



Monday, February 20

Special Full-Day Preconference Training

8:30 am–4:30 pm

Commercial and Residential HVAC for Optimum Energy Savings with Ryan Hoger—Heating, Ventilation and Cooling (HVAC) systems are major retrofit targets for reducing energy use in commercial and residential buildings. While energy use in buildings is affected by climate, building type, and building usage, optimizing the HVAC system can yield significant energy savings. Learn how variable speed heat pumps, variable speed fans and pumps, condensing boilers, energy recovery ventilators and control systems can reduce energy use and save money. Ryan Hoger will present the most current information regarding each of these technologies plus case studies showing dollar savings from HVAC retrofits at this full-day workshop.

Learning Objectives

- Understand HVAC's role in home and building efficiency
- Describe the effect of HVAC interaction with other building systems (envelope and lighting) on energy use
- Identify typical areas of energy improvement, especially the “low-hanging fruit” that can result in immediate energy savings
- Describe the latest technologies in high efficiency HVAC systems, including:
 - Variable speed pumps and fans
 - Condensing boilers
 - Variable speed heat pumps and hybrid gas systems
 - Variable Refrigerant Flow (VRF) Systems
 - Energy Recovery Ventilators (ERVs)
- Predict energy savings related to HVAC improvements

Ryan Hoger is the director of training for Temperature Equipment Corporation (TEC). He is responsible for coordinating and/or instructing 150-plus HVAC training courses per year. He was the 2007–2008 president of the Illinois ASHRAE Chapter and is actively involved in several local ASHRAE, Gas/Electric Utility, and USGBC committees. He has extensive experience with building automation systems (BAS), energy recovery ventilators (ERV), variable refrigerant flow (VRF), demand controlled ventilation (DCV), and other energy conserving HVAC systems. Ryan received his Bachelor of Science degree in General Engineering from the University of Illinois.

\$150 Registration fee (includes lunch)

Register early—capacity is limited.

Tuesday, February 21

Please see the following pages for detailed course descriptions.



6:30–7:00 am • Early Session Registration

7:00
–
8:15

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 am session to receive all seven credits.

All About Lead
Greg Myers, Midwest Environmental Consulting

Triple E Building: New Developments
Doug Manthey, Conservation Technologies; Chad Trebilcock, Minnesota Power

Building Rehab With SIPs—Installation and Case Studies (Advanced Session)
Curt Stendel, Panelworks Plus, Inc.

7:30–8:30 am • Registration • Exhibit Hall Opens

Building Science—High-performance Housing—EEBA Houses That Work™

Human Health and Buildings

Materials and Methods

Energy Efficiency as Business

Renewables

8:30
–
10:00

Air Sealing: Home Energy Improvements for Savings and Comfort (Part 1 of 2)
Justin Wilson, Building Performance Solutions, Inc.

Indoor Air Quality
McGregor Pearce, IAQ Consultant

Installed Water Heater Performance and Hot Water Use
Ben Schoenbauer, Center for Energy and Environment

Catering to Consumers Post-Recession
Cindy Ojczyk, Simply Green Design

You Want to Put it Where?
Lise Trudeau, Minnesota Department of Commerce

10:00–10:30 am • Break • Exhibits

10:30
–
12:00

Air Sealing: Home Energy Improvements for Savings and Comfort (Part 2 of 2)
Justin Wilson, Building Performance Solutions, Inc.

Radon Management and Mitigation Methods
Michael LeBeau, Conservation Technologies

Foundation Insulation for Existing Homes
Pat Huelman, University of Minnesota Extension

The Homeowner and the Contractors: An Energy Retrofit Tale
Janne Flisrand, Flisrand Consulting

Introduction to Residential and Commercial Solar Energy Options
Jason Edens, Rural Renewable Energy Alliance

12:00 noon–1:00 pm • Lunch • Exhibits

1:00
–
2:30

HVAC System Replacement (Part 1 of 2)
Justin Wilson, Building Performance Solutions, Inc.

ASHRAE 62.2—Practical Application to Existing Homes
Mike Wilson, Dakota Supply Group

Performance Glazing—Coatings, Layers, and Gases
Ken Modeen, Marvin Windows and Doors

Building on Client's Interest: How Homeowner Values Can Lead to a Green-Certified Home
Corri Sandwick and Christine Albertsson, Albertsson Hansen Architecture; Pat O'Malley, Building Knowledge, Inc.

Photovoltaic Updates
Michael LeBeau, Conservation Technologies

2:30–3:00 pm • Break • Exhibits

3:00
–
4:30

HVAC System Replacement (Part 2 of 2)
Justin Wilson, Building Performance Solutions, Inc.

Home Sweet Home or Home Sick Home—What Are You Leaving Your Clients?
Cindy Ojczyk, Simply Green Design

Advanced Insulation Techniques for Walls and Critical Junctions (Advanced Session)
Bob Pleiffer, WECC

Why Changing Energy Behavior Matters to You
Terry Webster, Minnesota Department of Commerce

Panel Discussion: Practical Applications, Current Trends, and the State of Solar in Minnesota
Gary Shaver, Silicon Energy; Franklyn Frederickson, Minnesota Power; Michael LeBeau, Conservation Technologies

4:30–6:00 pm • Reception • Door Prizes • Refreshments • Exhibits

Wednesday, February 22

Please see the following pages for detailed course descriptions.



6:30–7:00 am • Early Session Registration

7:00
–
8:15

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 am session to receive all seven credits.

The Value of Air Source Heat Pumps in Light of Variable Energy Prices
Jeffrey Haase, Great River Energy

CEE WX Quality Assurance Program and Lessons Learned
Kevin Brauer and Jim Fitzgerald, Center for Energy and Environment

Energy Code Updates
Jim Rich, City of Hermantown

7:30–8:30 am • Registration • Exhibit Hall Opens

	Building Science—High-performance Housing—EEBA Houses That Work™	HVAC	Remodeling and Retrofits	High Performance Housing	Issues
8:30 – 10:00	Selling the Value of High-Performance Homes (Part 1 of 4) <i>Gord Cooke, Building Knowledge, Inc.</i>	Geothermal Loop Options: Is There a Single Best Way? <i>Mark Sakry, Northern Groundsource, Inc.</i>	Project Overcoat, an Exterior Insulation Technique for Existing Homes <i>Pat Huelman, University of Minnesota Extension</i>	High Performance and Low Energy in the Field (Part 1 of 2) (Advanced Session) <i>Rachel Wagner, Wagner Zaun Architecture</i>	What You Can Learn From Utility Bills: In-Depth Multifamily Case Studies <i>Patrick Smith, Center for Sustainable Building Research</i>

10:00–10:30 am • Break • Exhibits

10:30 – 12:00	Selling the Value of High-Performance Homes (Part 2 of 4) <i>Gord Cooke, Building Knowledge, Inc.</i>	Installing Combination Systems: Optimized Designs and Potential Problems <i>Ben Schoenbauer, Center for Energy and Environment</i>	Building Rehab with SIPs: Installation and Case Studies (Advanced Session) <i>Curt Stendel, Panelworks Plus, Inc.</i>	High Performance and Low Energy in the Field (Part 2 of 2) (Advanced Session) <i>Rachel Wagner, Wagner Zaun Architecture</i>	A One-and-a-Half Story with No Ice Dams? (Advanced Session) <i>Steve Schirber, Cocoon</i>
---------------------	---	--	---	--	---

12:00–1:00 pm • Lunch • Exhibits

1:00 – 2:30	Selling the Value of High-Performance Homes (Part 3 of 4) <i>Gord Cooke, Building Knowledge, Inc.</i>	Geothermal Parameters—What Homeowners, Architects, and Contractors Need to Know Before Planning for “G” <i>Mark Sakry, Northern Groundsource, Inc.</i>	Panel Discussion: Basic Energy Retrofit Strategies—What is the Low Hanging Fruit? <i>McGregor Pearce, IAQ Consultant; ... (presenters continue in session description)</i>	Results in Affordable High-Performance Housing <i>Molly Berg, Nathan Thompson and Dave Alaspa, Habitat for Humanity</i>	Stormwater Practice Retrofits in an Existing Residential Neighborhood <i>Jesse Schomberg, University of Minnesota Sea Grant</i>
-------------------	---	--	--	---	---

2:30–3:00 pm • Break • Exhibits

3:00 – 4:30	Selling the Value of High-Performance Homes (Part 4 of 4) <i>Gord Cooke, Building Knowledge, Inc.</i>	High-Performance Heat Recovery Ventilation (Advanced Session) <i>Michael LeBeau, Conservation Technologies</i>	Remodeling Strategies for Green Kitchens <i>Cindy Ojczyk, Simply Green Design</i>	Comparative Performance of 8 Residential Building Envelopes for Certified Passive Houses <i>Rolf Jacobson, Center for Sustainable Building Research</i>	All Things Mobile Homes <i>Bob Pfeiffer, WECC</i>
-------------------	---	--	---	---	---