



**AFRICAN
MARINE
WASTE**
CONFERENCE

PLASTICS & PACKAGING - IS IT ALL BAD ?

**PORT ELIZABETH
JULY 2017**

CHARLES MULLER





Marine Debris Dialogue

Are you here representing plastics or the environment?



Both.

***A little bit about the SA
Packaging Industry....***

SA PACKAGING INDUSTRY – SOME FACTS

- *Est. Size ex converter* > *R65 billion p.a*
- *Est. Tonnage ex converter* *3.5 m tonnes p.a*
- *Est. Employment* > *80 000*
- *Main stream converters* > *500*
- *Per capita consumption* *Approx. 64 kg p.a*
- *Per capita consumption of plastics* *Approx. 27 kg p.a*

SA PACKAGING INDUSTRY – ESTIMATED SIZE

ESTIMATED PACKAGING MARKET SIZE

	<u>2016</u>
PAPER & BOARD	20,9
PLASTICS	30,6
METAL	6
GLASS	7,2
OTHER	0,5
TOTALS	<hr/> 65,1

EX CONVERTER - RAND BILLION

SOURCE : BMI

SA PACKAGING INDUSTRY – SIZE

PACKAGING SECTOR PERFORMANCE

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
PAPER & BOARD	1023	1059	1086	1124	1171
PLASTICS	711	765	784	807	855
METAL	265	258	243	249	235
GLASS	980	946	907	923	959
OTHER	130	131	133	134	136
TOTALS	3109	3159	3153	3237	3356

SUPPLIED EX CONVERTER - 1000 TONNES

The food waste problem....

FOOD WASTE PROBLEM



Globally around 35% or an estimated 1.3 billion tonnes of all food produced globally is wasted & ends up in landfills !!

FOOD WASTE PROBLEM

- *Food waste is the worlds **3rd** biggest source of carbon emissions (after USA & China);*
- *On a global scale the cost of food waste is estimated to be more than **USD 750 billion**;*
- *“The UN FAO has said food production will need to increase by 70% by 2050. **50%** of this could come from reducing food waste.”*
- *An estimated **805 million** people go hungry every day !*

FOOD WASTE PROBLEM

- *Waste across the food supply chain in South Africa is believed to be around **10 million tpa**;*
- *This is about **30%** of SA's total agricultural production;*
- *Equates to about **180 kg** per capita;*
- *Cost – estimated to be **R61.5 billion** or **2.1%** of GDP.*

FOOD WASTE PROBLEM

Problems associated with food waste....

- *Wasted resources include water, energy, fertilisers, pesticides & packaging;*
- *Additional food has to be produced to make up for the waste;*
- *Prices increase to make up for the losses;*
- *Increases in CO₂ & other harmful emissions associated with the production & disposal of wasted food;*
- *Most ends up in landfill which also contributes to the space shortage.*

FOOD WASTE PROBLEM

Responding to the problem....

- *Significant reductions in food waste across the supply chain are required;*
- *Interventions should focus on..*
 - *Processing, packaging & distribution of fruit & vegetables;*
 - *Production & distribution of meat;*
 - *Alternative waste disposal technologies need to be considered such as WtE, composting etc.*

“Just imagine that global food loss & waste were a country. It would have a surface area larger than my own homeland, China. It’s fields & meadows would be producing food that nobody would eat. It would be the largest user of water for irrigation & the third largest generator of greenhouse gases.

This example shows how important it is – & indeed vital to our survival – to fight food waste & loss.”



Dr Ren Wang, Assistant Director General Agriculture & Consumer Protection Department (AGD), Food & Agriculture Organisation of the United Nations

***Packaging plays a significant role
in preventing this waste...***

PACKAGING REDUCES FOOD WASTE



*“Over **30%** of fresh food becomes waste whilst only **10%** of packaged food ends up as waste”*

but...

*Sealed Air 2014 research (US) showed that **89%** of shoppers think packaging waste is more harmful to the environment than food waste !!*

CONSUMER PERCEPTIONS

- 1. I do not like packaging;***
- 2. Packaging damages the environment;***
- 3. I do care about climate change impacts;***
- 4. Wasting food is very bad....but I don't waste that much!***

PACKAGING INDUSTRY - ENGAGING CONSUMERS TO CHANGE THEIR HABITS

- 1. We ALL need to reduce climate change impacts;***
- 2. Your wasted food has a significant environmental impact;***
- 3. Packaging is part of the solution to reducing food waste!***

THE BASIC ROLE OF PACKAGING

- *Prevents damage of contents between the manufacturer & consumer;*
- *Preserves contents & allows for extended shelf life;*
- *Prevents contamination from dirt, spillage, diseases etc.*
- *Protects contents from climatic conditions such as water & heat;*
- *Saves much more than it wastes;*
- *Bigger environmental problem if it did not fulfill these roles;*

THE BASIC ROLE OF PACKAGING

- *Allows for the merchandising of the product, offers shelf presence & provides essential consumer information;*
- *Helps tackle counterfeiting;*
- *Reduces theft & pilferage;*
- *Important that packaging is not seen in isolation but rather as a part of the product it protects - any solution is pertinent to the whole product & not just the packaging.*

PACKAGING REDUCES FOOD WASTE



Bananas

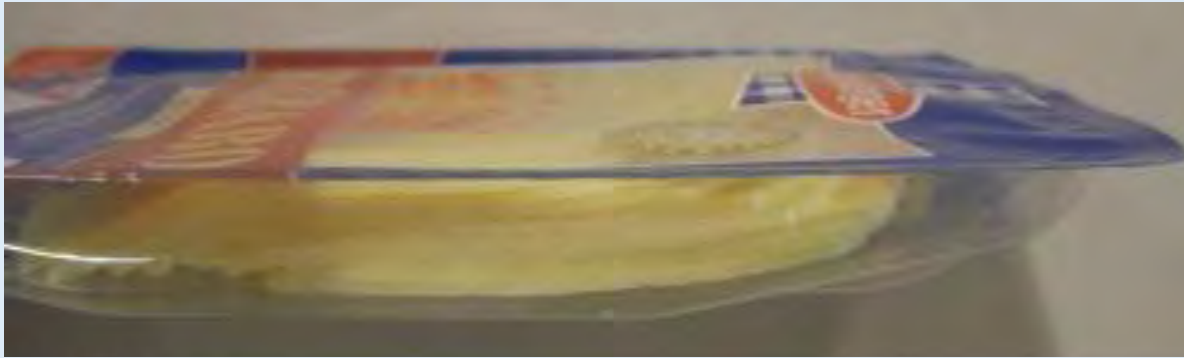
Identical bunches after 7 days



Cucumbers

Shelf life extended from 3 to 14+ days

PACKAGING REDUCES FOOD WASTE

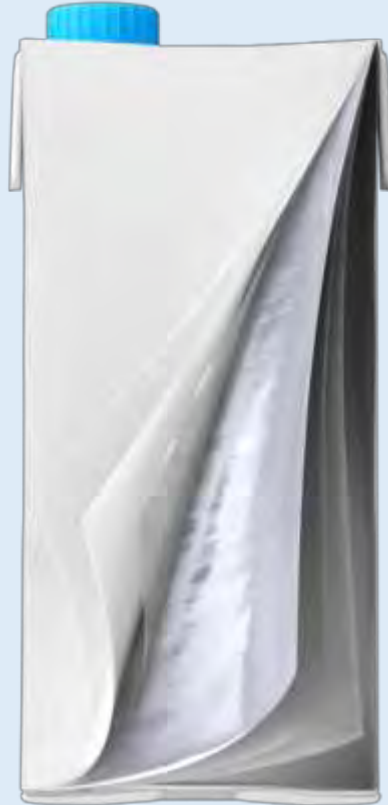


VS



Packaged portions of 150g of sliced cheese reduce food waste from 5% to 0.14%

PACKAGING REDUCES FOOD WASTE



MILK

Just 1.5g of alufoil in a beverage carton (28g) enables 1 litre of milk to be transported and stored for several months without refrigeration

PACKAGING REDUCES FOOD WASTE



Closure provides easy & controlled pouring for olive oil & vinegars - reduces overdosing & prevents “dripping & dribbling” after pouring

PACKAGING REDUCES FOOD WASTE



Barrier skin packaging extends the shelf life of fresh meat from 6 to 16 days – meat waste in supermarkets worldwide is a massive issue !

PACKAGING REDUCES FOOD WASTE



Clear PP film bag instead of a paper bag – less dehydration - 0,8 % food waste instead of 11 %

PACKAGING REDUCES FOOD WASTE



On average 14 % of chicken meat is wasted by consumers. A plastic tray with two segregated cavities contributes to reducing food waste. Waste reduction by only 0.5 % percentage points is enough to compensate the impact of the additional packaging.

PACKAGING REDUCES FOOD WASTE



Breathable PP film & plastic packaging protects contents & reduces wastage from 42 % to 3.4%

“Packaging plays a critical role in protecting fresh produce & processed food in transit, in storage, at point of sale & prior to consumption. In doing so, it helps deliver a wide range of functions whilst also reducing food waste.”

Packaging in perspective....

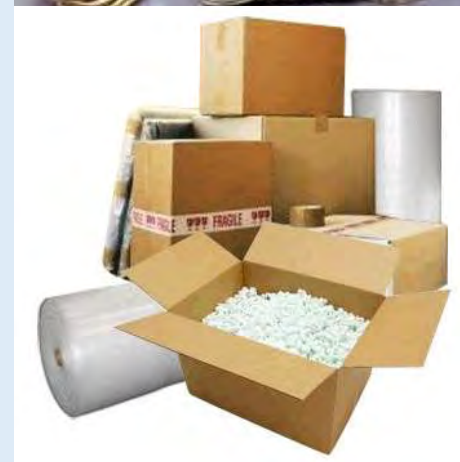
PACKAGING IN PERSPECTIVE

- ***The 2011 CSIR baseline report suggested that SA creates around 108m tonnes of solid waste annually – this excludes mining waste;***
- ***Around 90% of this is landfilled;***
- ***Municipalities collect between 20 & 25m tonnes.***

PACKAGING IN PERSPECTIVE

	<u>2011</u>
Solid waste generated	108
Solid waste landfilled	98
General waste	58
Municipal waste	20
Net paper & packaging	2

(million tonnes)



SA PACKAGING COLLECTION TONNAGES - 2015

	<u>CONSUMPTION</u>	<u>COLLECTED</u>	<u>%</u>
PAPER & PRINT	1794	1196	66.7
METAL	217	152	70.2
GLASS	680	279	41.0
PLASTICS	800	365	45.6
TOTAL	3491	1992	57.1

'1000 tonnes

PACKAGING IN PERSPECTIVE

- ***In addition to Greenhouse emissions & organic waste there are also very significant challenges with....***
 - ***Mining waste***
 - ***Residual ash from power stations***
 - ***Building rubble***

- ***Whilst the volumes are relatively small packaging waste is unfortunately very visible !***

*...but the other **43%**
remains an issue !*



...so what are we doing about it ?

***1. Acknowledge & accept that
there is a problem...***



Industry is increasingly aware of the negative impact that plastics & packaging have on the environment

2. Continued mass reduction & down-gauging...

MASS & GAUGE REDUCTIONS



Down from
>90 to <50g



32% reduction in
mass in 7 years



50% reduction in
mass in <15 years



20% of mass
since 1966



> 23% lighter

3. Industry Waste Management Plan...

INDUSTRY WASTE MANAGEMENT PLAN

- *Packaging SA (PACSA) voluntarily developed a 1st plan & delivered it to the DEA in August 2011;*
- *Document was updated & submitted to the DEA as a “draft for discussion” in September 2014;*
- *No formal feedback has been received;*
- *Industry awaits formal Section 28 notice to once again update & submit.*



PRINCIPLE OBJECTIVES OF THE PLAN

- ***Clean up the environment;***
- ***Maximise the diversion of waste from landfill;***
- ***Increase our collection & recycling rates;***
- ***Create a 2nd resources economy & many jobs;***
- ***Provide manufacturing with a consistent stream of good quality & clean recyclables;***
- ***Find & develop new markets for recyclables;***
- ***Reduce resource consumption by driving the increased use of recyclables;***
- ***Redeploy pickers off landfills & create better working conditions for the informal sector;***
- ***Encourage transformation within the Sector;***
- ***Make SA a much better place for ALL.***

***4. Producer Responsibility Organisations
(PRO's) are successfully driving
collection & recycling...***

METPAC SA

TGRC

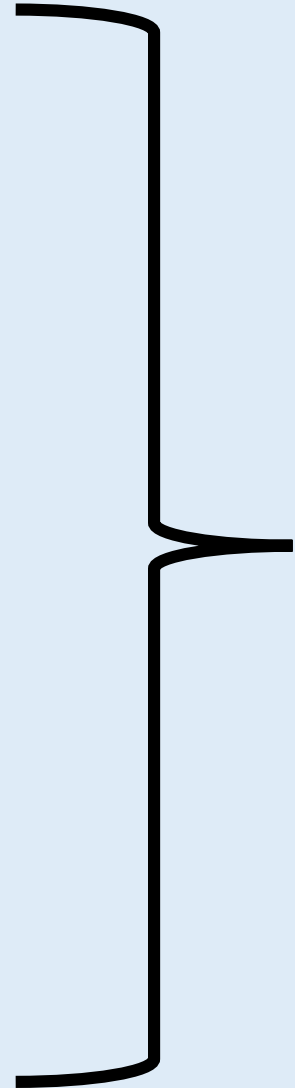
PRASA

PETCO

POLYCO

PSPC

SAVA



>57%

5. Industry Activities...

INDUSTRY ACTIVITIES

- ***Coastal & river clean-ups;***
- ***Operation Clean Sweep,***
- ***Provide training & education outreach programmes;***
- ***Publish brochures & other information;***
- ***Help designers & packaging technologists to know which materials are the most suitable for their products & how to design these with the least environmental impact as possible.***

The key to this is to strive to do MORE with LESS....

6. Design for Recycling...

DESIGN FOR RECYCLING

Guideline published by Packaging SA...updated annually

- *Helps designers & packaging technologists to know which materials (e.g. bottle/label/cap) are compatible for recycling.*
- *Covers all substrates - paper, plastic, metal & glass.*
- *Comprehensive but easy index.*
- *On the Packaging SA website* www.packagingsa.co.za

What about the plastic bag ?



Is banning the plastic bag the answer ?

BANNING THE BAG

- ***The sector employs thousands of people & contributes well in excess of a billion Rand to our economy;***
- ***Advantages over competitive materials***
 - ***Strong & robust***
 - ***Light weight***
 - ***Low cost***
 - ***Different sizes***
 - ***Colour options***
 - ***A vehicle to share consumer & other information***
 - ***Waterproof***
 - ***Lower carbon footprint***

BANNING THE BAG

- ***People pollute NOT the bag;***
- ***Recovery & recycling is a better strategy;***
- ***Ensure that the bags (VTC's) do not include fillers & other “negative” additives that impede recycling;***
- ***Proper litter enforcement;***
- ***Educate, educate & educate;***
- ***Biodegradable bags are currently not the answer;***
 - ***Polymers in limited supply***
 - ***Cost much more***
 - ***Poor physical & mechanical properties***
 - ***Restricted recycling options***
 - ***Contaminates the recycling stream***



THERE ARE MORAL ISSUES HOWEVER...





QUESTIONS ?

Packaging SA

www.packagingsa.co.za

012 001 1914

**Charles Muller
Executive Director**

