

Agenda

*Presented by Kevin V. Connors, P.E., AIA, CPHD
and Matthew Bowers*

Passive House Fundamentals

- Facts and figures on residential energy use
- History of energy-conserving residential construction
- Building code requirements
- Energy conservation incentives
- Definition of Passive House
- Passive House Standard (PHI and PHIUS)

Passive House Standard: Purpose, Principles and Development

- History of Passive House
- Passive House criteria
- Passive House planning and thermal comfort
- Architectural components of Passive House
- The building envelope
- Ventilation (balanced)
- Heating and DHW systems
- Passive heat gains
- Energy balancing
- Building energy calculations: PHPP
- Common design features of passive houses

Architectural Elements of Passive Houses

- Siting, sizing, massing and orientation
- Super-insulated envelope
- Thermal bridge free construction
- Balanced ventilation
- Ultra-efficient lights, fixtures and appliances
- Summer shading and cooling strategies
- Winter solar gain and heat retention strategies
- Integrating renewable energy technologies/net zero

Mechanical and Electrical systems in Passive Houses

- Optimizing heat gains
 - Passive solar heat gains
 - Indoor environmental heat gains
- Heating and cooling loads
- Space conditioning
- Renewable energy system integration
- Energy-efficient appliances

Passive House Implementation

- Passive House for different climates
- Case studies
- Economics and lifecycle cost
- Barriers to PH construction

Passive House: Planning and Design
Amherst, NY - Thursday, May 23, 2019

NON-PROFIT
U.S. POSTAGE PAID
EAU CLAIRE, WI
PERMIT NO. 2016

Halfmoon Education Inc.
PO Box 278
Altoona, WI 54720-0278



Learning Objectives

You'll be able to:

Explore building code requirements and energy conservation incentives for Passive Houses.

Review common design features of Passive Houses.

Learn how to site, size, and orient Passive Houses to maximize summer shading and winter solar gain.

Explore how energy efficient appliances and renewable energy systems can be incorporated into passive houses.

Discuss case studies and the economics related to Passive Houses.



Passive House: Planning and Design

Amherst, NY - Thursday, May 23, 2019



Learn about Passive House fundamentals and the history of energy conserving residential housing

Discuss the purpose and principles of the Passive House Standard

Understand architectural elements of Passive Houses

Review the use of mechanical and electrical systems to optimize heat gains and cooling loads

Implement Passive Houses in different climates

Continuing Education Credits

Professional Engineers
6.5 Continuing Ed. Hours

Contractors
Non-Credit Continuing Ed.

Architects
6.5 HSW Continuing Ed. Hours
6.5 AIA HSW Learning Units



HalfMoon Education Inc.
WWW.HALFMOONSEMINARS.ORG



Faculty

Kevin V. Connors, P.E., AIA, CPHD *eco_logic STUDIO, Buffalo*
Mr. Connors is founder and Principal of eco_logic STUDIO, architecture & engineering, PLLC, a design firm dedicated to sustainable architecture and community revitalization. Mr. Connors taught design and sustainable architecture in the Department of Architecture at SUNY Buffalo from 1998 to 2008. He has designed natural buildings (ultra-low embodied energy) and high performance buildings, including a Passive House detailed renovation in Kenmore, New York. Mr. Connors has been responsible for sustainable design and neighborhood revitalization projects supporting the missions of social and environmental justice non-profits on the west side of Buffalo since 2006, including People United for Sustainable Housing (PUSH Buffalo) and Massachusetts Avenue Project (M.A.P.). Mr. Connors has written articles on architecture for *Traffic East* magazine, and he published a paper in *Eco Architecture 2006*, entitled, “Natural Building Systems: Experiments in Urban Ecology.” He has 40 years of professional experience in architecture and engineering.

Matthew Bowers Rochester Passive House Consulting LLC
Mr. Bowers spent 6 years in the Navy as a nuclear engineer and became interested in Thermodynamics and Fluid Mechanics. Once his tour was over, he attended RIT’s Mechanical Engineering Technology Program where he wanted to become and HVAC designer. While at RIT he learned of “homes so efficient they don’t need furnaces”. Mr. Bowers then focused his career path to Passive House. He graduated with the highest honors in 2010. Since 2013, Mr. Bowers has worked as a Certified Passive House Consultant and Tradesman and HERS Rater. In 2017, he started his own Company - Rochester Passive House Consulting - specializing in high performance homes. Mr. Bowers has been featured in the Journal of Light Construction’s Energy Column under multiple topics including Blower Door Testing for extremely tight homes, Infrared Scanning, Blower Door Testing and Retrofitting airtightness and trouble spots for airtightness in new homes. He was the designer of Rochester’s 1st Certified Passive House – his personal house. Mr. Bowers is also a Passive House accredited Building Certifier.

Seminar Information

Buffalo Marriott - Niagara 1340 Millersport Hwy Amherst, NY 14221 (716) 689-6900	Registration 8:00 - 8:30 am Morning Session 8:30 - 11:45 am	Lunch (On your own) 11:45 am - 12:45 pm Afternoon Session 12:45 - 4:30 pm
--	--	--

Tuition
\$289 for individual registration.
\$269 for three or more simultaneous registrations.

Included with your registration:
Complimentary continental breakfast and printed seminar manual.

How to Register

- Visit us online at www.halfmoonseminars.org
- Mail-in or fax the attached form to 715-835-6066
- Call customer service at 715-835-5900

Cancellations: Cancel at least 48 hours before the start of the seminar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another seminar. You may also send another person to take your place.

Additional Learning

Webinar Series

Soil Engineering

- **Introduction to Soil Engineering**
Thurs., April 25, 2019, 11:00 AM - 12:30 PM CDT
- **Design of Excavation Support Systems**
Thurs., April 25, 2019, 1:00 - 2:30 PM CDT
- **Slope Repair Techniques**
Fri., April 26, 2019, 11:00 AM - 12:30 PM CDT
- **Soil Engineering after College: Practical Approaches to Foundations and Retaining Structures**
Fri., April 26, 2019, 1:00 - 2:30 PM CDT

Current Issues in Schoolyard Landscape Architecture

- **Current Issues in Schoolyard Landscape Architecture: Part 1**
Wed., April 24, 2019, 11:00 AM - 2:30 PM CDT
- **Current Issues in Schoolyard Landscape Architecture: Part 2**
Thurs., April 25, 2019, 11:00 AM - 2:30 PM CDT

Solar Photovoltaic Project Design and Development

- **Solar Photovoltaic Project Design and Development, Part I**
Wed., May 1, 2019, 11:00 AM - 2:30 PM CDT
- **Solar Photovoltaic Project Design and Development, Part II**
Thurs., May 2, 2019, 11:00 AM - 2:30 PM CDT

Passive House: Planning and Design

- **Energy Efficiency of Conventional Construction**
Thurs., May 9, 2019, 11:00 AM - 12:00 PM CDT
- **Passive House Standard: Purpose, Principles and Development**
Thurs., May 9, 2019, 12:30 - 2:00 PM CDT
- **Architectural Elements of Passive Houses**
Fri., May 10, 2019, 11:00 AM - 12:30 PM CDT
- **Mechanical Systems in Passive Houses**
Fri., May 31, 2019, 1:00 - 2:30 PM CDT
Fri., April 26, 2019, 1:00 - 2:30 PM CDT

Continuing Education Credit Information

This seminar is open to the public and offers up to 6.5 continuing education hours to professional engineers and 6.5 HSW continuing education hours to architects in all states.

HalfMoon Education is an approved continuing education provider for New York engineers (NYSED Sponsor No. 35) and New Jersey engineers (Approval No. 24GP00000700). HalfMoon Education is deemed a New York-approved continuing education provider for architects via its affiliation with the American Institute of Architects.

This event is approved by the American Institute of Architects for 6.5 HSW Learning Units (Sponsor No. J885). Courses approved by the AIA qualify for New Jersey architects. Only full attendance can be reported to the AIA/CES.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana (License No. CE21700059), Maryland, North Carolina, and North Dakota.

This event offers a non-credit continuing education opportunity to construction contractors. It has not been approved by any state with a continuing education requirement for contractors.

Attendance will be monitored, and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

Registration

Passive House: Planning and Design
Amherst, NY - Thursday, May 23, 2019

How to Register	
Online: www.halfmoonseminars.org	
Phone: 715-835-5900	
Fax: 715-835-6066	Code:
Mail: HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278	
Complete the entire form. Attach duplicates if necessary.	
Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred. () I need special accommodations. Please contact me.	

Tuition	
() I will be attending the live seminar. Single Registrant - \$289.00 . Three or more registrants from the same company registering at the same time - \$269.00 each.	
Checks: Make payable to HalfMoon Education Inc.	
Credit Card: <i>Mastercard, Visa, American Express, or Discover</i>	
Credit Card Number: _____	
Expiration Date: _____	CVV2 Code: _____
Cardholder Name: _____	
Billing Address: _____	
City:_____	State:_____ Zip: _____
Signature: _____	
Email: _____	