

Beacon Lighting Energy Saving Lighting Media Kit

Prepared by Bishop Cunliffe PR

Visit www.beaconlighting.com.au/energy_mediakit.php for details and more information.

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LOW ENERGY LIGHTING IN AUSTRALIA

Inefficient Lighting Ban

On 20 February 2007, the Australian Minister for the Environment and Water Resources the Hon Malcolm Turnbull MP announced action to phase out inefficient light bulbs by 2009 – 2010.

Minister Turnbull stated that the step should reduce Australia's greenhouse gas emissions by 4 million tonnes per year by 2012. This is the equivalent to taking 1 million cars off the road or planting 4 million trees.

Australia's annual greenhouse emissions in 2004 totalled 564.7 million tonnes.

According to the Australian government, lighting is responsible for 37% of greenhouse gas emissions; household lighting is responsible for 12% of the total greenhouse emissions and commercial lighting such as public and street lighting 25%. Lighting costs the community over \$2 billion in electricity each year and it is predicted that converting to low energy lighting will save Australians 66% off their household lighting bills, or \$1.3 billion per year.

Low Energy Lighting

Low energy or energy saving lighting is about reducing the wattage used in a light fitting while maintaining similar light output. By using energy saving lighting you can generate huge savings on your electricity bills, and contribute towards building a better environment.

Low energy lighting alternatives such as CFLs cost more to purchase, however the investment is outweighed by the fact that they use only 20% of the electricity consumed by a standard incandescent light globe. This produces significant savings on your power bills. Furthermore, CFLs will last from four to ten years, as opposed to a standard globe which lasts about one year, saving you the inconvenience of having to regularly purchase and replace globes.

And most importantly, energy efficient globes reduce energy consumption and therefore help cut greenhouse gas emissions which are harmful to the environment.

Australia's leading national lighting retailer Beacon Lighting notes that consumers are today very conscious that they can reduce greenhouse emissions through opting for low energy lighting solutions and many have made the switch to low energy lighting alternatives.

Phase-Out Process

The Australian government has yet to announce the process by which incandescent lamps are to be phased out of use, nor have they provided details of any exemptions to banned lighting within the legislation and their subsequent phase-out process.

Currently there are three proposals being considered and Beacon Lighting is working closely with the federal government and Australian Lighting Council to develop outcomes that benefit all stakeholders, in particular consumers.

The lighting industry expects to see a gradual phasing out of inefficient light globes.

According to Glen Robinson, Beacon Lighting Purchasing Manager, it is most likely that the government will commence the phase-out process by banning standard GLS globes in October 2008. This will be the first stage in embracing new technology that will substantially increase efficiency. Then, as energy efficient alternatives become available for other light globes, the government will ban the inefficient equivalent.

Mr Robinson said that there will be no ban on any globe format until there is a direct replacement that is tested, proven and widely available to all consumers. He expects that after the standard bulb, floodlights will be the next incandescent globe to be banned from sale in Australia.

LOW ENERGY LIGHTING IN AUSTRALIA

Lighting Efficiency

Over the next ten to twelve years the Australian government will introduce legislation to improve the efficacy of light globes. Manufacturers must gradually reduce the wattage of globes, which generates carbon dioxide, while maintaining the light output (lumen). So in the future, the most energy efficient globes will require fewer watts to generate the equivalent light which will further reduce carbon dioxide emissions from lighting.

Lighting tips to save energy

Use these tips to help reduce your household lighting:

- Replace incandescent bulbs with CFLs, especially in rooms where lights are on for long periods
- Use the lowest wattage bulb required to meet each room's lighting needs
- Turn off the lights of unoccupied rooms
- Turn outside lights off when you're not using them
- Consider using timers and sensors for outdoor lights
- Regularly dust your low energy light bulbs and fittings
- Make the most of natural light. Open curtains and blinds during daylight hours
- When you're wiring up your home, allocate one switch per light rather than turning on multiple lights with the one switch
- Use two-way switching in rooms with two exits to ensure lights are turned off when leaving the room
- Use table or floor lamps fitted with CFLs where most light is required so that you don't light unoccupied areas of the room
- Choose light fittings that allow most of the light through so a lower wattage lamp can be used. Some light fittings can block 50% or more of the light, especially those with coloured glass

Further Information

For further information visit www.beaconlighting.com.au or speak with your Beacon Lighting customer service representative.

You may also find the following websites useful:

Australian Greenhouse Office:

www.greenhouse.gov.au/energy/cfls/index.html

Lighting Council Australia:

www.lightingcouncil.com.au

LIGHTING ALTERNATIVES

Incandescent lamps

Incandescent lamps work when electricity passes through a wire filament to create energy. In use for more than 125 years, incandescent lamps are very inefficient because they convert only 5 to 10% of the energy they produce into light, and the remainder is converted to heat. Experts estimate that there are up to 500 million incandescent light globes in Australia.

Halogen lamps

Low voltage halogen downlights are the most commonly used light globes in Australia. They are a type of incandescent lamp and although they require lower voltages they are not low energy lamps. In fact each low voltage halogen lamp generates a kilogram of greenhouse gas every 15 hours which is about the same as a standard 60 watt incandescent globe.

The refit of low voltage halogen downlights requires a special light fitting therefore you need the services of an electrician to replace them with CFLs. For new homes and renovations, there are a range of CFL downlights available.

Compact Fluorescent Lamps (CFLs)

CFLs work by passing an electrical current through a gas which activates phosphor powder to give light. Put simply, they are fluorescent tubes bent into shape to fit a standard light fitting.

CFLs use around 20% of the power required by an incandescent bulb and will last four to ten times longer. CFLs are available in a range of colour outputs and designs to suit many existing light fittings around the home and office. For more information see the Fact Sheet – CFLs.

Light Emitting Diodes (LEDs)

Currently in development and touted as the next generation of lighting, LEDs are illuminated solely by the movement of electrons in a semiconductor material. They don't generate heat, contain no chemicals such as lead or mercury, and emit no UV rays or infrared radiation.

LEDs consume as little as 4 to 8% of energy when compared to incandescent bulbs and have a life expectancy of 30,000 to 50,000 hours. They are also very expensive and only available in a limited range of garden lighting. There is currently no suitable LED available for general household lighting.

LED technology is still very new however major lighting companies have committed a great many resources towards research and development in this area. Beacon Lighting expects that consumers will begin to see more LEDs become available in 2008.

Solar Lighting

Commonly used in gardens to light pathways, solar lighting is the ultimate 'green' lighting alternative. Solar lighting is entirely self-sufficient and requires only the energy from sunlight to convert into electrical energy.

3 COMPACT FLUORESCENT LAMPS

Compact Fluorescent Lamps (CFLs) are simply fluorescent tubes bent into shape to fit a standard light fitting. They work by passing an electrical current through a gas which activates phosphor powder to give light.

CFLs use around 20% of the power required by an incandescent bulb and will last four to ten times longer. They are available in a range of wattages, colour outputs and designs to fit many existing incandescent light fittings around your home and office.

On a lifetime basis, a standard 100 watt-equivalent CFL will save 480 kilowatt hours of electricity when compared to an incandescent lamp. In fact during its lifetime, just one CFL bulb has the capacity to reduce greenhouse gas emissions by as much as one tonne.

A typical compact fluorescent lamp will save around \$50 in its lifetime. Additionally you'll save the expense of six or more incandescent globes and of course you don't have to change the bulbs as often. Switching to energy efficient globes will result in reduced households lighting costs of up to 66%. This represents an annual saving of up to \$1.3 billion to Australian consumers.

Wattage

CFLs are more efficient and therefore require a lower wattage globe for the same light output (lumens).

| Ordinary Globes (Incandescent) | Energy Saving Globes (Compact Fluorescent Lamps CFLs) |
|-----------------------------------|--|
| 25W | 7W |
| 40W | 9W |
| 60W | 11W |
| 75W | 15W |
| 100W | 20W |
| 120W | 23W |

Colour

CFLs are available in a range of three colours. Bright daylight (6500K) offers a strong, bright light suited to home offices, cool white (4000K) is suited to social environments like lounge rooms, and warm white (2700K) creates a more intimate atmosphere for bedrooms.

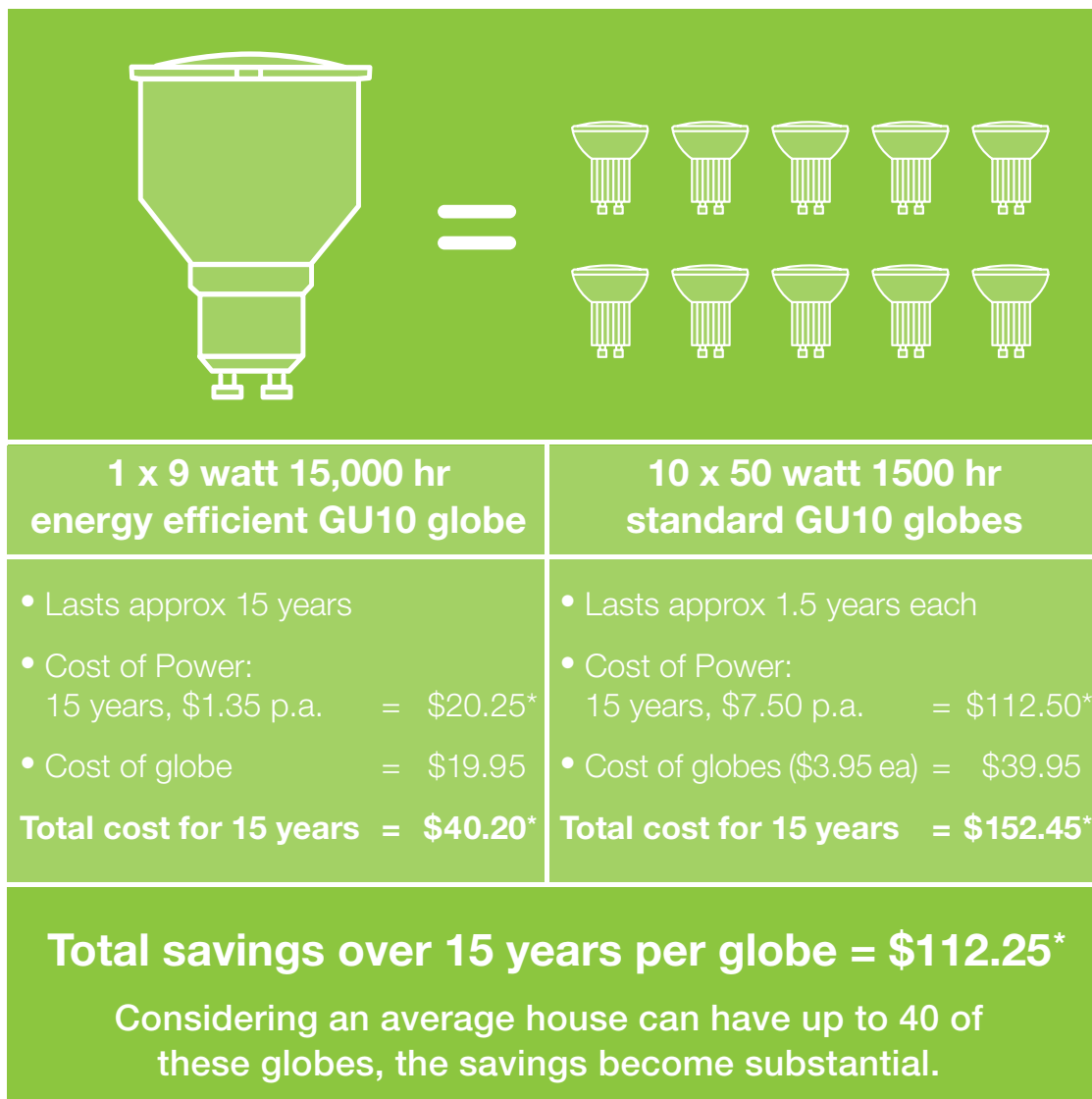
The higher the Kelvin (K) rating the bluer the colour gets. Lower Kelvin-rated CFLs have more yellow and are similar to the light colour of an incandescent globe. The Kelvin rating only refers to the colour of the light emitted, not the brightness, and different colours should be used for different situations as listed above.

3 COMPACT FLUORESCENT LAMPS

Lighting Costs

While the cost of a CFL is greater than an incandescent lamp, CFLs are cheaper when the total life cycle cost is considered.

The cost of running a light is directly related to the globe wattage plus any associated ballast or transformer. Therefore the higher the wattage, the higher the running cost. So the type of lighting you choose will affect the amount of electricity you use, your lighting bill, and greenhouse gas emissions.



LOW ENERGY LIGHTING IN AUSTRALIA

CFL Light Quality

The light quality of the latest range of CFLs is equal or superior to today's incandescent globes. And importantly, new electronically-ballasted CFLs don't flicker or hum.

While traditional CFLs deliver most of their light to the sides, corkscrew-shaped CFLs and those enclosed in frosted plastic spheres distribute light in a pattern similar to that of incandescent lamps.

However the light distribution of CFLs is different and may appear less bright than the bulb they replace unless used in a specially designed fitting. Therefore when replacing an incandescent lamp with a CFL in an existing fitting, it may be better to use a slightly higher wattage than recommended by the manufacturer to ensure adequate light output.

CFL light output can also drop slightly over time. Therefore it's important to regularly clean or dust CFLs and light fittings to maintain an optimum light output, particularly given their extended lifespan.

For more information on CFLs and low energy lighting solutions speak with your Beacon Lighting customer service representative.

Mercury Content

CFLs have a high electrical component and trace amounts of mercury, usually around 3 to 5 mg, which is required to operate the lamp. 5 mg is one fifth of the mercury found in watch batteries and 100 times less than that found in a thermometer or dental filling.

In a CFL the trace amount of mercury is sealed within glass tubing and is not dangerous to users when the lamp is in tact or in use because no mercury is released. However as mercury is a toxic substance it's important that CFLs are handled carefully and disposed of responsibly.

Handling and Disposal

Handle CFLs with care. If you break a CFL you can release mercury into the atmosphere. Gently sweep up the glass fragments and use a damp cloth to pick up fine particles. If the breakage is on carpet, use sticky tape then a damp cloth to clean up the debris prior to vacuuming. Place all debris into a sealed plastic bag for disposal and ventilate the room where possible.

In Australia there is no legislation covering the disposal of CFLs and other electronic waste, therefore it is legal to place them in your household garbage bin. Contact your local recycling and waste depot for information on CFL disposal alternatives in your community. And please do not contaminate your recyclable waste with CFLs.

FREQUENTLY ASKED QUESTIONS

SWITCHING TO LOW ENERGY LIGHTING

Q. Can I replace incandescent lights with CFLs?

CFLs are available to fit most of the common household light fittings but not all. New CFLs are being developed and tested for other lighting applications and will gradually become available.

Some special-purpose incandescent lights cannot be replaced with CFLs and are therefore likely to be exempt from the phase out process for some time. These include recessed low voltage (12 volt) downlights, chandeliers, heating lamps, bathroom lights, lamps in whitegoods, and medical and theatre lights.

Q. Can I replace my incandescent lights with LEDs?

LED technology is very new and still under development. They are currently unavailable for most lighting situations because their quality is not yet of a high enough standard. Beacon Lighting expects that an increasing range of LEDs will become available in six to twelve months and over time the high cost of LEDs will fall. For up-to-date information on the latest LED technologies available speak with the customer service team at Beacon Lighting.

Q. Can low voltage halogen downlights be replaced with CFLs?

Low voltage halogen downlights are the most common globe used in Australia today. They are connected directly to transformers and can not be retrofitted with a CFL equivalent. To replace low voltage halogen downlights with CFLs you will require an electrician to remove the transformers and install new lamp holders.

Q. Are low voltage halogen downlights energy efficient?

No. Low voltage halogen downlights are also a type of incandescent lamp. Each one generates a kilogram of greenhouse gas every 15 hours which is about the same as a 60 watt incandescent globe.

Q. Do I need to rewire my house to accommodate CFLs?

Incandescent lamps can be directly replaced with CFLs, however replacement of low voltage halogen downlights requires the services of an electrician.

Q. Are CFLs compatible with my current light fittings and what base connections do they come in?

In most cases you will be able to directly replace all globes throughout your home with CFLs, they do come in a wide

range of base types including SBC (B15), SES (E14), ES (E27) and BC (B22), they are also now available in GU10 and GX53 to replace 240 volt downlights and spotlights. However, there is currently no direct replacement for the low voltage (12 volt) downlight globe as a CFL, we anticipate this will happen in the short future and for now we recommend using 35 watt IRC lamps from a reputable brand. The 35watt IRC will give you the same amount of light as your current 50 watt globe, and will save 30% off your lighting electricity costs. So it's very easy to make savings on electricity and greenhouse gas emissions today.

Q. Do CFLs work with dimmer switches?

There are only a handful of CFLs that currently work with a standard dimmer however they are becoming increasingly available and more cost effective as new technology is developed. New products being released are both dimmable using a standard light switch or a dial dimmer. If you have a dimmer switch, speak with your Beacon Lighting customer service representative about the best low energy option available.

Q. Do CFLs work with movement sensors?

Yes, CFLs work well with movement sensors and Beacon Lighting is currently using movement sensors with CFLs in stores. Please note that it is advisable to set your sensor timing to a longer setting as constant on/off switching will reduce the life of a CFL.

Q. Do CFLs work in ceiling fans?

Most existing ceiling fans use a lineal halogen lamp. These can not be retrofitted with CFLs and are exempt from the initial phase-out of incandescent bulbs. However many new model ceiling fans are fitted with energy efficient CFLs. Just ask your Beacon Lighting sales representative for advice.

Q. Do CFLs work with touch lamps?

No, existing touch lamps won't work with CFLs because they are dimmable. However they are becoming available as manufacturers develop CFL technology.

Q. Can I replace candle lights with CFLs in my chandelier?

Megaman has just released a energy saving candle globe, however due to the fact that it is not readily available throughout Australia the ban on incandescent globes will not affect the chandelier globe.

FREQUENTLY ASKED QUESTIONS

CFL LIGHTING QUALITY

Q. Do CFLs give as much light as incandescent globes and halogen downlights?

The general equation for comparing the light output from a CFL to incandescent globes is to multiply the wattage of the CFL by 5, this will give the approximate equivalent in incandescent light. I.e..8 watt CFL = 40watt incandescent light globe. This is the same when it comes to CFL GU10 downlight globes, this is equivalent to 55 watts of incandescent light. The complication is that a 50 watt halogen is actually equivalent to 110 watts of incandescent light, therefore a 11 watt GU10 will not be as bright as the standard 50watt halogen globe.

Q. Do CFLs come in a range of lighting options?

CFLs are available in a range of three colours: Bright Daylight offers a strong, bright light suited to home offices, Cool White is suited to social environments like lounge rooms, and Warm White creates a more intimate atmosphere for bedrooms.

Q. How do CFLs perform?

The flickering and slow starting traditionally associated with fluorescent lights has been removed and new electronically ballasted CFLs don't flicker or hum. There are now very high standards that dictate the product quality of CFLs that can be sold in Australia.

FREQUENTLY ASKED QUESTIONS

PURCHASING CFL REPLACEMENTS

Q. What do I look for when buying a replacement CFL?

When buying replacement CFLs you need to choose the light output or wattage and lamp colour. If you have a dimmer switch or are unsure as to whether you can retrofit an existing light fitting with a CFL, your Beacon Lighting customer service representative can provide you with expert advice.

Q. What CFL wattage do I buy to replace incandescent globes?

Because CFLs use less energy, a lower wattage globe is required for the same amount of light you get from an incandescent lamp. As a guide, the general equation used to select the right light output from a CFL replacement is to multiply the CFL wattage by 5. For example, use an 8 watt CFL to replace a 40 watt incandescent globe.

Q. What CFL lamp colour should I choose?

The following three lamp colour options are available to suit different lighting requirements:

- Warm White (2700K) for bedrooms and other areas that require a more intimate or ambient atmosphere
- Cool White (4000K) for lounge rooms, and other social environments where a bright light is unnecessary
- Bright Daylight (6500K) for task areas in home offices and work spaces that require a brightness similar to the outdoors

The higher the Kelvin (K) rating the bluer the colour gets. Lower Kelvin-rated CFLs have more yellow and are similar to the light colour of an incandescent globe. The Kelvin rating only refers to the colour of the light emitted, not the brightness, and different colours should be used for different situations as listed above.

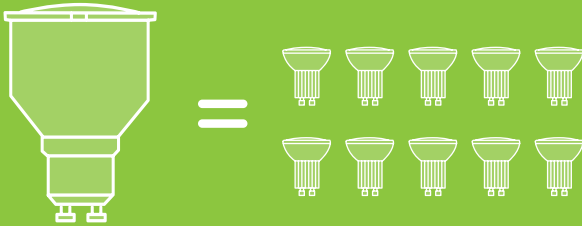
Q. How long do CFLs last?

The life of a CFL will vary greatly depending on the quality and price of the product. As a guide, a household globe is expected to run for approximately 1000 hours each year. Therefore low cost 4000 hour CFLs will last up to four years, mid priced products ranging from 6000 to 8000 hour lamps will last roughly six to eight years, and the best quality CFLs will last between 10000 and 15000 hours or ten to 15 years. The approximate years are obviously dependant on the frequency of use. Beacon Lighting always suggests buying a recognised brand to ensure your light globe lasts the stated hours.

Q. What will it cost to replace my incandescent bulbs with CFLs?

The upfront cost of purchasing CFL bulbs is greater than incandescent and halogen bulbs however the running costs are significantly lower. Government estimates suggest households will save up to 66% off their lighting bills by converting to low energy lighting.

The following table can be used as a guide:

| | |
|---|---|
|  | |
| 1 x 9 watt 15,000 hr energy efficient GU10 globe | 10 x 50 watt 1500 hr standard GU10 globes |
| <ul style="list-style-type: none"> • Lasts approx 15 years • Cost of Power: 15 years, \$1.35 p.a. = \$20.25* • Cost of globe = \$19.95 | <ul style="list-style-type: none"> • Lasts approx 1.5 years each • Cost of Power: 15 years, \$7.50 p.a. = \$112.50* • Cost of globes (\$3.95 ea) = \$39.95 |
| Total cost for 15 years = \$40.20* | Total cost for 15 years = \$152.45* |
| Total savings over 15 years per globe = \$112.25* | |
| Considering an average house can have up to 40 of these globes, the savings become substantial. | |

FREQUENTLY ASKED QUESTIONS

ENVIRONMENTAL ISSUES

Q. What greenhouse gas emissions will I save by converting to CFLs?

During its lifetime, just one CFL bulb has the capacity to reduce greenhouse gas emissions by as much as one tonne.

Q. Does it take more energy to make a CFL than an incandescent bulb?

CFLs do require a little more energy to produce however they require 80% less energy to run. Therefore over the life of the globe a CFL uses much less energy than an incandescent lamp.

Q. Do incandescent light bulbs contain mercury?

Incandescent light bulbs do not contain mercury however their use ultimately releases much more mercury into the environment throughout each bulb's lifetime when compared to CFLs. This is because the biggest source of mercury pollution is coal-fired power plants.

Burning coal to illuminate incandescent lamps releases about five times the mercury into the environment compared to burning the same coal to illuminate CFLs. This is significantly more than the mercury contained in the CFL.

Ultimately, the net benefit of using a low energy CFL is positive, particularly if the mercury in lamp is recycled and kept out of landfills.

Q. How much mercury is found in CFLs?

CFLs contain trace amounts of mercury, usually around 3 to 5 mg, with some 'low-mercury' CFLs containing as little as 1.4 mg. According to the Australian government the maximum allowable amount of mercury in a CFL is 15 mg.

5 mg is 100 times less than a mercury thermometer or dental filling and one fifth of that found in a watch battery.

Q. Is the mercury found in CFLs dangerous?

The trace amounts of mercury sealed within glass tubing in CFLs is not dangerous to users when the CFL is intact or in use because no mercury is released.

However mercury is a toxic substance therefore it's important that CFLs are handled carefully and disposed of responsibly.

Q. What if I break a CFL?

If you break a CFL you can release mercury into the atmosphere. Gently sweep up the glass fragments and use a damp cloth to pick up fine particles. If the breakage is on carpet, use sticky tape then a damp cloth to clean up the debris prior to vacuuming. Place all debris into a sealed plastic bag for disposal and ventilate the room where possible.

Q. How should I dispose of CFLs?

In Australia there is no legislation covering the disposal of CFLs or other electronic waste, therefore it is legal to place them in your household garbage bin.

However in landfills, the mercury from crushed lamps can escape and contribute to air and water pollution. Therefore lamp manufacturers are working with governments to develop sustainable solutions for recycling CFLs.

Contact your local recycling and waste depot for information on CFL disposal alternatives in your community. And please do not contaminate your recyclable waste with CFLs.

BACKGROUND

BEACON LIGHTING

Established in Victoria in 1974 and still proudly Australian owned and operated, Beacon Lighting is Australia's leading national lighting retailer. The company specialises in domestic lighting and prides itself upon being an industry leader.

For 15 years, Beacon Lighting has provided Australians with low energy lighting solutions. The company is committed to offering consumers the latest, high quality products and advice on energy efficient lighting and will continue to remain up-to-date with technology as it rapidly develops and evolves.

An active environmental advocate committed to leading by example, Beacon recently announced a pledge to reduce its power usage by 20% across the business by 30 June 2008. This will ultimately lead to a reduction of the company's greenhouse emissions by over 2 million kilograms.

Beacon Lighting's first step towards meeting this target was to fit all NSW stores with energy saving light globes wherever possible. The results will be measured at regular intervals to track greenhouse gas reductions, and the program will be implemented across all stores in the lead up to the national phase out of inefficient globes.

In Victoria, Beacon has partnered with Sustainability Victoria for the Right Advice at the Right Place program. This state government initiative is designed reduce everyday environmental impacts by influencing consumers at the time and place when they are making purchase decisions that will impact on energy use in the home.

Beacon Lighting is committed to remaining proactive and supportive of new initiatives that are beneficial to the environment.

Beacon is member of the Australian Lighting Council and, as the only national retailer on the Council, Beacon's input is vital, particularly given the company's first-hand knowledge of consumer needs. Beacon is working together with the Australian Lighting Council and Federal Government to develop the process by which inefficient lighting will be phased out of use in Australia over the coming years.

PROFILES

The following Beacon Lighting spokespeople have a broad, up-to-date knowledge of low energy lighting issues in Australia including the likely phase out process of inefficient bulbs, the latest low energy products, and future directions of lighting technology.

Glen Robinson, Purchasing Manager

Glen Robinson is Beacon Lighting's primary buyer, overseeing the product selection process which includes the review of new, local and imported product submissions, product pricing and other related issues. Glen maintains an up-to-date knowledge of the lighting industry including global lighting trends, regularly travelling overseas to source from the latest innovations and technology.

Ian Robinson, Managing Director

Ian Robinson has worked in the lighting industry for over 35 years. He established Beacon Lighting in 1974 and to this day the company remains proudly Australian owned and operated. Ian oversees the strategic direction and long-term growth of Beacon Lighting, and is also heavily involved in the buying of local and global products.

Terry Hampshire, General Manager – Commercial Development and Distribution Centre

Terry Hampshire is responsible for the development of Beacon Lighting's commercial product range sold to trade customers including architects, builders and interior designers. Terry also works with the commercial sales team to ensure members maintain an up-to-date knowledge of current and upcoming lighting products.

Glen Robinson is the primary spokesperson on this issue and should Glen be unavailable Ian or Terry are available for comment. To arrange an interview please contact Angela Bishop on 0414 392 181.