

South Africa Lighting Profile



Overview

South Africa has already a compulsory specification policy for General Service Lamps (GSLs) at an advanced stage. South Africa's National Regulator for Compulsory Specification (NRCS) set out compulsory specifications for safety performance and energy efficiency and functional performance requirements of General Services Lamps: VC 9110 and VC9109 respectively. The proposed VCs will phase out lighting products which do not meet the specifications and would be removed from the market in two phases: the first taking effect twelve (12) months from publication in the Gazette; and the second phase taking effect in 2024. These new regulations for general-purpose light bulbs in South Africa will make it unlawful to continue selling the compact fluorescent lamps that are currently on the market.

These specifications are in line with UNIDO's Energy Efficient Lighting and Appliances (EELA) Project, which drives markets towards energy-efficient lighting and appliances across East and Southern Africa. Through the EELA project, SADCSTAN adopted a regional policy (SADC HT 109:2021) which will phase out all fluorescent and halogen lamps, in favor of LEDs. However, South Africa has not yet "domesticated" the regionally harmonized SADCSTAN standard.

South Africa led the region in phasing out the use of incandescent lighting and is on track to abolish CFL lights.

Benefits of the African Lighting Amendment (2022)	Value
Avoided compact fluorescent lamp sales, CFL phase-out in 2024 (cumulative, 2024-2050)	38,288,466 lamps
Avoided linear fluorescent lamp sales, LFL phase-out in 2025 (cumulative, 2025-2050)	90,306,453 lamps
Total mercury in fluorescent lamps avoided (CFL in 2024, LFL in 2025, cumulative to 2050)	900 kilograms
National energy savings, fluorescent phase-out (CFL in 2024, LFL in 2025, cumulative to 2050)	76.0 TWh

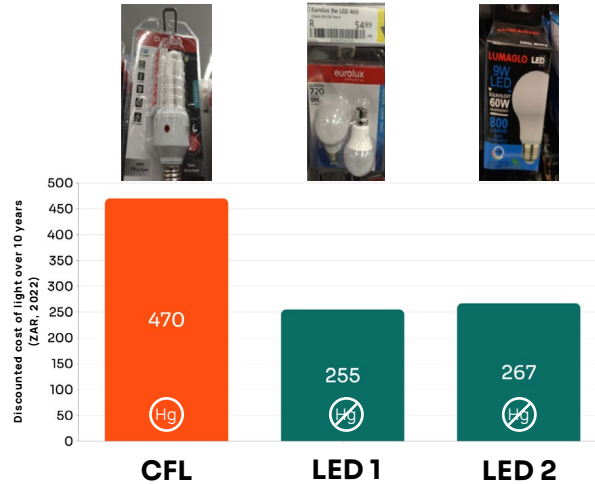
Economic Analysis

CFL to LED

Switching to LED in South Africa offers an instantaneous payback, because the LED lamp is less expensive than the CFL.

Additionally, the LED lamp consumes half as much power as the CFL – so electricity bills are halved over the lamp lifetime – yet the LED lamp produces the same amount of light.

Making the swap to LED will save consumers approximately ZAR 200 over the lifetime of the LED retrofit lamp.



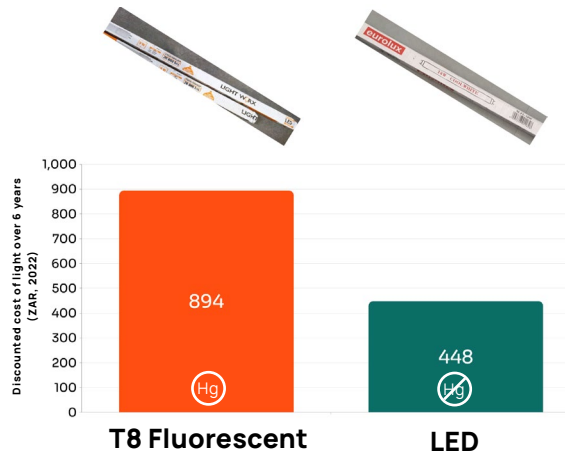
Photos of lightbulbs used for comparison. (Q4 2021)

Price for one lamp (ZAR):	50	27	40	ZAR/lamp
Price for one lamp (USD):	3.25	1.79	2.60	USD/lamp
Lamp wattage:	15	9	9	Watts
Rated lamp lifetime:	6,000	15,000	25,000	Hours
Annual electricity consumption for each lamp type:	16.4	9.9	9.9	kWh/year
LCC of operating lamp for 6 years discounted to 2022:	470	255	267	ZAR (NPV, 2022)
Simple payback period in months, compared to fluorescent:	-	instant	instant	months
CO2 emissions due to electricity for one lamp operating for 6 years:	136	82	82	kg CO2/10 yrs

LFL to LED

The LED tube is less expensive than the linear fluorescent lamp on a first-cost basis, so the payback period is instantaneous. Furthermore, the LED lamp consumes half as much power as the fluorescent tube – so electricity bills are halved over the lamp lifetime.

Switching from fluorescent to an LED retrofit tube will save approximately ZAR 450 over the lifetime of the LED lamp.



Photos of lightbulbs used for comparison. (Q4 2021)

Price for one lamp (ZAR):	40	39	ZAR/lamp
Price for one lamp (USD):	2.6	2.54	USD/lamp
Lamp wattage:	18	9	Watts
Rated lamp lifetime:	13,000	20,000	Hours
Annual electricity consumption for each lamp type:	59.1	29.6	kWh/year
LCC of operating lamp for 6 years discounted to 2022:	894	448	ZAR (NPV, 2022)
Simple payback period in months, compared to fluorescent:	-	instant	months
CO2 emissions due to electricity for one lamp operating for 6 years:	294	147	kg CO2/10 yrs



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