Designing and producing plastic products for circularity

National product design guidelines

UNEP - 26 September 2023 – Annabe Pretorius
Circular economy for the plastics industry

Circularity means:

- using plastics (or any resource) more efficiently by keeping the material in use for as long as possible,
- getting the most we can from the material during its use, and then
- recovering / recycling it to make new products
SA Plastics industry baseline - 2022
National product design guidelines

- Packaging SA – Traffic light concept
- Product Responsibility Organisations
- Department of Forestry, Fisheries and the Environment
- South African Plastics Recycling Organisation
  - Designed for Earth – App
  - Platinum Design Principles – Award to brand owners for doing the right thing
Design for Recycling

**PE-HD container** (bottle, drum or jar)

- **COLOUR**
  - Natural or White
  - Any other colour
  - Grey or darker coloured recycled content
  - Recycled content with PP contamination
  - PE-HD same colour
  - PP, PE-HD different colour
  - Metal

- **MATERIAL**
  - Pure extrusion-grade PE HD recyclate; some PE-LD and PE-LLD content allowed
  - Recycled content with PP contamination
  - PE-LD, PP

- **CAP / CLOSURE**
  - Recycled content with PP contamination
  - Metal

- **LABEL**
  - Paper with water-soluble glue
  - PP (IML or other)

- **SLEEVE**
  - PET, PVC

- **PRINTING**
  - Direct printing on container

- **CONTENTS**
  - Non-water-soluble residue, e.g. silicon, enamel paints, etc

- **MULTI-LAYER CONSTRUCTION**
  - Same colour, different HDPE layers
  - Different colour PE-HD layers
  - Barrier layer, e.g. E/VAL
  - Fillers, e.g. CaCO₃ (overall container density to remain less than 1 g/cc)

- **ADDITIVES**
  - Oxo-biodegradable additives

**Key:**
- Green = popular for recycling and will be widely collected and processed
- Orange = widely recycled; less popular
- Red = not recycled

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**PE**

- Paper, Board, PS-E, PP-E

**PE-HD**

- PP, PET, PVC

**PE-LD, PP and PE-HD** (different colour) components

**DISPENSERS**

- Containing metal inserts

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*Generic example and represents bottles, jars, tottles and drums.*
Blow moulded bottles, drums and jars

Colours

BEST QUALITY
Less plastics leaking into the environment?

NO.
Less plastics leaking into the environment?

- Established markets
- Profitable
- Waste collection
- Product design

NO.
Thank You 😊