

# THE GreenGUIDE

environmental change begins at home.

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This page can be found on the web at:

[http://www.thegreenguide.com/products/Appliances/Washing\\_Machines](http://www.thegreenguide.com/products/Appliances/Washing_Machines)

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## Washing Machines

The upfront costs of some highly efficient washers can be daunting, but while all appliances designed for efficiency cost more, the long-term savings are significant. They can reduce total water use by one-third, which translates to an annual savings of \$95.

The following are basic criteria to use when choosing a new unit:

### Energy Star Rating

Since January 2007, the U.S. Department of Energy has required new washers to consume 21 percent less energy than previous Energy Star models. Under the new regulations, Energy Star-rated machines are now 37 percent more energy-efficient and use 7,000 gallons less water than non-qualified models.

### Gallons Per Load

On average, conventional washers are the second-largest water users in the home after toilets, consuming 40 gallons per load, whereas Energy Star-rated appliances use between 18 to 25 gallons, with some using even less.

### Energy Star Water Factor

The Water Factor is a ratio of how much water is used compared to the size of the drum; the lower the number, the more water-efficient the machine. For example, a machine with a 3-gallon drum that uses 27 gallons per load has a water factor of 9. Energy Star-rated machines have water factors ranging from 3.4 to 7.9.

### Front or Top Loader

Front-loading machines are, in general, more efficient than their top-loading counterparts, using 40 to 60 percent less water and 30 to 50 percent less energy. They also have the benefit of faster spin times, which means clothes dry faster. Due to their increased efficiency, some local utilities offer rebates for purchasing front loaders.

Also, under the new federal requirement, the performance of traditional top loaders in general, has suffered, and clothes come out less clean, according to *Consumer Reports* tests.

## Shopping Tips

Select a washer with variable spin times. Faster spin cycles rid clothes of more water and aid in drying times.

## Usage Tips

Adjust the washing machine so that water levels match the load of laundry.






Only wash full loads.



Wash your clothes in cold water. A slight 10 percent of the electricity consumed in washing a load of clothes goes to run a washer's motor; the remaining 90 percent is used to heat the water. Washing clothes in cold water can cut CO2 emissions down by 100 pounds and save you up to \$64 a year on your energy bill. In situations where hot water is necessary (for instance, to kill dust mites in bedding), use cold water to rinse.

Use the appropriate amount of detergent. Too much soap may require additional rinse cycles that ultimately waste water.

Given that they use both electricity and water, washing machines can be very resource-intensive. Choosing one of the more efficient machines below will save you money on both your electric and water bills and keep nature intact (read more about a washing machine's environmental impact in [The Backstory](#)).

Wondering what these table headings mean? They're the criteria we used to choose and evaluate the products in the chart below. Learn more about their importance in [What To Look For](#).

Name	Energy Star Rating	Gallons per Load	Energy Star Water Factor	Front or Top Loader	MSRP	Purchasing Information	Reader Rating
Whirlpool LHW0050	121%	14.8	6.0	front	\$799	<a href="http://www.whirlpool.com">www.whirlpool.com</a> , 866-698-2538	Avg. Rating 
Asko W6461 LG	98%	14.1	6.9	front	\$1,500	<a href="http://www.askousa.com">www.askousa.com</a> , 800-898-1879	Avg. Rating 
WM2688HS Tromm Steam Washer	97%	12.1	3.5	front	\$1,500	<a href="http://www.lge.com">www.lge.com</a> , 800-243-0000	Avg. Rating 
Kenmore HE5t4708	89%	13.5	4.1	front	\$1,500	<a href="http://www.kenmore.com">www.kenmore.com</a> , 800-349-4358	Avg. Rating 
Fisher & Paykel Intuitive Eco Washer	59%	20.7	6.9	top	\$799	<a href="http://www.usa.fisherpaykel.com">www.usa.fisherpaykel.com</a> , 888-936-7872	Avg. Rating 
GE Profile Harmony	57%	25.1	7.1	top	\$1,099	<a href="http://www.geappliances.com">www.geappliances.com</a> ,	

Washer WPGT9360E						800-626-2005		Avg. Rating 
LG WM1814CW	50%	13.3	4.5	front	\$800	<a href="http://www.lge.com">www.lge.com</a> , 800-243-0000		Avg. Rating 

**Roughly 26 billion gallons of water are used each day in the United States, 4.5 billion of which go to operate washing machines. The average person in the U.S. uses 100 gallons daily. Residential water use accounts for 13 percent of the water used in this country (agriculture, at 41 percent, and industry, at 46 percent, are the biggest consumers). Considering that only 3 percent of the Earth's water is fit for human consumption, preserving water is an urgent task.**

## Environmental Issues

### *Water*

**Washing machines are second only to toilets as the largest water users in the home, accounting for 14 percent of household water use. Household water consumption has a significant impact on aquatic life, especially when water supplies come from freshwater lakes and streams. The Rio Grande, recently named one of the World Wildlife Fund's Top 10 Rivers at Risk, has been so overextracted that saltwater from the Gulf of Mexico has begun moving upstream and endangering native species. So far, 32 of the river's 121 native species have been displaced as a result of increased salinity. And in New Mexico, supplying Santa Fe with water has transformed the Santa Fe River, named America's Most Endangered River in 2007 by the non-profit American Rivers, into a dusty ditch for most of the year.**

**Just like the Rio Grande, city water supplies are succumbing to saltwater intrusion, which occurs when increased pumping of groundwater allows saltwater pools to infiltrate freshwater supplies, making water unfit for human use. In response, cities are installing energy-intensive desalination plants, which require more fossil-fuel-derived power that, in turn, contributes to global warming. To date, desalination plants are under construction in Tampa Bay, Florida, and cities across California, with even more plants being proposed for that state.**

### *Energy*

**Keeping washing machines running also requires a great deal of fossil-fuel-supplied energy that, in turn, emits 160 pounds of the greenhouse gas carbon dioxide (CO<sub>2</sub>) per year per machine. Just supplying the water for washing machines consumes a considerable amount of energy. In total, water supply and treatment facilities use about 50 billion kilowatt-hours per year. If 1 out of every 100 U.S. homes switched to water-efficient appliances, the energy savings could reach 100 million kWh per year and reduce greenhouse gas emissions by 75,000 tons.**

## Social Issues

**According to a recent government survey, the Environmental Protection Agency reports that at least 36 states are anticipating local, regional or statewide water shortages by 2013. The scarcity of any necessary natural resource leads to political conflict, and many states are in the midst of water wars and disputes over water rights.**

**Developers in south Florida, for instance, recently requested additional water supplies to be diverted from their northern neighbors, infuriating citizens in north Florida. Rather than**

encouraging water conservation, the state responded by providing funding for costly wastewater disinfection plants. Out West, water wars have raged for decades, mainly between farmers, who need water for their crops, and city water consumers. Cities are gradually taking more water, which could mean a long-term struggle for small farmers. Denver Water, which already sends over 15 billion gallons of water a year to the highly populated Front Range region, is proposing to send an additional 5 billion gallons through an expansion of the area's water supply, which currently diverts water from 40 points on mountain tributaries. Local municipal and environmental groups are fighting these efforts and campaigning to restore water levels in order to preserve the watershed's threatened trout populations.

In Nevada, Las Vegas water officials are campaigning for rights to the states rural groundwater, hoping to redirect 65 billion gallons of groundwater a year to support the city's phenomenal growth rate, a deal that could potentially deprive farmers of well water for irrigation.

From the *Green Guide*:

"Virtuous Cycles," [www.thegreenguide.com/doc/120/laundry](http://www.thegreenguide.com/doc/120/laundry)

"American Waters: What Hurts, What Helps," [www.thegreenguide.com/doc/121/water](http://www.thegreenguide.com/doc/121/water)

"A Calculated Loss: How to Reduce Your Global Warming Emissions,"  
[www.thegreenguide.com/doc/119/calculator](http://www.thegreenguide.com/doc/119/calculator)

From Outside Sources:

Energy Star: [www.energystar.gov](http://www.energystar.gov)

America's Most Endangered Rivers 2007. American Rivers, [www.americanrivers.org](http://www.americanrivers.org)

"How to Buy an Energy-Efficient Home Appliance." Federal Trade Commission and Department of Energy, June 2000, [www.ftc.gov/bcp/online/pubs/homes/applnces.shtm](http://www.ftc.gov/bcp/online/pubs/homes/applnces.shtm).

"Using Water Efficiently: Ideas for Residences." EPA, [www.epa.gov/WaterSense/pubs/res.htm](http://www.epa.gov/WaterSense/pubs/res.htm).

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