

# Hotchkiss School-Lakeville, Connecticut



- Project completion date: July 2012
- Boiler size: Two 300hp/10mmbtu/hr. output
- Displaces 150,000 gals. of fuel oil per year.
- Savings: \$600,000 per year.

The Hotchkiss School is an independent boarding school located in Lakeville, Connecticut. Founded in 1891, the school provides an education of academic distinction to 635 students in grades 9 through 12, and to a small number of postgraduates. Students at Hotchkiss come from across the United States and around the world. Graduates attend many of the most selective universities

Centerbrook Architects and Planners, designed this Central Heating Facility to heat all 1.2 million square feet of the 85 buildings that comprise the campus of the Hotchkiss School. It burns woodchips and replaces an oil-fired boiler plant, reducing greenhouse gas emissions by a third to nearly a half. The 16,500-square-foot building houses two biomass boilers. Four truck bays allow trucks to deliver wood chips into a 17,500-cubic-foot storage bin capable of supplying a week's worth of fuel.

Two Messersmith 300 hp, 10mmbtu/hr. 150psi steam boilers operate at 75 percent efficiency and generate 20 million BTUs per hour burning wood chips acquired from sustainably harvested local forests certified by the Forest Stewardship Council. The wood chips replace 150,000 gallons of fuel oil per year and cut emissions overall and, most dramatically, sulfur dioxide by more than 90 percent. Waste ash from combustion is collected for use as fertilizer for the school's gardens, and an electrostatic precipitator removes 98 percent of particulate matter from emissions.

Wood chips collected from managed timber stands are considered a "carbon neutral" fuel by the International Panel on Climate Change because the CO<sub>2</sub> produced by their use is reabsorbed by the ecosystem through regrowth of the forest. Biomass heating is expected to reduce the Hotchkiss carbon footprint by more than 6 million pounds of CO<sub>2</sub> a year.

Tours of students and community groups have access to a mezzanine balcony that overlooks and circumnavigates the boiler room. Wall mounted displays and a series of interactive computer consoles track performance data.

This facility is one of only three LEED certified power plants in the country. The vegetated roof combines with a bio-swale/rain garden system to absorb rainwater and filter runoff before returning it to the ground.

