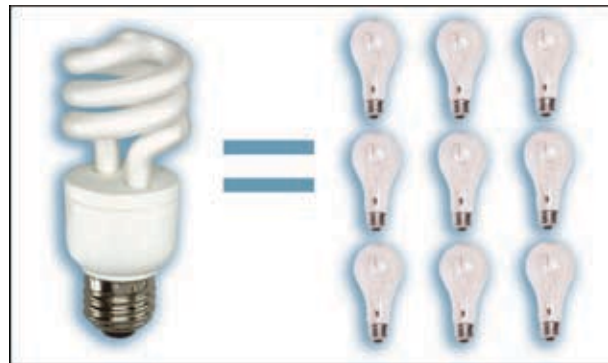


Energy efficient lighting

A fluorescent lamp or fluorescent tube is a gas-discharge lamp that uses electricity to excite mercury vapor in argon or neon gas, resulting in a plasma that produces short-wave ultraviolet light. This light then causes a phosphor to fluoresce, producing visible light.

- Replace incandescent globes with new energy-efficient compact fluorescents.
- A typical 100W incandescent globe produces 13 lumens per watt of electricity used, while compact fluorescents (CFLs) produce 45 – 60 lumens per watt, meaning CFLs require 50% to 80% less energy to produce the same amount of light.
- CFLs are so much more energy-efficient than incandescent globes because most of the energy consumed by incandescent globes is dissipated as heat (and not light). This reduced heat output means that thermal gains are reduced resulting in a reduced need for airconditioning.
- A further benefit is that CFLs last up to 10 times longer than incandescent globes.
- CFLs get dimmer with age allowing them to be changed before failure.



"In South Africa, a single CFL globe can reduce CO2 emissions by 1 000 kg over its lifetime"

Application: Everywhere, except where dimming is necessary.

Ease: 5/5

Availability: 5/5

Factors to consider:

Ensure that all existing fluorescent strip lights are operating with electronic ballasts this can save up to 25% over the old style magnetic ballast.

Virtually all fluorescent lights contain mercury so appropriate disposal is important.

Electronic ballasts usually consist of several electronic components, tend to be very small and light, while magnetic ballast are heavy and come usually in a longish format.

Cost: typically R15 to R25 per bulb

Payback: 6 to 12 months

Requirements to meet criteria:

- All incandescent globes must be replaced with energy efficient compact fluorescents, unless not possible due to a requirement for dimming or other factor.
- All fluorescent strip lighting must be fitted with an electronic ballast.



Typical magnetic Ballasts



Electronic Ballast