



Cairo University

Integrated Waste Management

Reduce, Reuse & Recycle

Greeny Green 0.3

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GREENY GREEN 4.0

10 JAN - 22 FEB 2019



EP Fee RM550
+
Living cost: RM2500



Accommodation Provided
Covered (RM500 utilities)



Airport pickup and
departure support
covered



Field visit covered



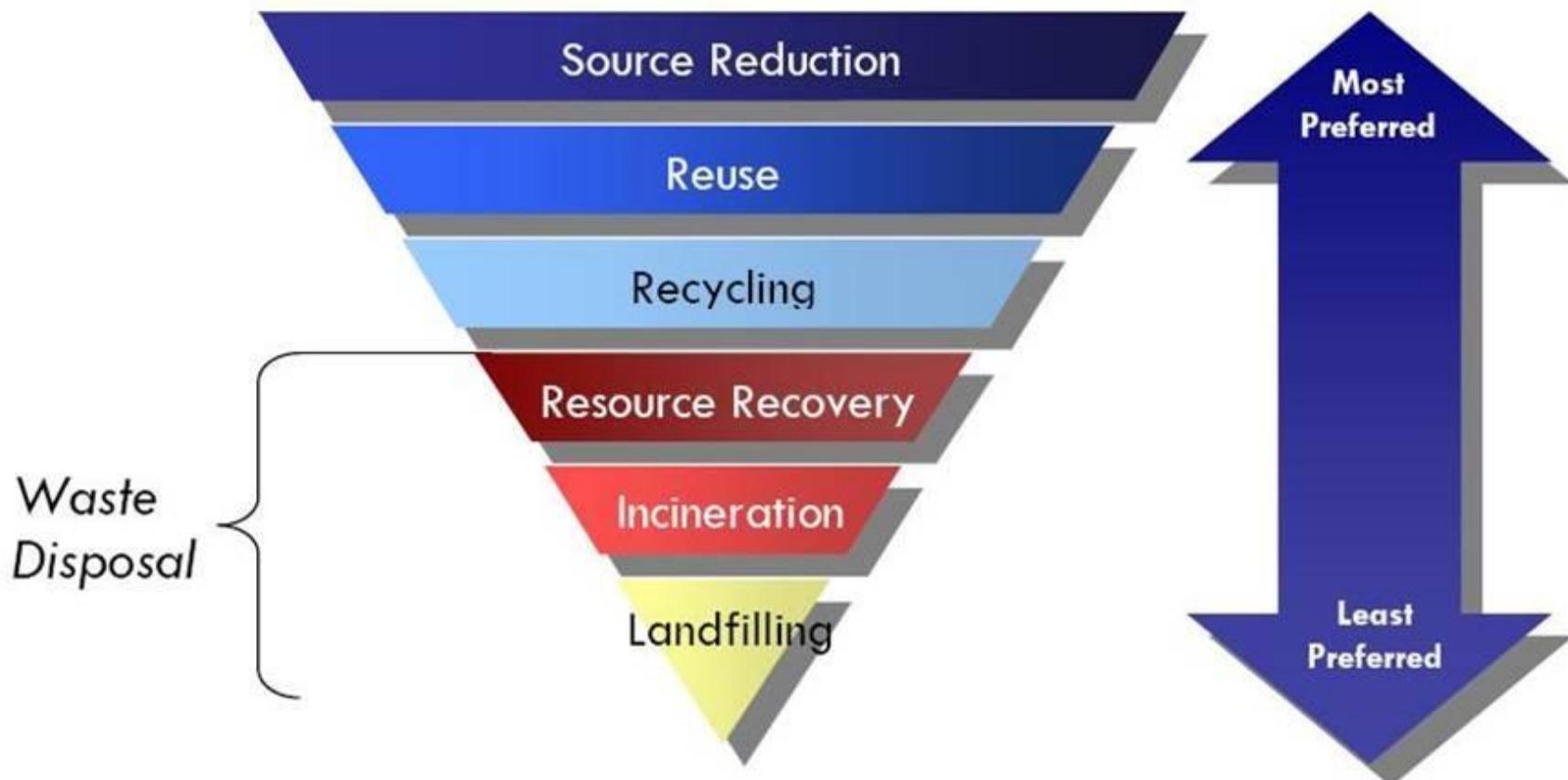
18 slots available



This project has widened my view towards the people, environment and world. I have become more open-minded and embrace different cultures. It provides a platform for me to improve my mistakes and be better version of myself.
-Lee Hui Jun, China



The Solid Waste Management Hierarchy



Integrated Solid Waste Management:

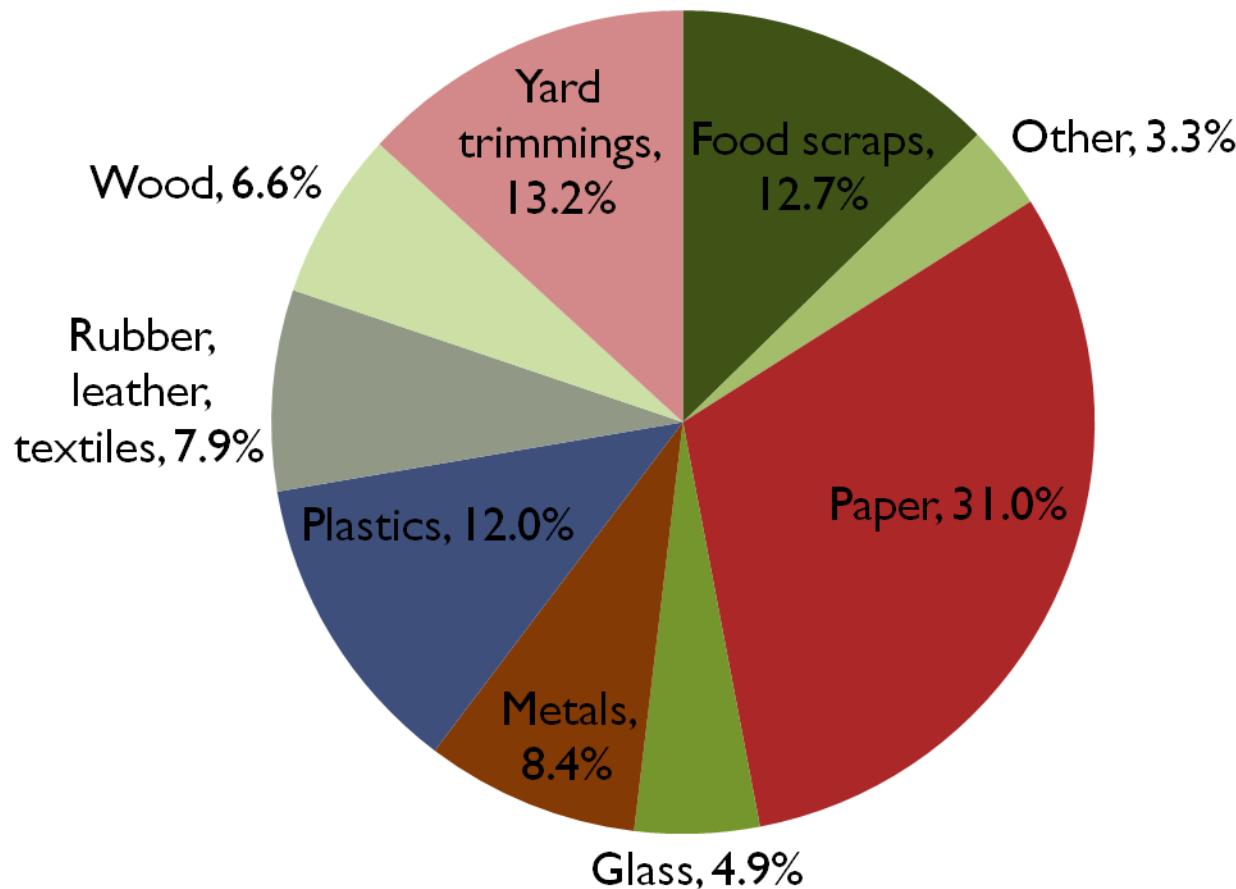
- A set of plans to manage solid waste
- Adopted by many governments
- A means of achieving sustainability

Why Manage Waste?

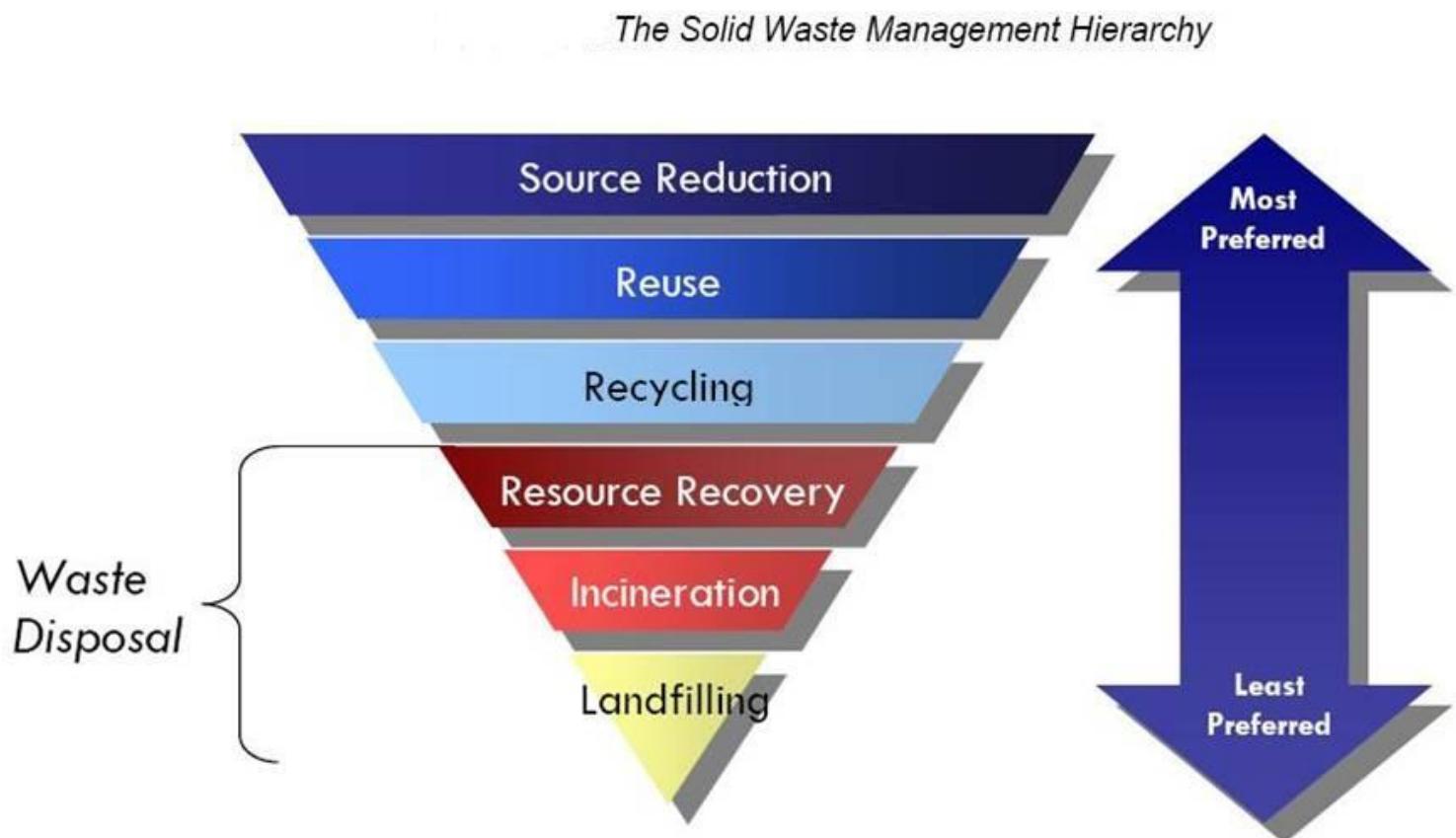
- Conserves resources & energy
- Reduces water & air pollution
- Saves landfill space
- Waste = Food
 - In nature there is no waste
 - Cradle to cradle design
 - Product components are recyclable or biodegradable
 - Extended Producer Responsibility (EPR) or Product Stewardship



Total US MSW Generation 2008 (by material) EPA



Source Reduction



Source Reduction or “Reduce”

- Preferred method: Prevents the generation of waste in the first place
- Manufacturer: Decrease materials/energy used during manufacturing/distribution
- Consumer: Purchase items with minimal packaging, avoid disposable products
- Includes backyard composting



Reuse

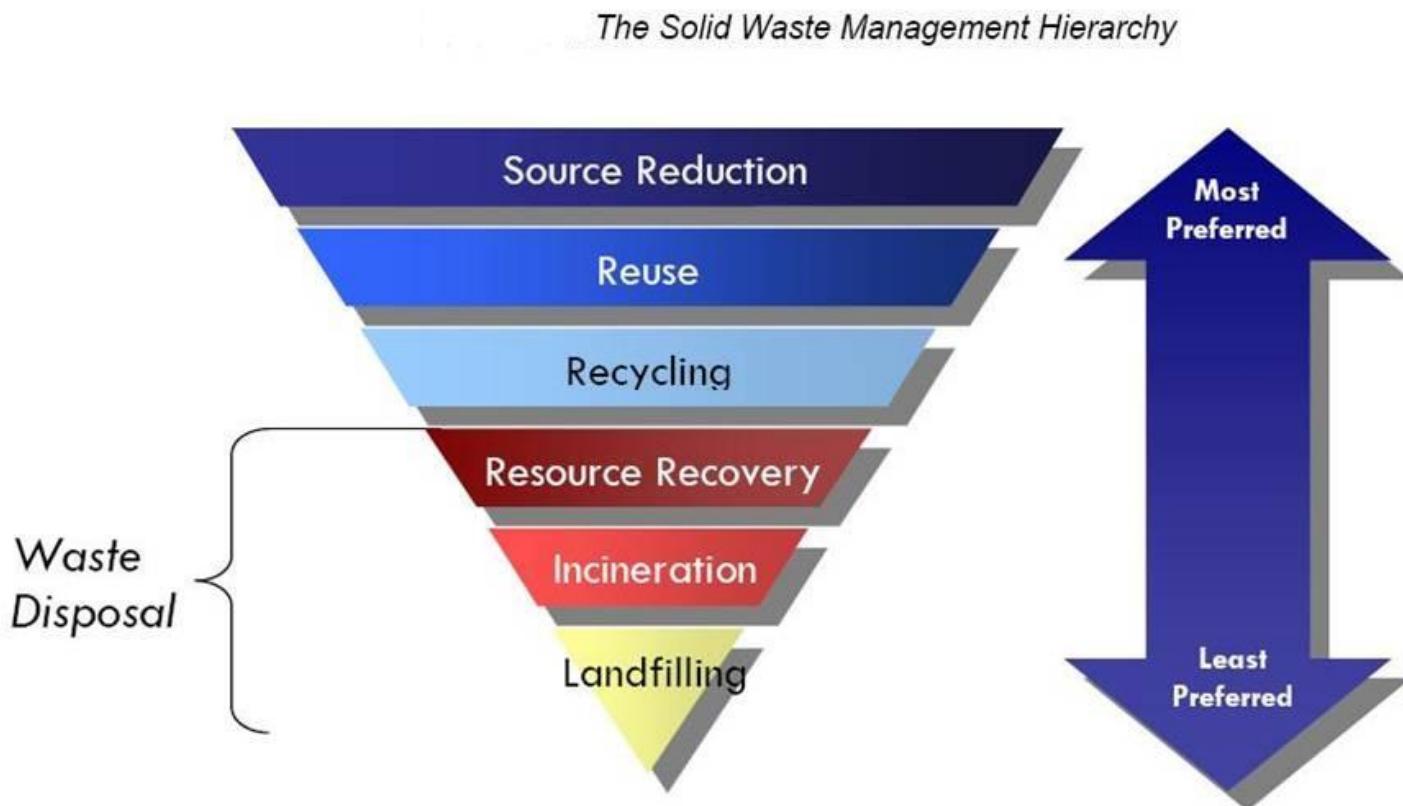


Image: Fairfax County Solid Waste Management

Reuse



- Prolonging a product's usable life
- Repairing items, selling them or donating them to charity
- Using durable rather than disposable items (i.e. reusable shopping bags, metal spoons)
- Preferable to recycling because item does not need to be collected/reprocessed

Metal vs. Plastic Spoon

- Cost to Purchase:
 - 50 cents for metal vs. one cent for plastic
- Cost to Produce & Maintain:
 - Resources (metal, petroleum, water, chemicals, etc.)
 - Energy used (in extraction, manufacturing, transportation)
- External Costs:
 - Pollution (during extraction, manufacturing, transportation)
 - Disposal (landfill, incineration, litter clean-up)
- Savings from repetitive use of metal spoon:
 - Priceless!



Recycle

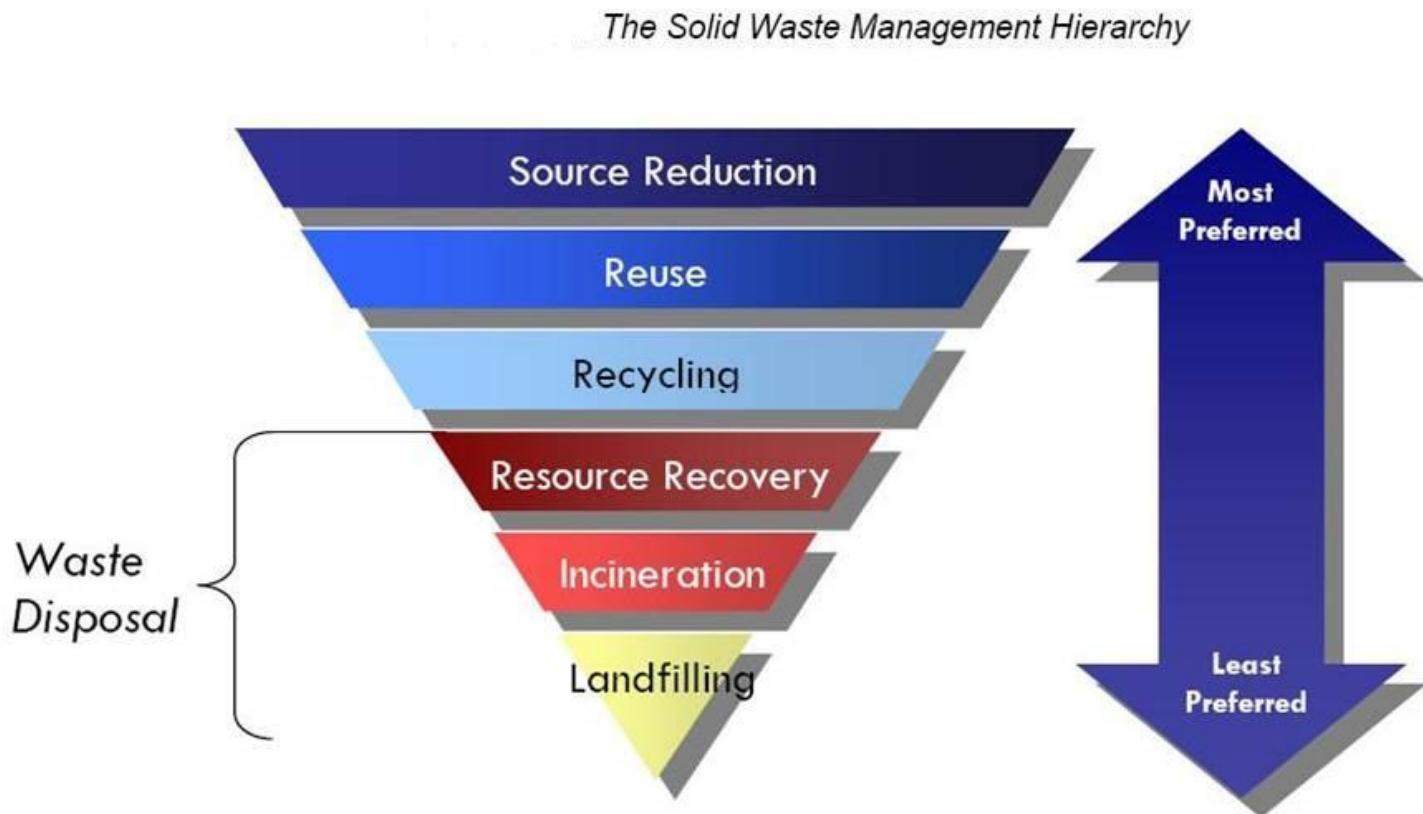


Image: Fairfax County Solid Waste Management

Recycle



- Taking a product at the end of its useful life and using all or part of it to make another product
- Benefits: Saves energy, natural resources, and landfill space, reduces pollution, creates jobs and useful products
- Requires collection, processing, remanufacturing and purchase (Close the Loop!)
- EPA estimates 75% of our waste is recyclable

Think Green



Waste Disposal

Last in the Hierarchy

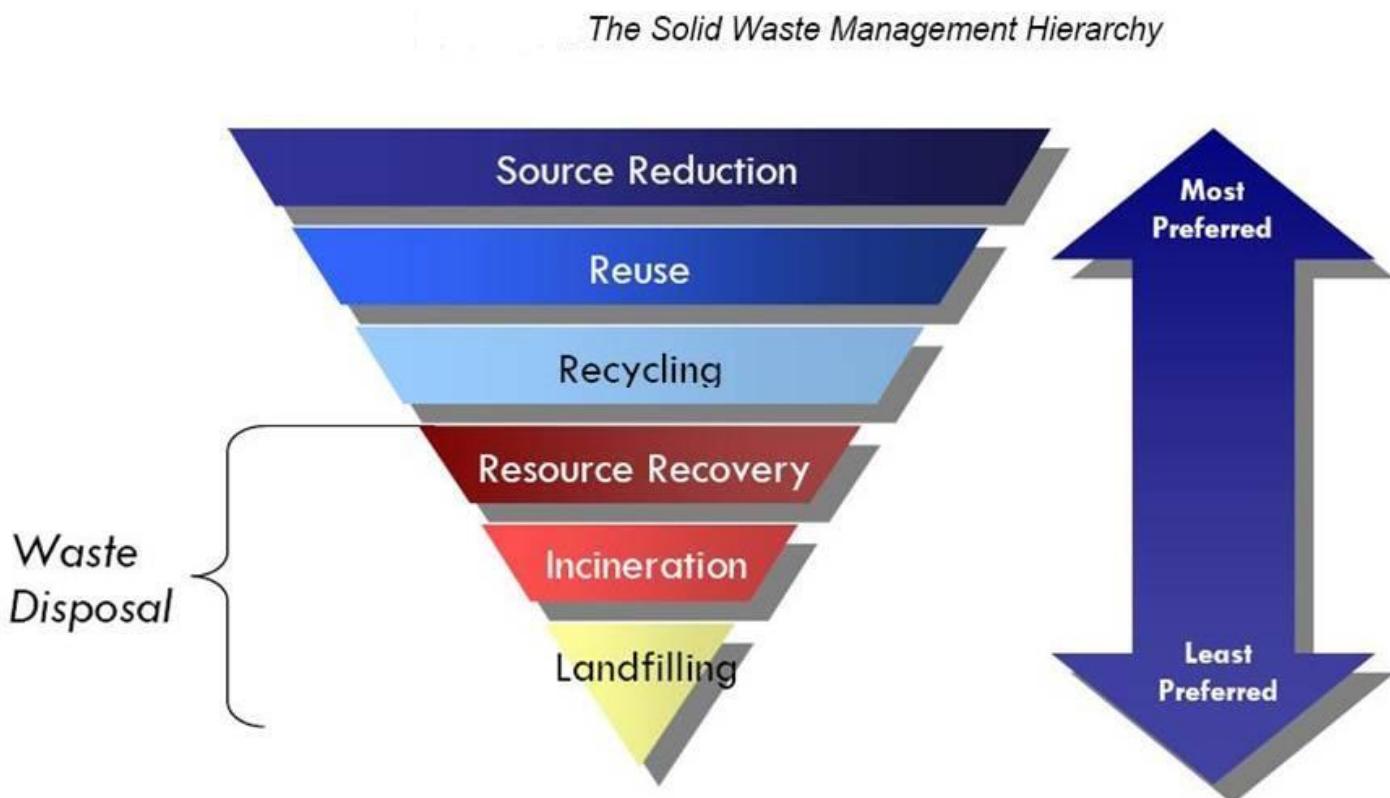


Image: Fairfax County Solid Waste Management

Waste Disposal Resource Recovery

- Resource Recovery (AKA Waste-to-Energy):
Waste is burned to produce energy
- Preferred to landfilling – reduces bulk of
municipal waste to ash and provides energy
- Downsides:
 - Some items may be difficult to burn or
cause potentially harmful emissions
 - Strict regulatory restrictions and high
environmental and economic costs



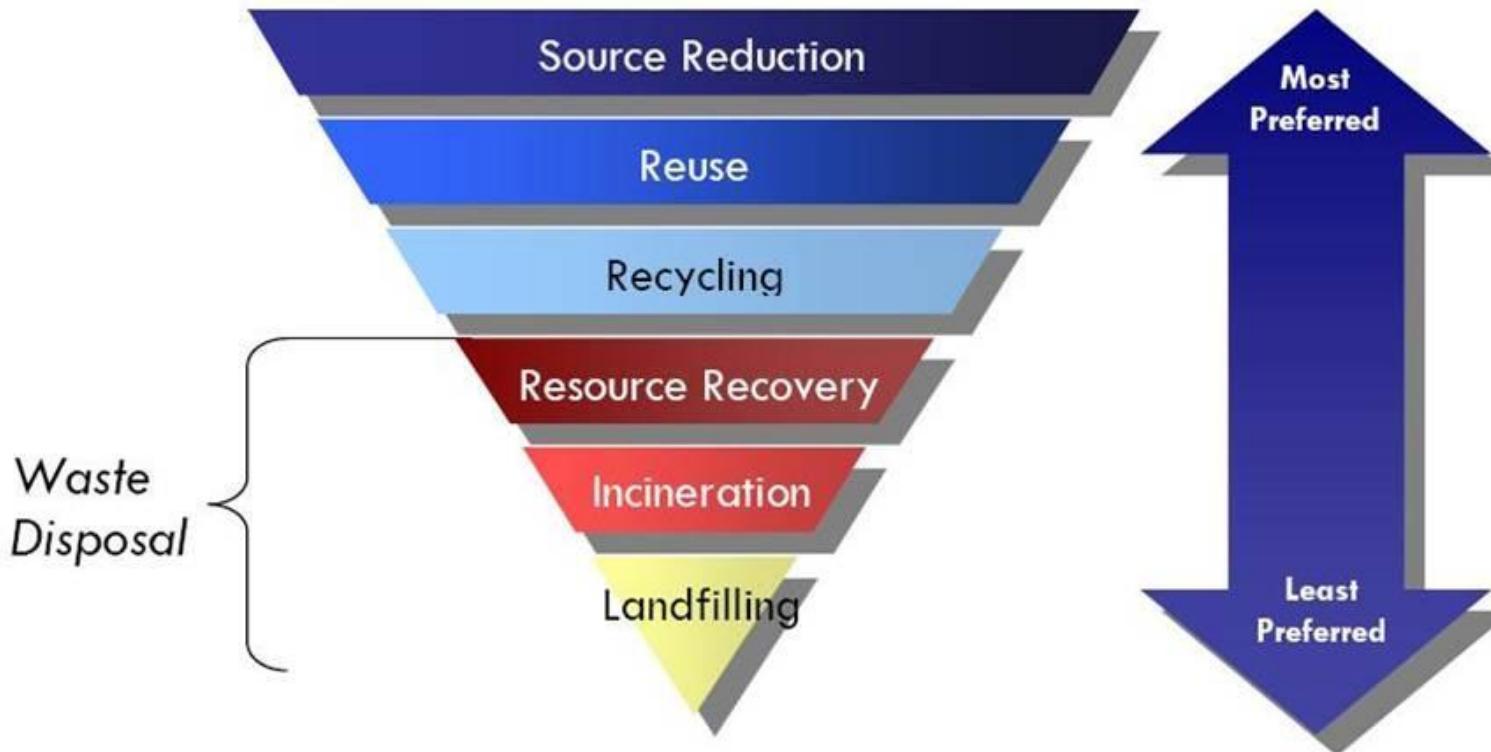
Waste Disposal

Incineration & Landfilling

- Strict regulatory restrictions and high environmental and economic costs
- Items barely decompose in a modern landfill
- Landfills face capacity restrictions
- NIMBY syndrome



The Solid Waste Management Hierarchy



- Resource depletion, pollution and landfills are not the legacy we want to leave to future generations
- Recycling/reuse saves precious resources & energy
- Best solution is to reduce waste in the first place

Urban Farming

