

## EEBA Taking the Performance Path: The ERI/HERS Index for Builders and Designers

Harborside 204

This full-day session reviews Building Science principles as they relate to the Performance Path option in the International Energy Conservation Code (IECC). The course explores the ERI/HERS as a tool to successfully design and build houses that comply using the Performance Path option, while meeting the minimum prescriptive code requirements of the 2015 IECC. Participants will spend the last part of the session reviewing energy rating software and manipulating construction assemblies to see the effect of energy scores.



Gain confidence to achieve compliance with the performance path of the international energy code, and use it to expand construction options, materials choices, and building assemblies. Integrate the HERS/ERI scores as a marketing feature of your high performance homes.



**Mike Barcik is a senior engineer** responsible for energy efficiency training throughout the Southeast. He has taught and developed materials for numerous presentations and workshops covering residential and commercial high performance buildings, including IECC and ASHRAE 90.1 energy codes, Duct and Envelope Tightness Verification, LEED AP and Green Associate exam preparation, EarthCraft House for new and renovated homes, EarthCraft Light Commercial Professional, RESNET Home Energy Rating System, Building Performance Institute, Weatherization and ENERGY STAR v3.

## Lead-Safe Renovator Certification Training

Harborside 202

This eight-hour course is designed for remodeling, renovation and painting contractors; repair and maintenance persons; and tradespeople and landlords who conduct (or simply oversee) activities that disturb painted surfaces in homes, apartments, or child-occupied facilities (daycares, schools, etc.) built before 1978. This course provides the attendee with EPA certification as a lead-safe renovator. This course is designed to educate attendees on how to conduct repair, renovation and remodeling activities in a lead-safe manner. Topics covered include background information on lead, health effects of exposure to lead, regulations, worksite preparation, conducting interim control and non-abatement activities, work site clean up and disposal.

**Presented by:**

**Mathew Antczak and Bob Rogalla, Lake States Environmental, Ltd.**

## Join us for the Monday evening welcome reception!

Join us at the DECC for complimentary refreshments, music and networking.  
4:30 pm to 7:00 pm in the French River room.

## Innovative Technologies and Applications

Harborside 302

Seventhwave, a well-known research and energy service provider, will share information on emerging technologies. The presentation will include both technologies ready for prime time and those on the horizon. Several local businesses will share their own experiences with sustainable practices and energy conservation by describing how they incorporated some of these technologies and unique applications. Topics will include creative use of technologies, space utilization, building repurposing, and occupant culture. The second half of the day includes site visits to see these applications up close.

**Presented by:**

**Doug Ahl, Research Director for Seventhwave**  
**Joe Tarnowski, Building Services Director for the Duluth Entertainment & Convention Center**  
**Wade Abrahamson, Chief Engineer for the Duluth Entertainment & Convention Center**

## Tuesday, February 20

### We're kicking off the 28th annual Energy Design Conference with an Opening Keynote featuring Peter Yost!

#### Opening Keynote: The Art, the Science, and the Business of High-Performance Homes

Lake Superior Ballroom

We keep asking more and more of our homes: use less energy, use less water, last longer, be safer, use fewer materials. It's a really tall order. Here is what is needed for truly high-performance homes:

- They must be crafted, beautiful, and of high quality.
- They must last a long time and be based on real science.
- They must be valuable and valued (you can't build a high-performance home if you can't sell it).

We can integrate all this, convincing our customers that we can deliver and that they deserve high-performance homes.



**Peter Yost is vice president—building performance at BuildingGreen Inc.**, a small consulting/publishing firm in Brattleboro, Vermont. He has been building, researching, teaching, writing, and consulting on high-performance homes for more than 25 years. His expertise ranges from construction waste management and advanced framing to energy efficiency and building durability. Peter is currently technical director for GreenBuildingAdvisor.com, lecturer for Yale University's School of Forestry and Environmental Studies, an instructor for Boston Architectural College, and a research associate with University of Massachusetts-Amherst's Building Construction and Technology program.

# Tuesday, February 20

Please see the following pages for detailed course descriptions.

## CREDITS

Complete seven hours of your MN Builder credit CEU requirements per day (pending approval from the Minnesota Department of Labor and Industry). **You must attend the 7:00 a.m. session to receive all seven credits.**

Not all sessions qualify for credits; please see the Continuing Education Credit Guide provided in your registration packet to be sure you attend classes approved for continuing education by your educational authority.

	French River	Harborside 204	Harborside 203	Harborside 302	Harborside 304
	<b>U.S. Green Building Council (USGBC)</b>	<b>Envelope</b>	<b>Healthy Housing</b>	<b>High Performance</b>	<b>Building Science—High Performance Housing—EEBA Houses That Work™</b>
		6:30–7:00 am • Early Session Registration		6:30–7:00 am • Early Session Registration	
7:00–8:15 am	<b>Energy Storage 201</b> <i>Christopher LaForge, Great Northern Solar</i>	<b>Aerosol Envelope Sealing for Residential New Construction</b> <i>Ben Schoenbauer, Center for Energy and Environment</i>	<b>Asbestos—Yes, it's Still Around</b> <i>Bob Rogalla, Lake States Environmental, Ltd.</i>	<b>High-Performance Homes Bring New Challenges for Mechanical Systems</b> <i>Patrick Huelman, University of Minnesota Extension</i>	<b>EEBA: Houses That Work Part 1</b> <i>Andy Oding, Building Knowledge Canada</i>
		7:30–8:30 am • Registration • Exhibit Hall Opens		7:30–8:30 am • Registration • Exhibit Hall Opens	
8:30–10:00 am	<b>Lake Superior Ballroom</b> Opening Keynote: The Art, the Science, and the Business of High Performance Homes <i>Peter Yost, BuildingGreen, Inc.</i>			<b>Lake Superior Ballroom</b> Opening Keynote: The Art, the Science, and the Business of High Performance Homes <i>Peter Yost, BuildingGreen, Inc.</i>	
		10:00–10:30 am • Break • Exhibits		10:00–10:30 am • Break • Exhibits	
10:30 am–12:00 pm	<b>Smart Buildings Improve Your Bottom Line</b> <i>Bob French, 75F</i>	<b>Building Zero Energy Ready Homes: Improvements and Moving to Remodeling, Plus the Fortified Build</b> <i>Brian Wimmer and Lou Behrens, Rochester Area Habitat for Humanity</i>	<b>Achieving a Moisture Balance Within the Home!?</b> <i>Mike Wilson, Dakota Supply Group</i>	<b>Zeroing In</b> <i>Patrick Huelman, University of Minnesota Extension</i>	<b>EEBA: Houses That Work Part 2</b> <i>Andy Oding, Building Knowledge Canada</i>
		12:00–1:00 pm • Lunch • Exhibits		12:00–1:00 pm • Lunch • Exhibits	
1:00–2:30 pm	<b>Advancing the Last Frontier—Reduction of Commercial Plug Loads</b> <i>Thea Rozenbergs, LHB</i> <i>Christopher Plum, Center for Energy and Environment</i>	<b>Choosing Insulation: So Many Options, So Little Time, and So Much Need for Information</b> <i>Peter Yost, BuildingGreen, Inc.</i>	<b>Smart Remodeling</b> <i>Paul Morin, The Energy Conservatory</i>	<b>Residential Foundations: The Dos and the Don'ts According to the Codes (must attend entire session to receive credits)</b> <i>Don Sivigny, Minnesota Department of Labor and Industry</i>	<b>EEBA: Houses That Work Part 3</b> <i>Andy Oding, Building Knowledge Canada</i>
		2:30–3:00 pm • Break • Exhibits		2:30–3:00 pm • Break • Exhibits	
3:00–4:30 pm	<b>Tools and Best Practices for City Energy Planning</b> <i>Becky Alexander, LHB</i> <i>Brian Ross, Great Plains Institute</i>	<b>If These Walls Could Talk</b> <i>Rachel Wagner, Wagner Zaun Architecture</i>	<b>Customer First—Let's Remember the Family Is No. 1 When Making Construction Decisions</b> <i>Bill McAnally, McAnally Consulting</i>		<b>EEBA: Houses That Work Part 4</b> <i>Andy Oding, Building Knowledge Canada</i>
	4:30–6:30 pm • Reception • Door Prizes • Refreshments • Exhibits			4:30–6:30 pm • Reception • Door Prizes • Refreshments • Exhibits	



## Conference reception in the Exhibit Hall

**Tuesday, February 20, 4:30–6:30 pm**  
Enjoy refreshments, door prizes and networking with the best in the business at our Tuesday evening reception. All attendees, presenters and exhibitors are welcome!

## Don't miss out on our FREE mini trainings!

Interested in learning more about energy-efficient technologies but can't make it to a full session? No problem! Check out one of our 15-minute mini-sessions at the Tuesday evening reception in the Exhibit Hall. Topics will include HVAC, air source heat pumps, solar, electric vehicles and more!

### 4:30–5:30pm Exhibit Hall

# Wednesday, February 21

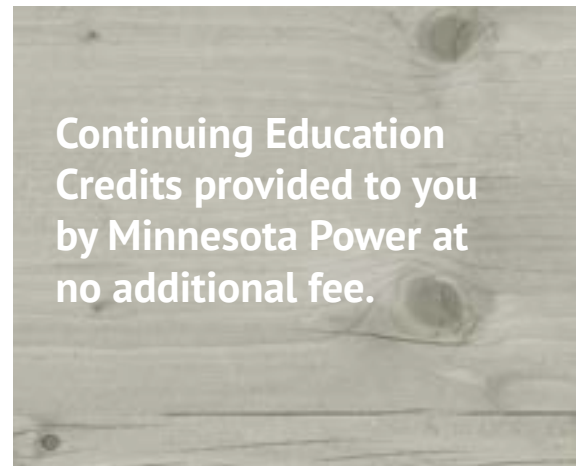
Please see the following pages for detailed course descriptions.

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	Harborside 204	French River	Harborside 203	Harborside 302	Harborside 304
	<b>HVAC and Mechanical Systems</b>	<b>High Performance Case Studies</b>	<b>Multifamily</b>	<b>Solar</b>	<b>EEBA High-Performance Mechanicals</b>
		6:30–7:00 am • Early Session Registration		6:30–7:00 am • Early Session Registration	
7:00–8:15 am	<b>Recommended Window Installation (Hands-On Demonstration)</b>  <i>Eric Klein and Erick Filby, Marvin Windows and Doors</i>	<b>The American Dream Renewed—Passive House for Everyone</b>  <i>Tim Eian, TE Studio, Ltd.</i>	<b>Practical Methods of Conducting Lead-Safe Remodeling, Repair and Painting Activities</b>  <i>Bob Rogalla, Lake States Environmental, Ltd.</i>	<b>Introduction to Solar</b>  <i>Paul Helstrom, Minnesota Power</i>	
		7:30–8:30 am • Registration • Exhibit Hall Opens		7:30–8:30 am • Registration • Exhibit Hall Opens	
8:30–10:00 am	<b>Energy-Efficient Options for Residential Water Heating</b>  <i>Ben Schoenbauer, Center for Energy and Environment</i>	<b>Wrenshall Residence: A Passive Solar, Low-Energy House Put to the Test</b>  <i>Elden Lindamood, Wagner Zaun Architecture</i>	<b>Multifamily Green Building Programs</b>  <i>Chris Johnson, Johnson Environmental</i>	<b>Home of the Future: Automated, Electric, and Renewable</b>  <i>Terry Webster and Stacy Miller, Minnesota Department of Commerce</i>	<b>EEBA: High-Performance Mechanicals Part 1</b>  <i>Andy Oding, Building Knowledge Canada</i>
		10:00–10:30 am • Break • Exhibits		10:00–10:30 am • Break • Exhibits	
10:30 am–12:00 pm	<b>What You Need to Know about Furnaces and Air Conditioners if You're NOT an HVAC Professional</b>  <i>Scott Pigg, Seventhwave</i>	<b>It's All in the Details!</b>  <i>Bill McAnally, McAnally Consulting</i>	<b>Multifamily Residential Passive House Prototypes and Net-Zero Energy Potential in Cold Climates</b>  <i>Rolf Jacobson and Elizabeth Kutschke, Center for Sustainable Building Research, University of Minnesota</i>	<b>Renewable Energy and Resiliency</b>  <i>Christopher LaForge, Great Northern Solar</i>	<b>EEBA: High-Performance Mechanicals Part 2</b>  <i>Andy Oding, Building Knowledge Canada</i>
		12:00–1:00 pm • Lunch • Exhibits		12:00–1:00 pm • Lunch • Exhibits	
1:00–2:30 pm	<b>Commissioning of Homes: What is it? Is it Needed?</b>  <i>Mike Wilson, Dakota Supply Group</i>	<b>Self-Build Zero-Energy Homes: Two Minnesota Case Studies</b>  <i>Lucas Alm, ALM Design Studio Bill Peterson, Friends of San Lucas Muffi Abrahamson Tim Abrahamson</i>	<b>Ultra-Efficient Housing—The Solution for a Sustainable Future</b>  <i>Tim Eian, TE Studio, Ltd.</i>	<b>Efficient Solar Photovoltaic Deployment</b>  <i>Mouli Vaidyanathan, SolarPod Mouli Engineering</i>	<b>EEBA: High-Performance Mechanicals Part 3</b>  <i>Andy Oding, Building Knowledge Canada</i>
		2:30–3:00 pm • Break • Exhibits		2:30–3:00 pm • Break • Exhibits	
3:00–4:30 pm	<b>Performance and Applications of Cold-Climate Air Source Heat Pumps</b>  <i>Ben Schoenbauer, Center for Energy and Environment</i>	<b>EnerPHit—Retrofitting with Passive House Tools</b>  <i>Tim Eian, TE Studio, Ltd.</i>	<b>Electric Cars and Buildings: What Should Real Estate Owners and Building Industry Professionals Know About Charging? (With Electric Vehicle Owners Panel)</b>  <i>Jukka Kukkonen, PlugInConnect</i>	<b>Advancements In Solar Electric Design and Equipment</b>  <i>Christopher LaForge, Great Northern Solar</i>	<b>EEBA: High-Performance Mechanicals Part 4</b>  <i>Andy Oding, Building Knowledge Canada</i>



Continuing Education Credits provided to you by Minnesota Power at no additional fee.

## Product exhibits

(Open to the Public)

Tuesday, February 20, 7:30 am–6:00 pm  
Wednesday, February 21, 7:30 am–3:00 pm

See a variety of energy-efficient products, services and materials on display:

- insulation materials
- foundation systems
- windows and doors
- geothermal heat pumps
- slab and storage heating
- HVAC systems
- renewable energy
- weatherization materials
- building diagnostic equipment
- innovative products
- solar displays
- and much, much more!