



Calvert County Environmental Commission

HOUSEHOLD ENERGY CONSERVATION

1. *How can we reduce our household's energy consumption?*

Daily. Turn off lights and appliances when not in use, hang clothes outside to dry, and take shorter showers.

Get an energy audit to understand where energy is being used in your house and possibly where it's being wasted.

Use smart power strips to eliminate the problem of "phantom loads" (i.e., electricity used by electronics when they are turned off or in stand-by mode), a major source of energy waste. Computers can be huge energy users and wasters.

Replace your incandescent lights bulbs with more efficient and longer-lasting compact fluorescent (CFL) and light-emitting diode (LED) bulbs. LED bulbs also have the advantage of not containing toxic mercury (note: CFL bulbs which contain mercury can often be recycled at hardware stores and at Calvert County convenience centers, [Location, Hours, Fees | Calvert County, MD - Official Website \(calvertcountymd.gov\)](#)).

Install a programmable or smart thermostat and set it to automatically turn off or reduce heating and cooling when you're asleep or away. Programmable thermostats can also include indicators that tell you when it's time to replace air filters in your HVAC equipment.

Purchase only energy-efficient appliances by looking for the ENERGY STAR label.

Reduce your water heating expenses by turning down the thermostat on your water heater, by insulating the heater plus the first 6 feet of hot/cold water pipes, and by using less hot water. If your water heater is old, consider replacing it with a more efficient model.

Install energy-efficient windows that have at least double-pane glass with a low e coating. Window shades, shutters, and awnings can also provide an extra layer of insulation.

Upgrade you HVAC (heating, ventilating, and air conditioning systems. Heating alone is responsible for more than 40% of the average household's energy usage. If you're building a new home, consider installation of a geothermal (or ground source) heat pump. Up front installation costs are \$10,000 to \$30,000 and considerably more than air source heat pumps.

But a geothermal heat pump can save 30-60% in heating costs and 20-50% in cooling costs compared to conventional systems.

Weatherize your home by sealing air leaks around windows, doors, and vents.

Insulate your home with the highest heat resistance (R-value) material that can be installed and you can afford.

Adjust your home's thermostat a few degrees lower in winter and higher in summer while wearing seasonal apparel (e.g., sweaters and heavy socks in winter).

For more information, check these links:

[Geothermal Heat Pumps | Department of Energy](#)

[Energy Conservation: The Top 10 Ways to Save | EnergySage](#)

[Top 5 Steps to Reduce Your Energy Consumption | Sustainability at Harvard](#)

2. *What is a home energy audit?*

A home-energy energy audit is an assessment to determine how and where energy is being used, if energy is being wasted, then uses this information to find ways to reduce energy waste and total energy consumption. Professional audits are available from local energy companies, but homeowners can also conduct their own audits. In addition to finding ways to save on a household's utility bill, energy audits are a way to reduce fossil fuels use for electrical production, which then lowers carbon dioxide (CO₂) emissions that are implicated in global warming.

For more information, check this link:

[Do-It-Yourself Home Energy Audits | Department of Energy](#)

3. *What is renewable energy and what are the sources?*

Renewable energy, often referred to as clean or green energy, is derived from sources that are naturally and constantly replenished in our lifetimes. These sources include hydropower, solar, wind, geothermal, biofuel, biomass, biogas, tidal power, and wave power. Fossil fuels (coal, oil, gas) are not considered to be renewable or clean energy sources. One desirable feature of renewable energy sources is that they produce little or no greenhouse gases (e.g., carbon dioxide or CO₂), compared to coal/oil/gas, and therefore do not contribute to global warming and associated climate change. Renewable energy systems contributed over 19% to global energy consumption in 2015; however, they are becoming more efficient and cheaper so their share of our total energy production continues to increase.

Nuclear power uses uranium as the power source and produces low CO2 emissions that are comparable to solar, biomass, hydropower, and wind; but nuclear power is not considered to be a renewable energy source. Uranium has to be mined and processed before it can be used and, although currently abundant, uranium supplies are limited. Of concern is the disposal of spent uranium which may contaminate burial sites.

For more information, check these links:

[Renewables 2022 Global Status Report | UNEP - UN Environment Programme](#)

[Pros and Cons of Nuclear Energy and Its Effect To The Environment \(conservationinstitute.org\)](#)

[Nuclear Energy Pros & Cons | Renewable Resources Coalition \(ecavo.com\)](#)

[Nuclear energy and climate change - World Nuclear Association \(world-nuclear.org\)](#)

This document was written by the Environmental Commission for informational purposes only and is not official Calvert County policy.