

U.S. Energy Codes

- Developed at a national level
- Adopted at a state level (sometimes city level)
- Enforced at the local level

Model Codes

- The basis of the energy codes used in almost all states is developed by two private, non-profit organizations:
 - ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineers) develops ASHRAE 90.1 for commercial buildings
 - International Code Council (ICC) develops the International Energy Conservation Code (IECC) for residential and commercial buildings.
- These are public processes. Anyone can participate by submitting code change proposals.
- Voting on proposals is done by volunteer committees for ASHRAE and a combination of volunteer committees and membership votes for the ICC.
- The US government participates in the development processes but has no special status.

Adoption Process

ASHRAE 90.1 and the IECC are “model” codes, meaning that nobody is required to adopt them and governments that adopt them can change them however they wish. States are also free to develop their own codes.

Codes are adopted by state governments in most cases; in some states, individual cities adopt codes.

States and cities run public adoption processes in which anyone can participate.

Just like the national development processes, people can submit code change proposals and committees then vote on them.

The new code usually takes effect about six months after it is adopted.

What U.S. Codes Cover

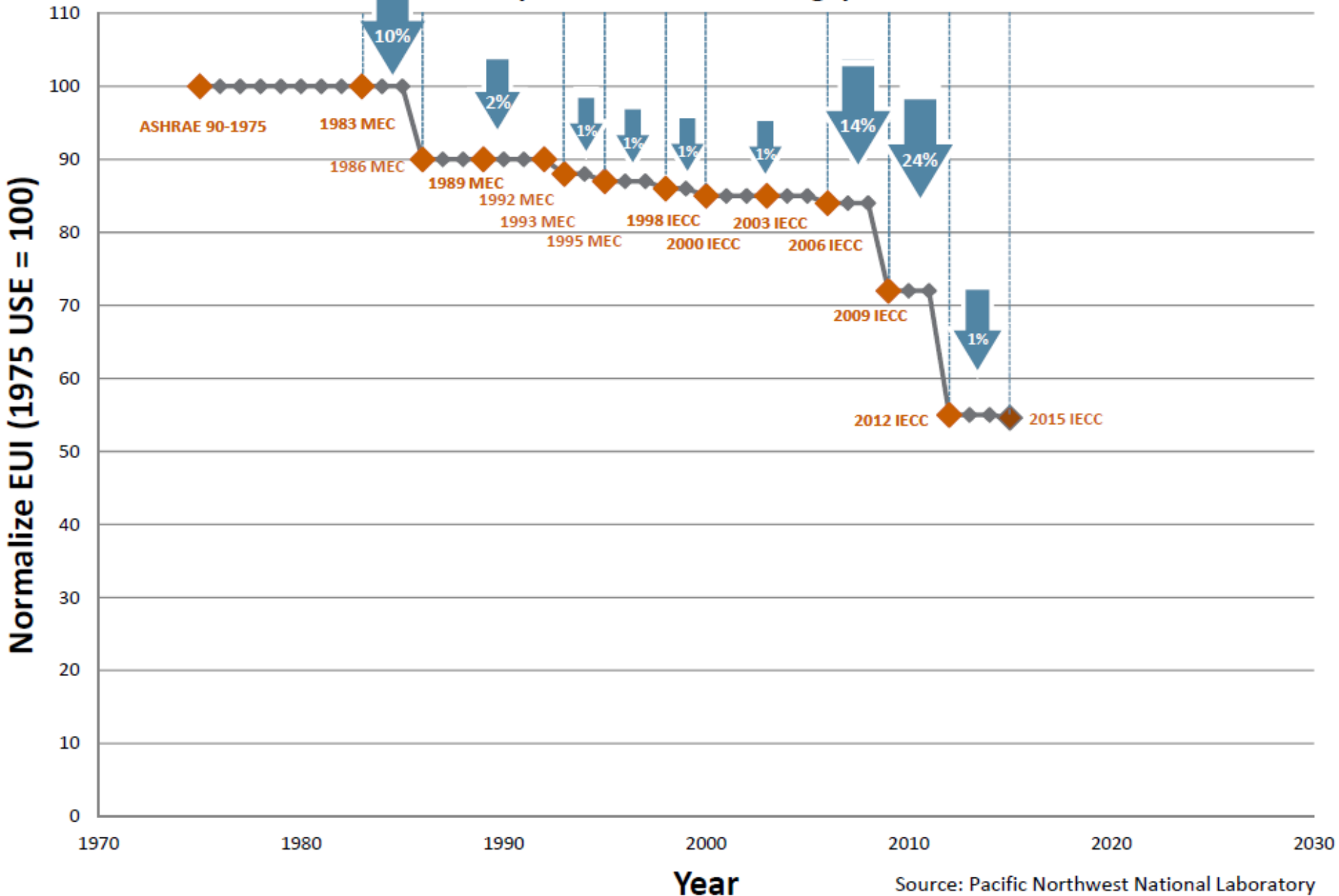
- Building envelope (walls, floors, ceilings, windows)
- Lighting (internal and external)
- Daylighting
- Mechanical (heat recovery, controls)

Not regulated: process loads, plug loads, equipment efficiency

National minimum equipment efficiency standards are created in a completely separate process by the U.S. Department of Energy.

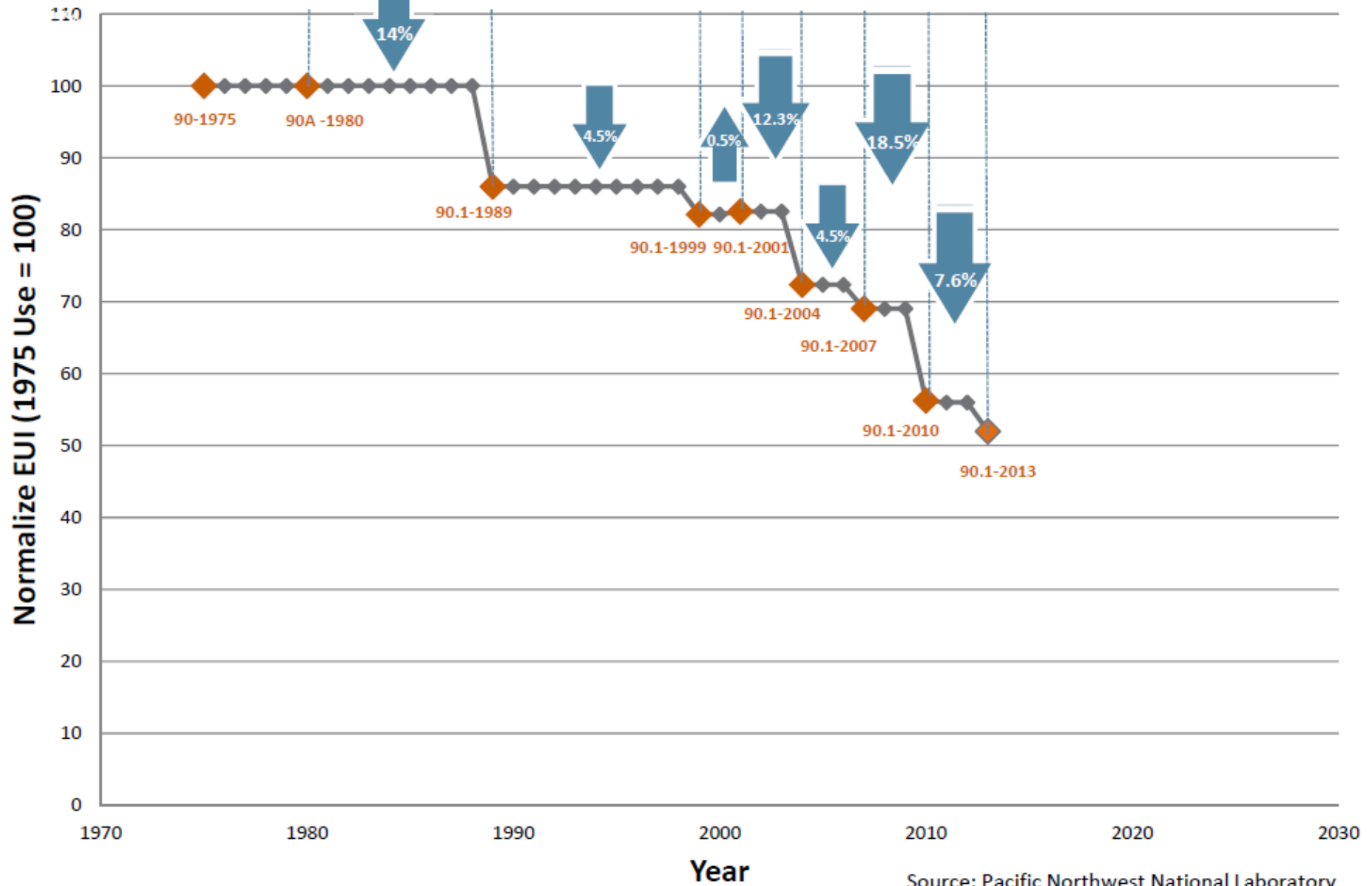
Energy codes cannot increase the minimum equipment efficiency standards.

Improvement in IECC (Year 1975-2015) (Residential Buildings)



Source: Pacific Northwest National Laboratory

Improvement in ASHRAE Standard 90.1 (Year 1975-2013) (Commercial Buildings)



Source: Pacific Northwest National Laboratory

Implementation

After a new model code is developed, the US Department of Energy creates educational materials that explain the difference between the old and new codes and software that makes it easy to show compliance.

Most states use these educational materials to provide classes to building officials and design and construction professionals.

Some states do field research to discover if builders are complying with the code.