2013 Education Portfolio

Warren County Public Schools

Richardsville Elementary School

It's the first net-zero-energy school in the country, and Kentucky is intent on cloning its success

By Julie Schaeffer

In 2012, the Tennessee Valley Authority cut Warren County Public Schools a check for $37,227.31 because of its energy-producing, net-zero school, Richardsville Elementary School in Bowling Green, Kentucky. As the first net-zero-energy school in the country, the 550-student, 77,466-square-foot Richardsville Elementary pays for itself and then some as a result of numerous sustainable features, including a high-performance building envelope, daylighting, geothermal heating and cooling, and solar power, says Jay Wilson, energy manager for Warren County Public Schools.

As a result, the $12.1 million project, completed in 2011, operates on an energy use of 18.2 kilo British Thermal Units (kBTUs) per square foot per year. That's much lower than the 25 kBTUs the federal government requires for a school to be deemed net-zero, says the school's design architect, Kenny Stanfield of Sherman Carter Barnhart.

But Richardsville Elementary isn't the only school in the district with big energy goals. The 133,000-square-foot Turkey Foot Middle School in Edgewood, Kentucky, was also designed to be net zero. The $25 million project completed in 2010 uses similar strategies as Richardsville, including solar panels that will offset a significant portion of the school's energy use with the goal of achieving 100 percent net-zero energy in the future.

Both of the schools' efforts are part of a statewide initiative to manage energy use called the School Energy Managers Project, a partnership between the Kentucky School Boards Association and the Department for Energy Development and Independence. Funding under the American Recovery and Reinvestment Act has helped these efforts by giving $1.3 million to Richardsville and $2 million to Turkey Foot for their projects.

"By reducing the amount of energy we use, we can really cut back on spending, which means there's more money to spend on the classroom—teachers, equipment, and programs," says Ron Willhite, director of the School Energy Managers Project, although he notes net zero is about much more than building green. "No matter how good we make the buildings, without the support of occupants, they wouldn't be a success." gb&d