# **Agenda**

### Presented by Mohamed El-Sayed PE, CEM, CEA, CxA, CPMP, LEED AP BD+C Marcus Hazelwood, CEM, LEED AP BD+C

### Natural Gas and Liquid Propane (LP) Fuel Space Heating

Cost of units and fuel Sustainability and carbon footprint Vented and vent-free Wall-mounted and floor-mounted Location and sizing Installation and operation

#### **Electric Resistance Heaters**

Resistance versus hydronic heaters Cost of units and power Sustainability and carbon footprint Location and sizing Installation and operation

### **Heat Pump Space Heating**

**Exploring options** Cost of units and power Sustainability and carbon footprint Location and sizing Installation and operation

### **In-Floor Heating**

Exploring types of in-floor heat Cost of units and power Sustainability and carbon footprint Location and sizing Installation and operation

### **Hydronic Heating and Steam Radiators**

Hydronic and steam radiator space heating options Cost of units and power Sustainability and carbon footprint Location and sizing Installation and operation

#### **Pellet Stoves**

Cost of units and fuel Sustainability and carbon footprint Wall-mounted and floor-mounted Location and sizing Installation and operation

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2023

19,

**Installation** ebinar - Friday, May 1

and

**Design and** Live, Interactive V

Heating

Space

Residential

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# **Learning Objectives**

# You'll be able to:

**Understand** sustainability and the carbon footprints associated with natural gas and liquid propane fuel space heating.

**Discuss** the cost of units and power for electric resistance heaters.

**Explore** options for heat pump space heating.

**Discuss** hydronic and steam radiator space heating options.

**Understand** the installation and operation of pellet stoves.

# **HalfMoon Education Live Webinars**

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**Compare** the cost and sustainability of natural gas and liquid propane space heating

**Evaluate** the sustainability of electric resistance heaters and stoves for space heating heat pump space heating

**Explore** the energy efficiency of in-floor heating and hydronic heating

**Consider** the advantages and disadvantages of using pellet

# **Continuing Education Credits**

**Professional Engineers** 6.0 PDHs

Architects 6.0 HSW CE Hours 6.0 AIA LU|HSW

**International Code Council** Pending





# **Faculty**

Mohamed El-Sayed EA Energy Solutions, LLC

Mr. El-Sayed is a principal at EA Energy Solutions, LLC. In this capacity, he is responsible for fulfilling the client delivery obligations associated with the energy solutions services portfolio. These services support EA Energy's clients and national account customers by ensuring optimal energy efficiency in new construction projects, renovations and existing buildings. Since 2009, Mr. El-Saved has provided leadership in the field of energy efficiency for multiple organizations and have served clients in the retail, healthcare, education, warehousing and transportation, and civic market segments. In these roles, he managed projects that resulted in Ohio and Indiana's first LEED Platinum commercial buildings and Ohio's first LEED Platinum school. In addition to his operational experience, Mr. El-Sayed is active in the USGBC's Central Ohio Chapter as well as several other professional affiliations. He earned a Master's degree in Environmental Health and Safety from the University of Cincinnati and an undergraduate degree in Mechanical Engineering from the Zagazig University.

### Marcus Hazelwood WB Engineers+Consultants

Mr. Hazelwood is an energy engineering professional with over 15 years of experience. He is a Certified Energy Manager (CEM) and a LEED Accredited Professional (LEED AP), currently serving as project manager with WB Engineers + Consultants where he spearheads and executes energy management, analysis and decarbonization for company clients across 12 offices in the US. Mr. Hazelwood has developed a deep understanding of energy and sustainability best practices, and has extensive experience in energy auditing, energy efficient design and implementation, sustainability planning, and renewable energy project development. In addition to his professional experience, Mr. Hazelwood holds a bachelor's in Environmental Studies from Harvard University. He is also a member of professional organizations, including the Association of Energy Engineers, the US Green Building Council (USGBC), and the Green Building Institute (GBI). Mr. Hazelwood served as an instructor at Endicott College teaching green building to architectural graduate students for three consecutive years. He is passionate about energy efficiency and sustainability in the built environment.

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Break 12:15 - 12:45 pm CDT

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