



By Linda K. Breggin

Building Building Energy Codes

The State of California recently enacted the country's most stringent residential building energy standards. What is remarkable is not that California is leading the country but how many other states are on the move as well. States across the nation are adopting residential building energy codes that set minimum energy efficiency requirements for new and renovated buildings. These codes apply to design and construction and may specify, for example, levels of insulation in walls and ceilings, as well as criteria for heating and air conditioning systems.

Building energy codes can reduce energy consumption, save money, and reduce carbon emissions. The non-profit Institute for Market Transformation estimates that 100 million U.S. homes account for one-fifth of the country's energy consumption and one quarter of its greenhouse gas emissions. According to IMT, "Strong building energy codes are one of the most effective mechanisms to increase long-term energy efficiency of buildings." Similarly, the Department of Energy's Building Energy Codes Program (BECP) calls energy codes "a central part of a sustainable future."

Residential building energy codes are an interesting hybrid of governance approaches. A model code known as the International Energy Conservation Code is developed through a

public, multi-stakeholder consensus process that culminates in a vote by an appointed committee. The IECC is updated every few years. The 2012 IECC is estimated to be 30 percent more energy efficient than the 2006 version.

Adoption of the IECC standards for residential buildings is voluntary. The Energy Policy Act requires only that states certify that they have conducted a review and determined whether it is appropriate to revise their codes to meet or exceed the current IECC. Accordingly, a state can decline to adopt the model code, adopt it as is or in a modified version tailored to individual state objectives or practices — or it can develop its own, independent code.

Although residential building energy codes are not federally mandated, the 2009 American Recovery and Reinvestment Act established a major incentive for adoption. The law requires states that receive Recovery Act funds through DOE's State Energy Program to certify that they will adopt building energy codes that meet or exceed the 2009 IECC standards for residential buildings. As a quid pro quo, states also are required to develop a plan to achieve 90 percent compliance with the codes within eight years.

According to the Alliance to Save Energy's Building Codes Assistance Project (BCAP), a joint initiative with the Natural Resources Defense Council and the American Council for an Energy-Efficient Economy, as of January 2012, 25 states had adopted codes that were the same as or equivalent to the 2009 model standards for residential buildings. This included Maryland, which already had adopted the 2012 IECC. Eleven states did not have state-wide residential building energy codes or they had codes that predated the 1998 IECC. The 25 states that met or exceeded the 2009 IECC standards

were diverse both geographically and politically.

Since that time, California adopted its new standards, which are between 5 and 10 percent more stringent than the 2012 IECC. The California Energy Commission estimates that on average the new standards, which require, for example, solar ready roofs and insulated water pipes, will result in energy savings that far outweigh the additional construction costs. Although home builders in several states have opposed the adoption of building energy codes, the California Building Industry Association ultimately supported the new standards.

Perhaps more notable than the actual number of states adopting codes is the rate of adoption. BCAP reports that the number of states that have adopted the 2009 IECC standard jumped from six in 2008 to 27 by mid-2012.

Although adoption rates are rising, compliance with building energy codes remains a major challenge. A 2010

The 25 states that met the 2009 code were diverse politically and geographically

IMT study concluded that there is "abundant evidence" that compliance rates "are far below 90 percent" in most jurisdictions. Although there are ample tools for states

and the building industry to rely upon, including BECP's free software applications and BCAP's online best practices network, funding is the principal compliance barrier. The IMT study found that energy code training and enforcement are "severely underfunded."

Despite significant compliance challenges, the accelerating adoption rate among a range of states — small, large, and geographically diverse — represents an important trend. It remains to be seen whether code adoption will continue apace and whether compliance goals can be achieved.

Linda K. Breggin is a Senior Attorney in ELI's Center for State and Local Environmental Programs. She can be reached at breggin@eli.org.