

## **Woodchip System at Quabbin Ignites Interest in Massachusetts**

<http://www.biomasscenter.org/resources/case-studies/quabbin-administration.html>

**Quabbin Administration Building  
Belchertown, Massachusetts  
60 HP Messersmith Heating Plant  
System installed in 2008**

The first state-government building to be heated with biomass in Massachusetts, other than schools, showed itself off for the first time in late 2008. About 15,000 people each year walk into its visitor center. There's growing interest in bringing biomass systems into public facilities around the state, says the state forester involved with the new project.

"I will be talking this kind of system up throughout Massachusetts," adds Gordon Boyce, marketing and utilization forester for the Massachusetts Department of Conservation and Recreation (DCR). Soaring prices for petroleum fuels, he says, have "really got the phone ringing off the hook.

"There is tremendous interest ... We've got a lot of projects in the preliminary planning stage."

The state's first non-school investment in biomass heating is Quabbin Administration Building, in Belchertown, headquarters for management of the Quabbin Reservoir. A new, \$480,000 woodchip boiler began heating the facility in autumn 2008.

"The DCR and the state's Department of Energy Resources are very aggressively promoting the use of waste wood for heating schools and other public buildings in the Commonwealth. This is a good example for them," notes Kamalesh Doshi, program director for the nonprofit Biomass Energy Resource Center (BERC) in Vermont.

State government considered several of its buildings for biomass heating, through a 2005 feasibility study conducted by BERC. Quabbin was chosen to be the first project.

The new boiler will burn about 350 tons of woodchips per year, in place of about 22,000 gallons of No. 2 fuel oil.

"This will offset about 220 tons of fossil-derived carbon dioxide and save more than \$75,000 in its first year,"



says a state publication about the project.

Grant money paid for the new Quabbin system. Even without that funding, projected fuel-cost savings would repay the initial investment within six years.

One of the nation's largest man-made public water supplies, the Quabbin Reservoir was created in the 1930s, through the construction of two very large earthen dams. Along with the reservoir itself, the state manages 56,000 acres of state-owned forestland that surrounds it—and the long-term plan is to harvest woodchips from that land to fuel the heating system.

"Over time, they will be able to be completely self-sufficient for chips," says Boyce.

During the first year, the system will run on hardwood sawmill chips. Screened and consistent in moisture content, that fuel will help operators get the system running smoothly. In future years, the fuel will be bole and whole-tree chips sourced from reservoir lands.

"We designed the system so that it could handle that wide variety of chips," says Boyce.

Air emissions are cleaned by a particulate multicyclone, along with advanced computer combustion controls.

"By using locally produced renewable wood fuel, the new biomass system at Quabbin will save millions of dollars, help to combat global climate change, contribute to national security and support the local economy," says the state publication.

Because it previously heated with coal, the Quabbin

facility had a below-ground coal storage bin—as do many other formerly coal-heated public buildings in Massachusetts. The coal bin at Quabbin was retrofitted to become the new chip-storage bin for Quabbin’s biomass system, saving costs by avoiding the need to build a new storage facility.

“That’s one important feature,” notes Doshi of BEREC.

Here’s another feature: The building’s visitor center has a display panel on the new system, and a panel that will monitor the heat produced, the carbon offset, and the fossil fuels displaced.

“We’ve got a project in Massachusetts called Lead by Example,” adds Boyce. “It promotes green construction and renewable energy in state facilities. We’re hoping this Quabbin project is going to spur a lot of interest.”