

For More Information Contact
Marianne DiMascio at
781-312-8999 or
mdimascio@standardsasap.org

www.standardsasap.org

Q & A APPLIANCE STANDARDS
QUESTIONS AND ANSWERS

Ceiling Fan Efficiency Standards

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Congress set the first ceiling fan standards in 2005 based on joint recommendations from industry and efficiency proponents.



The Department of Energy (DOE) is in the midst of a 3-year public-comment rulemaking to set updated efficiency standards for ceiling fans. The process began in March 2013 and is expected to be completed in 2016.

Didn't Congress initially set the standards for ceiling fans?

Yes, Congress set the first ceiling fan standards in 2005 based on joint recommendations from industry and efficiency proponents. Features that we take for granted today stem from those standards. They required separate controls for light and fan, adjustable speed controls, and reversible direction.

Why is DOE updating the standards?

Congress requires DOE to periodically review product standards and to amend if warranted. The 2005 law gave DOE the go-ahead to consider and issue updated ceiling fan standards after January 1, 2010.

What levels is DOE considering?

It's early in the process, but DOE has identified several possible efficiency levels that could be reached with a variety of technology options such

as more efficient motors or minor modifications to the blades. Though some manufacturers are concerned that DOE might select an efficiency level that would essentially require brushless DC motors, it is highly unlikely because DOE's analysis shows that DC motors are not cost effective for 3 of the 4 main categories of ceiling fans.

Who supports the standards?

Big Ass Solutions (BAS), a ceiling fan manufacturer in Lexington, Kentucky, supports this rulemaking. In a letter to US Senator Murkowski, BAS noted that "We support DOE's efforts to continue the rulemaking process that will help save consumers money, streamline operations for industry, and enhance the market for products Made in the USA." In addition, a variety of efficiency organizations and some of the largest utilities in the western US support the rulemaking process. In general, standards have enjoyed broad bipartisan support across four decades and five presidencies.

How much will consumers save?

DOE estimates that updated standards will save enough electricity to power between 10 and 35 million US households for a year and save consumers between \$1 and \$9 billion (for products purchased over 30 years). The savings vary depending on the efficiency level DOE ultimately selects.

What impact will standards have on the price of fans?

If DOE selects the most cost-effective efficiency levels that are technologically feasible, DOE estimates that the price of the most common types of household fans may increase by about \$10. This

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represents an increase of about 12%. However, retrospective analyses¹ show that DOE often overestimates the impact of efficiency standards on product price, so the increase will likely be lower than estimated. Also, over time, technological innovation, economies of scale, and competition reduce or eliminate these added first-costs.

Many consumers purchase decorative fans. Will they still have that choice?

Yes, consumers will still have a choice. DOE is considering establishing a separate, exempt product class for fans whose primary purpose is decorative. Consumers will continue to have choices in other ways also. Manufacturers determine how they will meet the standards, a practice which encourages innovation and often results in more choices and features.



Do consumers substitute fans for air conditioners?

Though a number of stakeholders responding to a DOE request for information theoretically agreed that ceiling fans might be substituted for air conditioners, thereby decreasing energy use, DOE's review of available studies found no clear evidence to support that contention. A large-scale study from the Florida Solar Energy Center study found "that air conditioning consumption was not lower because thermostats settings were not raised in response to fan use, and many fans were

¹ Dale, L. Antinori, M., McNeil, M., McMahan, J., and Fujita, S. 2009. "Retrospective Evaluation of Price Trends." *Energy Policy*. Nadel, S. and deLaski, A. 2013. *Appliance Standards: Comparing Predicted and Observed Prices*. Washington DC: ACEEE and ASAP.

apparently left on for long periods in unoccupied zones."² Accordingly, DOE did not account for decreased air conditioner use in its analysis.

Where are most fans manufactured?

According to DOE, most residential ceiling fans are manufactured in Asia. Most commercial ceiling fans – particularly the large-diameter type that move a greater volume of air and are typically more efficient – are manufactured in the US. DOE has asked manufacturers for more information on plant locations, particularly for the large-volume small diameter fans that can be used in both residential and commercial settings.

Are ceiling fan lights included in the standards?

DOE is conducting a parallel rulemaking for the light kits which accompany fans. The current standard either limits the wattage of bulbs or requires lighting systems to meet efficiency levels similar to a compact fluorescent (CFL).

Where do we go from here?

DOE's open public process for new ceiling fan standards should be allowed to continue. New standards could save consumers between \$1 billion and \$9 billion while preserving a wide array of fan choices.

² Sonne, J. and Parker, D. 1998. *Measured Ceiling Fan Performance and Usage Patterns*. Cocoa, FL: Florida Solar Energy Center/University of Central Florida.