

Home Energy Efficiency



live green
in **plano**

Volunteer Training

November 2008



10 Ways to Save Energy (at Home)

1. Habits
2. Lighting
3. DIY Audit
4. Seal the gaps
5. Programmable thermostat & HVAC
6. Window Insulation
8. Radiant barrier
9. Appliances
10. Water heater

Air conditioner habits

- Nature
 - Or do you have a back-to-back
- No-heat dishes
- Microwave
- Up the thermostat setting and use the fan
 - In winter, reverse fan cycle to push air down
- Not using it? Unplug it!
 - Kilowatt meter

Lighting

- CFLs
- LEDs
- Natural light

■ CFLs

Incandescent Wattage	CFL Wattage
25	5
60	15
75	20
100	25
150	39

•Natural light

Skylights, sun domes and window light are great for home offices, halls, bathrooms and kitchens.

■ LEDs



Home Energy Audit

- Do-It-Yourself
 - Incense stick
 - Candle flame
- Professional audits
 - Incentives
 - Oncor service providers audit list

Sealing Tips

- Door and window weatherstripping
- Mail chutes
- Electrical and gas lines through exterior entrances
- Cable TV and phone lines
- Outdoor water faucets
- Where dryer vents pass through walls
- Bricks, siding, stucco, and foundation
- Vents and fans
- Seal around roof penetrations
- Baseboards
- Weatherstripping around doors
- Fireplace dampers
- Attic hatches
- Wall- or window-mounted air conditioners

Programmable Thermostat & HVAC

- Programmable Thermostat
 - Setting
 - Increase when home more than 2 hours
- Heating/Cooling
 - Annual check-up
 - Filter change
 - Fans reverse cycle to push heat down

WARRANTY VS

- Research
- Double-pane
- Coverings for
- Caulking
- Reflective film (invalidates warranty, but good option for apartment living/renting)

Insulation

- Types of insulation

http://apps1.eere.energy.gov/consumer/your_home/insulation_airsealing/index.cfm/mytopic=11510

- R-value

- Resistance to heat flow
- Density, amount and type of insulation

- Where to insulate

- Attic
- Exterior walls
- Ducts
- Cathedral ceilings

Department of Energy insulation recommendation for Texas

Zone	Gas			Ceiling	Wall (A)	Floor	Crawl space (B)	Basement				
								Slab edge	Interior	Exterior		
1	✓	✓				R-25	R-19	R-8	R-11	R-10		
1			✓	R-49	R-60	R-28	R-25	R-19	R-8	R-19	R-15	
2	✓	✓	✓		R-49	R-38	R-18	R-25	R-19	R-8	R-11	R-10
2				✓	R-49	R-38	R-22	R-25	R-19	R-8	R-19	R-15
3	✓	✓	✓	✓	R-49	R-38	R-18	R-25	R-19	R-8	R-11	R-10
4	✓	✓	✓		R-38	R-38	R-13	R-13	R-19	R-4	R-11	R-4
4				✓	R-49	R-38	R-18	R-25	R-19	R-8	R-11	R-10
5	✓				R-38	R-30	R-13	R-11	R-13	R-4	R-11	R-4
5		✓	✓		R-38	R-38	R-13	R-13	R-19	R-4	R-11	R-4
5				✓	R-49	R-38	R-18	R-25	R-19	R-8	R-11	R-10
6	✓				R-22	R-22	R-11	R-11	R-11	(C)	R-11	R-4
6		✓	✓		R-38	R-30	R-13	R-11	R-13	R-4	R-11	R-4
6				✓	R-49	R-38	R-18	R-25	R-19	R-8	R-11	R-10

diaphragms

Reflective,
attached, direct
attic surface

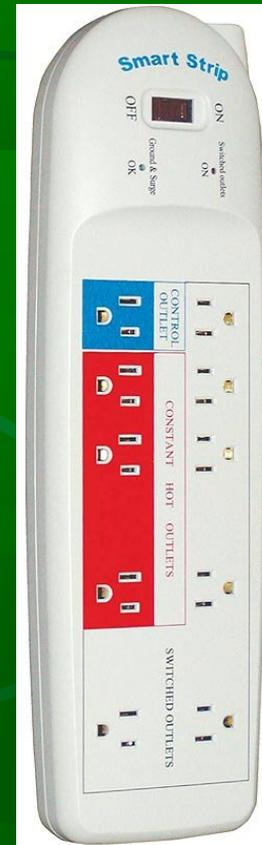


Spray-on



Appliances

- Vampire
- Smart power
- Energy Star appliances



Phantom Electricity

-taken from "Improving Energy Efficiency in Your Home" by Robin Sowton, Editor, Dallas Greenzine.com

- Some appliances in your house still use watts even when they're turned off.
- Common examples:
 - DVD recorder – 14 watts/hr
 - Mobile phone charger – 4 watts/hr
- Many appliances that use remote control have this issue.



Water Heater

- Set temp to 120

http://apps1.eere.energy.gov/consumer/your_home/water_heating/index.cfm/mytopic=13090

- Water heater jacket for outside & attic heaters

http://apps1.eere.energy.gov/consumer/your_home/water_heating/index.cfm/mytopic=13070

- Insulate hot water pipes

http://apps1.eere.energy.gov/consumer/your_home/water_heating/index.cfm/mytopic=13060

EnergyStar: Room by Room

<http://www.energystar.gov/index.cfm?fuseaction=popuptool.atHome>

Energy Audits

- Electrical: loads and vampires
- Lighting: CFLs and LEDs
- Windows: treatment and coverings
- Caulking
- Water heater

Resources

- Gary Kuehn, Regional Manager, Elliott's Hardware
- Robin Sowton, Editor, Dallas
<http://dallasgreenzine.com>
- U.S. Department of Energy, Energy Efficiency and Renewable Energy
- Energy Star, www.energystar.gov