

#### Sustainability for Facilities and Waste Management

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Oringing inea

# Facility Management for Waste Management

# Integrating sustainability within the operational environment



to life

## Definitions

**SUSTAINABILITY** is the quality of not being harmful to the environment or depleting natural resources, and thereby supporting long-term ecological balance

**SOLID WASTE MANAGEMENT** refers to the supervised handling of waste material from generation at the source through the recovery processes to disposal.

**SUSTAINABLE WASTE MANAGEMENT** can be defined as using material resources efficiently to cut down on the amount of waste produced, and, where waste is generated, dealing with it in a way that actively contributes to the economic, social and environmental goals of sustainable development.

**INTEGRATED SOLID WASTE MANAGEMENT (ISWM)** is a comprehensive waste prevention, recycling, composting, and disposal program. An effective ISWM system considers how to prevent, recycle, and manage solid waste in ways that most effectively protect human health and the environment



# SOUTH AFRICA AND OUR WASTE Facts that might shock you... or not.

Only 10% of waste generated in South Africa is being recycled annually - 65% of waste generated in SA is recyclable	Gauteng Province contributes about 45% of the total waste generated in the country	An average person in SA will throw about 900 times their adult body weight of waste in their life time	Over 1 million tonnes of plastic are thrown away in South Africa each year
Less than 5% of people in the South Africa separate their waste at household level.	Waste incinerators create more CO2 emissions than coal, oil, or natural gas- fuelled power plants	Recycling one aluminum can saves an amount of energy equivalent to half that can filled with gasoline	Every year some 45,000 tons of plastic waste are dumped into the world's oceans.
Food waste is the third largest component of generated waste	The energy saved by recycling one glass bottle can light a 100-watt light bulb for four hours or run a computer for 30 minutes	Recycling one million laptops saves enough energy to power over 3000 homes in a year	The energy saved by recycling one glass bottle can light a 100-watt light bulb for four hours or run a computer for 30 minutes



For every 10% recycled glass used to make new glass containers, energy costs drop 2-3 % Every ton of glass containers recycled saves over a ton of natural resources Recycling aluminum creates 97% less water pollution than making new metal from ore



## Waste Management in Facilities Gringing ideas





# Need for a Waste Management Strategy



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### Facilities are to consider :

Green buildings	Energy usage	Water management and monitoring	ie. air conditioning systems, the control of emergency generators and a load control system
Mobility masterplanning	Waste management	Animals	Conservation
7	Tree-planting	Sustainability management	

Sringing ideas

### Waste to consider and handle

Food and Beverage waste

Complex materials eg coffee cups

Packaging

Separating waste

Carbon footprints

Circular economy (cradle to cradle)





#### "WASTE EQUALS FOOD"

The main trademark of Cradle to Cradle is undoubtedly the "waste = food" concept. Cradle to Cradle is based on the idea that after the use of products and services, the embedded materials, water and energy cannot be wasted.

Cradle to Cradle would however make optimal use of these resources by pertinently creating continuous material loops. In short, this is understood as closing the material cycle.



## **Critical Success Factors**

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Mandatory recycling and composting legislation Plans must be Integrated inclusive to all community communities engagement strategy and including small education and rural communities. program **SUCCESS FACTORS** The waste management Sufficient model must be funding a closed-loop system Commitment by facilities



## Limits and Opportunities

#### Know your limits

- Limited to relying on the public / generators
- Minds of generators is set to "throw away" not to immediately recycle
- Segregate and recycle correctly cannot be placed solely in hands of generators
- Only facilitate a point for waste to be thrown away in public realm
- Facilities are limited to what ends up in bins

#### **Recognize your opportunities**

- Once waste is in the bin the opportunity to customize your handling of waste is great
- Use of various technologies eg. Collection cars, chutes etc.
- Facilities have the opportunity to develop a system that best suits their own operations
- Sustainability is not defined by a specific context therefore facilities need to customize their path
- 11 towards reaching their goals of waste recovery.





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