Pellet Consumption Estimates

- 1000 gal. (5.7 TPY)
- 1200 gal. (6.9 TPY)
- 1400 gal. (8.0 TPY)
- 1600 gal. (9.2 TPY)

Fuel Inflation Estimates

- Wood Pellets = $230/ton
- Starting Price: Propane = $3.20/gallon
- Starting Price: Heating Oil = $4.00/gallon
- Inflation = 7.5% for Heating Oil, 3.5% for WP

Payback Period

The payback period can be estimated by weighing the savings from converting fossil fuel consumption to wood pellets against the cost of the investment. Simply add the cost for equipment and installation, and subtract any grants or incentives. Find that figure on the Y-axis on the appropriate graph above. Move across to the appropriate fuel displacement curve, then drop down to the X-axis to find the estimated payback period.

Fuel Inflation Estimates

The inflation estimates for heating oil and propane in these examples are conservative given that these inflation estimates are 30% below the 15 year trends for both oil and propane.

Energy content of pellets

One 40-lb bag of wood pellets has the energy equivalent of 2.3 gallons of #2 heating oil. That bag of pellets has the energy equivalent of 3.5 gallons of propane (LP).

Cumulative Fuel Cost Savings Over 15 Years

Cost Savings by Replacing Heating Oil Consumption with Pellets (tons per year)

- 2000 gal. (10.3 TPY)
- 1600 gal. (9.2 TPY)
- 1400 gal. (8.0 TPY)
- 1200 gal. (6.9 TPY)
- 1000 gal. (5.7 TPY)

Pellet Boiler vs. Heating Oil & Propane Boiler Outputs

Wood pellet boilers are commonly sized below, sometimes far below the heat output of the boiler they are replacing. Because wood pellets are a solid fuel, they take longer to ignite than oil and propane. Therefore, the boiler output should be set so that the frequency of ignitions is kept down, leading to long cycle times.

Cycle time is the elapsed time from the start of the ignition cycle to the time when the boiler reaches its high limit and shuts down. For a pellet boiler, a cycle might be an hour or more, in contrast with typical boilers or furnaces when the boiler reaches its high limit and shuts down. For a pellet boiler, a cycle might be an hour or more, in contrast with typical boilers or furnaces that run for a few minutes at a time. Cycle time will vary depending on the demand for heat and hot water in the home. It also depends on the output of the boiler, and whether the burner modulates (ours does, along with separate Winter and Fall/Spring settings).

See other side for pellet percentage discount to oil and propane.
This table shows how much less expensive wood pellets are compared to oil and propane, for an equivalent amount of energy.

For example, with wood pellets at $230/ton, and oil at $4.00/gallon, homeowners using 1000 gallons of oil would expect to save approximately 50% on their fuel bill, totaling $2,000  \[1000 \text{ gallons} \times 4.00 \times 50\% = 2,000 \text{ saved}\].