



About

Vermont Fuels For Schools

A statewide biomass energy use initiative promoting a plentiful local natural resource to provide reliable heat for Vermont schools

An initiative of
Biomass Energy
Resource Center

in collaboration with the
Vermont Superintendents
Association's School Energy
Management Program

and cooperation with the
Vermont Department
of Education

Vermont Department
of Public Service

Vermont Department
of Forests, Parks and
Recreation

with funding from the
US Department of Energy

through the support of
Senator Patrick Leahy

Vermont Fuels For Schools (VFFS) provides schools with the information and support needed to evaluate and successfully implement biomass-based heating systems that replace expensive fossil fuels with locally supplied biomass fuel.

VFFS will help schools navigate the steps in both the pre- and post-bond processes—from the preliminary site assessment to system installation—providing tools and expert guidance to ensure a successful biomass heating system.

What is biomass? Any biological material that can be used to produce heat, energy, electricity, or fuels, including woodchips and pellets, low-grade wood wastes, agricultural crop residues, and farm animal wastes.

Why use biomass for energy? It makes sense to use forms of sustainably produced biomass to replace conventional fuels (oil, gas, and coal) for a number of reasons, such as:

Increased economic development

Biomass comes from local resources and keeps energy dollars close to home. When a community uses biomass it creates forestry and agriculture jobs in the surrounding region.

Better for the environment

- Biomass use reduces greenhouse gases that cause climate change.
- Biomass heating has a positive impact on acid rain because, unlike fuel oil, biomass contains virtually no sulfur.
- Biomass heating systems help keep forests strong by providing a productive use for low-grade cull wood.

Cuts fuel bills

Since 1986, biomass heat in Vermont schools has always been at least 30 percent less expensive than oil and 75 percent less expensive than electricity. Now, oil, propane, and natural gas heating costs roughly two-to-three times as much as heat from biomass.

**For more information on
Vermont Fuels For Schools, contact:
Biomass Energy Resource Center
802-223-7770, contacts@biomasscenter.org**

Where does wood fuel come from? From three local markets:

HARDWOOD MILL CHIPS are high-quality fuel at a reasonable price. It is the preferred choice for schools, however, supplies are limited so schools compete with other users.

BOLE CHIPS are made by putting the main trunks (boles) of low-quality trees through a chipper working in the woods as part of a timber operation.

WOOD PELLETS are small, compressed, symmetrical bits of wood that are generally manufactured from mill and agricultural residue.

What are the parts of a woodchip system?

Storage Bin	Equipment	Boiler	Controls	Chimney	Building
for fuel	to transport fuel from bin to boiler	to burn fuel and create hot water for building heat	to ensure efficient, clean combustion	to exhaust combustion products	to house equipment and storage bin

What if the wood system is too expensive to be cost effective?

Large schools usually find the combined costs of installing fully automated wood systems, the bond payment, and the wood fuel far less than what they were paying using oil, gas, or electric heating. Smaller schools with relatively modest heating bills can opt for a semi-automated system that uses significantly less-expensive equipment and can be housed in a significantly less-expensive building.

How much work is it for school maintenance staff? Modern school woodchip systems are easy to take care of—30 minutes average per work day for automated systems and up to 60 minutes per day for semi-automated systems. Most of the work involves removing a few shovels full of ash into a trash can each day.

- **Not only are wood-chips by far the least expensive fuel available to schools, their use keeps energy dollars in the local economy and help improve overall forest health.**
- **School districts with new wood-energy systems often reduce annual heating expenditures within the first year of use.**
- **Using wood to replace fossil fuels is the most powerful action a school can take to address global warming and climate change.**

What Are the Next Steps?

For a free school site assessment and more information:

Vermont Superintendents Association
802-229-5834, www.vtvsa.org

For information on state aid to help pay for a biomass-heating system:

Vermont Department of Education
802-828-5402, www.education.vermont.gov

For information on wood-fuel supply for schools:

Vermont Department of Forests, Parks and Recreation
802-241-3678, www.vtfpr.org

For technical assistance in organizing and implementing a wood-heating project:

Biomass Energy Resource Center
802-223-7770, www.biomasscenter.org

For general information on energy efficiency and renewable energy:

Vermont Department of Public Service
802-828-2811, www.publicservice.vermont.gov