



THE ROAD TO
ZERO WASTE
EASTERN CAPE
CONFERENCE 2015

Shining the Green Light on waste lighting lamps

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South Africa

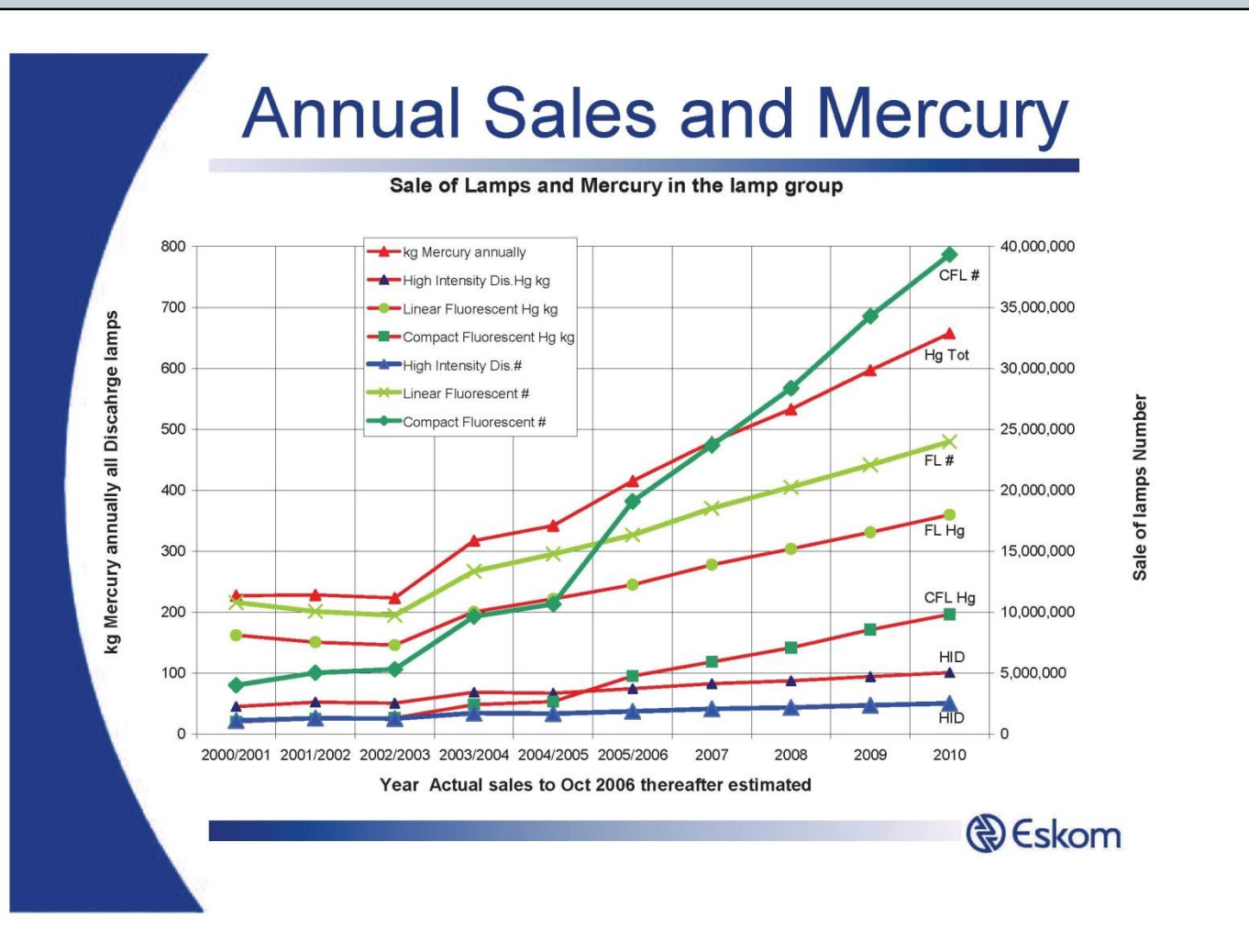


Introduction

- Lighting lamps are essential for modern day living
- They are found everywhere such as households, factories, roads, schools, hospitals, stadiums, hotels, vehicles, torches etc. etc. – the list is endless
- Millions of lighting lamps are imported into South Africa annually to satisfy this demand for light



How Many Fluorescents Are Importedor how much Mercury is imported ?



Where Most End Up

- Eventually these lamps reach end of life
- Most of these are discarded with municipal waste (households), and all mercury containing lamps, will release mercury into the environment through breakage or leakage, outside a controlled recovery and recycling process



What Happens Over Time

Mercury Bioaccumulates : The Mercury Life Cycle



Different Lamp Types Contain Hazardous Substances



HID >400W = >400 mg
Mercury, Electronics



Linear Fluorescent Tube = 15 to 20 mg
Mercury, Electronics



Halogens = Electronics,
Lead Solder



LED's = Electronics, Arsenic



Compact Fluorescent Lamps =
3 – 8 mg Mercury, Electronics



Sodium Vapour Lamps = 50 to
200 mg Mercury, Electronics

Note: All lamps types are classified as Hazardous

The Solution

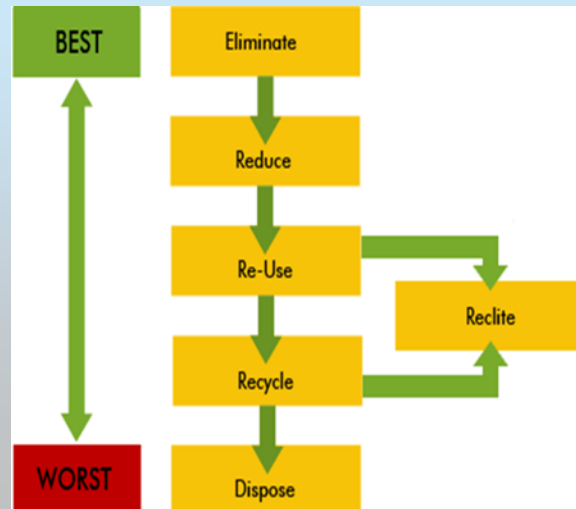


By Recycling !



Why Recycle

- Removes mercury from the environment
- Recovery of resources - All the components (100%) of the fluorescent lamp is recovered and recycled for re-use in similar or other applications
- Reduces volume to landfill (waste minimisation)
- DEA's landfill directive from July 2016 restricting lamps to landfill (Government Gazette, No. 10008, Volume 578, No. 36784, dated 23 August 2013, page 44)
- Employment and Skills development

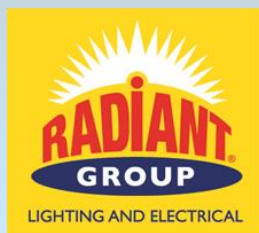


Joint Efforts Required

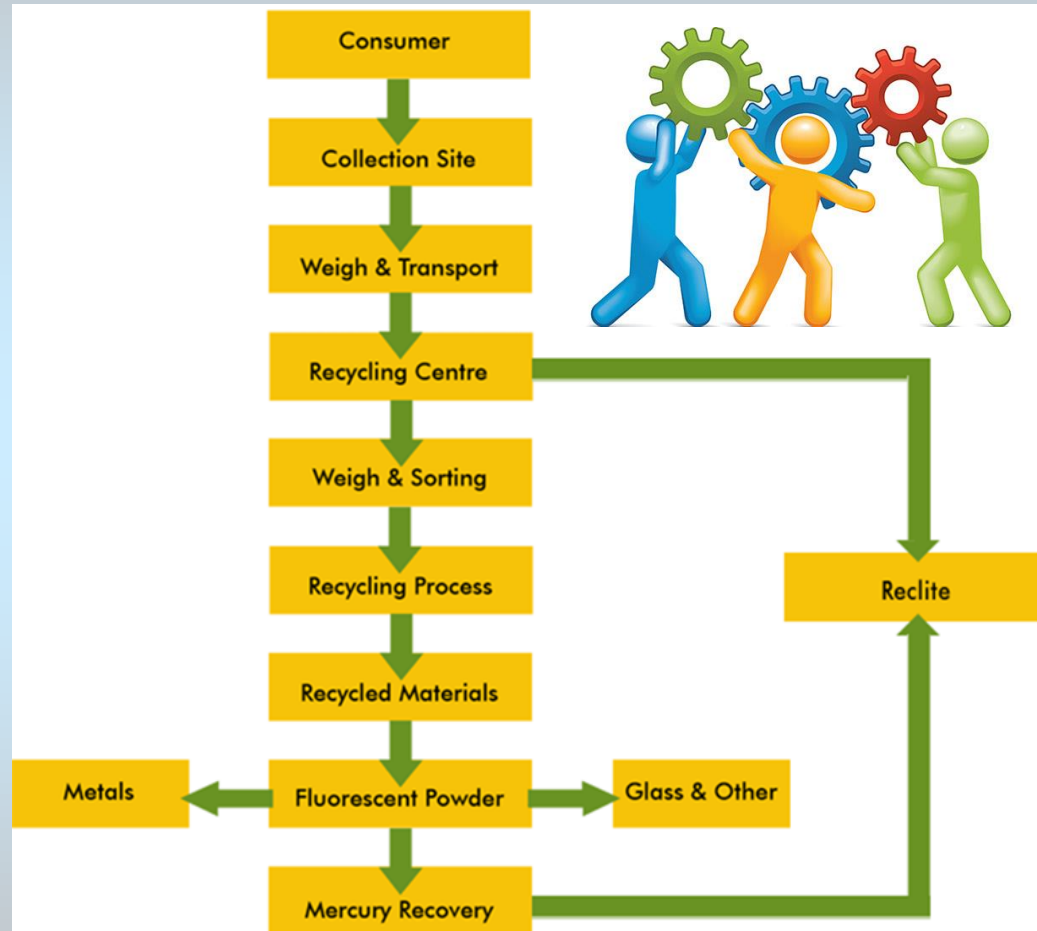
- Government & Local Municipalities
- Manufacturers and Importers (EPR)
- Large Industry
- Small Businesses
- Retailers
- NGO's
- General Public
- Power Utility Providers
- Waste Service Providers



Partners and Support Groups

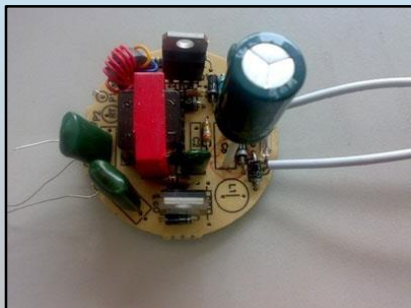
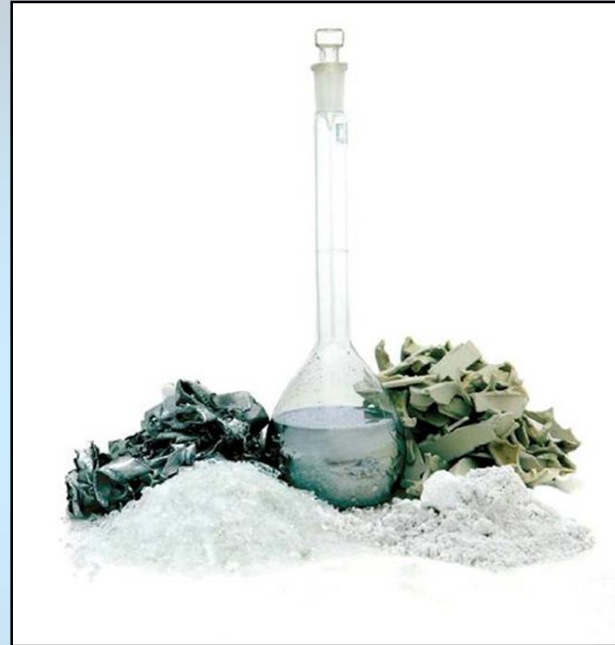


Complete Recycling Process

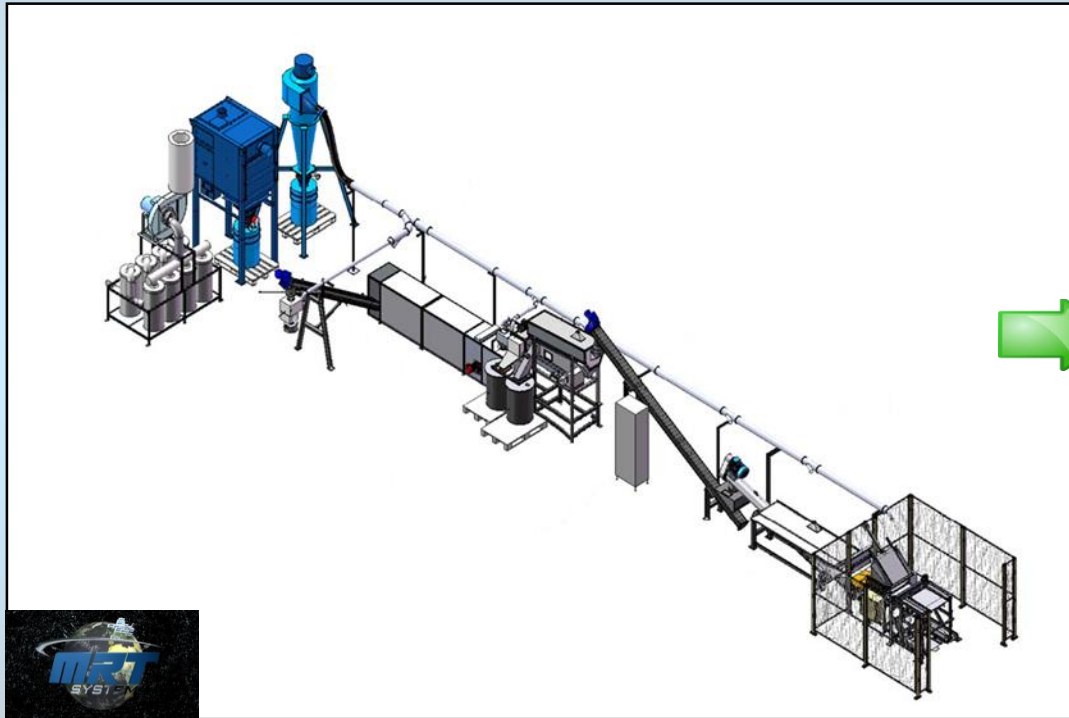


Recovered Clean Resources

- Glass
- Plastic
- Fluorescent Powder
- Non Ferrous and Ferrous Metals
- Mercury
- Electronic Components



World Class Swedish Technology



- Compliant and safe plant
- High processing capacity of lamps per hour and the versatility of the plant allows for processing of all lamp types of varying sizes and shapes
- Operating conditions meet the toughest environmental standards
- World benchmark for the best available technology for lamp recycling and mercury recovery
- 380 + plants in operation worldwide – many being used by the lighting industry as the preferred technology
- Processing efficacy of the plant ensures that all the recovered fractions are clean for re-use in other applications.
- Tests are conducted on all recovered materials in certified laboratories and test results are used for proving suitability and cleanliness for re-use in the same or new applications

Safe Management of Waste Lighting Lamps



- Fluorescent lamps should not be crushed in improper crushers as these examples as it creates a serious risk of exposure to vapours and shooting glass fragments, as well as environmental degradation, this is bad practice



Reference: U.S EPA, Mercury Lamp Drum Top Crusher Studies (2006)

- Linear fluorescent tubes must not be stored on their end pieces. Linear tubes are weakest when stored vertically and subsequently easily broken



Use Certified Safe Collection Bins



- Safe and Secure to minimise breakages and multiple handling
- Stackable for efficient storage and transportation - Safety Factor = 10
- Flat packed for efficiency in use and delivery
- Re-usable many times and recycled once no longer usable
- Panels can be replaced at fraction of cost
- Light and easy to lift and designed for safe transportation

In –Situ Safe Steel Collection Bins



- Strong and durable powder coated steel
- For external, high traffic or wet areas
- Can be bolted in place and emptied when full
- Lockable and secure

Ensure the use of safe, compliant collection vehicles





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Thank you for your attention. Any questions?

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RECLITE
RECYCLING THROUGH INNOVATION

**DON'T THROW YOUR
OLD LIGHTS AWAY,**

**RECYCLE
THEM!** 

