

WHAT IS SUSTAINABLE PACKAGING AND HOW CAN IT BENEFIT YOUR COMMUNITY AND THE PLANET AS A WHOLE?

*= citation below

Why do we need Sustainable Packaging?

From the Arctic to the Antarctic, from the deepest trenches of the Mariana to the highest peaks of Everest, and from the deltas of British Columbia* to the savannas of South Africa, plastics and microplastics wreak havoc on all of these ecosystems. Many of these pollutants can be linked back to single-use packaging, with Statista* estimating 31% of plastic use going towards said packaging, which is by far the biggest consumer. Plastic pollution from leaching, single-use packaging has caused near-irreversible damage to both local and international ecosystems.

As well as the impact on our external environment, a further important point, and often unknown to the consumer, is that non-renewable plastic packaging also has medical implications, commonly being carcinogenic*; sustainable packaging would mitigate this. Many plastic containers and bags are synthesised with either polyethylene (PE) or polyethylene terephthalate (PET), which are commonly linked to endocrine and neurological diseases in humans*; equally harmful is Bisphenol A (BPA), a chemical that lines the inside of cans* that has the same hormonal-disruptor effects as PEs.

The move towards Sustainable Packaging will take tremendous strides in counteracting this looming global disaster.

A promising way to achieve this is to shift from single-use, imperishable packaging to biodegradable and sustainable alternatives. The goal of sustainable packaging* is to ultimately maximise the item's use and longevity while curtailing its environmental impact. The packaging itself achieves these goals by either being made from recycled materials, being recyclable, biodegradable, reusable, or by being produced with carbon-neutral methods.

Recycled materials can minimise environmental damage (and in potential extreme cases - collapse) caused by packaging, through lowering the amount of leaching substances released into the biosphere. Glass, plastic, and metal can all be recycled and transformed into packaging. For example, in South Africa, glass is often recycled by the Coca-Cola Company* and turned into bottles. Additionally, they offer a monetary incentive (in the form of paid-back deposits) for the return of glass bottles and 2L polyethylene terephthalate bottles (Ref PET). This also has a secondary benefit, which is that unemployed South

Africans collect and sell back bottles found littered around, providing them with a small capital injection whilst also cleaning the country of waste. In South Africa, some brands, such as Woolworths* only sell reusable, textile bags; Woolworths also encourages buyers who have a surplus of bags to donate them so that they may be redistributed. Certain milk businesses in South Africa also use aseptic cartons*, which contain approximately 60% less plastic than alternatives. On a global scale, many companies use recycled and reusable packages, including Samsung, Puma, Zara, and Calvin Klein.

As a leader of the International School of Cape Town's Environmental Portfolio, it is my mission to curb ecological damage, unsustainable development, and unnatural climate change. One of the initiatives that we pioneer as a portfolio is sustainable packaging. We collect bottles and packages to be reused wherever possible, either as plant pots for indigenous gardens or as Eco-bricks (building bricks made from plastic bottles and filled with non-degradable waste)*. Many Cape Town companies, such as Soil for Life, act as collection points for said Eco-bricks. Additionally, we as a school align ourselves with a number of recycling companies, which receives the waste from our recycling bins to be reused and recycled. My family and I always favour reusable shopping bags over single-use ones as a convention, and reuse all glass jars for storage of jams, marmalades, and honey from our hives, which reduces our personal output of packaging. We drop off all glass bottles (e.g. wine bottles) that we accumulate at our local recycling repository.

Many global initiatives strive to implement sustainable packaging, including the UN, whose Sustainable Development Goal (SDG) No. 12 (Department of Economic and Social Affairs, 2023): 'Responsible Consumption and Production' outlines the need for more eco-friendly packaging. The British Government has also invested large amounts of capital (3.2 million GBP) into plastic alternatives and innovation. The EU makes an important point* in that sustainable packaging should also hold food in efficient portions, as an estimated 30%* of all food produce is wasted, much of which is a result of badly-portioned packaging (eg too much food in one container, resulting in rot). Many smaller groups and brands such as educational centres and environmental initiatives like Kirstenbosch Gardens teach students about the value of sustainable packaging. It is important to note, however, that a lot of companies' pledges and promises on sustainable packaging can either be overzealous or not completely true, in that they source their 'sustainable packaging' from third-party suppliers that do not always follow ethical practices. This is generally unknown to the consumer, creating a unfounded sense of brand trust. This is a practice commonly referred to as 'greenwashing'.

On a local scale, South Africa can benefit from the use of sustainable packaging in several ways; firstly, reduced emissions from recycled plastics puts us on the correct path for our carbon reduction pledge for 2030. Additionally, consumers of goods with reusable packaging, such as textile shopping bags, may incur lower costs in the long term as a result

of not continuously purchasing single-use bags (though it is important to consider the controversy surrounding the effectiveness of reusable bags on CO₂ emissions*). It can also be argued that many industries, such as fishing, can benefit from lower quantities of non-degradable packaging in their areas of work (marine life would ingest fewer plastics and microplastics, lowering food contamination and marine death). Sustainable packaging is also designed to use less resources* such as energy, plastic and water, particularly when made from recyclables, which would prove beneficial, especially considering South Africa's already strained electrical supply*. Lastly, less packaging strewn about the streets and the environment would undoubtedly make for a more pleasant and attractive country, showcasing South Africa's natural beauty even more than it already is!

On an international scale, sustainable packaging holds a plethora of benefits for businesses, consumers, and the environment. Firstly, it reduces the amount of polluting waste ending up in landfills and water bodies, ultimately helping the biosphere maintain a healthy equilibrium. Using sustainable packaging may also help companies comply with governmental regulations, while reducing costs* due to the ability to reuse packages. In addition, this helps businesses by improving brand image and consumer trust. Moreover, eco-friendly packaging would reduce climate change as a result of lowered greenhouse emissions. The extraction of resources used in packaging and the manufacturing of it both include the burning of fossil fuels and the release of CO₂ into the atmosphere - if used correctly, sustainable packaging would limit this. Fewer microplastics (microplastic defined as small pieces of plastic less than 5mm in length*) would leach and percolate into the Earth with sustainable packages, further increasing the health benefits to us and other organisms of our land and oceans. Studies* indicate that microplastics can be passed down food chains to humans (trophic transfer), causing damage to organs, and the immune, respiratory, and endocrine systems. If the growth in polluting packaging is not slowed, an estimated 400 million tonnes* of microplastics will be released annually by 2050, which will have dire implications for biodiversity in the oceans and for human health.

Considering the benefits of sustainable packaging, it is important to deliberate the effects of plastic and other environmentally damaging substances on remote parts of the globe. On June 7th, 2022, researchers from the University of Canterbury published a report* on the presence of microplastics in the Antarctic. In it, they found that all of the snow samples taken from across the 19 sites of the Ross Ice Shelf contained traces of microplastics, with an average of 29 plastic particles per Litre of melted snow. The majority of these were polyethylene terephthalate, which as mentioned previously, is the main constituent of plastic bottles. This presence of microplastics can potentially exacerbate climate change through the acceleration of snowmelt, and also hinder the reproductive functions of indigenous fauna. In 1989, the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) launched an initiative to track plastic loads along the Antarctic shoreline*; these

assessments give us conclusive evidence on the presence of macroplastics around the Antarctic continent, much of which originates from unsustainable packaging. Antarctica is one of the most remote, human-deprived locations on the globe, which shows the far-reaching extent to which unsustainable packaging influences the world.

Personally, if I were to receive the Once in a Lifetime opportunity to visit Antarctica, I would find it pivotal in my yearning to expand my global awareness and environmental research. Considering my wish to study International Environmental Law, a first-hand research expedition and assessment of the continent's relationship between geomorphology, biodiversity, and human influence would prove to be invaluable in my lifelong mission to maintain a healthy environment.

In conclusion, it is imperative that we as a country, and as a global effort, transition ourselves into a world with more sustainable packaging, be it through governmental policies and laws, business incentives, or customer rewards. Let's protect the world - from Africa to the Adriatic to the Antarctic.

As a new generation, we hold the Earth in our hands - let us hold our consumables in a way that Honours Her.

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