

Furnace Efficiency Standard Set to Save Households Money and Cut Climate Pollution

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The U.S. Department of Energy (DOE) recently finalized a significantly strengthened federal efficiency standard for home furnaces. By phasing out the least efficient models currently on the market, the new standard will reduce household energy bills and avert millions of tons of climate-warming emissions and other pollutants that harm human health.



The strengthened standards will cut average annual home heating bills for consumers replacing an inefficient furnace by about

\$50
per year.



By midcentury, these furnace standards will be cutting carbon emissions by an amount equivalent to shutting off

24
gas power plants.

Heating is the largest energy use for most U.S. households, making up a significant portion of many families' utility bills in the winter. But for many households, those heating costs are set to be reduced, thanks to a new federal standard for home furnaces. The final standard announced by DOE in September will reduce average household costs by \$350 over the life of a furnace and cut 332 million metric tons of carbon dioxide emissions from furnaces sold over 30 years, according to the agency. The standard will also reduce emissions of nitrogen oxides, which cause asthma attacks, cardiovascular disease, and even premature death.

Furnace efficiency standards had not been meaningfully updated since they were set by Congress in 1987. DOE made a slight update in 2007, but to an efficiency level that 99% of models already met. The new standard is widely supported by consumer and environmental advocates and even by several of the furnace manufacturers.

Federal law requires DOE to periodically review standards for furnaces and other products; under a court-approved settlement in 2014, DOE was required to finalize a new furnace standard by 2016. Thus, this rule was long overdue.

The new standard will take effect in 2028.

Phasing out energy-wasting furnaces will ease household costs, especially for low-income consumers

Nearly half of U.S. homes—about 50 million—are heated with a gas or propane furnace. Households with a basic (non-condensing) gas furnace face annual average heating bills of about \$600, and those who live in older, draftier homes or in colder climates can have much higher bills. For low-income households, high heating bills can force a terrible choice between paying for heat and other necessities such as food and medicine.

The updated standards will require new furnaces to use about 15% less energy than today's least efficient models, effectively phasing out non-condensing models. Too many consumers today end up with these non-condensing furnaces because that's often what a landlord or a builder chooses. For homeowners, replacing a broken furnace in the middle of winter often doesn't allow for time to weigh options, so many will make a like-for-like replacement instead of considering more-efficient models. Fortunately, the new standards will ensure all models are efficient.

Most households will switch to condensing furnaces, a proven option

DOE estimates that the vast majority of consumers who would have purchased a non-condensing furnace before the standard will instead purchase a condensing furnace. Condensing models use more of the heat from the furnace's combustion chamber, reducing energy waste.

Many consumers have already made the switch; about half of new purchases are now condensing models. These more-efficient furnaces have been proven as replacements for non-condensing models. Installers have stated that replacing a non-condensing model with a condensing one is widely doable and that challenges, when they occur, can be solved through troubleshooting. Canada has had a condensing furnace standard in place for more than a decade.

About one in twenty households will choose to switch to a heat pump rather than a condensing furnace. With electricity generation becoming cleaner in much of the United States, heat pumps can be a great option to further reduce climate emissions and, for some consumers, ease heating bills.

Gas utilities have fought efforts to phase out the least efficient furnaces for decades

The big trade associations that represent gas utilities—the American Gas Association (AGA) and American Public Gas Association (APGA)—have long fought strengthened furnace standards that would reduce consumer bills (and gas utility sales). They stymied two attempts by the Obama administration to raise the standards and then convinced the Trump administration to issue a rule that effectively blocked strong standards. The Biden DOE repealed that rule and updated the standards despite the gas industry's objections, a major win for consumers, the climate, and public health.