Accreditation: AEE, AIA LU, ASHRAE, BPI, CSI, LEED***☛ Multifamily Retrofits—the Path Forward for Multifamily Efficiency Programs**R / Intermediate
EMERALD IIIScott Campbell, 3E Thermal (*formerly Vermont Fuel Efficiency Partnership*)

Christa Shute, Vermont Energy Investment Corporation

Charlie Taylor, Northeast Energy Efficiency Partnerships (NEEP)

This panel will highlight the successes and barriers faced by two innovative organizations working to retrofit Vermont's aging low-income multifamily housing stock. Case studies and detailed program-level savings data will be presented to provide insight into 3E Thermal's efforts to date. Commons Energy will cover its unique public-purpose energy services company (PPESCO) approach to financing and guaranteeing energy efficiency projects. We will explore the huge opportunity to increase retrofits in this historically underserved market and identify policies for the Northeast and mid-Atlantic regions that would ensure deep energy savings and long-term program sustainability.

*Accreditation: AEE, AIA LU, ASHRAE, BPI, CSI, LEED*R / Intermediate
EMERALD I**KEY TO WORKSHOP TRACKS**

- ☛ Envelope
- ☛ Building Systems
- ☛ Commercial
- ☛ Innovative Design

R = Residential C = Commercial

1:45 PM-3:15 PM CONCURRENT WORKSHOPS**☛ Evaluating Heat Pump Efficiency**R & C / Intermediate
EMERALD III

Carsten Steenberg, PowerWise

PowerWise Systems is undertaking a state-funded study to evaluate the efficiency of heat pumps. In this presentation, we will explain the monitoring configurations for different heat pumps, how to ensure consistent data streams, how to use wireless communications to simplify installation, and how to calculate energy efficiency ratio and coefficient of performance.

*Accreditation: AEE, AIA LU, ASHRAE, BPI, CSI, LEED, NATE***☛ Indoor Environmental Quality and Energy Performance of 21 Vermont Homes**R / Intermediate
EMERALD I

Ty Newell, Build Equinox

Peter Schneider, Vermont Energy Investment Corporation

Efficiency Vermont and Build Equinox have monitored and analyzed 21 Vermont homes. Fourteen homes are identically constructed, manufactured homes that provide a rich collection of data for examining occupancy impact. All homes included in this study have achieved significant gains in energy performance relative to conventionally constructed homes while maintaining excellent indoor environmental quality. The presentation will showcase data and analyses from the homes that describe the air quality, comfort, and energy usage of the homes.

*Accreditation: AEE, AIA LU/HSW, ASHRAE, BPI, CSI, LEED, NATE***☛ Keys to Marketing High-Performance Homes**R / Intermediate
EMERALD II

Peter Troast, Energy Circle

The term *high-performance home* can mean many things to a consumer looking to build or retrofit an existing home, especially in a growing marketplace of recognizable brands, such as Passive House, net zero, and others. We'll review how consumers identify the high-performance home, look at who is buying, and discuss how to reach the top three kinds of buyers in the sustainable building arena. We'll also consider websites that generate leads, and review the latest trends in website functionality, from user-centric web design to compelling project case studies. You will learn what you need to bring your company to the forefront of this expanding market.

*Accreditation: AEE, ASHRAE, BPI, CSI, LEED***☛ The State of the Art—Present-Day Building Automation Systems (BAS)**C / Introductory
AMPHITHEATRE

Rick Stehmeyer, Cx Associates

It's 2016 and hyper-connectivity has become the norm. It's easy for everyday professionals to lose themselves amid growing feature sets and new technologies. Rick Stehmeyer, a 12-year veteran of the controls industry in Vermont and New York City, will discuss the current landscape of building automation systems (BAS) and their offerings from a practical perspective. We'll explore the dichotomy created by computer systems evolving exponentially over the expected life span of a BAS. We'll also cover how to future-proof your system and avoid red flags hidden from the everyday business owner and design engineer.

Accreditation: AEE, AFE, AIA LU, ASHRAE, CSI, LEED

█ Building Enclosure Commissioning (BECx) at the Waterbury State Office Complex—Lessons Learned from the Perspectives of Architect, Builder, and Commissioning Agent

Jon Haehnel, Zero by Degrees, LLC
Anne Minor, PC Construction Company
Jesse Robbins, Freeman French Freeman, Architects
Andrew Shapiro, Energy Balance, Inc.

Learn about the building enclosure commissioning (BECx) process for over 200,000 square feet of new and gut rehab historic construction on a tight time schedule. BECx A / owner / contractor / architect collaboration was vitally important, especially the meetings with the subcontractors to facilitate materials compatibility and to optimize sequencing issues. The technology used on this project, which included having updated "conformed" drawing sets accessible anywhere on the construction site, was instrumental in making this complicated project work. We will share the successes and challenges of keeping this project as true to the design intent as possible in the real world!

Accreditation: AEE, AIA LU/HSW, ASHRAE, CSI, LEED

C / Intermediate
DIAMOND II

█ Commercial Net Zero—Design & Construction Lessons Learned through Efficiency Vermont's Commercial Net Zero Pilot Program (Part 1)

Chris Huston, BreadLoaf Corporation
Bill Maclay, Maclay Architects
Ashar Nelson, Vermont Integrated Architecture
David Roy, Wiemann-Lamphere Architects
Craig Simmons, Vermont Energy Investment Corporation
Jeff Setter, Gossens Bachman Architects
Nick Thiltgen, Vermont Energy Investment Corporation

This extended session will discuss the commercial net-zero design and construction process as experienced through five projects that are currently participating in Efficiency Vermont's Net Zero Pilot Program. This is a rare opportunity to explore a wide variety of net-zero targeted projects and personalities and gain insight into the successes and difficulties of each. The presenters will provide an overview of each project, but the discussion will focus on lessons learned about designing and building for commercial net-zero performance in Vermont. Come learn effective methods for implementing commercial net zero.

Accreditation: AEE, AFE, AIA LU/HSW, ASHRAE, CSI, LEED

C / Intermediate
DIAMOND I

3:30 PM-5:00 PM CONCURRENT WORKSHOPS

█ All About Windows

Mike Duclos, DEAP Energy Group, LLC

Windows could well be the most important architectural element in a home, affecting the appearance, comfort, energy use, ventilation, cost, maintenance, and overall enjoyment of our homes in a number of ways—some not so obvious. Window "language," design, construction, energy balance, and performance specification will be discussed, along with ways of evaluating the solar resource. Data from five homes will be used to explore the energy, comfort, durability, HVAC impact, and passive survivability impact of window performance. High-performance window prices are dropping, and some new products have impressive price/performance points. Attendee questions and discussion are encouraged in this interactive session.

Accreditation: AEE, AIA LU, ASHRAE, BPI, CSI, LEED, Passive House

R / Advanced
DIAMOND II

█ Designing for Performance—A Data-Driven Approach to Complete Building Performance

Paul Malko, Foard Panel Inc.

A building's performance can be measured in many ways. Minimal energy consumption is a key performance goal, but it should not compromise the structural integrity or long-term durability of the building. Sometimes, the components required to meet the building's performance goals can conflict with one another. Examples and concise studies will help the designer choose the best compromise for his or her project. The presentation will compare the impact of different details on whole-building energy consumption.

Accreditation: AEE, AIA LU, ASHRAE, BPI, CSI, LEED

R & C / Intermediate
EMERALD I

█ Better Than Before—HVAC System Improvements via Engineered Retrofits

Matthew Napolitan, Cx Associates
Brent Weigel, Cx Associates

The inevitable replacement of HVAC equipment opens up opportunities for engineered retrofits that improve system-level HVAC performance. Learn how to take a systems-level approach to equipment replacement scenarios to reduce both the first cost and the operating cost of HVAC equipment and will see real-world examples of engineered retrofits of HVAC systems. The example projects illustrate the application of new, higher-efficiency HVAC technologies, and how these technologies can enable engineered retrofits of HVAC systems with improved life-cycle performance.

Accreditation: AEE, AFE, AIA LU/HSW, ASHRAE, CSI, LEED, NATE

C / Intermediate
AMPHITHEATRE

█ Commercial Net Zero—Design & Construction Lessons Learned through Efficiency Vermont's Commercial Net Zero Pilot Program (Part 2)

For speakers and description, see Part 1 (left column, this page).

C / Intermediate
DIAMOND I

█ How to Build High-Performance Homes for Less Than \$150/Sq. Ft.

Nate Hayward, Hayward Design Build
Matt Sargent, Vermont Energy Investment Corporation

Net-zero and high-performance homes are being constructed every day, and interest in these buildings is at an all-time high. This advanced session will present techniques used on dozens of projects that keep the costs down and the performance up. Efficiency Vermont has recently revised its high-performance home certification requirements in ways that help make high-performance building viable in today's market.

Accreditation: AEE, AIA LU, ASHRAE, BPI, CSI, LEED

R / Advanced
EMERALD II

█ Passive House Strategies—Outside the Box

William Ryall, Ryall Porter Sheridan Architects
Ted Sheridan, Ryall Porter Sheridan Architects

The Passive House approach to energy-efficient design typically reduces heating and cooling requirements to about 20% of standard code construction. Passive House methods also tend to reduce architectural forms to very condensed, basic volumes. These effects can prove challenging to architects, who often wish to develop articulated plans, maximize balanced natural light, and create interesting architectural volumes. This presentation will demonstrate strategies and methods for opening up the Passive House to more ambitious formal and natural lighting goals that offer greater experiential and aesthetic opportunities for designers and occupants.

Accreditation: AEE, AIA LU, ASHRAE, BPI, CSI, LEED, Passive House

R & C / Intermediate
EMERALD III

**Jesse Beck**

Jesse Beck, AIA, NCARB, is president of Freeman French Freeman, Architects in Burlington, Vermont. A graduate of the master of architecture program at the University of Utah, Jesse has practiced architecture for more than 33 years, including 27 years at Freeman French Freeman. During that time Jesse has played a leadership role in several of Vermont's most complex architectural projects, including multiple expansions at the Burlington International Airport, several projects at the UVM Medical Center, Jeffords Science Hall at UVM, and the Waterbury State Office Complex.

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John Beeman

John Beeman, LEED AP, CDT, specializes as a Marvin Windows and Doors product and services consultant for the architectural community. He works closely with architects to deliver customized window and door solutions for a range of building envelope needs.

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Brian Buckley

Brian Buckley is a policy research and analysis associate with Northeast Energy Efficiency Partnerships. He focuses on expanding and maintaining policies to promote energy efficiency as a first-order resource in the Northeast and mid-Atlantic. This includes research, tracking, and analysis of legislation and regulatory proceedings, providing both comment and education to the relevant stakeholders throughout the region.

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Chris Burns

Chris Burns is director of energy services for Burlington Electric Department (BED). He is responsible for supervising the delivery of BED's commercial and residential energy service offerings to BED's customers. He is a graduate of the University of Vermont and a longtime Burlington resident. He has more than 25 years of experience in the electric utility and energy efficiency sectors. When not thinking about energy efficiency issues, he is busy helping to raise two children and playing outdoors in our beautiful Vermont.

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Scott Campbell

Scott Campbell is project director of 3E Thermal, energy efficiency experts for Vermont's apartment housing (formerly Vermont Fuel Efficiency Partnership). The company provides technical support and incentive funding to owners of affordable multifamily properties statewide. 3E's mission is to help owners achieve much greater energy performance, by coordinating with the Weatherization Program, Efficiency Vermont, and other programs, and by providing cash incentives, close support, and inspection services. Scott's background is as a builder, contractor, building designer, and weatherization program director. He has presented at national and regional conferences, and is the author of the Building Energy Audit and Savings Estimate Tool (BEAST), approved by the U.S. Department of Energy and used by the Vermont Weatherization Program.

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Jennifer Chiodo

Jennifer Chiodo, P.E., LEED AP BD+C, is the managing principal of Cx Associates, a Burlington-based consulting engineering firm. Jen has more than 30 years of experience creating and managing new approaches to increasing energy efficiency in the business sector. She currently consults on the Massachusetts energy efficiency programs and other efficiency program design and evaluation projects. Jen was a founding director of Efficiency Vermont. During her past life as a design engineer, she designed electrical and lighting systems for several noteworthy projects, including the Spaceship Earth at Disney's Epcot Center and the Monterey Bay Aquarium.

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This conference is my go-to source for up to date information on state-of-the-art techniques and materials for energy efficient and earth-friendly building.

Joseph Cincotta

Joseph Cincotta, AIA, LEED-AP, DAD, has been principal architect with LineSync Architecture in Wilmington, Vermont, for more than 25 years, a company that has focused on green architecture in public and private environments since 1988. He has lectured extensively on the topic and has taught sustainable design at Marlboro College, Keene State College, and Southern Vermont College. LineSync has a long history of recognition in awards, books, articles, and "best of" lists.

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Adam Cohen

As an active designer/builder and green building expert, Adam Cohen is a leading North American Passive House practitioner whose innovative work on market-rate delivery of commercial high-performance building has made his work known for projects across North America. He has presented technical papers at both national and international Passive House conferences. His leadership in commercial Passive House design has made him a sought-after speaker, consultant, and teacher of advanced courses in Passive House ultra-low-energy design.

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John (Jack) Curran

Dr. Jack Curran has spent more than 25 years in the area of product development. With 32 patents issued, he has been responsible for a wide range of products. Currently he is president of LED Transformations, LLC, a New Jersey-based technology consulting company specializing in providing guidance to companies entering the solid-state lighting field. He is a member of the SPIE, IESNA, OSA, and ASA. He has given numerous talks to the lighting industry on the correct use of LED technology for general illumination applications both for his own company and on behalf of the U.S. Department of Energy.

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Elliott Curtin

Elliott Curtin is the owner of Weatherization and Renovation of Montpelier (W.A.R.M.), LLC. He has been operating the business for eight years as a BPI-certified contractor. He has performed an extensive number of both commercial and residential retrofits throughout New England.

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Milford Cushman

Milford Cushman is a professional designer with more than 30 years of practice committed to creative, functional, intuitive, and efficient design solutions. When founding his design practice in 1988, Milford relied on his years as an educator, a keen observer, a builder, and a versatile designer and on the fundamental philosophy of collaboration with his studio, clients, and contractors. His strength is his understanding of how client-specific and site-specific design solutions make a significant difference in people's lives.

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Mike Duclos

Mike Duclos is a principal and founder of the DEAP Energy Group, LLC, a consultancy providing a wide variety of consulting services related to deep energy retrofit, zero net energy, and Passive House. Mike is the PHIUS-certified Passive House consultant responsible for the design and certification of the second certified Passive House in Massachusetts and has worked with both PHIUS and PHA on multiple Passive Houses. He is a certified PHIUS Plus rater, a HERS rater with the Massachusetts Residential New Construction program, and a Building Science-certified infrared thermographer. He holds a B.S. in electrical engineering from UMass Lowell, and two patents.

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Steve Easley

Steve Easley is an internationally recognized construction consultant specializing in solving building science-related problems and educating building industry professionals and their trade partners. His work focuses on increasing quality of construction, sustainability, and performance, and reducing costly mistakes that lead to construction defects and callbacks. Steve's mission is helping industry professionals build and remodel structures that are durable, energy efficient, healthy, and comfortable to live and work in. He has more than 30 years of industry experience, performing thousands of jobsite quality surveys and presenting building science seminars around the world to an annual audience of 8,000–10,000 industry professionals.

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Henri Fennell

Henri Fennell, CSI/CDT, is an architect and building envelope specialist with more than 40 years of experience in the construction industry. He was a pioneer in the solar industry, introduced the installation technique for field-applied closed-cell cavity-fill polyurethane foam, developed the ASTM pressurized theatrical fog quality assurance protocol, and has designed and constructed a net-zero energy research structure in Antarctica. Of his thousands of completed projects, high-profile work has included the Big Dig, the Guggenheim Museum, the four Northeast ski area Grand Hotels, the Park Avenue Armory, Kendal at Hanover, and the Fort Lauderdale International Airport. He holds four energy-related patents.

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Ethan Goldman

Ethan Goldman is the energy informatics architect at Vermont Energy Investment Corporation (VEIC) and is the technical lead for Efficiency Vermont's smart grid, connected thermostats, and other technologies that help consumers understand their energy data and find savings opportunities. Ethan is responsible for developing systems for acquiring, storing, and analyzing both smart meter and submeter data from utilities and building systems. He has conducted research on the impact of information feedback from energy consumption patterns and on non-intrusive load analysis using whole-building electric meters. He holds an M.S. in green informatics from Carnegie Mellon University.

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Ben Graham

Ben Graham's work is the synthesis of his upbringing in the community and his passion for connection with the natural world. He received his architecture degree from the Rhode Island School of Design, earned a design certificate from the Permaculture Institute of Britain, and studied Passive House with PHIUS. He has served as a member of the Plainfield Planning Commission, NaturalBuilders Northeast, Northeast Sustainable Energy Association, Winooski Valley Permaculture Collective, and Vermont Green Builders Network. Ben's current passion is developing an affordable model for low-impact housing within community-based land developments.

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Jon Haehnel

Jon Haehnel, BPI, has been testing and inspecting institutional and commercial buildings for more than 13 years. Jon has tested buildings ranging in size from a city block in Manhattan to an 81-square-foot automated weather station slated for Antarctica. Jon's expertise is in building envelope testing and design. Most of his work focuses on new and retrofit commercial and institutional construction, but he also does forensic testing to determine the root cause of high energy costs, mold, ice dams, and pipe freeze-ups. Jon is a certified Building Performance Institute (BPI) building analyst and envelope specialist and a Level I thermographer. Jon has taught blower door and energy auditor classes for Vermont Technical College.

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Eric Haugaard

Eric Haugaard is the director of product technology for Cree Lighting. Eric has a career that spans 28 years including previous positions of engineering manager of new product development & mechanical design and product development engineer. Over the past decade Eric has presented lighting technology programs to diverse audiences throughout the world, including a strong focus on LED luminaire technologies. Eric holds a bachelor of science degree in mechanical engineering, with post-baccalaureate program studies completed at NASA/Ames Research Center. He holds 48 U.S. and 16 foreign patents related to lighting technology.

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Nate Hayward

Nate Hayward was inspired by taking a net-zero energy building course with Marc Rosenbaum. His first high-performance home project was a steep financial learning curve, but Nate was not discouraged, considering the price of his HPH education. His company has now constructed more than six high-performance homes, including a Passive House. He will be breaking ground on a high-performance community health center this spring. Through his commitment to energy performance, continuous improvement, and partnerships with Efficiency Vermont and other subcontractors, Nate aspires to lead the field in cost-effective high-performance building, making it accessible to the mainstream, not just the select few.

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Chris Huston

Chris Huston is the vice president of architecture at Bread Loaf Corporation and has been practicing architecture for over 24 years. Since joining Bread Loaf in 2004, he has managed a wide range of projects from simple to more complicated, multi-phased projects over \$40 million. Working in an award-winning architectural firm in Boston for 14 years prior to joining Bread Loaf, Chris led the firm's sustainable design initiatives for significant public and private schools. Chris is a firm believer that we can all have a positive impact on our environment. He is currently working on several net-zero energy projects in Vermont.

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Lindsay Jones

Lindsay Jones is a Residential New Construction energy consultant at the Vermont Energy Investment Corporation. She provides technical support to builders, contractors, architects, and homeowners participating in programs such as ENERGY STAR® Homes and the National Green Building Standard. Lindsay's comprehensive and accessible approach helps her guide clients toward the best path to realizing an energy-efficient project. She is a certified energy rater and an accredited National Green Building Standard verifier. She holds a master's degree in historic preservation from the University of Vermont.

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Michelle Keller

Michelle Keller is part of the Energy Services team at Burlington's municipal electric utility. She is responsible for working with commercial customers to identify and evaluate energy efficiency improvement opportunities. She has a degree in chemical engineering from MIT, and after working for many years in process engineering and materials development, turned her focus in 2001 to promoting energy efficiency for commercial facilities and schools. She has a strong background in lighting and refrigeration technologies, and strives to foster cooperative working relationships among energy efficiency programs, contractors, and building owners.

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Mark Kelley

Mark Kelley works within Efficiency Vermont as the program manager focused on financing. He is a magna cum laude graduate of Johnson State College with a degree in business management and accounting. He has a tremendous amount of experience working with local banking institutions to arrive at creative and organizationally sound financing mechanisms that drive business objectives. Mark has formal training and experience in program and project management and has a track record of developing strong working relationships with stakeholders.

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Eveline Killian

Eveline Killian, CEM, is an architectural engineer with more than 20 years' experience in commercial and industrial project management and energy analysis. Eveline has extensive experience in energy-efficient building design and operation, efficiency program design and implementation, and measurement and verification (M&V) of energy efficiency measures. She has performed calibrated energy models of large commercial and institutional buildings for evaluation projects, and conducted an educational webinar on the methods of calibrated modeling. She has managed the Vermont Forward Capacity Market and other evaluation engineering teams on M&V and data analysis for more than five years.

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Jeremy King

Jeremy King has been active in the residential construction industry since 1969 in various roles, from digging ditches, to working in the wind-electric industry in the mid-1970s, to helping build super-insulated houses in the 1980s and working for a prototype home performance contractor in the late 1980s. Certified as an energy auditor in the early 1990s, he was able to quit his day job and work full time as an energy auditor since 1992 for, variously: Champlain Valley Weatherization, Vermont Gas Systems, VEIC, and Efficiency Vermont, and as an independent consultant, finally resolving the question of what he will do when he grows up.

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Donna Leban

Donna Leban is a licensed architect and an NCQLP-certified lighting designer, and owner of Light/Space/Design of South Burlington, Vermont. Donna holds a bachelor's degree in architecture and an M.S. in advanced building studies from Carnegie Mellon University. She has served as president of AIA Vermont and on the board of state and regional environmental organizations since 1980. Donna provides lighting design and consulting services to architects, businesses, and municipal clients, as well as residential clients, with an emphasis on optimized lighting and control systems. She co-authored *Lighting Retrofit and Relighting: A Guide to Energy Efficiency*, published in 2011 by Wiley.

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Brian Leet

Brian Leet, AIA, CSI, LEED AP+, is a project architect and sustainability expert at Freeman French Freeman, Architects in Burlington, Vermont. After graduating with a degree in architecture and computer science from Carnegie Mellon University, Brian worked for firms in Pittsburgh and Vermont before joining Freeman French Freeman, Architects in 2012. He has 20 years of design experience and has worked on more than a dozen LEED-certified projects. Brian also serves as president of the Vermont Chapter of the Construction Specifications Institute (CSI-Vermont).

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Peter Lowell

Peter Lowell graduated from Colby College in 1970 with a major in political science. Motivated by environmental abuses on Highland Lake in Maine, he became involved in the Bridgton Conservation Commission after graduation and was invited to be the Lakes Environmental Association's (LEA's) president in 1971. The following year, Peter was hired as LEA's executive director. Until this position became full time, Peter worked as Bridgton's recreation director, as a sixth grade teacher, and as Bridgton's code enforcement officer. Peter's work and dedication at LEA has won him numerous awards, including the DEP's Lake Award and the EPA's Environmental Merit Award.

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Bill Maclay

Bill Maclay is the author of *The New Net Zero*, published by Chelsea Green in 2014, and founding principal of Maclay Architects of Waitsfield, Vermont. Bill has been recognized as a leader in innovative, ecological planning and architectural design since 1971. Maclay Architects specializes in net-zero energy design and was the recipient of the 2012 NESEA Zero Net Energy Building Award. Among the firm's net-zero, near-net-zero, and net-zero-ready projects are NRG Systems, an office and manufacturing facility; the Bennington State Office Building; the George D. Aiken Center at the University of Vermont; the Coastal Maine Botanical Gardens Bosarge Family Education Center; and numerous homes.

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Paul Malko

Paul Malko has worked at Foard Panel, a structural insulated panel manufacturer and installer, for more than 11 years. He works with residential and commercial clients to optimize durability, structure, and energy performance. Paul has lectured extensively on SIP design, structural performance, and long-term durability in New England. He is the chairman of the SIPA code listing committee and a member of the manufacturing and technical committees. Paul has been deeply involved with the Timber Framers Guild for more than 15 years, is a founding member of the Timber Frame Engineering Council, and has been a board member of the Timber Frame Business Council.

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“BBD is an excellent source of the latest building technologies and provides the means to network and share different strategies. The experience is priceless.”

Bill McKibben

Bill McKibben co-founded 350.org with seven Middlebury College students—it has grown into the world's first big grassroots climate campaign, coordinating 20,000 demonstrations that have been held in every country but North Korea, and launching widespread resistance to the Keystone Pipeline and other large-scale fossil fuel projects. The Schumann Distinguished Scholar in Environmental Studies at Middlebury, McKibben is the author of *The End of Nature* (Random House, 1989), which was the first book for a general audience on climate change, and a dozen other books. His work appears frequently in the *New Yorker*, the *New York Review of Books*, *National Geographic*, and *Rolling Stone*. Along with 18 honorary degrees, he has received the Gandhi Peace Award and the Thomas Merton Award. In 2014, he received the Right Livelihood Award, sometimes called the Alternative Nobel, in a ceremony at the Swedish Parliament. Also in 2014, researchers named a newly discovered insect species in his honor—a woodland gnat.

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Kyle McNary

Kyle McNary, BPI, has worked for Weatherization and Renovation of Montpelier (W.A.R.M.), LLC, for five years. He is currently a BPI-certified auditor for the organization. Before he became an auditor he was a crew chief. He has performed numerous retrofits to homes and commercial buildings throughout New England.

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Dan Mellinger

Dan Mellinger, PE, LC, is the lighting strategy manager at Vermont Energy Investment Corporation. He is responsible for designing Efficiency Vermont lighting initiatives that accelerate the adoption of efficient lighting products and practices. Dan's 16-year professional career spans the lighting, energy, and semiconductor industries. He has consulted on hundreds of lighting projects and speaks nationally on efficient lighting topics. Dan received his degree in electrical engineering from Michigan State University. He is a licensed professional engineer, and is lighting certified.

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Anne Minor

Anne Minor, LEED AP BD+C, office engineer, is enrolled in the Leadership Development program at PC Construction. She has undergraduate and graduate degrees in civil engineering and an MBA in supply chain management. Her construction experience includes field-supervising site crews in New York City on a \$600 million bridge project and handling submittals, RFIs, schedules, change orders, and quality control on the Waterbury State Office Complex (WSOC) project in Waterbury, Vermont. Anne has been assigned to WSOC since the project started in August 2013.

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KEYNOTE

Matthew Napolitan

Matthew Napolitan, P.E., CPMP, LEED AP BD+C, brings a hands-on, collaborative approach to new and existing building commissioning that results in better project outcomes for Cx Associates' clients. His background as a mechanical engineer and project manager at two major multinational engineering firms have given him a depth and breadth of knowledge. With experience in commercial, institutional, military, and healthcare work, Matt brings a well-rounded perspective to his projects, whether the goals are reduced energy, simplified maintenance, increased reliability, or all three.

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Megan Nedzinski

Megan Nedzinski, LEED, is a senior project manager at Maclay Architects. Megan considers emerging research, applied technology, and the surrounding environment to deliver high-performing projects. Analyzing and communicating the relative benefits of comparative design strategies is the focus of her work. Prior to joining Maclay, Megan drove her West Virginia firm to elevate the mission of sustainability in a coal-focused economy. She also taught courses at West Virginia University on sustainable construction and forest resource conservation. Megan is an architect, LEED-accredited professional, and certified Passive House consultant.

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Ashar Nelson

Ashar Nelson, AIA, LEED AP, is a lifelong Vermonter with more than two decades of experience in design and construction. He has a bachelor's degree in art history from Middlebury College and a master's degree in architecture from the University of Oregon. Ashar worked for many years in the construction industry and in 2011 ended a 12-year stint as an architect at Bread Loaf Corporation, where he designed and managed projects both large and small, including the new \$34 million Paretsky Student Center at Williams College. As a principal architect at VIA and faculty member in the architectural studies program at Middlebury College, he is committed to promoting sustainable building designs and innovative construction methods for all his projects.

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Ty Newell

Ty Newell is professor emeritus of mechanical engineering at the University of Illinois and a co-owner of Build Equinox and Verde GSE (verdegse.com). He has more than 40 years of experience working in building science, renewable energy, energy conversion, and energy efficiency. Ty lives in a 100% solar-powered home in Urbana, Illinois, and Build Equinox is a 100% solar-powered 4,500-square-foot facility in Urbana.

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Thomas Nowakowski

Thomas Nowakowski has spent 13 years in the lighting industry. He graduated with a bachelor of science degree from Syracuse University and has taken numerous lighting courses. His career includes positions with an electrical contractor, a manufacturer's representative, and major lighting manufacturers. While working for Philips Lighting, Thomas helped address lighting solutions for clients including architects, engineers, and lighting designers in the Northeast. He now works for Eaton's Lighting Solutions as the Northeast regional energy solutions manager, helping deliver quality energy-saving solutions with the use of LEDs and controls for interior and exterior applications.

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David Pill

David Pill is the principal of Pill-Maharam Architects in Shelburne, Vermont. He has been involved with sustainable design practices since founding the firm in 1991. David's passion lies in creating sculptural, pragmatic, and environmentally responsible zero-carbon-emission buildings. His work has been featured in numerous publications and has received a number of local and national awards.

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Jacob Deva Racusin

Jacob Deva Racusin, BPI, is co-owner of New Frameworks Natural Design/Build, LLC, offering services in green remodeling, new construction, consultation, and education featuring natural building technologies. Through his work as a builder, consultant, and educator, Jacob is able to merge his passions for fine craft, ecological stewardship, relationship to place, and social justice. An instructor at the Yestermorrow Design/Build School, BPI-certified contractor, and certified Passive House consultant, Jacob has conducted field research on moisture and thermal performance of straw bale wall systems. This research is featured in the book *The Natural Building Companion* (2012), which Jacob co-authored with Ace McArleton.

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John Rahill

John Rahill, AIA, has had a career committed to sustainable and high-performance design with an emphasis on durability, aesthetics, and occupant comfort. Recently, he has designed projects incorporating renewable energy sources and tight building envelopes. His firm is currently working on a Living Building Challenge project involving renovation and new construction. John holds a master's degree from the Harvard Graduate School of Design and is a member of the AIA. He has served as president of AIA Vermont and the Solar Association of Vermont. After school, he spent several years running a small general contracting firm involved in active and passive solar and high-performance buildings.

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Brian Reilly

Brian Reilly is a residential energy services engineer at BED. He is responsible for helping residential customers make informed decisions with respect to their electrical consumption and finding a way to cost-effectively reduce their energy consumption. Brian graduated from UMass Amherst with a bachelor's degree in mechanical engineering in 1997. He spent the next 10 years in Alaska working as an HVAC engineer, a builder, and an energy conservation educator. In 2007, Brian moved to Vermont and continued his work as a builder and HVAC engineer. He and his wife recently completed a deep energy retrofit of their 1890s home.

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Victor Reno

Victor Reno, PE, IES, LEED AP, has been involved in the energy and building professions for more than 40 years as an electrical contractor, teacher, engineer, and lighting designer. He has contributed to books and published numerous articles. Victor has been the owner/operator of Reno Engineering & Light Design for more than 20 years. Formerly an adjunct professor at Keene State College, he is currently an instructor in the architectural and engineering program at New Hampshire Technical Institute as well as a full-time lighting designer and energy consultant.

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Jesse Robbins

Jesse Robbins, AIA, LEED AP BD+C, is a project architect for the Waterbury State Office Complex. Early in his career at Smith Group in Washington, D.C., he worked on the first LEED Platinum building. He joined Freeman French Freeman, Architects in Burlington and became a founding board member and president of the Vermont Green Building Network, a USGBC chapter. His project experience includes the National Institutes of Health, the Smithsonian Institution, the UVM Medical Center, and five LEED-certified projects in Burlington, at UVM, and at Norwich University. He holds a bachelor's degree in architecture from Syracuse University.

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Matt Root

As a senior project manager for CLEAResult, Matt Root, LEED AP, leads a multidisciplinary team of mechanical engineers, enclosure experts, and building scientists. Matt has extensive experience in enclosure and mechanical design, as well as diagnostic analysis, including large building blower door testing, duct blaster testing, pressure differential testing, infrared diagnostics, and ventilation system assessment. Matt holds M.S. and B.S. degrees from Brown University in mechanical engineering. He is a LEED AP Homes consultant, certified HERS rater, and certified Passive House consultant.

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Marc Rosenbaum

Marc Rosenbaum, P.E., is a longtime student of making great buildings. He uses an integrated systems design approach to help people create buildings and communities connected to the natural world, supporting both personal and planetary health. Much of his recent work has been net-zero energy buildings, deep energy retrofits, and Passive Houses. His work has been recognized nationally by ASHRAE, AIA, EEBA, and NESEA, and he is grateful that they didn't see all the mistakes made along the way.

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AJ Rossman

AJ Rossman's work is at the intersection of energy and IT. He has been assessing the performance of remote power systems using a combination of hardware and web services for more than a decade. As the founder of Draker Energy, he launched the third-party monitoring industry for commercial and utility-scale photovoltaic power plants. He is now the director of Smart Resource Labs, focusing on performance monitoring of commercial and industrial energy efficiency measures. AJ holds master's degrees in electrical engineering, environmental science, and geology.

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David Roy

David Roy earned his associate degree in architecture and building engineering technology at Vermont Technical College in 1988 and his bachelor's degree in architecture at Kansas State University in 1992. David worked for an architecture firm in Wichita, Kansas, until October 1994, when he moved back to Vermont and joined the team at Wiemann-Lamphere Architects. Just seven years later he was made a partner and in 2014 he took over as president of the firm. He and his brother, Vice President Steven Roy, have brought creative sustainable solutions to the forefront of the firm's design philosophy and core values. From their own net-zero homes to energy-efficient municipality buildings, they are focused on the future of design and how the built environment affects not only us but the environment at large.

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William Ryall

William Ryall, AIA VT, LEED, PHIUS, attended Cornell University for his undergraduate architectural studies and received a master of architecture degree from the University of Virginia, where he serves on the architecture school's advisory board. William has participated in numerous architectural juries and has taught integrated building systems at the Rhode Island School of Design. He is certified as a Passive House consultant through the Passive House Institute (PHI).

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Matt Sargent

Matt Sargent is a senior energy consultant at Efficiency Vermont. He is a former builder of high-performance homes and a Best of the Best award winner at BBD 2004. He has more than 20 years of experience working as an energy efficiency consultant. Matt worked on the development of Efficiency Vermont's High-Performance Homes Program and has been helping builders and homeowners create homes that use a fraction of the energy of a typical new home while maintaining comfort, durability, and indoor air quality.

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Lazarus Scangas, AIA, is a principal at Arnold & Scangas Architects, located in downtown St. Albans, Vermont. Arnold & Scangas Architects specializes in restoring historically significant buildings, especially in Vermont downtowns. The firm also specializes in working with local nonprofits in restoring and renovating historic buildings including the historically restored Stanislaus School and the Waterbury Railroad Station.

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Peter Schneider, LEED, works as a senior consultant at the Vermont Energy Investment Corporation in Burlington, Vermont. He provides technical support to builders, architects, engineers, affordable housing agencies, and homeowners participating in a number of different programs such as Efficiency Vermont's High-Performance Homes and mobile home replacement programs, LEED for Homes, and Midrise & Passive House. Peter's goal is to help his clients design and construct more energy-efficient, healthy, durable, and sustainable buildings. Peter is a certified energy rater, Passive House consultant, and LEED for Homes QAD.

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Andrew Shapiro

Andrew Shapiro, president of Energy Balance, Inc., has provided high-performance building energy analysis, design, and monitoring consulting services for 30 years to a wide variety of clients, including owners, architects, engineers, builders, housing developers, universities, businesses, and efficiency programs. He provides guidance and technical expertise along the path of conceptualization, design, construction, commissioning, and post-occupancy assessment, in order to help optimize the environmental impact of the building, indoor environmental quality, operating and maintenance costs, and building durability. He is also the director of science and engineering education for the Vermont Energy Education Program, promoting energy literacy among the next generation.

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Ted Sheridan, AIA VT, ASA, LEED AP, is a partner at Ryall Porter Sheridan Architects. He earned his bachelor's degree in environmental studies and his professional architecture degree at the University of Waterloo, in Waterloo, Canada. Ted's areas of expertise include high-performance, low-energy building design and the science of architectural and musical acoustics. An instrument maker and musician, he has taught courses on architectural acoustics and musical instrument physics at the Parsons School of Design in New York, and has lectured on the subjects at the University of Virginia, Ryerson University, the University of Toronto, and New York University.

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Chris Shumway, P.E., LEED AP BD+C, is president of Rist-Frost-Shumway Engineering (RFS) in Laconia, New Hampshire. Chris has more than 25 years of mechanical engineering and management experience, including numerous large-scale building and central utility plant projects in the Northeast. Throughout his career Chris has been an advocate for RFS's approach to designing highly creative, energy-efficient, and sustainable buildings and building infrastructure. In addition to his firm management duties, Chris provides technical input and oversight for many RFS projects, including the Waterbury State Office Complex. Chris earned his bachelor's degree in mechanical engineering, cum laude, from Clarkson University.

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Christa Shute

As director of Commons Energy, Christa brings two decades of proven executive leadership in entrepreneurial settings with a focus on the strategic development, evaluation, and implementation of startup and mature businesses alike. She has built strong relationships across international, federal, state, municipal, nonprofit, and private sectors. Christa is committed, through experience, passion, legal education, and policy development, to global preservation by way of renewable energy and energy efficiency.

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Craig Simmons

Craig Simmons has more than nine years' experience in whole building energy analysis, computer simulations, utility programs, and code compliance. As an engineering consultant at Efficiency Vermont, Craig advises on and analyzes energy efficiency improvements in new construction and existing commercial and industrial buildings. Craig specializes in commercial new construction programs, including Efficiency Vermont's Net Zero Pilot Program. Craig previously worked as an energy consultant in Boston, providing guidance to owners and designers in pursuit of LEED certification, utility incentive programs, federal tax credits, and compliance with state energy efficiency requirements throughout New England and internationally.

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Carsten Steenberg

Carsten Steenberg, PowerWise CEO, is a proven innovator of monitoring technologies. He co-invented the eMonitor (now known as SiteSage) in 2008. Carsten is experienced in bringing together a talented team of software and hardware developers, engineers, and salespeople to create a strong company. Before founding Powerhouse Dynamics and PowerWise Systems, Steenberg was president of Phase One, a high-end digital camera company. Steenberg has an MBA from Copenhagen Business School in his native Denmark, and lives with his wife and two children in Penobscot, Maine.

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Rick Stehmeyer

Rick Stehmeyer is a senior engineer at Cx Associates in Burlington, Vermont. Rick is an expert in building system controls programming and has extensive experience with many different control systems, systems integrations, and energy management systems. Rick has a keen ability to find ways to optimize building systems for increased efficiency through controls programming. His analyses of algorithms implemented by controls contractors have enabled the energy efficiency optimization of the controls systems during commissioning.

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Barry Stephens

Barry Stephens is the business development and technology director at Zehnder America, Inc. Barry has been working with energy-efficient design architects, builders, and contractors since 2010, when Zehnder launched the Comfosystems division in North America. He has worked with NZE, Passive House, Next Step Homes, LEED, and Pretty Good Houses across North America. Barry was trained in heat recovery ventilation technology at Zehnder's facilities in Switzerland, Holland, Germany, and Italy.

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Jeff Stetter

While attending the University of Cincinnati's School of Architecture, and going through its co-operative education program, Jeff met Gregg Gossens while working at the Burley Partnership in Waitsfield. After completing school and working at a variety of firms, Jeff landed at Gossens Bachman Architects in 1994 and continues to work at the firm as a project architect. Jeff has been instrumental in the completion of multiple LEED and high-performance buildings, and has helped establish the firm as a design leader. Projects include LEED-certified housing on the Burlington waterfront, a LEED Gold VSECU branch in Rutland, Montpelier's biomass plant, and most recently the Northfield Savings Bank central operations center, which is enrolled in Efficiency Vermont's Net Zero Pilot Program.

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Charlie Taylor

Charlie Taylor, BPI, works with the high-performance buildings team at NEEP to provide research and analysis on programs and policies that drive energy efficiency in the built environment. In this role he compiles data, develops resources, and provides technical guidance to advocates, energy offices, and policy makers. Prior to joining NEEP, Charlie conducted hundreds of residential energy assessments in Massachusetts as an energy auditor. He is a certified building analyst with the Building Performance Institute (BPI) and holds a bachelor's degree in economics from the University of Massachusetts at Amherst.

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Nick Thiltgen, LEED, licensed architectural engineer, is an energy consultant at the Vermont Energy Investment Corporation specializing in commercial new construction. He focuses on HVAC and is also knowledgeable about lighting and building envelope. For the last five years, Nick has worked primarily through the nation's oldest and leading statewide energy efficiency utility, Efficiency Vermont. He is Vermont's first licensed architectural engineer, is a LEED-accredited professional, and holds a B.S. in both construction management and architectural engineering from the Milwaukee School of Engineering.

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Peter Troast

Peter Troast is recognized as one of the country's foremost authorities on marketing for home performance, HVAC, and other efficiency-related contracting companies. He and his team work with more than 350 companies in 49 states to help grow their business through services such as website design and development, search engine optimization, lead generation, and strategic content production. He is a popular and high-ranking speaker on marketing for contractors at ACI, RESNET, ACCA, BPI, and EGIA conferences and events. In 2015, he received the Tony Woods Award for excellence in advancing the home performance industry.

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William Turner

William Turner received his B.S. and M.S. in engineering from Northeastern University and served for 10 years on the research staff of the Harvard University School of Public Health, conducting air quality studies inside and outside homes in six cities evaluating secondhand smoke and gas appliances. Since then he has focused on building science, sustainability, and building forensic issues, including energy use, indoor air quality, moisture, high-performance building design, net-zero design, building commissioning, and forensic evaluations. His experience includes rebuilding existing homes and other buildings and designing new buildings. He has published and lectured extensively.

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3E Thermal works with apartment building owners to increase energy efficiency and reduce environmental impact. We offer cash incentives and technical support for installing energy efficiency upgrades in qualified Vermont apartment buildings.

475 High Performance Building Supply

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475 High Performance Building Supply (475) provides essential building knowledge and components to professionals. As specialists on airtightness and vapor control, 475 helps optimize ecological buildings for comfort and health.

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Barron Lighting Group is a manufacturer of exit lights, emergency lighting, inverters, LED vapor lights, wallpacks, LED flood, sports lighters, LED hi bays, LED strips, LED retrofit kids, LED emergency lights, indoor grow lights, tape light, rope light, and color-changing RGB products.

Building Energy

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Building Energy is a full-service construction company focused on energy efficiency offering energy audits, air sealing, insulation, weatherization, indoor air quality/moisture solutions, cold weather heat pumps, and solar systems.

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Booth: Second Floor

Building Performance Professional Association of Vermont (BPPA-VT) is launching a new program with Green Mountain Power for 2016: Zero Energy Now! (ZEN!). ZEN! will combine shell improvements and fuel switch from fossil fuels to renewable energy to reduce a building's offsite energy consumption by more than 50%. Up to \$5,000 in additional incentives are available in former CVPS territory.

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Chris Burns
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Phone: 802-864-7330
Email: cburns@burlingtonelectric.com
Website: www.burlingtonelectric.com

Booth: Second Floor

Burlington Electric Department (BED) is a municipal power utility that provides energy efficiency services to the City of Burlington. BED works closely with partners at Efficiency Vermont and Vermont Gas Systems to deliver cost-effective energy services on behalf of Vermont ratepayers.

“
I was so pleasantly surprised by BBD! This conference was a very effective use of resources and I found it to be very valuable.
”

Carroll Concrete

Karen Hall
8 Reeds Mill Road, Newport, NH 03773
Phone: 603-863-8219
Email: khall@carrollconcrete.us
Website: www.carrollconcrete.com

With 17 ready-mix plants located across New Hampshire and Vermont, and over 100 mixers on the road, Carroll Concrete is one of New England's leading ready-mix concrete companies. Carroll also offers a wide variety of concrete products and services to complement the high-quality ready-mix products. Our concrete-pumping service, equipment rental service, construction supplies, Nudura insulated concrete forms, Redi Rock retaining walls, Redi-Scapes landscape wall solutions, and Rosetta hardscapes make us your single source for anything and everything concrete.

Charron Incorporated

Booth: 60+61

Bill Curley
PO Box 4550, Manchester, NH 03108
Phone: 802-734-0254
Email: bcurley@charroninc.com
Website: www.charroninc.com

Charron Incorporated has been servicing Northern New England since 1960 with the industry's finest lighting products. We specialize in LED lighting and complete lighting control systems. We have the largest offering of DLC listed products. Charron is your single source for quality lighting projects.

CMF Engineering, Inc.

Booth: 20

Curt Freedman
24 Ridge Road, Longmeadow, MA 01106
Phone: 413-567-1175
Email: cmf.freedman@gmail.com
Website: www.curtfreedman.com

Design, engineer, and construct HVAC systems, plumbing systems, and utility conservation products for the residential, commercial, and industrial sector; boiler and chiller design.

Comfort Line Ltd.

Booth: 36

Dianne Tancoos
5500 Enterprise Boulevard, Toledo, OH 43612
Phone: 419-729-8520
Email: dtancoos@comfortlineinc.com
Website: www.fiberframe.com

Comfort Line manufactures fiberglass windows, sliding glass doors and Sunrooms for both residential and commercial applications. We also manufacture a fiberglass storefront system.

Curtis Lumber Co., Inc.

Booth: 18+19

Sara Manning
885 Route 67, Ballston Spa, NY 12020
Phone: 518-490-1433
Email: saram@curtislumber.com
Website: www.curtislumber.com
Curtis Lumber has 21 locations throughout New York and Vermont.

Cushman Design Group, Inc.

Booth: 27

Milford Cushman
100 Mountain Road, PO Box 655, Stowe, VT 05672
Phone: 802-253-2169
Email: mbc@cushmandesign.com
Website: www.cushmandesign.com

The Cushman Design Group was founded with a goal of being in relationship with people who are searching for truth, beauty, craftsmanship, comfort, and energy efficiency in the buildings where they chose to live and work.

Daikin

Partner Sponsor / Booth: 53+54



William Paige
5151 San Felipe, Houston, TX 77056
Phone: 518-545-6801
Email: william.paige@daikincomfort.com
Website: www.daikinac.com

Daikin Industries, Ltd. (DIL) is a Fortune 1000 company with more than 49,000 employees worldwide, making it the number one residential and commercial HVAC manufacturer in the world. Daikin is engaged primarily in the development, manufacture, sales and aftermarket support of heating, ventilation, air conditioning and refrigeration equipment, refrigerants and other chemicals, as well as oil hydraulic products. DIL is headquartered in Osaka, Japan, has manufacturing operations in 18 countries, and has a sales presence in more than 90 countries. The company provides innovative, premium quality indoor climate management solutions to meet the changing needs of residential, commercial, and industrial customers.

EDOS Manufacturers Reps., Inc.

Booth: 22

Joanie Os
PO Box 378, Granby, MA 01033
Phone: 413-467-9161
Email: joanieos@edosonline.com
Website: www.edosonline.com

Manufacturer's representative to plumbing and heating products.

EFI

Evening Reception Sponsor / Booth: 30

John O'Connell
40 Washington Street, Westborough, MA 01581
Phone: 800-876-0660
Email: joconnell@efi.org
Website: www.efi.org

EFI continues to be the leading supplier of energy efficiency related products throughout New England. Come visit us to see the latest offerings.

Energy Independent Vermont

Booth: Second Floor

Zach Berger
141 Main Street, Suite 6, Montpelier, VT 05602
Phone: 802-223-5221
Email: info@energyindependentsvt.org
Energy Independent Vermont is a growing coalition of environmental organizations, Vermont businesses and business associations, academic leaders, low-income advocates and Town Energy Committees all dedicated to a simple goal: address the problem of climate change by putting a price on pollution here in Vermont.

Energy Panel Structures

Crystal Nissen
603 N Van Gordon Avenue, Graettinger, IA 51342
Phone: 712-859-3219
Email: epsmarketing@epsbuildings.com
Website: www.epsbuildings.com

Pre-engineered buildings and tilt up panel systems.

Booth: 10

Fantech

Justin Kiger
10048 Industrial Boulevard, Lenexa, KS 66215
Phone: 941-735-7633
Email: justin.kiger@fantech.net
Website: www.fantech.net

For more than three decades, Fantech has been researching, designing, and bringing to market ventilation solutions that ensure better indoor air quality in the buildings where we work and live.

Booth: 15

Flynn & Reynolds Agency, Inc.

Lisa Lynch
1053 East Street, Tewksbury, MA 01876
Phone: 978-454-1098
Email: lisa@flynn-reynolds.com
Website: www.flynn-reynolds.com

Flynn & Reynolds is a manufacturer representative agency, representing Honeywell, Light Efficient Design, and Fantech at this event.

Booth: 14

Foard Panel Inc.

Jim LeRoy
53 Stow Drive, Chesterfield, NH 03466
Phone: 603-256-8800
Email: jlm@foardpanel.com
Website: www.foardpanel.com

Manufacturers of structural insulated panels with services including design, fabrication, and installation. We service the New England states as well as New York and New Jersey. Quality and customer service are important to us!

Booth: 57

The Granite Group Wholesalers

Michael Mullaney
6 Storrs Street, Concord, NH 03301
Phone: 603-545-3302
Email: mmullaney@thegranitegroup.com

Website: www.thegranitegroup.com

Wholesale distributor of plumbing, hydronic, and HVAC products.

Booth: 24

GreenFiber

Jason Todd
2500 Distribution Street, Suite 200, Charlotte, NC 28203
Phone: 413-575-0314
Email: jason.todd@greenfiber.com
Website: www.greenfiber.com

GreenFiber is the largest manufacturer of cellulose insulation in North America. Cellulose is ideal for new, existing, residential, and commercial structures.

Booth: 52

Green Mountain Electric Supply

Karen Laber
356 Rathe Road, Colchester, VT 05446
Phone: 802-338-9336
Email: karenl@gmes.com
Website: www.gmes.com

Green Mountain Electric Supply is a third-generation family owned and operated electrical wholesaler serving New England and New York for over 60 years. We are a leader in energy-efficient solutions including: LED technology, lighting retros, energy audits, and solar. Visit our 11 convenient branch locations.

Booth: 59

Green Mountain Power

Stakeholder Sponsor / Booth: Second Floor

Dotty Schnure
163 Acorn Lane, Colchester, VT 05446
Phone: 802-655-8418
Email: dorothy.schnure@greenmountainpower.com
Website: www.greenmountainpower.com

GMP is transforming Vermont's energy future and helping customers save money, reduce fossil fuel use, and be more comfortable.

Huber Engineered Woods

Stakeholder Sponsor / Booth: Second Floor

Katie Gallagher
10925 David Taylor Drive, Suite 300, Charlotte, NC 28262
Phone: 603-209-1774
Email: katie.gallagher@huber.com
Website: www.huberwood.com

Huber Engineered Woods is an industry-leading engineered wood panel manufacturer that is focused on innovative product solutions for the building industry.

**Langlais Group, Inc.**

Partner Sponsor / Booth: 2+3+4

Christopher Langlais
11 Sea Pave Road, South Windsor, CT 06074
Phone: 860-803-9854
Email: chris@langlaisgroup.com
Website: www.langlaisgroup.com

The Langlais Group has been representing lighting's most innovative manufacturers since its inception, providing exceptional service and sales with a complete package of commercial and residential lighting. Well-designed lighting inspires, enhances productivity, and makes any space more beautiful, functional, and secure. Let us help you find the right lighting design for your next project.

LEDDynamics, Inc.

Booth: 21

Bob Sparadeo
44 Hull Street, Randolph, VT 05060
Phone: 802-728-4533
Email: bsparadeo@leddynamics.com
Website: www.everled.com

LEDDynamics provides cutting-edge technology, services, and education that enables and accelerates the adoption of LEDs as a medium of illumination. Located in Vermont, LEDdynamics offers creative, made-in-the-USA solutions to virtually any LED lighting challenge.

Loewen Window Center of Vermont and New Hampshire

Steve Cary
52 Bridge Street, White River Junction, VT 05001
Phone: 802-295-6555
Email: barnzip@aol.com
Website: www.loewenvtnh.com

Providing solution-oriented and high-performance fenestration products from North America and Europe since 2006.

Mitsubishi Electric Cooling & Heating

Michele Brigham
150 Cordaville Road, Suite 110, Southborough, MA 01772
Phone: 508-281-4095
Email: mbrigham@hvac.mea.com
Website: www.mehvac.com

Mitsubishi Electric Cooling & Heating is the leading marketer of residential and commercial ductless air-conditioning and VRF zoning systems in the U.S.

Modular Home Innovation Project

Peter Schneider
128 Lakeside Avenue, Burlington, VT 05401
Phone: 802-488-0916
Email: pschneider@veic.org
Website: www.efficiencyvermont.com

The Modular Home Innovation Project (MHIP) is a pilot project focused on developing long term sustainable and resilient housing options for housing traditionally served by the manufactured housing sector. It is a partnership of The Vermont Housing & Conservation Board, Efficiency Vermont, The High Meadows Fund, The University of Vermont, CVOEO, VERMOD, and other statewide housing partners.

Needham Electric Supply

Mary Arscott
5 Shawmut Road, Canton, MA 02021
Phone: 781-737-1080
Email: mary.arscott@needhamelectric.com
Website: www.needhamelectric.com

Serving contractors, commercial and industrial companies, institutional and national retail accounts, Needham Electric Supply operates 23 stocking locations throughout New England and is committed to providing the best service in the industry.

New England Foam and Coating, Inc.

Buddy Chapman
108 Concord Avenue, St. Johnsbury, VT 05819
Phone: 802-748-5600
Email: newenglandfoam@myfairpoint.net
Website: www.newenglandfoamandcoating.net

We are an insulation company that specializes in spray foam insulation, both closed- and open-cell. We also offer cellulose insulation, fire coating, and spray-in truck bedliners.

New England Geothermal Professional Association

James Ashley
1053 Kittredge Road, Danville, VT 05828
Phone: 802-684-3491
Email: jashley@vermontgeo.com
Website: www.negpa.org

NEGPA is an association of geothermal professionals in New England.

Booth: 41

New England Homes / Preferred Building Systems

Booth: 55

Sherri Hurd
PO Box 1, 143 Twistback Road, Claremont, NH 03743
Phone: 603-372-1050 x1910
Email: shurd@preferredbuildings.com
Website: www.preferredbuildingsystems.com

We are innovators and leaders delivering high-performance modular homes. We produced the first modular Passive House in the U.S.

Osram Sylvania

Booth: 9

Richard Rattray
200 Ballardvale Street, Wilmington, MA 01887
Phone: 978-570-3000
Email: richard.rattray@sylvania.com
Website: www.sylvania.com

Osram Sylvania provides environmentally responsible energy-saving lighting products and controls. We have developed innovative advanced lighting solutions in LED, HID, and fluorescent technologies, as well as integrated lighting control systems.

Parksite

Booth: 58

Martin Petteys
455 Sullivan Avenue, South Windsor, CT 06074
Phone: 518-703-2268
Email: mpetteys@parksite.com
Website: www.parksite.com

Parksite is a sales, marketing, and distribution company serving many segments of the building industry. We are proud to supply the best building material dealers with category-leading products for the residential, commercial, and remodeling markets. Parksite is a resource for the trades with a specialist network that provides consultative services and support for builders, architects, designers, remodelers, and general contractors. We continue to research emerging products and are actively looking for products to fit new categories that will inevitably evolve as the building industry changes.

Passive House Alliance of Vermont

Booth: Second Floor

Chris West
71 Hanley Lane, Jericho, VT 05465
Phone: 802-233-2015
Email: info@phausvt.org
Website: www.phausvt.org

The Passive House Alliance of Vermont provides information about the most energy-efficient building standard in the world. Our association represents local companies designing and building Passive Houses in Vermont.

Pellergy, LLC

Booth: 11

Andrew Boutin
157 Pioneer Center, Suite 1, Montpelier, VT 05602
Phone: 802-659-4866
Email: andy.boutin@pellergy.com
Website: www.pellergy.com

Pellergy is the Vermont-based manufacturer and importer of modern wood pellet heating systems. From fully automated boilers to bulk wood pellet storage, Pellergy supplies complete systems to industry professionals.

Performance Building Supply

Steven Konstantino
111 Fox Street, Portland, ME 04101
Phone: 207-780-1500
Email: steve@performancebuildingsupply.com
Website: www.performancebuildingsupply.com

New England supplier of high-performance building products including Intus Windows and Siga Tapes.

Philips Lighting

Dan Ashline, LC
6 Beaver Pond Road, Westford, VT 05494
Phone: 802-316-0346
Email: dan.ashline@philips.com
Website: www.usa.lighting.philips.com

LED lighting is changing the world and Philips is driving this transformation with a new world of light. Philips is a leading authority on LEDs, investing deeply in research and product solutions. It's more than mastery of technology, it's knowing what people want.

Premier Sponsor / Booth: 39+40

**Pinnacle Window Solutions**

Kris Brill
82 Litchfield Road, Hallowell, ME 04347
Phone: 207-588-6590
Email: kris@pinnaclewindowsolutions.net
Website: www.pinnaclewindowsolutions.net

Pinnacle Window Solutions is the proud distributor providing Alpen and Logic Window and Door solutions throughout New England. Offering products with performances ranging from R-5 to Passive certified.

Progress Lighting

Ken McLoon
701 Millennium Boulevard, Greenville, SC 29607
Phone: 603-548-6266
Email: kmcloonjr@aol.com
Website: www.progresslighting.com

Progress Lighting is the largest single source for residential and commercial lighting. For over 100 years, Progress Lighting has been committed to providing a diverse selection of high-quality lighting fixtures—earning us the reputation as the #1 decorative lighting line among builders and remodelers.

RAB Lighting

Elizabeth Henry
170 Ludlow Avenue, Northvale, NJ 07647
Phone: 888-722-1000
Email: liz@rabweb.com
Website: www.rabweb.com

Committed to creating high-quality, affordable, well-designed, and energy-efficient LED lighting and controls that make it easy for distributors to sell, electricians to install, and end-users to save energy.

RJ Murray Company, Inc.

Rick Murray
70 Holly Court, Williston, VT 05495
Phone: 802-862-8608
Email: rmurray@rjmurray.com
Website: www.rjmurray.com
Distributor for Carrier Heating & Air Conditioning.

Booth: 1

ROXUL Inc.

Pamela Jay
8024 Esquesing Line, Milton, ON, Canada L9T 6W3
Phone: 800-265-6878
Email: pamela.jay@roxul.com
Website: www.roxul.com

ROXUL Inc., is a subsidiary of ROCKWOOL International A/S, the world's leading supplier of innovative products and systems based on stone wool. ROXUL products provide superior thermal and acoustical value and are fire resistant, water repellent, non-corrosive, and resistant to mold.

Booth: 25

RST Thermal, Inc.

Booth: 51

Mary Ellen Hickey
372 University Avenue, Westwood, MA 02090
Phone: 781-320-9910
Email: mehickey@rstthermal.com
Website: www.rstthermal.com

RST Thermal is a manufacturer representative firm for heating, cooling, and ventilation products.

Siga

Booth: 38

James Drysdale
300 Spectrum Drive, Suite 400, Irvine, CA 92618
Phone: 360-951-3661
Email: james.drysdale@sigacover.com
Website: www.sigacover.com

Siga is a manufacturer of high-performance tapes and membranes for your building envelope.

Stiebel Eltron

Stakeholder Sponsor / Booth: Second Floor

Chris Wetherby
17 West Street, West Hatfield, MA 01088
Phone: 413-588-4836
Email: chris.wetherby@stiebel-eltron-usa.com
Website: www.stiebel-eltron-usa.com

A world leader since 1924, Stiebel Eltron's tradition of engineering and manufacturing excellence produces energy-efficient products fulfilling the highest expectations of performance and reliability.

SunWood Biomass

Booth: 47

David Frank
124 Fiddlers Green, Waitsfield, VT 05673
Phone: 802-496-6666
Email: david@sunwoodbiomass.com
Website: www.sunwoodbiomass.com

SunWood Biomass specializes in high-efficiency advanced wood heating systems. With over 230 commercial and residential installations since 2004, SunWood provides project development services including feasibility studies and financing, and a highly experienced installation team.

Swaney Lighting Associates

Booth: 16+17

Chad Hurlbut
755 Maquam Shore Road, Swanton, VT 05488
Phone: 802-363-0621
Email: chad@swaneylighting.com
Website: www.swaneylighting.com

Lighting manufacturers' representatives with capabilities in lighting design, controls, and implementation for commercial, industrial, and theatrical construction and renovations.

Thermostat Recycling Corporation

Piper Mlsna
1765 Duke Street, Alexandria, VA 22314
Phone: 571-447-4315
Email: piper.mlsna@thermostat-recycle.org
Website: www.thermostat-recycle.org

The Thermostat Recycling Corporation (TRC) is a nonprofit stewardship organization that facilitates and manages the collection and proper disposal of mercury-containing thermostats.

Booth: Second Floor

Trojan Energy Systems

Scott Harrington
2790 6th Avenue, Troy, NY 12180
Phone: 802-734-4294
Email: Sharrington@trojanenergy.com
Website: www.trojanenergy.com

Trojan Energy Systems is a supplier, installer, and service company of energy-efficient commercial and industrial boiler systems and associated equipment for clients in Vermont and New York state. Trojan has been in business since the early 1990s.

Turner Building Science & Design, LLC

Jennifer Cusato
27 Locke Road, Concord, NH 03301
Phone: 603-228-1122 x150
Email: jcusato@hltturner.com
Website: www.turnerbuildingscience.com

Using a diverse building science background, Turner Building Science & Design, LLC, is dedicated to the design and development of healthy and energy-efficient environments in new and existing buildings.

Urell, Inc.

Richard Fredette
86 Coolidge Avenue, Watertown, MA 02154
Phone: 617-923-9500
Email: rfredette@urrell.com
Website: www.urrell.com

Urell is a family-owned HVAC manufacturer's rep agency covering New England and Upstate New York.

Vermont B/A Magazine

Dick Nelson
PO Box 1076, White River Junction, VT 05001
Phone: 603-448-6707
Email: dicknelson1224@gmail.com

Vermont B/A is a 22-year-old full-color, quarterly publication for the building trades, sent cost-free to approximately 2,000 builders, architects, remodelers and other building professionals in Vermont and Western New Hampshire.

Booth: 28

Vermont Business Magazine

Stakeholder Sponsor / Booth: Second Floor
John Boutin
365 Dorset Street, South Burlington, VT 05403
Phone: 802-863-8038
Email: john@vermontbiz.com
Website: www.vermontbiz.com

Vermont's only statewide business news, economic, and political monthly magazine; and three annual publications: *Vermont Manufacturers' Directory*; *Book of Lists*, and *Profiles in Business*.

Booth: Second Floor

Vermont Department of Environmental Conservation

James Surwilo
1 National Life Drive, Davis 1, Montpelier, VT 05620-3704
Phone: 802-522-5056
Email: james.surwilo@vermont.gov
Website: www.anr.state.vt.us/dec/wastediv/candd/main.htm

Construction and demolition program, mercury thermostat, fluorescent lamp, electronics, paint, and battery recycling programs.

Booth: Second Floor

Vermont Department of Health

Marielle Strong
108 Cherry Street, Suite 201, Burlington, VT 05402
Phone: 802-439-8550
Email: marielle.strong@vermont.gov
Website: www.healthvermont.gov

Environmental Health is a division of the Vermont Department of Health and radon awareness is one of its many programs. We provide radon education and free long-term radon test kits for your home, which are recommended for every home in Vermont.

Booth: Second Floor

Vermont Eco-Floors

Stakeholder Sponsor / Booth: Second Floor
Karen Frost
3222 Greenbush Road, Charlotte, VT 05445
Phone: 802-425-7737
Email: contactus@vermontecofloors.com
Website: www.vermontecofloors.com

Vermont Eco-Floors uses local stone aggregates, diamond-grinding technology, dyes, and sealers to create polished concrete floors that are beautiful, durable, and easy to maintain. Our environmentally friendly floors have contributed to successful green building projects throughout Vermont and New England. Visit our gallery to see examples of our fine work.

Booth: 5+6

Vermont Energy Contracting and Supply

Mark Stephenson
188 Krupp Drive, Williston, VT 05495
Phone: 802-658-6055
Email: mark@vtenergy.com
Website: www.vtenergy.com

Quality mechanical systems for homes and businesses in northwestern Vermont.

Booth: 48

Vermont Energy Control Systems, LLC

Cynthia Kuhns
288 Sand Road, Ferrisburgh, VT 05456
Phone: 614-918-8327
Email: ckuhns@vecs.org
Website: www.vecs.org

Our Vesta product line provides tools to monitor, measure, datalog, and control a wide range of systems in residential and light commercial applications. Find problems and fine-tune performance to get the most out of your investment.

“
This was a great gathering of the people
who are really making it happen in the
world of energy efficiency.
”

Vermont Energy Education Program

Cara Robeck
PO Box 1364, Montpelier, VT 05601
Phone: 802-552-8450
Email: cara.robeck@veep.org
Website: www.veep.org

Vermont Energy Education Program works in schools statewide to promote energy literacy: A deep understanding of what energy is and how to use it efficiently, to enable energy usage choices that will result in a sustainable and vital economy and a healthy environment.

Vermont Energy Investment Corporation

Scott Johnstone
128 Lakeside Avenue, Suite 401
Burlington, VT 05401
Phone: 802-658-6060
Email: sjohnstone@veic.org
Website: www.veic.org

VEIC is a leader in the design and delivery of energy efficiency and renewable energy services for residents, businesses, and industrial customers.

Vermont Gas Systems, Inc.

Brian Gray
PO Box 467, 85 Swift Street
South Burlington, VT 05402
Phone: 802-863-4511
Email: bgray@vermontgas.com
Website: www.vermontgas.com

Natural gas and energy efficiency utility.

Vermont Insulated Concrete Forms

Joel Baker
PO Box 531, Waterbury, VT 05676
Phone: 802-793-0673
Email: vticf@aol.com
Website: www.vticf.com

Distributors of industry-leading Amvic ICF and a variety of EPS insulation products. Helping the design and construction community build smarter and faster since 2000.

Vermont Technical College

Michelle Girouard
PO Box 500, Randolph Center, VT 05061
Phone: 802-728-3183
Email: mgirouard@vtc.edu
Website: www.greentrainings.vtc.edu

Vermont Tech offers a unique learning experience in Vermont—focused, hands-on, applied learning taught by faculty who are experts in their field. The Office of Continuing Education and Workforce Development (CEWD) brings this style of education to a wide range of professions and professionals. CEWD designs and delivers workforce education and training, including customized workshops, courses that lead to certificates, degree programs, and more. We also partner with respected national vendors to provide online, non-credit trainings with an open-enrollment format. We serve healthcare facilities, state agencies, nonprofits, small businesses, manufacturers, service industries, educators, municipal government, builders, and contractors, as well as those interested in gaining new life skills.

Booth: Second Floor

VHV Company

Chad Hill
16 Tigan Street, Winooski, VT 05404
Phone: 802-373-6523
Email: chill@vhv.com
Website: www.vhv.com

VHV Company, Inc. is a full-service mechanical construction contractor specializing in the installation of high-quality plumbing, piping, and air systems for the commercial, industrial, and institutional markets with leading technology specialists in clean rooms and hazardous and corrosive fume exhaust systems.

Booth: 23



Partner Sponsor



Vermont Energy Investment Corporation

Booth: 49+50

Visible-Light

Scott Kimball
24 Sticknet Terrace, Hampton, NH 03842
Phone: 603-918-6496
Email: skimball@visible-light.net
Website: www.visible-light.net

Representative of high-efficiency, high-quality lighting fixtures and controls, specializing in LED technology.

Stakeholder Sponsor /
Wednesday Lunch Sponsor /
Booth: Second Floor

VSECU

Stakeholder Sponsor / Booth: Second Floor

Laurie Fielder
PO Box 67, 1 Bailey Avenue, Montpelier, VT 05601
Phone: 802-371-3136
Email: lfielder@vsecu.com
Website: www.vsecu.com

VSECU, a credit union for everybody in Vermont, provides affordable financing solutions for energy efficiency and renewable purchases. Learn more about VGreen at www.vsecu.com/vgreen.

Booth: 33

Windows & Doors By Brownell

Booth: 7+8

April Bolin
800 Marshall Avenue, Suite 50, Williston, VT 05495
Phone: 802-862-4800
Email: april@wdbrownell.com
Website: www.wdbrownell.com

Specializing in Marvin Windows and Doors, we are a solutions-driven organization that focuses on providing the best window or door for each individual project.

Booth: Second Floor

Yestermorrow Design/Build School

Booth: Second Floor

Dave Thurlow
7865 Main Street, Waitsfield, VT 05673
Phone: 802-496-5545
Email: dthurlow@yestermorrow.org
Website: www.yestermorrow.org

Yestermorrow Design/Build School offers learning opportunities for builders, homeowners, and craftspeople, in construction, woodworking, land management, energy efficiency, and sustainable design.

Booth: Second Floor

Zehnder America, Inc.

Evening Reception Sponsor / Booth: 37

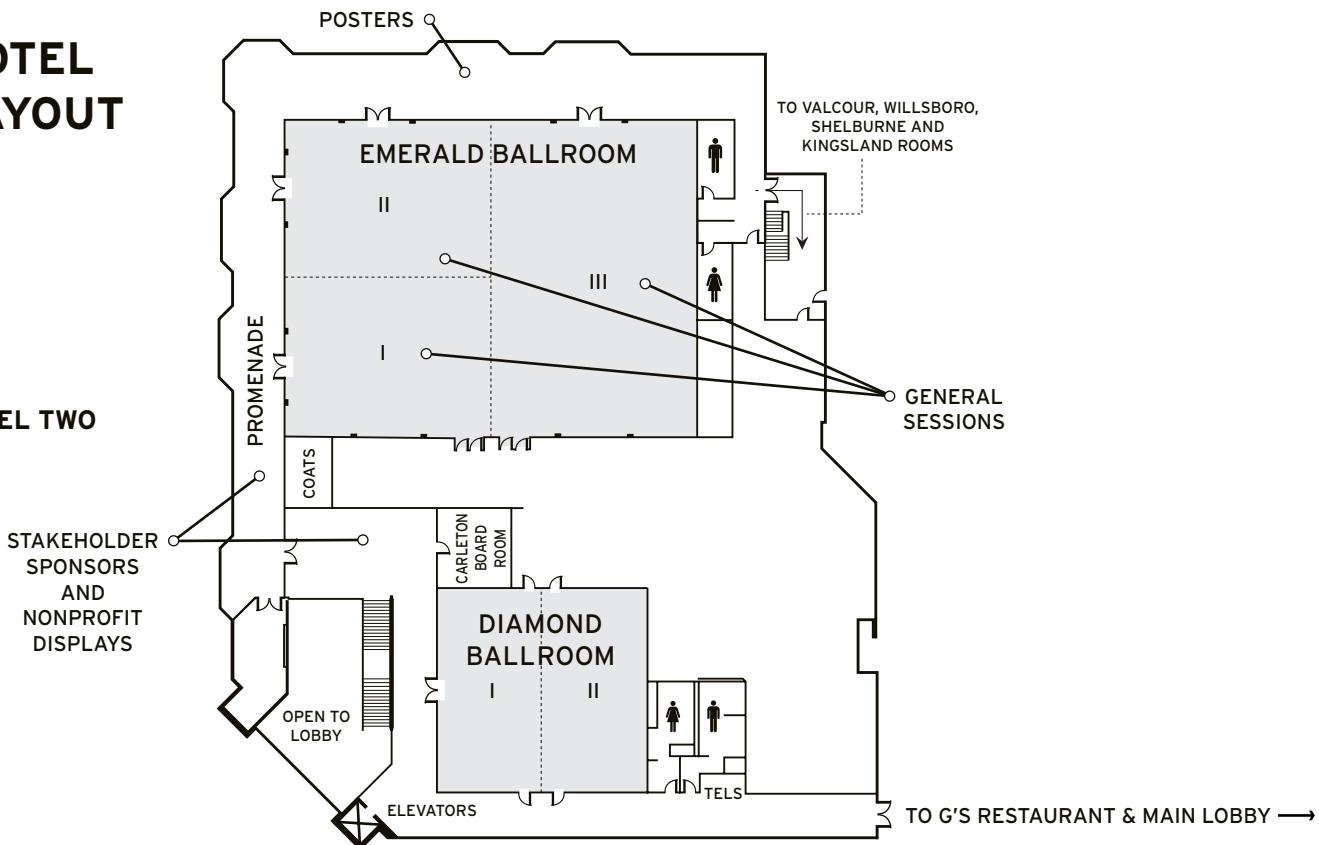
Barry Stephens
540 Portsmouth Avenue, Greenland, NH 03840
Phone: 603-422-6700
Email: barry.stephens@zehnderamerica.com
Website: www.zehnderamerica.com

Zehnder America, Inc. provides high-quality heating and ventilation solutions to promote comfortable, healthy, and energy-efficient indoor living. Zehnder's HRV and ERV systems ensure fresh air for the home year-round.

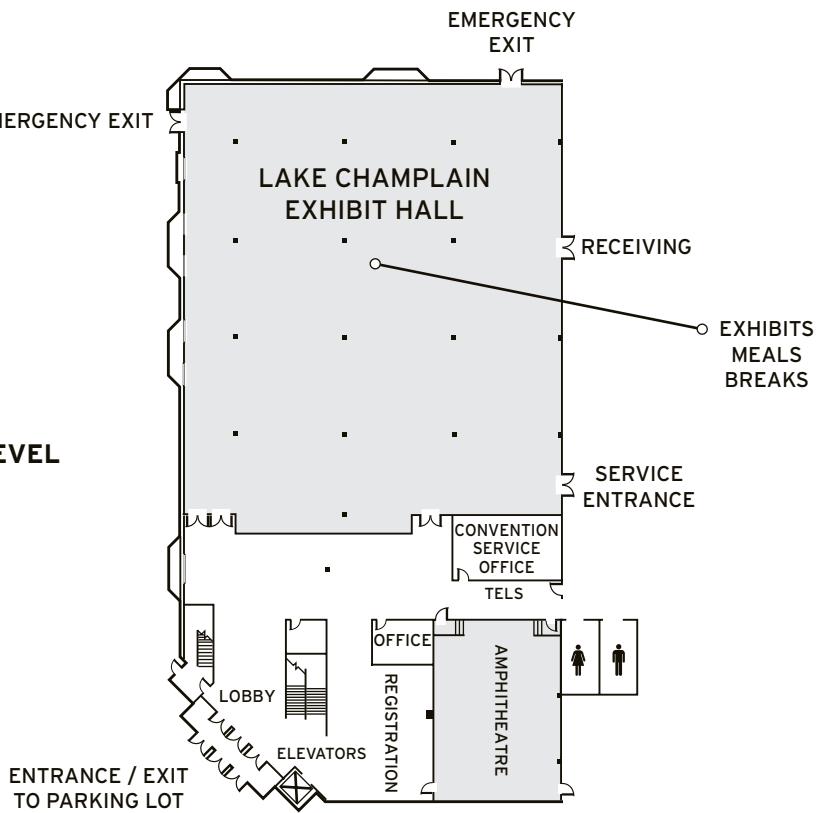
THE SHERATON BURLINGTON HOTEL & CONFERENCE CENTER

HOTEL LAYOUT

LEVEL TWO

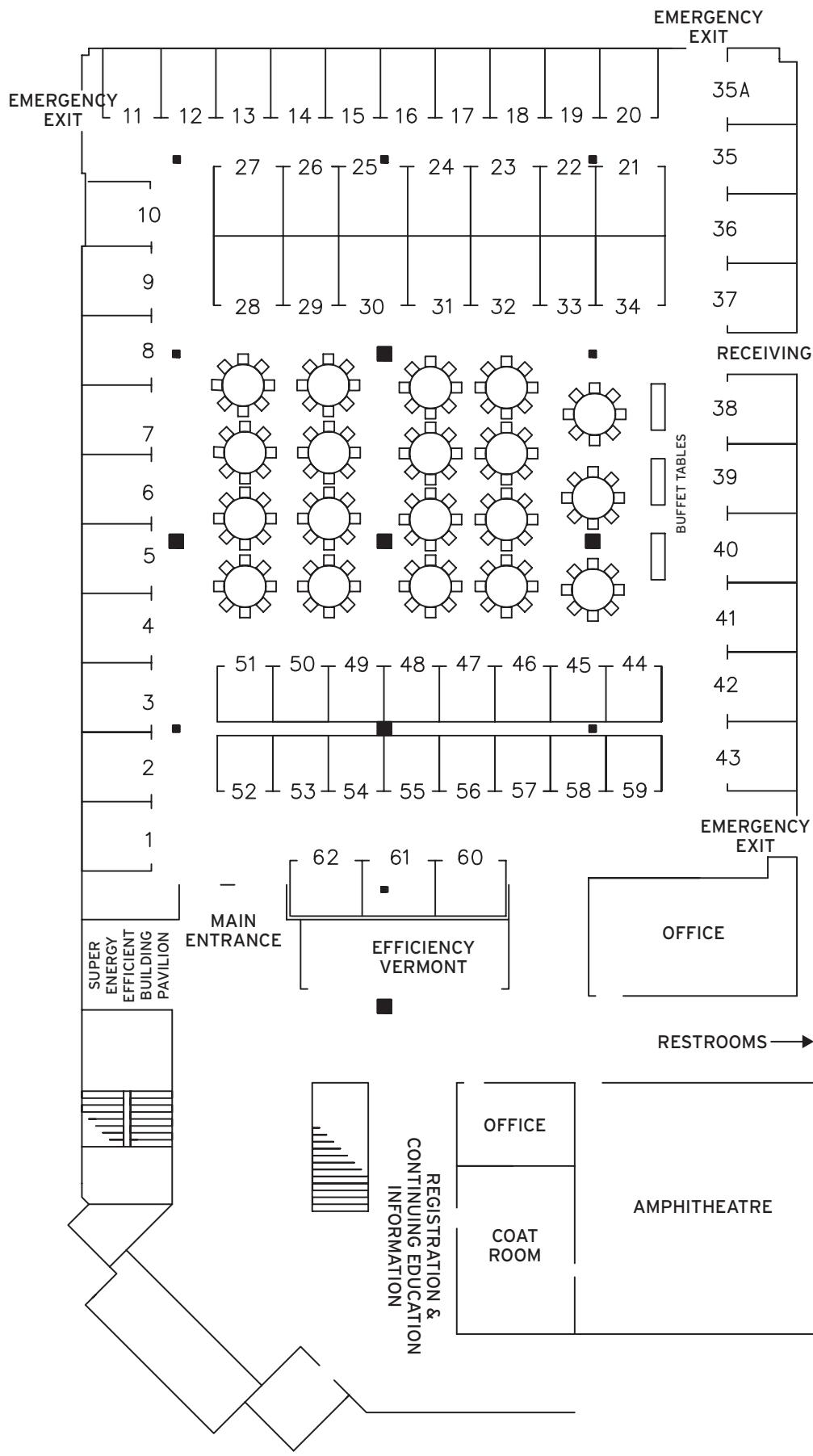


GROUND LEVEL



CONCURRENT WORKSHOPS
will be held in Emerald I, II, and III, Diamond I and II, and the Amphitheatre. See Agenda (page 5) and Workshop Schedule (page 6) for details.

LAKE CHAMPLAIN EXHIBIT HALL



3E Thermal	2nd Fl.
475 High Performance Building Supply	12 + 13
Accurate Dorwin	2nd Fl.
Barron Lighting Group	26
Building Energy	44 + 45
Building Performance Professionals	2nd Fl.
Association of Vermont	
Burlington Electric Department	2nd Fl.
Carroll Concrete	31
Charron Incorporated	60 + 61
CMF Engineering, Inc.	20
Comfort Line Ltd.	36
Curtis Lumber Co., Inc.	18 + 19
Cushman Design Group, Inc.	27
Daikin	53 + 54
EDOS Manufacturers Reps., Inc.	22
EFI	30
Energy Independent Vermont	2nd Fl.
Energy Panel Structures	10
Fantech	15
Flynn & Reynolds Agency, Inc.	14
Foard Panel Inc.	57
The Granite Group Wholesalers	24
GreenFiber	52
Green Mountain Electric Supply	59
Green Mountain Power	2nd Fl.
Huber Engineered Woods	2nd Fl.
Langlais Group, Inc.	2 + 3 + 4
LEDDynamics, Inc.	21
Loewen Window Center of VT & NH	41
Mitsubishi Electric Cooling & Heating	62
Modular Home Innovation Project	2nd Fl.
Needham Electric Supply	32
New England Foam and Coating, Inc.	56
New England Geothermal Professional Association (NEGPA)	2nd Fl.
New England Homes / Preferred Building Systems	55
Osram Sylvania	9
Parksite	58
Passive House Alliance of Vermont	2nd Fl.
Pellergy, LLC	11
Performance Building Supply	1
Philips Lighting	39 + 40
Pinnacle Window Solutions	35 + 35A
Progress Lighting	46
RAB Lighting	43
RJ Murray Company, Inc.	42
ROXUL Inc.	25
RST Thermal, Inc.	51
Siga	38
Stiebel Eltron	2nd Fl.
SunWood Biomass	47
Swaney Lighting Associates	16 + 17
Thermostat Recycling Corporation	2nd Fl.
Trojan Energy Systems	29
Turner Building Science & Design, LLC	28
Urell, Inc.	34
Vermont B/A Magazine	2nd Fl.
Vermont Business Magazine	2nd Fl.
Vermont Department of Environmental Conservation	2nd Fl.
Vermont Department of Health	2nd Fl.
Vermont Eco-Floors	2nd Fl.
Vermont Energy Contracting and Supply	5 + 6
Vermont Energy Control Systems, LLC	48
Vermont Energy Education Program	2nd Fl.
Vermont Gas Systems, Inc.	2nd Fl.
Vermont Insulated Concrete Forms	33
Vermont Technical College	2nd Fl.
VHV Company	23
Visible-Light	49 + 50
VSECU	2nd Fl.
Windows & Doors By Brownell	7 + 8
Yestermorrow Design/Build School	2nd Fl.
Zehnder America, Inc.	37

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