



Top 10 Ways to Make Your Home Green



Asa Foss



Learn more at energystar.gov

Maryland Home Performance



- Major part of O'Malley's EmPOWER Maryland Initiative
 - Reduce per capita electricity consumption 15% by 2015
- Sponsored by Maryland Energy Administration



Maryland Energy
ADMINISTRATION
Powering Maryland's Future



Maryland Home Performance



- Most Qualified Contractors Available
- These contractors:
 - Get trained by industry experts
 - Must pass BPI's Building Analyst Professional Examination
 - Complete 5 in field mentoring sessions to prove mastery of concepts
 - Are Quality Assured by MD HPwES
 - 1st 5 jobs; 4 of next 20; at least 5% of additional
 - Must maintain positive customer feedback



What is Green?



- Green = Sustainable
- A home that has the smallest environmental impact possible
 - Minimizes energy use
 - 85% in operation
 - Minimizes water/resource use
- Healthy

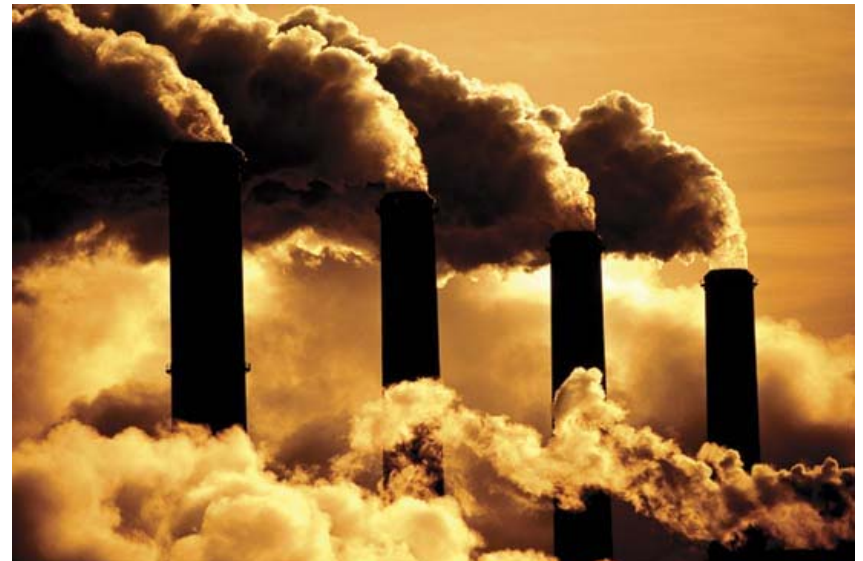




Why Green?



- Residential buildings consume 21% of all energy usage in the U.S. (29% in Maryland)
- Reducing your home's energy use by 20% = taking 0.5 cars off road





Why Green our Homes?



“Worldwide, the most inefficient sector was heavy industry in China, with the second residential housing in the US, where homes are large, poorly insulated ...”

Diana Farrell, director of the McKinsey Global Institute

“Of the Top 100 Metro Areas, DC homes have the highest CO₂ footprint per capita. 1.96 tons compared to 0.93 tons for the average metro resident.”

The Brookings Institution, Blueprint for American Prosperity

Need another reason?



NATIONAL SECURITY!!!

“New report highlights ties between global warming and US security”

-National Intelligence Assessment,
June 25, 2008

http://www.dni.gov/testimonies/20080625_testimony.pdf

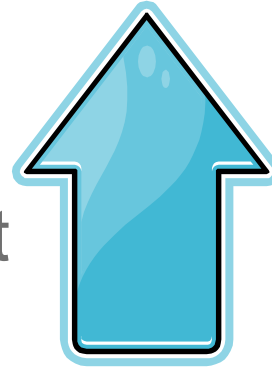




1) Lighting



- Switch to Compact Fluorescent Lightbulbs (CFLs) –
- If every American family changed out 5 light bulbs:
 - Save about \$100/year
 - Reduce greenhouse gas by 1 trillion pounds (1,000,000,000,000)
 - Reduce U.S. energy demand by equivalent of closing 21 power plants
- Look for the ENERGY STAR logo



2) Programmable Thermostats



- Advantages
 - Automatically adjust your home's temperature settings.
 - More convenient/accurate
 - Contains no mercury
 - Save up to \$100/year
 - Reduce greenhouse gas emissions
- Choose ENERGY STAR



3) HVAC

- Get a professional tune-up once every two years
 - Cost: \$100 to \$140
 - Savings: 5% to 10% of bill



Air filters

- ✓ Check every month
- ✓ Clean, replace as necessary
- ✓ MERV 13 or greater

3) HVAC



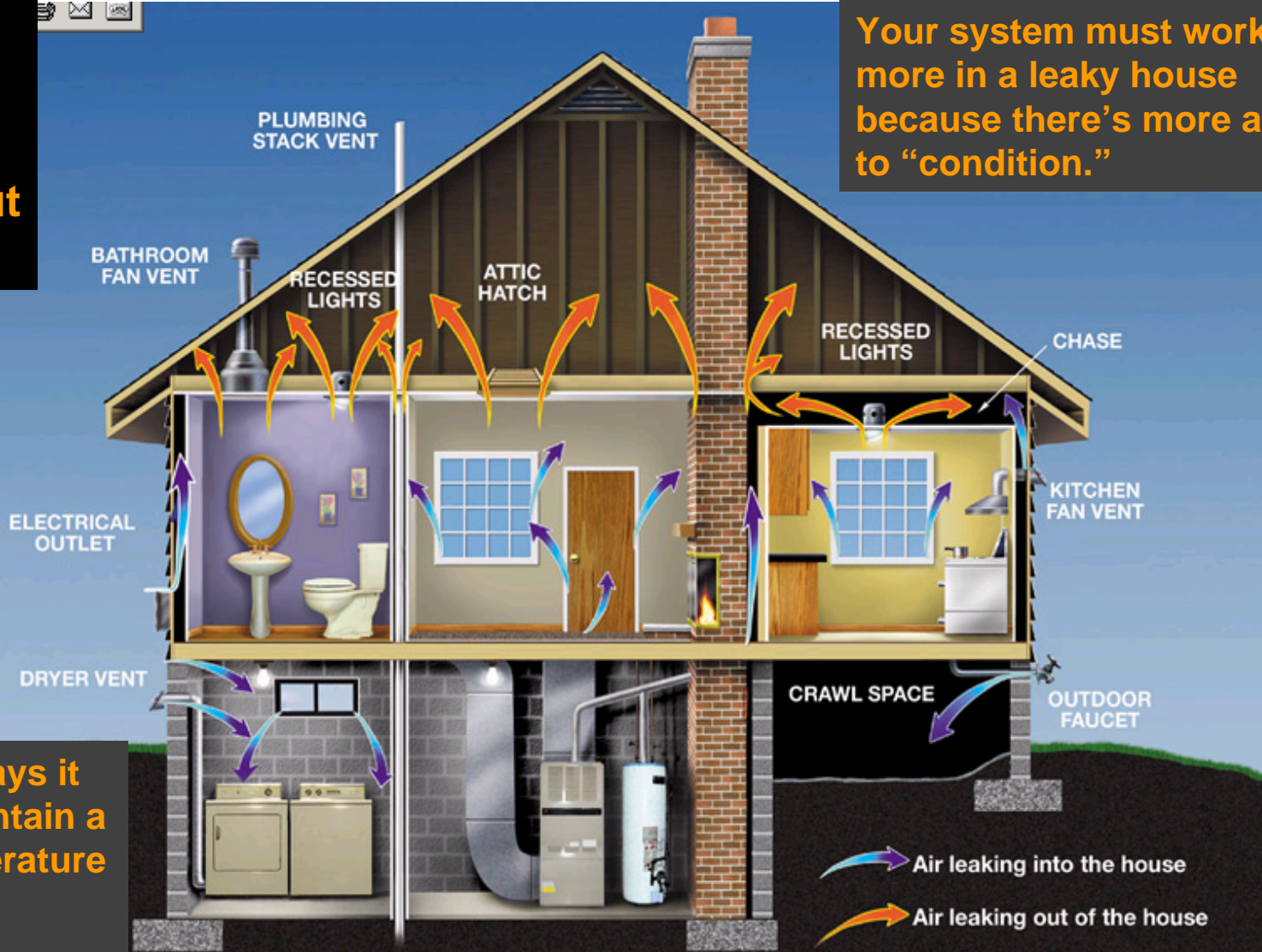
- Seal all ductwork
 - Leaks cause discomfort and high bills
 - Use duct mastic or mastic tape
 - Aeroseal is an option
- Have new units sized properly
- Choose efficient equipment:
 - At least 92 AFUE, 15 SEER
- Direct vent (sealed combustion) for health
- CO Testing



4) Plug Air Leaks

**Air sealing:
Sealing gaps
where air can
pass into or out
of your home.**

**Your system must work
more in a leaky house
because there's more air
to "condition."**



**On hot and cold days it
costs more to maintain a
comfortable temperature
in a leaky house.**



4) Plug Air Leaks



Find leaks using a Blower Door Test

- Blower door test uncovers hidden leaks in home
 - Open fireplace damper: 8%
- Use certified home performance contractors
 - www.mdhomeperformance.org
- \$300 to \$500
 - Worth every penny!

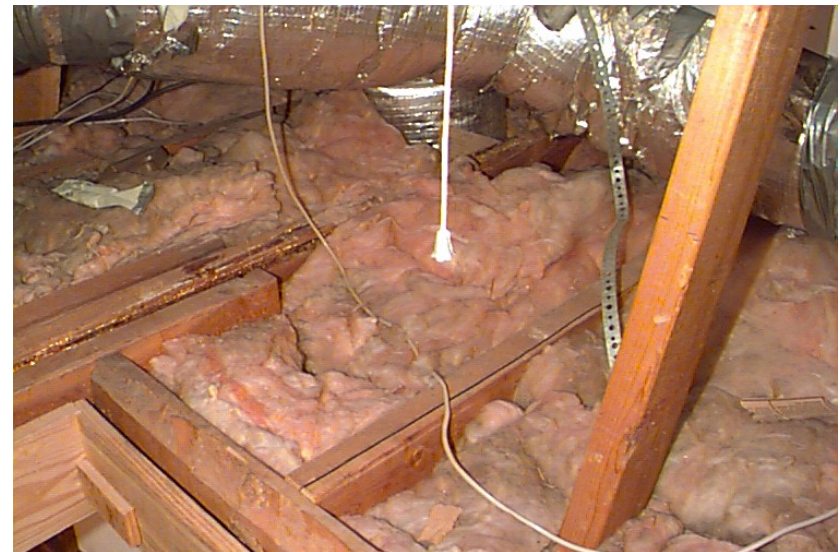




5) Check Insulation



- R-value
 - Resistance to heat transfer
- Fiberglass: R-3 per inch
- Recommended levels:
 - Ceiling: R-49
 - Wall: R-22
 - Floor: R-25
 - Basement: R-19
- **NO GAPS!!!!!!**
- **NO SQUISHES!!!!**





6) Buy ENERGY STAR



- Refrigerators
 - Save 15%-20% vs current models
 - Save 40% on 2001 models
- Clothes Washers
 - Save 50%, plus water savings
 - \$110/year versus 1994 models
- Other Appliances: Dishwashers, HVAC
- Windows, Doors, and Skylights
 - Low U-Value and SHGC
- Home Electronics
- When does it make sense to replace an old appliance?



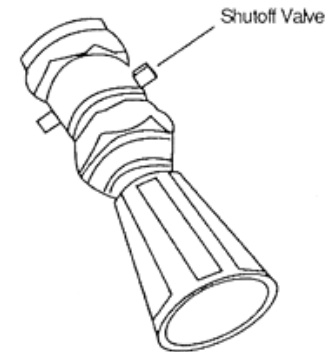
7) Go Low-Flow



- Faucets
 - 1.5 gpm
 - Aerators can lessen this to 1 gpm



- Shower heads
 - 1 to 2.5 gpm
 - Shut off valve



- Toilets
 - 1.6 gallon per flush compare to up to 4
 - Save 22,000 gallons/year for 4 person household
 - Dual flush or High Performance – Two Flush retrofit
 - Look for leaks: blue dye test or always running



8) Optimize H2O Heater



- Insulate water heater
 - \$15 will pay for itself
- Turn temperature down
 - Max. 120 degrees
 - Prevents scalding
 - Lowers bills
 - Not unsanitary
- Insulate 6' of water pipes into AND out of tank
- Consider solar hot water, tankless, and on demand



9) Landscaping



- Shade in summer
 - Reduce cooling bills by 20%
 - Could save you \$100 month!
- Shade your air conditioner too
 - Up to 10% savings
- Use drought tolerant plants
- Windbreak in winter
 - Reduce heating bills by 10 to 20%



10) Do it ALL – Home Performance!



- Certified contractors offer a whole-house approach to evaluate and improve energy efficiency of existing homes
- Reduce energy by 20% to 60%
- ONLY way to comprehensively address your home's issues, footprint
 - Show Video



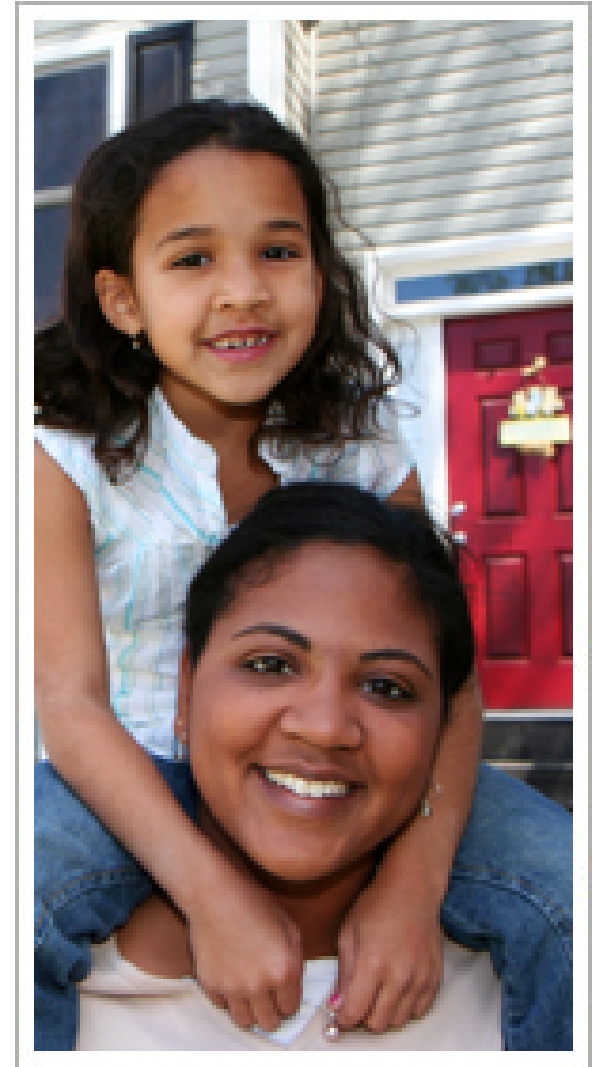
What do I do?



- Visit MdHomeperformance.org
- Select 'Find a Contractor' button



- Make an appointment
- Get your audit
- Make health, safety, energy upgrades
- Enjoy your improved home!





Questions???



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Maryland Home Performance with ENERGY STAR

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www.mdhomeperformance.org