



## HOW TO CONVERT DOWNLIGHTS TO A MORE ENERGY EFFICIENT OPTION

Halogen downlights are common in Australian homes. Halogen lights are designed for 'task' lighting (e.g. bench-tops or pictures), but are an expensive option for general room lighting.

- Low voltage halogen lamps are not low energy lamps: each 50 watt lamp generates more than a kilogram of greenhouse gas every 20 hours.
- Each standard halogen downlight uses 50 watts of power and the transformer in the ceiling uses a further 10-12 watts —similar to an ordinary 60 watt globe, but you need more of them to light a room.
- Due to the heat generated by halogens, insulation cannot easily be installed over the fitting, reducing the efficiency of roof insulation.



### WHAT CAN I DO?

- There are alternatives for each of the halogen downlight types.
- 240 volt downlight lamps (GU10 type globes) can be directly replaced with an 11watt Compact Fluorescent Globe (CFG). These are available at hardware stores and over the internet for approximately \$15-20 per globe. Some CFG's are slightly longer than a normal halogen globe so you should replace one unit initially to determine if the CFG will fit.
- For 12 volt downlights (MR16 type globes), replace the 50 watt lamp with a lower wattage, higher efficiency globe, such as a 20 watt infrared coated (IRC) globe. These globes are available at hardware stores and cost approximately \$4 per globe. This will reduce lighting costs significantly.
- In 12 volt systems, both 50w and 20w lamps can be replaced by 3 watt LED (Light Emitting Diode) globes with an energy saving of around 90% over standard halogen lamps. LEDs provide a 'cold' light (nearer to daylight) and less light than a standard lamp. They are ideal for replacing halogen lamps when multiple downlights have been installed or to highlight a painting. They are less suitable for replacing one or two halogens over a kitchen bench-top (switch to 20w halogens for that situation). LED globes are available from hardware stores for around \$10 -20 each.

## HOW DO I DO IT?

- Turn off the lamp and wait for at least 10 minutes for the halogen bulb to cool down.
- Remove the safety tempered glass (by pushing it toward the bulb holder to release the clip or by removing the screws, depending on the model)
- Use a non-linen cloth to pull the bulb out of the bulb holder.
- Use a non-linen cloth to hold the replacement bulb and insert it into the holder.
- Replace the safety tempered glass: rest it on the clip while pushing it toward the bulb holder in order to make room for the glass to rest on the other end.
- Turn the lamp or fixture back on.
- Contact your local council for information on how to dispose of the old globe.

If you are planning to install halogen lights as general room lighting in your home, think again as you could substantially increase your lighting costs.

## WHY?

Throughout the year we use a lot of electricity within our homes. Electricity used for lighting an average Australian home generates around three quarters of a tone of greenhouse gas and costs around \$100 per year. A home with many halogen down lights could easily spend twice this amount on lighting. Switching a 50w lamp to a Compact Fluorescent or LED alternative will pay for itself with a few years and save you money over the life of the globe.

Remember, it's not the volts that matter: more watts means higher energy consumption, resulting in larger bills and more greenhouse gas emissions.

