

Wood Pellet Stove - 2.75 2011 Project

New England started out as dense forest that was harvested for industrial use and conversion to farmland primarily for sheep to provide wool to the water powered mills. With electric power, trains, cheaper Southern mills, and vast western grasslands, the fields were abandoned and turned back to forests. Industrialization brought about the need for paper and the vast forests were managed to provide a sustainably harvestable pulp crop to feed the paper mills. The digital age uses far less paper and many forest products communities are once again struggling. However, a new and sustainable future is in sight: Wood products for high value added furniture and chips for wood pellets. Pellets? Wood pellets can be made from wood “waste” and when burned in a modern pellet stove are an efficient renewable way to heat a house. In fact, it has been hypothesized that a sustainable harvest can heat all New England homes and thus drastically cut the need for heating oil. If 10 million people using 1000 gallons of heating oil could switch to wood pellets that would be like taking 10 million cars off the road or in more astounding terms:

# people	10,000,000
gallons heating oil per year	1,000
mass CO2/mass oil burned	3
heating oil specific gravity	0.85
tons oil	35,275,000
million tons CO2 released	106

So why do people not rush to buy? Some factors to consider include the fact that one can buy a contract with a heating oil company to keep the tanks filled. But, if the power goes out, the burner stops and pipes can freeze... Similarly, *most* wood pellet stoves require an electric motor to feed the pellets...

Thinking carefully about all the energy needs of a house and how they are now satisfied (and what happens when the power goes out...); your task is to consider a typical New England home with a fireplace and basement, and create a wood pellet stove product and market to rapidly Renaissanceficate the New England forest products community and help save the planet.

USDOE - [Wood and Pellet Heating](#)

Mass. Div. of Energy Resources – [Wood Pellet Heating](#)

[New England Wood Pellet](#) | [Pellet King](#) | [Harman Stoves](#)

Consumer Reports - [Buyer's guide to pellet- and wood-burning stoves](#)