

# Craftsbury Academy

The 1800's Embrace Biomass Technology



**Project:** Craftsbury Academy  
**Facility Size:** 26,000+ sq. ft.  
**Location:** Craftsbury, Vermont

## The Facility

Craftsbury Academy, located in Craftsbury Vermont, is one of the oldest public schools in the State of Vermont. Serving approximately 175 students in grades 5 through 12, the Academy was incorporated in 1829 and a two-story brick structure was erected in 1832. In 1868 this structure was replaced with a wood structure which remains a prominent landmark along the common in downtown Craftsbury.

## Project Scope

Yeaton Associates, Inc. was secured to provide high-efficiency, mechanical, plumbing and sustainable design for the school renovation, including the design of a new biomass/propane boiler plant. One of the primary goals of the project was to eliminate the nearly 40 degree temperature difference throughout the building and provide a controlled climate that was conducive to learning. A key focus for the design team was to maintain the historical integrity of the Academy while upgrading the indoor environment systems and building envelope.

## Project Result

An 867,000 Btuh capacity boiler and two propane fired 299,000 Btuh capacity condensing gas boilers were installed at the Academy based on Yeaton's design. The pellet boiler was sequenced as the primary boiler, and the gas boilers supplement on peak demand days and offer redundancy. A 36 ton outdoor pellet silo stores the fuel. The boiler plant feeds conventional HVAC systems and equipment. Improved HVAC infrastructure enhanced the learning environment by providing a comfortable and controlled climate within the building.

As a result of the new biomass plant, Craftsbury Academy is on track to save nearly 1.3% of its total operating budget for the 2011/2012 school year which translates into an \$880,000 savings over the life of the bond. The Academy has also been nominated for the "Best of the Best" award in Commercial Buildings Design and Construction by Efficiency Vermont, the results of which will be announced in February 2012. The Academy, in conjunction with its design partners, is also in the process of working toward its North East Collaborative for High Performance Schools (NECHPS) Certification in early 2012, which would make it one of the oldest schools in the country to hold the designation.



A wood pellet biomass boiler plant was installed to lessen the Academy's dependency on fossil fuel and address facility heating needs.



A 36 ton silo located outdoors, adjacent to the boiler room, stores wood pellets. The pellets are automatically delivered to the boiler through an auger system.

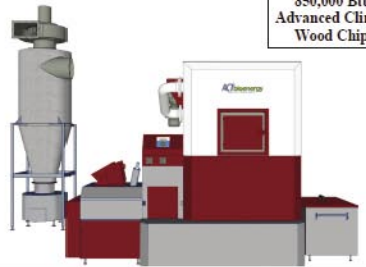
# Craftsbury Academy

Craftsbury Common ~ Vermont



## ACT's Combination Wood Chip Pellet & Boiler

- Offset of 25,000+ gallons annually of Heating oil
- Heating 26,000sq.ft School & Gym
- Annual savings to exceed \$18,000.
- Craftsbury Academy and it's community are committed to being carbon natural...
- Deep Energy retrofit underway as well.



850,000 Btu ACT Boiler  
Advanced Climate Technologies  
Wood Chip / Pellet Boiler

BAST & ROOD ARCHITECTS  
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PO BOX 220  
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The project architect, Bast & Rood Architects, created a rendering of the biomass plant and highlighted key statistics including the associated potential fossil fuel and monetary savings.

## The Firm

Yeaton Associates, Inc. is a well-respected MEP consulting engineering firm with a commitment to quality and an assurance that the company will deliver well-engineered, efficient and sustainable design services. Founded in 1973, Yeaton Associates, Inc. has evolved its focus to provide Mechanical, Electrical, Plumbing and Sustainable Engineering Design Services as part of its integrated, multi-disciplinary approach to engineering.

For over 35 years, Yeaton Associates, Inc. has provided and continues to provide expert, comprehensive engineering consulting and design services for healthcare, academic, commercial and public facilities. A focus on innovation and emerging technologies has allowed the company to stay at the forefront of high-performance design, while a commitment to quality and service has made Yeaton Associates, Inc. a trusted partner for those in need of engineering design services. The company's extensive client base and diverse project resume has garnered recognition throughout New England, and its commitment to quality has allowed Yeaton Associates, Inc. to earn a reputation for excellence and excel as a well-respected design leader within the industry.

