



**“AFRICAN MARINE WASTE CONFERENCE” –**  
*12 July 2017, Port Elizabeth, South Africa.*

## **THE ROLE OF TECHNOLOGY IN CLEANING UP**

*Chandru Wadhvani, Joint Managing Director, Extrupet, South Africa.*





## ‘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?***

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# 'OCEAN WASTE" – EMOTIONS run DEEP

**New Scientist - 12 June 2017**

**More than 5 TRILLION pieces of plastic float in the World's Oceans.**

**Up to 40% of plastic litter dumped on land enters the oceans each year**

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**HOWEVER.....**





- **Four more years of cheap oil, says Opec –  
24 December, 2015 – VIENNA :—**

The Organisation of the Petroleum Exporting Countries (Opec) expects only a gradual improvement in the global crude market, with prices recovering to above \$70 per barrel after **four years**, according to a report released on Wednesday....



April 13, 2015

## Plastics recyclers fighting to stay alive

by Kirstin Linnenkoper – Recycling International

ECO Plastics - whose operation in the east of England has been called 'the world's largest plastics processing facility' - recently went into administration and the company's assets have been acquired by Germany's Aurelius Group. Closed Loop Recycling, also based in the UK, is acknowledging the pressure too.

Since June last year, the price of a barrel of oil has fallen more than 50%. Virgin PET cost 83 cents a pound at the beginning of the year, or 15% more than post-consumer plastic; by late March, virgin PET had dropped to 67 cents a pound, or 7% less than the recycled material.

Meanwhile, Measom Freer & Co. in the UK is using more virgin material in the bottles it produces.

'People are just not willing to pay a higher price for the eco-friendly stuff,' notes company director Anne Freer. 'We try to use as much recycled as possible, but it really comes down to price.'

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June 23, 2015

## Recycling Industry (USA) Facing ‘Nationwide Crisis,’ Waste Management CEO Says - by Jessica Lyons Hardcastle

“The recycling industry in the US is facing a **“nationwide crisis”** as recycling facilities increasingly lose money and demand plummets for recyclables”, Waste Management CEO David Steiner told the Washington Post.

“It has also **shuttered almost 1 in 10** of its largest recycling facilities and Steiner says it may be forced to close even more in the next year.”

Falling oil prices, a strong dollar, and China’s slumping economy are to blame, as is an **increasingly contaminated recycling stream** caused, in part, by single-bin recycling systems”

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June 3, 2016 UPDATED 6/3/2016

## One of 'toughest years' in a generation hurt plastics recycling in South Africa

The plastics recycling rate in South Africa dropped last year, a **victim of low oil prices** and, indirectly, a system that relies heavily on people picking waste from landfills rather than a formal collection system, according to a new industry report.

The country's plastics recycling rate dropped from 22.5 percent in 2014 to 20.8 percent, according to a June 1 report from the trade group Plastics | SA.

“Analysts agree that 2015 was **one of the toughest years** for recyclers both locally and abroad in more than a generation, owing to historically **low oil prices** that led to lower polymer prices,” said Executive Director Anton Hanekom, in a statement.

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July 19, 2016 UPDATED 7/19/2016

## Major recycler Entropex shuts down - By JIM JOHNSON PlasticsNews.com

A Canadian mixed plastics recycling company, one of the larger such firms in North America, has **closed its doors** and laid off 155 workers.

Entropex LLC, of Sarnia, Ontario, ceased operations amid difficult conditions for plastics recyclers due to **depressed commodity prices** for recycled resin.

The continued **low cost of oil** has pushed down virgin resin prices. And that hurts the recycled resin market.

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December 15, 2016 – the guardian

## Recycling rates in England drop for first time

*“Waste companies call for tax on packaging to drive up rates as UK likely to miss EU recycling targets”*

Post-consumer Recycling rates in England have fallen for the **first time ever**, prompting calls for a tax on packaging and meaning EU targets are now almost certain to be missed.

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**COLLECT.....**

**AND DO WHAT???????**





# Are Recycled Plastics still relevant? Legislative changes and interventions.

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January 17, 2017 – By Steve Toloken - PlasticsNews.com

## Davos report calls for boosting plastics recycling to 70 percent

A new report from the Davos World Economic Forum gathering, launched with the support of some large companies in the plastics industry, is calling for strategies to dramatically increase recycling of plastic packaging – from 14 percent today to 70 percent.

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February 24, 2017 – By Steve Toloken - PlasticsNews.com

## UN Environment declares war on ocean plastics, lobbies for product bans and taxes

The environment agency of the United Nations is urging governments to **ban or tax** plastic bags, **restrict** microplastic beads in cosmetics and take other **actions against** single-use packaging.

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# SOUTH AFRICA - 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**.

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# 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.**



# National Pricing Strategy for Waste Management

## Section 4.2.1 Product, Material and Input Taxes.

The "**polluter pays principle**" shifts responsibility for waste generation from **consumers to producers** which is in line with the principle of EPR.

The rationale is that **waste generators themselves often have little control** over the amount of waste associated with the products that they purchase.

Such decisions often rest with producers, who can reduce waste generation by changing the inputs or materials used in their products, or by **re-thinking product design**.

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# Where is Technology Taking Us?

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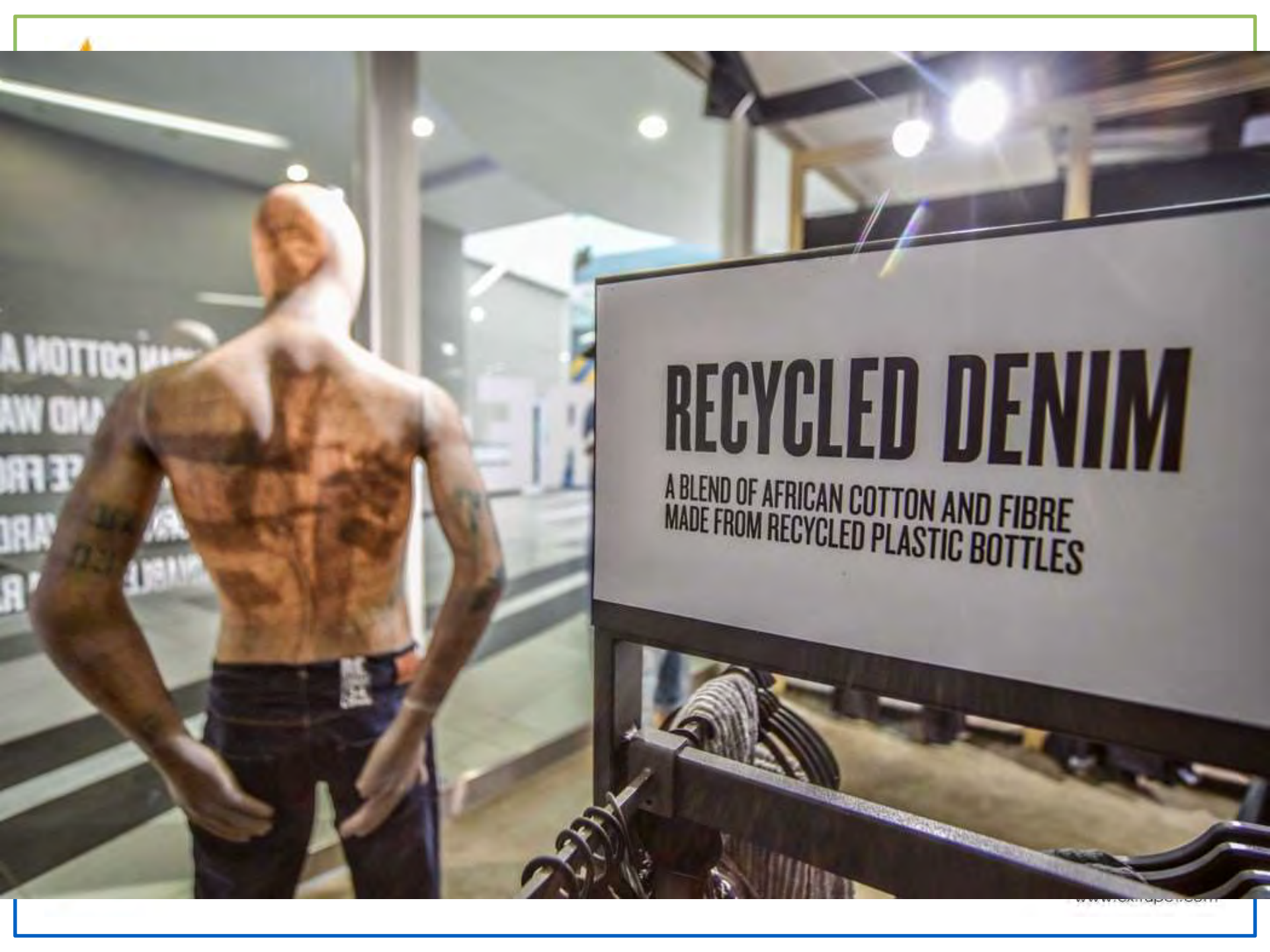


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**WOOLWORTHS**





# RECYCLED DENIM

A BLEND OF AFRICAN COTTON AND FIBRE  
MADE FROM RECYCLED PLASTIC BOTTLES



**PHOENIX PET**  
The next generation



# RE:DUCE

DENIM THAT SAVES WATER AND CARES FOR THE PLANET

SHOP SUSTAINABLE  
DENIM >

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A PAIR OF LEVIS 501<sup>®</sup> JEANS USES 3,781 LITRES  
OF WATER TO MANUFACTURE

70% OF THAT RELATES PURELY IN THE COTTON  
CULTIVATION PROCESS

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# Closing the loop – B2B recycling a reality in SA

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# Closing the loop – Extrupet

- **October 2009 – Launch B2B “Food Grade” rPET**
  - ✓ Vacurema system (Basic)
  - ✓ First facility in Africa to produce foodgrade rPET
  - ✓ PhoenixPET
  
- **January 2011 – Upgraded B2B Foodgrade**
  - ✓ Vacurema (Advanced)
  - ✓ BRC – IOP Certified Grade A
    - ❖ First recycling plant in world.
  - ✓ ISO 9001 certified
    - ❖ 0.74 IV



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# Closing the loop – Extrupet

- **November 2014**
  - ✓ **Starlinger system**
    - ❖ Approved & Used by:
      - Coca Cola
      - Nestle
      - Danone
      - Pepsi
      - Woolworths
      - Clover
      - Pick n Pay
  - ✓ **Product range**
    - ❖ 0.75 IV
    - ❖ 0.82 IV
    - ❖ 0.85 IV

**Starlinger**

**Launching the next generation  
in recycled PET**

Now suitable for all grades of PET bottles, including  
**carbonated soft drinks and bottled water.**

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# On Pack labelling to increase consumer understanding





# WHAT'S NEXT!!



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# Meaningful Change

**ACTIVE CONSUMERISM – THE POWER OF “CHOICE”**

**PARTNERSHIPS – INDUSTRY / GOVERNMENT / PRO**

**Major Brand Owner Involvement – IKEA / ADIDAS  
/DELL / Coca-Cola / UNILEVER / P&G**

**DESIGN FOR RECYCLING!!!!**

**LEGISLATION – Packaging Tax / BANS**

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# CIRCULAR ECONOMY

## NEW PLASTICS ECONOMY

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## IN CONCLUSION

**KNOW THE “DO WHAT” BEFORE THE “COLLECT”**

**TECHNOLOGY CONSTANTLY EVOLVING SOLUTIONS FOR SEVERAL TYPES OF PLASTIC PACKAGING**

**THE ENVIRONMENTAL COST OF DISPOSAL NEEDS TO BE FACTORED IN WHEN CONSIDERING THE LIFE CYCLE ANALYSIS OF PLASTIC PACKAGING**

**MORE DEMAND WILL BE MET WITH MORE TECHNOLOGICAL SOLUTIONS = LESS WASTE (NO WASTE)**

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# WONDERFUL TECH!!!



'Thanks for my new hand'



# Thank You

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