

# Agenda

Presented by Jason Morosko, MSME, CPHC

## Understanding the Energy Efficiency of Conventional Construction

- Conventional residential energy use
- History of energy-conserving residential construction
- Energy conservation incentives
- Current weatherization tactics

## Passive House Standard: Purpose, Principles and Development

- History of certifying agencies in US: PHI and PHIUS
- Passive House Standard: voluntary performance-based building envelope energy standard
- Passive House energy calculations
- Energy calculation tools: an introduction to tools and their functionality
- Assembling a team to ensure quality and performance
- Examining common design features of Passive Houses

## Elements of Passive House Design

- Siting, sizing and orientation
- Super-insulated envelope with minimized thermal bridging
- Efficient mechanical ventilation
- Ultra-efficient lights, fixtures and appliances – plug loads
- Summer shading and cooling strategies
- Winter solar gain and heat retention strategies
- Integrating renewable energy technologies

## Mechanical Systems in Passive House

- Heat exchangers
- Supplemental space conditioning for micro loads
- Renewable energy system integration

## Evaluating Passive House Case Studies

- Adapting Passive House for local climate
- Case studies: in the planning process, under construction and finished projects

Passive House: Planning and Design

Coraopolis, PA - Wednesday, February 7, 2018

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## Learning Objectives

**You'll be able to:**

- Explore** the history of energy-conserving residential construction.
- Study** the Passive House Standard and discuss the certification process.
- Understand** when and how to perform energy calculations.
- Examine** key architectural elements of Passive Houses.
- Evaluate** mechanical system options, as well as ultra-efficient lights, fixtures and appliances.
- Discuss** how to integrate renewable energy technologies into Passive Houses.
- Review** Passive House case studies.



# Passive House: Planning and Design

Coraopolis, PA - Wednesday, February 7, 2018



**Understand** the energy efficiency of conventional construction

**Examine** the purpose, principles and development of the Passive House Standard

**Identify** elements of Passive House design

### Continuing Education Credits

#### Professional Engineers

6.5 PDHs

#### Architects

6.5 HSW Contact Hours  
6.5 AIA HSW Learning Units

#### Contractors

Non-Credit Continuing Ed.

**Learn** about mechanical systems in Passive Houses

**Evaluate** Passive House case studies

**Discuss** case studies that illustrate the planning process, construction techniques and finished projects



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# Faculty

## Jason Morosko, MSME, CPHC

Vice President of Engineering with UltimateAir, Inc.

Mr. Morosko is a vice president with UltimateAir, a research, design, and manufacturing company of leading technology air to air heat exchangers. Mr. Morosko is a 12-year veteran in this field, and he holds bachelors and masters degrees in heat transfer engineering. He became a certified Passive House consultant, and has taught the curriculum to become a certified Passive House consultant. Mr. Morosko has built his own Passive House duplex, and he has consulted on various Passive House projects in the particular areas of mechanical systems, shell design, and ventilation.

### Here's what past attendees had to say about the seminar and presenter

#### Jason Morosko:

“Excellent presentation. Open to questions.” – *Architect*

“Mr. Morosko is very knowledgeable and a good presenter.”  
– *Engineer*

“Most everything was interesting and informative.”  
– *Mechanical Engineer*

# Seminar Information

## Pittsburgh Airport Marriott

777 Aten Road  
Coraopolis, PA 15108  
(412) 788-8800

Registration 8:00 - 8:30 am	Lunch (On your own) 11:45 am - 12:45 pm
Morning Session 8:30 - 11:45 am	Afternoon Session 12:45 - 4:30 pm

## Tuition

**\$279** for individual registration

**\$259** for three or more simultaneous registrations.

*Each registration includes a complimentary continental breakfast and printed seminar manual.*

**Receive a reduced tuition rate of \$101** by registering to be our on-site coordinator for the day. For availability and a job description, go online to [www.halfmoonseminars.org](http://www.halfmoonseminars.org).

## How to Register

- Visit us online at [www.halfmoonseminars.org](http://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 or the CD/manual package. You may also send another person to take your place.

# Additional Learning

## Webinar Series

### Construction Cost Estimating

- **Introduction to Cost Estimating**  
Thurs., Dec. 7, 2017, 11:00 AM - 12:30 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, 11:00 AM - 1:00 PM CST
- **Cost Estimating Topics**  
Fri., Dec. 8, 2017, 1:30 AM - 3:00 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, 11:00 AM - 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

For more information visit:

[www.halfmoonseminars.org/webinars/](http://www.halfmoonseminars.org/webinars/)

## Continuing Education Credit Information

This seminar is open to the public and offers 6.5 PDHs to professional engineers and 6.5 HSW contact hours to architects in all states, except Florida architects. HalfMoon Education is an approved continuing education provider for Indiana engineers.

The American Institute of Architects has approved this course for 6.5 HSW Learning Units (Sponsor No. J885). Only full attendance can be reported to the AIA/CES.

HalfMoon Education is deemed an approved architect continuing education sponsor in New York. HalfMoon Education is an approved continuing education provider for engineers in Louisiana, Maryland, New Jersey (Approval No. 24GP00000700), New York (NYSSED Sponsor No. 35), North Carolina, and North Dakota.

This seminar offers a non-credit continuing education opportunity to construction contracts. It has not been approved by any contractor licensing board for continuing education credit.

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.

### 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.

# Registration

## Passive House: *Planning and Design*

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<b>How to Register</b>	
<b>Online:</b> <a href="http://www.halfmoonseminars.org">www.halfmoonseminars.org</a>	
<b>Phone:</b> 715-835-5900	
<b>Fax:</b> 715-835-6066	
<b>Mail:</b> HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278	
<b>Complete the entire form.</b> Attach duplicates if necessary.	
<b>Registrant Information</b> Name: _____ Company/Firm: _____ Address: _____ City: _____ State: _____ Zip: _____ Occupation: _____ Email: _____ Phone: _____	
<b>Additional Registrants:</b> Name: _____ Occupation: _____ Email: _____ Phone: _____ Name: _____ Occupation: _____ Email: _____ Phone: _____	
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 - **\$279.00**. Three or more registrants from the same company registering at the same time - **\$259.00** each.

( ) **I am not attending.** Please send me the CD manual package for **\$289.00**. (S&H included. Please allow five weeks from seminar date for delivery)

**Checks:** Make payable to HalfMoon Education Inc.

**Credit Card:** *Mastercard, Visa, American Express, or Discover*

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