

Home & Garden

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Reducing Washer and Dryer Environmental Impacts



By [Gemma Alexander](#)

NOV 7, 2022 [appliances](#), [climate impact](#), [clothes dryers](#), [clothes washer](#), [CO2-emissions](#)



Most of the time, we are happy to use electrical energy to replace the physical energy required to [handwash our laundry](#). Compared to [transportation](#), household [appliances](#) like washers and dryers are not the biggest contributors to the average family's [carbon footprint](#). But new appliances are still major expenses that we live with for a long time. Because they last so long, operating clothes washers and driers emits [more emissions than manufacturing](#) them. So it makes sense to buy the most energy-efficient options and to use them in a way that minimizes their impact.

Environmental Impacts of Laundry

Carbon emissions from your washer and dryer can vary a lot – from [51 to 159 kg CO2](#) each year. On average, each load of laundry washed in hot water and tumbled dry releases [3.3 kg of carbon dioxide](#). The dryer is the biggest culprit, making up [almost 6% of home energy use](#). By contrast, the washer only accounts for about 1% of the total. But in America that still adds up to [10 billion kilowatt-hours](#) of electricity each year.

What Do You Think?

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Aside from energy use, clothes washers use fresh water. The [amount can vary](#) from 8.5 gallons per load to 20.5 gallons per load. The water that drains from the washer can carry pollutants from [VOCs](#) in fragrances to nitrates that cause [algal blooms](#) and microplastics that collect in [ocean gyres](#).

Minimizing Impact

Even if you already have an efficient washer and dryer, you can make big cuts to the energy and water [used by your laundry appliances](#). Like a properly filled [refrigerator](#), washers and dryers [operate most efficiently](#) when loads are right-sized. Keeping your washing machine in [good repair](#) will extend the life of the machine and get your clothes cleaner. [Simple fixes](#) can help a dryer operate more efficiently too.

Eco-Washing

Water temperature makes a big difference – [90% of a washer's energy use](#) comes from heating the water. Cutting the temperature from 140 F to 86 F can [reduce carbon emissions by 80%](#). According to one report, a household could cut its emissions [by 864 pounds of carbon per year](#) by washing four out of five loads in cold water. Washing in cooler water will also extend the life of your clothes and reduce the number of [microplastics](#) released by [synthetic fibers](#). Avoiding the delicates cycle and using a filter will also [reduce microplastic pollution](#) from your laundry.

Pay attention to the kind of [laundry detergent](#) you use – and how much. Avoid scented products and optical brighteners. Look for labels like the EPA's [Safer Choice](#), which certifies a product only uses ingredients from the EPA's Safer Chemicals List, or the more stringent verification system of the [Environmental Working Group](#). Or consider [making your own](#). Using [too much laundry detergent](#) makes your washer work harder and sends more chemicals down the drain. It also results in mold problems. While there are safer methods for [treating mold](#), most people end up using toxic chemicals before replacing the washer prematurely.



When possible, hang the laundry to dry to avoid the environmental impacts of tumble drying.

Eco-Drying

[Hanging laundry](#) to dry eliminates all the emissions from tumble drying a load of laundry. But if you must use a clothes dryer, use the [high-speed spin cycle](#) on your washing machine first. The extra electricity used to power the spin is less than the electricity required to evaporate water in the dryer. Natural [wool dryer balls](#) are a nontoxic alternative to dryer sheets and cut down on drying time. Clean the filter after every load to improve air circulation and increase the efficiency of the dryer – and reduce the risk of fire. Although most extra features on appliances use extra electricity, sensor drying can save energy because it keeps the dryer from running after the clothes are dry.

When To Replace

Although new appliances are more efficient than your old ones, manufacturing also generates a lot of CO₂. Before you buy, make sure the efficiencies [justify the upgrade](#). Today's Energy Star washers use 25% less energy and 33% less water than today's conventional machines. Energy Star uses Integrated Modified Energy Factor (IMEF) and Integrated Water Factor (IWF) to measure the per-cubic-foot efficiency of washers. The best washer will have a high IMEF and a low IWF.

Since 2018, Energy Star has required an IMEF of 2.76 or higher, with the very best washers achieving 3.1. The standard for water is an IWF of 3.2 or lower; the most water-efficient washers achieve 2.7. For clothes dryers, efficiency is measured by Combined Energy Factor (CEF). The higher the CEF, the more efficient the clothes dryer. Energy Star certified dryers have CEF values that range from 2.68 up to 9.75, with energy savings from 20% to 60% compared to conventional clothes dryers.

To minimize both water use and electrical cost, an average top-loading washer should be [immediately replaced](#) with a front-loading washer. To balance the emissions of manufacturing against operational efficiency, Energy Star generally recommends replacing most other appliances after 10 years. But if your appliance still works, especially if it was the most efficient option when you bought it, you might prefer to wait out the machine's useful life of 20 years.

Replacing Appliances

When you decide it makes more sense to [replace than repair](#) your washer and drier, you might be eligible for [rebates](#) if you choose an efficient replacement. Check Earth911's [washing machine](#) and [clothes dryer](#) Buyer's Guides for the most efficient options. People usually buy washers and dryers [as a set](#), but if your top priority is efficiency, you may not end up with matching units. Top-loading washing machines and air extraction dryers are most common in America. But the [front-loading washers](#) and ventless [heat pump dryers](#) more commonly used in other countries are much more efficient. It's important to buy the right size machines for your household so you don't over or underfill your loads. Although [built-in microplastic filters](#) for washers are not widespread yet, they are beginning to be available.

Disposal

Responsible disposal is an important part of sustainability. Often the retailer that sold your new appliance will collect your old one. Before they do, make sure they are collecting them for recycling and not for disposal. It might take some effort to [recycle your old appliances](#). But washers and dryers are among the most

valuable appliances on the recycling market because of their mostly metal construction. Check the [Responsible Appliance Disposal](#) program if your retailer doesn't offer recycling.

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By [Gemma Alexander](#)

Gemma Alexander has an M.S. in urban horticulture and a backyard filled with native plants. After working in a genetics laboratory and at a landfill, she now writes about the environment, the arts and family. See more of her writing [here](#).

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