

**Agenda**

Presented by David Peabody and Matthew Fine

**Introduction: Passive House Roots in the US and Canada**
- Why are we here?
- The problem with incremental approaches to climate change
- The cost question
- Why are you here
- Passive House roots in the US and Canada
  - The oil embargo and first efforts at energy efficiency
  - Competing approaches
  - Synthesis in first Passive House

**Passive House Standard: Purpose, Principles and Development**
- Development of US energy efficiency standards
- Passive House Standard: voluntary performance-based building envelope energy standard
- Overview of the PH standards’ criteria
- Energy calculation tools: an introduction to tools and their functionality
- History of certifying agencies in US: PHI and PHIUS and the two paths available for certification
- Assembling a team to ensure quality and performance
- Examining common design features of Passive Houses

**Architectural Elements of Passive Houses**
- Siting, sizing and orientation
- Super-insulated envelope with minimized thermal bridging
- Efficient ventilation
- Ultra-efficient lights, fixtures and appliances
- Summer shading and cooling strategies
- Winter solar gain and heat retention strategies
- Integrating renewable energy technologies

**Mechanical Systems in Passive Houses**
- Optimizing heat gains
  - Passive solar heat gains
  - Indoor environmental heat gains
- Heat exchanger
- Supplemental heating
- Renewable energy system integration
- Energy-efficient appliances

**Evaluating Passive House Case Studies in Our Climate (Mixed Humid, Mid-Atlantic)**
- A large single-family Passive House
- An affordable multi-family Passive House retrofit
- A modular Passive House
- Projects on the boards

**Learning Objectives**

*You’ll be able to:*

**Explain** the roots of the Passive House Standard in the US and Canada.

**Define** the Passive House standard criteria and identify common design features of passive houses.

**Consider** sitting, sizing, orientation, and other architectural elements of passive houses.

**Learn** how to optimize heat gains and integrate renewable energy systems.

**Discuss** case studies of passive houses in a mixed-humid, mid-Atlantic climate.
David Peabody, LEED-AP, CPHC, has led Peabody Architects in Alexandria, Virginia, since 1992, designing more than 100 homes and additions. Witnessing and participating in the growth of sprawl in the suburban DC area through the ’90s led to awareness that the way building is done today is not sustainable and a conviction that architects cannot sit on the fence on environmental issues. Since committing the practice to sustainable design in 2000, he has become increasingly active in issues regarding architecture and the environment, and he has made these issues central to the way the firm approaches its work. In 2004, he became a LEED Accredited Professional, and in 2009 he became a Passive House Certified Consultant—one of the first architects in the country to achieve this certification. Mr. Peabody earned his Master of Architecture degree in 1977 from Yale School of Architecture.

Matthew Fine, LEED-AP, CPHC, has over 10 years of experience in project design, management, and production services. His responsibilities have ranged from conceptual design through contract administration and project closeout. Much of Mr. Fine’s knowledge and expertise centers on multi-family residential, mixed-use, urban infill, interior fit-out and adaptive re-use. Mr. Fine received his bachelor of arts degree in Architecture from the University of North Carolina, Charlotte. As a LEED® Accredited Professional, he continually seeks to push sustainable and innovative building solutions while addressing the most basic, but often overlooked, role of architecture. Mr. Fine is a Certified Passive House Consultant (PHMC). Previously, he served as director of ZA+Dpassiv, a division of Zavers Architects. He was the project leader of that firm’s very successful 2015 Weinberg Commons project, a Passive House retrofit of three 1955’s multifamily housing units. He also has experience in high performance single family homes. He designed Arlington’s first Passive House in 2012 and two Passive House townhouses (Habitat Empowerhouse) in Ivy City in 2014.

Webinar Series
Construction Cost Estimating
• Introduction to Cost Estimating
  Thurs., Dec. 7, 2017, 1:00 - 3:00 PM CST
• Cost Components – A Closer Look at the Estimates
  Thurs., Dec. 7, 2017, 1:00 - 3:00 PM CST
• Cost Estimate Organization
  Fri., Dec. 8, 2017, 1:00 - 3:00 PM CST
• Cost Estimating Topics
  Fri., Dec. 8, 2017, 1:30 - 4:30 PM CST

Retaining Walls and Slope Stabilization
• Retaining Wall Basics
  Thurs., Dec. 14, 2017, 11:00 AM - 12:00 PM CST
• Geosynthetics and Retaining Walls
  Thurs., Dec. 14, 2017, 12:30 - 2:30 PM CST
• Slope Stability and Geosynthetics
  Fri., Dec. 15, 2017, 11:00 AM - 12:30 PM CST
• Slope and Retaining Wall Failures, Fixes and Prevention
  Fri., Dec. 15, 2017, 1:00 - 2:30 PM CST

International Energy Conservation Code
• International Energy Conservation Code, Part I
  Thurs., Dec. 21, 2017, 8:00 - 11:00 AM CST
• International Energy Conservation Code, Part II
  Thurs., Dec. 21, 2017, 12:00 - 3:00 PM CST

Seismic Design and Construction
• Seismology and Building Codes
  Wed., Dec. 27, 2017, 1:00 - 3:30 PM CST
• Seismic Design of Building Structures
  Thurs., Dec. 28, 2017, 11:00 AM - 3:30 PM CST

The Distributed Battery Webinar Series
• The Distributed Battery Webinar, Part I
  Thurs., Dec. 28, 2017, 11:00 AM - 2:15 PM CST
• The Distributed Battery Webinar, Part II
  Fri., Dec. 29, 2017, 11:00 AM - 2:15 PM CST

Additional Learning
• The Distributed Battery Webinar Series
  Thurs., Dec. 28, 2017, 11:00 AM - 2:30 PM CST
  • The Distributed Battery Webinar, Part I
    Thurs., Dec. 28, 2017, 11:00 AM - 2:15 PM CST
  • The Distributed Battery Webinar, Part II
    Fri., Dec. 29, 2017, 11:00 AM - 2:15 PM CST

Continuing Education Credit Information
This seminar is open to the public and offers 6.5 PDHs to professional engineers in all states. HalfMoon Education is an approved continuing education provider for Maryland engineers. This is a Category A event.

This course offers 6.5 LEUs/HSW continuing education hours to architects in most states, excluding Florida. Architects’ Courses approved by the American Institute of Architects are accepted in Maryland.

The American Institute of Architects has approved this seminar in Maryland.

Tuition
• Individual Registration - $279.00
• Three or more registrations - $259.00 each

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Can’t Attend? Order the CD/Manual Package:
An audio recording of this seminar is available for $289 (including shipping). Allow five weeks from the seminar date for delivery. Please refer to specific state licensing rules or certification requirements to determine if this learning method is eligible for continuing education credit.

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