ASAP | APPLIANCE STANDARDS AWARENESS PROJECT

State Appliance Efficiency Standards Focus on: Air Purifiers

Air purifiers (or room air cleaners) are portable units that remove fine particles, such as dust or pollen, and even unpleasant odors from indoor air. According to Consumer Reports, air purifiers are a growing product category for consumers, but the worst-performing products may not be worth the investment due to high operating costs and ineffective air filtration.

In fact, air purifiers that do not meet the ENERGY STAR specification typically use more than 500 kWh per year on average, equivalent to the annual energy consumption of a new refrigerator.

Appliance standards are the best energy policy you've never heard of

Many of the products in our homes and businesses are covered by appliance standards that limit energy and/or water waste. Appliance standards can cover any energy- or water-using device, including home appliances, plumbing products, lighting products, and commercial and industrial equipment. In general, states can set standards for any products that are not subject to national standards. State standards are set by legislatures or state agencies and apply to products sold or installed in a state.

Proposed air purifier standard will cut energy waste by 40%

Air purifiers that meet the proposed efficiency levels save about 40% relative to baseline products. The average lifetime of an air purifier is 9 years, and the average per-unit annual savings are just over 200 kWh. That means nearly 2,000 kWh of electricity can be saved over the lifetime of an air purifier by switching from a baseline product to a product meeting the proposed standard.

Consumers will benefit from the standard

The proposed standard would weed out the most inefficient air purifiers. Consumers on average would save about $30 a year, or nearly $270 over the typical 9-year life of an air purifier. There is no additional cost for more efficient air purifiers, so consumers start saving right away.

If enough states adopted an air purifier standard such that only compliant products were sold nationally, by 2030 annual electricity savings would reach 4.6 billion kWh and consumers would save $655 million on their annual electricity bills. The projected annual electricity savings in 2030 would be equivalent to the annual electricity use of about 385,000 US households. Carbon dioxide emissions would be reduced by about 1.4 million metric tons in 2030 which is equivalent to the emissions from about 300,000 cars in one year.

Savings from air purifier standards

Consumers save about $30 a year on utility bills

Annual electricity savings by 2030 are enough to power about 385,000 households for a year

Annual emissions reductions equivalent to the emissions from more than 300,000 cars in one year

Energy	Money	Emissions
4.6	655	1.4
Billion kWh Annually by 2030	Million $$ Annually by 2030	Million metric tons CO_2 Annually by 2030

The standard is based on ENERGY STAR

In 2019, ENERGY STAR published an updated specification (Version 2.0), replacing Version 1.2, which had been in effect since 2004. The proposed standard for air purifiers maintains the same stringency of Version 1.2 (i.e. almost all air purifiers that meet ENERGY STAR specification for Version 1.2 would also meet our recommended standard levels) but uses a new metric from Version 2.0. The new metric is based on the clean air delivery rate (CADR) for smoke, instead of the older metric for dust. In addition, while V 1.2 contains a single efficiency level for all air purifiers, the new specification includes standard levels for air purifiers of different capacities.

The District of Columbia, Nevada, and New Jersey have adopted air purifier standards.

Efficient models are readily available now

ASAP estimates that about 68% of air purifier models on the market today would meet the proposed standards. A recent internet search showed 28 ENERGY STAR-certified models selling for less than $100 at Best Buy, Home Depot, Lowe's, Sears, and Walmart.

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