

Energy Codes Simplified: What Are They And How Do They Work?

For a building project to even take off the ground, it needs to follow certain building code regulations.

These codes are standard minimum requirements that a building should meet in order to be deemed safe for the occupants. Energy codes are just one subset of U.S. building codes that govern energy-efficient construction and design.

Why are energy codes so necessary?

Commercial and residential buildings were responsible for [40% of total energy consumption](#) in the United States in 2018 alone, which makes buildings a key contributor of energy use.

By implementing specific regulations, the government ensures energy conservation and reduction in emissions in the building.

National Energy Codes

There are no national energy codes in the United States; instead, local governments or States can choose to opt for:

- Model national energy codes,
- Modified version of the national model energy codes, or even
- Their own State-specific codes

Development

Currently, there are two model energy codes being used by States across the country, modified or otherwise. These are:

1. ASHRAE 90.1, and
2. IECC

The standard 90.1 is developed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and is implemented only in commercial buildings.

While IECC (International energy Conservation Code), developed by the International Code Council, is applicable to both commercial and residential buildings alike.

To ensure that maximum effort is being made for energy use reduction, these codes are revised and updated every three years.

The five steps of development are:

- Submission of public proposals
- First public hearing
- Comment period
- Second public hearing
- Finalization of new edition

The development or revision process for these regulations is open for all and subsequent changes are introduced as addenda. Thereafter, any interested party can submit proposals and/or leave comments for improvement.

The final version of each edition is voted upon by the committee members of the organizations that is developing the code – ASHRAE members for 90.1 and ICC members for IECC.

Authentication

After a model code is revised and implemented, the Secretary of Department of Energy (DOE) analyzes it within the first 12 months of development. The purpose is to determine if the up-gradation will successfully reduce energy use by commercial buildings.

If the new building regulations are authenticated by the DOE, then each State needs to certify that it has adopted the revised codes.

Code Adoption Across The United States

How Does It Become Law

Codes can be adopted at State or local levels – it's important to note that while most State authorities overlook the implementation of these regulations, around [7 States](#) allow local code adoption through mayors, committees or councils.

The adoption process can be directly regulated by either legislative action or legislature authorized regulatory bodies.

After the regulations are fully adopted, they are considered as law under the State or local authority.

What Is DOE's Role

Simply put, the U.S. Department of Energy assists the process of code adoption within each State or city.

It does so by:

- Responding to State and local requests
- Developing reports for every jurisdiction to highlight the benefits of revised code implementation
- Tracking the adoption status in each State or city

Compliance

After a code is developed, authenticated and adopted, the relevant authorities need to ensure that builders, engineers, and architects are abiding by these regulations.

Well-trained professionals are more likely to comply with these regulations than others. Therefore, both State and non-state actors often participate in the provision and sponsorship of training programs.

Enforcement and compliance check strategies often include:

- Assessment of building plans
- Evaluation of materials and equipment being used
- Examination of the building during construction
- Inspection post construction

State Level

Most States are in charge of overseeing projects that they fund, in addition to rural areas without any local regulatory bodies.

This type of code administration is beneficial for the construction and building communities, as they ensure a single point of contact.

Local Level

It is far more convenient for local, city based authorities to oversee adherence to the law, as opposed to State agencies. This allows for more frequent contact between builders and regulation bodies, and serves to ensure that the revised codes are being fully complied with.

There you have it, the entire breakdown of what energy codes are, who develops and implements them, and what role the State and local governments play in the adoption of these codes.