

ON A QUEST TO REDUCE WASTE

TOWARDS BUILDING A CIRCULAR ECONOMY FOR PLASTIC WASTE THROUGH INTER-INDUSTRY CORPORATE PARTNERSHIPS

The world's population has increased exponentially in recent years. This has led the food and beverage industry to increase its plastic products production – through soda cans, juices, plastic water bottles, snack packs, etc. Due to this, there has been an issue with plastic waste being sent and/or misplaced in different, sometimes forgotten areas. As a result, large amounts of plastic are flowing into our natural environment, particularly our oceans, and the global economy is losing \$80-120B USD of resources each year.

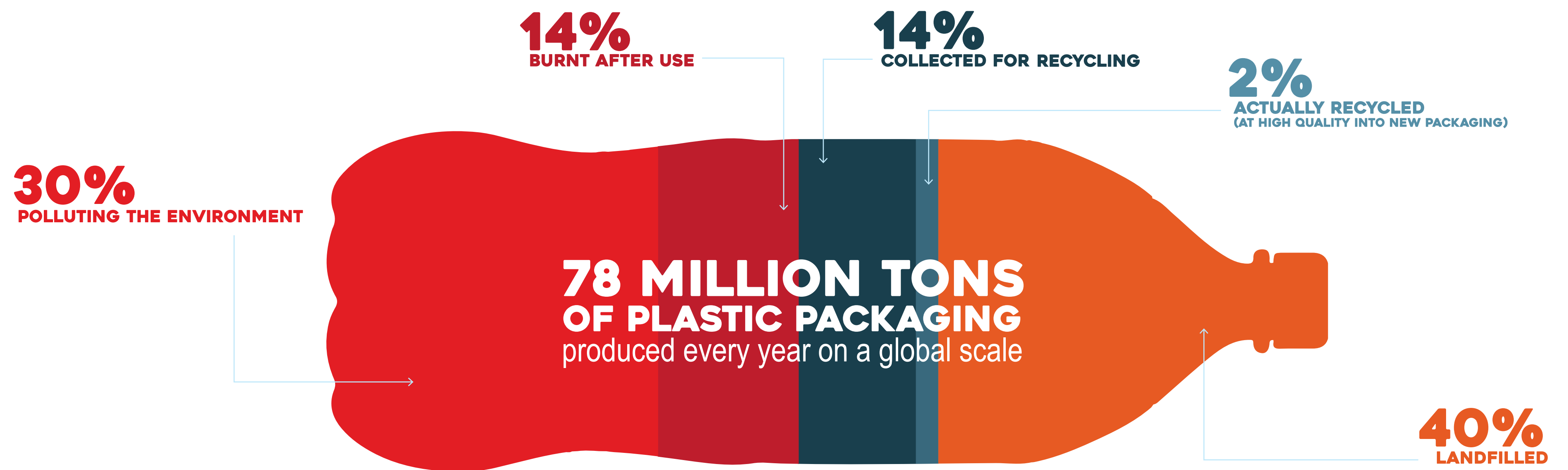
In 2018, the world produced more than 359 million tons of plastic. From this, only 14% has been collected for recycling with only 2% actually being recycled. In turn, companies in the food and beverage industry have produced nearly 80.1 million tons of plastic, taking up 22% of the total waste. Therefore, organizations play a big role in the irresponsible disposal of plastic, being either shipped out to other countries or disposed of in landfills to be forgotten. Most consumers who purchase plastic when it comes to food and beverage products do not know how to sort their plastic waste as "2/3 of people surveyed in the UK say that they get confused on what is recyclable".

Recycling bins get collected and sent to the factory, though it is not guaranteed to be properly disposed of. Recycling companies do not have a

grave enough incentive to recycle plastic, for shipping them out in bins is much more profitable - allows offshore companies to turn this plastic into products. By sending plastic waste abroad, companies create a carbon footprint, - whether the waste is shipped by truck, train, plane or boat, GHG is being emitted - having the lack of recycling be an even greater issue. Moreover, most of that waste is not usable, thus one country's waste becomes another country's waste too - this concept is known as PRN[®].

For example, in 2017, Europe's plastic was shipped out to China. Upon arrival of the shipment, the workers of the plant realized that the plastic waste was non-reusable, leading to them canceling any future transactions with Europe (established the "China National Sword Policy"). Instead of creating a new model for dealing with this waste, European countries are now sending their load to third world countries, furthering the pollution issue and stagnating the world's healing process.

Fortunately, with large companies such as Danone, Aramark, Coca Cola, PepsiCo and Nestle making an effort at an organizational level, these issues can be confronted and help close the gap between recyclable material usage and the misplacement of plastic waste. By analyzing the efforts taken by these 5 companies, we have come up with recommendations that will resolve the problem at hand.



ONLY 2% OF PLASTIC PACKAGING IS BEING RECYCLED

A BRIEF OVERVIEW & ANALYSIS OF 5 COMPANIES



COCA-COLA

Coca-Cola pledged to make all of its packaging fully recyclable by 2025. By 2030, the company aims to achieve the following: make its bottles and cans with 50% recycled content, collect and recycle a bottle or can for every one sold, and to promote the use of recycled PET or plant-based PET as materials for PET bottles.

It has collected more than 1 million recycling bins over the past decade. The company joined DEMETO's industrial advisory board to invest in its chemical recycling's new technology which allows a complete recovery of PET plastic without any degradation of the material.

The company awarded more than \$17 million in grants to the Closed Loop Fund and the Recycling Partnership and other organizations to help expand curbside recycling and provide recycling education to residents in more than 1400 communities. These combined efforts have diverted more than 800 million pounds of recyclables from landfills.

Coca-Cola in South Africa has funded and co-created the PET Recycling Company (PETCO) that promotes and regulates the recycling of PET material after initial use. South Africa has seen an increase in recycling from single digits in the year 2000, to 65% in 2017 which is close to the European rate but exceeds the US recycling rate by more than 20%.

Coca-Cola in Greece launched the Zero Waste Cities program which turns PET waste into furniture for public space which educates citizens about the circular economy concept.

Coca-Cola believes that the combination of partnership and participation of different companies makes a positive difference in the world. + The launch of Global Plastic Action Partnership (GPAP) at the World Economic Forum fostered a collaboration between governments (UK and Canada) and stakeholders (PepsiCo, Dow, and Coca-Cola) in coastal communities to tackle plastic waste issues. GPAP supports Coca-Cola's existing work to address plastic waste including at a local level in Indonesia, the second-largest global contributor to the issue of the ocean plastic.

+ The company has recently joined the American Beverage Association (ABA), industry peers PepsiCo and Keurig Dr. Pepper, and environmental partners World Wildlife Fund (WWF), Closed Loop Partners and the Recycling Partnership, to launch the Every Bottle Back Initiative to reduce the industry's use of new plastic and invest \$100M to improve recycling infrastructure in key regions of the country (USA).

COCA-COLA ANALYSIS:

Coca-Cola is the first multinational brand contributing to plastic pollution across the globe according to a Greenpeace Study. The company produces about 3 million tons of plastic packaging a year which is equivalent to 200,000 plastic bottles a minute. The company could not ditch plastic outright as some campaigners wanted since it could alienate customers - who find that plastic bottles are convenient since they are lightweight and resealable - and hit sales. The business will witness a loss in its profits and sales if they do not accommodate their consumers' needs. Yet, Coca-Cola has been working on different recycling programs and funds throughout the years to "reduce" their plastic waste productions. Moreover, they recently implemented new goals to be reached by 2030 to improve their plastic bottles production process by maintaining a competitive advantage on the market.

Nevertheless, are the actions that Coca-Cola is taking right now enough for a company that has been on the market for more than 100 years?



PEPSICO

PepsiCo's main goal is to become the global leader in convenient foods and beverages. They are achieving this by making an effort in 2 major sections – water impact, and packaging

By 2025, PepsiCo's main goal is to reduce virgin plastic content by 35% while increasing its recyclable plastic use. Their plan is to increase their general recyclable content, introduce alternative materials and even go beyond by extending their brand line. This will in turn improve their circular economy – social inclusion, economic development, driving innovation and of course, reducing waste.

PepsiCo has introduced lines of products that are currently being produced to meet their sustainable goal of reducing non-recyclable plastic use. LIFEWTR has been introduced in 2020 as a 100% rPET (recyclable water bottle). However non-abundant, recyclable material is still being used to produce these water bottles in an effort to diminish their carbon footprint and reduce the impact at a larger scale. Naked juices, a separate product line of PepsiCo's, already use 100% rPET bottle in the U.S. Lastly, Tropicana's bottles were released in Western Europe with 50% of their bottles being rPET, with the goal of reaching 100% by 2025.

Introducing alternative materials: This section also touches on PepsiCo's effort in reducing plastic used in both their packaging and in the bottles themselves. They have joined the New Plastics Economy Global Commitment that unites businesses, governments, and other organisations behind a common vision to reduce plastic waste and pollution. Through this effort, in India for example, refillable glass bottles are being used for carbonated soft drinks. In the U.S., canned Aquafina will use aluminum material rather than plastic, whereas they are also conscious of their need to replace Buby's plastic packaging to something more sustainable (such as recyclable content). By teaming up with NaturALL Bottle Alliance, the company is using sustainably farmed trees that will not diminish food resources and will be less carbon intensive than using oil based PETs.

Extending the brand line: PepsiCo has gone as far as even attempting to offer consumers something very different, though still within the objective of reducing waste. SodaStream has been introduced as a new way to turn your regular water into sparkling and/or flavored sparkling water, promoting reusable, on the go bottles and an effort to increase consumer water consumption. Through this, PepsiCo estimates that by 2025, approximately 67 billion PETs will be avoided or unused by consumers, gradually aiding in the reduction of plastic being produced and wasted.

PEPSICO ANALYSIS:

With PepsiCo's strong devotion towards a sustainable earth, a solid change can be made. However, PepsiCo still produces petroleum-based plastic that is carbon intensive and where solely 14% was recycled as of 2017. Knowing this, there are still issues and contradictions that can be mentioned. Technology driven innovation for a new biodegradable, faux recyclable material has been developed as of recently and will still take a lot more time than 5 years to get every of the same material. Also, with regards to SodaStream, it is hard to expect a consumer to alter their preferences. PepsiCo has been around for 122 years, long enough to be loved by many. Offering a portable sparkling water converter as an alternative or even as a supplement would be very hard to do and would ultimately not help with PepsiCo's sustainable mission. In sum, PepsiCo should continue being proactive though need to be more grounded with what is actually doable in the near future.



NESTLÉ

Nestlé is a Swiss multinational that is the global leader of the food and bottled water industry. In the beginning of 2020, they announced the investment of 2 billion Swiss francs (2.1B USD) in order to limit their production of virgin plastics to one third, as well as producing 100% recyclable or reusable packaging by 2025.

Nestlé is also particularly committed in transitioning to sustainable packaging as demonstrated by numerous partnerships with biotechnology companies such as Danimer Scientific or PureCycle Technologies which work on developing biodegradable plastic packaging. The multinational also created an In-house research center called the Nestlé institute for packaging science where they research alternatives to plastic, such as paper-based, biodegradable or compostable materials.

Nestlé has ratified many partnerships with organisations that communicate and take action against plastic waste. These alliances take place on various continents such as Project Stop in Asia, Ocean clean up in South Korea or with Ocean legacy in Canada.

Following global trends, they have banned plastic straws from their production since 2019 and launched a campaign promoting free access water stations for people to be able to fill their reusable bottles, thus creating awareness around the plastic crisis.

NESTLÉ ANALYSIS:

Nestlé is the third biggest producer of plastic waste in the food industry with approximately 1.7 million tons of plastic generated every year. The company's CEO admitted in January 2019 that recycling was not enough to prevent the plastic waste problematic. Nevertheless, most of their environmental marketing campaigns mention their objective to achieve 100% recyclable packaging and present it as if it were going to solve the issue single-handedly.

The numerous partnerships created to develop more sustainable packaging are necessary for a company of this size to start transitioning away from plastic. Unfortunately, as of 2020, Nestlé has only launched paper-based packaging for one of its products (Yes bars), which is clearly not enough to make a substantial difference.

Creating partnerships with organisations that are specialists in the environmental field is a great initiative as they are crucial to better understanding the plastic crisis, communicating with populations globally and creating meaningful, impacting campaigns.

Nevertheless, being one of the leaders in the food and beverage industry, Nestlé should not be a follower, but a creator of green trends. They should be leading instead of reacting to the growing awareness of the world on plastic waste problematic.



DANONE

Danone is a French multinational food-products corporation. Danone managed to get its B-Corp Certification two years ahead of target and became the largest B-Corp in the world. About 30% of the company's turnover is covered by their B-Corp certification.

In the objective to create value for all of its stakeholders, one of Danone's goals is to help consumers make healthier and more sustainable choices anytime and anywhere. To do so, they want to step up their collaboration with retailers, NGOs and business partners as well as increase investments across all levels of their supply chain (e.g. Closed Loop Fund and Danone AQUA).

Danone formalized a series of global commitments in favor of a circular economy of packaging. These include designing all packaging to be 100% recyclable, reusable or compostable by 2025 as well as developing collection and recycling systems that keep existing packaging material in use. In order to reach its target, Danone will explore shifting packaging from plastic to materials with higher recycling rates (paper, glass, etc.).

DANONE ANALYSIS:

In 2017, Danone generated over 710,000 tons of plastic waste for food products (4th top polluter). According to its 2018 report, only 12% of their packaging comes from re-integrated materials. Danone wants to increase that percentage to 50% by 2030. However, the company should take a more bold and proactive approach by aiming for 100% reintegrated materials by 2025. There is already plenty of plastic in the environment; with the appropriate recycling strategies, the need to produce virgin plastic can be eliminated.

In the light of the numerous partnerships and initiatives that Danone has started to build, it is important to mention that their production and recycling sites need to be aligned with their environmental objectives. Having a reach worldwide, Danone should be focusing on helping consumers where recycling infrastructures are not available yet. Also, as a leader in the industry, Danone should take the first step to improve their labels in order to better engage consumers, and provide clearer information on the sorting and recycling process.



ARAMARK

Aramark is an American company providing food facilities to businesses and to the public. It is the 27th largest employer on the Fortune 500. They are presented as serving as many meals as Macdonald's in the United States of America.

In 2020, Aramark aims to remove 100 Million of their plastic straws and stirrers from their operations. It makes more than 12,000 Miles of plastic. Aramark is still using single-use cutlery and bags but wants to significantly reduce them by 2022.

The ad campaign made to raise awareness seems more powerful than their actual actions. This campaign is following a survey Aramark did, highlighting that 80% of their customers want to reduce their use of plastic. It aims to raise awareness and encourage a change in behavior across their stakeholders. Knowing that Aramark is present in most school cafeterias of the United States, and in more than 20 countries it is definitely positive for future generations.

Finally, Aramark does not discredit other global issues by emphasizing their plastic packaging reduction. They are engaged in reducing their food waste by 50% by 2030, while sourcing their products "ethically", "inclusively" and "responsibly".

ARAMARK ANALYSIS:

Aramark's drastic decrease in single-use plastic from their operation is simply an estimation of a goal that is to be reached only by making plastic stirrers and straws available upon request. A great communication for a simple commodity from their employees. That being said, their goal might not even be achieved as they are not responsible for the plastic use of their customer, if all of their clients request a straw and a stirrer, there will be no reduction of plastic use. This step is small but it is the first one towards a more plastic free world.

OUR RECOMMENDATIONS

CORPORATE PARTNERSHIP

By building a partnership between the top plastic polluters and oil companies (e.g. BP), this alliance can:

- + Create collection points for plastic wastes (at gas stations for instance)
- + Raise funds to develop the technology (e.g. BP Infinia) and build the infrastructures necessary for the recycling process
 - BP Infinia can enable currently unrecyclable polyethylene terephthalate (PET) plastic waste to be diverted from landfill or incineration and instead transformed back into new, virgin-quality materials.
- + Share knowledge regarding sustainable packaging designs
- + Avoid the loss of quality when plastic is not recycled correctly
- + Reintegrate the recycled plastic to reduce the production of virgin plastic
- + Create a circular economy and reduce environmental pollution
- + Provide support to communities around the world who do not have access to recycling infrastructures
- + Improve their brand image and develop a strong PR/marketing campaign

GOVERNMENT ENGAGEMENT

- + Place a Tax on single use plastic by 2021 in view of installing a ban in 2025, once companies have time to change their manufacturing processes
- + Communicate with companies on future bans to ensure that plastic packaging is not replaced by another single use material which would only postpone the problem.
- + Increase transparency and traceability by requiring an identification code on packaging so that they we can trace their origin.
- + Instore regulations that force companies to take responsibility for the entire life cycle of their products. From manufacturing to distribution to recycling or upcycling.
- + Create independent cabinets to measure and assess the yearly progress of major actors of the manufacturing, distribution, and recycling industries.
- + Create funds, grants, initiatives to financially accompany companies in their transition to circular processes.
- + Set up special consulting departments to assist industrial in the development of new strategies will allow them to grow while profiting the environment. These departments should be based on existing collaboration platforms such as the Global Plastic Action Partnership, that unites corporate and political objectives regarding plastic pollution by creating short and long-term solutions.
- + Create information campaigns and communicate with the public to create awareness of the plastic waste problematic and gain support in the enforcement of these new regulations
- + Facilitate international communication channels regarding plastic waste to ensure a global, unified change.

CONSUMER ENGAGEMENT

- + Provide a step-by-step guide on the label of the product to show consumers how to properly recycle the plastic container
- + Provide a QR code on the label of the plastic product that once scanned will direct the consumer to a video of a step-by-step recycling guide
- + Increase the space of the recycling logo on the packaging label of the products so that the consumers can easily know that the product is recyclable
- + Create a sustainability world-wide campaign on social media targeting youth to emphasize the importance of recycling i.e. taking a picture with a hashtag, taking a video of them recycling, etc.
- + Shows the importance and positive impact of recycling on the environment
- + Shows that recycling is not boring
- + Engages teens in a big cause by teaching them about recycling and enhancing their creativity
- + Create a website where consumers can upload a video or document of their ideas on recycling the company's products where the consumer with the best concept will be declared a brand ambassador

LAST, BUT NOT LEAST 04

The circular economy is not just about eliminating waste; it is also about driving innovation, social inclusion, and economic development. The potential is tremendous: estimates say the circular economy is a trillion-dollar opportunity for the global economy. By 2030, it could create 1.2 to 3 million jobs in Europe alone.

03

PRESERVATION OF NATURAL RESOURCES
Reintegrating recycled materials
Boosting renewable materials

*PRN: A WASTE OF A GOOD IDEA?!

The Packaging Recovery Note (PRN) is a government subsidy originally designed to encourage recycling. However, it is undermining the competitiveness of the domestic recyclers in the UK. The poor design of the system, and its lack of transparency, benefits exporters providing a cheap disposal route for low quality wastes. If plastic is collected in the UK, about 50% can be recycled since the other 50% is contaminated. Hence, you earn 1/2 PRN. However, the system would consider it 100% recycled if that plastic is shipped somewhere else, and the exporter would earn 1 PRN.

