Kentucky Emerging as Net Zero Energy Leader with Insulated Concrete Form (ICF) Construction

In 2008 Kentucky Governor Steve Beshear implemented a new energy plan, “Intelligent Energy Choices for Kentucky’s Future” with a top goal of improving energy efficiency throughout the state by 2025. To achieve “Net Zero Energy,” it is necessary to downsize the required renewable energy use by incorporating natural day-lighting, geothermal heating and cooling systems, and walls with high heat retention “R” values. Kentucky buildings have turned to insulated concrete form (ICF) walls to meet these needs.

ICF construction is thriving in Kentucky, with more than 600 ICF structures to date, including over 70 schools, more than 10 hotels, several dorms, hospitals, libraries, convenience stores, and fire stations. Today, in the Louisville area alone, several affordable houses, two schools and two hotels, one 5-stories and one 10-stories, are under construction.

A distinct attribute of ICF structures is that they are constructed with continuous steel reinforced concrete (CSRC). Besides the economics of remaining intact in a wind or flood disaster and the huge energy savings throughout the life of the buildings, ICF buildings can be cost competitive or even cost less as compared to a conventionally framed building. Lower installation labor costs, less HVAC equipment costs, and no added insulation all contribute to an attractive building cost.

Kentucky has emerged as the nation’s leader in Net Zero Energy schools, largely attributable to ICF building construction.

“One architect of an ICF school told us that he was able to significantly use less geothermal and solar thanks to the ICF construction,” said Kentucky Ready Mixed Concrete Association (KRMCA)’s Director of Technology & Education Brett Ruffing.

In Danville, Kentucky, Newcomb Oil, owner of FiveStar Food Market, is proceeding with another ICF milestone. This year, Newcomb Oil expects to build seven ICF convenience stores. These stores are not only built to last, but are super energy-efficient, quiet inside, and very attractive. Newcomb Oil Chief Engineer Henry Greenwell said, “We think we will cut our energy bills about in half compared to our older stores.” With the energy savings, the robust resiliency and the speed of construction, Kentucky can expect to see more ICF convenience stores in the future.

In Louisville, affordable housing for low-income buyers are being built with ICF construction. High energy bills are a huge drain and often impact mortgage eligibility for lower income buyers. Owners can save even more with tax credits and insurance discounts for resilient and energy-efficient housing. Another bonus is ICF concrete walls are termite resistant.

For an additional resource on the use of ICF technology see NRMCA’s ConcreteINFocus magazine. For more information on ICF construction in Kentucky, please call the KRMCA office at 502-695-1535.