



## What are the economics of heating with wood?

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One of the questions asked most often when people are trying to sort through their options to heat their home with wood is, "How much does each system cost?" The answer is, "It depends." The cost can vary significantly from simple woodstoves to highly engineered wood pellet burning boilers.

A good place to start is by looking at the economics of wood as a fuel and the potential savings that could be possible for a couple of the different systems that are available. The idea with this approach is that if you know the operating cost of an appliance upfront, you can factor that together with the initial purchase price to better understand what the overall long-term cost will be. It might make sense to choose a stove or appliance that has a higher initial cost but is more efficient and uses less wood for long-term savings.

Here is a brief comparison of the cost of wood versus using #2 heating oil. For every 1,000 gallons of oil consumed for heat it would cost \$4,320 at current prices. To produce the same amount of heat with wood it would take approximately 7 cords of firewood in an EPA approved woodstove. Assuming that you purchased firewood at a price of \$250 per cord, the cost would be \$1,750 and the resultant savings \$2,570.

For a pellet stove you could expect to use about 383 bags of wood pellets to produce the same amount of heat. Assuming a price of \$5 per 40 lb bag, the cost would be \$1,915 and the savings \$2,405.

For those with the time, desire and ability to cut their own firewood, there are more substantial savings. If you harvest wood with a wood-cutting permit from State Forestry it will cost \$5 per cord. So using the same EPA approved woodstove your heating cost would be reduced to \$35 with a savings of \$4,285. Of course there are additional expenses and wear and tear on equipment and vehicles but with such a large potential savings most would consider them negligible.

An additional consideration in the overall picture is convenience. And like most other things, adding convenience to wood burning comes with a price. For now, I am only comparing two space heating appliances that can do the same job but for which the economics can be quite different.

With the woodstove you can purchase firewood or cut your own. With the pellet stove you are limited to only purchasing your fuel. You are limiting your potential savings by choosing a pellet stove but you are also adding convenience because most can operate automatically and unattended. These large differences in operation and costs make deciding which to choose a highly personal matter depending on your own situation.