

HalfMoon Education Live Continuing Education Webinars

Using Air-Source Heat Pumps

Online - Monday, August 29, 2022 | 8:30 am - 4:30 pm CDT

Credits:

Professional Engineers: 7.0 PDHs

Architects: 7.0 HSW CE Hours AIA: 7.0 LU/HSW

International Code Council: .7 CEUs (Energy)

Learn More and Register:

www.halfmoonseminars.org

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**PREFERRED
EDUCATION
PROVIDER**

**AIA
Continuing
Education
Provider**

Webinar Agenda | Monday, August 29, 2022 | 8:30 am - 4:30 pm CDT (including a 30-min. break)

Air-Source Heat Pump Science and Technology

- Indoor thermal comfort
- Principles of heat transfer
- The refrigeration cycle
- Components and operation of heat pumps: air-source, water-source and ground-source

Air-Source Heat Pump Efficiency, Economics and Operations

- Efficiency and energy savings
- Cooling, heating, and operation in subfreezing conditions
- Treatment under building and mechanical codes
- Integrating with other HVAC systems

System Sizing and Components

- Sizing and locating exterior units
- Sizing and locating interior units
- Duct systems
- Refrigerant lines
- Wiring and controls

Mini-Split Systems

- Applications for mini-split systems
- Sizing and locating exterior and interior units

Heat Pump Calculations and Balancing to Maximize Performance

- Commissioning
- Maintenance checks
- Duct balancing

Heat Pump Case Studies

- New construction
- Existing buildings

Presented by

Jon Harrod, Ph.D., is a contractor, author and electrification advocate. In 2006 he founded Snug Planet, an award-winning home performance company based in Ithaca, New York. From its initial focus on energy audits and envelope improvements, Snug Planet has grown to offer whole-home solutions, including moisture management and HVAC upgrades. Snug Planet is an active participant in New York State residential programs serving low-income and market-rate customers. In early 2022, Snug Planet will be merging with Halco Energy, one of the largest home performance contractors in New York. Jon is certified by the Building Performance Institute as a Building Analyst, Envelope Professional, Heating Professional, and AC/Heat Pump Professional. Jon's articles have appeared in *Home Energy Magazine*, *Journal of Extension*, *Building Performance Journal* and *ASHRAE Journal*. He is a regular contributor to *Green Building Advisor*.

Tuition

\$319 for individual registration
\$289 for two or more registrants from the same company at the same time.

Included with your registration: PDF seminar manual.

Can't Attend? Order the Webinar as an On-Demand Package!

Recordings of this webinar are available for purchase. See registration panel for more information and please refer to specific state licensing rules or certification requirements to determine if this learning method is eligible for continuing education credit.

Credit Information

This webinar is open to the public and is intended to offer 7.0 PDHs to professional engineers and 7.0 HSW continuing education hours to licensed architects in all states.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Provider No. 0004647), Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700) and North Carolina (S-0130). HalfMoon Education is deemed an approved continuing education sponsor for New York engineers and architects via its registration with the American Institute of Architects Continuing Education System (Regulations of the Commissioner §68.14(i)(2) and §69.6(i)(2)). Other states do not preapprove continuing education providers or courses.

The American Institute of Architects Continuing Education System has approved this course for 7.0 LU/HSWs (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

The International Code Council has approved this event for .7 CEUs in the specialty area of Energy (Preferred Provider No. 1232).

Attendance will be monitored, and attendance certificates will be available after the webinar for those who attend the entire course and score a minimum 80% on the quiz that follows the course (multiple attempts allowed).

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