



ECOBROKER International **Green Topic Pages**

Energy-Efficient Appliances

Technology Snapshot & Benefits:

Both immediate and indirect economic savings can come from energy-efficient appliances such as refrigerators, horizontal-axis washing machines, clothes dryers, dishwashers, etc. Immediate and continuing savings accrue from lower utility bills for electricity and/or water. The performance levels of these appliances meet, and generally exceed, those of industry standard models. As a case in point, consider household refrigeration. By the late 1970s, refrigerators reached their most inefficient performance by requiring about 1750 kiloWatt-hours per year to operate. Modern energy-efficient refrigerators provide the same or better service at 450-550 kiloWatt-hours per year, and they are much quieter in operation.

Estimated Cost Savings:

The direct economic savings achieved by efficient appliances are a function of how much the appliance will be used, the performance level of the equipment being replaced, and local costs for utilities. When you replace older equipment, it is not uncommon for electricity consumption for that appliance to decrease by 50% or more. In general, if the appliance being replaced is more than 15 years old, and it is replaced with a state-of-the-art unit, you may expect utility savings of 20%-60% compared with the energy required by the previous appliance. Horizontal-axis washing machines typically save consumers 50% in both electric and water utilities. Additional savings come from reduced quantities of detergent.

Your monthly electrical bill is for all electricity used by all electrical loads in the building, so changing a single appliance will lower the bill, but in proportion to the amount of electricity formerly used by that appliance. If refrigeration represents 15-20% of your electric bill, a new refrigerator that is twice as efficient as the unit being replaced will lower your total bill by about 7-10%.

Any increase in initial cost is usually more than made up in monthly savings. See [ACEEE's Most Energy-Efficient Appliances](http://www.aceee.org/consumerguide/mostenef.htm) (<http://www.aceee.org/consumerguide/mostenef.htm>) for more detailed information on appliances and savings.

Issues:

Availability of the most energy-efficient appliances may be an issue. Sometimes the best equipment is in demand, which can mean that discounts and sale prices are either unavailable or of lower value. Over time, as manufacturers and suppliers clear inventories of less efficient models by offering discounts, expect the price of efficient appliances to come down as well.

Regional Issues:

Primarily, regional issues involve supply, delivery, and installation.

Installation (Getting It Done):

Be sure to price shop and to get two or three (or more) prices. Inquire about installation and removal of your old unit. For any refrigeration unit, be sure that the refrigerant will be removed and recycled responsibly. Refrigerants are very potent greenhouse gases and must be captured and contained. Shopping for price and availability will give you perspective on the true costs of equipment and installation in your area.

More Information on This Topic:

[U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy: Energy Savers - Appliances](http://www.eere.energy.gov/consumerinfo/energy_savers/appliances.html)
http://www.eere.energy.gov/consumerinfo/energy_savers/appliances.html

[U.S. Department of Energy's Building Technologies Program: Dishwasher Tips](http://www.eere.energy.gov/consumerinfo/energy_savers/dishwash_tips.html)

http://www.eere.energy.gov/consumerinfo/energy_savers/dishwash_tips.html

[U.S. Department of Energy's Building Technologies Program: Laundry Tips](http://www.eere.energy.gov/consumerinfo/energy_savers/laundry_tips.html)

http://www.eere.energy.gov/consumerinfo/energy_savers/laundry_tips.html

[U.S. Department of Energy's Building Technologies Program: Refrigerator/Freezer Energy Tips](http://www.eere.energy.gov/consumerinfo/energy_savers/refrig_tips.html)

http://www.eere.energy.gov/consumerinfo/energy_savers/refrig_tips.html

[Energy Star: Appliances](http://www.energystar.gov/index.cfm?c=appliances.pr_appliances)

http://www.energystar.gov/index.cfm?c=appliances.pr_appliances

[Energy Star: Clothes Washers](http://www.energystar.gov/index.cfm?c=clotheswash.pr_clothes_washers)

http://www.energystar.gov/index.cfm?c=clotheswash.pr_clothes_washers

[Energy Star: Dehumidifiers](http://www.energystar.gov/index.cfm?c=dehumid.pr_dehumidifiers)

http://www.energystar.gov/index.cfm?c=dehumid.pr_dehumidifiers

[Energy Star: Dishwashers](http://www.energystar.gov/index.cfm?c=dishwash.pr_dishwashers)

http://www.energystar.gov/index.cfm?c=dishwash.pr_dishwashers

[Energy Star: Refrigerators](http://www.energystar.gov/index.cfm?c=refrig.pr_refrigerators)

http://www.energystar.gov/index.cfm?c=refrig.pr_refrigerators

[Energy Star: Room Air Conditioners](http://www.energystar.gov/index.cfm?c=roomac.pr_room_ac)

http://www.energystar.gov/index.cfm?c=roomac.pr_room_ac