

# Reduce your home's energy and water consumption & Save money on your utility bills....

## Energy Efficiency: Reducing your Home's Energy Use

During a typical day people spend the majority of their time indoors.<sup>1</sup> Yet very few people understand how their home functions. Houses are systems. They operate to keep us warm/cool, and dry. The air in a home is in constant motion. A house that is not properly sealed can lose a lot of its conditioned air, through holes, cracks, and gaps in its exterior walls and ceilings. Air naturally moves from hot to cold. In the winter, the warm interior air in your home will try to move towards the colder exterior air. In the summer, the warm, outside air will try to enter your home and displace the cooler air. Heating and cooling the air in your home requires energy. The more hot air you lose in the winter and the more cool air you lose in the summer the more energy is needed to keep your home comfortable. **The more energy you use, the more money you pay.** Energy Efficiency is about properly sealing your home to prevent this air loss as well as identifying other behavioral and technological changes you can make to reduce your energy consumption and lower your utility bills.

## Water Conservation: Limiting your Water Consumption

In addition to energy efficiency, it is important to reduce the amount of water your household consumes. When water is consumed faster than nature can replenish it, the amount of water available to us quickly declines. Reducing your household's water consumption can save you money on your utility bill, but also ensures that this valuable natural resource will be available well into the future. The average American consumes 20 gallons of each time they take a shower!<sup>2</sup> Now compare the amount of water you use to take a shower to how much you use to do dishes, brush your teeth, do laundry, or water your yard- it quickly adds up. Use this flyer to identify steps you can take in your home to begin reducing your water and energy consumption. For very little up front cost you can make changes that will save you money and improve the comfort of your home for years to come.

## Helpful Resources

The following websites are good resources for water and energy efficiency. Your local hardware store can also help answer your questions and find the supplies you will need to perform energy and water efficient upgrades:

- **[www.energysmartsolutions.org](http://www.energysmartsolutions.org)**

A resource of the Piedmont Environmental Council, this website has how-to videos to guide you through energy saving projects

- **[www.aceee.org](http://www.aceee.org)**

The American Council for an Energy Efficiency Economy has great ideas on how to save energy, be sure to look at their *Consumer Guide to Home Energy Savings*

- **[www.energystar.gov](http://www.energystar.gov)**

This website provides information about where to find energy efficient appliances, available rebates, and other great energy efficiency tools

- **[www.epa.gov/nps/chap3.html](http://www.epa.gov/nps/chap3.html)**

Learn how much water you can save by making simple changes, and purchasing water-efficient products



Air movement in your home: Hot air moves towards cold air. In the winter, warm interior air will be drawn towards colder areas and escape outside, drawing the cooler air inside.



This infrared image taken on a cool day shows where heat (red) is escaping around a window that has poor air sealing.



20 gallons = water consumption of an average shower<sup>3</sup>

“The average household spends at least \$2,000 a year on energy bills — over half of which goes to heating and cooling.”<sup>4</sup>

# 1. Seal Air Leaks



"Air infiltrates into and out of your home through every hole and crack. About one-third of this air infiltrates through openings in your ceilings, walls, and floors."<sup>5</sup>

Feel for air leaks in your home. You can often identify air leaks where you feel a breeze or if you see dark spots on your walls, ceiling, or insulation. Check gaps between windows and doors but also look for air leaks around wall and floor penetrations, such as outlets, heating vents, bathroom exhaust fans, light fixtures etc. You can purchase a tube of caulk from any local hardware store for very little cost. Fill gaps where pipes disappear into the floor or wall. Seal baseboards to the floor with a tiny bead of caulk. Replace or repair weatherstripping around doors. Shield insulation around chimneys and stove pipes with metal flashing and seal with fire-proof caulking. If you have an old chimney flue, fill it with a small garbage bag stuffed with fiberglass insulation.<sup>6</sup>

# 2. Insulate



Foam sleeves cost less than 30 cents per foot and can raise your water temperature by 2-4 °F, greatly reducing the time you spend waiting for hot water at the faucet.<sup>7</sup>

Wrap your hot water heater with an insulation blanket and insulate your hot and cold water pipes with foam sleeves to prevent heat loss, condensation, and possible mold growth in your home. Check your attic and crawl space for insulation. Consider having a professional condition your crawl space and blow cellulose insulation into your attic. If you have experience installing insulation, these blowers can be rented from a hardware store. In the attic, loose cellulose insulation should have an R-49 rating and should be installed over existing insulation at a depth of 14 inches.<sup>8</sup>

# 3. Install Efficient Appliances and Systems



By replacing standard 4.5 gallon/min shower heads with 2.5 gallon/min heads, a family of four can save approximately 20,000 gallons of water per year.<sup>10</sup>

When replacing windows, appliances, heating/cooling systems, and electronics search for energy efficient models. Look for windows with U-values less than .35 and doors with R-values greater than 4. Check [www.energystar.gov](http://www.energystar.gov) for more information and to learn about possible rebates. Consider installing low-flow shower heads, toilets, and faucets to reduce unnecessary water use. Baseboard electric heat is a very inefficient way to heat your home for a Virginia climate. Consider a high-efficiency heat pump instead.<sup>9</sup>

# 4. Turn It Off



"An open conventional faucet lets about 5 gallons of water flow every 2 min."<sup>11</sup>

Remember to turn off your water and unplug your appliances when not in use. Letting the tap run while brushing your teeth or doing dishes lets gallons of water go to waste. Internal clocks and lights on appliances and electronics continue to use energy even after you switch them off. Unplug these appliances or plug them into a power strip and turn the strip off when not in use to save electricity and money.

## Get Started Today!

- Air dry your dishes instead of using the dry cycle on your dishwasher
- Replace incandescent bulbs with compact fluorescents (CFLs)
- Turn down the temperature on your hot water heater to 120°F
- Turn your refrigerator down to the manufacturer's settings (usually 37-40 degrees in the fridge, and 5 degrees in the freezer)
- Install foam gaskets behind your outlets and switch plates
- Don't keep your faucet running when washing dishes. Run the dishwasher only when full or fill a large bowl with soapy water to wash dishes in
- Wash your laundry on the cool water setting
- Capture and store rain water to use when irrigating landscapes or gardens
- Clean or replace filters on HVAC systems once a month or as needed.

### FHC's Energy Efficiency Loan Program

provides zero-interest loans for low to moderate income homeowners interested in making energy and water efficiency upgrades to their homes.

Contact us for more information:

### Foothills Housing Coalition

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ph: (540) 341-2805 • fax: (540) 347-9811

[www.fhchousing.org](http://www.fhchousing.org)

→ Interested in making changes?

Contact Foothills Housing Coalition for help.