

# ENERGY CODES | 2023

2023 NATIONAL ENERGY CODES CONFERENCE  
HOSTED BY THE U.S. DEPARTMENT OF ENERGY

May 2-4, 2023 | Chicago, IL

U.S. DEPARTMENT OF ENERGY  
Office of ENERGY EFFICIENCY & RENEWABLE ENERGY



## ENERGY CODES BOOTCAMP & TOUR Tuesday, May 2

1:00 – 4:00p	Tour – Kinexx Modular Construction Manufacturing Plant ( <i>must sign up in advance</i> ) – <i>Clark 5 (for presentation before tour)</i>
1:00 – 5:00p	<b>Crystal</b> Energy Codes 101 REScheck Basics COMcheck Basics
5:30 – 6:30p	Welcome Reception - <b>Mezzanine</b>

## Day 01 Wednesday, May 3

8:00 – 9:00a	Registration ( <b>Outside Empire</b> ) & Breakfast ( <b>Mezzanine</b> )		
9:00 – 9:30a	Welcome & Opening Remarks - <b>Empire</b>		
9:30 – 10:00a	Keynotes: Governor JB Pritzker, Illinois ( <i>recorded remarks</i> ), Jeff Marootian, Senior Advisor, Office of the Secretary ( <i>recorded remarks</i> ) and Ram Narayanamurthy, Deputy Director, Building Technologies Office, U.S. DOE - <b>Empire</b>		
10:00-10:30a	Break		
10:30 – 11:30	New Federal Funding and Assistance Opportunities for Building Energy Codes - <b>Empire</b>		
11:30 – 1:00p	Networking Lunch and Awards - <b>Empire</b>		
1:00 – 2:30p	<b>Honore</b> Decarbonizing Energy Codes: Weighing Effectiveness, Adoptability, and Enforceability	<b>Wabash</b> Navigating DOE Energy Code Funding: Past, Present, and Future Opportunities	<b>Crystal</b> (Discussion) BPS and Codes: Making Sure the Left Hand Knows What the Right Hand is Doing
2:30 – 3:00p	Break		
3:00 – 3:30p	Lightning Round – Where Are Energy Codes Going by 2035? - <b>Empire</b>		
3:30 – 5:00p	<b>Honore</b> What’s the Latest in the IECC and 90.1 Model Code Development Cycles?	<b>Wabash</b> What States and Cities Ought to Know About Macro Trends Impacting Multifamily Properties	<b>Crystal</b> (Discussion) Building Up the Workforce: Strategies to Reach Students and Working Professionals

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## Day 02 Thursday, May 4

7:30 – 8:30a	Registration ( <b>Outside Empire</b> ) & Breakfast ( <b>Mezzanine</b> )		
8:30 – 9:30a	The Next Decade: The Role of Energy Codes in Supporting State and Local Goals - <b>Empire</b>		
9:30 – 10:00a	Break		
10:00 – 11:30	<b>Honore</b> Building Performance Standards: Adoption, Implementation, and Lessons Learned	<b>Wabash</b> Lessons Learned with Electrification Stretch Codes	<b>Crystal</b> (Discussion) The Suite Life: Benefits and Challenges of Adopting all Codes
11:30 – 12:30p	Networking Lunch - <b>Mezzanine</b>		
12:30 – 2:00p	<b>Honore</b> How Valuing Resilience Demonstrates Energy Codes Benefits for Grid Stability and Life Safety	<b>Wabash</b> Saving Water and Saving Energy in Growing Communities	<b>Crystal</b> (Discussion) Leveraging Relationships to Encourage Program Buy-In and Improve Code Compliance
2:00 – 2:30p	Break		
2:30 – 4:00p	<b>Honore</b> Embodied Carbon: Taking a Lifecycle Approach to Codes	<b>Wabash</b> Performance Based Compliance: From Modeling to Quality Assurance	

## Session Descriptions

### Wednesday, May 3

**New Federal Funding and Assistance Opportunities for Building Energy Codes:** What types of activities can help achieve the most energy and emission savings from energy codes? With an unprecedented \$1.225 billion in funding between the Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA) to support energy codes, States and local governments will have options. From adopting advanced energy codes, to developing software tools to improve compliance, to implementing workforce programs in disadvantaged communities - available funding can help meet these critical needs. This plenary session will provide an overview and update on the funding opportunities through BIL and IRA, and describe how this funding can be leveraged to support the advancement of building energy codes throughout the country.

**Decarbonizing Energy Codes: Weighing Effectiveness, Adoptability, and Enforceability:** ASHRAE has committed to a net-zero-carbon Standard 90.1 by 2031, ICC has incorporated zero energy codes and an Energy and Carbon Advisory Council charting its course, states and jurisdictions across the country are working to decarbonize their energy codes, and Inflation Reduction Act funding for zero energy codes is coming this year. With the vast majority of states and jurisdictions relying on the national model energy codes, how will we ensure the push to decarbonize codes is effective for local, state and national actors? How are individual states and jurisdictions looking at the path to decarbonizing their energy codes while working to effectively implement those they already have on the books? This session will look at these questions from different perspectives and start the conversation about where we all go from here.

**Navigating DOE Energy Code Funding: Past, Present, and Future Opportunities:** With the passage of the Bipartisan Infrastructure Law and Inflation Reduction Act, DOE has unprecedented levels of funding to support energy code implementation and technical assistance. Historically, the Building Energy Codes Program has advanced energy code implementation efforts by funding activities such as market research, emerging energy code topics, and innovative training programs through Funding Opportunity Announcements (FOAs). In this session, we will explore some examples of current projects and highlight how stakeholders can navigate future funding and be part of the energy code technical assistance solution.

**BPS and Codes: Making Sure the Left Hand Knows What the Right Hand is Doing:** Building Energy Codes and Building Performance Standards (BPS) may seem distinct at first glance. But beneath the surface, there are important overlaps between BPS and energy codes, and coordinating the two policies should be a key priority for jurisdictions. As jurisdictions increasingly design, adopt, and implement BPS, policymakers and implementing entities are beginning to develop best practices and learn from early adopters about how to align and coordinate their BPS and building energy codes. Session attendees will hear from experts and practitioners in this space, as well as participate in discussion around this nascent policy coordination effort.

**What's the Latest in the IECC and 90.1 Model Code Development Cycles?:** The model energy codes are important tools to help achieve national, state, and local energy and emission reduction goals. DOE analysis shows national model building energy codes are projected to save \$138 billion in energy cost savings, 900 MMT of avoided CO2 emissions, and 13.5 quads of primary energy from 2010 through

2040. Join this session to learn about the latest in the world of model code development. ASHRAE 90.1 recently released its 2022 standard and is now looking ahead to 2025. IECC is well into its 2024 development cycle for the first time using a standards-based process, and expects to publish this year. This session aims to give attendees an overview of what to expect in the latest versions of the codes and a glimpse of what is likely on the horizon.

### **What States and Cities Ought to Know About Macro Trends Impacting Multifamily Properties:**

Multifamily buildings comprise between 40 and 50% of new residential construction across the US, and data suggests these trends will persist. This session will highlight multifamily buildings trends – both market rate and affordable housing – that impact new construction and the built environment. The session will examine the landscape for multifamily buildings with common issues like air leakage, ventilation (indoor air quality), as well as new trends such as all electric buildings. Speakers will also discuss new tools that can help support multifamily owners and developers that support construction or upgrades to buildings in municipalities with strong climate policies. This panel will also consider the variety of adoption and compliance issues that impact the multifamily sector and how new codes, and electrification supports the affordable multifamily sector.

**Building up the Workforce: Strategies to Reach Students and Working Professionals:** A robust and educated workforce is essential to achieving compliance with energy codes and preparing for future technologies, practices, and requirements. As many knowledgeable building professionals retire, it is increasingly important to invest in the future workforce. This panel will explore diverse techniques to educate professionals and expand the workforce by bringing new workers into the building industry, particularly through engaging high school and college students.

## **Thursday, May 4**

**Building Performance Standards: Adoption, Implementation, and Lessons Learned:** Building Performance Standards (BPS) are exciting, outcome-based policies moving the needle on energy performance in existing buildings. Every day, new jurisdictions across the United States are exploring and designing BPS to meet the energy and emissions reduction needs of their existing building stock. As with any new policy movement, questions arise around policy design and implementation specifics. Come learn about BPS best practices, available federal resources, and collaboration-based approaches that allow everyone to achieve their energy and emissions goals.

**Lessons Learned with Electrification Stretch Codes:** One of the ways some cities and states are working to reduce the environmental impact of their building stock is through the development, adoption, and implementation of all-electric codes aimed at building decarbonizing. This session will review the current landscape for all-electric codes. Speakers will discuss how these codes are being developed and advanced, as well as lessons learned from boots-on-the-ground experience adopting and implementing all-electric codes. This session will seek to answer questions such as, “What are best practices when implementing all-electric codes?,” “How are all-electric codes expected to impact the grid?,” “What other codes or programs can help support the transition to these codes?,” and more.

**The Suite Life: Benefits of Adopting all Codes:** With the launch of the National Initiative to Advance Building Codes, the White House committed funding and direct technical assistance to support state, local, and tribal governments in updating to the latest building codes and standards. Although codes are developed as a suite – offering a comprehensive community building standard to improve energy

efficiency and make buildings more resilient to extreme weather events – they are often adopted in an ad hoc fashion, with some codes, such as the energy code, not being adopted at all. This session will highlight the many benefits of adopting the full suite of codes and provide guidance on how communities can leverage federal funding to adopt and maximize the benefits of all codes.

**How Valuing Resilience Demonstrates Energy Codes Benefits for Grid Stability and Life Safety:** As extreme weather events become more frequent and more intense, the necessity for implementing modern building codes is becoming increasingly apparent. To date, energy codes have primarily focused on reducing energy costs, energy use, and emissions. However, as climate adaptation becomes a priority, energy codes are also being recognized for their contributions to resilience. This session will explore the benefits of energy efficiency, from enhanced passive survivability for occupants to human health, and more resilient energy systems. Presenters will discuss the role of energy codes in reducing energy burdens and enhancing economic resilience, distributed energy resource technologies promoting enhanced grid resilience, and how communities are accessing federal energy code funding to reduce vulnerabilities to extreme heat.

**Saving Water and Saving Energy in Growing Communities:** Across the United States, there is increasing focus on the need to use water efficiently, especially in some of the fastest growing regions of the U.S., many of which are experiencing long and/or severe droughts. In addition, water heating is one of the largest end uses of energy in residential and multifamily buildings, so efficient use of water has the additional benefit of saving energy. This session will examine how building energy codes and building product manufacturers are responding to these water conservation challenges.

**Leveraging Relationships to Encourage Program Buy-In and Improve Code Compliance:** When we work together, we see the best results. Whether in a large community or one-on-one setting, forming relationships and establishing trust are necessary to ensure the success of a program. The panel will discuss examples of how to build and maintain these relationships and explore the myriad ways these partnerships can be leveraged, including through energy codes collaboratives, circuit riders, and utility engagement. Through a coordinated approach, we can share best practices, avoid common pitfalls, streamline compliance and implementation processes, and ultimately ensure the range of energy codes stakeholders are represented and benefit from the latest codes.

**Embodied Carbon: Taking a Lifecycle Approach to Codes:** With the increased interest in quantifying the greenhouse gas emissions associated with a building, there is a push to not only consider operational emissions but also emissions from producing building materials, and the construction and decommissioning of each building. This session will provide an overview of some of the ongoing work to try to quantify the full lifecycle of emissions associated with a building, and discuss how this could be addressed by future building codes.

**Performance Based Compliance: From Modeling to Quality Assurance:** With the increased push toward decarbonizing the building stock, including net-zero new construction and Building Performance Standards for existing buildings, performance-based codes are receiving more attention. This session will provide an overview of performance-based residential and commercial energy codes, discuss the drivers leading to their expanded uptake, the challenges associated with that uptake, and some of the quality assurance processes being put in place to assure desired outcomes are met.

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