University of Pretoria

What is MY role in recycling

Evolvement of waste, recycling and resource recovery International and in South Africa

Why recycling? Value chain and Environmental Impacts

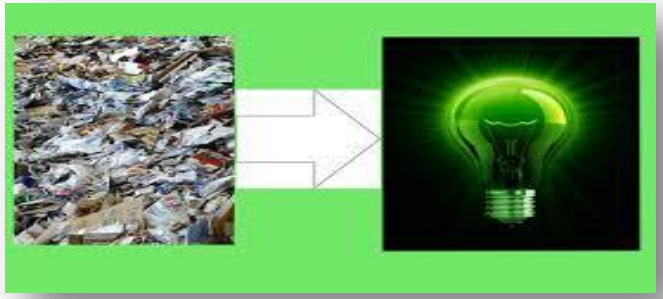
- Value Inputs:
  - Job creation

  - Resource Utilization

When we recycle, used materials are converted into new products, reducing the need to consume natural resources. If used materials are not recycled, new products are made by extracting fresh, raw material from the earth, through mining and forestry. Recycling helps conserve important raw materials and protects natural habitats.

Why recycling? Value chain and Environmental Impacts

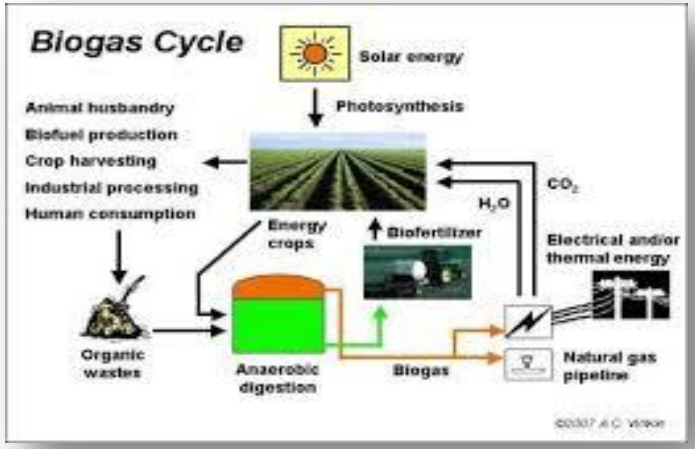
- Value Inputs:
  - Calorific Value
    - Waste to energy



  - Methane Gas from landfill

Why recycling? Value chain and Environmental Impacts

– Bio Digester



Why recycling? Value chain and Environmental Impacts

- Environmental Inputs:
  - Air
    - Carbon emissions causes damage to the ozone

    - Global warming

Why recycling? Value chain and Environmental Impacts

- Water
  - Pollution
  - Leachate

Why recycling? Value chain and Environmental Impacts

- Land
  - Windblown litter

  - Dust control

Why recycling? Value chain and Environmental Impacts

– Land

- Building of Landfill sites risk to contaminate ground water

Recycling Principles

- Methodology

- 5 R's

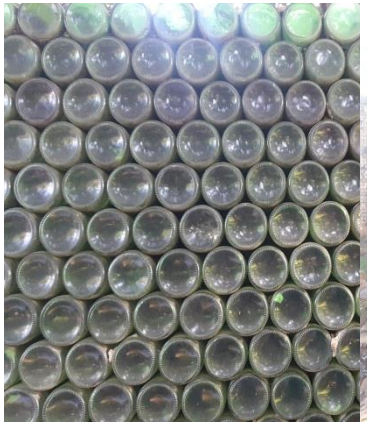
  – Rethink

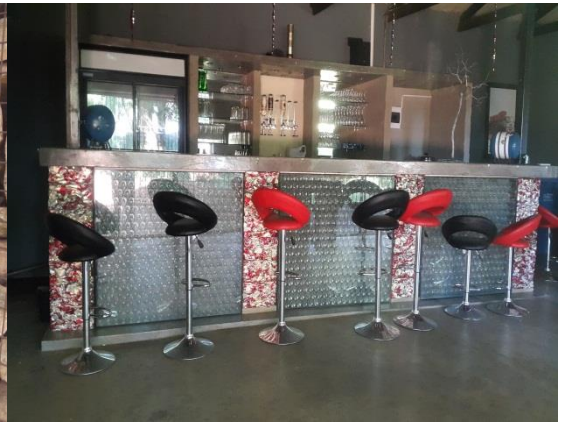
  – Reduce

    - Reducing our consumption
    - Having a paperless work environment

Recycling Principles

– Reuse





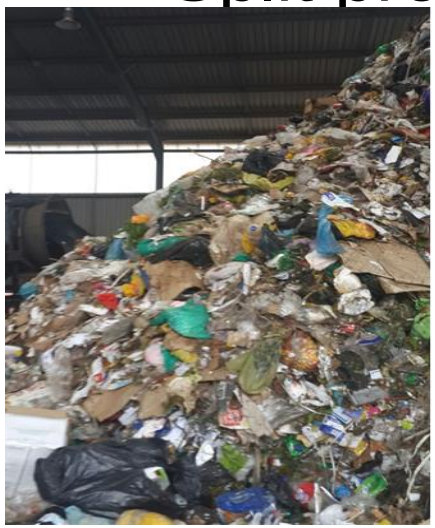
– Recycle


Recycling Principles

– Remove

Recycling At Source

- Recycling At Source:
  - Split products in 16 categories



Recycling At Source

Recycling At Source

Recycling At Source

- Recycling At Source:
  - Main groups

  - Mixed recyclables (dry) & Non-recyclables (wet)

Recycling at source

Advantages

- Higher recovery rates
- Less quantities waste to landfill
- More recyclable material
- Job creation
- Better and safer workplace & environment
- Cleaner disposal areas

Disadvantages

- High capex; labour cost; space issues
- Expensive logistics
- Product contamination
- Client failure to separate at source
- Expensive education and supervision
- Lack of legislation to enforce separation at source and licensing
- Lack of incentives and/or grant for sector

Recycling After Source

- Recycling After Source:
  - On Landfill

Recycling After Source

– MRF

Recycling After Source

– MRF

Interesting Facts

- It takes 24 trees to make 1 ton of newspaper
- 1 recycled can would save enough energy to power a television for 3 hours
- 70% less energy is required to recycle paper compared with making it from raw materials
- By landfilling 10 000 tons of waste creates 6 jobs, recycling the same tons creates 36 jobs

Interesting Facts

- An average person uses 465 trees to create a lifetime of paper

- Each one of us produces 2.04kg waste per day

- EPA estimates 55–65% of our waste is generated in our homes and 35–45% is generated by businesses / institutions

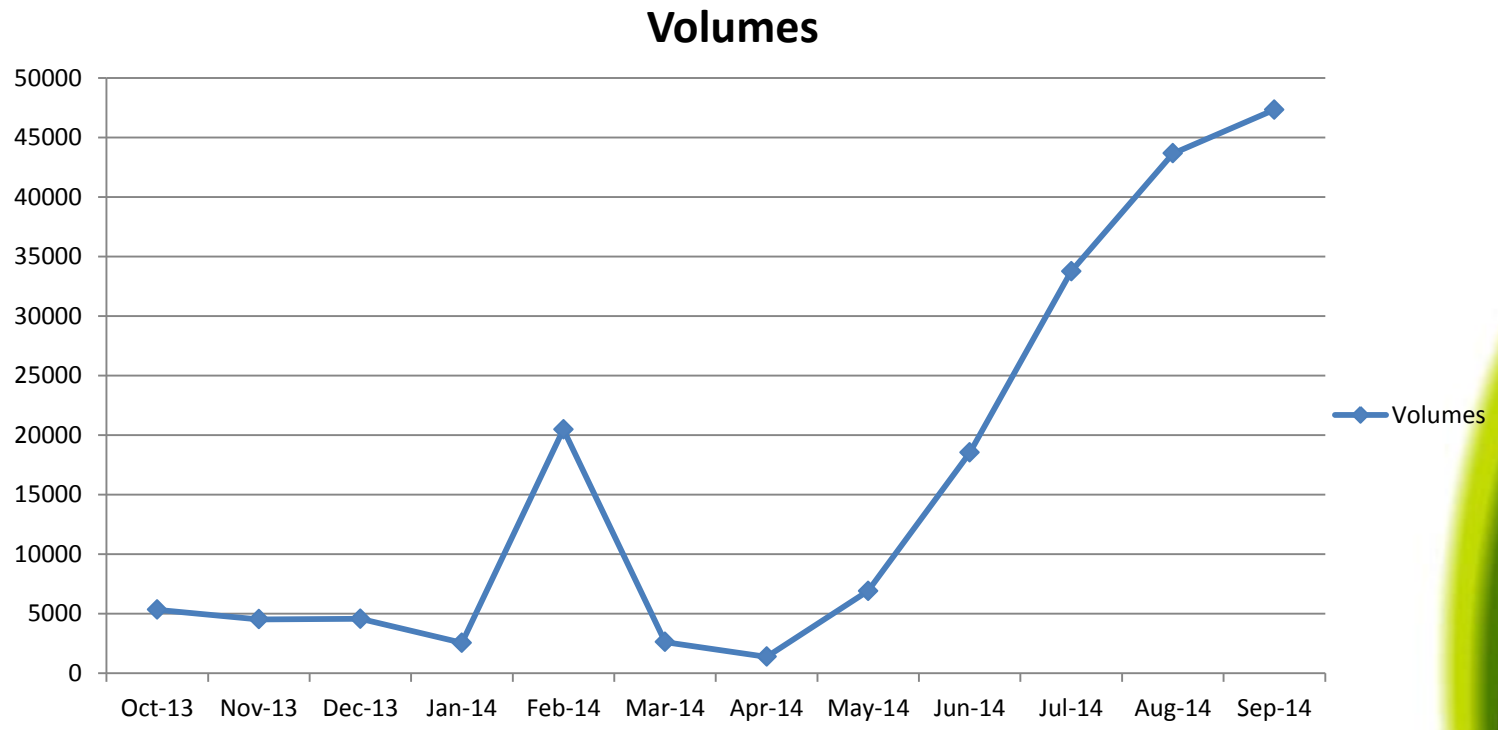
- An estimate of 630 million kgs of plastic is consumed in SA alone, which calculates to 1.03kg per person per month

Recovery Rates

- Definition:
  - Recovery rates are based on the percentage expressed in tonnages recovered vs. not recovered

Case Studies

- University of Pretoria:



Case Studies

- Schools:
  - Anton Van Wouw

Case Studies

– Wonderboom South

Case Studies

– Eduplex

Case Studies

- Curb Side Collections:

Case Studies

- Shopping Centres:






Case Studies

- Private Residents:

Who is Responsible for recycling

- Legislation
  - Waste Act 59 of 2008
  - Bylaws
- Company Policies & Procedures
- Public Responsibility & Initiatives

Who does it "willingly" and how

- Industry
  - Shopping Centres
  - Factories
- Schools and Universities
  - Educational
  - Projects
- Trolley Boys
- You & Me!

Questions

&

Answers