



Oakdale Elementary School

Normal, Illinois

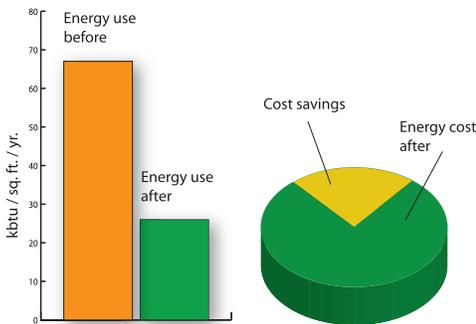
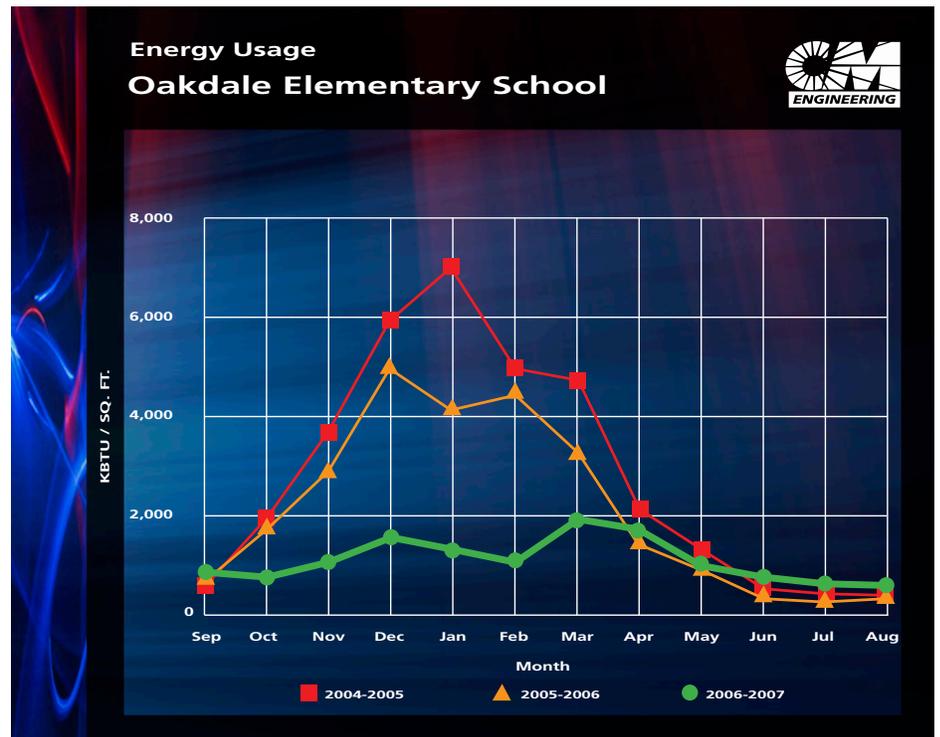


Oakdale suffered from an outdated heating system and very high operating costs. We replaced the aging boilers with our One-Pipe geothermal exchange heating system and added air conditioning and individual temperature controls to every space in the building. Comfort levels were dramatically improved throughout the entire school year at a very low first cost.

Our retrofitted system consumes less than 40% of previous energy use. Oakdale saves more than \$10,000 annually on its utility bills and has achieved an *Energy Star* rating of 96.

Retrofit of existing school

- Air conditioning added to classrooms
- Ground source geothermal exchange system
- One-pipe design
- 44,168 square feet
- 28 Classrooms
- Approximately 500 students ('06-'07)
- Individual temperature controls in every space
- Retrofit cost \$16.76 / sq. ft.
- Energy use BEFORE retrofit: 67 KBTU / sq. ft. / yr.
- Energy use AFTER retrofit: 26 KBTU / sq. ft. / yr.
- Carbon equivalent savings 13-14 lbs./sq. ft./ yr.
- Energy Star rating: 96



Energy use before retrofit: 67 kbtu / sq. ft. / yr.
 Energy use after retrofit: 26 kbtu / sq. ft. / yr.
 Energy cost after retrofit: 78% of previous cost
 Energy cost savings: 22%

Annual savings: \$10,100

The green tracing above shows measured energy consumption after installation of One-Pipe Geothermal exchange heating and cooling system. Red and orange show consumption for two years prior to retrofit. (Data source: Normal, Illinois Department of Education)

"By adding air conditioning to every space, we've created a much better year-round learning environment. Now ALL the students in our district will have an equal chance at better educational outcomes."

Bruce Boswell
 Energy Manager
 McLean County Unit District 5
 Normal, Illinois