

GO GREEN!



How to save electricity on lighting

Research shows that in terms of lighting and electricity consumption in your home, kitchens, living rooms and outdoor lighting are the three biggest energy guzzlers (www.eskomdsm.co.za). Fortunately, lighting is also one of the easiest ways in which you can save energy and cut down on your electricity bills, says Melissa Davidson from The Lighting Warehouse.

Davidson offers some tips on how to green your home's lighting, and in the process save money on your electricity bill and do your bit for the environment:

1. Switch to CFLs, switch to CFLs, switch to CFLs

The easiest and cheapest way to save on your lighting bill is to switch to compact fluorescent light bulbs (CFLs). Use CFLs wherever possible — not only do they provide plenty of light, but they use 80% less energy and last 8 times as long as their incandescent counterparts. Furthermore, CFLs generate a lot less heat than incandescent bulbs, which means lower cooling bills in summer.

If you have been told to stay away from CFLs due to their mercury content, remember that a lot of substances that we come into contact with in our daily lives have a much higher mercury content — a household thermometer for example contains 500mg, a tooth filling also contains 500mg, and a watch battery contains 25mg of mercury. A CFL globe contains a fifth of the mercury that is in your watch battery — only 5mg. Also, over the life of any CFL globe, the mercury it contains is absorbed into the light fitting itself, in the form of vapour and thus at the end of its lifespan, your CFL will have very little mercury left to be released into the environment.

In conclusion, just remember that by using CFL globes, you are also cutting down on the mercury emitted by the coal fires that are the main source of our electricity supply. Less electricity is required to run a CFL globe, and therefore less electricity needs to be produced by coal fires, resulting in less mercury being emitted in the energy production process. Whereas, 80% more is required by each incandescent globe we use. So by switching to CFLs, not only do you save on your own lighting bill, but you are helping not to add to South Africa's air pollution.

2. Halogen energy saving globes

Halogen energy saving globes use 20% to 30% less energy than an incandescent globe. The three main types comprise household, candle and GU10 halogen energy saving globes. The beauty of energy saving halogen globes, is that they are fully dimmable with a standard dimmer switch.

3. Using dimmer switches

Dimmer switches can be utilised with some energy saving globes. The amount of electricity saved depends on how much you dim the lights. Halogen energy saving globes are fully dimmable, which include candle, household and gu10 globes. CFL globes are, as a rule, not dimmable. You can however, get dimmable CFL globes, but you will need to also purchase a dimmable CFL-compatible dimmer switch.

4. Use motion or occupancy sensors

Motion sensors are great for outdoor security lighting as they only switch lights on when they detect movement, and automatically switch them off after 30 seconds to five minutes, so you're not paying to run them all night. They are an inexpensive and highly functional solution, and they are easy to install. In fact, many outdoor lights come with built-in motion sensors. Motion sensors can also be used for interior lighting as well — for example, if you can't remember to turn off the lights in the pantry or stairwell; a motion sensor will switch them on automatically when you walk in and shut them off for you after a few minutes. CFL globes would not be recommended here — rather use halogen energy saving globes or LEDs, seeing as your lights will be switched on and off as and when triggered by movement.

5. Daylight sensors, daylight sensor globes and fittings with built-in daylight sensors

Installing daylight sensors in your home is a great investment. No need to remember to switch those outside lights on when the sun goes down, or to switch lights off again at dawn. Daylight sensors, daylight sensor globes and light fittings with built-in daylight sensors are the perfect solution. Your lights will switch on at dusk and "magically" switch off at dawn. They also add to the security of your home, especially when you are away for long periods. CFLs, halogen or LEDs can be used with daylight sensors.

6. The viability of turning lights on and off

Whilst historically, with incandescent globes, switching lights off in rooms not in use, was a simple solution to energy saving; nowadays with fluorescents, CFLs or any inductive lighting that has a ballast, one must not switch such lights on and off. You do not need to keep switching your CFLs off, as you are already using up to 80% less energy, and switching inductive lights on and off reduces the lifespan of the globe as there is a limited lifespan on every fluorescent.

7. When design permits, use fluorescent lighting

Replace fluorescent magnetic ballasts with electronic ones — for long-tube fluorescent lighting (as opposed to screw-in CFLs), an old-style magnetic ballast might use 100W to power two 40W tubes, while an electronic ballast might use only 60W. Also, the electronic ballast eliminates flicker and usually eliminates hum. They also generate less heat, which saves additional money on cooling. These New Age tube fluorescent lamps with new electronic ballasts are a far cry from what most of us think of a fluorescent lighting — they can be great additions to places other than the garage or workshop. In fact, they are the ideal choice for providing energy-efficient recessed lighting around the perimeter of a living room, or overhead lighting in kitchens and bathrooms.

8. Rely on task lighting

You can save a lot of energy by concentrating light just where you need it and reducing background or ambient light levels. This strategy — called task lighting — is widely used in office buildings, but it makes just as much sense at home. For example, you can install a track of recessed lights to illuminate your desk or the kitchen table where you prepare your food — negating the need for the ceiling lights.

9. A solar solution — using natural light

Outdoor lighting will improve your home's security at night, and nightscaping is the ideal way of extending the enjoyment of your outdoor areas after dark. However, they can use up a lot of energy, especially if they have incandescent globes burning all night. Some low lumen energy efficient options for outdoor lighting include solar lights, which soak up the sun during the day (the sun charges the light's battery), and they come on when it gets dark. If you require a high lumen, for say your garage entrance for example, or general security lighting, then you ought to replace your incandescent globes to an energy-saving option, such as a CFL floodlight for example.

10. Maximise natural lighting

Natural lighting remains the most energy efficient and best quality lighting available to man — in the daytime. Skylights are also a great way to increase the amount of natural light in your home. Solar powered lights are great for low lumen requirements. Other ways to maximise natural light in your home include positioning mirrors so that they reflect light from a nearby window, painting your walls in a light-coloured paint with high reflective values, and installing reflective louvers or Venetian blinds to help get light deeper into the room in question.

11. LED lights are the future

Although still a bit pricey, LEDs are the future because they are 80% to 90% energy saving. Due to the lower energy consumption, there is a lower heat build-up and thus a cooler environment, so you save on cooling bills. LED globes have a lifetime of between 20 000 to 50 000 hours. Unlike CFLs, they have no mercury component, and the components are recyclable.

Melissa Davidson from The Lighting Warehouse provides these energy saving tips:

- Change your incandescent light bulbs to compact fluorescent globes (CFL's) that can save you up to 80% energy consumption per globe and can last up to 10 000 hours.
- Use daylight switches, to ensure that your exterior light fittings do not stay on during the day.
- Use time switches for interior and exterior lighting. Ensure that the swimming pool pump operates on a time switch.
- Install occupancy sensors in rooms not used all day, example office toilets, storerooms, basements etc.
- Install exterior security motion sensor lights, instead of a permanent burning light fixture.
- Only purchase or replace existing light fittings operating with electronic control gear (electronic transformers and ballasts). Electronic control gear ensures a quick start up of the light fitting, and has a much more economical running cost due to the lower heat factors
- Save energy by installing electronic dimmers — dimming a light by 50%, reduces the energy consumed by 40%.
- Use discharge lamps like high pressure sodium and metal halide for commercial exterior lighting, instead of halogen lamps. Discharge globes have the highest lumen output per watt with very high lamp life.
- Replace your normal MR16 12Volt downlighter globes with 35w IRC globes. A special infra red coating on the inside of the globe reflects the heat back to the filament. This means less energy has to be supplied from the outside to keep the filament at its operating temperature. A saving of up to 30% per globe can be achieved with IRC globes.
- Use solar powered exterior light fittings, where a high lumen output is not required.
- Start using LED globes. The big advantage of LED globes is their extended life, with longevity often reaching over 50 000 hours — they are the future.



Traditional CFLs consist of straight tubes, and are available in 11w, 15w, 20w, 26w, 32w and 48w, 105w and 150w. The wattage required is determined by the amount of light (lumen) that you require or the size of the fitting and application. Prices at The Lighting Warehouse range from R16,95, up to R299,95.



Mini spiral CFL globes are available in 8w, 11w, 15w and 20w, and in either cool white or warm white. These are used in luminaires where traditional CFLs don't fit due to their length. For example, you don't want your globe sticking up through the shade of your small table lamp. Mini spirals are therefore mostly designed to be approximately the same length as the old household incandescent globes. Prices at The Lighting Warehouse for these globes range from R24,95 to R59,95.



The 3w LED globes are available in MR16 12Volt and GU10 240Volt, and are used in down-lighters or spotlight fittings to replace the normal 50w MR16 and GU10 globes. These globes have a lifespan of up to 20 000 hours, as opposed to the 1 000-hour lifespan of halogen globes. Because LED globes operate at such low temperatures, the lifespan of the luminaires are substantially increased. LED globes use 3w only, as opposed to 50w of a normal halogen globe. This 3w led globe (both the MR16 and the GU10) retails at the Lighting Warehouse for R149.95.



The 7w CFL candle globes are great for chandeliers or pendants where the globe is exposed and you want the traditional candle globe look. Installing traditional CFLs on a beautiful antique crystal chandelier for example, will completely spoil the look. The CFL candle globes are available in 7w, and replace the incandescent 40w candle globe. They last up to eight times longer than their incandescent counterparts, and operate at 80% less heat. They are available from The Lighting Warehouse at a retail price of R24,95, and give off a warm white glow with an opal glass finish. A dimmable version is available in 5w at R89,95, which is ideal for those chandeliers or pendants in the dining room or lounge. This will however require a matching compatible dimmer switch.



Halogen energy saving globes use 20% to 30% less energy than a traditional halogen (incandescent) globe. There are three main types, including:

1. 28w or 42w candle globe (equivalent to 40w and 60w incandescent candle globe);
2. 42w household globe (equivalent to 60w incandescent);
3. 40w gu10 halogen globe (equivalent to a 50w incandescent gu10).

The beauty of halogen energy saving globes is that they are fully dimmable with a standard dimmer switch. At The Lighting Warehouse, their price ranges from R24,95 to R39,95.

Note: Globe prices are at date hereof / November 2010 and only avail at The Lighting Warehouse branches. Stocks are limited.

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