



Governor Ritter ceremoniously places one last shovel of coal into the hopper

South Routt's old system: aging coal burning boiler

South Routt School District Clears the Air for Enhanced Learning

Replaces Antiquated Systems with Renewable Energy

ISSUE

In 2007, South Routt School District still burned coal for heat. With no natural gas service in Oak Creek and Yampa, the district had no affordable alternatives to coal. The antiquated 1970s coal boilers had numerous failures and hefty maintenance costs, not to mention poor air quality for its students.

CHALLENGES

Working through the Governor's Energy Office's Energy Performance Contracting program and Biofuels & Local Fuels Programs, McKinstry evaluated South Routt's situation. It became evident that moving from coal to another fossil fuel would not create energy savings; in fact, most alternatives would increase the district's utility budget. Funding was also an issue for the project since the school district did not have a capital improvement budget.

SOLUTION

Knowing the conditions in the school were unhealthy, McKinstry submitted grant applications on the district's behalf. Request for funding to the Department of Education, the Department of Local Affairs, and the Governor's Energy Office were submitted. In addition, McKinstry supported the district at numerous town hall meetings to pass a bond election. After a year of hard work to raise nearly \$3.8 million in grant and bond funding, this project became a reality in early 2008.

Working together to determine the best solution, the district and McKinstry chose to replace South Routt's coal burning boilers with highly efficient ground source heat pump systems. At Soroco Middle School, McKinstry installed a woody biomass boiler to serve that facility's single pipe steam system. The new boiler uses wood pellets processed from local beetle kill trees at plants in nearby Kremmling.

RESULTS

The coal burning systems have been removed from South Routt schools in favor of more efficient and cost-effective renewable energy systems. Biomass technology has replaced coal with wood pellets, a local and renewable fuel source. The result is an enhanced learning experience for South Routt students through high quality lighting and improved air quality. In addition, the highly-efficient and dependable heating systems are inexpensive to maintain and provide added cooling capacity in warmer months. The reductions in maintenance and utility costs have lowered the district's operating budget by \$15,000 a year. This project will save enough CO2 to plant 201 acres of pine forest, remove 162 vehicles from local roads, power over 78 homes for one year, offset 5 railcars worth of coal, and substantially decrease South Routt's carbon footprint.



Learning & Striving: Students celebrate the new biomass boiler with Colorado Governor Bill Ritter



New System: Ground Source Heating & Biomass Boiler Systems



Representatives from the Governor's Energy Office, Governor Ritter and McKinstry