



Want to Be an Energy-Efficient Shopper?

By Tom Lienhard, PE, BSME, CEM, CLEP

When you stop and think about it, most folks aren't expert shoppers when it comes to buying major appliances like a furnace or a water heater- Why? We seldom do it. The average household buys a major appliance once or perhaps twice in a lifetime. So, if you're in the market for buying a new appliance and want to be in the driver's seat, stay tuned for some no-fail tips for a cost-effective purchase.

Consider this. The cost of owning a major home appliance has three components; the initial purchase price including labor, the cost of repairs and maintenance, and the cost to operate it. So, if your furnace sounds like it's on its last legs, start researching now - that way you'll have time to build in all three components when it's time to purchase.

Keep in mind the appliance with the lowest initial purchase price, or best repair record, isn't necessarily the least cost to operate. In fact, buying a more expensive energy-efficient appliance can save you in the long run.

Here's an example of how an appliance's energy consumption can affect your out-of-pocket costs. Furnaces with the same output heat capacity can vary dramatically in the energy they use. For example, a natural gas furnace-burner-efficiency can range from 78 percent to 95 percent. Given the average Inland Empire home of 1600 square feet, the cost of natural gas and our typical weather conditions, the annual cost to operate a furnace could range from \$860 to \$1050 depending on the model's efficiency – that's an annual operating cost savings difference of \$190.

That may not seem like a big difference, but when you consider the cost savings over the life of a furnace, typically up to 20 years, it's a nice savings. Initially you may pay a one time difference in the purchase price, but over the long run, it will pay off. The same theory holds true for heat pumps, air conditioners, water heaters and other appliances.

So, what makes an appliance more energy efficient than another? The inside. Motors, gaskets, seals and smart electronics make the difference. Two appliances can look the same on the outside, but the less efficient one can make a big difference on your monthly utility bill.



How can you be sure the energy efficiency claims are accurate? Manufacturers are required to use standard test procedures to prove efficiency and energy use. The test results are printed on the yellow and black Energy Guide label, which also helps you compare the efficiency or annual energy use of competing brands and similar models

When you are ready to shop, ask specific questions about the product price and the installation costs and request a separate bid for both. Get the brand and model number of the product being offered to research the best price and stated efficiencies from others such as the Internet and/or various bidders.

Ask your vendor how they arrived at the sizing for the furnace, heat pump or A/C unit and listen for a well-informed and discerned response. Ask the vendor what issues they see in your home that you should be particularly concerned about as you make your purchase.

Most vendors are very knowledgeable and helpful. But it doesn't hurt to be as informed as possible. Knowing the right questions to ask will guide you to the most cost-effective product.

Equipment Rebates and Incentives

Some electric and natural gas utilities offer rebates and incentives for customers making energy efficiency upgrades to their home or business. It could pay to find out what your energy provider offers.

Tax Credits

Find out how the new stimulus funding has affected Federal Tax Credits for Energy Efficiency at energystar.gov

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