The sustainable home

You and your home can help the earth sustain itself for future generations. Become a part of the solution.

PHILIPS

sense and simplicity

Philips. Your partner in doing the right thing.

In 1891, Philips began lighting the world. Since then, we have been launching a continuous stream of breakthrough lighting innovations to the market such as energy-saving compact fluorescent lamps (CFLs) in the early 1980's. We've been leading the industry in new ideas for the sustainable home, creating innovative technologies in lighting, home entertainment, and appliances. We're a global company, committed to enhancing economic prosperity, environmental quality, and social equity wherever we operate.

Content

The multiplier effect

What is sustainability?

It's responsibility, quite simply, so we don't compromise the ability of future generations to meet their needs.

Think of the earth's resources as a savings portfolio. If we're living sustainably, we're drawing on only the interest. But when we overdraft the planet's natural resources or impair the ability of any form of life to regenerate itself, we eat away at the capital. As that capital erodes, so does the interest that we and all future life depend on.

Sustainability isn't about deprivation. It's about innovation, productivity, and quality of life. We can weave the ethic of conservation into our routines so that our lives become more satisfying even as we shape a better future for the generations that will follow us.

Each time one of us takes a small step toward sustainability—for example, recycling, saving energy in the home, or buying a locally made product—a multitude of positive things happen:

- ✓ We conserve fossil fuel—a non-renewable resource.
- ✓ We reduce the amount of CO_2 released into the atmosphere—one of the major causes of global warming.[1]
- ✓ We reduce our energy requirements and in the long run, we often save money.
- ✓ We send a message to manufacturers, energy companies, and local governments—that there's an increasing market for sustainable energy and energy-efficient goods.

1) Natural Resource Defense Council, "Global Warming Basics", Feb. 9, 2007 [http://www.nrdc.org/globalwarming/f101.asp]

Eight simple steps

Changing the world begins at home. Simple steps, multiplied by millions, make a difference.

1. **Reach for a star**

   When it's time to replace a household appliance, look for the ENERGY STAR® label, which shows that the product meets extraordinary energy efficiency guidelines set by the U.S. Environmental Protection Agency and Department of Energy.

   According to ENERGY STAR, "an ENERGY STAR refrigerator uses at least 15% less electricity than required by current federal standards, and 40% less than conventional models sold in 2001".[2]

2. **Tame the vampire**

   Watch out—consumer electronics increasingly sip "vampire power" (also called stand-by power) while we sleep. Flat-screen LCD TVs may consume less than one watt to more than 40 watts on stand-by.[3]

   Before you buy, investigate the power consumption on TV usage—the figures are usually available online with a click of the "specifications" button on manufacturers' websites, and also in consumer magazines' comparison tables.

3. **Audit your efficiency**

   Some utility companies offer free inspections that objectively evaluate your heating and cooling systems, detect leaks and other sources of inefficiency, and recommend solutions graded to what you can afford.

   You'll find some solutions cost little or nothing—they can be as simple as a monthly reminder to clean the furnace filter, or improved weather-stripping for the front door.

4. **Don't overheat the water**

   When your tap water is too hot to touch, you're wasting energy. Check it with a meat thermometer—a temperature of 120˚F is plenty for personal use. According to the U.S. Department of Energy, "for every 10˚F reduction in water temperature, you can save between 3% to 5% in energy costs".[4]

   Some dishwasher manufacturers recommend 140˚F for optimal cleaning, but many dishwashers have built-in booster heaters, which save energy.

5. **Let the sun shine in—not the heat**

   Windows make our homes cheerful and bright, but a "typical home loses more than 25% of its heat through windows".[5]

   If you're replacing windows, low-emissivity ENERGY STAR rated windows can save you $25 to $110 in yearly energy costs even over double-paned, clear–glass replacement windows.[6] But awnings and insulated shades can also make a real difference without the cost of major remodeling.

6. **Re-use and recycle**

   You can create a personal action plan tailored for your home and life with only a little effort. Little things add up—for example, keep a second-use paper tray by the printer so back sides can serve for first

2) Energy Star, "Refrigerators & Freezers", Jan., 2008 [http://www.energystar.gov/index.cfm?c=refrig.pr_refrigerators]
3) CNETs Quick Guide: TV Power Consumption "The Chart HDTV power consumption compared" Product testing dates range from 01/06 thru 11/07. [http://reviews.cnet.com/4520-6475_7-6400401-3.html?tag=arw]
4) U.S. Department of Energy - Energy Efficiency & Renewable Energy, "Lower Water Heating Temperature for Energy Savings", Nov. 30, 2007. [www.eere.energy.gov/consumer/your_home/water_heating/index.cfm/mytopic=13090]
5) U.S. Department of Energy, "Elements of an Energy Efficient House", July 2000 [http://www.nrel.gov/docs/fy00osti/27835.pdf]
6) Energy Star, "Save Money & Energy - Choose ENERGY STAR Qualified Windows, Doors, and Skylights", June 2006 [http://www.energystar.gov/index.cfm?c=windows_doors.pr_savemoney]

drafts. By doing this you'll reduce paper usage.

Switch to paper instead of plastic bags. "Compared to plastic grocery bags, paper grocery bags consume 40% less energy and generate 80% less solid waste."[7]

7. See the light

Worldwide, about 19% of all electricity consumption goes for lighting.[8] But that figure can shrink dramatically.

Today, for the first time in the 130-year history of electric lights, homeowners have a variety of choices of ENERGY STAR® qualified CFLs that can save as much as 75% in energy and last up to 10 times as long compared to incandescent bulbs.[9] If every American household replaced just one incandescent bulb with an ENERGY STAR qualified compact fluorescent lamp (CFL), it would have the same effect as preventing greenhouse gases equal to the emissions of more than 800,000 cars.[9]

8. LEED® the way

Create a safer, healthier and more comfortable home using the U.S. Green Building Council's LEED certification. This program is voluntary, but promotes creating a green home which, according to the U.S. Green Building Council, can result in lower energy and water bills, reduced greenhouse gas emissions and fewer problems with mold, mildew and other indoor toxins. [10]

"Month to month, people who live in green homes save money by consuming 40% less energy and 50% less water than standard homes. Over the years that adds up to big savings."[11]

In Rocklin, CA, 144 homes in a new subdivision were built according to the LEED Green Building Rating System. According to the U.S. Green Building Council, these homes outsold others in the area 2:1. The financial benefits included $1,400 annual utility savings and a 65% reduction in utility bills compared to houses that were not built according to these LEED standards.[12]

7) John Roach, "Are Plastic Grocery Bags Sacking the Environment", National Geographic News, Sept. 2, 2003. [http://news.nationalgeographic.com/news/2003/09/0902_030902_plasticbags.html]

8) Environmental News Network, "Let there be light - for the next 35 years: the green gift that keeps on giving", Dec. 4, 2007. [http://www.enn.com/energy/article/26500/print]

9) Energy Star, "Compact Fluorescent Light Bulbs", Jan., 2008 [http://www.energystar.gov/index.cfm?c=cfls.pr_cfls]

10) U.S. Green Building Council: The Green Home Guide, "What makes a green home", 2007. [http://www.greenhomeguide.org/green_home_programs/LEED_for_homes.html]

11) U.S. Green Building Council. The Green Home Guide, "The Benefits of a Green Home", 2007. [http://www.greenhomeguide.org/what_makes_a_green_home/benefits_of_a_green_home.html]

12) U.S. Green Building Council. "Project Profile: Carsten Crossings, Oakgrove Model in Rocklin, CA - A Green Home Among Many", 2007. [http://www.greenhomeguide.org/documents/pp_carsten_crossings.pdf]

See the light

Did you know...

"An average household dedicates 11% of its energy budget to lighting. Using new lighting technologies can reduce lighting energy use in your home by 50% to 75%." [13]

And "if every American home replaced their 5 most frequently used light fixtures or the bulbs in them with the ones that are ENERGY STAR® qualified, we could save close to $8 billion each year in energy costs, and together we would prevent the greenhouse gases equivalent to the emissions from nearly 10 million cars."[14]

However, different lighting situations require different solutions.

Compact fluorescents (CFLs) are a direct replacement for incandescent bulbs, delivering an incandescent-like light and fitting into incandescent fixtures. ENERGY STAR qualified CFLs last up to 10 times longer and use about 75% less energy than an incandescent, which reduces electricity costs.[15] The long life of a compact fluorescent makes it ideal for hard-to-reach places.

If you need crisp, bright light that illuminates details, the Philips Halogená® Energy Advantage is the best choice. These bulbs outlast incandescents, and use less energy for the same amount of light.

Dimmable lights save energy and give you infinite options for customizing a room's lighting for design and mood. Most energy saving halogen lights, like incandescents, are fully dimmable. Some newer CFLs from Philips are also designed for dimming. (Check the packaging before you try—non-dimming CFLs will not operate with a dimming switch.)

Like the linear fluorescent tubes, screw-in compact fluorescent bulbs (CFLs) contain tiny amounts of mercury. As with household batteries and leftover paint, CFLs do need special treatment when disposed of.

13) U.S. Department of Energy - Energy Efficiency and Renewable Energy. "Energy Savers - Lighting", May 31, 2006. [http://www.eerie.energy.gov/consumer/tips/printable_versions/lighting.html]
14) Energy Star, "Light Bulbs & Fixtures", Jan., 2008 [http://www.energystar.gov/index.cfm?c=lighting.pr_lighting]
15) Energy Star, "Compact Fluorescent Light Bulbs", Jan., 2008 [http://www.energystar.gov/index.cfm?c=cfls.pr_cfls]

Recycling the modern bulb

Here are a few options on recycling and caring for your CFLs:

- Many towns have recycling programs for household hazardous waste. Seal used bulbs in a plastic bag until pick-up time or when you drop them off. Contact your town to see what requirements it may have for CFL disposal.
- Some companies offer recycling solutions for CFLs and other tricky disposal needs. You can learn more about one such recycling company at **www.nam.lighting.philips.com/us/professional/** The listing of any recycling companies at this website does not constitute an endorsement by Philips of the companies or their technologies. You should make your own investigation and determinations about recycling companies.
- Some retailers are accepting CFLs for recycling, and other retailers are expected to follow as demand increases.
- In the event of a broken CFL, visit the EPA's ENERGY STAR® website for instructions on cleanup. The EPA fact sheet can be found at **www.energystar.gov/ia/partners/promotions/change_light/downloads/Fact_Sheet_Mercury.pdf**

There's no longer any scientific doubt that we are entering an era of global warming, and that the effects are going to reverberate throughout the earth's eco-systems and human cultures.

The smart shoppers guide to home lighting

How do incandescent, compact fluorescent and energy saving halogen products compare to each other?

Why we use them	Incandescent	Compact Fluorescent (CFL)	Philips Halogená® Energy Advantage	Things to know
Reduced energy use		✓	✓	ENERGY STAR® compact fluorescents (CFLs) use about 75% less energy than standard incandescents.[16]
				Halogená® Energy Advantage bulbs use less energy than comparable incandescent bulbs.
Crisp, bright light			✓	Halogená Energy Advantage bulbs bring bright, white light to your home.
Fully dimmable	✓	**Some**	✓	Some compact fluorescents can work with dimmers.
				Halogená Energy Advantage bulbs dim just like incandescent bulbs.
Instant light	✓		✓	When switched on, halogen bulbs reach their full brightness instantly.
Increased life		✓	✓	ENERGY STAR qualified compact fluorescents last up to 10 times longer than standard incandescent bulbs.[17]
				Halogená Energy Advantage bulbs from Philips last up to 2 times longer than a standard incandescent bulb.[18]

CFL's come in many shapes, sizes and wattages, including:

Halogená® Energy Advantage bulbs are available in the following shapes:

Philips makes a range of light bulbs that bring benefits to your home—and the earth. Make your home more sustainable—with Philips products.

16) Energy Star, "Light Bulbs & Fixtures", Jan., 2008 [http://www.energystar.gov/index.cfm?c=lighting.pr_lighting]
17) Energy Star, "Compact Fluorescent Light Bulbs", Jan., 2008 [http://www.energystar.gov/index.cfm?c=cfls.pr_cfls]
18) Savings based on replacing a standard incandescent bulb with 1500 hrs rated average life with a Halogená Energy Advantage bulb at 3000 hrs rated average life.

Lighting facts and fiction

How many of the following statements are true? See how well you know the facts on energy-saving lighting.

True or false?

1. **Energy-saving lamps produce poor light quality.**
2. **Buying cheaper light bulbs saves money.**
3. **Energy-saving lamps can be used with dimmer switches.**
4. **Energy-saving lamps are too big for a lamp shade to fit.**

Answers:

1. **False** The color of the light may be different from incandescents. But many people have based their opinion on lamps made 10 or 20 years ago. Today's energy-saving lamps produce much better light—a soft, relaxed glow or bright, refreshing illumination.
2. **False** While cheaper light bulbs might have a lower initial cost, they may use more energy than an energy saving bulb, costing more in electricity.
3. **True** Many energy-saving lamps can be used with dimmers. For instance, the Philips Halogená® Energy Advantage bulb is more efficient than incandescents regardless of dimming level (just check the package when you buy). Energy-saving lamps, like compact fluorescents and Philips Halogená®, are much better than incandescents at staying efficient regardless of dimming level.
4. **False** Many different types of energy-saving lamps now on the market are just as small as incandescent bulbs.

Light output equivalency

To determine which ENERGY STAR® qualified light bulbs will provide the same amount of light as your current incandescent light bulbs, consult the following chart:[19]

Incandescent Light Bulbs		Common ENERGY STAR® Qualified Light Bulbs
40W	→	9–13W
60W	→	13–15W
75W	→	18–25W
100W	→	23–30W
150W	→	30–52W

19) Taken from: Energy Star, "Compact Fluorescent Light Bulbs", Jan., 2008 [http://www.energystar.gov/index.cfm?c=cfls.pr_cfls]

Shrinking your footprint

We are entering an era of global warming, and the effects may reverberate throughout the earth's eco-systems and human cultures.

Increasing global temperatures will have scores of consequences. True, some may be positive, such as longer growing seasons in cold climates. But adapting to the changes in the environment will be enormous.

Wherever we stand on this earth, geographically or politically, we can agree on this: It's in the best interest of every living thing to reduce global warming as much as possible, and learn to live sustainably.

Measuring your carbon footprint

What is a carbon footprint? A Carbon Footprint is "a measure of the impact human activities have on the environment in terms of the amount of green house gases produced, measured in units of carbon dioxide".[20]

According to an article published by ABC News, each American is responsible for approximately 22 tons of carbon dioxide emissions annually.[21]

Coal-burning power plants produce 2.5 billion tons of carbon dioxide pollution—the largest U.S. source annually.[22]

The second source of carbon dioxide in the U.S. is automobile emissions—which create nearly 1.5 billion tons annually.[23]

"If every household replaced just three 60-watt incandescent bulbs with CFLs, the pollution savings would be like taking 3.5 million cars off the road!"[24]

20) Reducing your impact, Carbon Footprint Ltd., 2008 [www.carbonfootprint.com/]
21) Clayton Sandell. "Reducing your carbon footprint - How you can lower your CO_2 Contributions to the Environment". ABC News, June 7, 2006. [www.abcnews.go.com/print?id=2049304]
22) Natural Resource Defense Council, "Global Warming Basics", Feb. 9, 2007 [http://www.nrdc.org./globalwarming/f101.asp]
23) Natural Resource Defense Council, "Global Warming Basics", Feb. 9, 2007 [http://www.nrdc.org./globalwarming/f101.asp]
24) Environmental Defense Organization, "Make the Switch - How to Pick the better bulb", Aug. 30, 2007 [http://www.environmentaldefense.org/page.cfm?tagid=608]

A helping hand

Useful resources for making yours a sustainable home.

New Lighting Products	**www.nam.lighting.philips.com/us**
Energy-Saving Lighting	**www.asimpleswitch.com**
Green Building	**www.usgbc.org**
ENERGY STAR® Products	**www.energystar.gov**
Green Homes	**www.livegreenlivesmart.org**
Water Conservation	**www.xeriscape.org**
Heating and Cooling	**www.greenheat.org**
Recycling Information	**www.nam.lighting.philips.com/us/professional/**
Clean Energy	**www.fresh-energy.org**
Carbon Offsets	**www.carbonfund.org**
Transportation	**www.hybridcars.com**
Canadian GBC	**www.cagbc.org**

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04/08

P-5930