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The Throwaway Living

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Roberta D'Andrea
English class
Valpat L3 – 2020/2021
GEOLAB (Université de Limoges)



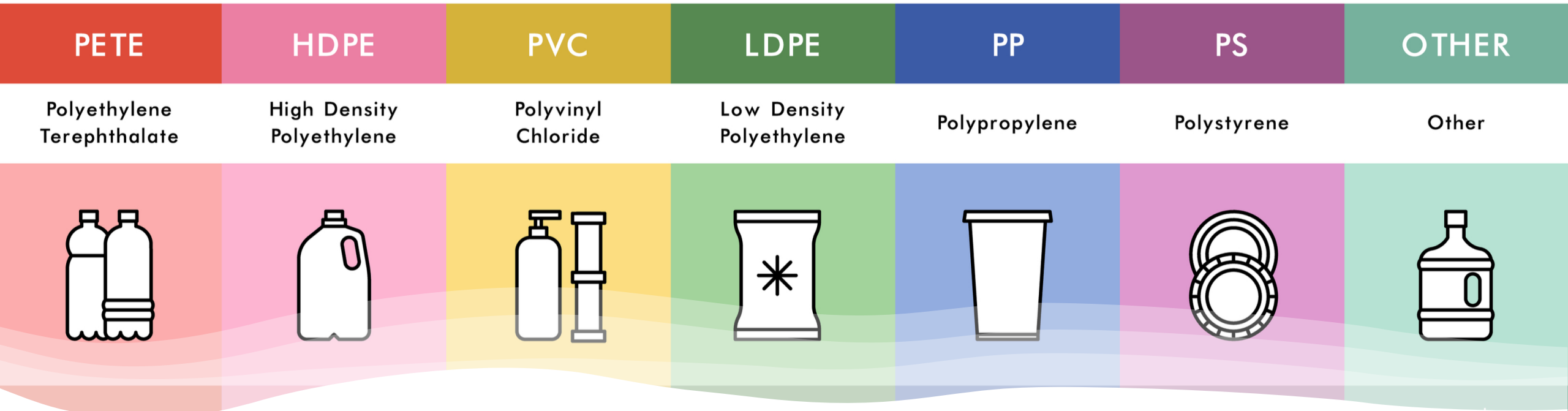
The “throwaway living”

How has plastic changed our world?

What are plastics?

The term “plastics” includes materials composed of various elements such as carbon, hydrogen, oxygen, nitrogen, chlorine, and sulphur. Plastics typically have high molecular weight. Also called polymers, they are produced by the conversion of natural products or by the synthesis from primary chemicals generally coming from oil, natural gas, or coal.





Resin Identification Coding System





PETE

Polyethylene Terephthalate

Commonly found in plastic water/soda bottles and some food packaging.



HDPE

High Density Polyethylene

Opaque plastic found in milk jugs and detergent, cosmetics or household cleaner bottles.



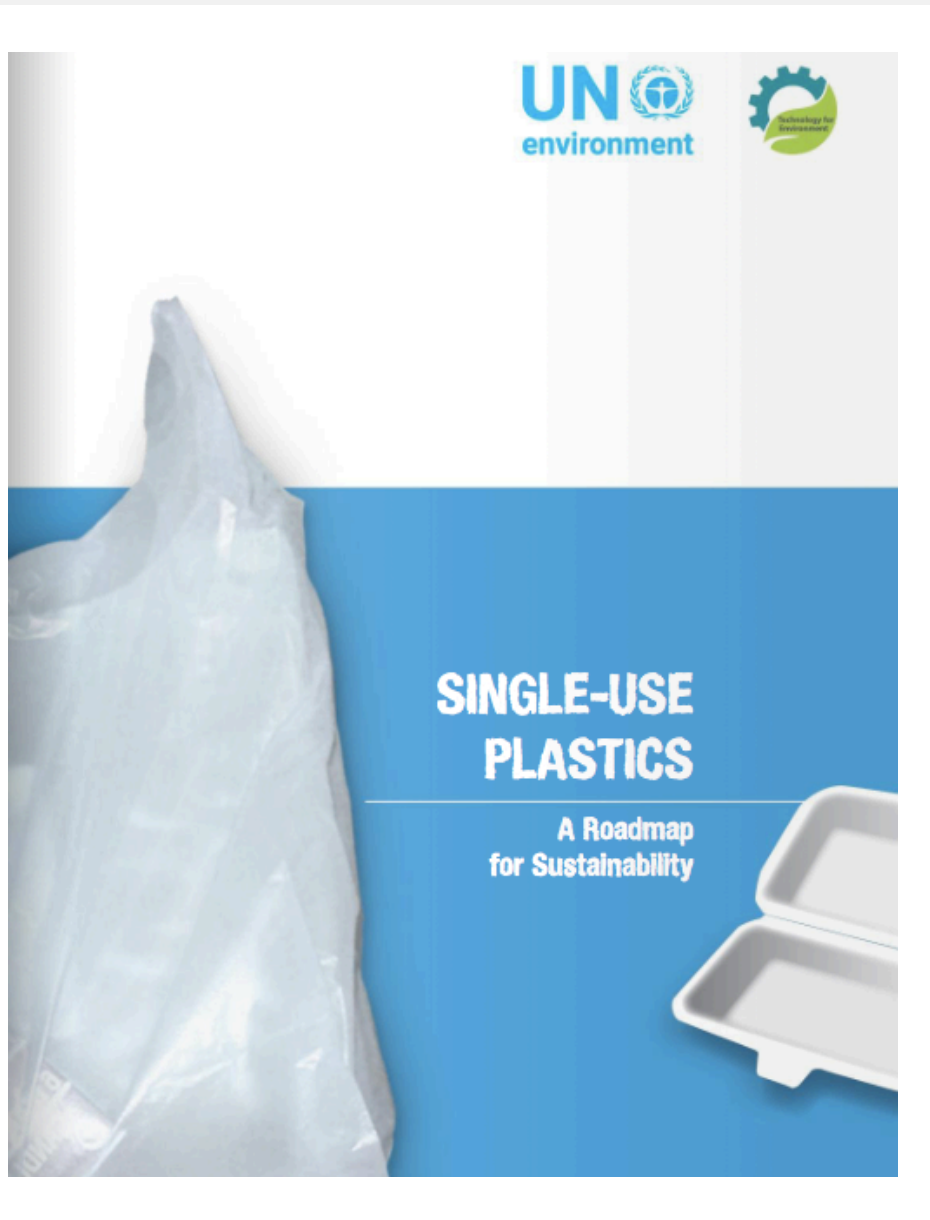
PLASTICS CENTURY

<https://ed.ted.com/lessons/a-brief-history-of-plastic#watch>



A “MIRACLE MATERIAL”

“Thanks to plastics, countless lives have been saved in the health sector, the growth of clean energy from wind turbines and solar panels has been greatly facilitated, and safe food storage has been revolutionized.” (Erik Solheim – United Nations Environment Programme, 2018).



One of our planet's greatest environmental challenges

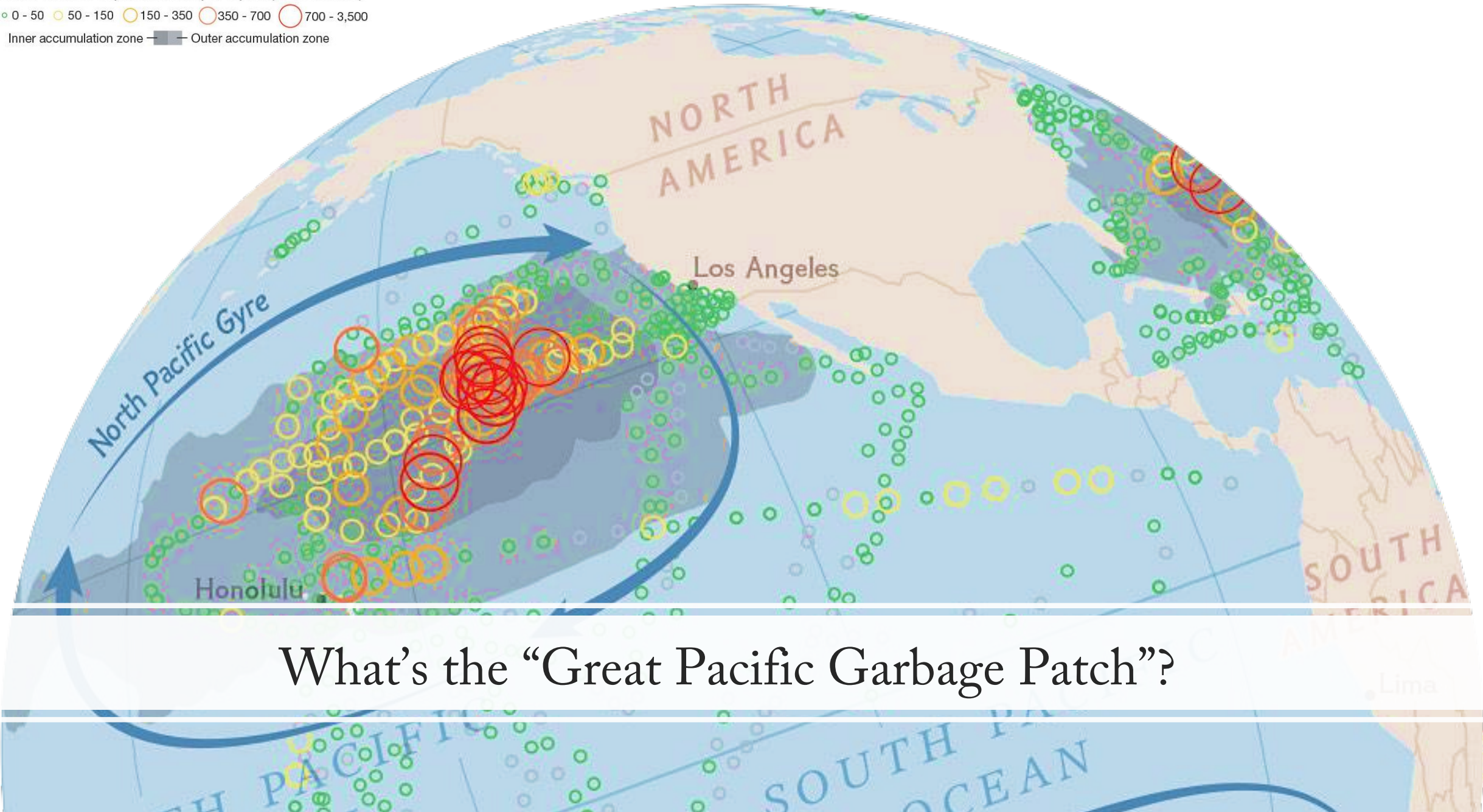
“But what makes plastic so convenient in our day-to-day lives – it’s cheap – also makes it ubiquitous, resulting in one of our planet’s greatest environmental challenges. Our oceans have been used as a dumping ground, choking marine life and transforming some marine areas into a plastic soup.” (Erik Solheim – United Nations Environment Programme, 2018)

<https://ita.calameo.com/read/0046011497b858909ca77>

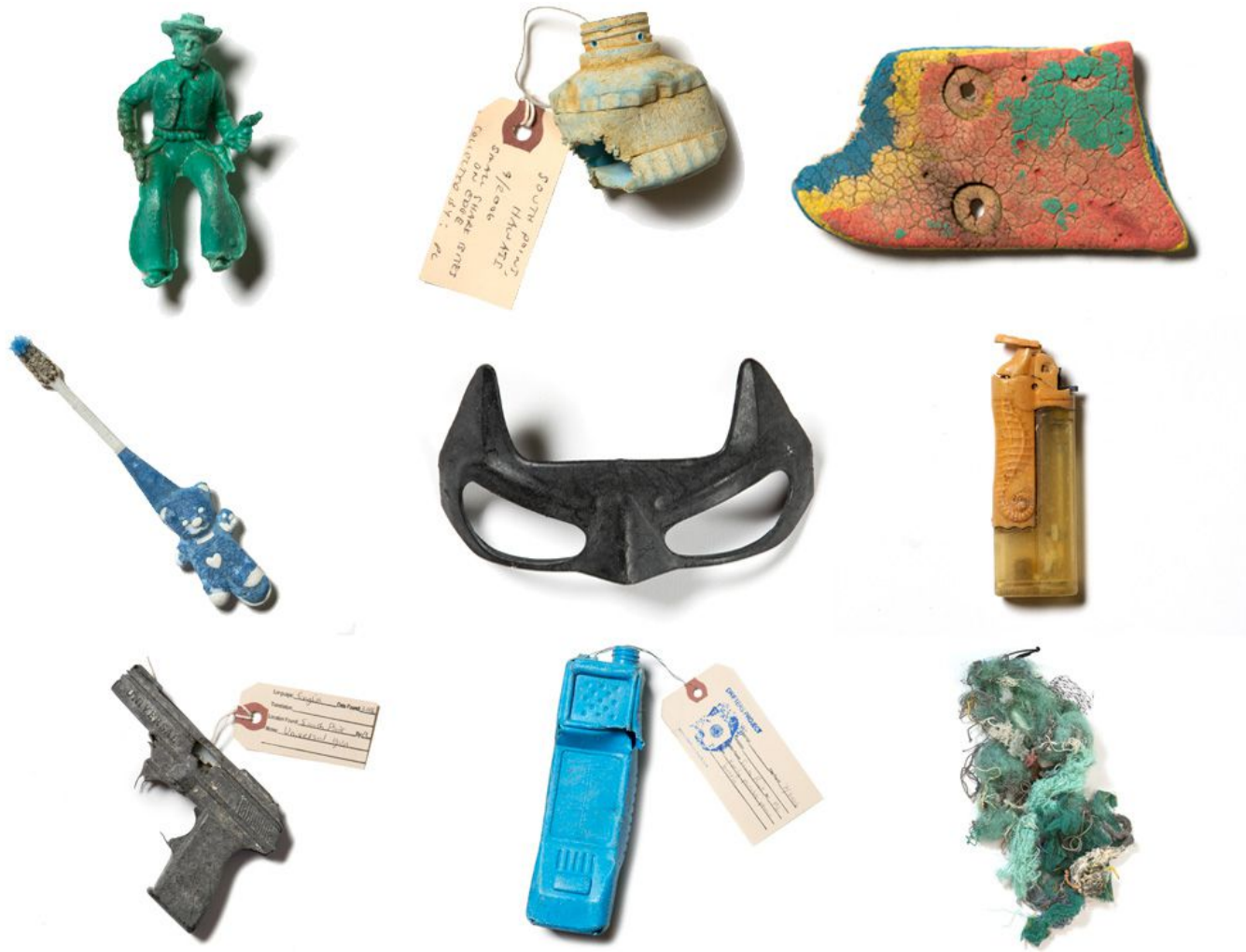
Measured number of plastic items per sq km (in thousands)

○ 0 ○ 0 - 50 ○ 50 - 150 ○ 150 - 350 ○ 350 - 700 ○ 700 - 3,500

Inner accumulation zone Outer accumulation zone



What's the "Great Pacific Garbage Patch"?



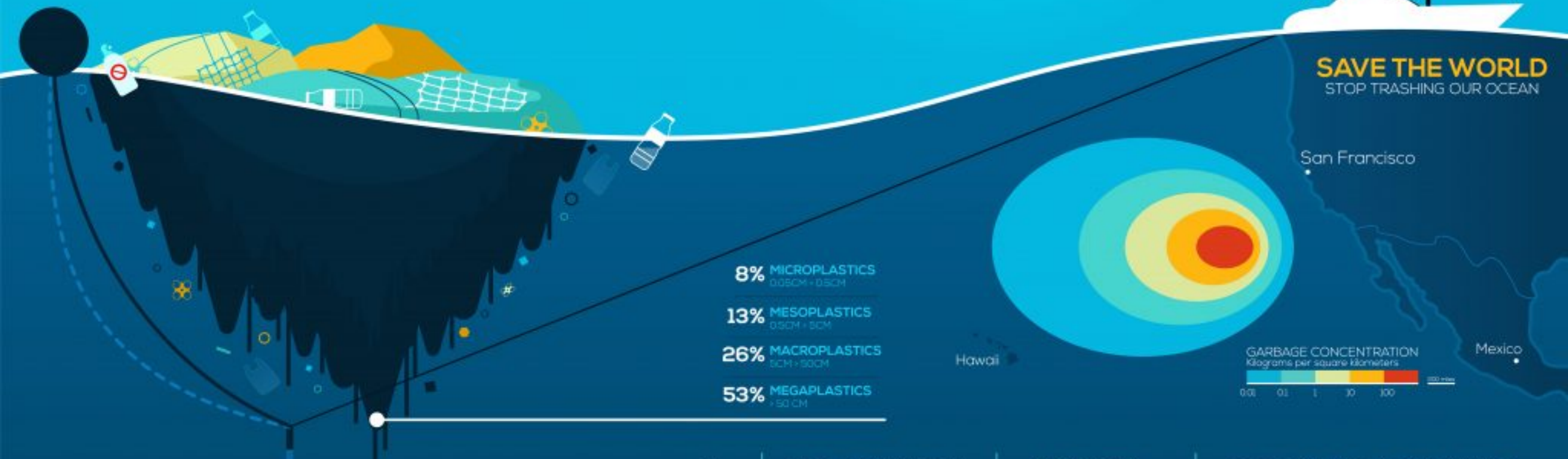
What does
it contain?

GREAT PACIFIC GARBAGE PATCH

46% OF THE TOTAL MASS IS MADE OF DISCARDED FISHING GEAR



SAVE THE WORLD
STOP TRASHING OUR OCEAN



8% MICROPLASTICS
0.05CM - 0.5CM

13% MESOPLASTICS
0.5CM - 5CM

26% MACROPLASTICS
5CM - 50CM

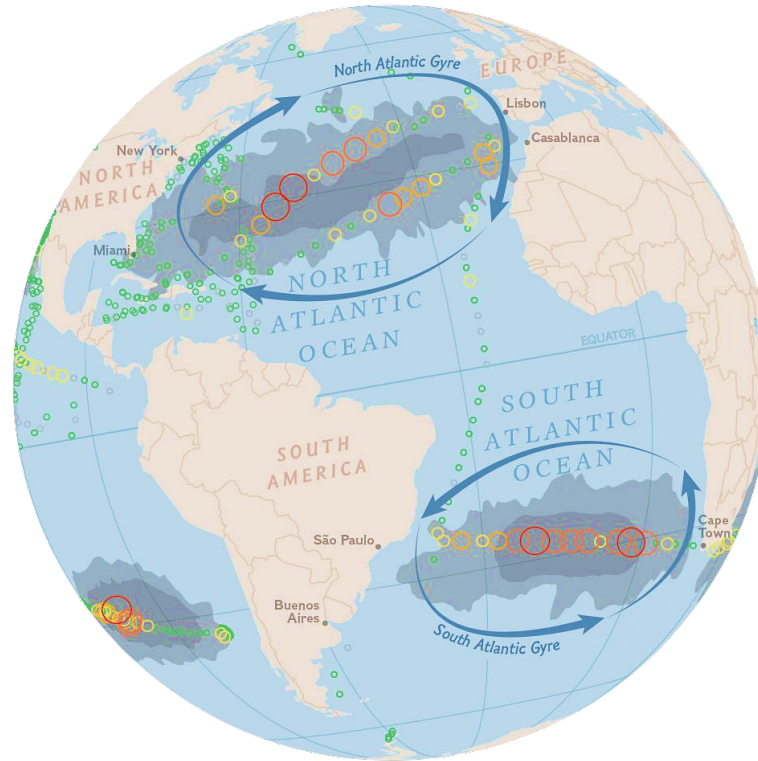
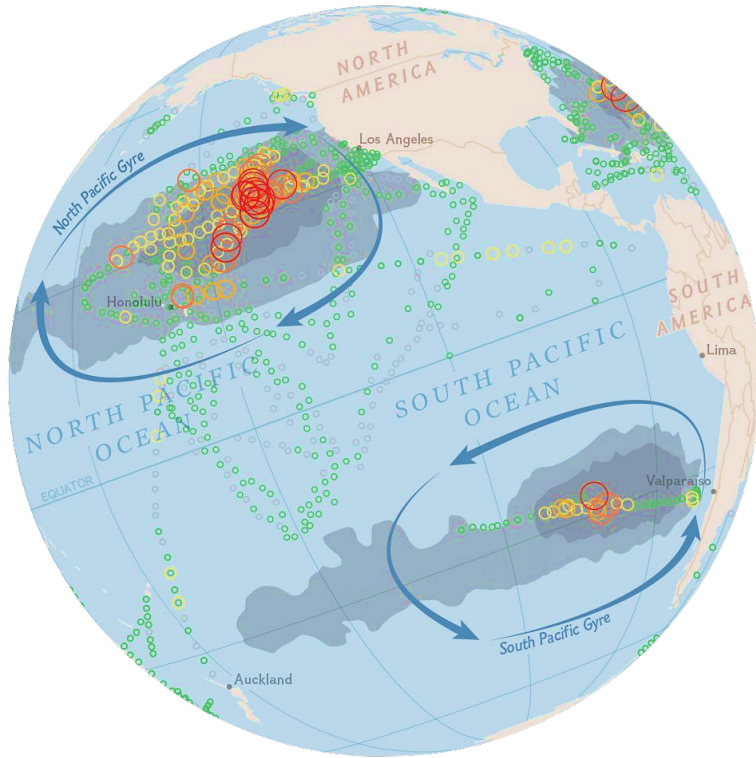
53% MEGAPLASTICS
+ 50 CM

1.6 MILLION KM²
994.193 MILLION
MILES

1.8 TRILLION
PIECES OF
PLASTIC

80.000
TONS OF
GARBAGE

99% OF EVERYTHING
IS PLASTIC



OTHER PATCHES

Garbage patches are formed by rotating ocean currents called *gyres*. Along with the “Great Pacific garbage patch”, four more patches have been identified: one in the South Pacific Ocean, two in the Atlantic Ocean and one in the Indian Ocean.













4Ocean™

The Ocean Cleanup
System 001/B

Two categories:

- (1) Multi-use plastics
- (2) Single-use plastics



PLASTIC DOESN'T **DECOMPOSE**, IT JUST GETS
SMALLER.



Microplastics

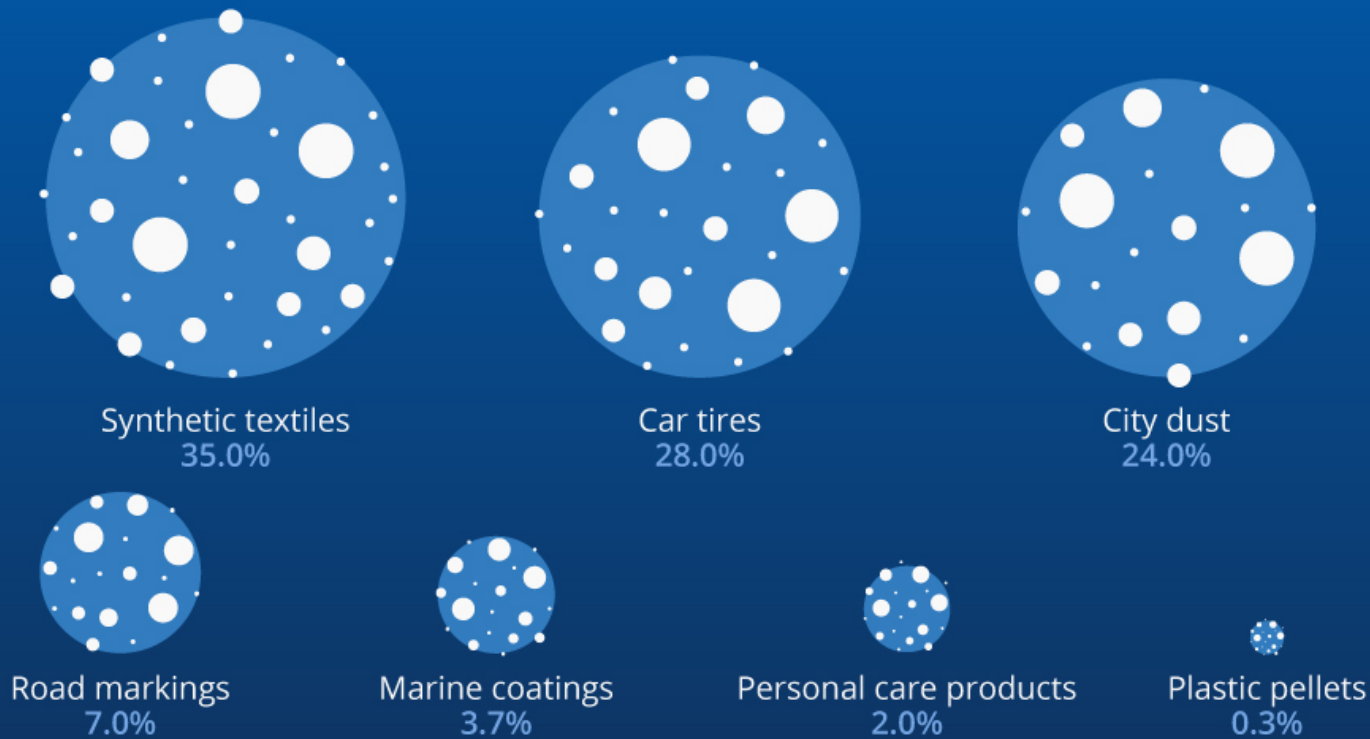


What are microplastics?

They are tiny plastic particles which are less than five millimeters in diameter. There are two categories: (1) primary microplastics and (2) secondary microplastics.

Where Do the Oceans' Microplastics Come From?

Distribution of sources of microplastics in the world's oceans



@StatistaCharts

Source: International Union for Conservation of Nature

statista

Where do
ocean's
microplastics
come from?

Olson, Randy. *A family removes labels from plastic bottles in Bangladesh*. 2018. National Geographic Society.

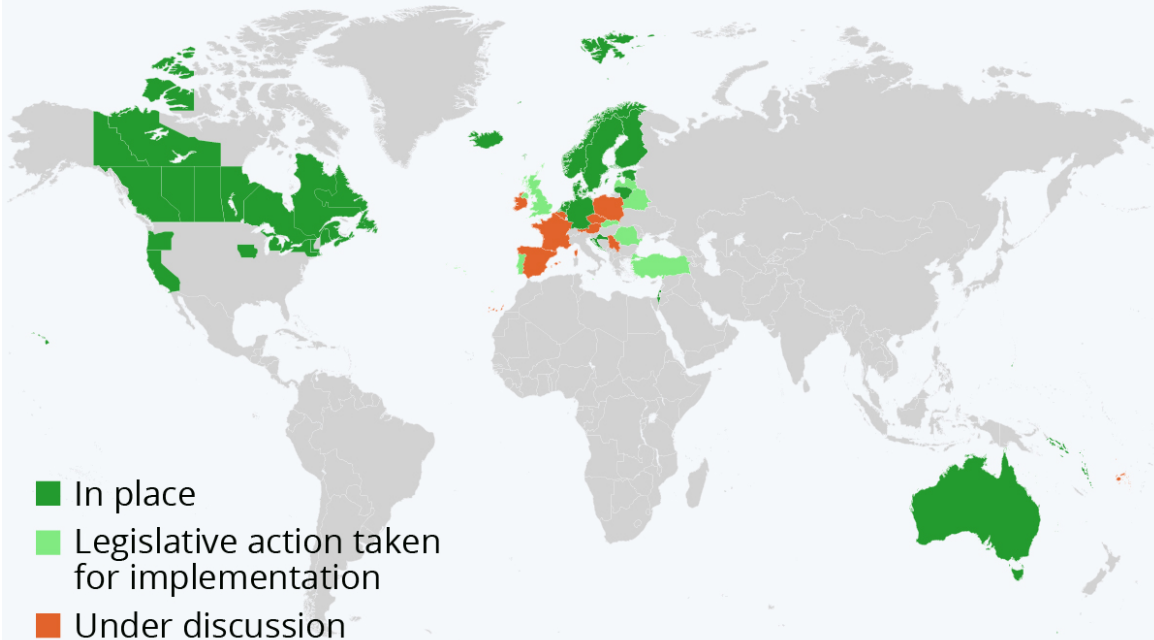
<https://www.nationalgeographic.com/magazine/2018/06/plastic-planet-waste-pollution-trash-crisis/>

Is recycling
enough?



Which Countries Have Bottle Deposit Systems?

The global status of bottle recycling systems in 2020*



* Partly implemented in Australia. Will be fully implemented by 2023.

Source: The Changing Markets Foundation



statista

The “bottle deposit system”

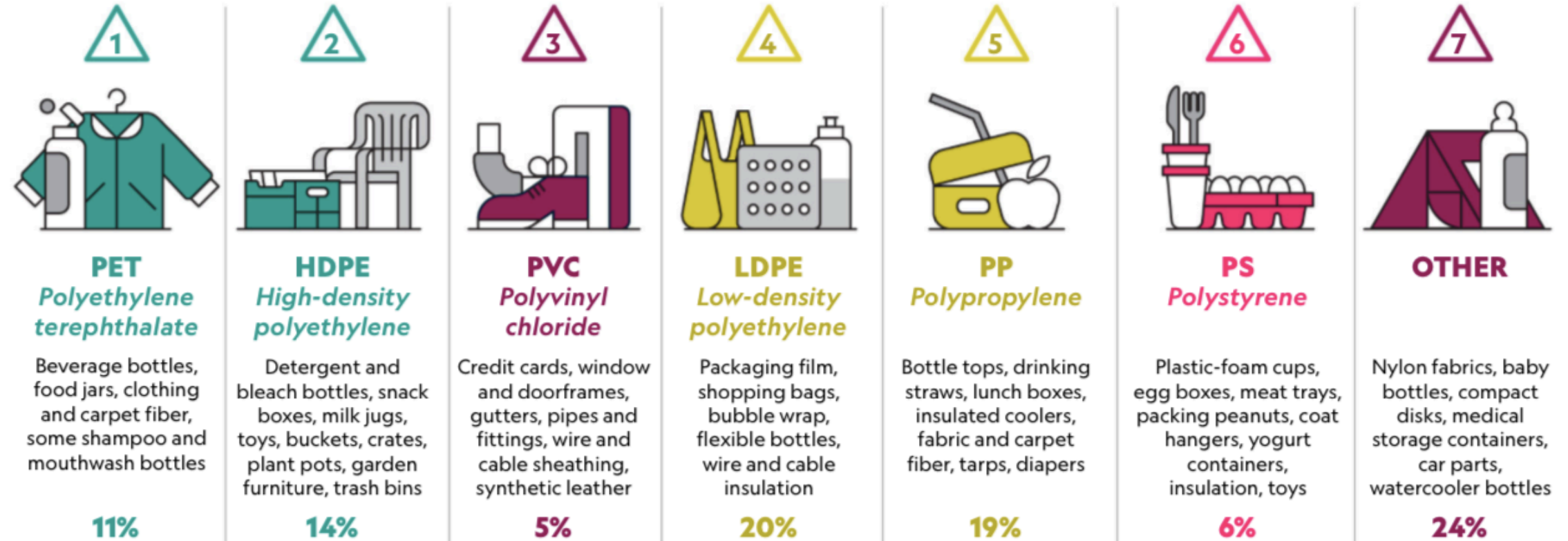


THE CHALLENGE OF RECYCLING

Globally, 18 percent of plastic is recycled, up from nearly zero in 1980. Plastic bottles are one of the most widely recycled products. But other items, such as drinking straws, are harder to recycle and often discarded.

Ease of recycling by type*

- ▲ Easy
- ▲ Manageable
- ▲ Difficult
- ▲ Very difficult



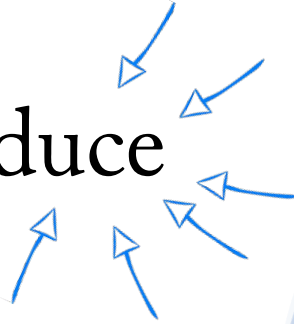
↑
Percentage of global plastic waste, 2015

*Ease of recycling varies by region; North America shown. Not all plastics are recyclable.

Planet or plastic?

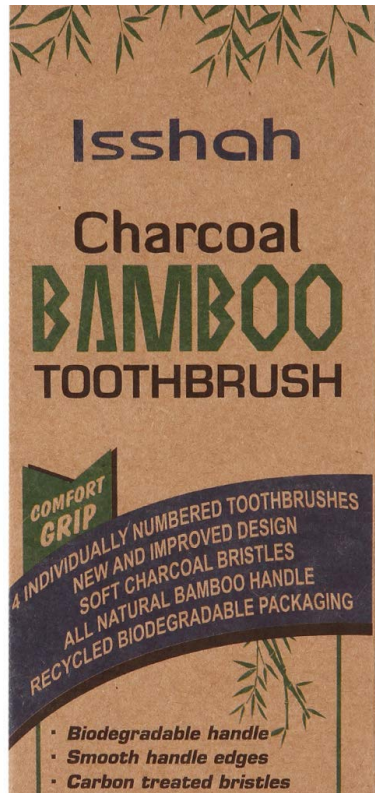
https://www.youtube.com/watch?v=jQdBag_p6kE

Reuse, Recycle, Reduce



- Reduce or stop the consumption of take-away food;
- Reduce or stop the use of straws, non-recyclable toothbrushes or cotton swags;
- Reduce or stop the use of plastic bags for purchasing food;
- ...





Alternatives to
multi- and single-use
plastics

Bamboo is the world's fastest growing plant!





Not only toothbrushes, straws and cotton swabs

Bamboo can also be used as an ecological and durable material to make small utensils as well as furniture.

<https://calisi.eu>

Other alternatives to single-use plastics



- Toothbrushes and reusable cotton swabs made of recyclable plastic;
- Reusable bottles or mugs;
- Solid soaps and shampoos;
- Reusable silicon stretch lids for food;
- Organic cotton bags for vegetables and fruits;
- ...



Biodegradable bioplastics

<https://www.nationalgeographic.org/video/science-101-plastics/>

NB: not all bioplastics are biodegradable!



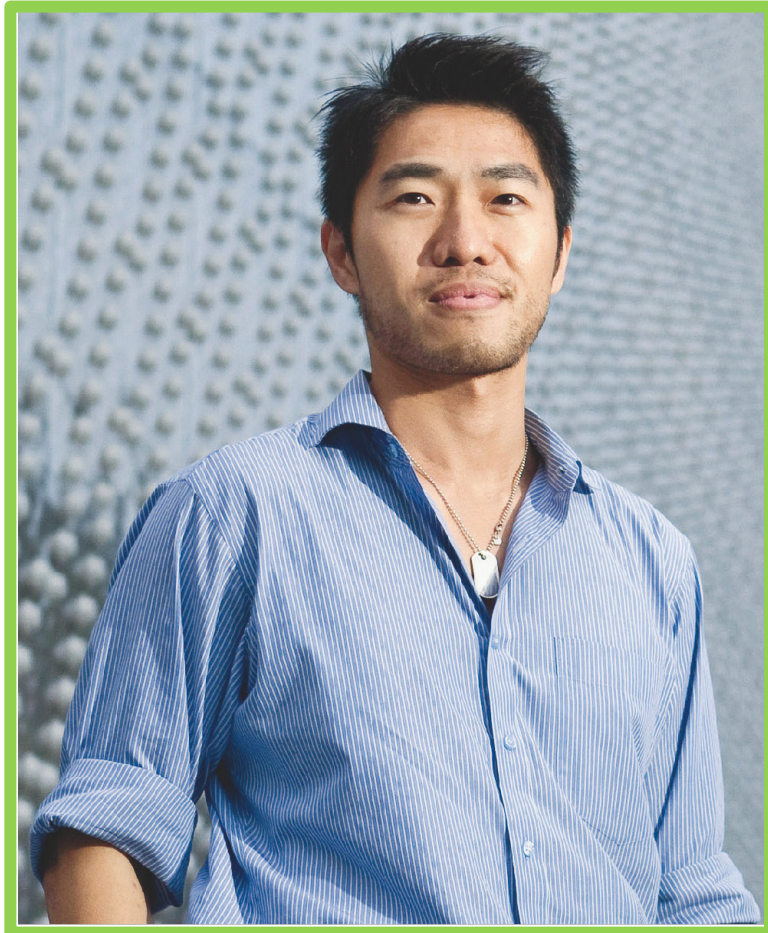
Bioplastics, also called “biologically based polymers”, are plastics created from renewable natural sources.

The term is used to distinguish them from plastics derived from the conventional source of petroleum.

Eco architecture

Meet Arthur Huang, the architect who made a building out of recycled plastic bottles.

https://www.nationalgeographic.org/video/sustainable-living/?utm_source=BiblioRCM_Row



The grooved Polli-Bricks lock together to form panels.



The Polli-Brick panels are lightweight but strong. Huang demonstrates by jumping up and down on them.

Huang's Polli-Bricks are made out of plastic bottles.



EcoArk





Write a
200-words text

For the next time

If you could go back in time, would you stop the discovery of plastic?