

Energy Is Everywhere!

U.S. DEPARTMENT OF
ENERGY | Energy Efficiency &
Renewable Energy



Efficient Lighting & Saving Energy This Spring

March 17, 2016



Webinar Series sponsored by
Housing and Urban Development,
Department of Energy and
Department of Education

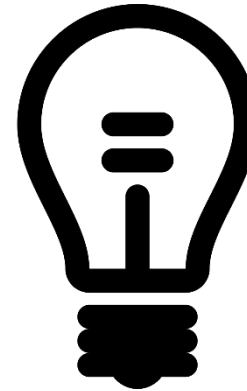
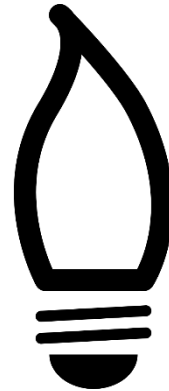
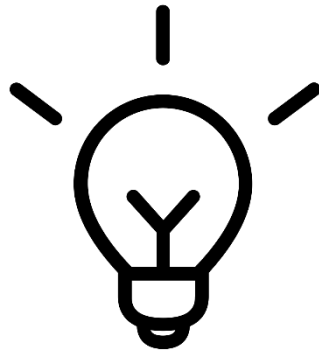
General Webinar Information

You are on mute! Use your webinar bar to fill out a poll or chat to send in a question.

Email SEEDInitiative@hud.gov about the Energy is Everywhere Webinar Series to learn more.

EFFICIENT LIGHTING & SAVING ENERGY THIS SPRING

Energy Is Everywhere Webinar Series



Madeline Salzman
SEED Technical Support
December 17, 2015

SEED: Coalitions for Community Growth

SAHF Toolkit

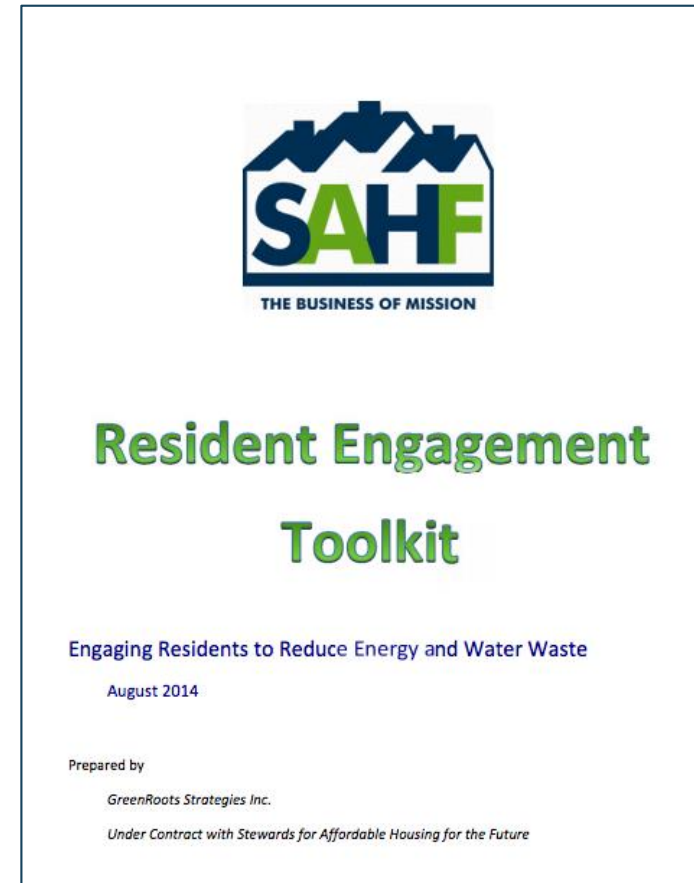
Developed by Stewards for Affordable Housing for the Future

➤ Link: <http://www.sahfnet.org/residentengagement.html>

Strategies to engage residents on:

- Behavior to reduce energy use
- Behavior to reduce water use
- Behavior to encourage healthy living

All activities in this presentation
(and more!) are available for download
from the toolkit.






Incorporating Your Community

- Host a meeting with snacks / refreshments
- Have printed out materials at events
- Be responsive to resident concerns
- Keep things fun and take advantage of events & holidays



Benefits to Lighting Strategies

- Lighting typically accounts for about 15% of electricity use (EIA)
- Empowering for residents – easy to control
- CFL light bulbs use up to 75% less energy than incandescent, and LEDs use 90% less

Energy Efficiency & Costs	 Incandescent Light Bulbs	 Compact Fluorescent Lights (CFLs)	 Light Emitting Diodes (LEDs)
Average Life Span	1,200 hours	8,000 hours	50,000 hours
Lumens / Watt	13 Lumens / Watt	57 Lumens / Watt	100 Lumens / Watt
Relative Annual Energy Use & Operating Cost (eq. Lumens)	100% kWh / year	23% kWh / year; 77% cost savings	10% kWh / year; 90% cost savings

Recommended Plan: March

Focus on building *KNOWLEDGE*

- **Exhibit 4-20:** Seasonal Tip Poster - Appliances
- **Exhibit 4-25:** Coloring Sheets for Children - Lighting
- **Exhibit 5-8:** Fluorescent vs. Incandescent – Poster
- **Exhibit 5-15:** Exercise #2: WATT Do They Take?

Building Knowledge: Lowering Electric Bills

Resident Behavior

- Turn the lights off!
- Open windows & blinds
- Use a power strip for multiple lights
- Keep lamp shades light

In The Home

- Paint walls a light, reflective color
- Utilize privacy blinds / frosted windows
- Use low, hanging lights instead of high, recessed lighting

Maintenance

- Replace old, inefficient light bulbs with LEDs
- Install occupancy sensors in common spaces





SPRING CONSERVATION TIPS

In the Laundry Room

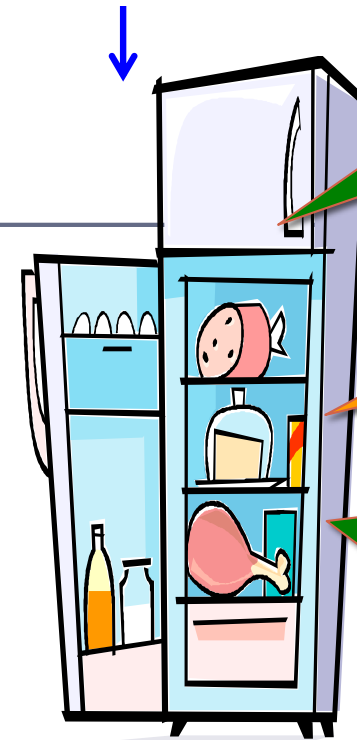


Run FULL loads and wash clothes in COLD water. Over 90% of energy is used for heating the water!

Wash clothes early in the morning or after 8:00 p.m. when electricity COSTS LESS!

DRY clothes on a drying rack when possible!

In the Kitchen



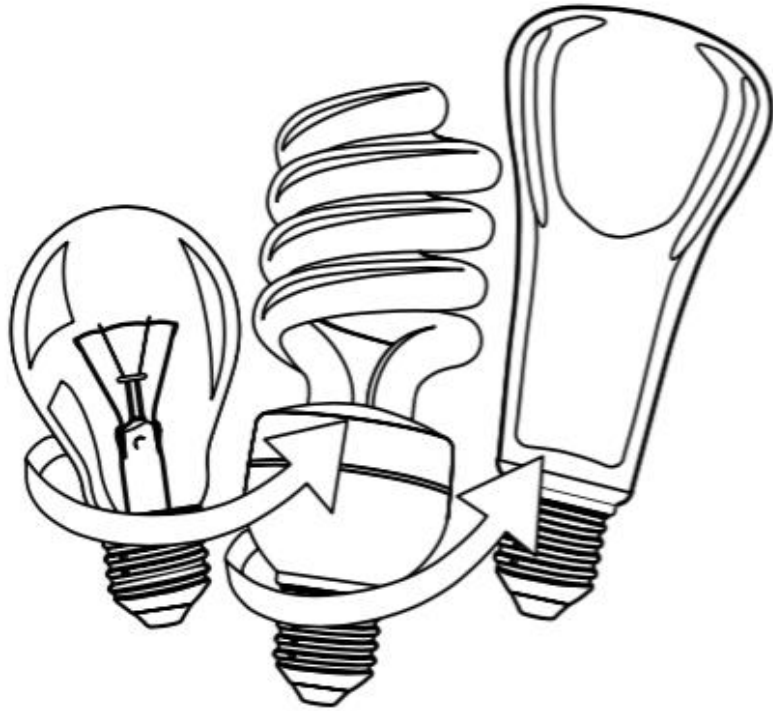
Do NOT overfill the refrigerator and allow food to COOL before putting it in the fridge.

USE an electric kettle to boil water instead of the stove!

For SMALLER cooking jobs use a microwave or a toaster oven. Microwaves use 75% less energy than a stove or oven.

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Make the
SWITCH.



7 

Not in use?
Turn off
the juice.



9 

FLUORESCENT VS. INCANDESCENT



Here is how wattage output compares between the two types of bulbs:

Fluorescent Wattage	Incandescent Wattage
4 to 7 watts	25 watts
9 to 11 watts	40 watts
13 to 16 watts	60 watts
18 to 20 watts	75 watts
22 to 25 watts	100 watts

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Energy Conservation Exercise 2: WATT Do They Take?

Goal: Residents will learn how different home electronics and appliances use energy. Residents will also learn how they can change behaviors and purchasing habits to reduce electricity use.

	Electricity Used		# Hours per Day	\$ Cost per Year	
	Min	Max		Min	Max
Under 100 Watts					
Computer asleep	30	30	8	\$ 18	\$ 18
Computer monitor asleep	30	30	8	\$ 18	\$ 18
Laptop computer	50	50	12	\$ 44	\$ 44
Window fan	55	250	8	\$ 32	\$ 146
Electric blanket	60	100	8	\$ 35	\$ 58
Television, 19 inch	65	110	6	\$ 28	\$ 48
Television, EnergyStar, 30 inch	65	65	6	\$ 28	\$ 28
Ceiling fan	65	175	8	\$ 38	\$ 102
Stereo	70	400	6	\$ 31	\$ 175
Under 500 Watts					
Television, 27 inch	113	113	6	\$ 49	\$ 49
Television, 36 inch	133	133	6	\$ 58	\$ 58
Television, 53-61 inch	170	170	6	\$ 74	\$ 74
Television, flat screen	120	120	6	\$ 53	\$ 53
Television, EnergyStar, 40 inch	95	95	6	\$ 42	\$ 42
Computer awake	120	120	16	\$ 140	\$ 140
Computer monitor awake	150	150	16	\$ 175	\$ 175
Water bed with heater	120	380	6	\$ 53	\$ 166
Clothes washer	350	500	2	\$ 51	\$ 73
Over 700 Watts					
Refrigerator	725	725	8	\$ 423	\$ 423
Fan, furnace	750	750	8	\$ 438	\$ 438
Microwave oven	750	1100	1	\$ 55	\$ 80
Space heater	750	1500	6	\$ 329	\$ 657
Dehumidifier (heavy use)	785	785	12	\$ 688	\$ 688
Dehumidifier (light use)	785	785	2	\$ 115	\$ 115
Clothes iron	1000	1800	1	\$ 73	\$ 131
Dishwasher	1200	2400	1.5	\$ 131	\$ 263
Toaster oven	1225	1225	1	\$ 89	\$ 89
Clothes dryer	1800	5000	2	\$ 263	\$ 730
Water heater (40 gallon)	4500	5500	4	\$ 1,314	\$ 1,606

How is operational cost impacted by:

- Settings (computer monitor awake vs. asleep)
- Wattage (high vs. low)
- Usage (hours per day)
- Appliance Size (large vs. small)

Recommended Plan: April

Focus on changing *BEHAVIOR*

- **Exhibit 4-21:** New bulb – Educational Handout
- **Exhibit 4-22:** What should I do if a CFL breaks?
- **Exhibit 4-24:** Conservation Corner – Lighting
- **Exhibit 5-4:** Switch-a-Bulb Event Poster
- **Exhibit 5-7:** Switch-a-Bulb Pledge Card
- **Exhibit 5-9:** Switch-a-Bulb Pledge Card Display
- **Exhibit 5-10:** Point of Use Prompt: Flick the Switch



Compact Fluorescent Light Bulbs

Smart lighting cuts costs and brightens your home!

Switch & Save: Choose compact fluorescent light bulbs. A CFL will use much less energy and last up to 10 times longer than a regular light bulb.

Just think – a light bulb that will last for years!

Be Switch Smart: Remember to turn off lights when you leave a room, even for a short while. Encourage your family and friends to do the same.

Should I be concerned about CFLs containing mercury?

Don't worry – the amount of mercury in a CFL is about the same as in one bite of tuna! If the bulb breaks, follow tips for disposal on the back of this page.



Dust Those Bulbs: Be sure to dust your light bulbs often. Dirt on the surface of a bulb reduces the light by 50% or more.

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WHAT SHOULD I DO IF A CFL BREAKS?



1. Scoop up the broken glass and put it in a plastic bag. Seal the bag!
2. Use sticky tape to collect smaller pieces of glass from carpets and floors.
3. Dispose of the bag with your regular trash.
4. Open a window for 15 minutes.

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Newsletter Inserts

Conservation Corner - Lighting

You can ***do your part*** by practicing the following:



Remembering to turn **OFF** the lights when leaving a room!



Opening the blinds and taking advantage of **NATURAL** light!

**Refreshments &
Giveaways!!!**

SWITCH-A-BULB EVENT



FIND OUT ABOUT...

- Energy Efficient Lighting
- Make a PLEDGE to CONSERVE

**BRING IN ONE REGULAR OLD BULB
AND RECEIVE A LONG LASTING,
ENERGY EFFICIENT CFL BULB!**

THURSDAY JUNE 27, 2013

2:00 P.M. TO 4:00 P.M.

(DROP-IN)

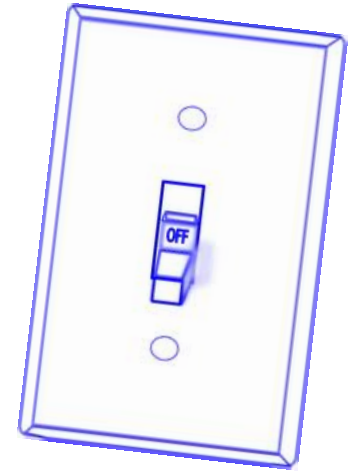
MAIN LOBBY

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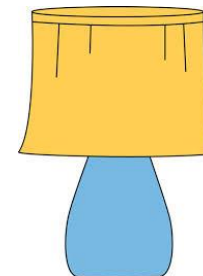
Resident Name

STAFF WOULD LIKE TO THANK
YOU FOR JOINING THEM IN
TAKING ACTION!



Thank you for your commitment to:

- Install a compact fluorescent light in a table lamp
- Turn off the lights when leaving a room
- Use natural light when available



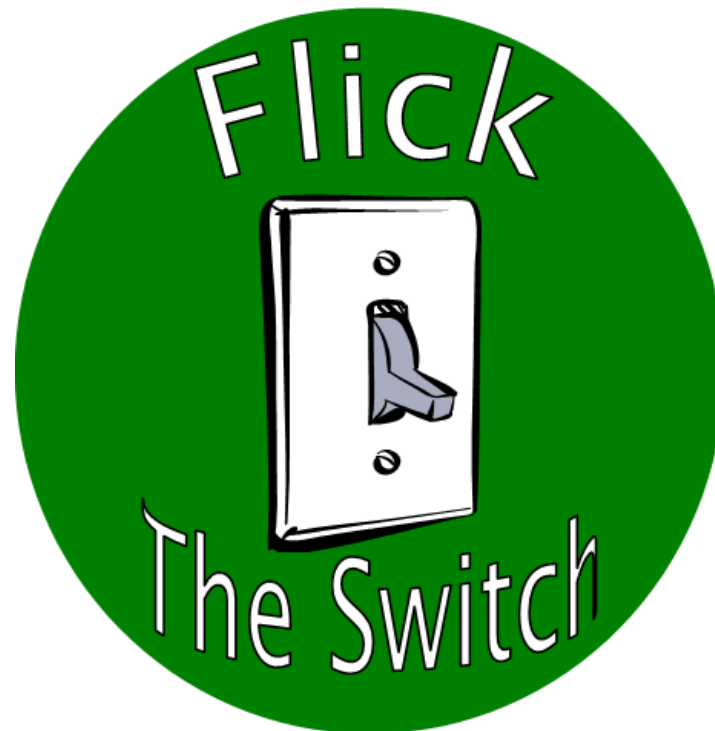
Together,
our
community's
efforts will
help **CUT**
ENERGY
waste!

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Conservation Pledge Tree – Flick the Switch



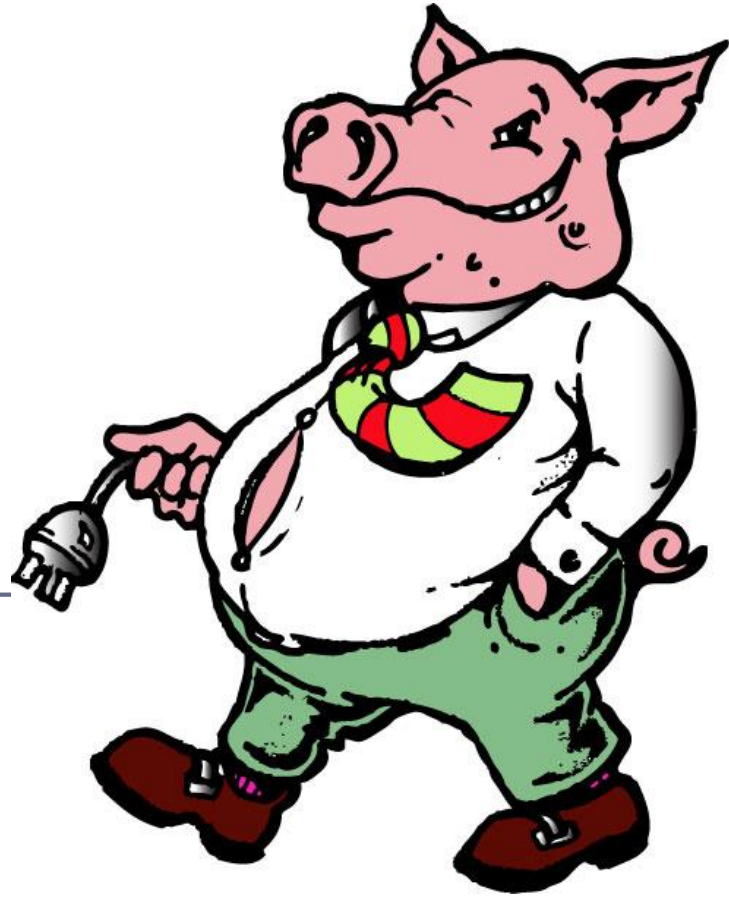
Point-of-Use Prompt for Pledge
Campaign
Lighting



Recommended Plan: May

Focus on inspiring *SOCIAL CHANGE*

- **Exhibit 5-55:** Energy Hob Challenge – Event Poster
- **Exhibit 5-56:** Exercise #1: Energy Hog Scavenger Hunt



ENERGY HOG CHALLENGE

Community Name

DON'T BE AN ENERGY HOG!

**COME LEARN HOW TO CONSERVE
ENERGY IN YOUR HOME!**

**EVENT FOR CHILDREN BETWEEN
THE AGES OF 6 & 12.**

FRIDAY MAY 20, 2016

9:30 A.M. TO 11:30 A.M.

COMMUNITY ROOM

Refreshments



Green Sprouts

Energy Hog Scavenger Hunt



Do the Energy Hog Scavenger Hunt and find out if you have Energy Hogs lurking in your Home. Check the box that best describes your family and home. Remember, there are no wrong answers, so be honest!

1. **WEATHER-STRIPPING:** Open your front and balcony doors and check the weather-stripping between the door and the doorframe.

NONE (2 POINTS)
 WORN OUT (4 POINTS)
 GOOD CONDITION (6 POINTS)

2. **LIGHTS:** How often do you turn lights off when you leave a room?

ALMOST NEVER (2 POINTS)
 SOMETIMES (4 POINTS)
 ALWAYS (6 POINTS)

3. **LIGHT BULBS:** Count the number of compact fluorescent light bulbs (CFL's) you are using at home.

COMPACT FLUORESCENT LIGHTS

Energy Hog Scavenger Hunt



4. **COOKING:** How often does your family keep the lids on pots?

ALMOST NEVER (2 POINTS)
 SOMETIMES (4 POINTS)
 ALWAYS (6 POINTS)

5. **ELECTRICITY:** Search for the Energy Star® label (hint: check things that are plugged in like appliances). How many did you find?

NONE (2 POINTS)
 1-2 LABELS FOUND (4 POINTS)
 3 OR MORE LABELS FOUND (6 POINTS)

6. **FRIDGE TEST:** Close the refrigerator door over a piece of paper so that it is half in and half out of the door. Then gently tug on it. How easy was it to pull out the piece of paper?

EASY TO PULL (2 POINTS)
 HARD TO PULL (4 POINTS)
 CAN'T PULL AT ALL (6 POINTS)

Energy Hog Scavenger Hunt



How did you Score? _____

30 and Up - AWESOME!! Keep up the good work!

20 to 29 - LOOK OUT! A few Hogs are in!

10 to 19 - OINK! OINK! You're Hog Wild! Time to get busy chasing those Energy Hogs out of the house for good.

You found them! Now it's time to get rid of those pesky Energy Hogs!

Some things you and your family can do for yourselves. Try installing CFL bulbs in your lamps and make sure to turn lights out when leaving a room. Don't forget, you can cut down on your water waste but keeping showers under 10 minutes!

Need Help? Your maintenance workers are there to help you. They can repair leaky taps and toilets and, they can fix a loose refrigerator door or any broken windows.

Energy Hog Hiding Places



The Kitchen



Of all the places in your home, the fridge is a favorite hang out for Energy Hogs.



It takes a lot of energy to keep your stove hot when cooking food. Using the microwave or a toaster oven can save energy!

Energy Hog Hiding Places



The Bedroom



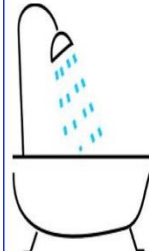
Energy Hogs love to snack on old fashioned light bulbs because they waste *SO MUCH* energy!

In fact, **90%** of the energy that goes into the light bulb is wasted as heat - that's why they are so hot to the touch!

Energy Hog Hiding Places



The Bathroom



Did you Know? The sink and shower use the most water in your home? It takes a lot of energy to heat up water for your home, so try not to waste hot water.

Take 10 minute showers!

Energy Hog Hiding Places



The Living Room



Windows are easy access for Energy Hogs!

All good HOG BUSTERS check their windows to see if they need to be weather-stripped or if any cracks need to be sealed up!

Reminder: Engagement Tips



- Take advantage of the season: spring cleaning, Earth Day (April 22), longer evening sunlight
- Find your resident leaders – people who are interested in these issues
 - Help hanging up signs, letting residents know about events
 - Find out what matters to YOUR residents
- Don't take on more than you have time for; opt to do a **few, simple** activities *well*

Questions?

Thank you for your attention!



MADLINE SALZMAN
madeline.salzman@ee.doe.gov

SEED: Coalitions for Community Growth