



COMMON MYTHS/MISCONCEPTIONS ABOUT PACKAGING

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(Updated October 2017)

MYTH 1:

PACKAGING IS WASTEFUL AND A THREAT TO THE ENVIRONMENT

Packaging is an essential part of modern life allowing people to consume fresh, uncontaminated food and beverages wherever they want in the quantities needed.

Modern living has driven the desire for convenience foods in ready to prepare and single serve formats. This pre-preparation ultimately reduces the possible amount of solid food waste generated by households.

Just pause to consider how a modern large retailer would look like without packaging.

Packaging allows the contents to be preserved and has resulted in the emergence of everyday products that could not exist without packaging. Consider for example carbonated soft drinks, long life milk, ready meals and household chemicals. And without a good packaging system, consumers could not be confident that delicate electronic products such as a computer or televisions will work as soon as they are out of the box.

The production of packaging, like the production of any product, involves the consumption of raw materials, energy and water, and results in emissions to air, soil and water. In developed countries, packaging accounts for around 3% of the waste sent to landfill, whether measured by weight or by volume; in SA, packaging is perhaps as much as 6%.

Between 2004 and 2006, consultants working for the European Commission reviewed evidence from relevant major studies and analyses covering a very broad spectrum of methodological approaches to scope the environmental impacts of all products consumed in Europe. The EIPRO (Environmental Impact of Products) report concluded that on average, packaging accounts for 8% of the total energy requirement of packaged products.

A study carried out by INCPEN (the Industry Council for Packaging and the Environment) in the UK came to very similar conclusions in respect of products consumed in the home. It was estimated that packaging is typically 9% of the weight of the packaged product and uses 8% of the energy required to produce and deliver all products to the household.

It follows, therefore, that the resources locked up in the packaged products are about ten times greater than the resources used for the packaging which protects the contents. Thus, by avoiding food spoilage and product damage, the overall impact of packaging on the environment – and on society – is in fact positive.

A 2008 policy brief from SIWI, the Stockholm International Water Institute, says that in Africa, "in many countries the post-harvest losses of food grains are estimated at 25% of the total crop harvested. For some crops such as fruits, vegetables and root crops, being less hardy than grains, post-harvest losses can reach 50%. Economic losses in the dairy sector in East Africa could, due to spoilage and waste, average as much as USD 90 million per year. In Kenya, each year around 95 million litres of milk, worth around USD 22.4 million are lost. Cumulative losses in Tanzania amount to about 59.5 million litres of milk each year, over 16% of total dairy production during the dry season and 25% in the wet season. In Uganda, approximately 27% of all milk produced is lost, equivalent to USD 23 million per year. In Ghana post-harvest losses can account for 35% of total agricultural output."

Obviously, the use of more (or more efficient) packaging would significantly reduce these wastage rates.

Meanwhile, the packaging sector is constantly improving its environmental profile:

- for economic reasons, packaging has been progressively lightweighted and down gauged as technology has allowed, and innovations to use resources more efficiently also reduce depletion of resources and pollution as well as lowering costs;
- closed-loop industrial systems have been introduced to reduce material throughput and eliminate waste – this is already happening through recycling and reuse systems where appropriate. Some of these involve business-to-business packaging systems which the consumer does not see.

Once it has performed its function packaging takes on an entirely different face. It becomes cumbersome waste.

Sub-sectors of the packaging Industry have voluntarily exercised their extended producer responsibilities forming a variety of organisations dedicated to increasing the collection and recycling of their products. In every case we have created a value for this waste so it is now effectively a resource.

It is important we consider the impact of packaging on the waste stream:

As a nation we are undisciplined litterers and this is a major cause of the unwanted and ugly perception people have of packaging. If we can just stop littering we will have made a major move towards cleaning up our country.

MYTH 2:

PACKAGING IS THE BIGGEST CONTRIBUTOR TO THE SOLID WASTE STREAM

In developed countries, packaging accounts for around 3% of waste to landfill as measured by either weight or volume. Our national waste statistics in South Africa are not as good, but we estimate that packaging in SA accounts for a maximum of 6% of waste to landfill

MYTH 3:

PACKAGING IS BIG AN ISSUE AS CONSUMERS, THE MEDIA AND POLITICIANS SEEM TO THINK

We quote an article from Dick Searle, Chief Executive of the Packaging Federation in the UK, dated July 2008

“In a word – no! A recent survey by one retailer discovered that twice as many of its customers were worried about ‘excessive packaging’ as were worried about global warming! And yet the carbon footprint of packaging is less than 2% of the UK’s footprint.

Indeed, as a result of modern packaging and distribution methods, food waste in the supply chain in the UK is some 3%. In less developed countries like Russia and India, food waste is +- 40% and the environmental impact of that waste is massive by comparison.

With food supply, security and cost at the forefront of most consumers’ minds, packaging in this country is playing a vital role in minimising waste and maximising availability, choice and value.

Most consumers look at used packaging with little thought for the role that it's played in getting goods safely from producer to point of usage and the role it continues to play in protecting and preserving products until they are used. Arguably, the biggest area of criticism is fruit, vegetable and meat packaging in supermarkets (mostly in plastics). And yet this represents just 1% of all packaging used. What consumers don't see is all the packaging used to get goods into store which are then sold loose. A recent survey by one retailer showed that more energy was used in 'loose' apples than those pre-packed in fours. And another retailer saw wastage levels double when all their fruit was sold loose – and the environmental impact of that waste was far greater than that of the packaging 'saved'.

Clearly, the supply chain needs to do much more to educate consumers about the real role and benefits of packaging so that they can make informed choices when urged to shun packaged goods. And basing retailing strategies on ill-informed consumer (and political!) opinions can make for wrong environmental choices."

MYTH 4:

THE PACKAGING INDUSTRY IN SA IS DOING NOTHING IN THE AREA OF EXTENDED PRODUCER RESPONSIBILITY DEALING WITH THE WASTE STREAM

Sectors of the packaging industry have done some excellent work in dealing with the downstream waste. We detail below some of these initiatives. The combination of all the activities listed below in 2016 **diverted from landfill** 76% of all packaging and paper used in SA.

Reduce, Re-Use and Recycle Progress in the South African Packaging Industry (2016 information)

PRODUCT CATEGORY	REDUCE	RE-USE	COLLECTED RECYCLE
METAL	Can weight 13g vs 62 g in 1966		73.3%
PAPER	Cement Sack 210gsm vs 320gsm in 1990		67.2%
GLASS	750ml non-returnable wine bottle 350g = 32% below the same bottle in 2006	The refillable containers in circulation in SA in 2016 saved 2.53 million tons of glass, had all glass been one way packaging.	42.5%
PLASTIC PACKAGING	PET 2 litre bottle weight 48g vs 90g in 1979 Detergent refill packs have reduced packaging material by >70%	<ul style="list-style-type: none"> • Some returnable PET bottles • Returnable crates • Re-use of plastic shopping bags • Re-use of some drums 	44.6%

REDUCE

Technology has enabled the packaging industry to reduce mass without compromising the basic functions. We estimate this saves 120 000 tons annually.

RE-USE

Managed reuse and refill systems continue to operate in certain product sectors, including glass beverage containers, plastic crates in the food and beverage industry and plastic and metal drums in the chemicals and other sectors. These systems avoided the consumption of 2.89 million tons of packaging in 2016, which means that a higher tonnage was diverted from landfill through reuse than through recycling. The beverage sector has invested around R5 billion in infrastructure and materials to support these returnable bottle and crate systems. Our draft Industry Waste Management Plan does not set any targets for reuse because targets would interfere with the market relationships between suppliers, customers and consumers. No European country has set reuse targets for transport packaging, and those that have set them for beverage containers have abandoned them.

RECYCLE

Overall South Africa collected for recycling 2.22 million tons of paper and packaging in 2016 – 58% of all paper and packaging consumed in South Africa.

Beverage Cans

Collect-a-Can is a great South African success story. Apart from having the highest collection rates and providing indirect employment to some 37 000 people it has collected in excess of one million tons of beverage cans since it started. Collect-a-Can shareholders have invested R700 million in the Company since inception.

Hulamin recently invested in excess of R300 million in a state-of-the-art aluminium recycling facility in Pietermaritzburg.

Paper

In 2016 the paper recycling industry collected 1,4 million tons of paper amounting to 67% of all recoverable paper consumed in South Africa. The paper industry has invested in excess of R800 million directly in recycling. This rises to many billions of Rand if the investment in wastepaper mills is included.

Glass

The glass industry, including their customers, have formed The Glass Recycling Company with the express target of achieving an increase in recycling from 18% in 2005. The recycling rate has risen impressively to 41% in 2016. This has been achieved by investments of some R245 million in cullet colour sorting by the glass manufacturers and a levy on all glass bottles sold to promote both recycling and infrastructure. A further R307 million has been committed to increase recycling rates going forward

As a matter of interest if all returnable bottles were banned and replaced by one way packaging, the glass industry would need to be three times its current size.

Plastics

The generic term plastics covers some seven main families each of which needs to be looked at individually in terms of recycling.

- In 2016 Recyclers in South Africa collected an estimated 386 000 tons of plastic packaging for recycling.
- Demand for good quality plastic waste exceeds supply.
- Growth in recycling rates overall since 2000 has been particularly impressive

- South Africa has four established Producer Responsibility Organisations who collectively are responsible for the collection of nearly 400 000 tons of plastic packaging.
- Those involved in plastic raw material streams where recycling rates need more support have started to work together to remedy this.

A German study done some 15 years ago on what the packaging industry in Germany would be like without plastics concluded as follows:

- Double the energy and cost
- 2½ times volume of waste
- Four times weight of eventual waste at disposal

RECOVER

Plastic has a calorific value up to 40% better than coal and the plastics industry has completed a study on the possibility of using waste for energy. As it is being used extensively in Europe you can expect to hear more of this in the future which would be aimed at paper and plastic waste which has less value than uncontaminated clean waste. This has to happen under very controlled circumstances at incredibly high temperatures to ensure that we do not pollute the atmosphere.

MYTH 5:

THE SOLUTION TO PACKAGING WASTE IS SIMPLE – APPLY A DEPOSIT OR LEVY ON ALL PACKAGING

Some people suggest a deposit on all non-returnable packaging would encourage people to use returnable packaging.

This is based on the flawed argument that all products could use returnable packaging.

Malt beer in South Africa is an excellent example of a product where around 80% of malt beer sold here is in returnable packaging. This is a very fine example but one must consider the environmental downsides – additional transport and solvents used to wash the bottles before reuse.

Returnable packaging works for some industries but it is not the panacea for the whole industry, as one needs to consider:

- the cost and energy of the return loop
- water and cleaning material wastage
- the nature of the product
- return rate for the reusable packaging
- the recycling rate of one-way alternatives
- theft or other use of the returnable packaging. This is a big problem in some parts of the food sector, where losses severely reduce the sustainability of the system.

A significant move away from one way packaging would result in a large number of job losses, not only in the industries supplying one way packaging but also in the recycling sector which uses one way packaging as a raw material.

MYTH 6:**PRODUCT TAXES IMPOSED BY THE TREASURY SUCH AS SUPERMARKET CHECKOUT BAGS IS THE WAY TO GO**

There is no plan to introduce a compulsory deposit-return system for recyclable but non-refillable containers. A voluntary deposit system of this type already operates in some product sectors for refillable bottles, and this reduces the number of non-refillable containers that could potentially be handled through such a system. Furthermore, collection by the informal sector is likely to be far cheaper than the introduction of a new deposit system, which requires sophisticated data and refund systems, not least to prevent fraud. Diverting deposit containers away from kerbside and other collection systems would reduce the cost-effectiveness of these systems.

The plastic bag levy was introduced in May 2003 as a result of an agreement between government and interested parties, with the intention of reducing usage of the plastic bag which was considered to be a major litter problem.

The agreement centred around three basic principles, viz.:

1. The bags were required to be thicker so as to make them more attractive to recycle (a thickness of 30 microns with a 20% tolerance) and with reduced print.
2. A government levy of 3 cents per bag was charged to bag manufacturers. This has been increased by the government and is currently 8c per bag.
3. Retailers had previously absorbed the costs of the bags as part of their service to customers. Most retailers now charge for the bags.

The effect of this agreement was dramatic and initially sales dropped to approximately 10% of the number of bags that had previously been supplied. An estimated 500 jobs were lost.

1. Revenue collection by the government since 2003 is estimated to be well in excess of R1 billion.
2. Buyisa-e-Bag was created to manage these funds but unfortunately was closed in 2011.
3. The agreement encouraged retailers to charge for the bags. At current prices (50c per bag) retailers collect many hundreds of millions per annum, which previously was a cost item.

We believe that industry driven as outlined under Myth 4 are significantly more focused and thus more effective.

MYTH 7:

SAVE OUR TREES AND AVOID CLIMATE CHANGE – DON'T USE PAPER

**“There aren't many industries around that can aspire to becoming genuinely sustainable. The pulp and paper industry is however one of them. It is inherently sustainable.”
Jonathan Porrit Chairman 2000 -2009 UK Sustainability Development Commission**

The above quotation comes from a man who would not lightly make such pronouncements. Consider the following:

- All paper in SA is sourced from plantation grown trees, recycled materials and bagasse (sugar cane waste). No indigenous forests are used. Over 80% of the plantation forests in SA are FSC (Forest Stewardship Council) certified. This is the highest level of international certification in the world.
- Trees are natural atmospheric sinks of carbon dioxide. As trees grow they absorb more and more CO₂. Trees also breathe out vital oxygen.
- The industry in SA plants over 260 000 trees per day, more than it consumes. Thus this source of carbon sink continues to grow. Only 9% of the total plantation area is harvested on a yearly basis, and this is replanted with new trees in the same year.
- The use of renewable biomass-based energy from pulping processes as well as forest residue enables the industry to avoid the use of 1,3 million tons of fossil fuels annually.
- Recycling of paper extends the carbon cycle period over which carbon is kept out of the atmosphere by paper products. Currently 67% of recoverable paper consumed in SA is recycled.
- If the forestry industry worldwide had not existed over the past 150 years, the greenhouse gas levels in the atmosphere would have been 5% higher than they are. (Report from the US National Council for Air and Stream improvement –February 2007.)
- Like many similar industries world-wide, involving plantation forestry, on a cradle to gate basis the paper industry in SA claims that it is carbon positive, meaning that the industry overall absorbs more greenhouse gas than it releases into the atmosphere.
- This means that users of paper products, by causing more trees to be harvested and thus replanted, are contributing to climate change remediation

For more information go to www.thepaperstory.co.za

MYTH 8:

THE SA PACKAGING INDUSTRY ALONE MUST BEAR EXTENDED PRODUCER RESPONSIBILITY AND FIX THE PACKAGING WASTE PROBLEM

There are a number of key players other than packaging converters who must all play their role if we as a society are to deal with our paper and packaging waste.

Central Government needs to support our industry initiatives by adopting our Plan and bringing regulations to ensure no free riders.

Municipalities/Provinces

Municipalities have the executive responsibility of waste management and are key in the process. They need to assist the recycling industry to access valuable packaging waste at lowest cost by implementing compulsory separation of waste at households into wet and dry (packaging) waste. Sorting facilities known as Material Recovery Facilities (MRF's) are a very effective way to go. In the less affluent areas buyback centres are an obvious solution.

Raw Material Suppliers need to continue technical research and development to ensure the packaging converters can achieve the same protection and preservation functions using less material.

Brand-Owners are key as they specify the packaging material to be used. They must include environmental issues such as the recyclability of their packaging when considering the type of packaging. They must also avoid overpackaging.

Retailers can also play their part to avoid overpackaging. Retailers also have the same obligations as brand-owners with their in house brands

The Public at large needs to stop littering and help municipalities by separating the household waste.

Recycling Industry must continue to support all initiatives to extract more waste and develop new markets for waste – not import waste.

To quote Barry Coetzee from Cape Town

“The essence of the success of a new waste management system that incorporates large volume recovery of materials for re-use or processing lies in the hands of three stakeholder groups , none of which can operate alone to make it succeed. Government, the consumer and the private sector will literally have to take each other by the hand and move forward in an altruistic manner.”

MYTH 9:**THE FAMILY IS AN INNOCENT BYSTANDER – A VICTIM OF MASS MARKETING METHODS
– ON ENVIRONMENTAL ISSUES**

Hazardous waste originates primarily from two sources, industry and households.

The reality is that the average family has a throw-away mindset, and although 'Home is where the Heart is' it is also where the poison is! The average household contains an arsenal of 'dangerous' chemicals ranging from oven to drain cleaners, paint thinners to dry cell batteries, hairsprays to insecticides, granular chlorine to ammonia. All these items are essential to our modern lifestyle and hygiene standards, and yet these contain substances which are corrosive, flammable, explosive or toxic – when their containers and contents are depleted they get thrown into the garbage bag and occasionally down the drain.

'The Householder' will plead innocence until there is an infrastructure in place to promote separation of domestic refuse at point of consumption, that is, the household, and a corresponding municipal collection and waste disposal plan, a so-called integrated waste management system. The family unit is a key player in environmental hygiene of the future.

It is also critical that municipalities play their constitutional role in effective waste management by insisting on separation of waste by households.

MYTH10:**THERE IS WIDESPREAD UNDERSTANDING OF THE TERM 'ENVIRONMENTALLY FRIENDLY
PACKAGING'**

Research conducted by Michael Peters and Partners, a UK based market research company, showed that comprehension of the well-used term was poor and varied from manufacturers to converters, and from consumer to packaging designers. The organisation set about defining what they felt was meant by 'environmentally friendly packaging'. They maintained that to qualify three criteria must apply:

1. The packaging minimises energy and raw material use in its construction and manufacture.
2. It minimises impact on the waste stream.
3. It does not cause environmental damage.

Our ideal packaging is that which achieves the above whilst at the same time preserving and protecting the contents.

MYTH 11:

REUSE OF (PET) PLASTIC WATER AND SOFT DRINK BOTTLES WILL POISON YOU

There are regular queries regarding the safety of washing and reusing PET mineral water bottles. These result from e-mails circulating on the internet claiming that washing of PET bottles results in the formation of carcinogenic compounds such as the chemical, DEHA.

Re-using any food or drinks container without washing can result in the spread of germs. However it is safe to reuse PET bottles without risk of degradation or contamination, providing that normal good hygiene practices are observed.

The plastic material PET (polyethylene terephthalate), used for mineral water and other beverage bottles, has been thoroughly tested and approved as safe for food contact use by international health authorities. Although most water and beverage bottles are lightweight and designed for single use, refillable, reusable PET bottles are also quite widely used, with appropriate hygienic washing procedures. This also has full approval of the health authorities.

All plastics food packaging in SA is 100% BPA free (source Plastics SA December 2011)

MYTH 12:

THE TRIANGULAR MARK ON PLASTIC PACKAGING GRADES THE TOXICITY OF PLASTICS

This is another story that has circulated widely in the past and is nonsense. There are six broad families of plastics and each of these has a number which is printed or embossed in the triangle to allow recyclers easily to identify the grade of plastics for recycling. These are commonly referred to as "Resin Identification Codes".

MYTH 13

DON'T USE PAPER BECAUSE OUR PLANTATIONS USE TOO MUCH WATER.

The facts are:

- Plantations are just like any other agricultural activity in SA. 98% of all agricultural crop production in SA involves exotic species.
- Unlike 90% of agricultural crops, plantations use exclusively rainfall and groundwater and do not rely at all on irrigation or fertiliser.
- According to the Department of Water Affairs website, paper manufacture and forestry consumes 2,7% of water use in SA compared to 62,2% utilized by irrigation for other agricultural crops. (2004).
- Over 80% of SA plantations are FSC (Forest Stewardship Council) Certified –the highest level of certificated plantations in the world.

- The industry has 1,6 million ha of FSC certified land of which about one million hectares are planted to trees. The majority of the remainder are grasslands which the SA National Biodiversity Institute assessed as the best conserved grassland in SA.
- The industry has also voluntarily reduced its plantation areas by 80 000 ha in riverine and other ecologically sensitive areas.
- Further downstream, pulp and paper manufacturers have implemented water recycling technologies to reduce the water footprint.
- The paper industry recycles 67% of its recoverable consumption of paper in SA and this process is significantly less water intensive.
- The total area under plantation forestry by our industry is 1.2 million ha. This represents approximately 3% of the land served by the river catchment areas where our plantations are to be found.
- Studies show that although our trees can reduce stream flow by up to 30%, the net reduction in the affected catchment areas is very small – less than 1% (3% of 30%).
- Our tree species are on average 20 times more efficient at absorbing carbon dioxide expressed as tonnes of CO₂ absorbed per tonne of water used, irrigation or rainfall) than any other agricultural crop in SA.

Based on information provided by the Paper Manufacturers Association of SA
Go to www.thepaperstory.co.za for more information