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Builders see red in greener standard

Energy efficiency may become more costly under new code

By Evelyn Lee

As building codes call for increasingly stricter energy savings standards, energy-efficient properties are becoming more costly and challenging to construct, industry experts said. A new code, yet to be adopted in the Garden State, represents the farthest-reaching update, but may trigger a "paradigm shift" for developers who haven't already adopted energy-efficient practices, they said.

The 2012 International Energy Conservation Code is projected to achieve a 30 percent increase in energy savings in new buildings as compared to the 2006 code — the largest efficiency increase in the history of the national model energy code, according to the U.S. Department of Energy.
Code changes for residential buildings include a mandatory air infiltration test, a requirement for air ducts to be tested to a tighter leakage standard, and stricter insulation and glazing efficiency requirements. While the code also has provisions for commercial buildings, such projects typically comply with the ASHRAE 90.1 standard — considered more comprehensive and detailed than IECC, according to the department.

The new IECC would not be adopted until at least 2013 in New Jersey, which follows a three-year code cycle; the 2009 IECC was adopted in the state in September 2010, according to the Department of Community Affairs, which establishes and enforces building codes in the state.
The 2012 code "will have a major, major impact" when it is adopted, and could increase building envelope costs by 3 to 5 percent, said Art Hance, president of Hance Construction, in Washington.

The 2009 IECC instituted an increase in the amount of insulation required, but "there are going to be some systems that no longer are going to be able to be built under the 2012 code," Hance said.
The code's stricter standards, for example, would make some metal-over-blanket insulation systems insufficient, he said. Instead, a composite or field-assembled wall system, which is more labor intensive and expensive, would be required, he said.

And builders "don't get much more bang for the buck by just relying on more insulated windows, doors and walls," said Jennifer Senick, executive director of the Rutgers Center for Green Building, in New Brunswick. "It really begins to require different building techniques."
Energy-efficient strategies and ways of building "are hitting the point of diminishing returns," she said. "That's when you see a paradigm shift."
For developers already building to higher energy-efficiency standards, the new code may have less of an impact.

"We'll have to make some upgrades and modifications, but it's not that big of a problem," said Edward M. Walters Jr., president of Barnegat-based Walters Group, which builds homes according to voluntary guidelines under the U.S. Green Building Council's Leadership in Energy and Environmental Design and the Environmental Protection Agency's Energy Star programs, both of which exceed targets in the current code.

These modifications may include additional insulation, window upgrades and appliances with higher Energy Star ratings, said Walters, whose firm is seeking LEED Silver certification for its Whispering Hills townhome development, currently under construction in Barnegat.

For other builders, however, going from the 2009 to 2012 codes is "a quantum leap," Walters said. An Energy Star home costs $8,000 to $10,000 more to build than a home built to the current code; a house that complies with the 2012 code would cost $3,000 to $4,000 above that, he said.

Daniel Gans, CEO of residential development firm Hoboken Brownstone Co., also said he predicted "a huge change in the way we build buildings" as a result of growing nationwide interest in energy conservation. Too much focus is currently being placed on individual aspects of a building enclosure system, and "we're not looking at the system holistically," he said. "The code is going to help us do that."

"Even with the recent code change, there is still some low-hanging fruit," Senick said. "We haven't completely exhausted the possibility of making energy-efficient improvements without significant additional cost." One such improvement, for example, would be a more integrated building design incorporating more advanced framing techniques, along with enhanced insulation for windows, walls and doors, she said.
Still, "it's getting harder and harder to find low-hanging fruit measures, because so much is getting harvested as building codes incorporate more energy-efficiency standards," she said.

While construction costs are expected to continue to rise as building codes become stricter, Gans predicted those costs would begin to decline as energy efficiency techniques are implemented on a mass scale.
"If everybody is dealing with the same code, you're dealing with a level playing field," he said. Materials and labor costs would be reduced as more suppliers come on the market and energy-efficiency work becomes more commonplace among contractors, he said.

And more-efficient buildings also will open the door to alternative energy sources, which currently cannot supply adequate power for buildings, Gans said. But as new energy efficiency measures help to reduce power consumption in buildings, "alternative energy starts to make a lot more sense."