

By the Numbers

1 million BTUs/hr

9 building district heating system

1 Ala-Talkari Veto 300 Biomass Boiler

3,000-gallon thermal storage

28-ton storage area

150 tons/year

70% fuel reduction

\$425,000 in project costs

\$275,000 in grants

Gould Farm

Gould Farm is a residential psychiatric rehabilitation center located on a 700-acre working farm in Monterey. Gould Farm is dedicated to helping adults with mental health and related challenges move toward recovery, health, and greater independence.

In 2016, the farm replaced an outdoor hydronic wood boiler with a new wood chip boiler system that can heat all nine buildings on the lower campus. The new boiler system dramatically reduces emissions and wood consumption, and saves 2,500 gallons of oil each year.

To house the new system, Gould Farm constructed a centralized boiler building with two fuel storage areas. A day bin with radiant floor heat holds 9 tons of wood chips which are conveyed by auger to the boiler as needed. A bulk fuel storage area can hold 28 more tons of chips. The biomass boiler can tolerate wood chips up to 40% moisture. The boiler heats an unpressurized thermal storage tank. Heated water from the tank is pumped through a heat exchanger to transfer heat into the pressurized district heating system.

The old hydronic boiler burned 500 tons of firewood annually with high emissions. The new wood chip system is projected to use 150 tons of wood chips each year, a 70% savings on fuel and even more on emissions. Wood chips are purchased in 15 ton loads from a company in New York state.

The total project cost was \$425,000. Gould Farm received \$275,000 in grants from the Massachusetts Clean Energy Center, DOER, and the Department of Agricultural Resources. The Center for EcoTechnology provided resources for energy efficiency improvements to the heated buildings.

