

Buying and Using Clothes Washers and Dryers

When shopping for a new clothes washer or dryer, there's more to consider than price and features. The amount you'll spend on energy to operate the appliance over its life far exceeds the purchase price. Spending a little more on an efficient appliance saves you money each month for years to come.

Several programs have been developed to help you identify more efficient appliance models. The Oregon Office of Energy publishes monthly a list of high efficiency appliances—including clothes washers—that qualify for the Oregon Residential Energy Tax Credit (see page 4). The tax credit is available to homeowners and renters for qualifying appliances installed in their principal residence or vacation home in Oregon. You take the credit on your state income tax. Your dealer can provide you with the paperwork. Submit your completed application to the Office of Energy well before tax time, as confirmation may take several weeks.

Although the efficiency standards are not as high as standards for the Oregon tax credit, the U.S. Environmental Protection Agency and U.S. Department of Energy sponsor Energy Star™ labels on efficient refrigerators, heating equipment, water heaters, computers and office equipment.

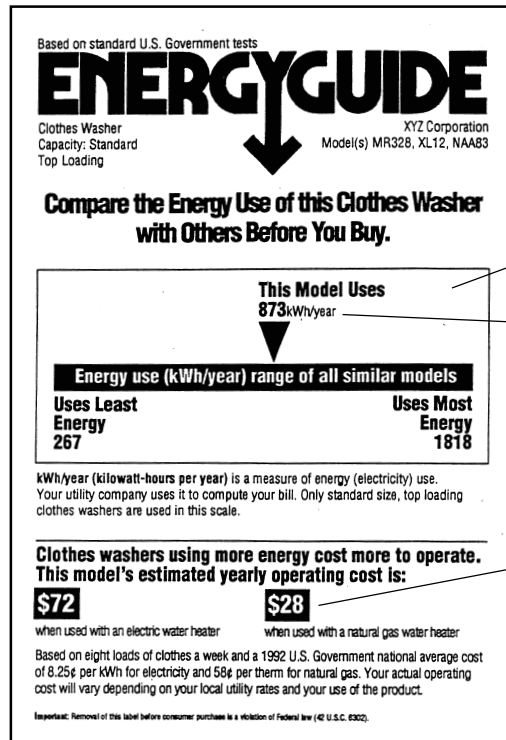
The yellow EnergyGuide sticker on most major home appliances in the dealer's showroom makes it easy to compare energy efficiency of different models.

The heart of the EnergyGuide label is the annual energy consumption, in therms or kilowatt hours, that the appliance uses under typical operating conditions. Usage is based on

standardized tests for typical household size and usage.

For clothes washers, the EnergyGuide label shows estimated consumption and operating costs for use with an electric water heater or natural gas water heater.

Efficient appliances usually cost more than regular models. How can you calculate whether spending extra money for a more efficient appliance is worth it? Use a "life cycle cost comparison" (see page 4). In addition to the purchase price, the calculation includes the energy bills you'll pay to



Scale shows efficiency compared to similar-sized models.

For approximate cost in your home, multiply this number by the local utility rate.

Operating cost with electric or gas water heater (at national average utility cost).

Sample EnergyGuide label for a clothes washer.



operate the appliance over its life. The appliance with the lowest life cycle cost is the best investment.

Clothes Washers

Efficient washing practices reduce energy bills and water use. If you're buying a new clothes washer, consider high-efficiency "horizontal axis" washers.

Efficient Use

- Wash full loads whenever possible. When washing partial loads, use the appropriate water-level setting if your machine has that adjustment.
- Sort large loads of laundry based on the fabric care instruction labels on the clothing. Set the washer accordingly.
- Don't pack or overload the tub if you have a top-loading washer. Having to wash clothes a second time wastes time, water, and energy. Clothes should not be loaded higher than the top of the agitator blades and should be able to move freely during wash and rinse cycles.
- Always use the cold rinse setting if the washer has that option.
- Use the WARM or COLD wash setting for most fabrics. HOT wash is needed only for a few items, such as diapers or greasy work clothes, and to kill dust mites in bedding.
- If you use a cold water wash, use liquid detergents or dissolve powder detergent in warm water first to prevent caking, which may stain clothing. Check *Consumer Reports* for comparisons of laundry detergent.

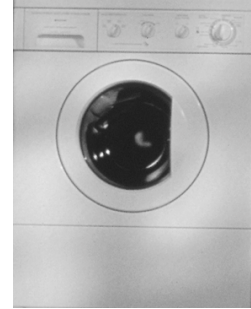
Proper Maintenance

- If clothes are still wet after the spin cycle, the belt may be slipping off and the washer may not be extracting as much water as possible, making your dryer work harder and longer. As a temporary measure, run the clothes through the spin cycle again. It costs less than a penny and reduces drying time considerably. You may be able to adjust the belt tension yourself. An appliance service call may cost \$35 to \$50 plus any repairs.

Buying New

- Consider a horizontal-axis washer (typically front-loading). They use 60% less energy and 40% less water—and less

Horizontal-Axis Washing Machines Save Energy, Water and the Environment



They've been standard in Europe for years and now they're making a splash in the U.S. They're "tumble-action," "front-loading," or "horizontal-axis" washers.

How can they do the job with less water? The drum fills only part way but clothes are fully immersed every time they spin. Clothes last longer because the washer uses gentle tumble action instead of an agitator. Because the washers use less water, you need less detergent. And a full-size clothes dryer can easily be stacked on top of most horizontal-axis machines (those that load from the front), saving floor space.

You can calculate the advantage of investing in a horizontal-axis washer by using the life cycle cost comparison on page 4 of this publication. Horizontal-axis washers qualify for the Oregon Residential Energy Tax Credit. You can get a list of qualifying washers—and their estimated energy savings—from the Oregon Office of Energy (see page 4).

detergent—than other new models. And they qualify for an Oregon Residential Energy Tax Credit of about \$100 to \$200. All Energy Star™ models qualify for the state tax credit. One manufacturer now offers a top-loader with an Energy Star™ rating. Look for models with the lowest EnergyGuide cost for the size you need.

- Select a model with a water level adjustment.
- Look for a model with a spin cycle speed of 850 rpm or greater. They extract more water from the

How Efficient Are New Washers and Dryers?

At typical Oregon energy costs: 5¢ per kWh

	1990 average	1999 average
Clothes washer*	890 kWh	270 kWh
Total annual cost:	\$45	\$14
Clothes dryer (electric)	930 kWh	770 kWh
Total annual cost:	\$47	\$39

*Includes electricity for heating water

Source: Oregon Office of Energy

clothes before you dry them. Most front-loaders have higher spin rates.

- Consult *Consumer Reports* for information about other features and brand name reliability.

Clothes Dryers

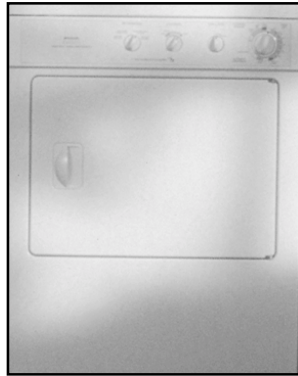
Drying costs 20¢ to 30¢ a load for electric models, 15¢ to 20¢ a load for natural gas models.

Efficient Use

- In dry weather, hang clothes on an outside clothesline. Don't hang wet clothes indoors or in basements. The moisture may cause condensation and mold problems all over the house.
- Clean the lint screen after each load. If the air can't flow, your clothes will take longer to dry.
- Dry full loads, but don't overload. One washer load is one dryer load. Clothes should tumble freely.
- Sort clothes by drying time. It doesn't pay to run the dryer longer for a few heavy items such as jeans or towels.
- Use the MOISTURE or HUMIDITY setting, if your dryer has it, rather than the timer. Don't over-dry. It wastes energy, causes shrinkage, and shortens the life of the clothes.
- Take clothes out of the dryer while they're warm and you may not have to iron them.

Proper Maintenance

- Check for lint clogs in venting once a year or if clothes begin to scorch in the dryer. Vacuum lint from behind the lint screen. Support flexible



dryer duct to minimize bends and avoid sags. If you're replacing a dryer duct, smooth metal duct is best because it allows higher airflow.

- Do not vent a clothes dryer into your house or basement to save the heat. The high moisture content of the exhaust can cause condensation and mold problems.

Buying New

- Buy a clothes dryer with a HUMIDITY or MOISTURE drying control. If used properly, the control can reduce drying costs by 10% to 15% compared to drying a load using the timer.
- Some new models feature "tumble action," which reverses the direction the dryer spins several times during the cycle, reducing knotting of clothes and drying them about 10% faster.
- Gas clothes dryers are somewhat less expensive to operate. If you're considering converting fuels, use the life cycle cost comparison on page 4. Be sure to include the full cost of installing gas piping.
- COOL DOWN or FLUFF settings available on some models can reduce ironing needed for some fabrics.

How Much Does Energy Cost for a Load of Laundry?

(Top-loading washer with electric or gas water heater)

Wash/Rinse Setting	Electric	Gas
Hot/Hot	52¢	29¢
Hot/Cold	25¢	14¢
Warm/Warm	30¢	18¢
Warm/Cold	15¢	9¢
Cold/Cold	3¢	3¢
Drying	25¢	20¢

Costs estimated at 5¢/kWh and 60¢/therm

For More Information

Oregon Energy Line

Publications about home energy efficiency are available at no charge from Oregon Energy Line (sponsored by the OSU Extension Energy Program and the Oregon Office of Energy). Call **1-800-457-9394** and request a list of publications or state the topics you're interested in. Leave your name and mailing address on the message machine. Publications will be sent to you within 3 days.

Oregon Residential Energy Tax Credit

Major household appliances certified energy-efficient by the Oregon Office of Energy are eligible for a tax credit. The list of eligible models changes monthly. Tax credits are available for high-efficiency refrigerators, dishwashers, clothes washers, and water heaters, solar and geothermal heating equipment, photovoltaic systems, alternative fuel vehicles, sealing heating and cooling ducts, and beginning in 2000, fuel cells and wind systems. Contact the Office of Energy: **1-800-221-8035** or **www.energy.state.or.us**

Other Resources

Consult back issues of *Consumer Reports* and *Consumer Digest* for comparisons of appliance performance, features and reliability. Two books that include more complete discussions about appliances are:

Life Cycle Cost Comparison: Appliance Example

	Standard	Energy-efficient
Annual energy cost (from EnergyGuide label)	\$97.00	\$67.00
Fuel cost escalation multiplier for 10-year life ¹	X 11.07	X 11.07
Total energy cost over 10 years	= \$1,073.79	= \$741.69
Purchase price	+ \$500.00	+ \$600.00
Life cycle cost of appliance	\$1,573.79	\$1,341.69

The appliance with the lowest life cycle cost is the best investment.

¹Assumes you'll keep the appliance for 10 years, with a 5% annual inflation rate and 2% increase in energy costs per year.

Consumer Guide to Home Energy Savings, by Alex Wilson and John Morrill; Sixth edition, 1998; 274 pp.; American Council for an Energy Efficient Economy, 2140 Shattuck Ave., Suite 202, Berkeley, CA 94704; (510) 549-9914; ISBN 0-918249-31-7; \$7.95.

Home Made Money: How to Save Energy and Dollars in Your Home, by Richard Heede and Staff of Rocky Mountain Institute, 1995; 258 pp.; Brick House Publishing Co., Box 266, Amherst, N.H. 03031-0266; (800) 466-8642; ISBN 1-883178-07-X, \$14.95.



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