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Why we can't just stop using plastic



To date, there are 150 million metric tonnes of plastic in the ocean. If it is difficult to picture how much that is, the largest accumulation of this plastic – called the Great Pacific Garbage Patch – is **3 times the size of France**. And each year this patch just keeps getting bigger – 8 million metric tonnes bigger, to be exact.

So why is this the case? According the Ellen MacArthur Foundation, only 14% of all plastic produced gets recycled, while the remaining 83% is incinerated, landfilled, or ends up in our ecosystems. This results in an estimated USD 80-120 billion worth of plastic material value that is lost to the economy each year.

There's no doubt that plastics pose a big problem when it causes issues such as pollution, depletion of limited fossil fuels, and the loss of economic value.

But perhaps the biggest issue of this problem is our severe dependency on plastic. It is incredibly difficult, if not nearly impossible, for us to abandon all dependency on plastic – it is simply too useful and effective for its numerous applications, and as of yet no other material has come close to matching its cost-effectiveness ratio.

We cannot simply cut out plastic

Let's take plastic water bottles as an example. These water bottles, sold in stores around the world, are considered to be single-use plastics – the ones most notorious for finding themselves in our ecosystems and waterways. Now, knowing the immense magnitude of the harm that these single-use plastics cause to us and our environment, we could say, 'We need to cut out all single-use plastics. Let's switch to glass.' It may seem like a good idea at first, but after considering the logistics of it, it comes to light that that is not really a viable solution at all.

First of all, it is much more costly to produce a glass bottle than a plastic bottle, which would drive the price up a few dollars. It might be a price we are willing to pay, but what about the poor in countries with non-drinkable tap water who can barely afford to buy enough water in the first place? They certainly can't keep up with that price raise.

Secondly, in order to be durable, glass bottles will need to be thicker, meaning that they will take up more material resources than would a plastic bottle. But even after making them thicker, glass bottles would still be more fragile and much more dangerous when accidentally dropped on the ground.

Finally, how do we even guarantee that these glass bottles will be recycled? If the plastic bottle problem lies in people neglecting to put them in the recycling bin, what difference would it make to give them a glass bottle instead? We would be left with more or less the same problem that we currently have of lots of bottles being produced but not a lot of bottles being reused.

If that example hasn't convinced you of the futility of swapping out plastic for glass, imagine buying a packet of crisps wrapped in glass packaging. Not exactly practical or useful.

So what should we do instead?

We know that plastic is a problem that needs to be solved, we know that we can't just ban it because we need it for too many things, we know that replacing plastic with another material will in most cases not solve the problem, and we know that time is running out for us to find a solution before there will be more plastic than fish in the sea.

Well, instead of saying ban all plastics, let's turn the ones we have into a resource for making the next generation of plastics, thus effectively reducing the amount of plastics lost in the environment and the amount of natural resources we need to pull from the ground to make all of them. How can we do this? The circular economy has a few ideas.

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A circular economy of plastics

The circular economy reshapes the economy from its current linear fashion of *take, make, waste* into a circular fashion of *recycle, consume, reuse*. In water bottle terms, that means that rather than producing a water bottle from virgin materials, using it once, then throwing it away to never be useful again, instead we make a water bottle out of materials recovered from previous water bottles, use it, and then make that bottle useful again by turning it into a new bottle.



Reshaping the plastics economy from linear to circular

A key principle of the circular economy is that nothing drops out of the system as waste – every material, residue, by-product, and emission is made useful for one thing or the other. So in the circular economy, we no longer see discarded plastic as waste with no value, but rather as a resource with much value. When value is given to waste plastic, end consumers and corporations alike are much less willing to let it slip away and will focus efforts on recovery, reuse, and recycling these now-valuable plastic resources.

This is already being done to some extent in some countries, like Germany and The Netherlands, who have implemented ‘reverse vending machines’ in supermarkets that issue the customer a few cents for each bottle returned. This incentivises plastic recycling for consumers and increases rates of recovery and recycling, ultimately keeping plastics out of our oceans.

Where there is no value there is no incentive, where there is no incentive there is no change.

Plastic recovery schemes like the bottle return machines have already been implemented in European countries, but it is particularly important that they are implemented in countries like China, Indonesia, Philippines, Vietnam, and Sri Lanka, where most of the plastic in the ocean is thought to originate. One city in Indonesia understands the importance of plastic waste valuation, and now allows its citizens to pay their bus fare in plastic bottles, which saves up to 90 tonnes of plastic a year from entering marine life's homes. Nonetheless, this project makes only a dent in the monstrous plastic problem, and recovery programs like these need to be pushed to a global scale.

But if we are already recycling, how is the circular economy different?

Granted, boosting recovery and recycling rates through the valuation of plastic is not a new concept. Especially in developed countries, plastic recycling has been around for a long time, and has only been so effective (remember that only 14% of all plastics get recycled). Doing more of the same is not going to cut it.

So what makes the circular economy different from recycling is a shift in focus from considering the sustainability and value retention of plastics only at their end-of-life, to considering it throughout their entire life cycle. This means (re)designing both the system and the products to retain value in every stage of the cycle. This can be done by designing the production process to generate as little waste as possible, and when it does, loop that waste back into a different industry via industrial symbiosis. The products themselves should be designed to last longer and be used longer, as well as to be made out of fewer polymers in order to make recycling them much cheaper and easier so that they can economically replace virgin plastic.

These, among others, are some of the ways the circular economy can help us change the direction of plastics from downstream into our oceans to upstream back into our economy.

DO YOUR PART TO KEEP PLASTIC OUT OF OUR OCEANS

In order to forward the circular economy, MaterialTrader has set up an online platform for trading raw materials, residuals, and recyclables. You can help us get the circular economy going by listing anything you might have to trade on our platform, rather than letting it go to waste.

CIRCULAR ECONOMY, PLASTIC