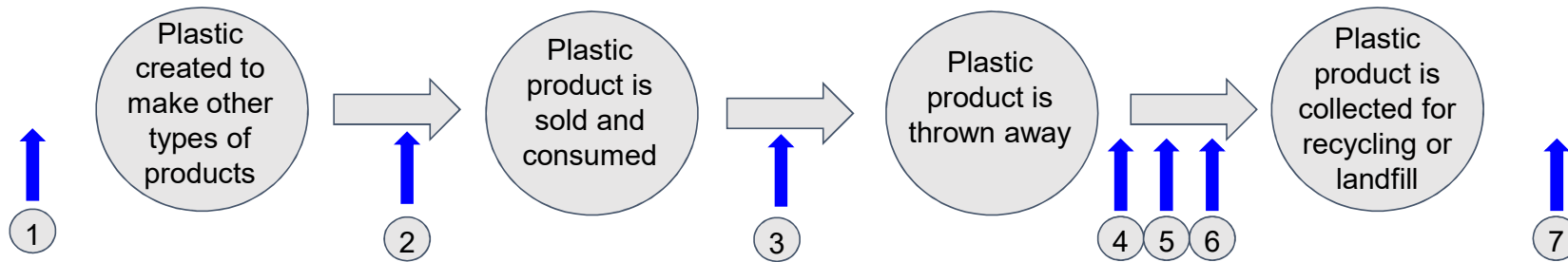




Plastic Oceans Canada

Outline for Educational materials in Industry

The Life Cycle of Plastic



Along the Life Cycle of Plastic business opportunities exist:

1. Alternative Materials - We need better (non-toxic, biodegradable, eco-friendly) materials that can be used for large scale applications like packaging and single-use plastics.
2. Promotion of “Good Plastic” Products and Businesses – We need to promote and support innovative products and businesses that reuse, repair/refurbish, recycle or reduce plastic use.
3. Consumer Use & Reuse – We need to improve all steps of waste management (collection, tracking and sorting) that can lead to better recycling and closed loop systems.
4. Waste Collection – We need to develop opportunities and incentives to improve better collection and sorting of plastics
5. Recycling and Repurposing – We need better plastic materials that can be reclaimed or recycled into a closed-loop system
6. Conversion and Disposal – For those plastics unable to be captured in a closed-loop system, we need to invest in environmentally and financially sound waste-to-energy technologies [We recognize the contentious issues around waste-to-energy technologies. We see them as a viable bridge solution to manage existing plastic not captured in other systems]
7. Last-chance Capture

Rethink Plastic

What does it mean to Rethink Plastic?

Plastic is a material we all believed to be benign; something that causes no harm to our health or our environment. Therefore, we have incorporated plastic into almost every aspect of our lives.

We now know that plastic is far from harmless and it is time to reconsider when we use it, how we use it and how to manage it.

Through our industry verticals, we explain how different industries use plastic and show examples of how certain companies are rethinking plastic.

What is an Industry Vertical?

The different broad industry categories and their subcategories where businesses are leading by example and where opportunity for additional business innovation can occur.

Industry Verticals

Industry Verticals



Personal
Care



Fashion



Food &
Beverage

Sub Industries

For Women

Unisex

Clothing

Eyewear

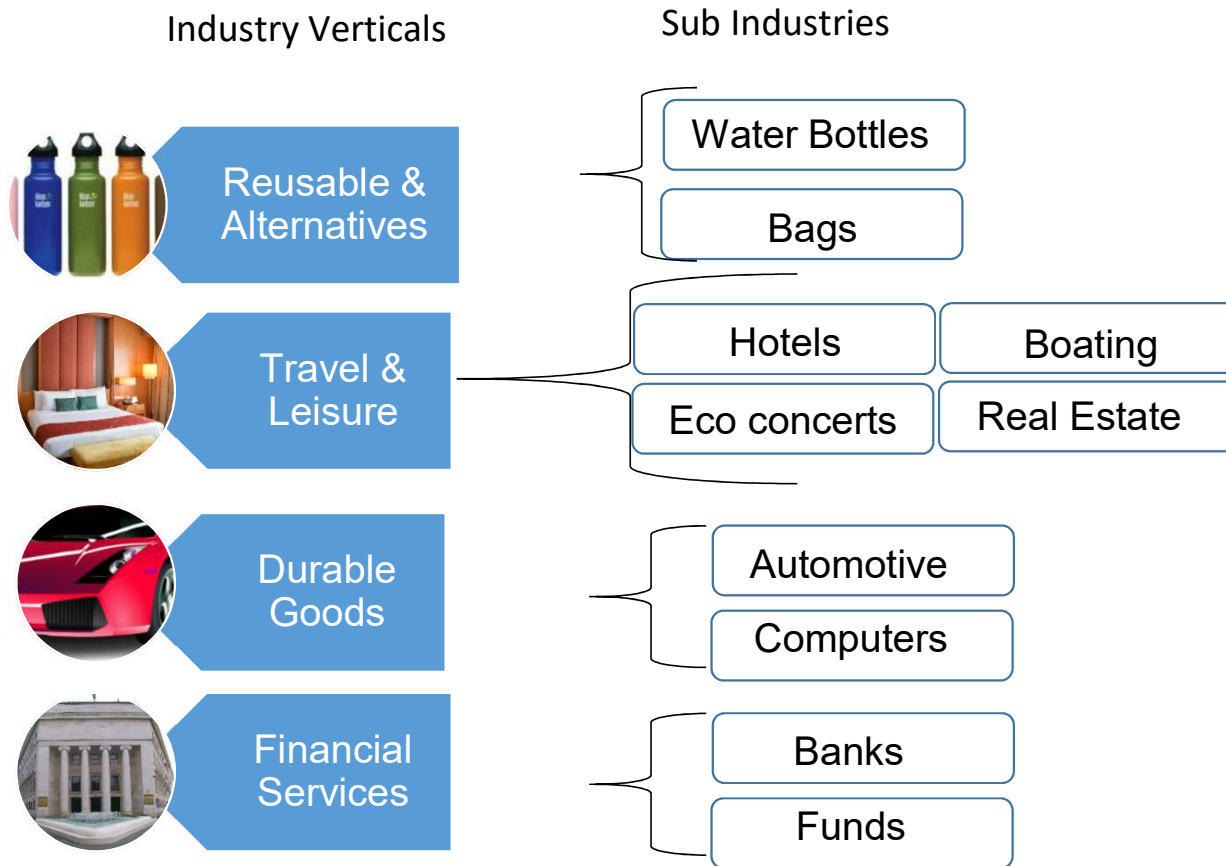
Shoes

Restaurants

Grocery

Beverages

Industry Verticals



Industries



Food & Beverage

Single use plastic is the fastest growing form of packaging for food and beverage (think fast food, supermarkets and bottles). Examples take-away containers, coffee cups, produce bags. In the United States, not even 14% of this plastic packaging is recycled and yet nearly a third of its solid waste stream is comprised of packaging.

Single-use packages of food and drinks are made from virgin materials and are discarded after only one use. These are cups, bottles, bags, wrappers, boxes, pouches etc. Unfortunately producers of fast food, beverage and consumer packaged goods fail to take sufficient responsibility for the packaging they generate.

Some of these items are recyclable but companies that generate this packaging does little to encourage customers to recycle. In other cases, some of the items aren't recyclable at all; for example a popular juice pouch for kids, produces 1.4 billion pouches of pouch waste each year. That's enough to reach half way to the moon!

Industries



Fashion

Fashion is the second largest pollutant of the environment after the oil industry; the manufacturing process needed to create clothing consumes a lot of energy and pollutes waterways with harmful chemical dyes. On top of that, plastic otherwise known as synthetic fibers, in clothing (think nylon, viscose, polyester, rayon, spandex) makes up about 60% of the clothes we wear.

The use of these materials is on the rise to keep up with the fast pace of fashion commonly referred to as “fast fashion” and the desire for brands to make clothing as cheap as possible for consumers. These products have a short wearable life span but a very long time span in landfill.

The other problem with synthetic fibers is when washed, microfibers are released and filter past wastewater treatment systems and find their way into the ocean where they become toxic pills to be consumed by fish. The best way to avoid is buy products that are made of organic fibers where possible but if you do buy synthetic then wash as little as possible, buy a front load machine washer or wash synthetic clothes in one of these bags that traps a lot of the fibers: <http://guppyfriend.com/en/>

Industries



Personal Care

Plastic is ubiquitous with personal care, especially cosmetics, from the packaging containing the cosmetics to the actual ingredients in cosmetics. Microbeads, found mostly in soaps, facial scrubs and toothpaste, wind up in the ocean where toxins (such as polychlorinated biphenyls or bcp's) easily adhere to microbeads and are then consumed by marine life such as fish. In essence they become toxic pills.

Microbeads isn't the only buzzword to look out for, synthetic polymers, which are derived from oil (as opposed to natural polymers which are water based), are found in everyday creams, shampoos, conditioners, foundation, mascara and nail polish.

The use of these synthetic polymers is widespread because it gives products certain textures. No one knows how the repeated use of these ingredients on our skin and hair impacts our health over the long term but the daily application of multiple products with synthetic polymers can't be good for your health.

Industries



Reusable Products

Reusable Products replace the need for single use plastic items such as bottles, straws, bags, food containers, cups etc. Using reusable products instead of single use plastic not only cuts down on plastic it also saves the consumer money in the long run, improves your health since plastic is known to leech chemicals into your body and it will stay out of the oceans.

Here are some key statistics:

Plastic Bottles: The average American used 167 disposable water bottles each year, but only recycled 38. Of the top 10 items found in beach clean ups around the world, plastic bottles rank 2nd.

Plastic Bags: The average American consumed 424 plastic bags each year and only 4 get recycled. In terms of coastal cleanup, this is the 3rd most commonly found item.

Plastic Straws: The average American used 584 straws, that's enough to fill over 125 school buses with straws every day. They rank 5th in most commonly found items in coastal clean ups.

Materials provided by Plastic Oceans Canada

Industries



Travel & Leisure

Travel and Leisure includes airlines, cruises, yachting, hotels and so many more sub-categories that are inextricably linked to the health of the oceans. Eighty percent of all tourism takes place in coastal areas, with beaches and coral reefs amongst the most popular destinations as cited by WWF. Getting to these destinations and staying at these destinations create excessive plastic waste.

According to IATA Airline passengers generated 5.2 million tons of waste in 2016 including plastic such as cups, cutlery, headsets, bottles, trays etc. It is expected to double over the next 15 years. Airlines spend about half a billion USD on cabin waste annually and barely anything is recycled, most of this waste is either incinerated or buried.

The hotel sector accounts for around 1% of carbon emissions globally. Plastic accounts for a staggering amount of this waste. The plastic key card alone accounts for 1,300 tons of plastic waste each year the equivalent of 5.78 statues of liberty. This doesn't include all of the water bottle, straws, toiletries, containers, bags, cutlery etc. According to Green Hotelier, a hotel guest generates about 1 kg (2lb) of waste per night and more than half of it is in paper, plastic and cardboard.

Industries



Durable Goods

Durable goods are considered goods that don't quickly wear out such as computers, cars, furniture, tools etc. Plastic by its very nature is a durable good since it is built to last forever but for the purpose of this category we will differentiate between single-use plastic and goods that are made of plastic but with long term use.

The problem with durable goods is that many municipal wastes centers aren't equipped to handle them let alone recycle them. There is a growing awareness among certain manufacturers of durable goods about this issue of waste and recyclability.

Industries



Financial Services

The financial sector often plays an indirect role in the plastic industry by providing loans to companies that manufacture plastic or by investing in companies that manufacture plastics. This sector can play a key role in promoting awareness about the problem but also in funding alternatives or solutions. We think this is an important sector to catalyze change. They can help turn the tide on plastic.