Building Energy Codes

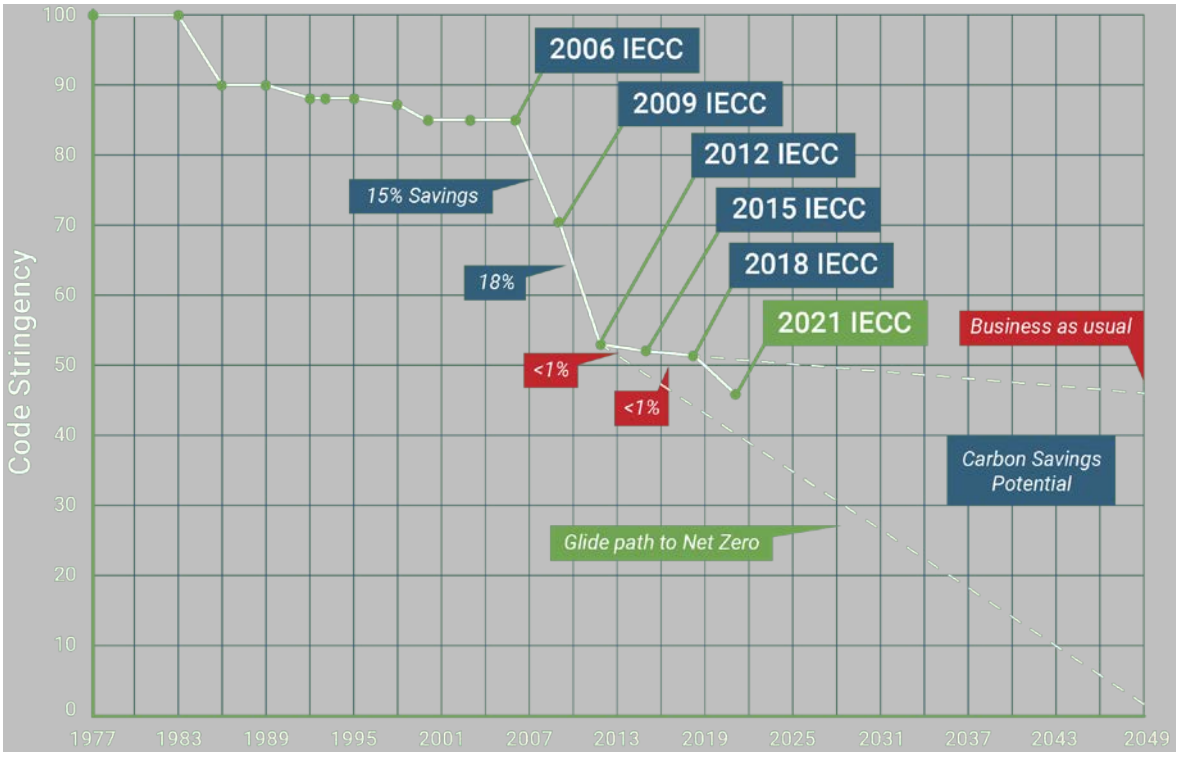
Description:

The Department of Energy (DOE) projects that, over time, improvements in building codes can have the greatest single impact in energy efficiency within the built environment than any other policy initiative. Because buildings will be around for generations, energy efficiency within the built environment is a matter of statewide and long-term importance. Some states have statewide building codes, others defer to local governments. In either case, legislation can set a baseline efficiency standard – preferably also providing for regular review and update by a code panel that has rule making authority.

Discussion of the Policy:

Building code legislation typically establishes a baseline International Energy Conservation Code (IECC) standard to be incorporated into state and local building code requirements.

The International Code Council (ICC) updates the IECC every three years. IECC standards include the 2003, 2006, 2009, 2012, 2015, and 2018 standards. Relative to the 2006 IECC, the 2009 IECC is 12-15% more efficient, and the 2012 IECC is 30% more efficient. The 2015 and 2018 IECCs have both fallen short of establishing significant savings compared to their predecessors. Recently, there have been rollbacks of parts of the IECC, which contributed to the flatlining of savings. Participation in the most recent round of voting for the 2018 IECC increased sharply, partly due to the ICC's implementation of an online voting system. Despite this, analysis suggests that the 2018 IECC only offers a minor improvement in efficiency (see graph, below).

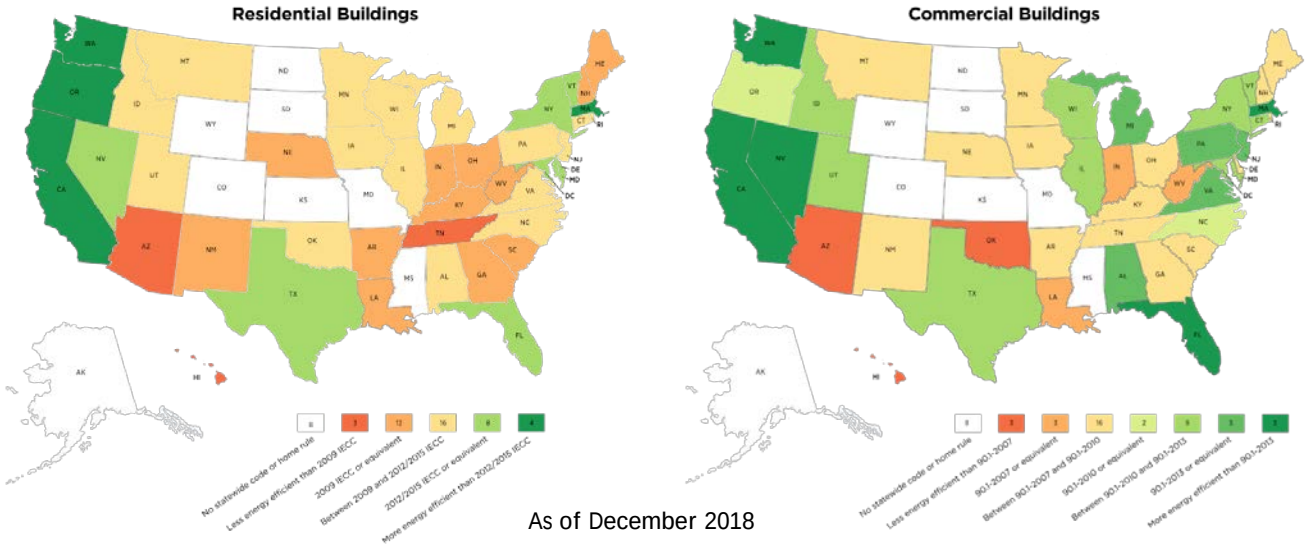


Source: Energy Efficient Codes Coalition

Example State Programs:

Most states have adopted commercial and residential building codes.

- Illinois Energy Conservation Code for Commercial and Residential Buildings
  https://www2.illinois.gov/cdb/business/codes/pages/illinoisenergyconservationcode.aspx
- Massachusetts Building Energy Codes
  https://www.mass.gov/info-details/building-energy-code
- Texas Building Energy Code
  https://comptroller.texas.gov/programs/seco/code/



As of December 2018

Source: energycodes.gov

DOE's Building Energy Codes Program (BECP) supports energy efficiency through multiple program areas including the development of model energy codes and standards. In order to support the adoption and implementation of, as well as compliance with building codes and standards, the program provides technical and other assistance to states, local governments, and building owners.

Key Components:

- Identification of a baseline standard. Local jurisdictions and other units of government can be authorized to adopt standards that are more stringent.
- Identification or creation of a review committee. Committee membership should include code officials, representatives of local governments, architects, and members of the building community.
- Establishment of a review period whereby the review committee may recommend (or if it has the authority, establish) a new standard. The review period should be offset from the three year IECC schedule and comport to a similar (three year) review schedule.

More Information:

- ACEE, 2019 State Energy Efficiency Scorecard
  https://aceee.org/research-report/u1908
- ACEEE, Commercial Sector Webpage:
  http://www.aceee.org/sector/commercial
- ACEEE, Residential Sector Webpage:
  http://www.aceee.org/sector/residential
- Office of Energy Efficiency and Renewable Energy, BECP Program Fact Sheet:
  https://www.energy.gov/sites/prod/files/2016/08/f33/Codes%20Fact%20Sheet%208-25-16.pdf
- Pacific Northwest National Laboratory, Impacts of Model Building Energy Codes
  https://www.energycodes.gov/sites/default/files/documents/Impacts_Of_Model_Energy_Codes.pdf
- Slipstream website (Formally Energy Center of Wisconsin & Seventhwave):
  https://slipstreaminc.org