

# 2005-2006 ANNUAL REPORT

## DARBY FUELS FOR SCHOOLS PROJECT

Darby Public Schools' (DPS) grant for construction and installation of a wood-chip fired heating system required formal monitoring and reporting for the first two years of operation. This was done in the first year by the Biomass Energy Resource Center (BERC) and the second year by Bitter Root RC&D. As a part of the Fuels Management Study cooperatively undertaken by DPS and RC&D, monitoring continues for two additional years but not to the same detail. This short report summarizes the cost data accumulated during the third year and some relative information. Third year experience is being reported in more detail as the Fuels Management Study.

During the 2005-2006 school year, the Darby boiler burned 760 tons of wood chips, the cost of which was \$18,171, or a little over \$23.90 per ton. The low cost was due mainly to the Hayes Creek donation of chipped logging slash, in which the Darby Ranger District of the Bitterroot National Forest and Pyramid Lumber Company processed the slash and delivered it to DPS to be burned in the boiler rather than disposed of by conventional open burning.

Following is a summary of fuel used, source and cost

Source	Tons	Price/Ton	Cost
Soil Tech, Inc. (original chip stockpile contractor. Usage terminated due to composting of stockpile and other problems.)	274	\$24.00	\$6,576.00
Hayes Creek donation (\$10 cost due to requiring contractor to chip slash rather than grind, as original agreement called for.)	192	\$10.00	\$1,920.00
Bass siding DF/L tops (Thomas)	56	\$41.00	\$2,296.00
Porterbilt Post and Pole (combined cost of material, hauling, and some chipping.)	103	\$29.16	\$3,003.50
Pine Products, Inc. (mostly clean DF/LPP chips)	135	\$32.41	\$4,375.50
<b>TOTALS</b>	<b>760</b>	<b>23.91</b>	<b>\$18,171.00</b>

DPS incurred additional cost in operating the stockpile, e.g. transferring chips from stockpile to boiler, inspecting fuel sources for quality, supervision, additional maintenance due to burning experimental fuel, etc. DPS estimates the total cost for the year at \$4,700.00. We estimate this to be at least double the cost of operating the plant on clean dry chips delivered directly into the fuel bin.

DPS also burned approximately 1,500 gallons of oil (1500 x \$1.29/gal, using oil bought in 2003) totaling \$1,935.00

As explained in the formal monitoring report for the two prior years, increased cost of electricity to run the biomass boiler system about balanced out with decreased cost of propane for firing oil burners and operating the cafeteria. These costs were not tracked after the first year.

**SUMMARY**

Cost of wood chips (760 tons)	\$ 18,170.00
Cost of operating boiler and participating in fuels study (approximately \$9.00 per ton of fuel used)	4,700.00
Supplemental fuel oil	<u>1,935.00</u>
<b>DPS 2005-2006 Cost</b>	<b>\$ 24,805.00</b>

Comparison of projected cost had the school heated with fuel oil:

Historic usage cost of fuel oil (50,000 gal @ \$2.30/gal, avg. cost winter 2005-2006)	\$115,000.00
Estimated 2005-2006 cost savings	\$ 90,195.00