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Photo courtesy of Neil Kelly, Inc.



# Energy Efficiency Reaches New Heights in Illinois

STATE TAKES CHARGE WITH STRICTEST ENERGY CONSERVATION CODE YET

By Raissa Rocha

In the latest incarnation of the International Energy Conservation Code (IECC), energy efficiency is improved up to 30 percent over current conventional building practices. But while other states continue to use older, less strict versions of the IECC for their statewide energy codes, the 2012 version is already

making waves in Illinois, where a new state code went into effect Jan. 1, 2013.

Illinois is the second state in the nation—after Maryland—to adopt and implement the 2012 IECC, thanks to a 2010 energy efficiency law mandating that the state update its code when new versions of the

The 2012 Illinois energy code features a new requirement that mandates blower door tests for newly constructed homes. Builders now have to provide third-party proof that the new houses they build meet specific air-tightness levels.

IECC are issued, every three years. The 2012 Illinois update also incorporates the 2010 edition of ASHRAE 90.1 “Energy Standard for Buildings Except Low-Rise Residential Buildings” into its requirements, covering all new commercial and residential construction.

While cities or states can typically adopt the IECC model code and strengthen or weaken its requirements, the new energy code is the only standard across the entire state. Local governments may adopt stricter laws for commercial buildings, but there is no variance for residential ones and individual communities cannot amend the 2012 code as such, says David Wytmar, AIA, LEED AP, of Groundwork Ltd. Architects/Planners/Engineers.

“That consistency of the code throughout the state helps to make it easier to implement,” he notes. Where previously one suburb may have been following a 2003 version of the IECC while the next village over was using the 2006 IECC, a truly statewide standard can help architects and other building team members avoid any hassles in complying with building codes in different towns.

The 2012 update also marks the first time the city of Chicago is enforcing the Illinois code, Wytmar says. While free to add amendments, the state expects the city to implement and enforce the Illinois law rather than solely rely on its own—the Chicago Energy Conservation Code—as had been the case in the past. This has the potential to ensure more Chicago area professionals are adequately trained and educated on the Illinois energy code, suggests Wytmar. That may make it easier for clients who need assurance that their new buildings are compliant.



### Impact on Residential Buildings

While energy conservation has been the model for commercial buildings for at least a decade, the 2009 IECC was the first energy code for residential buildings in Illinois when it became effective in 2010, according to the Department of Commerce and Economic Opportunity. With these latest changes, Wytmar says he expects the energy efficiencies of newly built single-family homes to dramatically improve. In addition, existing homes that undergo significant renovations, repairs or additions must comply with the 2012 Illinois energy code. "The biggest change in this code has been for residential construction," he says. "Now every aspect of the building community must comply with the energy code."

Among the latest revisions found in the 2012 IECC are requirements for tighter building enclosures. One of the most significant changes is the requirement of a blower door test for new homes, Wytmar says, adding that builders now have to provide third-party proof that the new homes they build meet specific air-tightness

levels. Proper building tightness can minimize problems associated with moisture condensation, uncomfortable drafts leaking in from the outdoors, and indoor air pollution, says the U.S. Department of Energy's website. In addition, one of the biggest goals in tightening buildings is minimizing air leakage, which can reduce the amount of energy consumed overall by the structure.

The call for tighter building envelopes will also force some changes inside the home that are not necessarily written into the code, Wytmar says. Conventional residential furnaces and water heaters may not function properly in increased levels of air tightness,

The Illinois Energy Office offers training for architects and other professionals about the basis for correct use of the 2012 IECC and ASHRAE 90.1-2010. Information on the 2013-2014 program year is available at [www.ildceo.net/energycode](http://www.ildceo.net/energycode).

since those units draw their combustion air from inside the house. Builders will need to install higher-efficiency, sealed-combustion appliances that draw air from the outside, which Wytmar says will drive up the costs of homes.

### Increasing Awareness

For architects and others in the building industry, awareness of the 2012 Illinois energy code will be important to ensure clients receive energy-efficient, compliant projects. "The homebuilding industry has never had to construct homes to this level of quality before, and implementation and enforcement will be a challenge," says Wytmar. "The design community needs to rise to the challenge of providing designs that address these new requirements."

Wytmar advises architects to be attentive, not only now but also in the near future. No sooner will architects incorporate these latest energy efficiency requirements than another round will come in 2015. "Design solutions that may be acceptable now may need to change in three years," he says. **CA**

