



Energy Codes 101

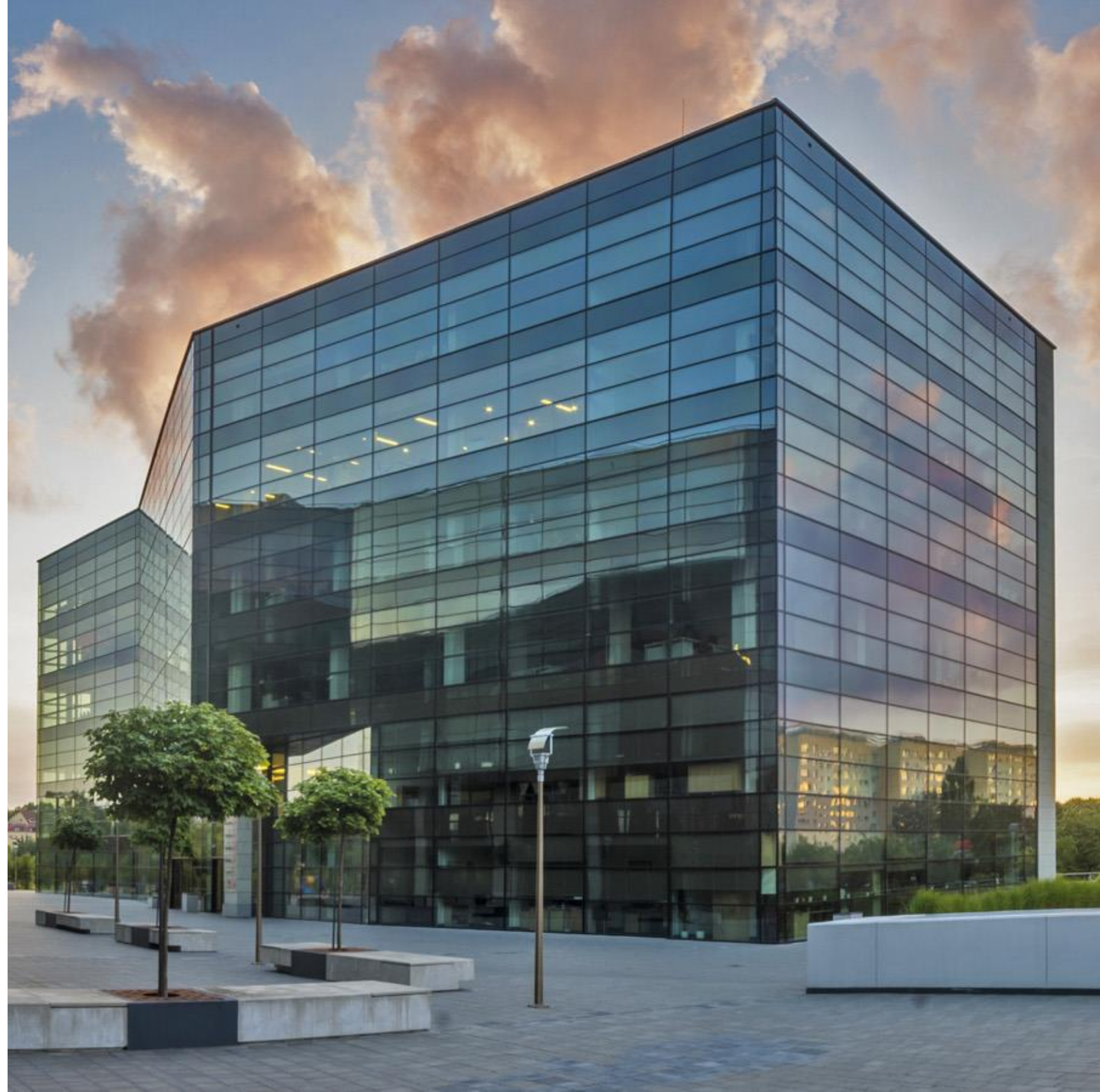
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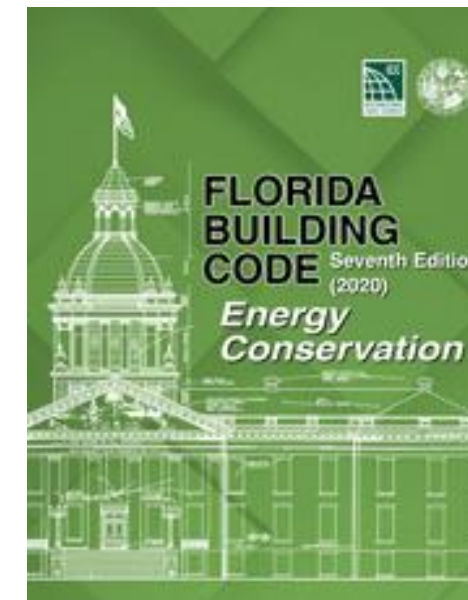
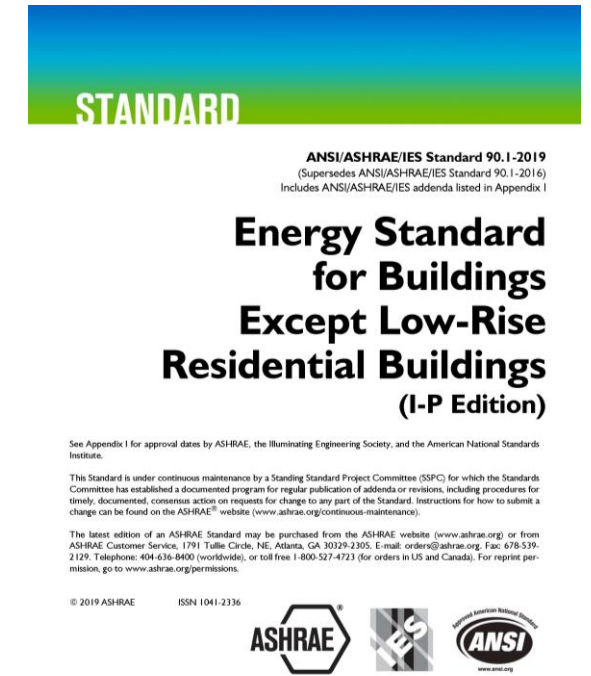
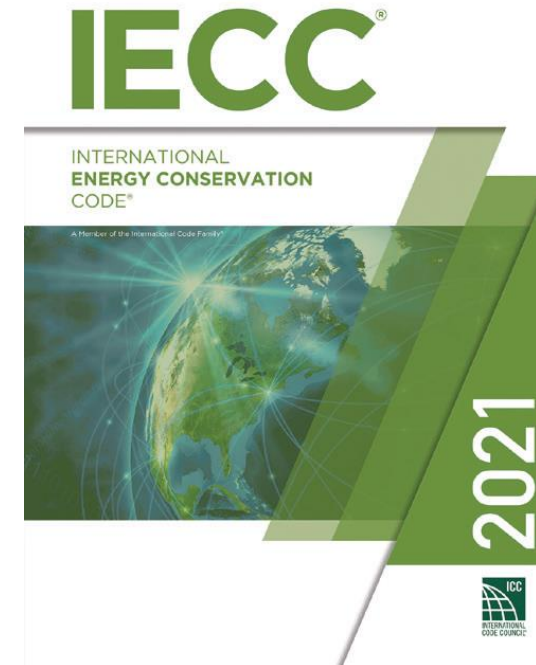
What is an Energy Code?

- A holistic set of requirements outlining the minimum levels of efficiency by which a building can legally be constructed
- Addresses all aspects of a building
 - Building Envelope
 - Mechanical
 - Service Water Heating
 - Lighting
 - Electrical Power

National Model Codes and State Codes

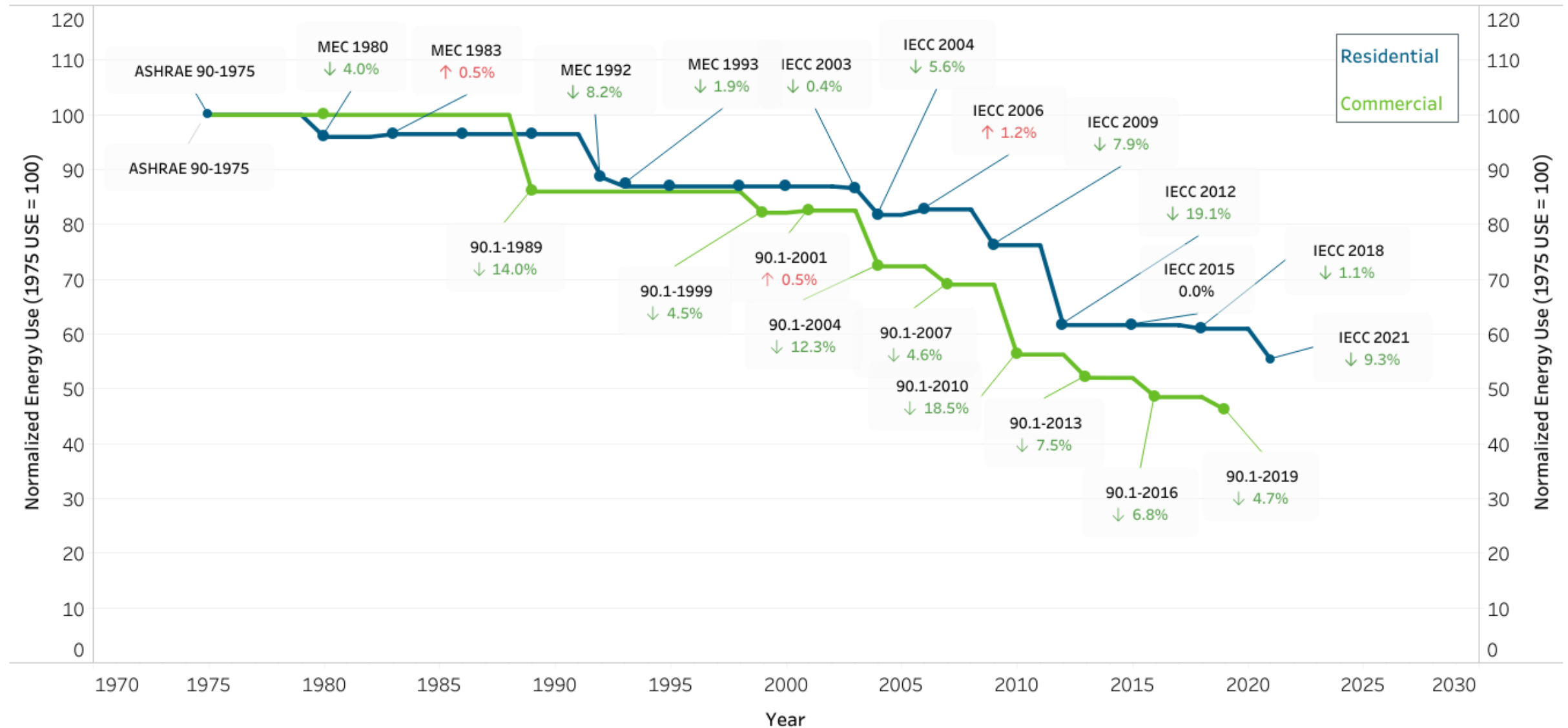
- As defined by DOE, there are two sets of national model energy codes
 - **2021 International Energy Conservation Code (IECC) – Residential Model Code**
 - ✓ IECC also includes a commercial chapter which references ASHRAE 90.1
 - **ASHRAE Standard 90.1- 2019 – Commercial Model Code**
 - ✓ ASHRAE Standard 90.2 covers residential

- State and Local Codes
 - Typically, a version of the national model code with state or local amendments

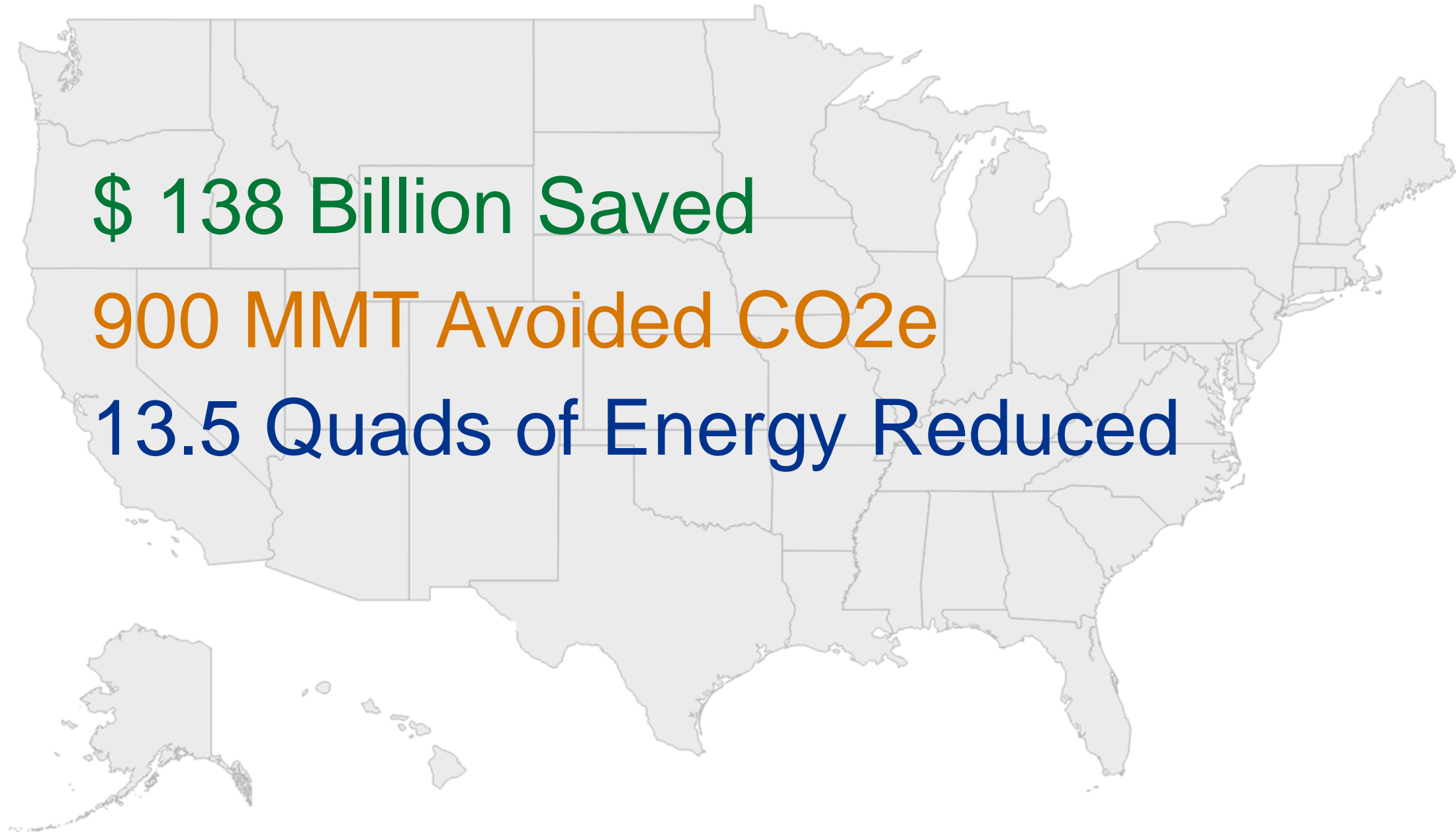


Historical Context of Codes

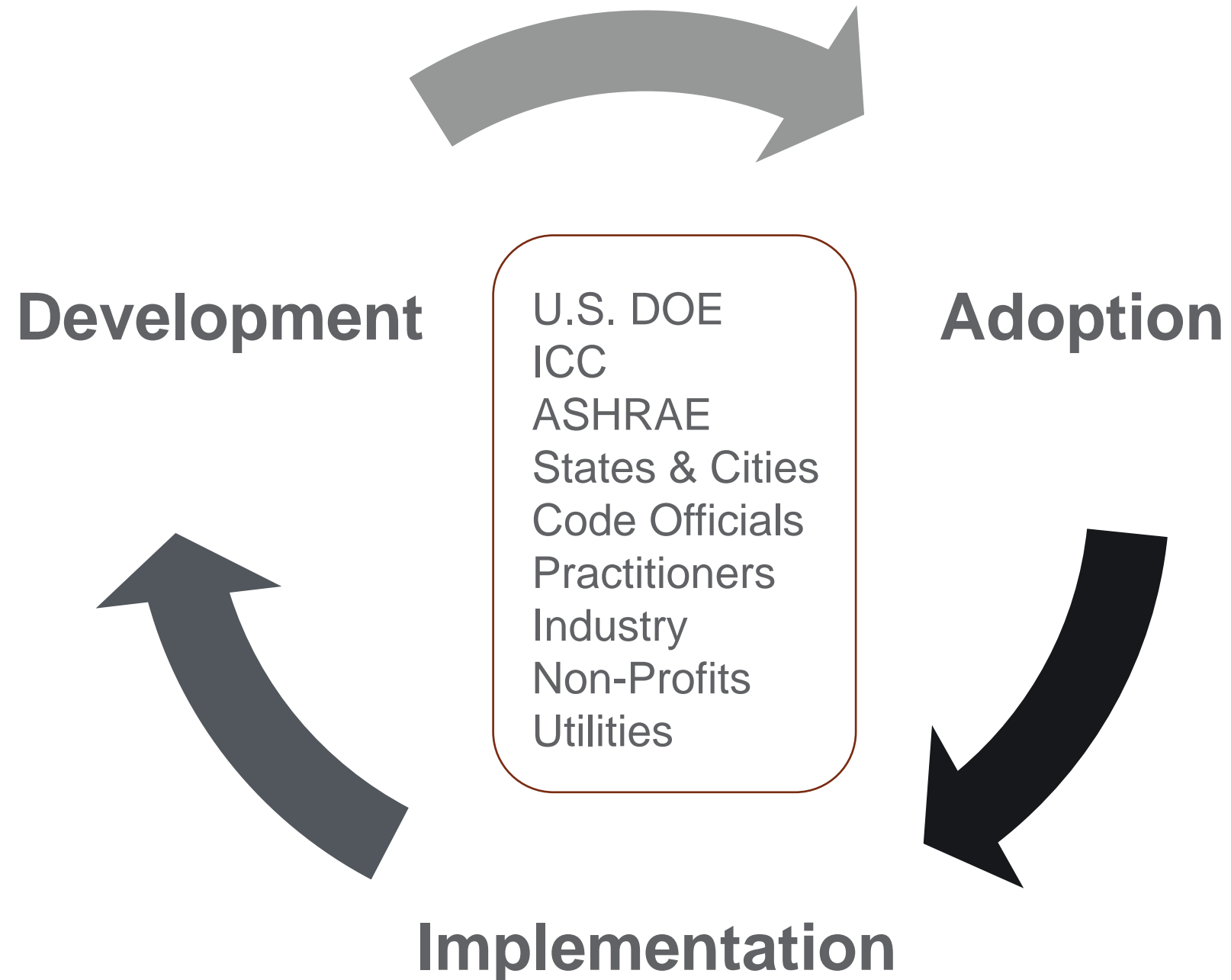
Estimated Improvement in Residential & Commercial Energy Codes
(1975 - 2021)



Energy Code Impacts (2010-2040)



Process & Stakeholders



Code Development

- ASHRAE 90.1
 - Uses the American National Standards Institute (ANSI) consensus process
 - 90.1 project committee and subcommittees
 - All interested parties can participate
 - Final vote of the project committee
 - ✓ Includes members from a balance of all interests
- IECC
 - New Standards framework being used for 2024 IECC
 - Committees and subcommittees appointed
 - All parties can submit code change proposals
 - Subcommittees review proposals and make recommendation to full committee
 - Draft code published by Committee for public comment
 - Committee incorporates feedback - votes and approves final code
 - ✓ See www.ICCsafe.org/energy for details

Energy Code *Adoption*
Can occur at the state or
local level in one of two ways:

- directly through legislative
action (state level)
- by regulatory action through
state or local agencies.



<https://cdn-web.iccsafe.org/wp-content/uploads/Code-Adoption-Process-by-State-June-2019.pdf>

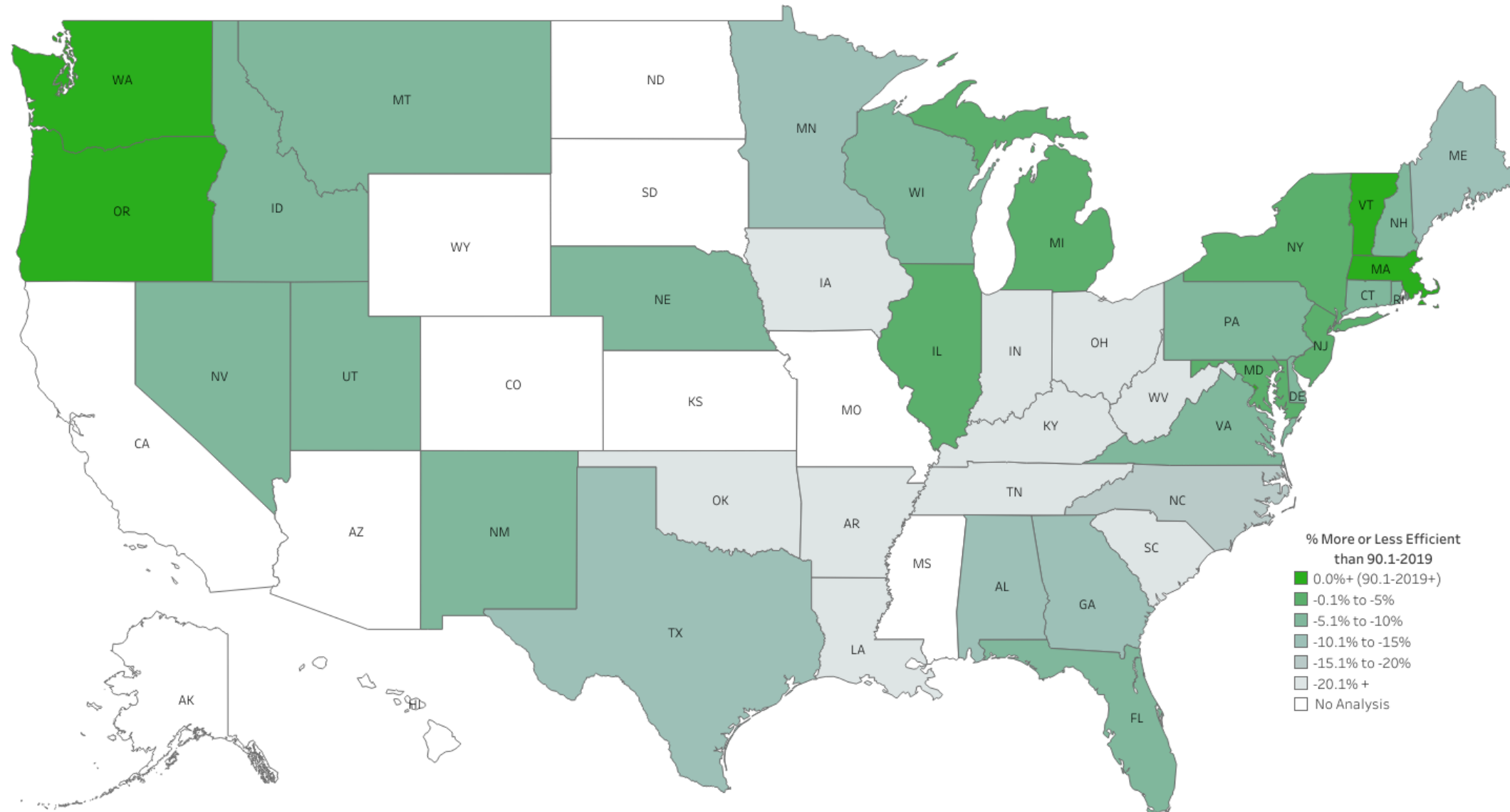


Adoption Date vs. Effective Date

- Usually, these dates are different
- Sometimes a grace period (e.g., 6 months) is allowed where the predecessor code be used
 - Because buildings may be in different stages of design or construction
 - Stakeholders may need time to learn the new code
 - Manufacturers may need time to provide products
- Effective date is sometimes tied to publication date of a model energy code

Current State Adoption Status – Commercial

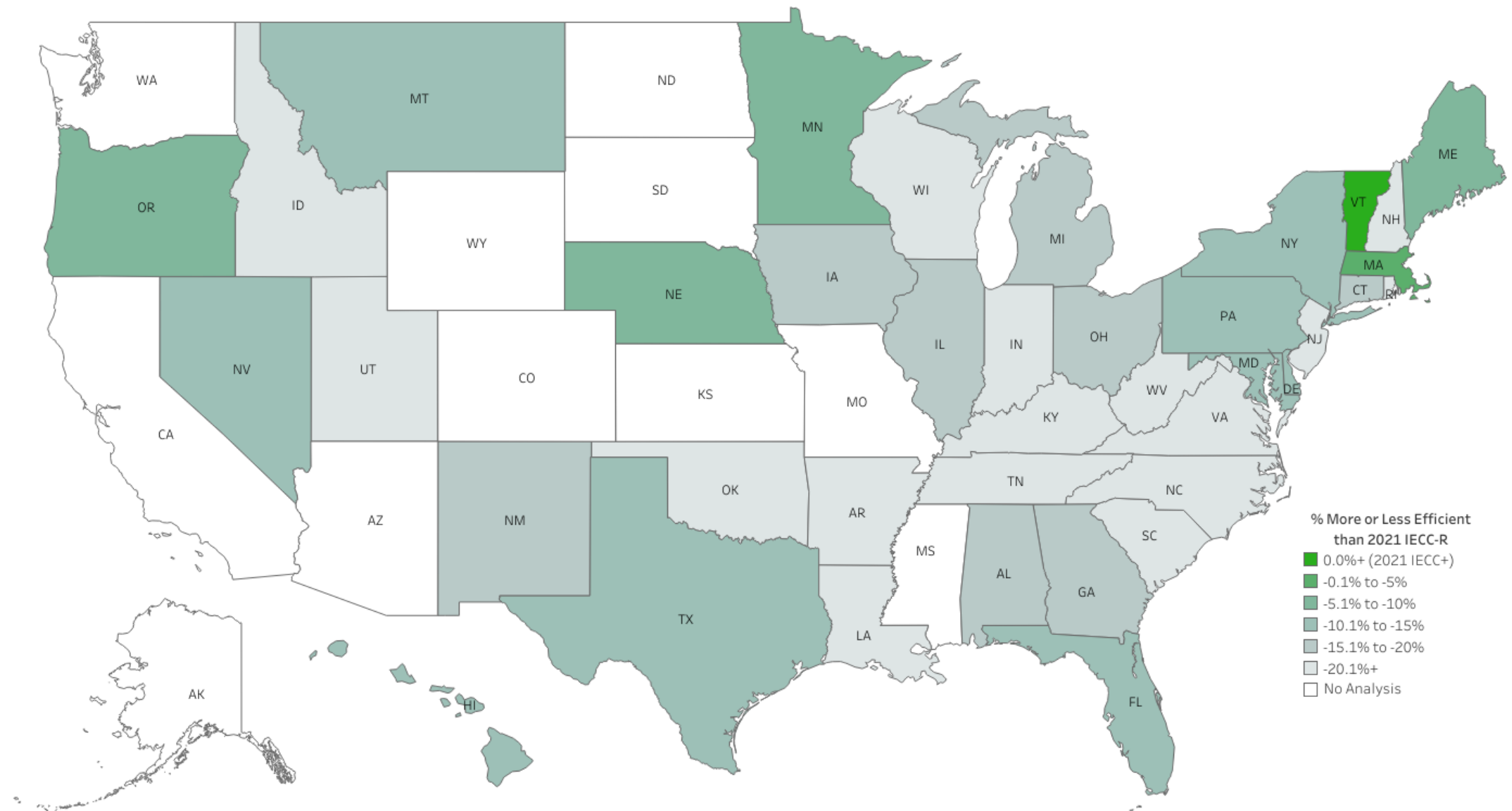
Commercial Energy Code: State Energy Index Relative to Current Model Code (90.1-2019)



Updated as of 03/31/22

Current State Adoption Status – Residential

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



DOE's Role

- DOE is directed by statute to participate in industry processes to
 - Develop model building energy codes
 - Issue determinations as to whether updated codes result in energy savings
 - Provide technical assistance to states to implement and comply with the codes
- For specific statutory language, visit
 - <https://www.energycodes.gov/statutory-requirements>

DOE Determinations

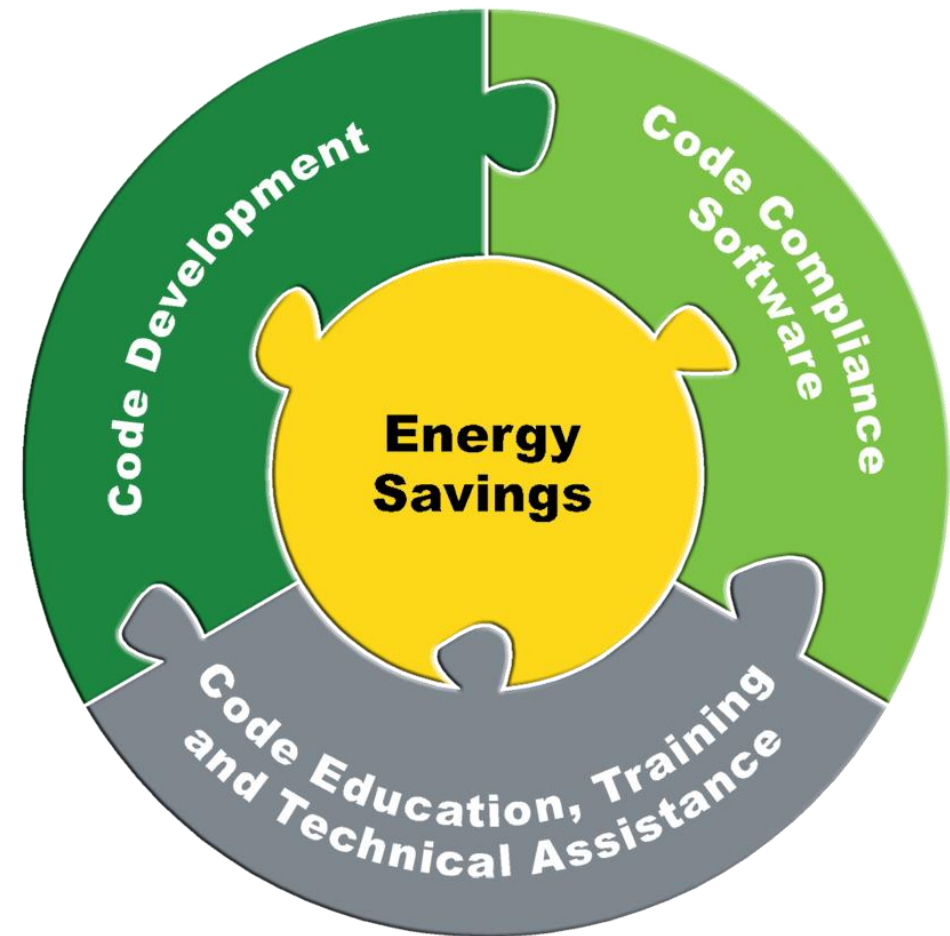
- DOE is required by law [the Energy Conservation and Production Act, as amended (ECPA)] to issue a determination as to whether the latest editions of
 - ASHRAE Standard 90.1 (for commercial and multi-family high-rise residential buildings) and
 - ICC's International Energy Conservation Code (for low-rise residential buildings)

will improve energy efficiency compared to the previous edition

- DOE has 1 year to publish a determination in the *Federal Register* after each new edition of the standard/code is published

DOE's Support

- Code development and adoption
 - Research
 - Technical analyses
 - Supporting industry processes which review and update model codes
- Implementation
 - Customized technical analyses
 - Software tools
 - Education and training materials
 - Technical support through a help desk



- SOFTWARE TOOLS
- FIELD STUDIES
- BUILDING PERFORMANCE STANDARDS
- CODES 101
- FREQUENTLY ASKED QUESTIONS
- TRAINING
- PUBLICATIONS



Tools

COMcheck

The COMcheck software and web tools simplify and clarify energy code compliance with the IECC, standard (ASHRAE Standard 90.1), and a number of state-specific energy codes.

[Learn More](#)



REScheck

The REScheck software and web tools simplify residential energy code compliance by automating trade-off calculations for the IECC and a number of state-specific codes.

[Learn More](#)



Help Desk

Submit technical questions about building energy codes, REScheck or COMcheck projects, or BECP website content.

[Learn More](#)



State Energy Codes



Highlights

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Building Energy Codes Program
www.energycodes.gov

BECP help desk
<http://www.energycodes.gov/resource-center/help-desk>



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Thank you

