

THE VIABILITY OF MARINE PLASTIC POLLUTANTS AS A RAW MATERIAL

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Background

Despite MARPOL Annex (V) international treaty that prohibits the dumping of refuse at sea, plastics in the ocean is increasing at an alarming rate.

SOME PLASTIC FACTS

- About 6% of the worldwide oil consumption is used for plastic production.
- Recycled plastics produces 3.5 kg CO2 compared to 6kg for new plastics per kg.
- Current worldwide production of plastic is 35kg per person increasing at 3% per.
- Durability
- Perfect material for plastic absorption
- 40% of produced plastic is disposed within a year;
- Increasing availability of single use plastics.
- Durability

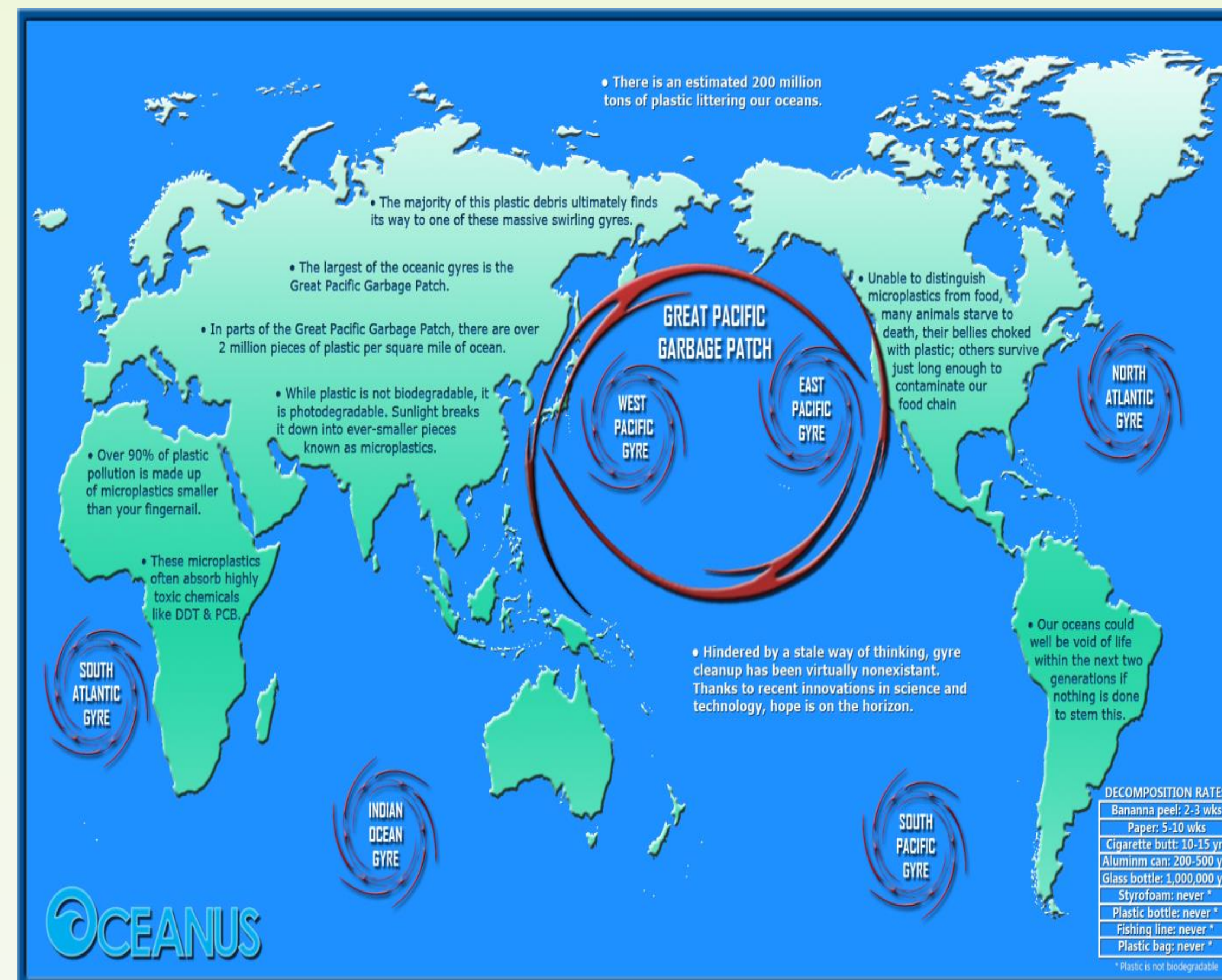


Sources Of Pollutants

- 70% from land-based
- 30% from the ocean

Impacts on Marine Life

- Much of plastics contains chemicals that are harmful to marine
- Impacts on marine organisms (Ghost fishing, Ingestion, Entanglement...)
- Some plastics distract endocrine systems in humans and marine animals.
- Ecosystem changes
- Economic lost (Tourism...)



AIM

- A primary focus on this study was to identify technologies to convert waste plastics into energy.
- Find a way to make plastics in the ocean a raw material.
- To access, evaluate and elaborate damages caused by plastic waste to the marine .
- To find ways to help control and reduce the influx of plastics from both sources.

Methods

- Primary data was gathered through handing questionnaires to workers of seventeen targeted conversion technology manufacturers.
- Secondary data included the internet, existing relevant literature both published and unpublished.

Findings

- Plastic waste can be transformed into energy by a process called Pyrolysis.
- Findings from the field gave the researcher a substantial response as to why a vast majority of marine animal death has been seen to have connection with poor sanitation practices. The mishandling of these plastics occur as a result of poor reception facilities, lack of infrastructure in place, and poor education on the effects of plastic waste.
- The plastic to fuel technology has a high revenue on income and all types of plastics can be feedstock for its operation.

Conclusion

- Changes in human behaviors such as reducing use is the best way to slow accumulation in the oceans.
- Strong overarching plastic pollution policies along with local efforts to reduce consumption.
- Promote recycling and lower the exposure rate of humans to organic pollutants is significant strategy for reducing overall waste and increasing human and ecosystem health.

Recommendations

- Source reduction
- Improved waste management
- Recycling
- Biodegradable plastics
- Education
- Cleaning up the garbage patch
- Policy and management
- Reducing Single use plastics
- Microbial decomposition
- Further Research

WHAT NOW ?

Awareness campaign by and seeking more partners

