



## Barstow's Longview Farm, Hadley, Massachusetts Farm Powered™ Anaerobic Digester



Barstow's Longview Farm in Hadley, Massachusetts is a seventh-generation family farm, founded in the early 1800s. The farm is a member of the Cabot Creamery/Agri-Mark Cooperative. To sustain the farm for future generations, the Barstow family pursued an opportunity to house one of the first anaerobic digesters in New England on the farm.

The Vanguard Renewables Farm Powered anaerobic digester partnership with Barstow's Longview Farm began in 2013. With the expansion of the anaerobic digester project in 2016, it is one of the largest and most modern anaerobic digestion systems in New England. The farm receives more than 20,000 tons of food waste annually from food processors, supermarkets, and food service operations such as Cabot Creamery/Agri-Mark, Geissler's Supermarkets, HP Hood, Cains, and Garelick. The food waste is combined with more than 9000 tons of manure a year from the farm in a 600,000-gallon anaerobic digestion tank. Manure and food waste are mixed and microorganisms convert sugars, fats, and other compounds into biogas annually producing more than 7,000 MWh of renewable energy and 30,000 tons of reduced-odor, organic liquid fertilizer.

Barstow's Longview Farm now has the ability to produce its own energy to power the farm and hot water to heat farm buildings and family homes. The farm also benefits by retaining the fertile digestate remaining from the process to use as liquid, organic fertilizer. This reduces the need for chemical fertilizers and increases crop yields.

### FARM BENEFITS

- 6-10 million gallons liquid organic fertilizer reducing the need for conventional chemical fertilizers
- Reduced energy cost
- Free heat
- Odor reduction
- Increased corn and hay crop yields
- Enhanced nutrient management plan

### FARM FACTS

- 450-acre dairy farm with 550 cows
- Founded in early 1800s
- Produces 15,000 lbs. of milk daily
- Opened Barstow's Dairy Store and Bakery in 2008
- Located in the Hockanum National Historic District, Route 47, Hadley, MA.

### DIGESTER FACTS

- Built 2013; Expanded in 2016
- 600,000 gallon capacity

#### Annual Digester Input:

- 9,125 tons of manure
- 20,000 tons of food waste

#### Annual Digester Output:

- Powers two engines totaling 800kW
- Produces more than 7,000 MWh of renewable energy/year; equivalent to the needs of 1,600 homes
- Offsets nearly 20,000 tons of CO2 emissions annually; the equivalent of the CO2 emissions from driving 3,790 cars for one year
- Provides energy to the Eversource grid and Cabot Creamery/Agri-Mark Cooperative

