BUILDINGENERGY NYC

Policy Process Panel:
Demystifying Codes & Standards Development

Ryan Colker (International Code Council)
Elizabeth Staubach (NYSERDA)
Grant Sheely (New Buildings Institute)

Curated by Tristan Grant and Grant Sheely

Northeast Sustainable Energy Association (NESEA) | October 24, 2024

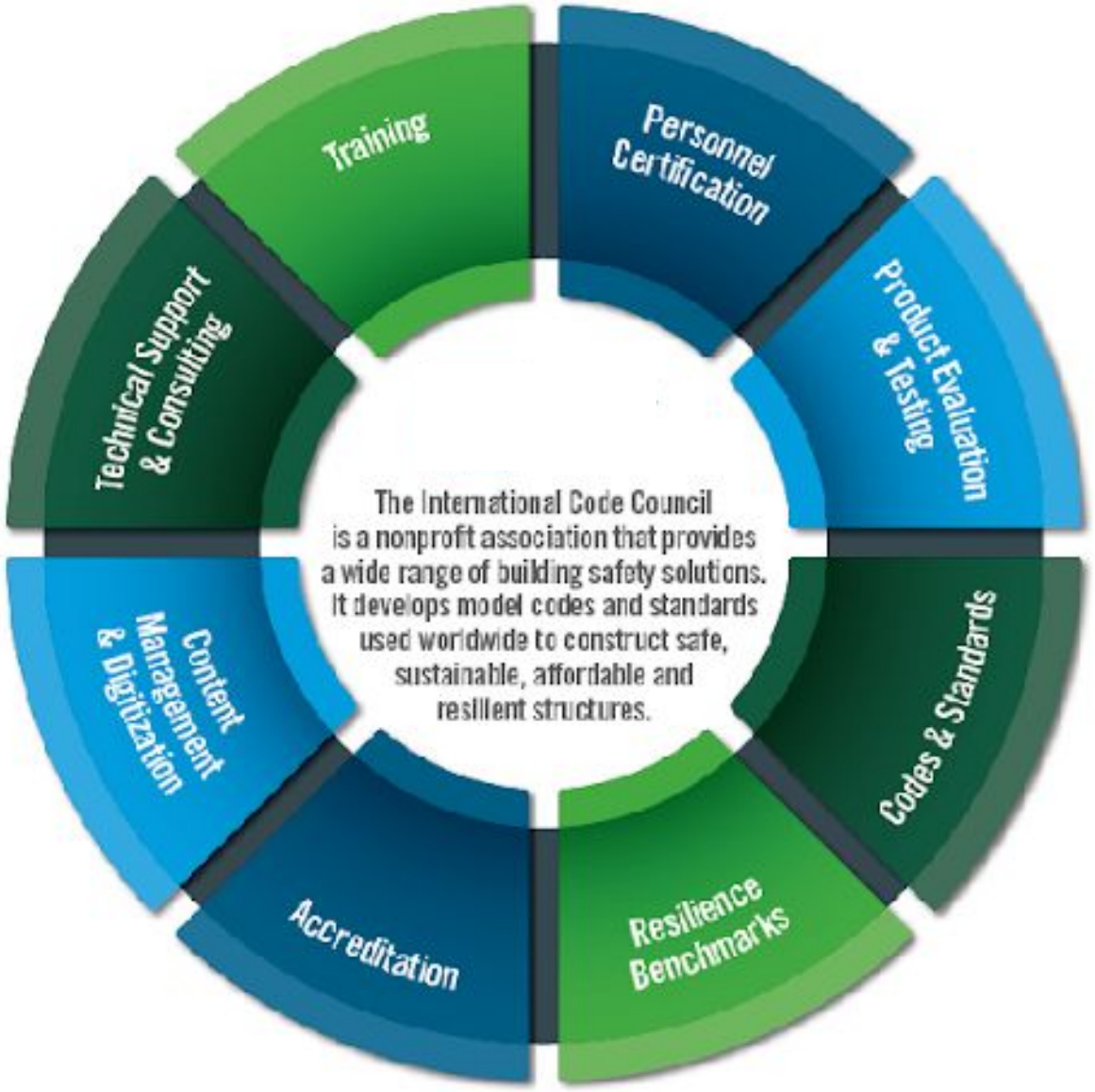
Demystifying the Codes & Standards Process

Ryan Colker, Vice President, Innovation

NESEA Conference

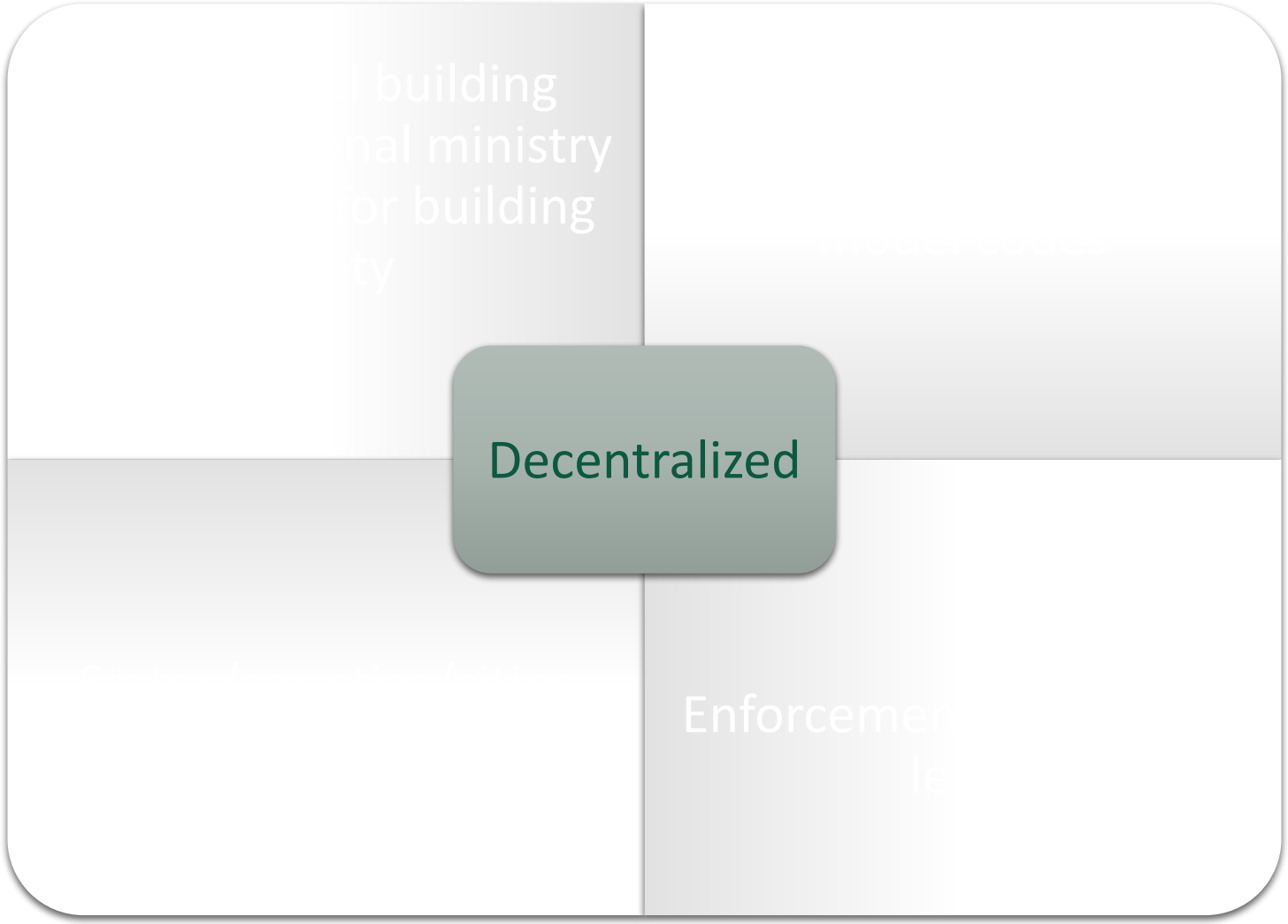
October 24, 2024

The Family of Building & Community Solutions

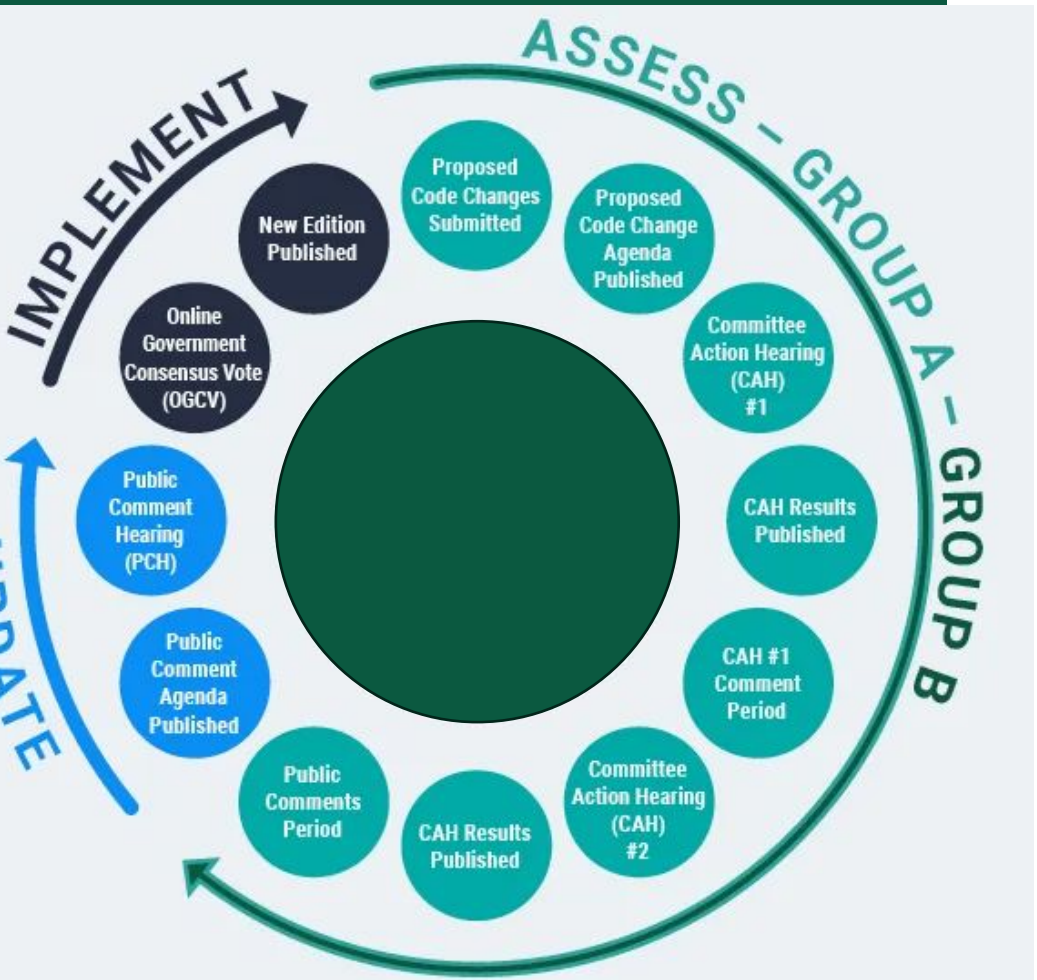


- Codes and Standards
- Personnel Training and Certification
- Product Evaluation
- Accreditation Services
- Codification & Administration Services
- Engineering Support
- Community Resilience Benchmarks™
- Third-Party Evaluation Services

Model Building Codes in the United States



Code Development Process



The Code Council also develops a number of standards, including mechanical, plumbing, structural, resilience, accessibility and green, and is accredited by the American National Standards Institute as a standards developer.

Standards Development Process

The best way to understand the standards development process is to take a step-by-step approach. The International Code Council (ICC) develops its standards through an ANSI-accredited Consensus Process that includes gathering input from the Code Council's membership, industry professionals and the public. The result is a standard that reflects current industry best practices. Think of the Code Council as a provider of the platform to develop standards relevant to the Code Council's membership and the I-Codes. It's easy to get involved with the standards development process and your participation ensures that you have a voice in standardizing ways of driving business as well as compliance practice.

STEP 1

A need is identified to develop a new standard or revise an existing one.

STEP 2

A committee is appointed from a pool of applicants responding to a posted Code Council "call for committee".

The committee works with a Code Council staff secretariat to establish a work plan, conduct scheduled meetings and follow the ICC Consensus Procedures.

The committee can create work groups in which committee members and interested parties can participate in the standard development.

STEP 3

The initial draft of the new standard is crafted by the committee and staff, or the previous edition is made available for input by committee members or interested parties.

The initial draft becomes the public comment draft and is posted publicly for a defined comment period.

STEP 4

The public comments are organized, considered by the committee and, in turn, may become revisions to the document text to create a second public comment draft.

The second draft is again posted publicly for comment on the revisions only.

This step repeats until there are no longer technically substantive public comments or committee proposals.

If comment resolution is not achieved, each objector is informed in writing of the appeals process.

STEP 5

The committee is balloted for final approval of the draft to become an ICC standard.

When approved, the standard is published and made readily available.

ANSI Approval is concurrently requested so that the ICC standard can become an American National Standard.

ICC standards are typically maintained under a five-year revision cycle and new standards ideas are always under consideration by Code Council staff. Committee participation begins with answering the committee call posted on the Code Council's Call for Committees webpage. Finished ICC standards can be referenced in the I-Codes through the ICC Code Development Process.

https://www.iccsafe.org/products-and-services/codes-standards/

2024 Residential Energy Code Development

Instead of code hearings, 2024 IECC was developed like a standard Residential Consensus Committee (48 members, selected in early 2021)

- 15 Code Officials (ID, NJ, NY, MA, ME, TX, GA, NC, IA, FL, VA, LA, CO, MD)
- 10 Builders (NAHB, LBA, Habitat for Humanity, other homebuilders)
- 9 Public Segment (DOE, PNNL, NBI, EECC, SWEEP, MEEA, NRDC)
- 7 Users (Raters, Architects)
- 4 Manufacturers (AHRI, insulation, windows & doors, solar)
- 2 Utilities

Six Sub-Committees: Admin, Envelope, HVAC & HW, EPLR, & Modeling

1st call for proposals were due in October 2021

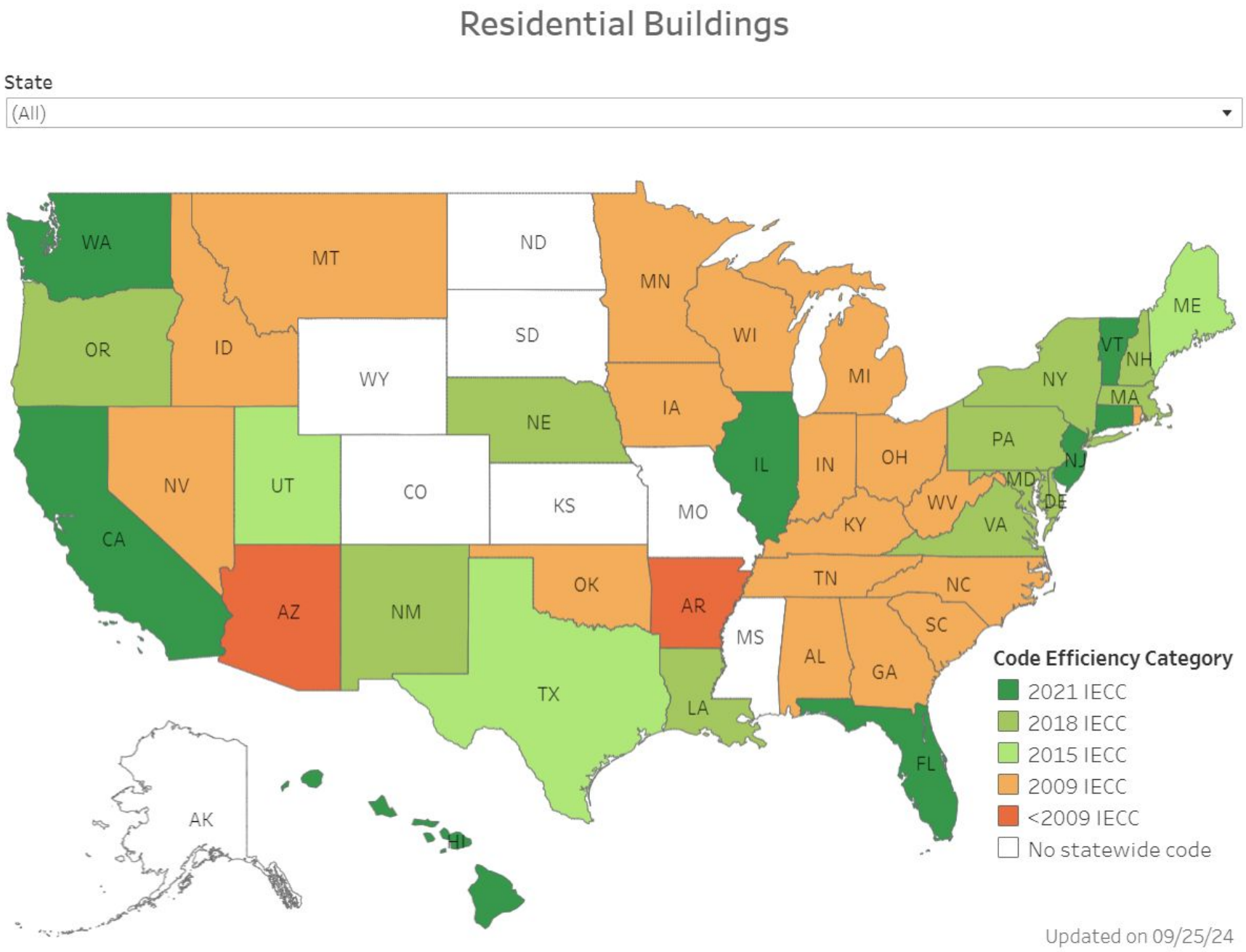
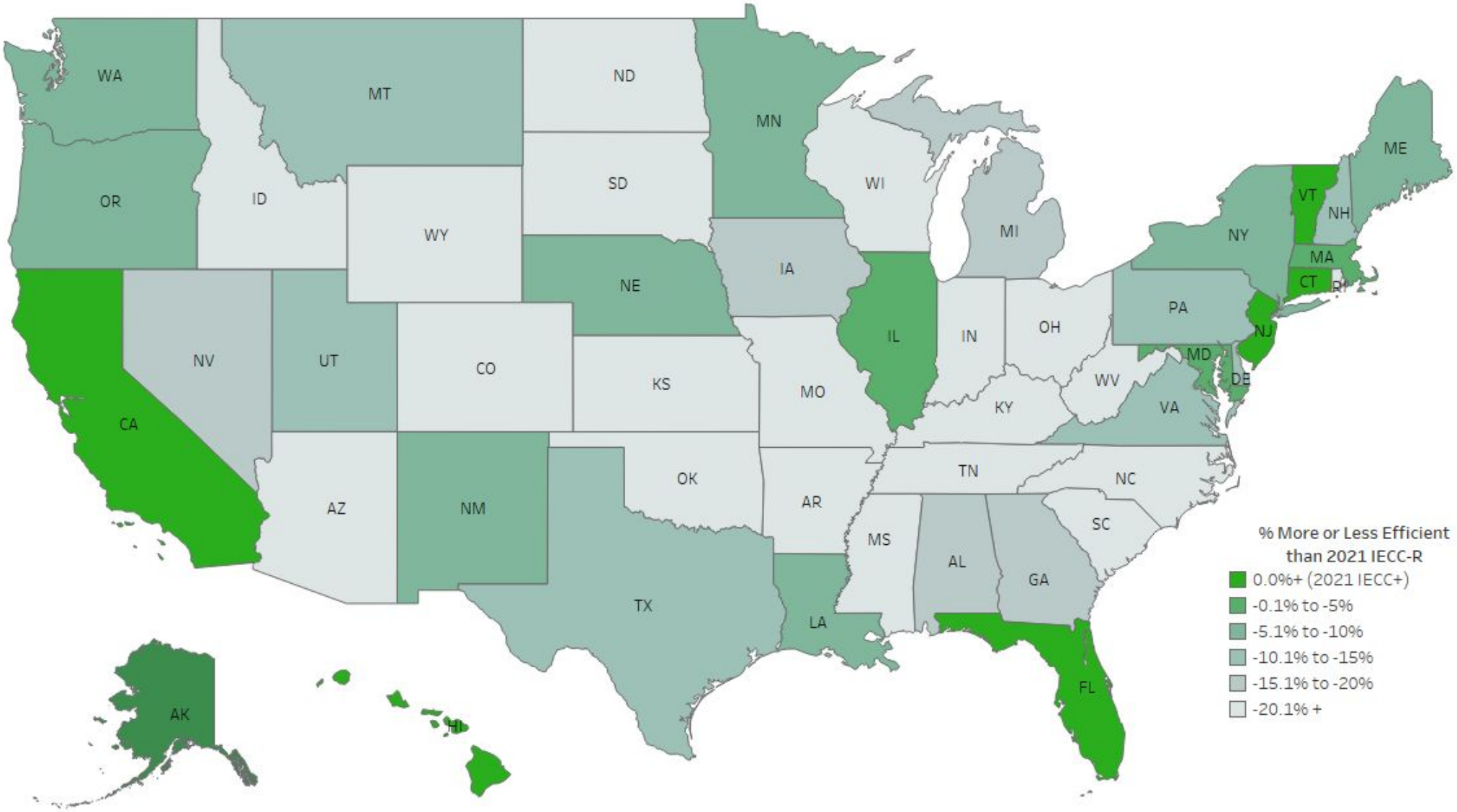


Table 1. Status of State Energy Code Adoption Map Summary - Residential

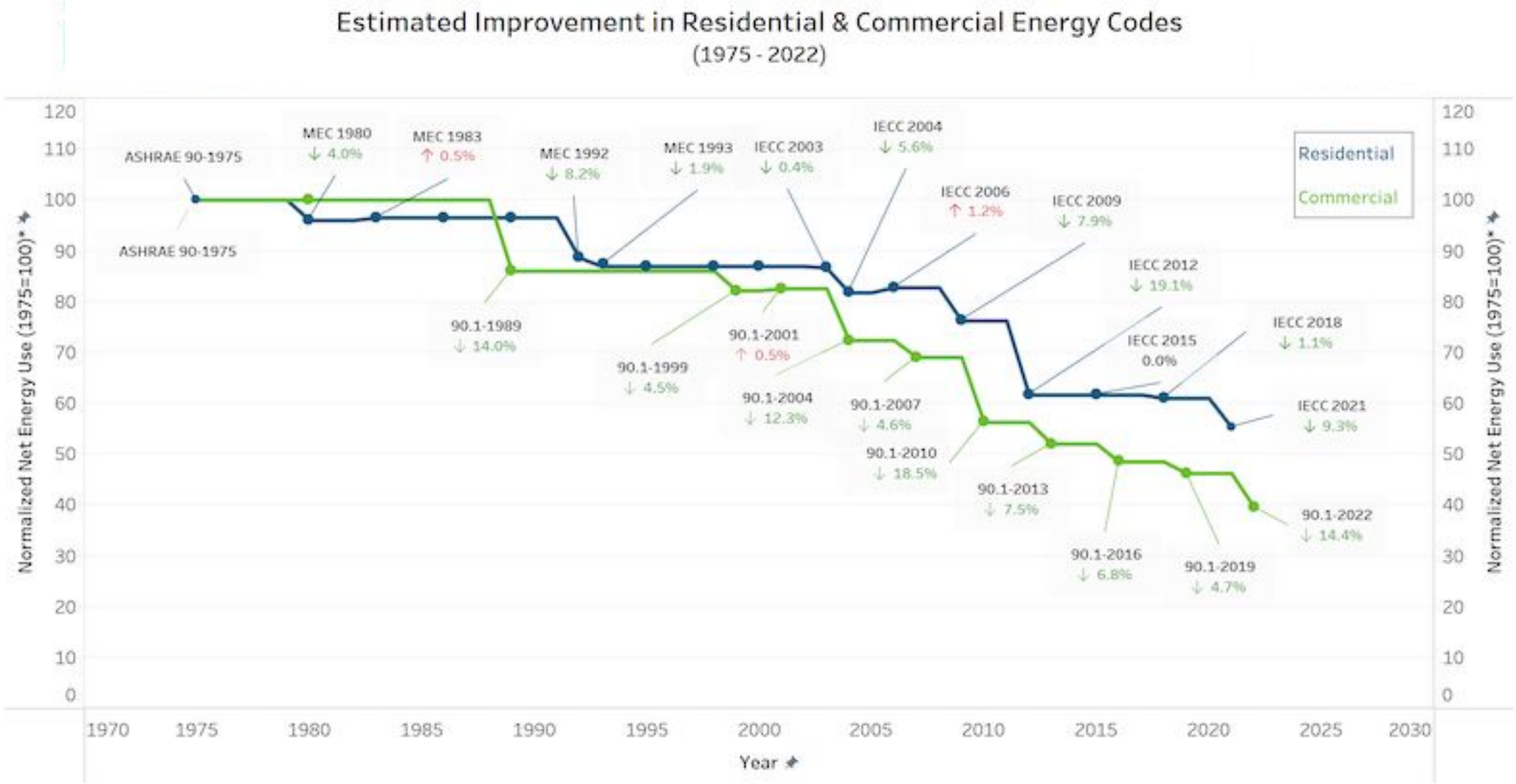
https://www.energycodes.gov/state-portal

Residential Energy Code: State Energy Index Relative to Current Model Code (2021 IECC)



US DOE BECP: Status of State Energy Code Adoption - https://www.energycodes.gov/status/residential
State Energy Index Data: https://www.energycodes.gov/sites/default/files/2024-09/StateLevelResidentialCodesEnergyUseIndex_FY2024Q4_20240925.xlsx
Updated as of 09/25/24

https://www.energycodes.gov/infographics



*Net energy use includes the contribution of renewable energy generation

https://www.energycodes.gov/infographics

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NYSERDA

Policy Process Panel: Demystifying Codes & Standards Development

Elizabeth Staubach, Senior Project Manager-NYSERDA Codes, Products and Standards Team

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Public Outreach in Code Development

- **Request for Information**
- **Stakeholder Advisory and Technical Working Groups**
- **Public Comment Periods and Opportunities**

Request for Information

NYSERDA sought input to support and inform New York State's code development efforts. The goal was to make modifications and create new measures that will cost-effectively improve building performance while reducing energy and cutting GHG emissions.

Priority Topics

Decarbonization
Electrification
Heat Recovery
Thermal Bridging
Embodied Carbon
Air Leakage
Passive House
Building and System Controls
Distributed Energy Resources (DER)
Indoor Air Quality

Priority Sectors

High Rise Commercial and Multifamily (over 11)
Stand-alone Retail
Full-service Restaurants
Manufacturing
Warehouse-Non-Manufacturing

RFI Submission Summary

Overview	Number Submitted
Total Unique Responses	55
Non-Residential	39
Residential	16
Feasible Responses (Energy Code)	22
Feasible Responses (Uniform Code)	22
Feasible Responses (Hybrid)	2

RFI Topics Covered:

- Electric Vehicles
- Electrification
- Embodied Carbon & Refrigerants
- Energy Storage
- Envelope
- General Code and Structure
- Grid Interactivity
- HVAC and Service Water Heating
- Lighting
- Metrics
- Modeling
- Solar and Renewables

Stakeholder Advisory and Working Groups

To support NYSERDA's code development efforts, a Request for Qualifications was released for individuals to serve on one or more of the following Working Groups:

- Stakeholder Advisory Group
- Housing and Low-rise Multifamily Technical Working Group
- Commercial Technical Working Group
- High-rise Multifamily Technical Working Group
- Outreach and Implementation Working Group

Members of the Stakeholder Advisory Group constituted the basis of the Commercial Technical Working Group, Housing and Low-rise Multifamily Technical Working Group, High-rise Multifamily Technical Working Group and the Outreach and Implementation Working Groups.

The Working Groups considered and reviewed proposed provisions and code language and made recommendations to the Stakeholder Advisory Group.

Stakeholder Advisory and Working Groups

The Consultants selected demonstrated high-quality analytical and technical expertise and were required to thoroughly complete assignments within firm deadlines. This required breadth of experience and expertise.

It was NYSERDA's intent to have representatives from the following fields represented on each of the Stakeholder Advisory and Technical Working Groups:

- Architects
- Engineers
- Environmental Advocacy Organizations
- Environmental Justice and Energy Equity Advocates
- Developers/Builders (Commercial/Single Family and Multi-family Housing)
- Energy Raters
- Passive House Experts
- Utilities
- Other Clean Energy Solution Providers

Public Comment Periods

NYSERDA held 2 Public Comment Periods

- Comments were sorted and reviewed based on topic area.
- Documents summarizing the comments and information on if and how the comments were addressed were available.

Future Opportunities for Participation

- New York State Department of State Rule Making Process

nbi new buildings institute

Code & Policy Team

10/24/2024

Photo credit: Grant Sheely

What's Driving the Market

- IIJA
  - $225M for RECI
- IRA - $1B for Building Energy Codes
  - $240M Formula – Latest Code
  - $160M Formula - NZE
  - $530M Competitive Grants


Photo Source: Grant Sheely

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Foundations of Codes and Policy Team

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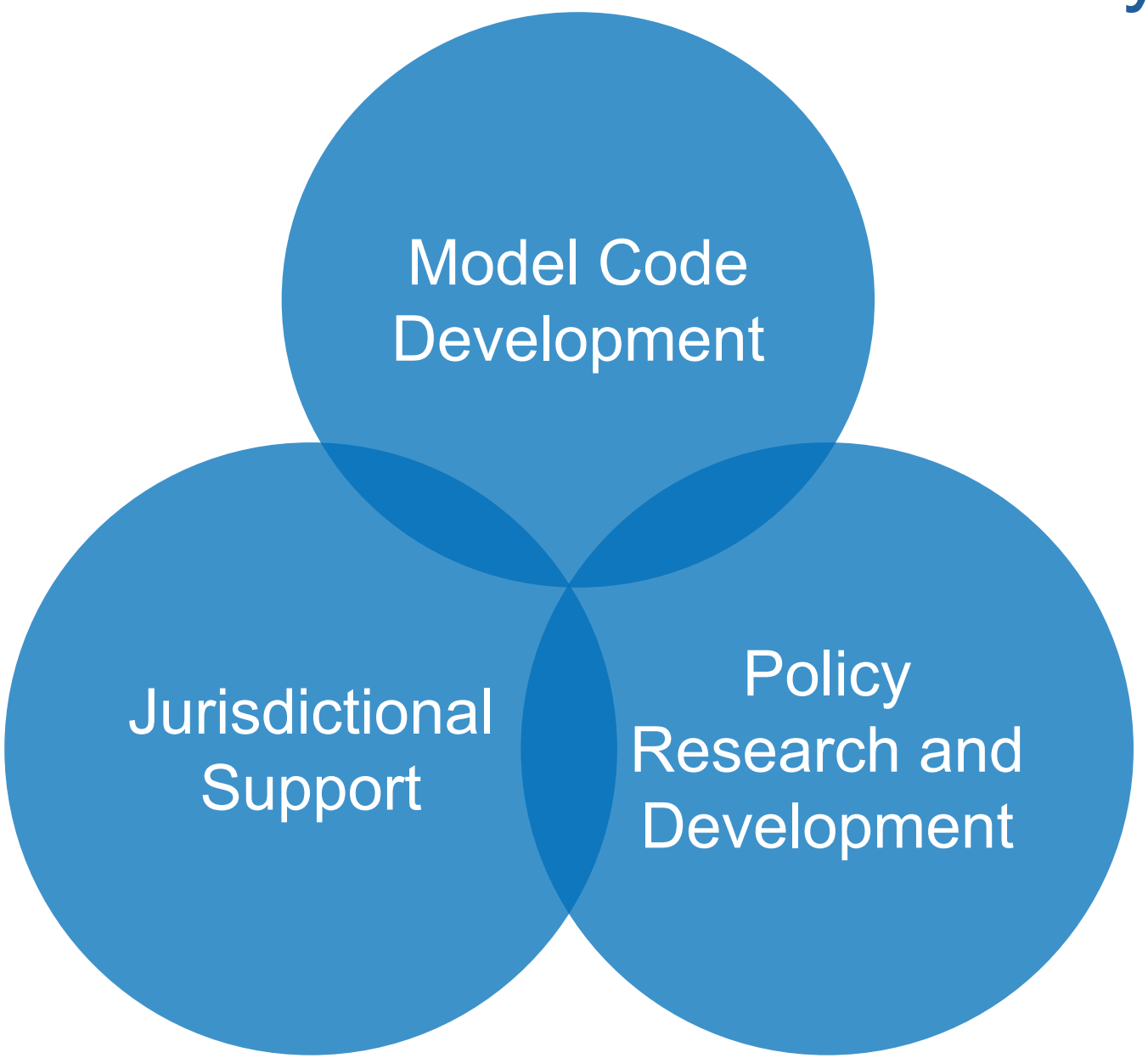
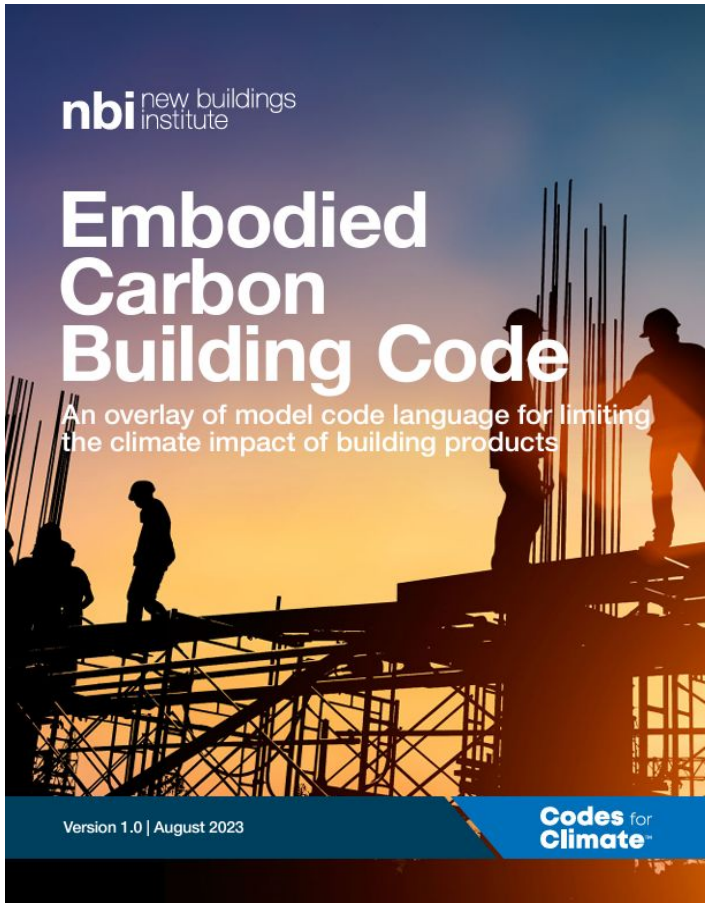
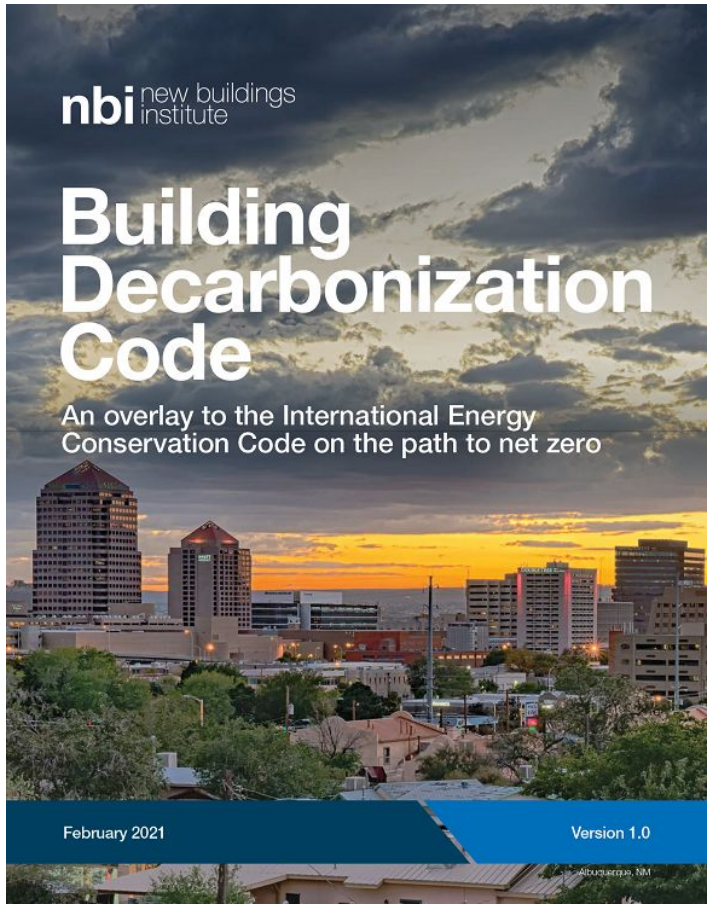
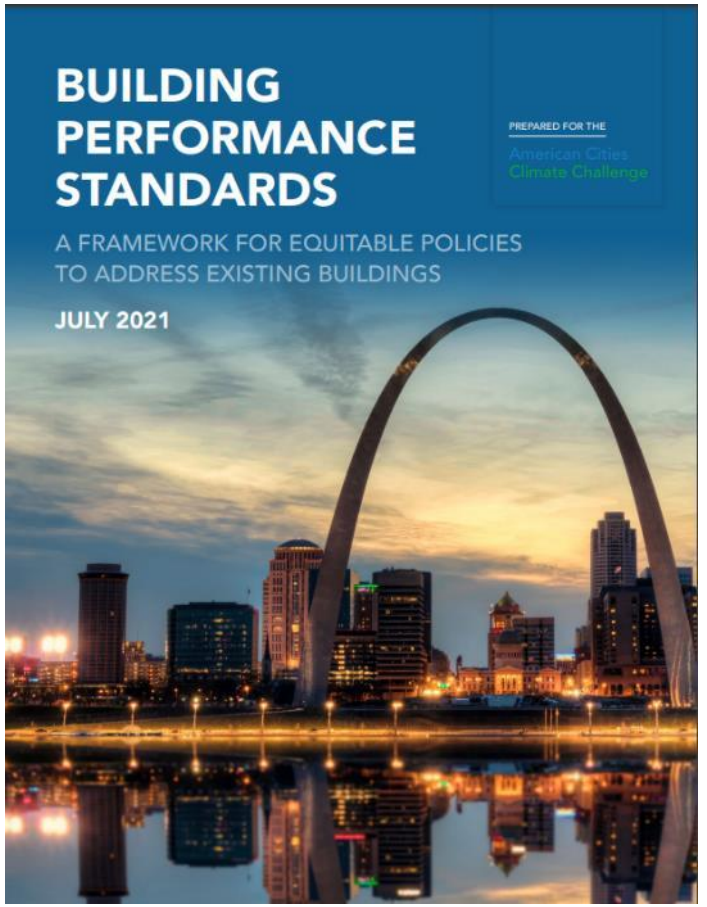


“Beyond” Base Code







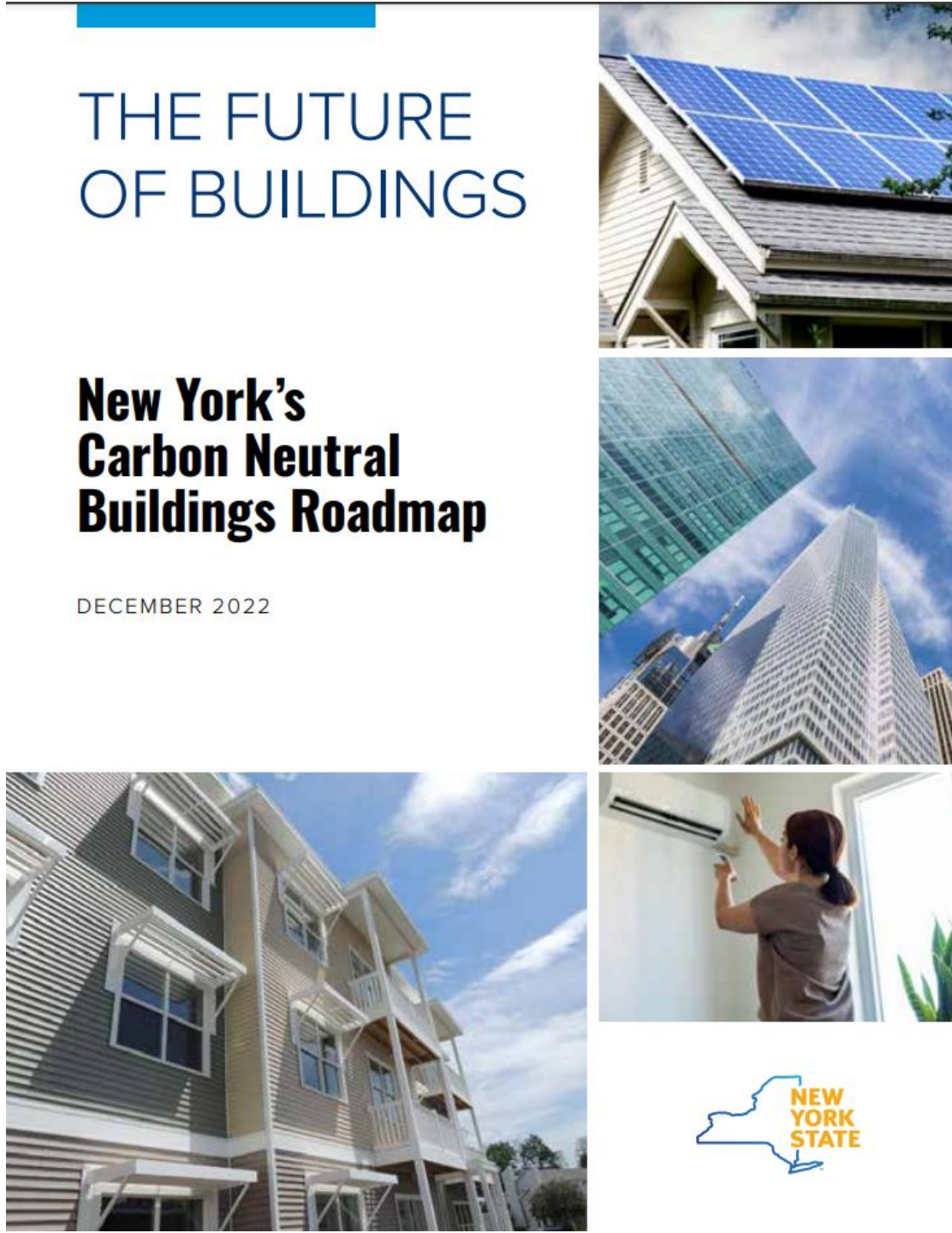
New Building Institue's National Presence

What objectives do we need to achieve by when? Energy, carbon & embodied carbon, climate resilience, health, and others...

NYS Policy Development

Climate Leadership and Community Protection Act:

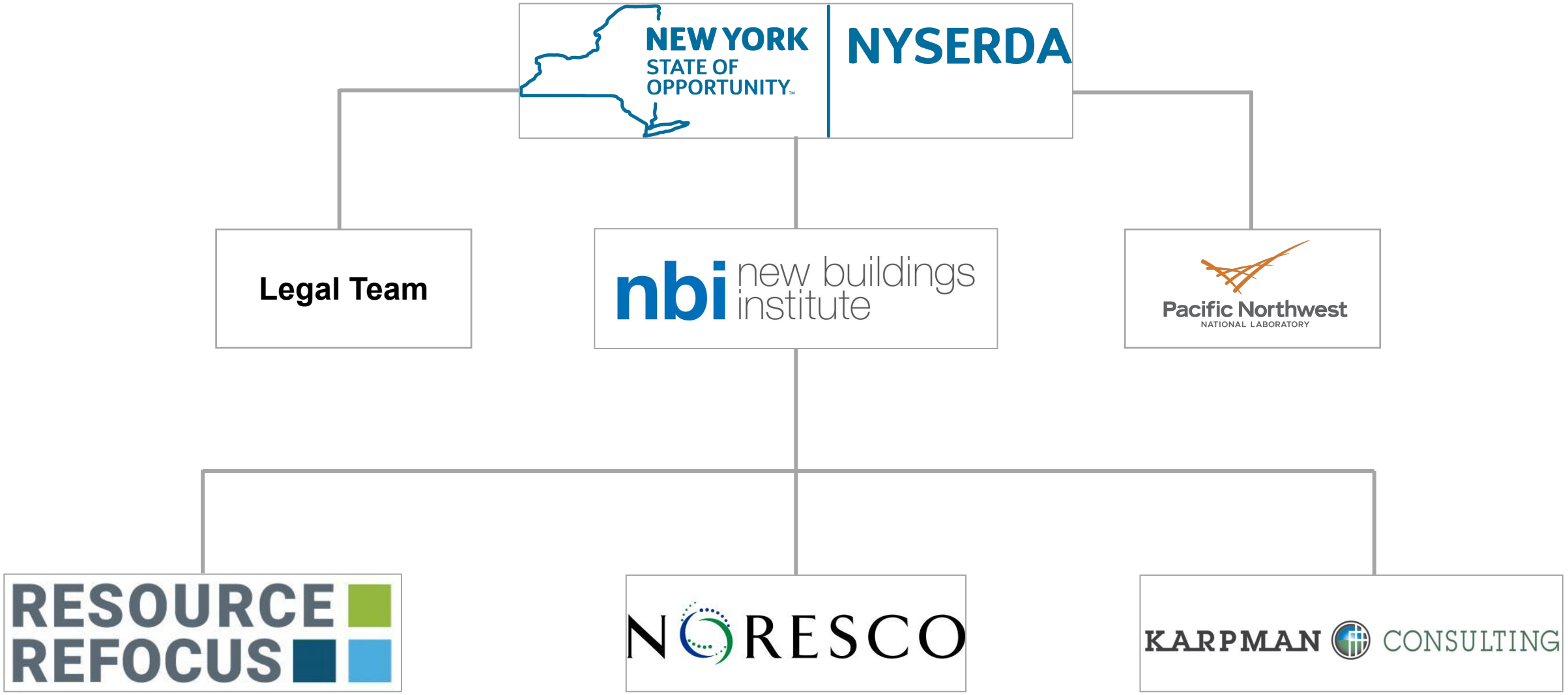
- 70% of the States electricity will be generated by renewable energy by 2030
- 100% Zero-Emissions electricity by 2040
- 40% Reduction in statewide GHG emissions from 1990 levels by 2030
- 85% reduction in statewide GHG emissions from 1990 levels by 2050
- At least 35% of benefits directed to disadvantaged communities



New York States Roadmap to Carbon Neutral Buildings: Key Priorities

- Significantly **improving building envelope** (thermal performance and reducing air infiltration) to reduce heating and cooling loads, as well as r**educing water consumption** to reduce domestic hot water heating need;
- Rapidly **electrifying** thermal loads;
- Equipping buildings with **energy storage and/or the ability to shift energy use** and to interact in real time with the electric grid;
- Satisfying building energy loads with distributed **renewable energy resources** or other emissions free energy sources from the community or the grid;
- Focusing interventions on **reducing costs** of measures and construction and renovation techniques; and
- **Educating** building owners, occupants, and operators on behaviors that enable carbon neutrality and minimize costs, and providing them with the tools (e.g. advanced metering) to do so.

The Team


NEW YORK
STATE OF
OPPORTUNITY.
NYSERDA
Legal Team
nbi new buildings institute
Pacific Northwest
NATIONAL LABORATORY
RESOURCE
REFOCUS
NORESCO
KARPMAN CONSULTING

Development of Energy Code

- RFI for Code concepts (embodied carbon, electrification, etc.)
- Engaged Advisory Committee / Working Groups (residential, commercial, MF)
- Building Energy Targets through 2030 (2 rounds)
- Code Development and Review (TSPR and BFPs/MPFs development)
- 2 Rounds of Public Comment and Refine Drafts
- Cost Effectiveness Report developed
- NYS DOS Publishes "Notice of Rule in Development"

NYSERDA Rule 510

- April 29, 2024, the NYSERDA board approved a new Part 510 of Title 21 of the Official Compilations of Codes, Rules and Regulations of the State of New York
- The Final Rule

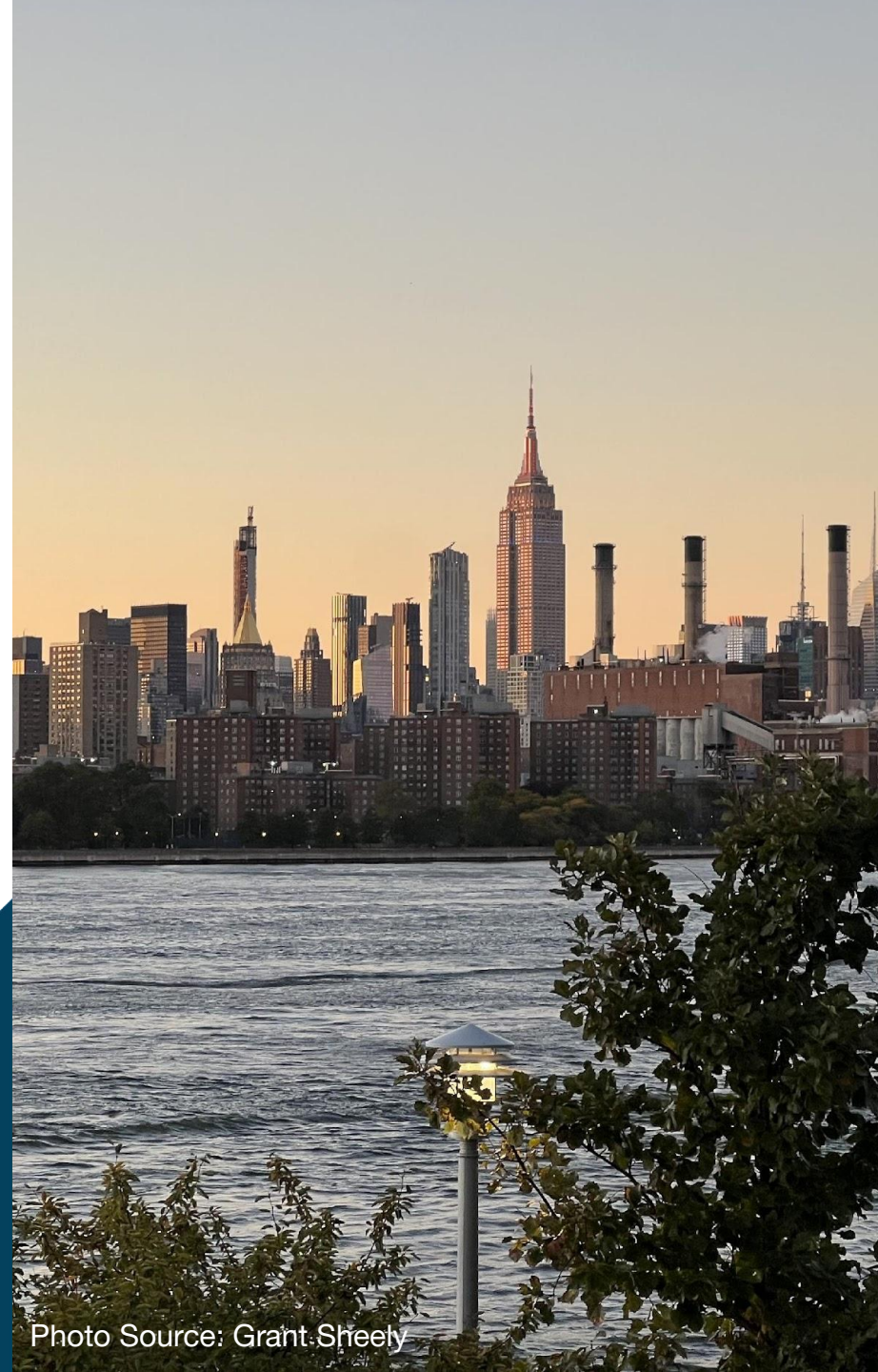
  (1) established a methodology for determining whether the life-cycle costs for a building will be recovered through savings in energy costs over the design life of the building under a life-cycle cost analysis;

  (2) defined societal effects to be considered in the cost effectiveness determination; and

  (3) provides a method for quantifying the societal effects so that they can be included in the overall cost effectiveness analysis.

Upcoming Items:

- RECI-3, past two were released end of December
- IRA FOA released in March, due May
- 2027 IECC Development
- 2025 ASHRAE Release
- 2028 ASHRAE Development
- NY NORD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