

Stop the Switch, Save The Bulb!

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The Problem

- Replace GLS incandescent with CFLi
- 2.1 Billion GLS sold each year in Europe,
 - European Lamp Consortium figure
- Equates to 350 Million CFLi each year
 - Assuming 6000 Hour life



Disposal

- Difficulty persuading public to recycle
- Each lamp contains 3mg to 5mg Mercury
- Land fill worst method of disposal
 - Microbes create Methyl Mercury
 - 20 times more toxic than metallic mercury
 - Concentrated in fish fat
 - Eaten for Omega 3 fatty acids
 - Increased degenerative brain diseases



Recycling?

- Minimal recovery
 - Mercury
 - Glass only fit for road stone or glass wool / glass fibre (not optical!)
 - Plastics and circuit shredded
 - Less than 1gram out of 80 grams fully re-usable
- Few companies will accept these lamps for recycling
 - Silicone covered lamps break machines
 - Magnetic amalgam pills get



Mercury

- Argument from manufacturers:
 - GLS produces more mercury from generation
 - Only true if all GLS supplied by coal fired generation!
 - UK 30% coal fired
 - France 80% nuclear
 - Poland near 100% coal!
 - China 80% Coal
 - Emissions unknown.
 - Mercury in soot, ash and flue gas
 - Quantity of mercury depends on source of coal
 - All figures based on USA coal analysis
 - Coal fired power stations produce more radioactive emissions than all nuclear power stations
- CO2
Emission



Embodied Energy

- Much misinformation from manufacturers
 - “Convenient” figures , CFLi = 6X energy for GLS
- Actual Figures from VITO study for EU:

- Energy used in manufacture:

GLS 1MJ = 0.28KwH
KwH

CFLI 12MJ = 3.33

- Pollutants created in manufacture:

GLS 5g none hazardous
hazardous

CFLI 128g of which 78g

- Factor is 12 not 6



Quality of Light

- CFLi clearly inferior when compared directly
 - Colour rendition CFLi Ra 85 GLS Ra 99
 - Colour appearance CFLi pink or green GLS neutral
- Misapplication
 - Cold colour appearance in domestic setting
 - Corridor lighting on occupancy switch gloomy
 - Lamps too long for down-lights
 - CFLi in spotlight fittings
 - CFLi in crystal chandeliers dead, no sparkle



Real Alternatives?

- Osram Halogen A
 - TH capsule in GLS envelope
 - In the market in UK at €1.75
 - 42 W equal to 60W (nearly!)
 - 15 LmW
 - 2000 hours rated life
- Philips Eco-Boost CHLi
 - LV TH capsule and gear
 - 30W equal to 60W (almost!)
 - 21 LmW
 - 3000 hours life?
 - Power factor 0.9
- GE HEI technology incandescent 2010
 - 30 lumens per watt incandescent

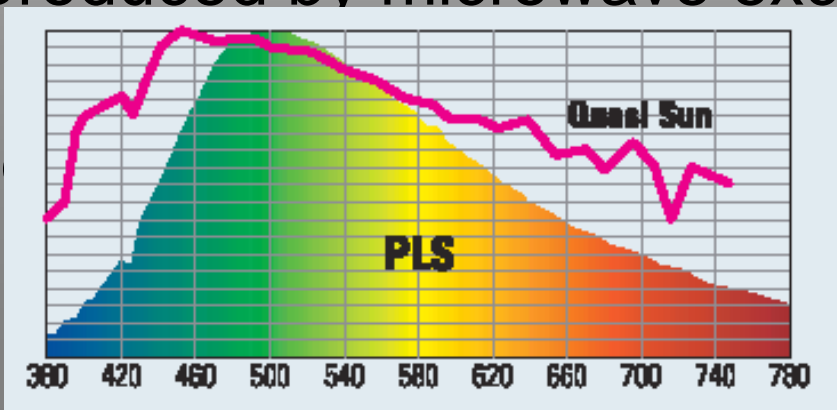


High Output

- Sulphur-Plasma Lamp

- Developed in early 1990s, Patents bought by LG
- Broad spectrum
- No Mercury
- 85 Lumens per watt from fittings
- Very High output, 62,000 fitting Lumens
- High bay and Light pipe applications
- Light produced by microwave excitation

- Lamp
limit lif



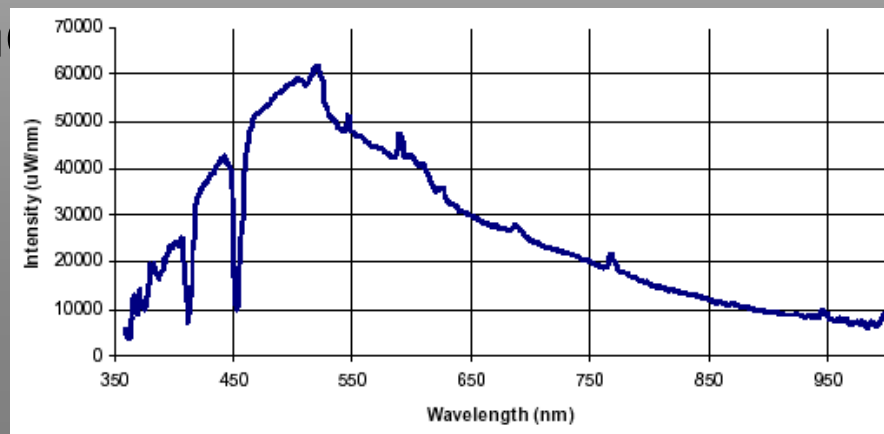
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Tight Focus

- Luxim

- RF Metal halide
- Dimmable
- Broad spectrum
- Small directional light source, easy optical control
- 50-60 lumens per watt
- Long life, 20,000 hours
- No m



www.savethebulb.org

