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
• As defined by DOE, there are two sets of national model energy codes
    ✔ 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)

- $138 Billion Saved
- 900 MMT Avoided CO2e
- 13.5 Quads of Energy Reduced

https://www.energycodes.gov/impact-analysis
Process & Stakeholders

Development

U.S. DOE
ICC
ASHRAE
States & Cities
Code Officials
Practitioners
Industry
Non-Pros
Utilities

Adoption

Implementation
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.

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


% More or Less Efficient than 90.1-2019
-0.0% to 0.0%
-0.1% to 5%
-5.1% to -10%
-10.1% to -15%
-15.1% to -20%
-20.1% +
No Analysis

Updated as of 03/31/22
Current State Adoption Status – Residential

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

% More or Less Efficient than 2021 IECC-R
- 0.0%+ (2022 IECC+)
- 0.1% to -5%
- 5.1% to -10%
- 10.1% to -15%
- 15.1% to -20%
- 20.1%+
- No Analysis

Updated as of 03/31/22
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
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
Select a State Apply

Highlights
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Building Energy Codes Program

www.energycodes.gov

BECP help desk

Thank you