
Marine Plastic Pollution: An NGO Perspective

Kimberly A. Warner

The Science of Microplastics in the World Ocean

Woods Hole, MA October 2019



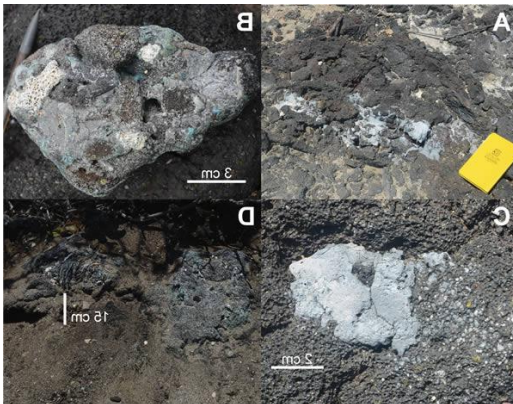
Oceana Locations



- Founded in 2001
- World's largest advocacy organization focused solely on ocean conservation
- Protected more than 4.5 million square miles of sensitive ocean habitat
- Banned shark fin import and export in Canada
- Banned offshore oil drilling in Belize Mesoamerica reef



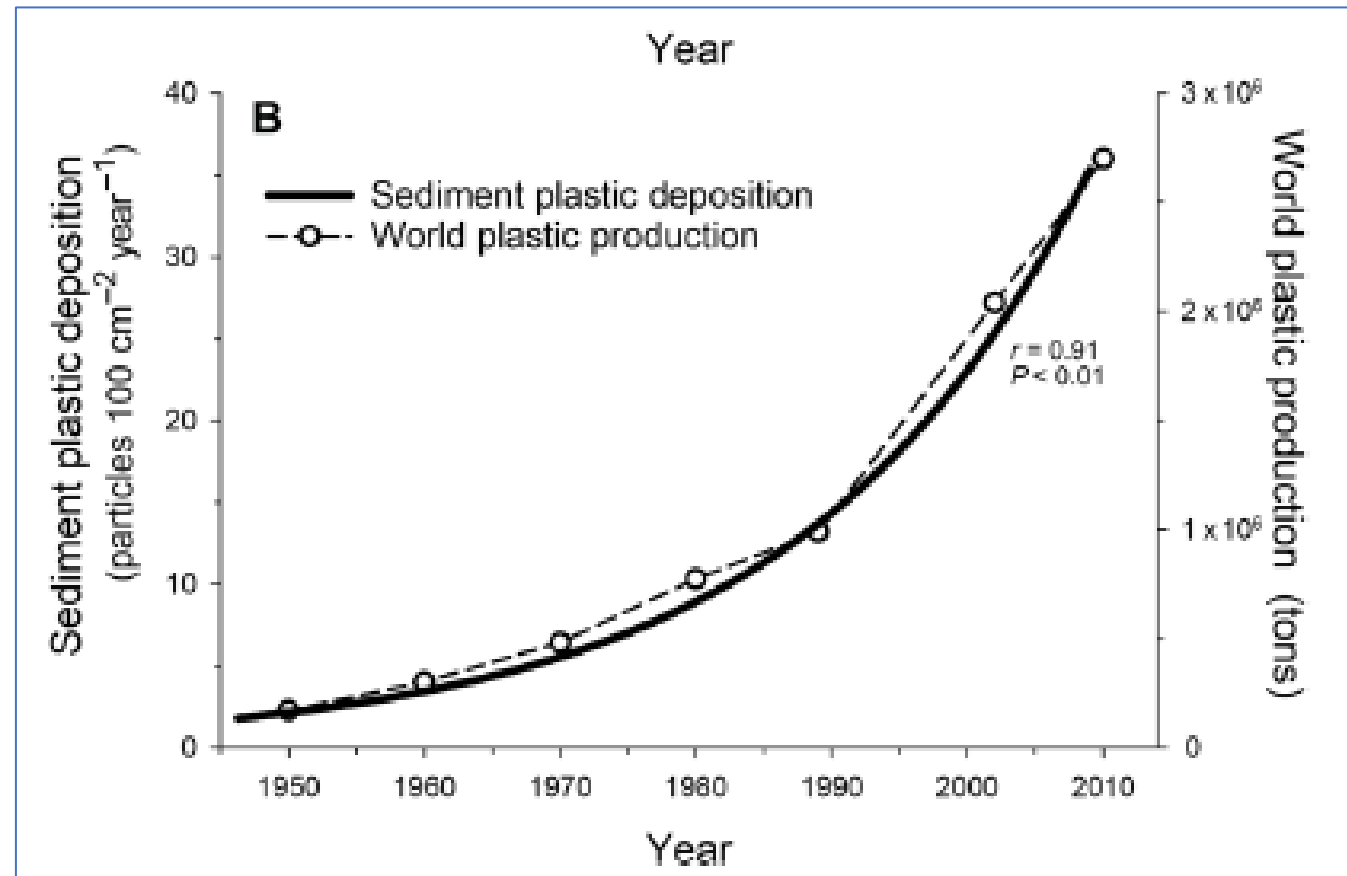
Exponential rise of plastic pollution in ocean sediments mirrors soaring global plastic production



Plastiglomerates from Hawaii



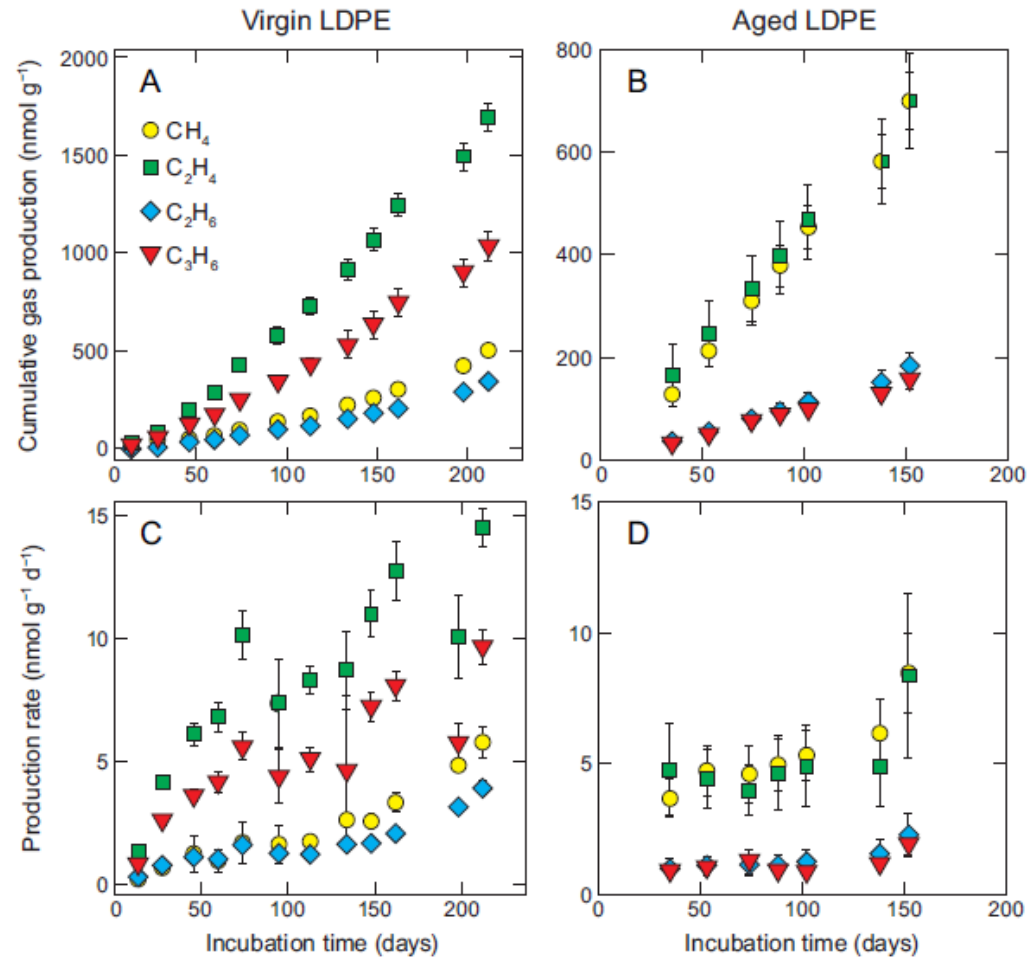
Corcoran et al., 2014 GSA Today



Brandon et al. 2019 Sci. Adv.



Greenhouse Gases Emitted From Environmental Plastic



Source: Royer et al. 2018 PLOS ONE

See also Zheng and Suh 2019, Nature Climate Change



Nearly 700 Marine Species Are Affected by Plastic Pollution*



Credit: Shutterstock

* Gall & Thompson 2015



Microplastic now found in humans

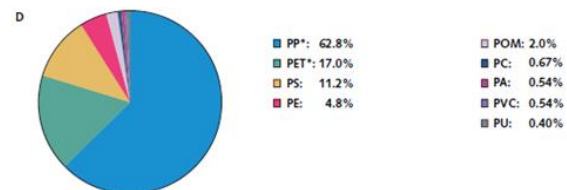
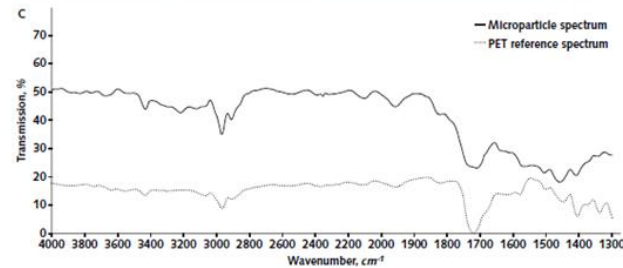
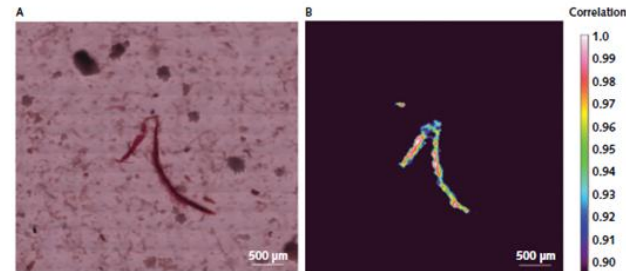
Annals of Internal Medicine

ORIGINAL RESEARCH

Detection of Various Microplastics in Human Stool A Prospective Case Series

Philipp Schwabl, MD; Sebastian Köppel, Dipl-Ing(FH); Philipp Königshofer, DVM; Theresa Bucsics, MD; Michael Trauner, MD; Thomas Reiberger, MD; and Bettina Liebmann, PhD

Figure. Identification and relative frequency of microplastics in stool.

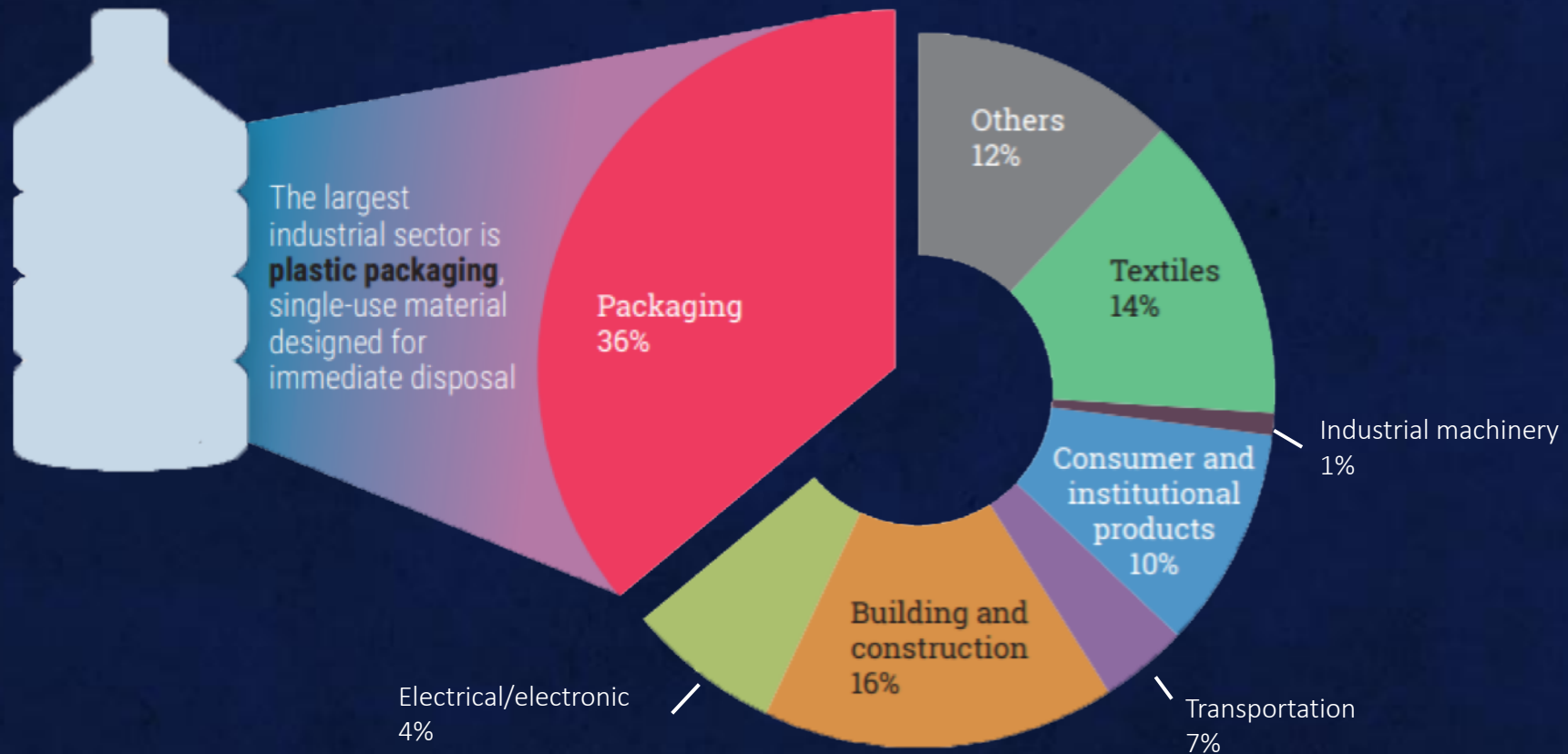


MP intake estimates from:
Cox et al., 2019 Env. Sci. Tech
Hernandez et al., 2019 Env. Sci. Tech

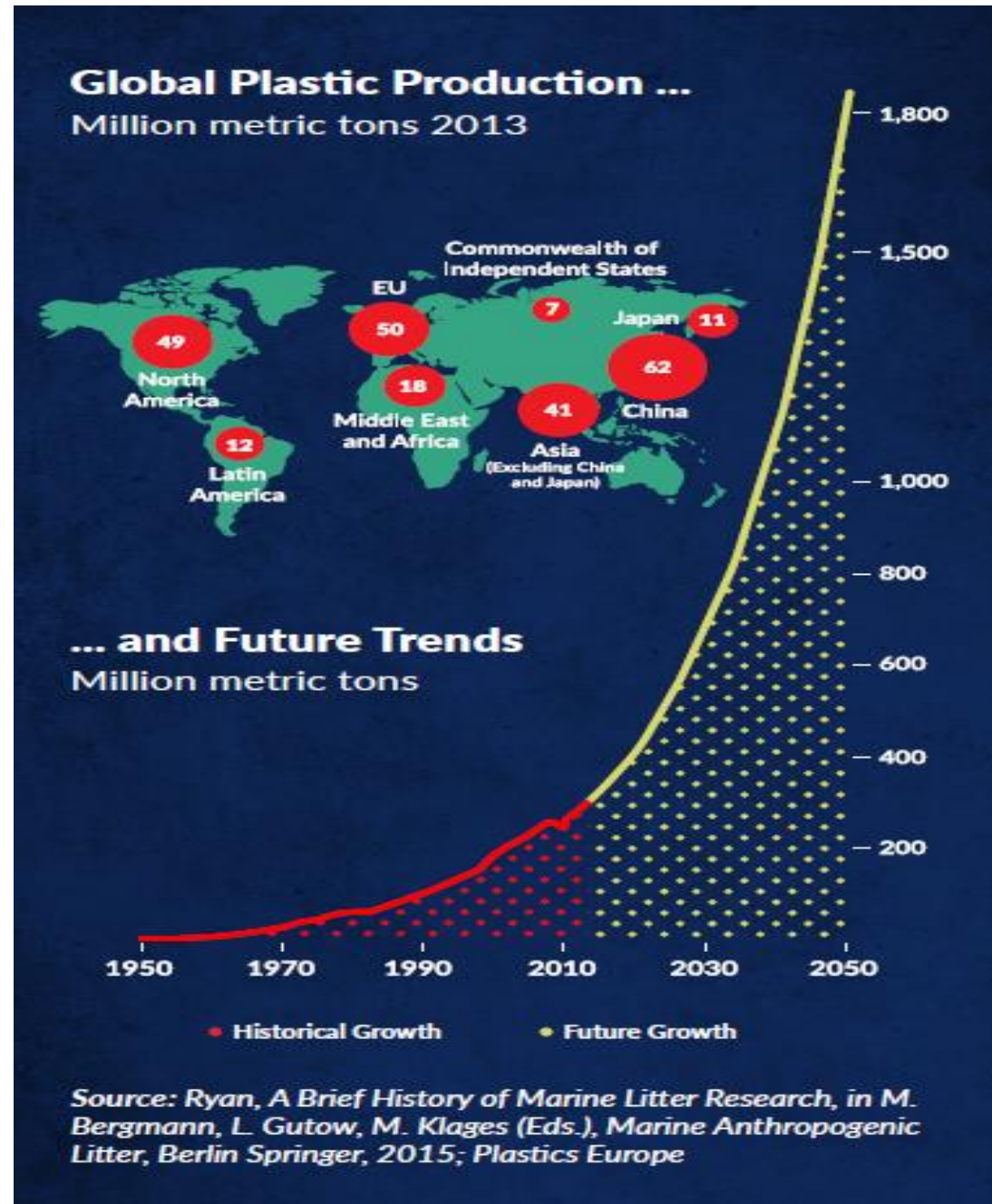


GLOBAL PLASTICS PRODUCTION (2015)

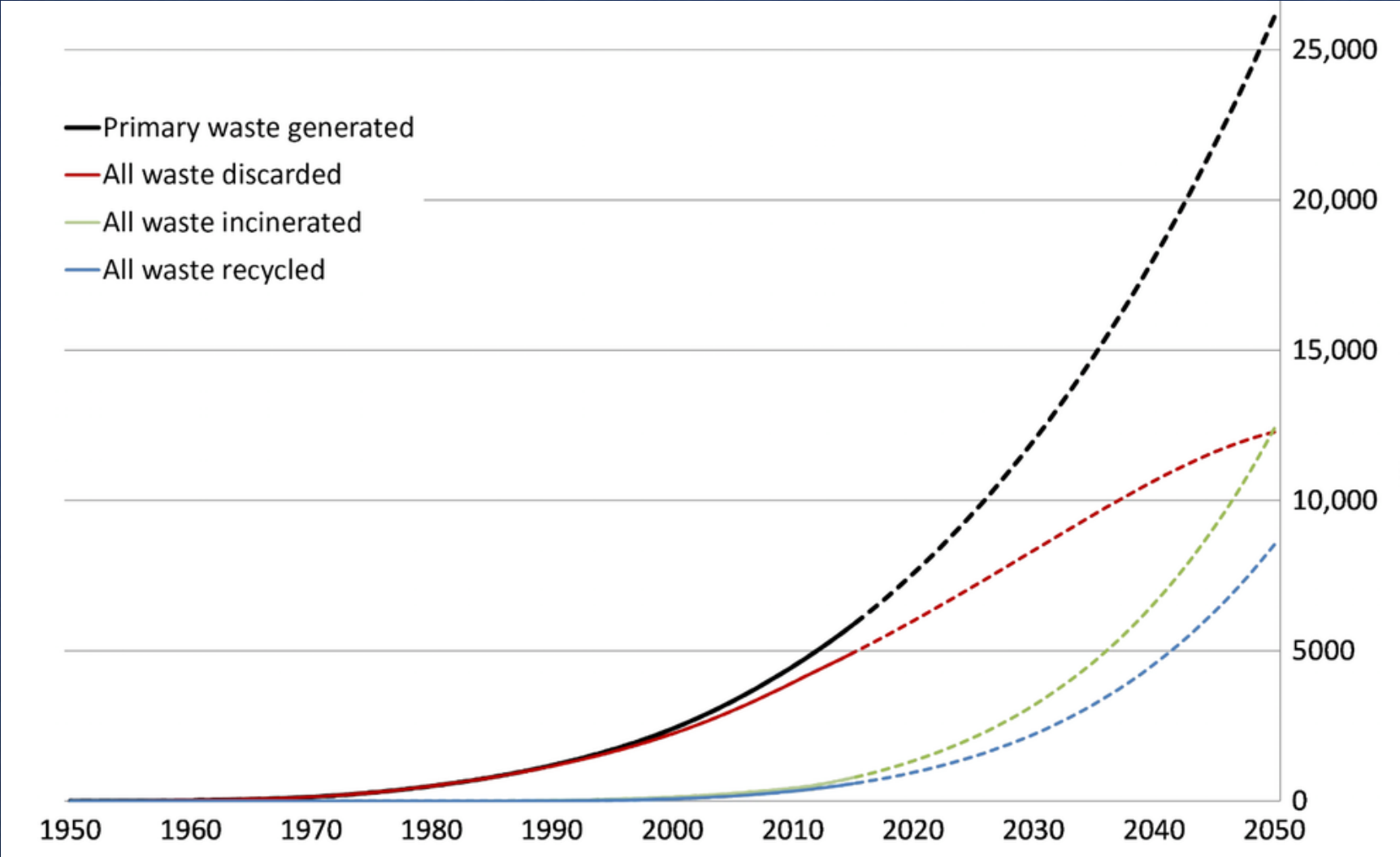
The world produces more than **400 million tons** of plastics every year.



Global plastic production projected to increase four-fold by 2050



Cumulative Plastic Waste Generation and Disposal



Million Metric Tons

Source: Geyer, Jambeck, Law, 'Science Advances' (2017)



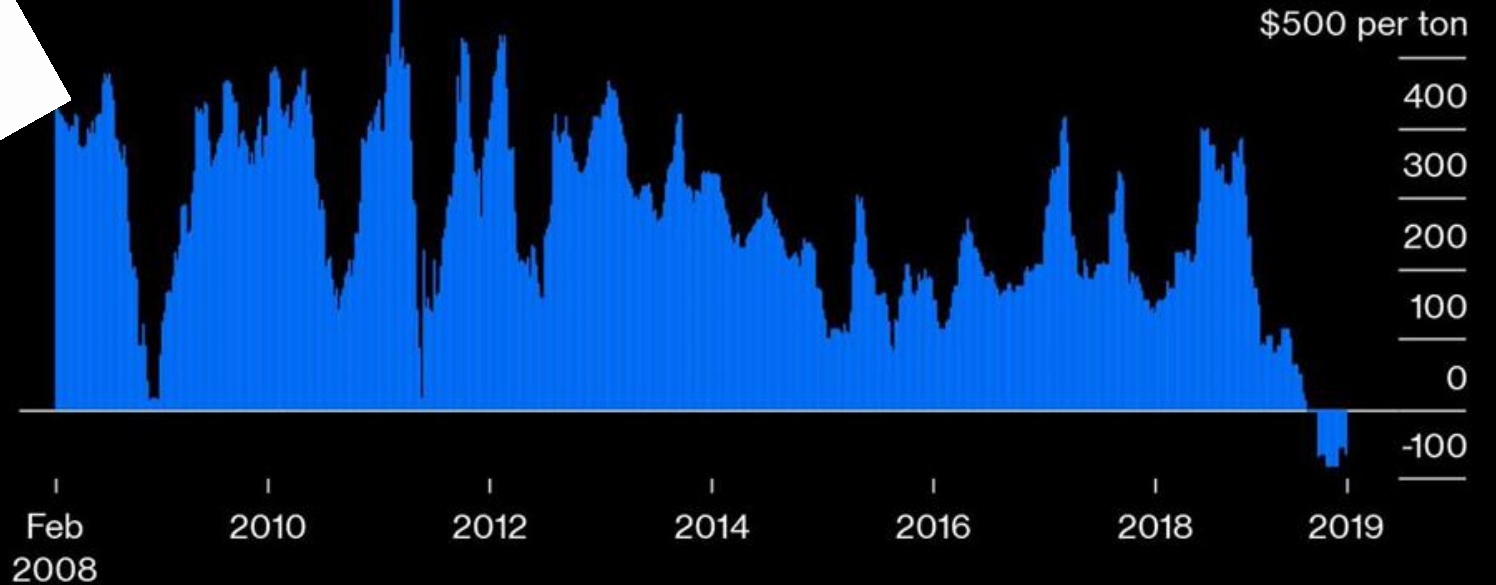
Market no longer favors recycling

The New York Times
As Costs Skyrocket, More U.S. Cities Stop Recycling
With China no longer accepting used plastic and paper, communities are facing steep collection bills, forcing them to end their programs or burn or bury more waste.

Inversion

Recycled PET has been cheaper than new material for more than a decade - until now

■ Price differential - Virgin PET minus Recycled PET Flake



Source: S&P Global Platts

BloombergOpinion



ICC DATA 2018

- Single-use plastic dominate beach clean-ups
- First time cutlery products found
- Most items are not recyclable



Life Without Plastic Is Possible. It's Just Very Hard.

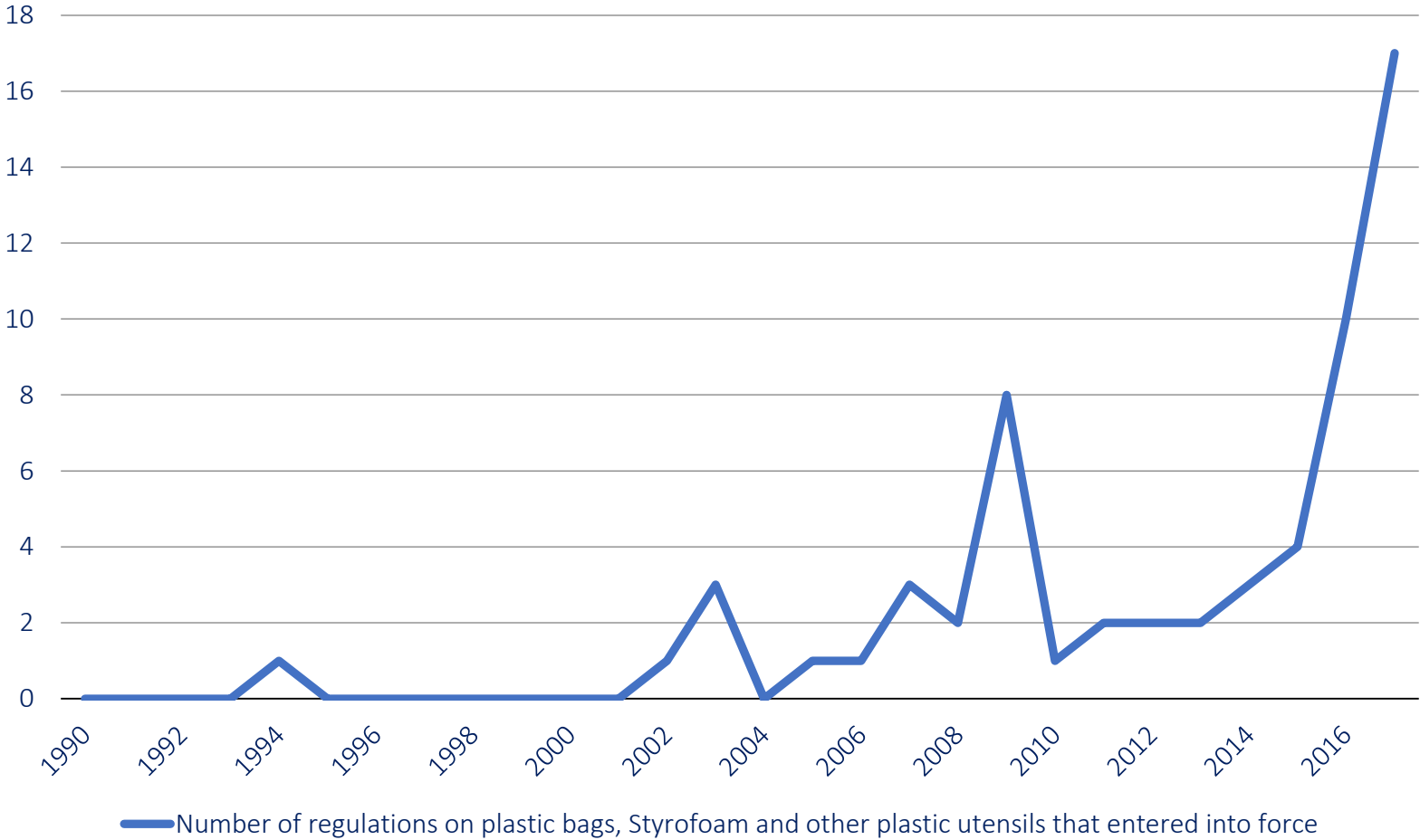
Going plastic free starts with cloth bags and straws. Suddenly, you're ... making your own toothpaste?



Plastic Free Choices, Plastic Free Zones



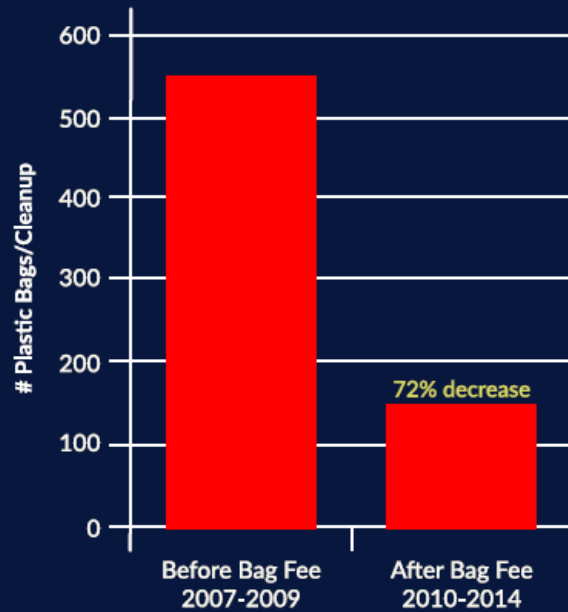
ESTIMATED NUMBER OF NEW REGULATIONS ON SINGLE-USE PLASTICS ENTERING INTO FORCE AT THE NATIONAL LEVEL WORLDWIDE



Source: UNEP 2018

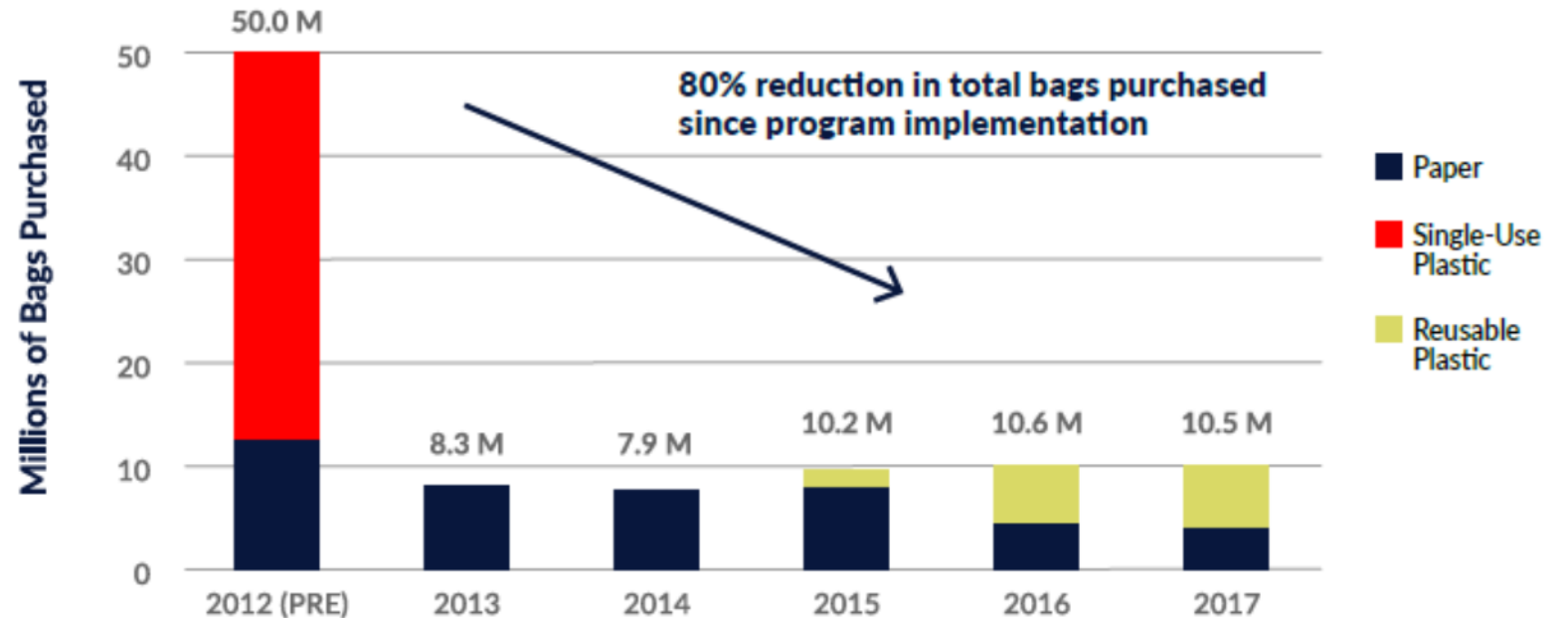
Policies regulating single-use plastic work to reduce pollution

Plastic Bag Litter in D.C. Removed at Cleanups



Source: Alice Ferguson Foundation

Bag Purchasing Trends in Alameda County



Source: Alameda County Waste Management Authority



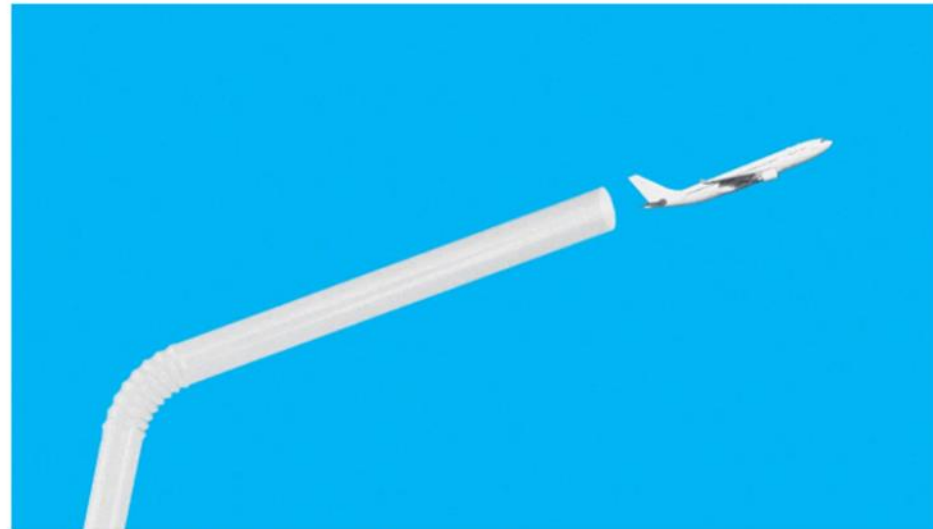




12.28.18



The world's first passenger flights without any single-use plastic just took off



[Source Photos: RakicN/iStock, vaalaa/Shutterstock]

BY MELISSA LOCKER 1 MINUTE READ

Portuguese airline Hi Fly took off from Lisbon on Wednesday without a single piece of single-use plastic on board their flight to Natale, Brazil—no plastic cups, no plastic silverware, no plastic cocktail stirrers, no plastic food containers.

FEATURED VIDEO

The News You Might Have Missed T...



The News You Might Have Missed This Week



adidas

**WE COMMIT FOR
A PLASTIC-FREE OFFICE**



**NO
Plastic bottle**



**NO
Plastic bag**




**NO
Plastic cup**



**NO
Plastic food
containers**

**PUR
SUE
YOUR
SSION**



A large, sprawling pile of plastic waste, including bottles, containers, and debris, stretches across the landscape under a sunset sky. The sun is low on the horizon, casting a warm glow over the scene. The plastic waste is densely packed and covers the ground, with some sparse vegetation visible. The sky is filled with soft, golden light and scattered clouds.

Thank you
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www.oceana.org/plastics