

By the Numbers

7 million Btus/hr

550,000 square feet

1 Messersmith Hearst
Boiler

75-ton fuel storage bunker

2,500 tons of chips/year

\$69/ton of wood chips

\$516,000 in fuel savings

\$4,300,000 total project
costs

\$2,075,000 received in
grants

Mount Wachusett Community College
444 Green St
Gardner, MA 01440

Mount Wachusett Community College

Mount Wachusett Community College is a model for sustainability. In addition to heating renewably with wood, the college produces 100% of its electricity through wind power and solar photovoltaic panels.

The seven million BTU wood chip boiler was installed in 2002. The system uses 2,500 tons of wood chips a year. At \$69/ton, chips are the cheapest type of wood fuel and save the college \$516,000 each year. The wood chips are supplied by Hull Forest Products and delivered to the wood chip storage bunker, which is accessible through a large garage door. The delivery truck backs up and unloads into the top of the bunker, and the chips are moved to the boiler from the bottom via an auger system.

The wood heating system uses advanced technology to reduce its emissions. A cyclone (modified centrifuge) and a baghouse (modified fabric filters) remove particulates so that emissions from the stack are mostly water vapor.

An oil burner provides back up heating. In the summer, solar thermal provides hot water and runs the cooling system while the wood chip boiler is offline. In the winter, solar thermal pre-heats water entering the boiler.

The Mt. Wachusett Community College campus has experienced substantial growth in the years since the wood chip boiler was installed. Once the boiler reaches the end of its functional life, the replacement will need to have a higher heating capacity and use a fuel that requires less storage space.

