

An ORNL State Partnerships Program Success Story

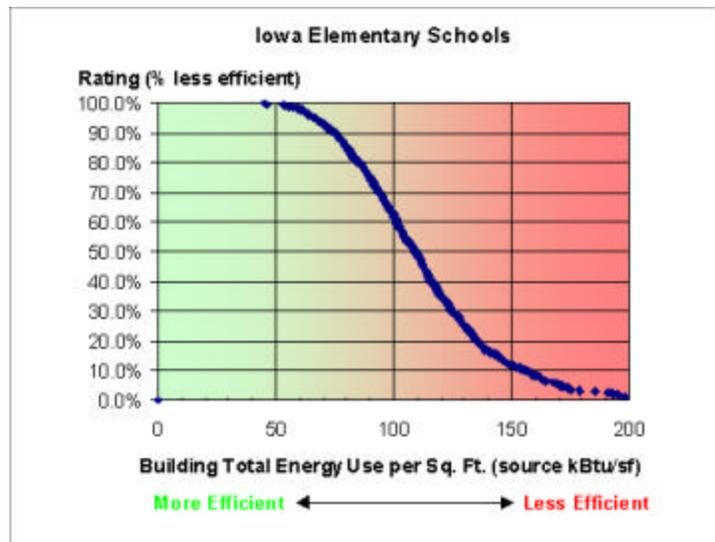
ORNL Helps Iowa Schools Rate Their Energy Performance

Do you need help benchmarking the energy efficiency of your schools? Do you want to estimate how much their energy bills could be cut or identify the schools with the most potential for energy savings?

Iowa state officials came to ORNL for help with those questions. The Iowa Department of Natural Resources (DNR) wanted to construct a rating system for Iowa's schools based on building energy use benchmarks and rating tools developed by ORNL for the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA). In a joint effort between Iowa and ORNL's State Partnerships Program (SPP), Terry Sharp of ORNL's Buildings Technology Center helped Iowa officials understand the benchmarking and rating processes, reviewed their data, helped them interpret and use the rating methodology, and reviewed materials to be used to educate school administrators and the public about the effort.

The tools are easy to use. The information needed is the gross floor area of the school(s), the amount and cost of electricity used annually, and the amount and costs of other fuels used annually. Based on these data, the tool calculates an "annual total source energy use intensity" (EUI) for each building. EUIs are plotted on a chart, assigning a score of 100 to the best and 0 to the worst. In the chart, an elementary school with an EUI of 100 would have a rating of about 60; that is, 60% of similar buildings in the group use more energy. The higher the rating, the better the relative energy performance of the building.

Based on these building ratings, Sharp has estimated the potential for energy cost reductions. If a building is rated between 20 and 40, energy use and cost could be reduced by 35 to 50%. A walk-through energy assessment can identify specific savings opportunities. For buildings with low ratings, improvements often can be implemented inexpensively to cut energy costs significantly. For buildings with high ratings, sizeable cost reductions more often require significant capital investment.



The rating tool calculates an annual energy use intensity for each school and plots the group on a chart.

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