NSW GOVERNMENT Office of Environment & Heritage

SAVE POWER WHAT CAN YOU DO IN YOUR WORLD?

# ENERGY EFFICIENT LIGHTING

FAST FACTS FOR HOUSEHOLDS

## WHY LIGHTING MATTERS

Almost one third of New South Wales' electricity is used in the home, with about seven per cent used for lighting.

Incandescent globes are being phased out, but there may still be some in your home.

If every NSW household replaced just one conventional globe with an energy efficient compact fluorescent globe, huge savings would be made.

## COMPACT FLUORESCENT VERSUS INCANDESCENT GLOBES

Incandescent globes were the first form of electric lighting ever introduced for use in the home.

Compact fluorescent light bulbs (CFL) use far more efficient lighting technology, with a typical CFL using around 75 per cent less electricity and lasting around 8 times longer than an incandescent light globe.

Power consumption for residential lighting is directly proportional to a globe's wattage. Energy efficient compact fluorescent bulbs generally use between 9 and 20 watts, while incandescent globes commonly used around the home typically use between 40 and 100 watts.

The cost of running a light in your home is directly related to its wattage. The higher the wattage, the higher the running cost.

Even though compact fluorescent lamps are more expensive than incandescent globes to purchase, they last far longer and have a lower running cost over their 'lifecycle'. In fact, the payback period for compact fluorescents is less than a year.

## AVAILABILITY, QUALITY AND INSTALLATION

Compact fluorescent lighting comes in a variety of colours, shapes, sizes and functions including:

- a 'warm' white colour, similar in appearance to an incandescent light globe suitable for use in living areas, kitchens and bedrooms.
- a 'cool' white colour suitable for use in areas where a brighter light is required such as bathrooms, toilets and for outdoor use.
- downlight replacements (similar in shape to a halogen downlight).
- nine watt (24 watt equivalent) to 18–20 watt (100 watt equivalent).
- globe, coil and spiral shapes, and now bulbs suitable for reading lamps and chandelier lights. Also available with a glass cover that gives them a similar appearance to incandescent light globes.

**Example of running costs† for incandescent and compact fluorescent light bulbs:**

| | Power | Purchase price | Life of bulb (hours) | Electricity running costs per year (approx) |
|---|---|---|---|---|
| **Incandescent** | 75 watt | $1.00–$1.20 | 1000 hours | $28.00 |
| **Fluorescent** | 15 watt (75 watt equivalent) | $4.00–$10.00 (cheaper if buying a pack of 2 or 3 lights) | Around 8000–16,000 hours | $6.00 |

† The above prices and running costs are indicative only. Based on electricity price as at July 2011 and 4 hours of use per day, 351 days per year.

SAVE POWER There are simple things we can all do that will lower power bills and reduce our impact on the environment.

our environment it's a living thing

Most hardware stores and major supermarkets stock a good range of compact fluorescent light bulbs. They are usually designed to fit into conventional bayonet or screw fitting light sockets. Specialist lighting stores will stock less conventional bulbs for use in downlights and heritage light fixtures, such as chandeliers.

## PHASING OUT INCANDESCENT LIGHT BULBS

The NSW Government supports the Federal Government's plan to phase out inefficient incandescent light bulbs. Since November 2009 it has not been possible to purchase new incandescent light bulbs in Australia.

**DID YOU KNOW?** As with incandescent light globes, a large proportion of the energy consumed by halogen lighting is actually lost in the form of heat.

## WHAT ABOUT HALOGEN LIGHTING?

Halogen lights are also a type of incandescent light. These are mainly used as downlights in homes. Halogens are also known as 'low voltage' lights as they have transformers fitted to convert from the standard household 240 volts to 12 volts, but this does not mean that they are low energy users.

Halogens are considered an energy intensive lighting option because several halogen lights are often needed in the place of one incandescent or fluorescent light bulb to achieve even lighting levels in a room. Most low voltage halogen globes used as downlights consume 50 watts each and an additional 10 watts for the transformer.

A 50 watt halogen downlight used 4 hours a day will cost more than $20* a year to run. If you had a room with 8 halogens and ran them for 8 hours each day, it would cost you almost $360* every year!

## OPTIONS FOR HALOGEN LIGHTS

- In a new home or renovation you can get the look of downlights by installing mini CFL downlight fittings. This will cost a bit more, but it will make a big difference to your energy bills.
- If you have 50 watt halogen lights downsize them to 20 watt or 35 watt halogen lights to save on energy and lighting bills.
- Install a dimmer switch.
- Instead of using ceiling halogen lights, consider alternatives such as floor and bench lamps fitted with CFLs.
- One emerging technology is LED downlights. They are currently available from specialist environment stores and online retailers. While they are currently quite expensive and the light output and quality may be less than halogen downlights, performance and price is improving all the time.
- If replacing low voltage halogen lights with CFLs or LEDs, an electrician will be needed to convert the lights.

## LIGHTING TIPS

- Natural light is free and the most energy efficient lighting source.
- Turn lights off when you don't need them.
- Replace standard incandescent globes with energy-saving compact fluorescent globes, particularly in high-use areas, and make sure you use the lowest wattage light needed.
- Use programmable timers, daylight sensors or movement sensors to control outdoor and security lighting.
- For outdoor garden lighting, try solar-powered lights.

Join the NSW homes that have pledged to save power by using the Power Pledge tool at **savepower.nsw.gov.au**

Choose from a list of energy efficient actions you can do to save power, money and our environment. Use the Power Pledge tool to track your progress and see how much you can save.

**savepower.nsw.gov.au**

* Savings based on household electricity price July 2011.

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