**BSESC—National Codes and Standards**

## Proficiency Level 4: Analyze

### Learning Objective 4.1

* Distinguish how model code adoption by legislation, regulation, and a local government are different by using the model energy code as an example.

### Lecture Notes 4.1

The adoption of energy codes on the state and local level generally includes the following steps:

* Change is initiated by a legislative or regulatory agency with authority to promulgate energy codes. Interested or affected parties also may initiate change. An advisory body typically is convened. The proposed energy code is developed.
* The proposal undergoes a legislative or public review process. Public review options include publishing a notice in key publications, filing notices of intent, and holding public hearings. Interested and affected parties are invited to submit written or oral comments.
* The results of the review process are incorporated into the proposal, and the final legislation or regulation is prepared for approval.
* The approving authority reviews the legislation or regulation. Revisions may be submitted to the designated authority for final approval or for filing.
* After being filed or approved, the code is put into effect, usually on some specified future date. This grace period allows those regulated to become familiar with any new requirements. The period between adoption and effective date typically varies from 30 days to six months.

Details of the adoption process vary depending on whether the energy code is adopted by legislation, regulation, or a local government. Each is discussed below.

**Adoption Through Legislation**

State legislation rarely includes the complete text of an energy standard or model energy code. More commonly, legislation references an energy standard or model energy code that is already published. The legislation often adds administrative provisions addressing enforcement, updating, variances, and authority.

Another common approach is to use legislation to delegate authority to an agency, council, or committee. The delegated authority is empowered to develop and adopt regulations governing energy-related aspects of building design and construction. Such regulations are discussed in the next section.

Some states adopt the administrative provisions of the energy code by legislation and the technical provisions by regulation, or vice versa.

**Adoption Through Regulation**

A key factor in a state’s ability to regulate the energy-related aspects of design and construction is the extent to which the state has authority over adoption, administration, implementation, and enforcement of building construction regulations. In most states, a single state agency has such authority. In some states, no such authority exists. If multiple state agencies, committees, or councils are involved, the authority is diluted.

When a state agency, council, or committee has authority to adopt regulations, it must follow requirements outlined in the legislation that enables development, revisions, and adoption of the regulations. The technical provisions of the regulations may be unique to the state, or the regulations may adopt, by reference, national energy standards or a model energy code. When a state adopts regulations, it typically includes its own administrative provisions within the regulations.

**Adoption by Local Government**

If a state has limited authority to adopt an energy code (a “home rule” state[[1]](#footnote-1)), units of local government have the option to assume that responsibility. Local governments also can adopt standards or codes that are more stringent than the state’s.

A local government’s municipal code typically includes a title or provision covering building construction, under which energy provisions can be adopted.

Most local governments adopt a model energy code by reference. They apply administrative provisions from other building construction regulations to implementation and enforcement of the energy code.

**Timing the Adoption and Revision of State and Local Codes**

Most states adopt or revise energy codes in concert with the publication of a new edition of a national energy standard or model energy code. This may occur either through a regulatory process or automatically because state regulation or legislation refers to “the most recent edition.”

Adoption also can be tied to the publication date of an energy standard or model energy code e.g., “This regulation shall take effect one month from publication of the adopted model energy code.”

**Implementation of Energy Codes on the State and Local Level**

During implementation, the adopting jurisdiction(s) must prepare building officials to enforce the energy code and prepare the building construction community to comply with it. It is important for all stakeholders to know that a new code is coming and understand what is required. Many states or jurisdictions start this education process several years in advance of an energy code change—often before adoption itself. The more publicity and training on the new code, the more it will be accepted and used.

Communication and information exchange should occur:

* Between the code-adopting bodies and code-enforcing bodies;
* Between the code-adopting bodies and the building construction community;
* Between the code-enforcing bodies and the building construction community;
* Within the building construction community and code-enforcing bodies.

Training is critical. To be effective, training must cater to the specific needs of building officials, architects, designers, engineers, manufacturers, builders and contractors, and building owners. Training for specific stakeholders can be provided or sponsored by the following:

* State energy offices and agencies
* Universities and community colleges
* Professional organizations and societies
* Utilities
* Trade associations
* National or regional code organizations
* Others, such as the Southface Energy Institute (www.southface.org) or product distributors.

The Department of Energy, the ICC, ASHRAE and other codes organizations can supply tools and materials to make implementation and training easier for states and local jurisdictions.

### Learning Objective 4.2

* For a residential building analyze five specific model codes (for your climate zone and local area) with corresponding ENERGY STAR requirements for the same building measures.

### Lecture Notes 4.2

ENERGY STAR Certified Homes Version 3 Program Requirements are available at <https://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.nh_v3_guidelines>. Using the “Complete Mandatory Measures” attached as pdf files at this site, a user can access specific measure requirements and then compare this information to local model codes for a specific climate zone.

There are two different paths that are now possible with the International Energy Conservation Code (IECC); prescriptive path and performance path. For people learning about the requirements related to this code, the prescriptive path is easier to comprehend. This path mandates everything from window performance requirements, to insulation levels. Essentially, it prescribes what must in the building to pass the code.

The performance path, is a bit harder to describe at a high level. This path allows builders to have some give and take with certain measures (perhaps trading off slightly less insulation for a lot better windows), as long as the total building will perform at a similar energy efficiency level as one that went through the prescriptive path. Certain modeling tools help builders to ensure that the measures they have chosen are in compliance. REScheck and COMcheck are two tools that can help provide this information. They are available here:

<https://www.energycodes.gov/rescheck>

<https://www.energycodes.gov/comcheck>

## References

Bartlett, R., M.A. Halverson, and D.L. Shankle. 2003. *Understanding Building Energy Codes and Standards*. PNNL-14235. Prepared for the U.S. Department of Energy by Pacific Northwest National Laboratory, Richland, WA.

ENERGY STAR Certified Homes Version 3 Program Requirements are available at <https://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.nh_v3_guidelines>.

1. In the energy codes and standards arena, home rule means the state cannot interfere or control on the local level. [↑](#footnote-ref-1)