



A Local Success Story of Biomass Energy

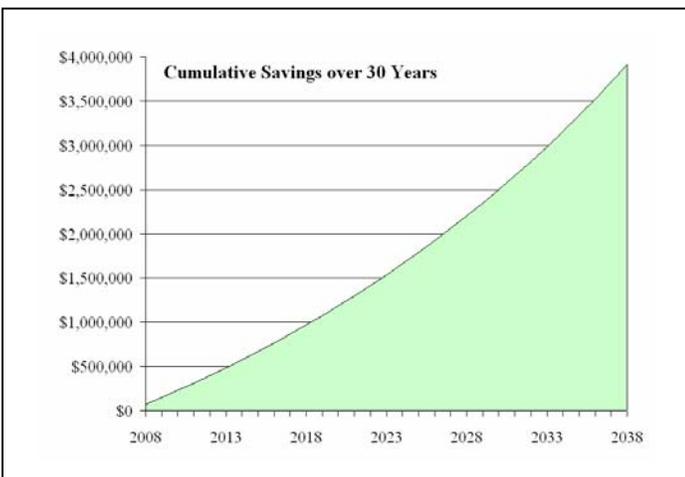
Quabbin Administration Building: Belchertown

To highlight the benefits of woody biomass energy, the Massachusetts Department of Conservation and Recreation, with funding from the Department of Energy Resources, has installed a fully automated wood chip heating system in the Quabbin Administration Building in Belchertown.

In New England, we have an abundant supply of biomass produced by forestry, lumber, woodworking and landscaping industries. This new 60 horsepower boiler will burn about 350 tons of wood chips per year, which will displace 85% (22,000 gallons) of the #2 fuel oil used by the facility for heating. This will offset about 220 tons of fossil-derived carbon dioxide and save more than \$75,000 in its first year. To reduce pollution, the system includes a particulate multicyclone and advanced computer combustion controls. Total cost of the installation was \$480,000. Simple payback for a similar sized system without grant funding would be six years.



This Hurst / Messersmith boiler will burn about 350 tons of wood per year.



The new energy system will potentially save 3.9 million dollars over 30 years.

The rising price of oil, in combination with growing public recognition of the social and environmental consequences of fossil fuels has generated new enthusiasm for renewable energy technologies. By using locally produced renewable wood fuel, the new biomass system at the Quabbin will save millions of dollars, help to combat global climate change, contribute to national security and support the local rural economy.

The Quabbin Administration Building was built in 1938 and is currently managed by the Department of Conservation and Recreation, Division of Water Supply Protection (DWSP). This location was selected after a preliminary feasibility study of several state buildings completed in 2005 by the Biomass Energy Resource Center of Montpelier, Vermont. A detailed engineering feasibility study was completed in 2007.

Created in the 1930s by the construction of two huge earthen dams, the Quabbin Reservoir is one of the largest man-made public water supplies in the United States. The building complex that will be heated by this biomass system is located on the southern portion of the 55,000 acres of DCR land surrounding the reservoir. This facility also contains a visitor center on site that provides interpretive services for 12,000 to 15,000 people each year.



Biomass Energy System	
Location	Quabbin Building, Belchertown, MA
Size	60 horsepower
Manufacturer	Messersmith
Annual Fuel Use	350 green tons
Displaced Oil	22,000 gallons
Avoided CO ₂	220 tons
Pollution Control	Multi-cyclone and combustion controls
Expected savings:	
Year 1	\$ 75,000
System Lifespan	\$ 3.9 million

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