

BRIDGES TO THE FUTURE

U.S. Department of Energy
**2017 NATIONAL
ENERGY CODES
CONFERENCE**
July 18—20, 2017
Pittsburgh, PA



Building Energy Codes

U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

Continuing Education: Continuing education options are provided for members of the American Institute of Architects (AIA) and International Code Council (ICC). The DOE Building Energy Codes Program is an AIA and ICC Continuing Education provider, with credits available for most conference sessions. Pick up forms at the conference Registration desk.



Highlights

THANK YOU FOR ATTENDING

the 2017 National Energy Codes Conference. We're glad you could join us for this exclusive opportunity to participate in a lively, solution-focused forum for all topics related to building energy codes, with a special focus on compliance.

The 2017 National Energy Codes Conference

EXTENDS THE DEEPEST THANKS TO OUR ORGANIZERS, SPEAKERS AND ATTENDEES

for making this event possible.

HOSTED BY



Energy Efficiency &
Renewable Energy

A Less-Paper Event

In our efforts to conserve resources, we will not provide handouts of individual sessions. All presentations will be available at www.energycodes.gov after the event.

This program is made out of recycled materials.



REGISTRATION OPENS

8:00 am (except for Monday, July 18 at 7:30 am)

Registration desk is located in the Grand Ballroom Foyer



BREAKFAST

Please join us for a breakfast every morning throughout the conference in the Grand Ballroom Foyer

Tuesday
7:30am to 8:30am

Wednesday
8:00am to 9:00am

Thursday
8:00am to 8:30am



Wi Fi

Available on the 2nd floor if you follow these directions:

1. Turn on Wifi on your computer
2. Connect to the MARRIOTT-PUBLIC network (no password needed)
3. Go to a public web page like www.google.com to get to the Marriott splash page
4. Confirm you want to use the complimentary internet
5. You will receive a confirmation page that will read "connected" in the top left corner signifying you successfully connected to the network. The connection is valid for 24 hours.



VISITORS GUIDE

Pittsburgh visitors information will be located at the Registration desk.



HOTEL CONTACT

Pittsburgh Marriott City Center
112 Washington Place
Pittsburgh, PA 15219
1-412-471-4000



KEYNOTE Speakers

Paula R. Glover | July 18, 2017



Paula R. Glover is President and CEO for the American Association of Blacks in Energy, a non-profit professional association whose focus is to ensure that African Americans and other minorities have input into the discussions and development of energy policy, regulations, and environmental issues. Ms. Glover's experiences include 15 years in the energy industry for both electric and natural gas distribution companies. In March 2014, she was appointed to the National Petroleum Council by U.S. Secretary of Energy, Dr. Ernest Moniz. She sits on the Advisory Board for the Maryland Energy and Sustainability Center. She is the recipient of the Bring It Home to Hartford Award; the Clarke Watson Chairman's Cup and the Platinum Achievement Award from the Cooperative Developmental Energy Program at Fort Valley State University. Ms. Glover received her B.S. in Marketing Management from the University of Delaware.

Timothy McDonald | July 19, 2017



Timothy McDonald is President of Onion Flats LLC, an award-winning development/design/build collective centered in Philadelphia. Along with his partners at Onion Flats, Tim has created some of the first LEED Gold and Platinum projects in the country and the First Certified Passive House, Net-Zero-Energy-Capable project in Pennsylvania. In 2014 Tim initiated a research project in collaboration with the Pennsylvania Housing Finance Agency to develop a Net-Zero-Energy-Capable building standard for all affordable housing in the State by 2030 and is actively promoting this initiative with Housing Finance Agencies in 39 other States. He is currently building his own multi-family net-zero-energy building in Philadelphia. Tim received his Bachelor of Architecture degree from Penn State University and his Masters of Architectural History and Theory from McGill University. He has practiced in Japan, Canada and the U.S. and is a Registered Architect in Pennsylvania, New Jersey and Massachusetts. He is also a LEED AP and Certified Passive House Consultant and Tradesman (CPHC).



PRE-CONFERENCE Monday, July 17

ENERGY CODES BOOTCAMP & BUILDING TOURS MONDAY, JULY 17	
8:00 AM – 8:30 AM	Registration
8:30 AM – 10:00 AM	Energy Codes 101
10:00 AM – 10:15 AM	Break
10:15 AM – 12:00 PM	COMcheck Basics*
12:00 PM – 1:00 PM	Lunch (on your own)
1:00 PM – 2:30 PM	REScheck Basics*
2:30 PM – 3:00 PM	Break
3:00 PM – 3:30 PM	What's New in the Codes?
3:30 PM – 4:00 PM	Ask DOE!
5:30 PM – 6:30 PM	Welcome Reception

Building Tours:
 Tower at PNC Plaza – 1:00 PM
 Energy Innovation Center – 4:00 PM

ENERGY CODES BOOTCAMP (Salons 1-2)

A full-day crash course in energy codes! The workshop will provide a sampling of code basics, compliance software training, and what's new in codes. Attendees will also get a chance to present their questions directly to DOE and PNNL staff.

Building Tours

Tour the Tower at PNC Plaza:

Rising 33 stories near the confluence of the Allegheny and Monongahela rivers, the Tower at PNC Plaza opened in October 2015 as PNC's new corporate headquarters. The building, which hosts more than 2000 employees, incorporates many state-of-the-art technologies, including a double-skin

façade and solar chimney. The tower was designed to exceed LEED Platinum certification and to be the greenest office building in the world.

Tour the Energy Innovation Center:

The Energy Innovation Center is a not-for-profit organization which engages community leaders, educates the workforce and incubates businesses to support clean energy markets. The Center recently transformed a vacant property in the City's Lower Hill District into a 200,000 square foot beacon for sustainable energy technologies. This LEED Platinum facility adheres to the highest standards of energy efficiency while preserving the historical character of the building—one of the few LEED Platinum buildings that is also on the National Register of Historic Places.

**Please bring your own laptop with the latest versions of COMcheck Desktop and REScheck Desktop installed. Available for download at: www.energycodes.gov/software-and-web-tools*



DAY 1 Tuesday, July 18

7:30 AM – 8:30 AM	Registration & Continental Breakfast (Grand Ballroom Foyer)		
8:30 AM – 9:00 AM	Welcome & Opening Remarks (Salons 2-4)		
9:00 AM – 9:45 AM	Keynote Speaker – Paula R. Glover (Salons 2-4)		
9:45 AM – 10:15 AM	Break		
10:15 AM – 11:45 AM	Top-10 Ways to Increase Code Compliance: Inspection edition (Marquis B)	What's New in Codes? 2018 IECC, ASHRAE 90.1-2016 and More (Marquis A)	Statewide Energy Policies & Levers (Marquis C)
11:45 AM – 1:00 PM	Networking Lunch (Salons 2-4)		
1:00 PM – 1:15 PM	Break		
1:15 PM – 2:45 PM	206,000 Homes in 2016: Is the ERI a solution that will work in your state? (Marquis A-B)	The Hoopla About Utilities Claiming Savings from Code Compliance (Marquis C)	
2:45 PM – 3:15 PM	Break		
3:15 PM – 4:45 PM	Third Party Energy Professionals: Codes creating business opportunity (Marquis A)	Measuring Compliance: A survey of different compliance studies (Marquis C)	Existing Buildings: The gold mine exists (Marquis B)

Top-10 Ways to Increase Code Compliance: Inspection Edition

ICMA estimates that inspectors can effectively perform 15-20 inspections per day. Most building departments workloads are double that. When circumstances don't allow time for detailed energy code inspections, is there a "Top Ten" type of approach that can improve efficiency and limit the time spent on site? This session will look at the bigger picture for code compliance and then to energy code experts to discuss ways to expedite on-site code inspections.

What's New in Codes? 2018 IECC, ASHRAE 90.1-2016 and More

The new editions of ASHRAE 90.1 and the International Energy Conservation Code were finalized in October and will be available in 2017. Speakers experienced with the code development processes will discuss what has changed from the previous editions of those codes and how the requirements of the commercial chapter of the IECC and ASHRAE 90.1 differ. Also covered will be the IECC development process and an analysis of the voting that occurred.

Statewide Energy Policies & Levers

Building energy codes are a critical policy lever whose responsibility falls to a number of state or local agencies. How can states support the model code development process? What roles do State Energy Offices play in code adoption as well as outreach to localities? What role can states take to develop and promote stretch codes?

206,000 Homes in 2016: Is the ERI a Solution That Will Work in Your State?

Starting in the 2015 IECC, the Energy Rating Index (ERI) pathway was added to the mix of compliance options. In the 2018 IECC, it was further defined by requiring the ERI to be in compliance with ANSI/RESNET/ICC Standards 301 & 380. What are the benefits to building departments promoting the ERI path? How do the ANSI/RESNET/ICC referenced standards support code compliance? These and other questions will be answered in this session, along with presentations of case studies of locations where the ERI path has been operating.

The Hoopla About Utilities Claiming Savings from Code Compliance

Utilities across the country help boost energy code compliance by funding trainings, tools, and other educational resources. Many can count the resulting energy savings towards their efficiency goals. But, how to tally the savings? That's a sticky question. We'll profile several leading utility code programs, how they built a strong program, how they count up the energy savings, and what they've learned along the way.

Third Party Energy Professionals: Codes Creating Business Opportunity

There is a strong business case that can be made for third party energy professionals in code implementation. This session looks at the direct third party ties to codes through real world examples of jurisdictions and residential and commercial professionals that have developed business based on ties to the energy code. Ground-breaking training on the business case for third party energy code professionals will be highlighted to kick off a discussion between a jurisdiction and residential and commercial third parties.

Measuring Compliance: A Survey Of Different Compliance Studies

Achieving compliance with the energy code is critical to realizing the energy savings potential to energy codes. But, finding out whether compliance is being achieved can be a costly and time-consuming task. This session will review various ways to measure compliance with an eye towards ultimately developing best practices for collecting accurate data and minimizing the cost of studies.

Existing Buildings: The Gold Mine Exists

Average small commercial buildings use three times as much energy as the best performing buildings, but they don't have to. This session will offer insights, examples, and clear pathways for cost-effective large energy savings in small commercial buildings. These can be used to drive code development to ensure that future "existing buildings" are provided the best advantages for energy savings over time.



DAY 2 Wednesday, July 19

8:00 AM – 9:00 AM	Registration & Continental Breakfast (Grand Ballroom Foyer)		
9:00 AM – 10:00 AM	Keynote Speaker – Timothy McDonald (Salons 2-4)		
10:00 AM – 10:30 AM	Break		
10:30 AM – 12:00 PM	No Humans in the Permit Office: Online tools for code compliance (Marquis C)	Beyond Energy Codes: The Future of Building Performance (Marquis A/B)	
12:00 PM – 1:30 PM	Networking Lunch (Salons 2-4)		
1:30 PM – 3:00 PM	JOLT Session (Salons 2-4)		
3:00 PM – 3:30 PM	Break		
3:30 PM – 5:00 PM	Scaling Up Codes Toward Multifamily Energy Efficiency (Marquis B)	Top-10 Ways to Increase Code Compliance: Plan review edition (Marquis A)	Do Cities Hold the Future of Code Advancement? (Marquis C)

No Humans in the Permit Office: Online Tools for Code Compliance

Jurisdictions and programs across the country are using technology to improve the review, permitting and inspection process. Learn from three examples of technology making building departments more efficient and their customers better educated about the process and happier with the results.

Beyond Energy Codes: The Future of Building Performance

Given improving technologies and construction techniques and smaller incremental savings for most code requirements, it is fair to ask whether energy codes as presently conceived can realize maximum potential energy savings at a minimum cost. This session will explore different types of codes and policies to generate discussion on whether and/or how energy codes must evolve and the possible options for doing so.

Scaling Up Codes Toward Multifamily Energy Efficiency

This session will provide information on current initiatives and emerging opportunities that affect the energy efficiency and livability of multifamily buildings. Topics will include evaluation studies, current code development efforts and best practice approaches to efficiency, health and comfort in both high and low-rise multifamily buildings.

Top-10 Ways to Increase Code Compliance: Plan Review Edition

When there's not enough time to do a detailed energy code plan review, what should you focus on to maximize energy efficiency without slowing the plan review process? This session will look to energy code experts to discuss ways to expedite both plan reviews and compliance reports.

Do Cities Hold the Future of Code Advancement?

With the current stagnation of the IECC, cities hold one key for more effective and progressive energy codes. In fact, much of the current innovation of building policy is coming out of city programs that either direct or incent more efficient building design and existing building renovation. Energy data is a big driver of the city approach, as proof of value is the fuel that drives the city approach. This session will tell the story of nationwide city programs that have implemented a successful approach to efficient building policy.



Jeffrey A. Johnson Award



The Jeffrey A. Johnson award recognizes outstanding accomplishments surrounding building energy codes, and is presented annually at the National Energy Codes Conference.

The award recognizes a leader or a team in the United States (U.S. territories included) for sustained service of the highest caliber in the pursuit of energy-efficiency goals. The award recipient exemplifies Jeff's enthusiasm, his motivation and drive for innovation, and his can-do, no-fear attitude for making a difference. Join us at lunch on Wednesday as we announce the 2017 winner.



DAY 3 Thursday, July 20

8:00 AM – 8:30 AM	Registration & Continental Breakfast (Grand Ballroom Foyer)	
8:30 AM – 10:00 AM	Behavioral Strategies for Code Adoption & Compliance (Marquis C)	Commercial Buildings: Design vs. Reality – HVAC (Marquis A/B)
10:00 AM – 10:15 AM	Break	
10:15 AM – 11:45 AM	Economics of Energy Codes (Marquis C)	Commercial Buildings: Design vs. Reality – Lighting (Marquis A/B)
11:45 AM – 12:00 PM	Closing Remarks (Salons 2-4)	

Behavioral Strategies for Code Adoption & Compliance

Behavior-based strategies are growing in use to enhance policy uptake and program design to increase desired outcomes—including increased uptake and compliance with the energy code. This session will look at the behavioral tools behind effective approaches, feature real-world examples aimed at building awareness and adoption of energy code practices, and explore ways to use these tools in current and future efforts.

Commercial Buildings: Design Vs. Reality—HVAC

Commercial building HVAC systems can be quite complex. Many strategies are available for meeting HVAC requirements, including the use of energy modeling and performance-based approaches, such as those often used to incorporate sophisticated modern control systems. The commissioning and code enforcement perspectives will also be presented in order to understand how these requirements and strategies translate to proper installation in the field.

Economics of Energy Codes

Have you ever heard people argue about whether something in the code is cost-effective? How do they know one way or the other? This session will first explain how costs are calculated (Hint: it's harder than you think!) and what methods are used to determine cost-effectiveness. Second, we will present research trying to answer the question, "Do energy codes impact construction activity?" This has been argued about since energy codes were first developed. Learn how to approach this kind of question and what the current data says. Finally, the methodology and results of Pacific Northwest National Laboratory's Impact of Building Energy Codes report will be presented.

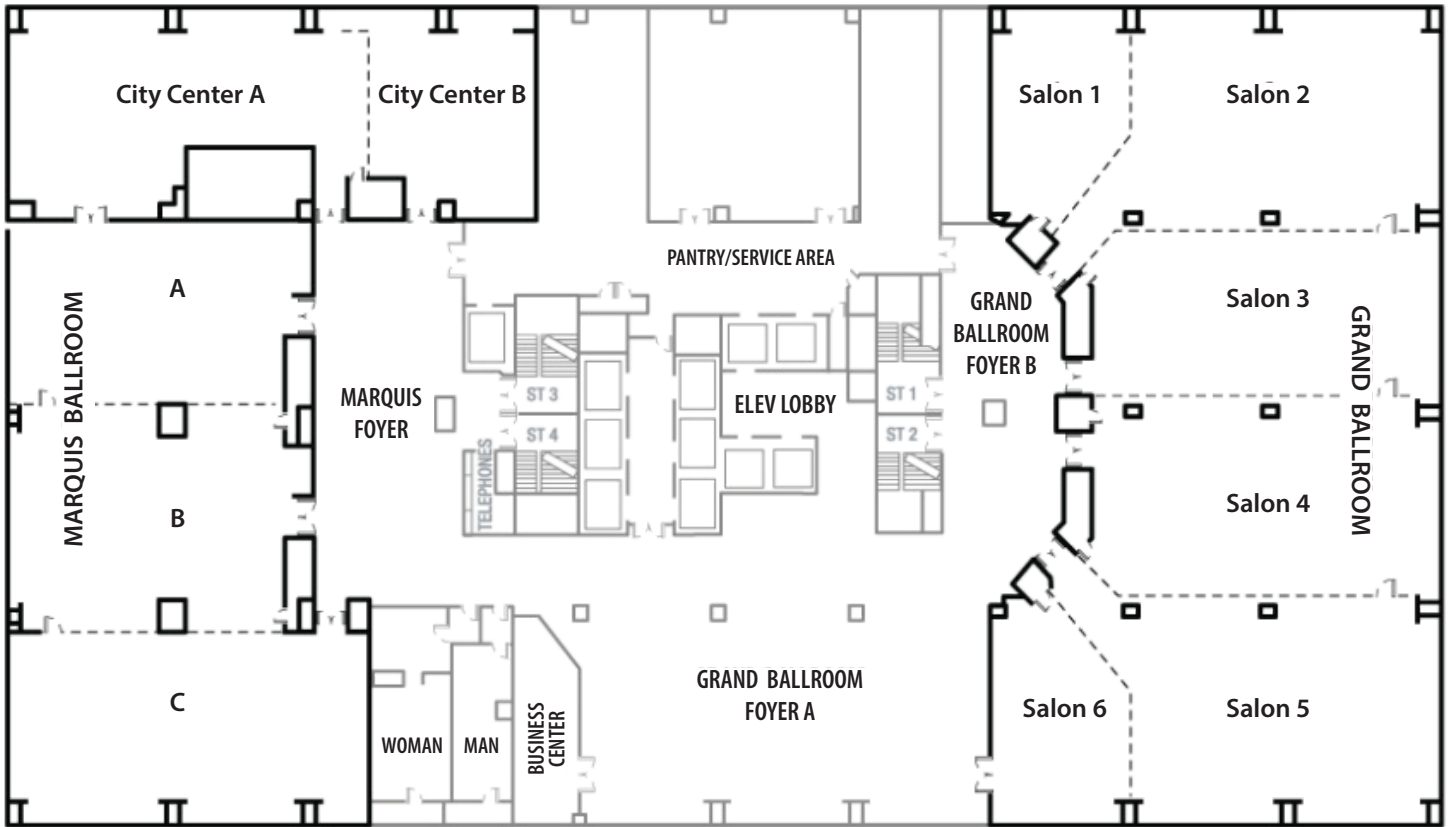
Commercial Buildings: Design Vs. Reality—Lighting

Lighting power densities have been decreasing dramatically due to the exponential growth in LED technology, but there's more to lighting than luminaires and fixtures. Energy codes also consider daylighting requirements and controls, ranging from simple bi-level switching to complex whole-building systems. The speakers will discuss how energy modeling can be used in the design of lighting systems, how local building departments typically enforce lighting requirements, and how commissioning can support increased compliance with lighting requirements.





CONFERENCE Floor Plan





THANK YOU to our moderators and speakers!

(Bios are available at <https://www.energycodes.gov/2017-national-energy-codes-conference>)

TOPIC	MODERATOR	SPEAKERS
Top-Ten Ways to Increase Code Compliance: Inspection Edition	Jason Vandever	Hilary Grimes-Casey, Michael Turns, Mike DeWein
What's New in Codes? 2018 IECC, ASHRAE 90.1-2016 and More	Jeremy Williams	Eric Makela, Jim Edelson, Reid Hart
Statewide Energy Policies and Levers	Rodney Sobin	Heather Goggin, Fred Yebra, Ian Finlayson
206,000 Homes in 2016: Is the ERI a solution that will work in your state?	Eric Makela	Ryan Meres, Ian Blanding, Jeff Tiller
The Hoopla about Utilities Claiming Savings from Code Compliance	Chris Burgess	Sharon Bonesteel, Kevin Rose, Randall Higa
Third-Party Energy Professionals: Codes Creating Business Opportunity	Ken Baker	Jeff Domanski, Megan Hoyer, Ken Baker
Measuring Compliance: A Survey of Different Compliance Studies	Michael Rosenberg	Michael Rosenberg, Allen Lee, Poppy Storm/Ben Hannas
Existing Buildings: The Gold Mine Exists	Charlie Stephens	Charlie Stephens, Gina Bocra
No Humans in the Permit Office: Online Tools for Code Compliance	Richard Morgan	Lisa Rosenow, Orion Goff, Keith Winston
Beyond Energy Codes: The Future of Building Performance	Maureen Guttman	Ryan Colker, Ken Levenson
Scaling Up Codes Toward Multifamily Energy Efficiency	Darren Port	Jim Edelson, Nina Baird, Poppy Storm/Ben Hannas
Top-Ten Ways to Increase Code Compliance: Plan Review Edition	Kelsey Horton	Shaunna Mozingo, Jeanne Fricot, Randall Higa
Do Cities Hold the Future of Code Advancement?	Sharon Grant	Kevin Carbonnier, Rimas Gulbinas, Christin Whitco, Grant Ervin
Behavioral Strategies for Code Adoption and Compliance	Jeff Domanski	Alex Davis, Ken Baker, Reuven Sussman
Commercial Buildings: Design vs. Reality - HVAC	Reid Hart	Ramya Shivkumar, Shaunna Mozingo, John McFarland
Economics of Energy Codes	David Cohan	Lauren Westmoreland, Paul Emrath, Bing Liu
Commercial Buildings: Design vs. Reality - Lighting	Sareena Nagpal	Ramya Shivkumar, Duane Jonlin, John McFarland





Multiple horizontal blue lines for writing, arranged in a series of approximately 20 rows.



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