

Proposed Refrigerator Standards Would Save Consumers Money, Protect the Climate

MARCH 2023

Federal efficiency standards for residential refrigerators and freezers have not been updated in more than a decade, even as energy-saving technologies have improved. Adopting standards proposed this February by the Department of Energy (DOE) would ensure all models waste less energy, saving money for their users and cutting planet-warming emissions from power plants.

Many household refrigerators on the market today rely on outdated technologies that cause higher utility bills for consumers and needless climate pollution. If finalized, efficiency standards recently proposed by DOE would spur manufacturers to use energy-saving technologies from top-performing models in all their products.

The DOE proposal includes separate efficiency levels for different types of standard-size refrigerators (such as top-mount and bottom-mount refrigerator-freezers) and standard-size freezers (upright and chest freezers), as well as for compact refrigerators and freezers (used in hotels and dorm rooms, for example). For instance, refrigerators with the freezer on top would be required to use 15% less energy than is required under existing standards, while side-by-side refrigerator-freezers would use 19% less energy.



To meet the strengthened standards, refrigerators would likely use variable-speed compressors instead of single-speed compressors, which are more common yet far less efficient. Variable-speed models can run at a lower average speed and do not have to toggle off and on; they can also keep foods at more consistent temperatures. The standards would also ensure that other proven efficiency improvements, such as more-efficient fan motors, heat exchangers, and insulation, become widespread. These technologies would help refrigerators in the United States catch up to models in Europe and Japan, where the efficiency standards for refrigerators are stronger.

Thanks to previous standards, refrigerators today use far less energy than models from decades ago, even though they are significantly larger. To ensure continued progress, federal law required DOE to propose new standards by 2017, but the department missed that deadline. If finalized, the new standards would take effect in 2027.

SAVE CONSUMERS MONEY

Refrigerators meeting the proposed standards would more than pay back their higher upfront cost by reducing utility bills. DOE estimates that the proposed standards would save U.S. consumers up to \$20 billion over 30 years of sales.

The standards would be especially beneficial for renters, who rarely get to choose their own refrigerator. And they would benefit low-income households, who pay a larger share of their income on utility bills than wealthier households do. According to DOE, most low-income households have a refrigerator with a freezer on the top. For these models, DOE estimates that the average incremental cost for low-income households at the proposed standard level is just \$20, and the average payback period for these households is about two years.

CUT GREENHOUSE GAS EMISSIONS

About 15 million refrigerators and freezers are sold each year, and they generally last a decade or two. DOE's proposed standards would prevent manufacturers from continuing to sell outdated appliances, thereby averting 179 million metric tons of needless carbon dioxide emissions over 30 years of sales.