

What Is Modern Wood Heat?

Massachusetts Statewide Wood Energy Team

- **Modern wood heat systems are versatile.**
A room, building, or multiple buildings can be heated cleanly and efficiently with wood. Depending on the system, different wood fuels may be most suitable. The most common wood fuels are cordwood (“firewood”), wood chips, and wood pellets. Throughout Massachusetts, residents cut, split, and stack cordwood in their yards. Wood chips and pellets are a processed, uniform product, often made from harvest residues. Pellets are dried before being processed, while wood chips are usually sold “green.” Small, space heating stoves typically use cordwood or pellets, while larger boilers and furnaces can also accept wood chips.
- **Modern wood heat systems are convenient.**
Due to fuel uniformity, many wood pellet and chip systems have automated delivery, combustion, and connection to the building’s thermostat.
- **Modern wood heat systems limit emissions.**
Burning any fuel produces emissions. Modern wood and pellet stoves, boilers and furnaces are engineered to comply with EPA standards. An EPA certified appliance emits 90% less smoke than a conventional wood stove. EPA standards have recently been updated to reduce particulate matter from stoves, boilers, and furnaces by an additional 70%. Larger commercial and industrial installations may include additional pollution controls to meet state and federal clean air standards.
- **Modern wood heat systems are efficient.**
When operated as designed, modern wood heat systems have minimal heat loss to the outside. Systems operate most efficiently with thermal storage and a backup heat source for the sporadic heating needs of spring and fall, and to supplement heat on the coldest days. Cordwood boilers with sufficient thermal storage can be as efficient as wood chip and pellet boilers.

Versatile

Convenient

Clean

Efficient

Local

Renewable

Affordable





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- **Modern wood heat benefits the local economy and local forests.** Sixty-one percent of Massachusetts is forested, and a majority of our woodlands are owned by families and individuals. Most landowners need to earn periodic income from their woods to pay for the land's management. Depending on the landowner's goals, the development of high quality timber stands can be aided by the removal of lower quality trees. Landowners can generate some small income from these "firewood" trees and the remaining trees benefit from increased sunlight and access to nutrients.



By purchasing wood fuels instead of fossil fuels (oil, natural gas or propane), Massachusetts residents support forest landowners and local small businesses. A heating dollar spent on wood supports more rural businesses and regional vendors as it is spent and re-spent locally.

- **Wood is a renewable fuel.** As long as the growing capacity of the land and soil is maintained, trees can be grown, harvested, and regrown repeatedly. Trees incorporate carbon into plant tissue, which is released when a tree dies and rots, or is burned. The carbon can then be recaptured into new tree growth. If the trees in a given geographical area grow faster than they are harvested the processes offset each other. Here in Massachusetts we harvest just 18.5% of our forests' annual growth.
- **Wood is affordable.** Fossil fuel prices rise and fall dramatically in response to supply swings and world events; prices for locally produced wood fuels tend to fluctuate much less. Over the life of a modern wood heat system, fuel costs are likely to be lower and more predictable.



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