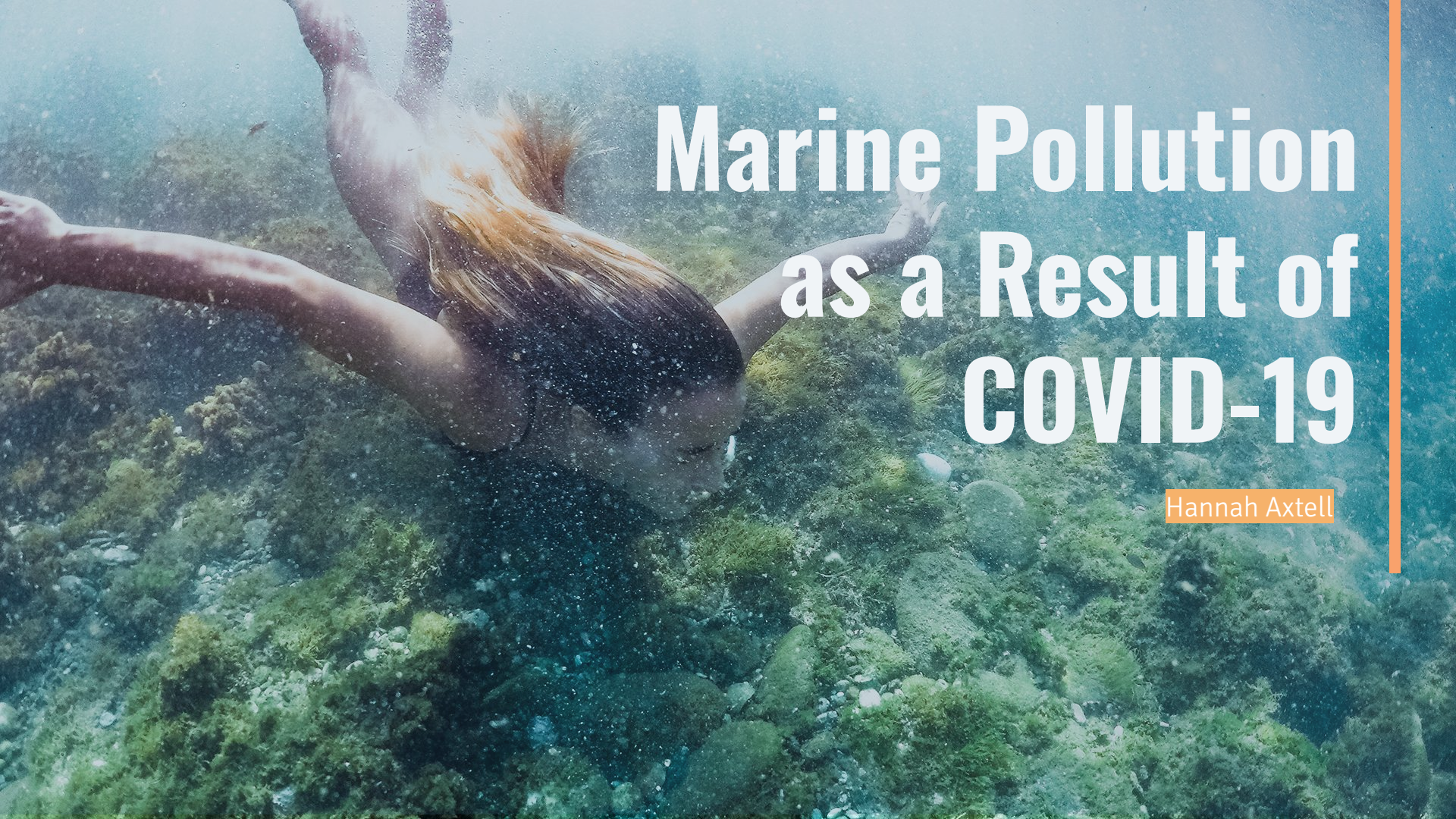

Marine Pollution as a Result of COVID-19

Hannah Axtell

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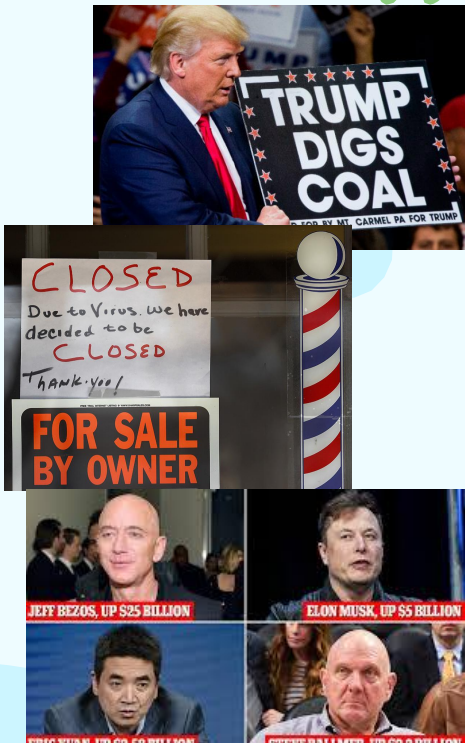
01 The Problem

The problem is more plastic pollution in our oceans as exacerbated by the COVID-19 pandemic with masks in particular being a main concern for the marine ecosystem. Marine Pollution, an already threatening force to the largest habitat on Earth, has seen drastic increases since the inception of the Coronavirus health crisis as the concentrations of non-recyclable materials, such as take-out plastic containers, and disposable face masks in our oceans have reached an all-time high.

But wait...I thought COVID-19 was having a positive effect on the environment?

While it is in fact true that due to the lockdown response the globe has shared universal decreases in carbon emissions with workers staying home, factories closing temporarily, and travel in general (less cars on the road, planes in the sky, etc.), it is also true that, especially in the U.S., there has conversely been environmental rollbacks on the regulating policy standards designed to keep large polluting industries in line, in turn, gutting protections for air and water, the very essentials of life, just when the American people need dependable, clean resources more than ever. Additionally, the pandemic has led to increased disparity between the wealthiest and poorest U.S. populations, Forbes even going as far to label it “The Largest Transfer of Wealth in Our Nation’s History” as billionaires continue to accumulate even more wealth with flourishing online infrastructure, small businesses continue to close, and the poor continue to patternly get sicker and more hopeless, leaving sustainable options out of the question.



02 COVID-19

That is to say, COVID-19 has cracked an already failing plastic recycling system (recycling plant closures all over the world as demand for recycled material has fallen), just as big oil firms are investing hundreds of billions of dollars to make even more plastic. These investments in increased production drastically exceed the industry's spending to tackle the consequent plastic waste. Additionally, New plastic, known to the industry as "virgin" material, can be half the price of the most common recycled plastic. in turn, nearly doubling the devastating agglomeration of plastics in our landfills and oceans. From Wuhan to New York, the demand for face shields, gloves, hand sanitizer bottles, takeaway food containers and bubble wrap for online shopping has surged, and since most of that cannot be recycled, it goes to waste. And along with the heightened demand for food delivery packaging; governments have loosened restrictions on single-use plastics, which are deemed to be safer for consumers, while retailers have started to ban bring-your-own-container schemes to reduce the risk of the virus spreading (no reusable bags at the grocery store, etc).

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The Effect

It is a calamity of disastrous proportions and based on these figures alone, scientists have a good reason to be alarmed. When plastics enter the ocean, they become a long-term issue for the environment due to their inability to biodegrade. Commonly used plastics found in water bottles, drinking straws and fishing lines are virtually indestructible, decomposing only in the presence of sunlight over hundreds of years. When these plastics do start to break down, however, they produce tiny fragments called secondary microplastics, which contain chemicals and pollutants that can also harm wildlife. With a lifespan of nearly 450 years, polypropylene non-disposable face masks, plastic bags, takeout containers, gloves, hand sanitizer bottles, etc. are an ecological timebomb given their lasting environmental consequences for our planet.

What Exactly Does an Increase in Single-use Plastics and Covid-related Personal Protective Equipment (PPE) Mean for the Marine Ecosystem?

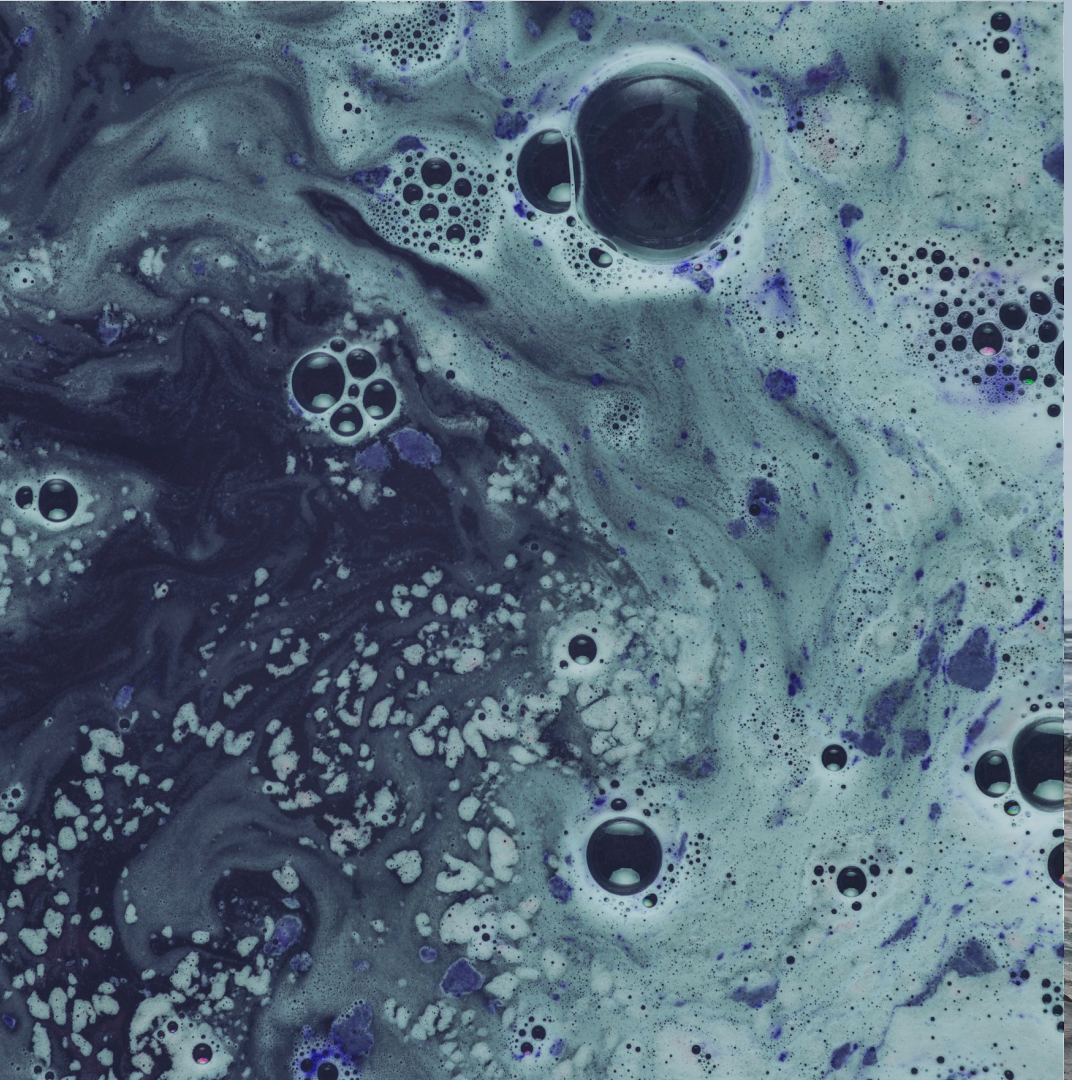
1. PPE (gloves and face masks in particular) behave like jellyfish - thus, food - to turtles and other wildlife creatures that eat them and die.

2. Persistent organic pollutants in the marine environment attach to the surface of plastic debris, floating plastics in the oceans have been found to accumulate pollutants and transport them through ocean currents. Floating and migrating plastic debris has also been found to transport invasive marine species.

3. As is commonly known, plastic isn't biodegradable, which accentuates the threat of lingering waste plastic for years and for generations to come. Reports say that around one million seabirds and 100,000 marine mammals are killed every due to plastic ingestion. Unfortunately, several marine species are on the verge of extinction because of such type of ocean pollution.

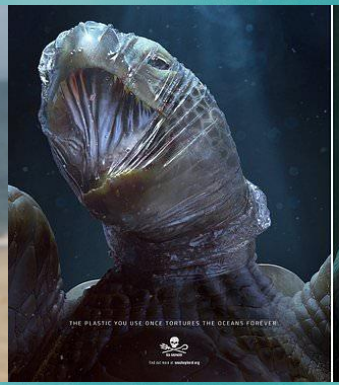
Why Should We Care?

We should care because the survival and vigor of the marine ecosystem is fundamental to the survival of the human race on Earth as we know it. The ocean is the largest carbon sink storing carbon and helping to prevent the Earth's climate from reaching temperatures uninhabitable to humans, the essential source of livelihood and food source for communities all over the globe, the home to an incalculable number of endemic species essential to the interconnectedness of the worldwide food web, and is rudimentary to the continued function of life on Earth as a whole.



“It is here now, doing huge amounts of damage. It’s ironic that in dealing with the coronavirus crisis we are stacking up difficulties for another one in parallel.”

-Mike Alcalde, a documentary filmmaker and expert from the México Natural organization


THE PLASTIC YOU USE ONCE TORTURES THE OCEANS FOREVER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05

The Solution(s)

The inception of this global issue can not be traced back to one single person, country, or entity; and therefore, the solution can not be positioned onto just one; it is to be a collective effort. That being said, the quest to unburden the oceans of plastics in its entirety and prevent the further accumulation of pollutants in our oceans can be broken up into macro and micro levels:

Micro: One person or a small community

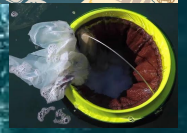
Macro: A complete society

Micro-level Solutions

On a small scale, there are slight tweaks we can each make to our daily life that will collectively make a large difference in combating this crisis:

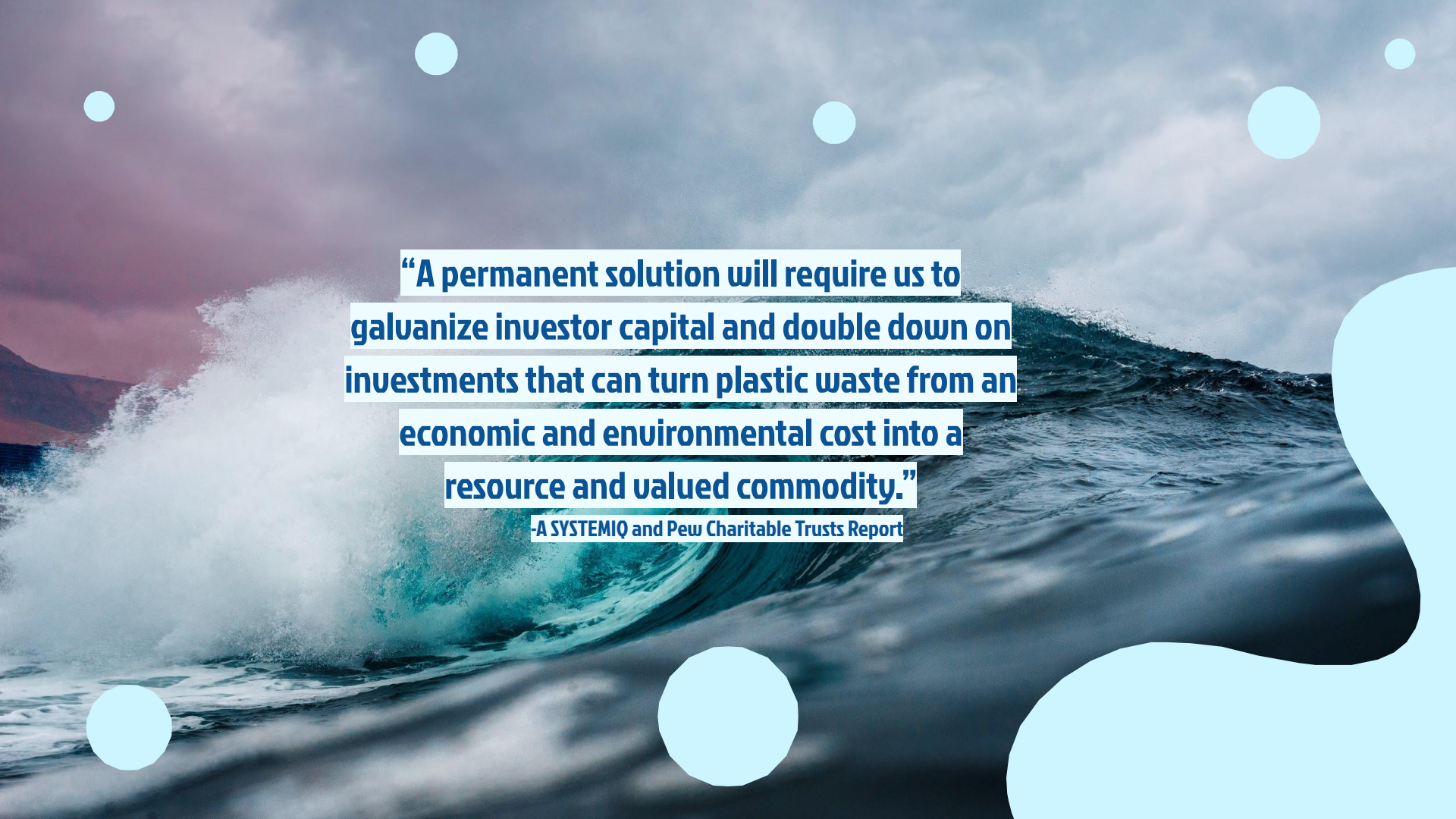
- ★ Stop your use of single-use plastics and disposable PPE instead replacing these with more sustainable, reusable alternatives (bringing your own glass takeout containers, etc)
- ★ Consciously think about where the plastic is going and the greater effect it can have on the marine habitat before you decide to consume it
- ★ Advocate and bring awareness to this issue in your community (perhaps start a grassroots organization if there is not one already)
- ★ Fundraise or donate your personal money to local and national efforts to clean our oceans
- ★ Hold your local and national politicians accountable for unsustainable policies and vote for officials that support your views on this topic
- ★ Support local businesses rather than larger corporations
- ★ Know where your money is going and make sure you are happy who is receiving it

Macro-level Solutions



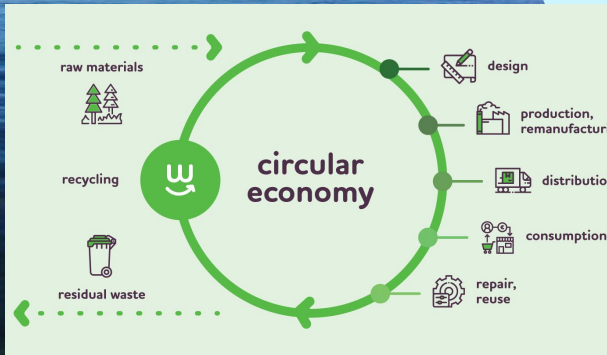
Ideal End Goal: Systematically push towards a restructure of corporate America to which the priority is shifted away from short-term profit to long-term sustainability and gain global support for this initiative (with incentives or reprehensible punishment for misdemeanor)

- ➔ Complete transparency on a large scale to which involved institutions and industries are required to be upfront about their role in the pollution
- ➔ Develop and fund technologies that thoroughly and efficiently remove plastics from the ocean
- ➔ Proper funding for non-polluting recycling plants
- ➔ Declare a national emergency for the health of our oceans
- ➔ Assign a tax to the production to new virgin plastics and assign subsidies that encourage a switch to reusable or compostable materials
- ➔ The development of a circular economy


“A permanent solution will require us to galvanize investor capital and double down on investments that can turn plastic waste from an economic and environmental cost into a resource and valued commodity.”
-A SYSTEMIQ and Pew Charitable Trusts Report

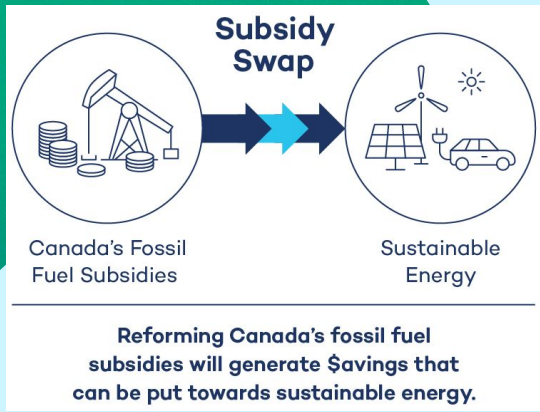
Developing a Circular Economy

The development of a circular economy to address our plastic waste crisis presents us with a unique economic opportunity for companies ahead of the curve, ready to unlock value by deriving revenue from the circulation of materials rather than the extraction and conversion of fossil fuels. Large new value pools can be created around better design, improved sorting and recycling technologies and supply chain management systems-Use investments in a green economy to turn plastic waste from an economic and environmental cost into a resource and valued commodity that will incentivize large polluting corporations to hop on-board-.

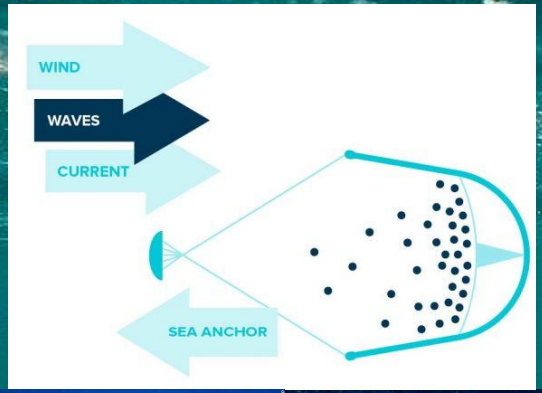


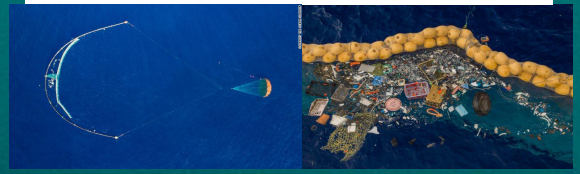
Distributing Taxes and Subsidies to Push the Shift

Assign a tax to the production of new virgin plastics that is pricier than their maximized profit from not recycling past-plastics as well as reward subsidies that encourage a switch to reusable or compostable materials. This is instrumental in facilitating a switch towards a green economy. This solution is, of course, reliant on progressive administration that supports efforts to combat climate change as well as leadership whose position is not dependent on fossil fuel Political Action Committee (PAC) funding.



Technological Advances in Plastic Removal





“System 001/B”: a 62-mile long barrier that targets plastic debris, micro plastics and ghost nets from the gyres, been deemed most effective and has been deployed to conquer the “Great Pacific Garbage Patch.”

There are a variety of other promising small and large-scale plastic removal technologies. However, it is important to note that these collection methods fail to remove the plastic at the rate that it is being produced. Therefore, it is essential that policy solutions be implemented along with these plastic removal processes.

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