OF ALL THE PLASTIC WASTE EVER GENERATED — ALL 6.3 BILLION METRIC TONS OF IT — ONLY ABOUT 9% HAS BEEN RECYCLED.

FREQUENTLY ASKED QUESTIONS

Plastic waste is everywhere. It has been found floating on the sea surface, washing up on the world's most remote coastlines, melting out of Arctic sea ice and sitting at the deepest point of the ocean floor nearly 7 miles beneath the surface.

WHAT IS PLASTIC?

Plastic is a synthetic material that is easily molded into solid objects and is generally made from petroleum-based chemicals and other additives, some of which are toxic.

HOW MUCH PLASTIC IS PRODUCED?

As of 2015, approximately 8.3 billion metric tons of plastic had been produced — imagine the weight of the Empire State Building, and then multiply that by 25,000. The world is currently producing approximately 400 million metric tons of plastic, and production is expected to increase fourfold by 2050.

WHAT IS THE HISTORY OF PLASTIC?

The first plastic derived from fossil fuels was called Bakelite and was invented in 1907 by Leo Baekeland. By the 1940s, plastics were being used for consumer goods like drink bottles, and by the 1950s, we had entered the era of "throwaway living." Plastics were originally seen as a cheap, durable and lightweight alternative to materials like glass. Unfortunately, our throwaway lifestyle has become commonplace, and companies are not



being held accountable for the damage their products are doing to the environment.

HOW IS PLASTIC USED?

Plastic has become an unavoidable part of our everyday lives. From toothpaste and shampoo to coffee and takeout meals, plastic is all around us. It is nearly impossible to find plastic-free versions of everyday products. In fact, more than 40% of all plastic produced today is used for packaging, the industry's largest sector. That packaging is usually for items labeled as disposable, single-use plastics — think water bottles, plastic bags and plastic wrap.



WHAT IS THE PROBLEM WITH SINGLE-USE PLASTIC?

Single-use plastic is profoundly flawed by design. It uses a material made to last forever to produce items that are designed to be thrown away.

The problem with plastic is that it never really goes away. Instead, it breaks up into smaller and smaller pieces, which not only contain harmful chemicals but also act as magnets for other harmful contaminants. When eaten by fish, some of those contaminants make their way from microplastics into our food supply.

HOW MUCH PLASTIC MAKES ITS WAY INTO THE OCEAN?

An estimated 8 million metric tons (17.6 billion pounds) of plastic enters the oceans each year, which is roughly equivalent to dumping a garbage truck full of plastic into the oceans every minute.

WHAT IMPACT IS PLASTIC HAVING ON OUR

OCEANS?

As plastics continue to flood into our oceans, the list of marine species affected by plastic debris expands. Tens of thousands of individual marine organisms have been observed suffering from entanglement or ingestion of plastic. Scientists estimate that 90% of seabirds have ingested plastic, and a 2019 study investigating plastic in 102 sea turtles found plastic in every single individual.

Even zooplankton, tiny marine organisms that form the base of the ocean food chain, are eating plastic, which then accumulates in larger ocean predators, like fish, that feed on zooplankton.

HOW ARE HUMANS EXPOSED TO PLASTIC IN THEIR DIET?

Plastic enters the human diet in a variety of ways. Microplastics have been taken up by marine organisms and found in every part of the food chain, including the seafood we eat.

We're also exposed to microplastics through air and water. Plastic particles and fibers in indoor air can enter our diet when they fall on food and beverages that we then consume. Microplastics have also been found in both bottled water and tap water samples. A benefit of drinking treated water from the tap is that it does not come with the added harm of a plastic bottle.

HOW DOES PLASTIC IMPACT HUMAN HEALTH?

Plastics are a threat to human health through every single stage of their life cycle, from extraction and production to consumer use. They're making their way into our food, water and air. Everything from salt to honey to beer has been found to contain microplastics. It is undeniable that we are eating and drinking plastic, but just how much and how it is impacting our health is still unclear. Scientists continue to study the potential health effects that plastics could have on humans.

WHERE HAS PLASTIC BEEN FOUND?

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ARE INCREASED RECYCLING EFFORTS ENOUGH?

Companies seem to want you to believe that if everyone recycled, our oceans would not be choking on plastic.

Unfortunately, recycling alone is not enough to solve the plastics crisis. Of all the plastic waste ever generated — all 6.3 billion metric tons of it — only about 9% has been recycled. Another 12% has been incinerated, and the large majority of our plastic waste has ended up in landfills or the environment (79%).

Plastic production has far outpaced waste management's ability to keep up. Projections show that trend worsening as production increases, which will lead to an increase in the amount of plastic entering the ocean.

WHAT IS REALLY HAPPENING WITH OUR RECYCLED PRODUCTS?

Not everything that goes into the recycling bin actually gets recycled. Some is disposed of or lost in the recycling process. Some is turned into lowervalue products, known as "downcycling." And some is exported to developing nations with less robust waste infrastructures, which means the plastic we thought was being recycled often ends up in a landfill or in the ocean on the other side of the globe.

WHAT ABOUT BIOPLASTICS?

The term "bioplastics" is a broad term that is used to describe bio-based and biodegradable plastics. Bio-based plastics can be made fully from renewable biomass or from a combination of renewable biomass and petroleum sources. This material is not biodegradable, as its composition is the same as regular plastic.

Biopolymers, meanwhile, are made from natural substances and can break down into natural elements with the help of microorganisms in industrial composting facilities. The most commonly produced biopolymers are PLA and PHA. While these materials have some advantages, they are not being produced at a commercial scale and the composting facilities they require to break down are not commonly accessible.

WHAT ARE COMMON ITEMS FOUND IN BEACH CLEANUPS?

Some of the most common waste items found in worldwide beach cleanups are utensils, food wrappers, plastic beverage bottles, plastic bottle caps, plastic grocery bags, other plastic bags, straws/ stirrers, plastic containers, plastic lids and foam takeout containers — all single-use plastic items.

WHAT NEEDS TO BE DONE TO SOLVE THE PLASTICS PROBLEM?

To stop plastic from entering our oceans, Oceana is demanding companies reduce the amount of singleuse plastic they're producing and offer consumers plastic-free choices for their products. Until companies stop forcing us to use plastic — a toxic, wasteful and persistent pollutant to our planet — this problem will not go away.

WHAT POLICIES ARE NEEDED TO TACKLE THE PLASTICS CRISIS?

In addition to policies requiring companies to reduce plastic production, single-use plastic bans can help reduce the amount of plastic entering our oceans. In Alameda County, California, a plastic bag ban and paper bag tax led to an 80% decrease in the use of



single-use paper and plastic bags, a 200% increase in the number of shoppers bringing reusable bags or not using a bag at all, and a 44% decrease in plastic bags found in the county's storm drains. In Washington, D.C., a 5-cent plastic and paper bag tax resulted in more than a 60% reduction in single-use carryout bag consumption.

Bottle-deposit return systems also encourage customers to return their waste to retailers and producers to be properly recycled. Manufacturers should also ensure their products are easily recyclable, cover the cost of cleanup for the waste they generate, and raise awareness about proper waste disposal and the harm caused by mismanaged waste.

WHAT CAN CONSUMERS DO?

Consumers should demand companies offer plasticfree choices and demand their communities ban single-use plastics, whether it's at their workplace, school or place of worship. We can also limit single-use plastic in our daily lives and recycle whenever possible.

WHAT ARE EXAMPLES OF PLASTIC-FREE CHOICES?

Some companies are starting to move beyond recycling commitments by eliminating single-use plastics or implementing reusable and refillable packaging options.

Reusable packaging for products and deliveries presents a great opportunity to reduce delivery waste at a time when online shopping is increasing. Imagine receiving products like coffee and soap in reusable containers, only to return them and have them cleaned, refilled and sent out again — all in reusable shipping packaging.

Other businesses are tackling the problem of to-go cups and takeout containers at locations like college campuses and sports arenas. Product-refill stations are also a great way to reduce waste by allowing customers to continue to reuse the same containers for items such as laundry detergent and other household items, simply refilling them as needed. Some companies are also developing products that remove the water from items like shampoos and body washes, allowing them to be sold without plastic packaging.

WILL PLASTIC-FREE PRODUCTS BE MORE

EXPENSIVE?

Although single-use plastics may be cheaper for companies to produce, they come with hidden costs to the environment, which consumers ultimately pay the price for. If companies were held accountable for the waste and destruction their products create, this may no longer be the case.

IS OCEANA ADVOCATING THE BANNING OF ALL PLASTIC?

No. While harmful to the environment, single-use plastics can be important to the medical field for both safety and sanitation. Our focus is on unnecessary plastic uses, especially for single or short-term use.

Until companies stop forcing us to use plastic — a toxic, wasteful and persistent pollutant to our planet — this problem will not go away.

HOW DOES PLASTIC IMPACT CLIMATE CHANGE?

Climate change and the plastics crisis are intrinsically linked. It is impossible to fight one problem without considering the other. Studies have shown that plastic contributes to climate change at each stage of its life cycle. This happens at the very start of the life cycle, when greenhouse gases escape from fossil fuels extracted and refined to make plastic and from fossil fuels used to generate plastic in energy intensive processes. Greenhouse gases are later emitted during the transport of virgin and waste plastic, in landfills and during incineration. In the environment, greenhouse gases continue to be emitted as plastic breaks up.

With plastic production rates anticipated to increase, so will plastic's effects on our climate — by 2030, plastic-related greenhouse gas emissions are conservatively expected to reach 1.34 gigatons per year, which is roughly the emissions released by 295 coal plants.