

PLASTIC FREE MAURITIUS: Defining the Roadmap

“Meeting the Waste Management Challenges of Post-Consumer PET Bottles. A Twenty Year Old African Example.” – 19th October, 2021

Chandru Wadhvani, Director, PolyPET Recyclers, Mauritius.





PolyPET Recyclers Ltd.

- **Commenced our operations in 2004. To date we've collected 17,000MT of PET bottles. Approx Half a Billion Bottles.**
- **Primary function is the collection, sorting and semi-recycling of post-consumer PET bottles.**
- **Main plant located Ex Sugar Estate, The Mount. Second Site located at Camp Fougeraux.**
- **Installed capacity of 250MT/month. Currently running at 100MT/month.**

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PolyPET Recyclers Ltd.

- End use markets for the flakes exported to South Africa are USFDA compliant food grade rPET (PhoenixPET®), PSF, Strapping & Monofilament.
- Current Fleet size of Five
- Current Staff Strength 52
- Dialogue ongoing with Stakeholders on a dramatic ramp up of collection volumes to divert more waste from landfill.

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Extrupet Pty Ltd

- **HQ located in Johannesburg, South Africa. Commenced our operations in 2000.**
- **Two plants located in Johannesburg & Two plants located in Cape Town. One plant in Mauritius.**
- **Installed capacity for the recycling of 65,000MT/annum post-consumer PET bottles. The largest on the African continent.**
- **End use markets are USFDA and EFSA approved food grade rPET (PhoenixPET®), PSF, Strapping & Monofilament.**
- **Commenced the recycling of HDPE bottles back in 2010.**

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TOGETHER, IN 2020, PET RECYCLERS:

RECYCLED MORE THAN
1.9 BILLION BOTTLES
OR:

**5.2 million
bottles /
day**

PURCHASED ALMOST

**82 500
tonnes**

of post-consumer PET material
at an approximate market value
of R278 million

PLACED END-USE PRODUCTS
INTO LOCAL AND INTERNATIONAL
MARKETS WORTH

**R895
million**

to the South African economy

PETCO Members' PET placed on Market vs Total PET Collection (tonnes):

PET PACKAGING PLACED ON SA MARKET BY PETCO MEMBERS

137 657 tonnes

%TOTAL COLLECTED BY PETCO CONTRACTED & NON-CONTRACTED RECYCLERS

60%

Shift in PET and Packaging market – Legislation to Incentivise EPR (Extended Producer Responsibility)

- **National Environment Management: Waste Act, 2008** (Act nr . 59 of 2008)
Amendment to list of waste management activities
- **National Environmental Management: Waste Amendment Bill '13**
- **National Strategy for Waste Amendment Charges – August 2014**
- **National Pricing Strategy for Waste Management** – gazetted on 2 February 2015. Open to public comments for 60 day period.



National Pricing Strategy for Waste Management

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National Pricing Strategy for Waste Management

- The National Environmental Management: Waste Act.

Hereafter referred to as the “**Waste Act**”, directly allows for **targeting of economic instruments** to specific waste streams to **serve as incentives** or disincentives to **encourage** a **change in behaviour** towards the generation of waste and waste management by **all sectors of society**.

- Objective

Increase the diversion of waste away from landfill towards reuse, recycling and recovery.

National Pricing Strategy for Waste Management

By contrast;

- **Product taxes –**

are applied to the **end product** itself, based on its ‘embodied’ waste, thus creating incentives for **consumers to reduce their purchases of waste-generating products**, and indirectly reducing waste generation. **Product taxed** can be applied to:

- Products **generating high level waste** – high environmental impact
- Products that **can not be recycled**

❖ **Products made from 100% recycled material could be exempted and products made partly from recycled materials could carry reduced charge.**



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IN THE MEANTIME

STAATSKOERANT, 5 MEI 2021

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GOVERNMENT NOTICES • GOEWERMENTSKENNISGEWINGS

DEPARTMENT OF ENVIRONMENT, FORESTRY AND FISHERIES

NO. 400

5 May 2021

NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT, 2008 (ACT NO. 59 OF 2008)

AMENDMENTS TO THE REGULATIONS AND NOTICES REGARDING EXTENDED PRODUCER RESPONSIBILITY, 2020

I, Barbara Dallas Creecy, Minister of Forestry, Fisheries and the Environment, hereby in terms of sections 18(1), 18(3) and 69(1)(b), (g), (l), (l), (o), (dd) and (ee) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), amend the Regulations regarding extended producer responsibility and Notices in respect of the extended producer responsibility scheme for the electrical and electronic equipment sector, the lighting sector, and the paper, packaging and some single use products, published in Government Notices R.1184, R.1185, R.1186 and R.1187 of Government Gazettes 43879, 43880, 43881 and 43882 of 5 November 2020 respectively, as set out in the Schedule hereto.

**BARBARA DALLAS CREECY
MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT**

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Design to increase recyclability

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DESIGN. DESIGN. DESIGN.....

According to EU research over 80% of all product-related environmental impacts can be **influenced during the design phase**. What a wonderful opportunity!!!!

Ellen Macarthur Foundation :-

Circular Fibres Initiative – “The way clothes are made and USED today is massively wasteful and polluting. One garbage truck of textiles wasted every SECOND”.

Design to increase recyclability

- **3 Main Principles for Design Sustainability**

1. ***Triple Bottom Line Sustainability***

- ❖ *Considering long term benefits and impacts on: health and quality of life, Commercial feasibility and Natural Environment.*

2. ***Step-Change Transformation***

- ❖ *Develop new and innovative ways to deliver product value with significantly less environmental impact.*

3. ***Life Cycle Approach***

- ❖ *Considering the benefits and impacts of a product within the context of its total life cycle*

Design to increase recyclability

- **Challenges and Opportunities**

- Work towards minimizing recycling costs by improving packaging design.

Includes:

- ❖ *Understanding dynamic recycling technologies*
- ❖ *Environmental implications of design decisions*
- ❖ *Prevent packaging inadvertently interfering with existing plastic recycling systems*
- ❖ *Cost implications / Cost to consumers*



PHOENIX PET
The next generation



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IT'S GOOD TO BE CLEAR

MADE CLEAR.
MADE FROM
100% RECYCLED
PLASTIC.





PhoenixPET® – making a difference

- Growth in the early 2000s focused mainly on fibre grade formulations for Southern and Western Africa.
- The Extrupet Bottle-to-Bottle Recycling Facility in the Wadeville district of Johannesburg, South Africa, was commissioned in October 2009.
- The Extrupet plant produces approved food-grade rPET resin (USFDA and EFSA Standards) for the bottle blowing and sheet thermoforming market. It is the only food-grade plastic recycling plant in Southern Africa.

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PhoenixPET® - Achievements

- ✓ **2017** Coca-Cola South Africa approves PhoenixPET® in Africa.
- ✓ **2018** Unilever approves PhoenixPET® for a 100% bottle Sunlight bottle pack.
- ✓ **2018** Local retailers approve PhoenixPET® across mainstream packaging applications.
- ✓ **2019** Pepsi South Africa approves PhoenixPET® at 32% addition rate
- ✓ **2019** The additional Starlinger is ordered.

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Shoprite and Checkers wins recycled product of the year at 2018 PETCO Awards

Jun 11, 2018

Shoprite and Checkers were awarded the Recycled Product of the Year at the 2018 PETCO Awards, the **South African PET Recycling Company's** annual awards and the industry's biggest celebration of recycling and waste management excellence.

The award was bestowed upon the retailer for its Zip Cola plastic bottles which utilises food-safe post-consumer waste to replace 25% of the virgin Polyethylene Terephthalate (PET) material in the bottles, making it the first carbonated drink to contain this percentage of recycled PET material. #PhoenixPET® #Extrupet



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UNBEATABLE GREASE REMOVAL
100% RECYCLED
BOTTLE



the **new blue**
500ml bottle

made from
100%
recycled plastic



- ✓ Dishwashing liquid – 100%
- ✓ Carbonated Soft drinks – 25%
- ✓ Cordial drink – 100%
- ✓ Sunflower Oil – 25%
- ✓ Salad Dressing – 35%
- ✓ Fruit Juices – 50%
- ✓ Fruit & Milk mixed drinks – 50%
- ✓ Sandwich trays & Grape punnets – 50% & 100%.



CHALLENGES

- COLLECTION SYSTEMS! **“DRS”**
- FEEDSTOCK AVAILABILITY! – COVID-19!
- QUALITY!
- UTILITIES!
- LOGISTICS – LOCAL AND INTERNATIONAL! SHIPPING TO END USE MARKETS!!!



CHALLENGES

- BRANDOWNER ACCEPTANCE!
- CONSUMER ACCEPTANCE!
- NEGATIVE PLASTIC SENTIMENT!
- PRICING!
- ULTIMATELY PLASTICS ARE A COMMODITY!

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FUTURE PLANS

- LOCAL EXPANSION! SA & MAURITIUS (?)
- FOURTH FOODGRADE LINE TO BE ORDERED IN 2022.
- REGIONAL EXPANSION!
- WEST AFRICA (ECOWAS) – NIGERIA AND GHANA. RECYCLING AND DOWN STREAM OPPORTUNITIES!
- EAST AFRICA – KENYA / TANZANIA / UGANDA

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“IT’S GETTING LOUD OUT THERE”





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‘OCEAN WASTE’ – EMOTIONS run DEEP

“By 2050, the oceans could have more plastic than fish” - Rebecca Harrington 27/1/2017

“From sea to plate: how plastic got into our fish” the guardian 14/2/2107

*Eight million tonnes of waste plastic ends up in the sea each year. Fish eat it - and then we do. **How bad is it for us?***

OUR ACTIONS ARE THE REAL TRUTH!





Thank You

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