PEDCO 4th Annual High Performance Buildings Seminar
Keynote & Breakout Session Course Descriptions

Morning Keynote: 8:45am-9:45am

Title: Drivers of Change: Being the Force to Achieve High Performance Green Building Solutions Through the Way We Approach Design, Construction, and Operations.

Speaker: Mr. Gunnar Hubbard, FAIA, LEED Fellow
Principal and Sustainability Practice Leader
Thornton Tomasetti

Course Description:
The presentation will inspire individuals to be part of the change we need to make in our built environment through case studies in design, case studies in design practice, case studies in creating talent, case studies in operations, and trends in the industry.

Gunnar Hubbard is a recognized leader in green building across the United States and in Asia, Europe and the Middle East with 25 years of experience as a licensed architect, consultant, educator and advocate. As a principal and Thornton Tomasetti’s Sustainability practice leader, he oversees green building experts in the New York City, London, San Francisco and Portland, Maine, offices and collaborates with the firm’s six other practices and all offices.

Gunnar has played a key sustainability role on a wide variety of building types, including commercial, educational, residential, research and healthcare facilities, hotels, high rises and museums. As “keeper of the environmental mission of a project”, he guides world-renowned architects and unites building professionals on an integrative path to design high-performance green buildings internationally. He has delivered more than 100 projects, ranging from the $8.4 billion hotel, retail and residential CityCenter Las Vegas to green certification for 12 square feet of real estate in Sweden and a net zero LEED—Platinum education center in Maine.

Lunch Keynote: 11:30am-12:30pm

Title: Real Estate + Sustainability: Driving Value

Speaker: Mr. Douglas Bolton
Managing Principal, Greater Cincinnati & Dayton, DTZ

Course Description:
Sustainability is now a fundamental commercial real estate (CRE) concern affecting long-term value generation and short-term profitability. Doug will address how CRE firms are breaking out of the traditional mold and realizing more benefits from sustainability. The presentation will also discuss the demand for green buildings, fact versus fiction when it comes to sustainability, and what’s next for sustainability in real estate.
Douglas Bolton is Managing Principal of the Cincinnati and Dayton offices. He oversees 100 associates, including 30 brokers and 50 property management professionals. He is responsible for business growth in the Cincinnati and Dayton markets, as well as recruiting, operational excellence and associate development. Before joining the company, Mr. Bolton spent 25 years in the newspaper and media industry. Most recently, Bolton spent 11 years as Publisher of the Business Courier, a business news organization covering the Greater Cincinnati region. Before that he was Publisher of the Dayton Business Journal for three years. During his tenure with the Business Courier, Bolton was responsible for impressive revenue and circulation growth. Further, he oversaw a diversification of the Courier's revenue to include a significant event platform and the introduction of online revenues.

Afternoon Keynote: 2:30pm-3:30pm

**Title:** How to Achieve a Greener, Healthier, Less Costly Building without Breaking the Bank (Brand New, Never Heard Before Presentation)

**Speaker:**
Mr. James Newman, CEM, LEED AP BD+C, ASHRAE OPMP & BEAP
Owner & Managing Partner, Newman Consulting Group, LLC

**Course Description:**
You've heard a lot of great information, but how do you put it all together and take action? What are the steps to take and who will be on your team? Jim Newman will connect the dots so you can see the big picture. With such a huge potential for savings, increased reliability, and improved tenant satisfaction, there's no reason not to get started right away. But someone in your organization will surely find that reason. Jim will give you tools to overcome those objections so you can turn the operating model upside down and turn your facility into a smarter building.

**Learning Objectives:**
- Why you want to re- or retro-commission your building.
- How continuous commissioning saves the most money and makes the most sense as part of a long-term sustainability and cost saving strategy.
- Why not to do the “low-hanging fruit” first.
- Costs and legal liabilities of poor IAQ, and benefits of improving IAQ.
- Who needs to be on your team, how you communicate with them and keep them involved for the long-term.
- How you pay for it all.

Jim Newman is Owner and Managing Partner of Newman Consulting Group, a U.S. EPA Energy Star® Partner. He is a Certified Energy Manager (CEM), a LEED Accredited Professional for Building Design and Construction (LEED AP BD+C), an ASHRAE Operations and Performance Management Professional (OPMP) and Building Energy Assessment Professional (BEAP). He is also a Fellow of the Engineering Society of Detroit.

Jim is a trainer for ASHRAE Energy Standard 90.1, which forms the basis for the Energy Codes in the U.S., and was a member of the Committee that developed ASHRAE’s 2008 Energy Position Document. He was one of only 16 energy auditors in the U.S. chosen for the pilot program for ASHRAE’s Building Energy
Quotient (bEQ) Program to measure, verify and certify energy used by buildings. Jim is active in the US Green Building Council, a founding member and past Board member of the Detroit Regional Chapter and past Chair of the Public Policy and Advocacy Committee. He has been Project Administrator on many types of LEED-certified buildings ranging in level from Certified to Platinum. He is on the Energy and Environment Committee of BOMA International and is Chair of the Detroit Chapter’s Sustainability Committee.

Morning Breakout Sessions 1: 7:30am-8:30am

Breakout: 1A

Course Title: *Project Profiles of Building Air Leakage- From Small Problems to Major Issues that Affect your Building Asset and Operation*

Sponsored By: Tremco

Speakers:
Mr. David Hart, Tremco
Mr. Vincent J. Paladino, Tremco

Course Description:
Unintended air leakage, (Infiltration/Exfiltration), has a serious and significant negative impact on all aspects of building operation, longevity and occupant use. Many of these conditions occur due to detailing never addressed during original construction or because of lack of proper maintenance over the life of the building. We will review some real life examples that started as small problems and evolved into major facility manager problems.

Learning Objectives
- Understanding of when and where the conditioned space should be air sealed.
- The connection of air and moisture and the effects on the building envelope.
- A brief review of the tools and process for doing assessments.

Breakout: 1B

Presentation Title: *A Look at High Performance Buildings around the US- Cost Effective Systems and the Real Deal on Pay Back*

Speaker:
Mr. Jerry M. Sipes, Price Industries

Sponsored By: EAP, Inc.

Course Description:
Jerry will speak about High Performance Buildings relating to systems that he sees on a national basis. For every owner, architect and engineer interested in learning what others are doing around the US, this presentation is for you. As a leader in the US on chilled beams and displacement systems as well as many other high performance systems, Jerry will address how projects are designed, programmed, and budgeted for when incorporating high performance systems. He will help address if and when high performance systems are worthwhile.
Learning Objectives:
• A true understanding of what systems are being used around the US.
• Cost effective systems. What is the real deal on Pay Back?
• What systems work, and which do not.
• What systems to use where, and why?
• Updates as to how ASHRAE is moving regarding various systems and related codes.

Breakout: 1C

Course Title: *Informed Building Design through Energy Modeling*

Sponsored By: PEDCO E&A Services, Inc.

Speaker: Mr. Jason Park, PEDCO E&A Services, Inc.

Course Description:
Energy Modeling can inform the decision making process and remove some of the guesswork out of designing a high performance building. This presentation provides knowledge on the different types of building energy models and discusses their applications during the design process. By utilizing case study examples, Jason will discuss establishing baseline models to compare with energy conservation measures.

Learning Objectives:
• Understand the different types and uses of building energy models.
• How to use building energy modeling to guide the design decisions.
• How building energy modeling can help set energy goals for a project.

Breakout: 1D

Presentation Title: *Siemens Demand Flow® Chilled Water System Optimization*

Sponsored By: Siemens Building Technologies

Speaker: Mr. Jim Flynn, Siemens

Course Description:
This presentation will cover chilled water system optimization and the benefits of system optimization as compared to traditional methods of chiller plant optimization. We will cover how one component can affect the energy usage of the entire system either positively or negatively. We will also discuss how a customized optimization solution is the only way to achieve true chilled water system optimization.

Learning Objectives:
• What are some typical chilled water plant short comings.
• ASHRAE defined KW/TON annual average for chilled water optimization.
• How Siemens Demand Flow® simplifies chiller sequencing over tradition methods.
• How chilled water system optimization corrects chilled water plant short comings.
Morning Breakout Sessions 2 – 10:00am-11:00am

Breakout: 2A

Presentation Title: *Shedding Light on Daylight Harvesting*

Sponsored By: Leesman Lighting

Speaker: 
Mr. Pete Baselici, Hubbell Building Automation

Course Description: 
This presentation will cover the most common technologies used today in Daylight Harvesting applications. Pete will address how these technologies can be used to meet energy codes while avoiding the most common application traps and pitfalls.

Learning Objectives:
- What is daylight harvesting and what are the relevant technologies.
- What is the relationship to energy codes.
- What are the common pitfalls and how to avoid them.

Breakout: 2B

Presentation Title: *Achieving High Performance Wall Systems Using Insulated Composite Panels*

Sponsored By: CENTRIA Architectural Systems

Speaker: 
Mr. Keith Boyer, CENTRIA Architectural Systems

Course Description: 
Insulated Composite Panels (ICP) can facilitate the establishment of the critical performance barriers for a building enclosure wall system. Used as an exposed finish panel or as a back-up panel to other cladding materials, high performance air and water barriers as well as excellent thermal efficiency can be achieved. The use of integrated windows also helps simplify what can be difficult transition details. Case studies of completed projects will be reviewed.

Learning Objectives:
- Identify key wall performance challenges and recognize how Insulated Composite Panels can address them.
- Review energy code requirements and their impact on wall systems.
- Understand the thermal performance of an Insulated Composite Panel with integrated windows.
- Understand the application of several types of ICP via case studies.
Breakout: 2C

Presentation Title: *Using Water-Cooled Chillers to Exceed ASHRAE Minimum Efficiency Standard by 50%*

Sponsored By: The Habeggar Corporation

Speaker: Mr. Scott McDonough, UTC Building & Industrial Systems

Course Description: The presentation will explain basic water-cooled chiller principals. With an understanding of these basic principals system, the presentation will address how components and system configuration are evaluated to determine optimal system energy consumption. When water-cooled chiller principals are properly applied and components properly selected, the system performance can be enhanced to exceed ASHRAE Minimum Efficiency Standard by > 50%.

Learning Objectives

- Ability to describe the difference in part load operation between centrifugal and screw chillers.
- Explain how condenser water temperature impacts screw and centrifugal operation and efficiency.
- Understand how a screw chiller in a series-counterflow arrangement can provide savings over centrifugals in standard parallel arrangement.

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Afternoon Breakout Sessions 3: 12:45pm-1:45pm

Breakout: 3A

Presentation Title: *Meeting Commitments to Communities*

Sponsored By: Duke Energy

Speaker: Ms. Tracy MacDonald, The Kroger Company
Ms. Deanna Bowden, Duke Energy

Course Description: Learn how The Kroger Co. has focused on the performance of its stores and other facilities to drive down energy costs and meet its commitment to the communities it serves. Kroger is one of the world's largest grocery retailers, with fiscal 2014 sales of $108.5 billion. Over the past several years, Kroger has focused on reducing the energy intensity of its stores, driving out more than 2.5 billion kWh of electric use annually. By partnering with utility providers such as Duke Energy, Kroger has been an innovator in bringing energy efficient technology to the retail grocery industry, keeping its prices low for customers while meeting its sustainability goals for the communities it serves.

Learning Objectives:

- Learn how to leverage available incentives from utility providers such as Duke Energy to achieve a return on investment your clients/owners demand when considering energy projects.
- Through a case study format, learn how you can reduce the energy intensity of your facilities.
Breakout: 3B

Course Title: *Case Studies in Developing a High Performance Campus*

Speaker: Mr. Peter J. Luken, University of Cincinnati

Sponsored by: University of Cincinnati

Course Description: This presentation will outline many different ways that high performance features can be incorporated into different building types on the University’s campus and case study examples as to how they have incorporated different sustainability aspects into their existing and new campus buildings. The diverse and ever changing users on campus, some 40,000 individuals, do pose particular challenges but operational and functional buildings are one more part of the definition for a high performance building. From the early LEED buildings to over $20Mil in recent energy projects, the University of Cincinnati is on a path of continuous improvement.

Learning Objectives:
- Understand how the University of Cincinnati approaches sustainability and how they are making sustainability core to their campus strategy.
- Learn about the many sustainable initiatives and buildings that University of Cincinnati has incorporated over the past years.
- Discuss the challenges the University of Cincinnati has encountered throughout their sustainability journey and lessons learned from past projects to becoming a high performance campus.

Breakout: 3C

Presentation Title: *The State of Refrigerants – The Next Transition*

Sponsored By: Trane Commercial Systems

Speaker: Mr. Ryan Geister, Trane Commercial Systems

Course Description: Ever since the Montreal Protocol meetings began regulating CFCs in the 1980s, refrigerant rules and acceptability continue to evolve. Since then, there has been an increased focus and accelerated timing on regulations for all fluids that are being used today in the HVAC industry. This persistent churn generates confusion—what’s in, what’s out, and what’s coming? At the same time, the market has been demanding equipment, design strategies and control methods that result in the highest levels of efficiency—will the new fluids hinder or enhance that efficiency? The next-generation of fluids represents new challenges for providing the highest performing HVAC equipment; besides efficiency they may also challenge the industry’s expectations for safety and flammability. This presentation separates fact from fiction, and discusses why, when, and how the industry will face the coming refrigerant transitions.
Learning Objectives:

- An overview will be provided summarizing the aspects considered when selecting the industry's next generation of refrigerants, including energy efficiency, refrigerant emissions, ozone depletion, global warming, and atmospheric life.
- Attendees will be made aware of what testing standards and third-party verification methods are available in the market today to prove environmental compliance of all manufacturers' claims.
- A brief history of refrigerants used in the HVAC industry will be provided, including the regulatory requirements enforced throughout. The current state of the regulatory environment will also be presented, as well as a look at the anticipated state based on legislative policies being considered, both domestically and abroad.