CHANGE THE WORLD, **START WITH ENERGY STAR**

CHECK-UP GUIDE: INVESTIGATE, EDUCATE, ACTIVATE, AND SAVE WITH ENERGY STAR®

Thank you for joining the U.S. Environmental Protection Agency's (EPA's) Change the World, Start with ENERGY STAR campaign and helping us to fight global warming by saving energy in your homes and communities.

When we use electricity in our homes, chances are a power plant somewhere is burning fossil fuels (like coal, oil, or natural gas) to produce the power that runs our homes. This creates greenhouse gas emissions that contribute to global warming, and it really adds up! Did you know that the average home causes twice the greenhouse gas emissions as the average car? By using less energy, we can reduce the amount of fossil fuel being burned, which means fewer greenhouse gas emissions released into the atmosphere that contribute to global warming.

The good news is that by doing ENERGY STAR Check-ups, you can help make a big difference. Use this guide to see how energy efficient your own home is and to help others save energy, too.

Here's how to help save energy—Investigate, Educate, Activate, and Save! First you **Investigate** by checking the home for ways to save energy. Then you **Educate** the resident in the home on how to save energy. You can then show the resident how to take action to make changes—this is the **Activate** part. And once you activate the change, you not only **Save** energy, money, and the environment, but you help change the world—one home, one family at a time.

LIGHTING

Incandescent

★ INVESTIGATE:

- Look for incandescent light bulbs (the old-fashioned kind of light bulbs, with filaments, as pictured to the right).

★ EDUCATE:

- Compact fluorescent light bulbs (CFLs) with the ENERGY STAR label use about 75 percent less energy than incandescent bulbs and last up to 10 times longer. CFLs use a newer technology than regular light bulbs—you might be able to tell they're CFLs if they look swirly. But sometimes CFLs have covers over the swirly part, so they can also look like incandescent light bulbs.

- Make sure to use the right bulb for each fixture (a "reflector lamp" for lights that are sunk into the ceiling, one that says "dimmable" if it has a dimmer switch).
- A 13-watt CFL puts out about the same amount of light as a 60-watt incandescent.
- Be sure to turn off the lights when leaving the room.
- Remember to tell the resident to try recycling the CFL when it burns out. Have the resident contact the municipal solid waste agency directly, or go to www.epa.gov/bulbrecycling or www.earth911.org to identify local recycling options.

Compact Fluorescent Light (CFL)

★ ACTIVATE:

- Encourage the resident to start by changing out incandescent bulbs in lights that get used the most, to get the most savings. Typically these are the kitchen ceiling light, living room table and floor lamps, bathroom vanity, and outdoor porch or post lamp.
- Supply the resident with the "How to Choose the Right ENERGY STAR Qualified Bulb" sheet at the end of this Check-up Guide so he/she can learn more about ENERGY STAR lighting, choose the right bulbs for the home, and learn how to safely handle and dispose of bulbs.

★ SAVE:

- By replacing a home's five most frequently used lights or the bulbs in them with ENERGY STAR qualified lighting, the resident can save $70 each year. And if every American home replaced just one light with an ENERGY STAR light, we would save enough energy to light more than 3 million homes for a year and prevent 9 billion pounds of greenhouse gas emissions per year, equivalent to the emissions of about 800,000 cars.

ELECTRONICS

★ INVESTIGATE:

- Ask the resident if the products listed to the right are ENERGY STAR qualified, and check to see if there is a visible ENERGY STAR label. See pictures on the next page for examples of how the label might appear. The label might be black, blue, or silver. Remind the resident that it might have been on the box or manual that came with the product. If the resident doesn't remember and no logo can be found on or related to the product, then assume that it is not qualified for the purposes of this exercise.

	ENERGY STAR	NOT ENERGY STAR
TV		
DVD		
VCR		
Portable phone		
Cable box		
Computer		
Laptop		
Printer/Scanner/Copier		

- Find out if the computer(s) is set to "sleep" when not in use.

★ EDUCATE:

- The ENERGY STAR label on any of these products means it uses less energy than a standard model, which means fewer greenhouse gas emissions.

- Suggest that the resident look for the ENERGY STAR the next time he/she replaces one of his/her electronic products.
- Turning off computers when they're not in use doesn't hurt them, and it's a great way to save energy!
- Enabling a desktop computer's and monitor's power management features, which put them to sleep when not in use, can save from $10 to $85 per year.

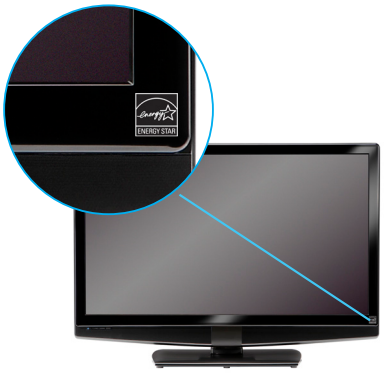
★ ACTIVATE:

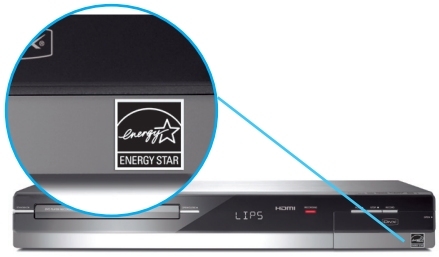
- If the resident has a computer and/or monitor, suggest enabling the power management or "sleep" settings, following the directions included in the "How to Power Manage Your Computer" sheet at the end of this Check-up Guide.
- Suggest that the resident plug office products and home entertainment equipment into power strips so everything can be turned off with the flip of a switch. Turn off equipment at night or when not in use.
- Suggest that the resident pick the "home" or "standard" or "regular" setting on the set-up menu of his/her television that is most appropriate for home use. Reducing the brightness of a TV set cuts its energy use by as much as 25 percent.
- Walk around the home with the resident and suggest unplugging any power adapters that are not charging products.

★ SAVE:

- If every TV, DVD player, and home theater system purchased in the U.S. this year was ENERGY STAR qualified, we would save about $240 million on energy bills and prevent more than 3 billion pounds of greenhouse gas emissions per year, equivalent to the emissions from about 270,000 cars.
- If every home office product purchased in the U.S. this year was ENERGY STAR qualified, we would save more than $75 million in annual energy costs while preventing 1 billion pounds of greenhouse gases, equivalent to emissions of 90,000 cars.

Use these examples to look for the **ENERGY STAR**:





APPLIANCES

★ INVESTIGATE:

- Ask the resident if the products listed on the right are ENERGY STAR qualified, and check the products for an ENERGY STAR label. See pictures on the next page for examples of where the label might appear. Look on the front of the appliance as well as inside the door. Remind the resident that it might

	ENERGY STAR	NOT ENERGY STAR
Refrigerator		
Clothes washer		
Dishwasher		
Dehumidifier		
Room air conditioner		

have been on the box or manual that came with the product. If the resident doesn't remember and no logo can be found on or related to the product, then assume that it is not qualified for the purposes of this exercise.

- Find out if there's an old, pre-1993 refrigerator in the basement or garage.

★ EDUCATE:

- The ENERGY STAR label on any product means it uses less energy than a standard model, which means lower utility bills and fewer greenhouse gas emissions.
- Next time the resident wants to replace an appliance, recommend looking for the ENERGY STAR.
- Think twice before putting an old refrigerator to use in the garage—operating a refrigerator manufactured before 1993 can cost over $100 a year to operate.
- The average household spends $400 to $600 per year on water heating—second to heating and cooling, that's the highest portion of a home's energy costs.

★ ACTIVATE:

Suggest that the resident:

- Wash laundry with cold water whenever possible, and wait until there's a full load to start washing.
- Run the dishwasher with a full load, and use the air-dry function if available.
- Scrape food off of plates instead of rinsing them before loading the dishwasher. It will save water and energy.
- Save energy with your water heater by turning down the thermostat to 120 degrees and wrapping it with an insulating jacket, which can save more than $30 per year in excess heat loss.

★ SAVE:

- If every refrigerator, dishwasher, and clothes washer bought in the U.S. this year was ENERGY STAR qualified, we would prevent 4.5 billion pounds of greenhouse gas emissions per year and save about $640 million on our energy bills.

HEATING AND COOLING

★ INVESTIGATE:

- Does the home have central air conditioning and/or a forced-air heating system (which means there will be air vents in the house instead of radiators or baseboard heaters)? If yes, go to the next bullet. If no, skip to the third bullet.

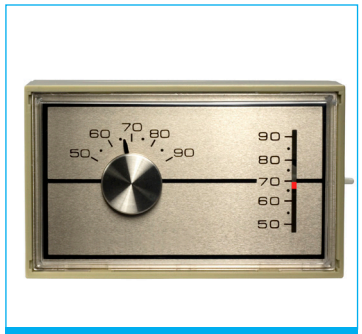
Use these examples to look for the **ENERGY STAR**:

- If yes, ask the resident these questions about his/her heating and cooling system:

HAVE YOU:	YES	NO
Changed the air filter in the last 3 months?		
Removed leaves, dirt, and other debris from around the outdoor components of the system?		
Had a contractor inspect the duct system for signs of leaks, tears, and disconnections?		
Had the heating and cooling equipment inspected by a professional in the last year?		

Programmable Thermostat

- If the home does not have central air conditioning and/or forced-air heating, suggest that the resident choose ENERGY STAR when purchasing a new furnace or boiler.
- Ask the resident if he/she has installed a programmable thermostat and programmed it properly. You'll know it's a programmable thermostat if it allows you to digitally program in temperatures for specific times of the day throughout the week using a screen and buttons. The home might have a manual thermostat instead, which just has a dial or lever. See the pictures on the right for help.



Non-Programmable Thermostat

★ EDUCATE:

- Heating and cooling costs the average homeowner a lot of money—more than $1,000 each year! That's about half of his/her total energy bill.
- With proper use, programmable thermostats can save about $180 every year in energy costs. (See directions on how to properly program a thermostat on the following page.)
- Using a ceiling fan is a really great way to save energy by circulating the air inside of a room. You can save by turning your thermostat up a little in the summer since the ceiling fan will make you feel cooler. Don't forget to turn off the fan when leaving the room since ceiling fans cool YOU, not the room.
- The air filters on the furnace need to be checked every month. Replace them if they look dirty, or at least every 3 months.
- It's a good idea to have a tune-up on the home's air conditioning system each spring and on the furnace or boiler each fall; it helps the home's heating and cooling system work better.
- In homes with forced-air heating or cooling systems, ducts move air to the rooms around the house and return it to the central unit. These ducts are often big energy wasters! Sealing and insulating ducts can improve the efficiency of a heating and cooling system by as much as 20 percent—and sometimes much more.

★ ACTIVATE:

- If there is a programmable thermostat, encourage the resident to program it based on whether he/she is at home, away from home, or asleep per the chart on the next page. Staying within a range of these recommended temperatures will provide the most savings. If the home has a manual thermostat, the resident can also manually change the temperature throughout the day based on the same recommendations, but he/she must do this every time to get the savings.

- If the resident has a ceiling fan, suggest that he/she check to make sure that it is blowing air downward in the summer to help feel cooler. Fans can also be used to pull air up and help circulate warm air in the winter.
- Look around the house at the heat registers and vents—they should be clear of any furniture or rugs. If they are covered or blocked, recommend that the resident keep them clear to improve air flow and comfort.
- When the furnace/air conditioner is on, suggest that the resident go around the house and check how much air is coming out of each register or vent. If there is no air or very little coming out, it could indicate a leak in the system, and the resident should hire a contractor to investigate further.
- Work with resident to remove leaves, dirt, and other debris from around the outdoor components of the system to improve efficiency.
- Have the resident order EPA's "A Guide to Energy-Efficient Heating and Cooling" from the ENERGY STAR publications Web site listed on the Resources hand-out at the end of this Check-up Guide for more information on how to save energy and money and keep his/her home comfortable.

★ SAVE:

- If a home's heating and cooling equipment is more than 10 years old, or is not keeping the house comfortable, consider replacing it with a model that has earned the ENERGY STAR. Sized and installed correctly, these high-efficiency heating and cooling units can save up to 20 percent on heating and cooling costs.

PROGRAMMABLE THERMOSTAT SETPOINT TIMES & TEMPERATURES

SETTING	TIME*	IN WINTER	IN SUMMER
Wake		≤ 70° F	78° F
Leave		Set back at least 8° F	Set up at least 7° F
Return		70° F	78° F
Sleep		≤ Set back at least 8° F	Set up at least 4° F

***If the resident would like to program the thermostat with you, ask him/her what times best coincide with these settings and use the table to re-program the thermostat.**

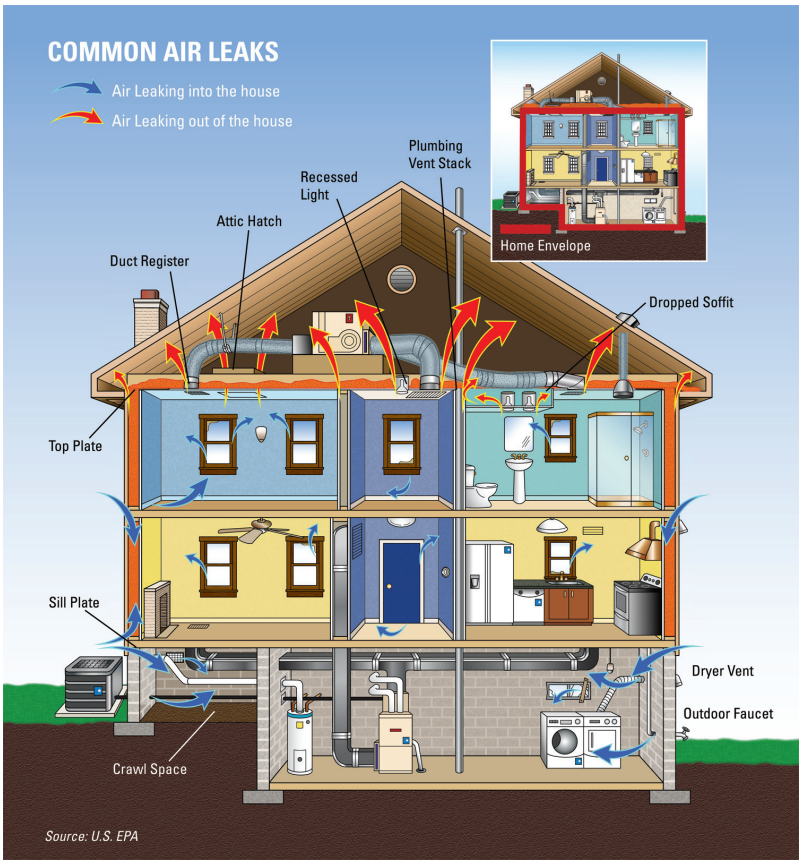
AIR LEAKS & INSULATION

★ INVESTIGATE:

- Ask the resident if he/she often feels drafts or sees gaps in the below areas around the house.
- Then, use a playing card to find doors that could benefit from weather stripping. If you can fit the card between doors and door jambs, weather stripping or a door sweep can be used to help keep out drafts.

DO YOU FEEL AIR LEAKS OR SEE GAPS:	YES	NO
Around windows?		
Around the front and back doors?		
Near electrical outlets?		
Near outdoor faucets?		
Around pipes under the kitchen sink?		
Around the dryer vent?		
Around recessed lights?		

★ EDUCATE:



- Air leaks, like these shown in the graphic on the right, waste energy and make a home less comfortable. In fact, the average home has enough air leaks that it is like keeping a window open all year long. There are easy ways to fix leaks with products such as caulk, weather stripping, or spray foam.
- Insulation helps to keep a home warm in the winter and cool in the summer, but most homes today do not have enough insulation in the attic.
- If you're in a colder part of the country, ask the resident if icicles often hang from the roof, or if the snow melts off of the roof earlier than off of neighbors'roofs. This problem may suggest that heat is escaping, and air sealing and additional insulation in the attic may be needed.
- ENERGY STAR qualified windows can help reduce a home's energy bill up to 15 percent. They protect from the winter cold and summer sun, plus reduce condensation and interior fading. Also, during cold weather, take advantage of the sun's warmth by keeping drapes open during sunny days. To keep the heat out during the summer, close window shades and drapes in hot, sunny weather.

★ ACTIVATE:

- Have the resident order EPA's "Do-It-Yourself Guide to Sealing and Insulating with ENERGY STAR" from the ENERGY STAR publications Web site listed on the Resources hand-out at the end of this Check-up Guide for more information about how to fix air leaks all over the house.
- If the resident has an attic, suggest that he/she check the insulation levels. If the insulation is level with or below the attic floor joists, the home probably needs more.

★ SAVE:

- Residents can save up 10 percent on a home's energy bill—or about $200 a year—by Sealing and Insulating with ENERGY STAR.

(Please Turn the Page)

THE ENERGY STAR PLEDGE AND OTHER RESOURCES

If the resident is interested, share the ENERGY STAR Pledge sheet and ask what actions, if any, he or she would like to take. Tell the resident to take the pledge online at www.energystar.gov/changetheworld.

Also, let the resident know that there are a number of additional resources available to help save energy at home. Share the ENERGY STAR Resources sheet.

Thank the resident for his/her time and for the difference he/she is making for the environment, and wish the resident luck in saving energy and money with ENERGY STAR.

ENERGY STAR®, a program sponsored by the U.S. Environmental Protection Agency and U.S. Department of Energy, helps us all save money and fight global warming through energy-efficient products and practices. Learn more. Visit **www.energystar.gov**.

ENERGY STAR

HOW TO CHOOSE

THE RIGHT ENERGY STAR® QUALIFIED LIGHT BULB

	SPIRAL	COVERED A-SHAPE	GLOBE	TUBED	CANDLE	INDOOR REFLECTOR	OUTDOOR REFLECTOR
TABLE/ FLOOR LAMPS	✓	✓		✓			
PENDANT FIXTURES		✓	✓				
CEILING FIXTURES	✓			✓			
CEILING FANS	✓	✓			✓	✓	
WALL SCONCES	✓			✓	✓		
RECESSED CANS						✓	
TRACK LIGHTING						✓	
OUTDOOR COVERED	✓	✓		✓	✓		
OUTDOOR FLOOD							✓

LEARN MORE AT energystar.gov

CFLs are made of glass and can break if dropped or roughly handled. Be careful when removing the bulb from its packaging, installing it, or replacing it. Always screw and unscrew the light bulb by its base (not the glass), and never forcefully twist the CFL into a light socket. If a CFL breaks in your home, follow EPA's clean-up recommendations at **http://www.energystar.gov/ia/products/lighting/cfls/downloads/CFL_Cleanup_and_Disposal.pdf**.

When a CFL burns out, EPA recommends that consumers take advantage of available local recycling options for CFLs. Contact your local municipal solid waste agency directly, or go to **www.epa.gov/bulbrecycling** or **www.earth911.org** to identify local recycling options. If your state or local environmental regulatory agency permits you to put used or broken CFLs in the garbage, seal the bulb in two plastic bags and put it into the outside trash for the next normal trash collection.

HOW TO POWER MANAGE
YOUR COMPUTER

Homeowners can save money by activating the power management features on a computer or laptop.

Enabling "sleep" features can save you as much as $85 per system annually. Also, you can save energy, money, and the environment just by activating your power management!

ENERGY STAR Power Management features—standard in Windows and Macintosh operating systems—place monitors and computers (CPU, hard drive, etc.) into a low-power "sleep mode" after 5 to 20 minutes of inactivity. Touching the mouse or keyboard "wakes" the computer and monitor in seconds. The lower the setting, the more energy you save.

For a PC

To configure the Power Management on most Windows programs:

Click **START**, **RUN**, and then **CONTROL PANEL**.

Double click on **PERFORMANCE AND MAINTENANCE**.

Click **POWER OPTIONS**.

The Power Options Properties dialog box should now be displayed with the Power Schemes tab selected. Here you can set timeouts for your monitor, system standby, and hibernate. Notebook computer users can specify an alternative power scheme that will take effect when the PC is running on battery power.

For a MAC

To configure the Power Management on most Mac programs:

Click on the **APPLE symbol** (Apple Menu) in the upper left of your screen.

Go to "System Preferences."

Click **SHOW ALL** (if necessary).

Select **ENERGY SAVER** from the "Hardware" row.

Set "Put the computer to sleep when it is inactive for" to 30 minutes using the slider.

Set "Put the Display to Sleep when the computer is inactive for" to 5 minutes using the slider.

To maximize savings, EPA recommends setting computers to enter system standby or hibernate after 15 to 60 minutes of inactivity. To save even more, set monitors to enter sleep mode after 5 to 20 minutes of inactivity. The lower the setting, the more energy you save. The "Turn off hard disks" setting does not save much power, and can be ignored.

If you are not able to select a hibernate timeout, you may need to enable the hibernate feature. To do so select the **HIBERNATE tab** in Power Options Properties, check "Enable Hibernation" and click **APPLY** or **OK**.

GO ONLINE:

- For a clickable list of resources, please visit the ENERGY STAR Power Management Web site at www.energystar.gov/powermanagement.

LEARN MORE AT energystar.gov

CHANGE THE WORLD, **START WITH ENERGY STAR**

RESOURCES

The U.S. Environmental Protection Agency offers a variety of tools to help people make home improvements, find energy-efficient products, bring energy efficiency practices to work and their communities, and get tips on how to save energy, save money, and fight global warming.

CHANGE THE WORLD, START WITH ENERGY STAR

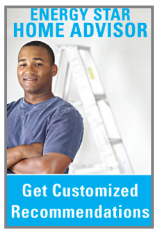
www.energystar.gov/changetheworld

- This site provides actions and ideas to fight global warming at home, at work, and in the community with ENERGY STAR.

ENERGY STAR HOME ADVISOR

www.energystar.gov/homeadvisor

- Get customized recommendations on home improvement projects.
- Make a plan to get started.
- Increase your household's energy efficiency and comfort.



HOME ENERGY YARDSTICK

www.energystar.gov/yardstick

- Compare your household's energy use to others across the country.
- Get your score and recommendations for improvement.
- Make your home improvements and come back in 12 months to see how much you've saved.

ENERGY STAR @ HOME

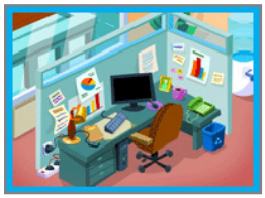
www.energystar.gov/home

- Take a room-by-room tour.
- Learn what steps you can take to save energy, save money, and help protect our environment.

ENERGY STAR @ WORK

www.energystar.gov/work

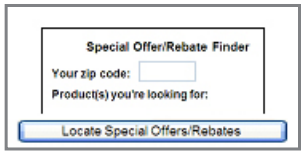
- Take a tour of an office.
- See how you can save energy—and fight global warming—all without leaving your desk



REBATE FINDER

www.energystar.gov/rebatefinder

- Find special offers in your city or state sponsored by ENERGY STAR partners, such as:
  - Sales tax exemptions or credits
  - Rebates on qualified products
  - Recycling incentives



TAX CREDITS FOR ENERGY EFFICIENCY

www.energystar.gov/taxcredits

- Learn about tax credits available for purchasing energy-efficient products.
- Discover tax credits for home builders and tax deductions for commercial buildings.
- Read frequently asked questions.

ENERGY STAR KIDS PAGE

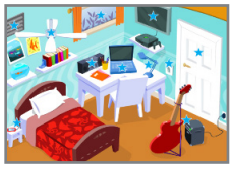
www.energystar.gov/kids

- Kids can learn how to make a difference in the fight against global warming.
- Find fun games and activities.

ENERGY STAR KID'S ROOM

www.energystar.gov/kidsroom

- Be an ENERGY STAR … right in your own bedroom.
- See tips on how kids can make big changes to save energy.



ENERGY STAR PODCASTS

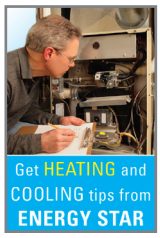
www.energystar.gov/podcasts

- Watch video podcasts to learn how to make energy-efficient improvements at home and at work.

HEATING & COOLING QUIZ

www.energystar.gov/homeimprovement

- This simple online tool asks homeowners five basic questions about the HVAC system to see if it is being properly maintained.
- Based on their answers, ENERGY STAR provides tips on increasing efficiency through proper maintenance.



ENERGY STAR PUBLICATIONS

www.energystar.gov/publications

- Order free informational materials to use yourself or share in your community:
  - Guide to Energy-Efficient Heating and Cooling
  - Do-It-Yourself Guide to Home Sealing
  - Bring Your Green to Work tip card
  - Join Us in the Fight Against Global Warming booklet

ENERGY STAR®, a program sponsored by the U.S. Environmental Protection Agency and U.S. Department of Energy, helps us all save money and fight global warming through energy-efficient products and practices. Learn more. Visit **www.energystar.gov**.

ENERGY STAR

CHANGE THE WORLD, **START WITH ENERGY STAR**

HELP FIGHT GLOBAL WARMING BY MAKING ENERGY-EFFICIENT CHOICES AT HOME. TOGETHER, WE CAN ALL MAKE A DIFFERENCE.

TAKE EPA'S ENERGY STAR PLEDGE AT ENERGYSTAR.GOV/CHANGETHEWORLD.

EPA INVITES YOU TO JOIN IN THE FIGHT AGAINST GLOBAL WARMING BY TAKING THE ENERGY STAR PLEDGE.

To date, more than 2 million people across the nation have pledged to take small, energy-saving steps that can change the world. If every American household took this pledge, we would save more than $18 billion in annual energy costs, and prevent greenhouse gases equivalent to the emissions of more than 18 million cars. Here are simple ways you can do your part:

CHANGE A LIGHT. Replace existing lighting with ENERGY STAR qualified lighting. If every American home replaced just one light with an ENERGY STAR qualified light, we would save more than $700 million in annual energy costs, and prevent greenhouse gases equivalent to the emissions of 800,000 cars.

HEAT AND COOL SMARTLY. Have your heating and cooling systems tuned-up by a professional, change your air filter at least once every 3 months, find and seal any leaks in your air ducts, and install and use a programmable thermostat correctly. Proper installation and maintenance of heating and cooling equipment can cut your energy bill by more than $200 per year.

MAKE SAVING ENERGY ENTERTAINING. Look for a wide range of ENERGY STAR qualified electronics, including televisons, DVD players, sound systems, and set-top boxes.

SET UP YOUR HOME OFFICE FOR SAVINGS. Enable your computer and monitor to power down while not in use. And, look for the ENERGY STAR when shopping for home office equipment. If every home office product purchased in the U.S. this year was ENERGY STAR qualified, we would prevent the emissions of almost 1 billion pounds of greenhouse gases.

SEAL AND INSULATE. Seal your home's envelope (outer walls, ceiling, windows, doors, and floors) with caulk, spray foam, or weather stripping, and add insulation to the attic. Sealing and insulating with ENERGY STAR can save more than $200 per year in heating and cooling costs, equivalent to 10 percent of the average yearly home energy bill.

UPGRADE TO ENERGY STAR APPLIANCES. Save energy with an ENERGY STAR qualified refrigerator, dishwasher, and clothes washer. ENERGY STAR qualified appliances use 10 to 50 percent less energy and water than standard models.

WHY SAVE ENERGY AND HOW CAN EPA HELP? The energy used in the average house can cause twice the greenhouse gas emissions as the average car. That's because many power plants burn fossil fuels to make electricity. By using less energy, you can reduce the amount of fossil fuel being burned, which means fewer greenhouse gas emissions released into the atmosphere that cause global warming.

ENERGY STAR®, a program sponsored by the U.S. Environmental Protection Agency and U.S. Department of Energy, helps us all save money and fight global warming through energy-efficient products and practices. Learn more. Visit **www.energystar.gov**.