

HEATING SYSTEM

Most homes are heated with furnaces or boilers. Furnaces heat air and distribute the heated air through the house using ducts; boilers heat water, providing either hot water or steam for heating

A central furnace or boiler's efficiency is measured by annual fuel utilization efficiency (AFUE). AFUE is the ratio of heat output of the furnace or boiler compared to the total energy consumed by a furnace or boiler.

An AFUE of 90% means that 90% of the energy in the fuel becomes heat for the home and the other 10% escapes up the chimney and elsewhere. AFUE doesn't include the heat losses of the duct system or piping, which can be as much as 35% of the energy for output of the furnace when ducts are located in the attic.

You can identify and compare a system's efficiency by not only its AFUE but also by its equipment features, listed below.

Old, low-efficiency heating systems:

- Natural draft that creates a flow of combustion gases
- Continuous pilot light
- Heavy heat exchanger
- 68%–72% AFUE

Mid-efficiency heating systems:

- Exhaust fan controls the flow of combustion air and combustion gases more precisely
- Electronic ignition (no pilot light)
- Compact size and lighter weight to reduce cycling losses
- Small-diameter flue pipe
- 80%–83% AFUE

High-efficiency heating systems:

- Condensing flue gases in a second heat exchanger for extra efficiency
- Sealed combustion
- 90%–97% AFUE

The table below shows the annual estimated savings for every \$100 of fuel costs by increasing your heating equipment efficiency, assuming same heat output.

Existing System AFUE	New/Upgraded System AFUE								
	55%	60%	65%	70%	75%	80%	85%	90%	95%
50%	\$9.09	\$16.76	\$23.07	\$28.57	\$33.33	\$37.50	\$41.24	\$44.24	\$47.36
55%	----	\$8.33	\$15.38	\$21.42	\$26.66	\$31.20	\$35.29	\$38.88	\$42.10
60%	----	----	\$7.69	\$14.28	\$20.00	\$25.00	\$29.41	\$33.33	\$37.80
65%	----	----	----	\$7.14	\$13.33	\$18.75	\$23.52	\$27.77	\$31.57
70%	----	----	----	----	\$6.66	\$12.50	\$17.64	\$22.22	\$26.32
75%	----	----	----	----	----	\$6.50	\$11.76	\$16.66	\$21.10
80%	----	----	----	----	----	----	\$5.88	\$11.11	\$15.80
85%	----	----	----	----	----	----	----	\$5.55	\$10.50
90%	----	----	----	----	----	----	----	----	\$5.30

For more information on the different products available, go to the energysavers website [here](#).

Table courtesy , source : www.energysavers.gov