



ECOBROKER International **Green Topic Pages**

Heating - High Combustion Efficiency (equal to or greater than 90%)

Technology Snapshot & Benefits:

There are easy savings to derive with improved combustion efficiency. Many buildings are heated by burning fuels imperfectly in furnaces or boilers. Owners and occupants benefit from high efficiency equipment and modern designs that efficiently convert energy contained in the fuel into useful heat for building occupants. The more efficient this conversion, the less fuel is required for a given level of comfort with corresponding cost and pollution savings.

Estimated Cost Savings:

Frequently, tests of existing heating units reveal operation at 50-60% combustion efficiency. High-efficiency replacement units (with combustion efficiencies of 90% or greater) reduce fuel costs (and corresponding pollution) by 30-50% over existing units, depending upon site-specific particulars. It is not unreasonable to achieve improvements of 30 cents on the dollar in heating costs for residential and commercial buildings. For a monthly heating bill of \$200 dollars, this equates to an estimated savings of \$60 per month. If the upgrade to higher efficiency costs \$2,000, a improvement of this nature pays for itself in substantially less than five years, and improves cash-flow immediately.

Issues:

Some units extract so much heat from the flue gas that water vapor (a normal product of combustion) condenses in the chimney before it can be vented to the outside. Special drainage means may be required with high efficiency units, but this is frequently an inconsequential consideration.

Regional Issues:

Depending on your heating degree days per year, combustion efficiency improvements are as big a winner as you can find.

Installation (Getting It Done):

We encourage you to get two or three bids from HVAC and/or plumbing contractors as you move to take advantage of this savings opportunity. Obtaining a range of bids will provide you with immediate perspective on the true costs of equipment and installation in your area.

More Information On This Topic:

[U.S. Department of Energy - How to Buy an Energy-Efficient Residential Gas Furnace](http://www.eere.energy.gov/femp/pdfs/gas_furnace.pdf)

http://www.eere.energy.gov/femp/pdfs/gas_furnace.pdf

[U.S. Department of Energy - How to Buy an Energy-Efficient Commercial Boiler](http://www.eere.energy.gov/femp/pdfs/boilers.pdf)

<http://www.eere.energy.gov/femp/pdfs/boilers.pdf>

[Energy Star - Guide to Energy-Efficient Cooling and Heating](http://www.energystar.gov/ia/products/heat_cool/GUIDE_2COLOR.pdf)

http://www.energystar.gov/ia/products/heat_cool/GUIDE_2COLOR.pdf