



Forum:	Environmental Council
Issue:	Promoting the implementation of a proper waste disposal in order to reduce plastic pollution of the oceans
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Description of the issue:

Marine plastic pollution has become an issue of global focus, as the aggregation of plastic wastes in oceans is growing promptly. Accountable for the rapid increase of plastic debris in the marine ecosystem, is the expansion of plastic production itself and the consumption patterns practiced in daily life all around the world. The rate of plastic production is growing faster than that of any other material worldwide. Half of the production is single-use plastics and those are acknowledged as being one of the most apparent pollutants affecting marine environment. According to the UN, 80% of ocean plastic comes from land-based sources, as at least 8 million tons of plastic end up in our marine eco-system each year. By 2050 oceans could contain more plastic than fish if ongoing trends continue. By promoting the implementation of proper waste disposal, the main cause of marine pollution being unsustainable waste management can be counteracted and finally tackled.

This topic is of such high relevance as it threatens

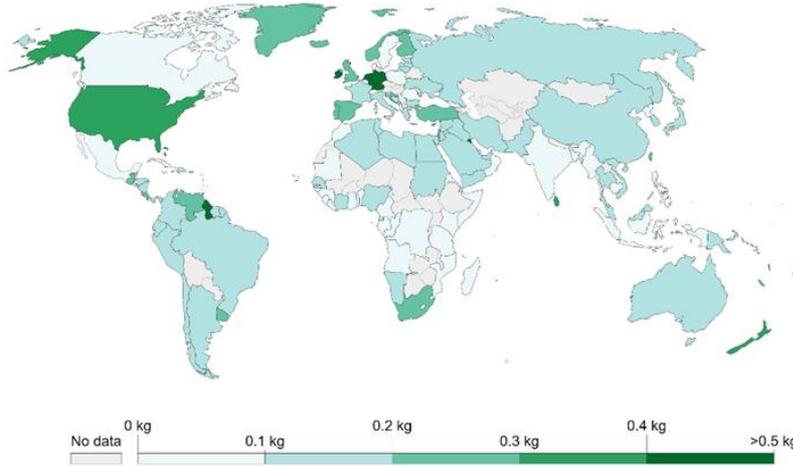
- a) ocean health (meaning the oceans' ecosystems are in danger of demonstrating sufficient organization, vigor and resilience in order to exist and evolve as a natural system),
- b) food quality and safety,
- c) human health,
- d) coastal tourism.

Furthermore plastic waste is a contributing factor to climate change since it adds to higher greenhouse gas emissions at every stage of its lifecycle, starting with the extraction and transportation: in order to build plastics the fossil fuels oil, gas, and coal are needed. The extraction of those fuels, via fracking for instance, is a carbon intense activity, moreover, the refining process of plastic and its use, often only for a single time, as well. In addition, sunlight and heat cause the

plastic to release powerful greenhouse gases as it breaks down into more methane and ethylene once it is thrown away into oceans for example.

Plastic waste generation per person, 2010

Daily plastic waste generation per person, measured in kilograms per person per day. This measures the overall per capita plastic waste generation rate prior to waste management, recycling or incineration. It does not therefore directly indicate the risk of pollution to waterways or marine environments.



Source: Jambeck et al. (2015)

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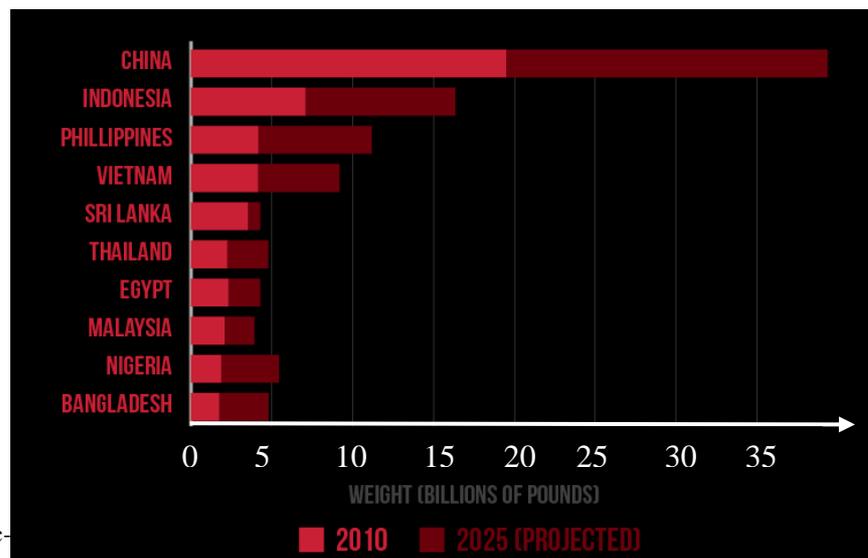
Because every country produces waste, plastic pollution has become a global issue. The map on the right-hand side displays the plastic waste generation per capita and per day in 2010.

The countries with the most amount of plastic waste are Kuwait, Guyana, Germany, the Netherlands, Ireland,

and the United States of America. However, this map does not show the aspect of waste management and recycling, hence, it does not represent the leakage of plastics into the ocean or other waterways. If we look at the total plastic waste per country and are taking population into account, China produces the largest amount of plastic each year, nearly 60 million tons in 2010¹. In addition, in 2015 Asia has been responsible for 86% of the global total of river plastic inputs reaching the aggregated ocean, however, Central and North America, Europe, and the Australian-Pacific region account for just over one percent together².

This graphic shows the total annual output of mismanaged plastic waste leakage in oceans by top 10 countries and the foreseen plastic output for 2025. The first five countries alone are responsible for 60% of all marine plastics in 2010.

(<https://www.coresponsibility.com/plastic->



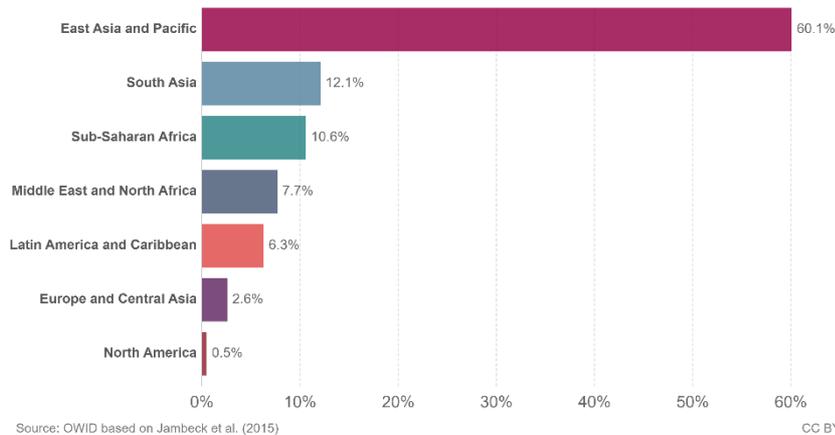
¹ <https://ourworldindata.org/grapher/plastic-waste-generation-total>

² <https://ourworldindata.org/plastic-pollution>

Global mismanaged plastic waste by region, 2025

Projected mismanaged plastic waste by region in 2025, given as a share of the global total. This is measured as the total mismanaged waste by populations within 50km of the coastline, and therefore defined as high risk of entering the oceans. Mismanaged plastic waste is defined as "plastic that is either littered or inadequately disposed. Inadequately disposed waste is not formally managed and includes disposal in dumps or open, uncontrolled landfills, where it is not fully contained. Mismanaged waste could eventually enter the ocean via inland waterways, wastewater outflows, and transport by wind or tides."

Our World
in Data



(<https://ourworldindata.org/grapher/mismanaged-plastic-waste-by-region-2025>)

It is important to note that while many European and North American countries have a higher waste per capita rate, their contribution of mismanaged waste to marine pollution tends to be much lower. This is due to the very effective waste management infrastructure and systems these MEDCs have. In addition to European and North American

countries, Australia, New Zealand, Japan, and South Korea store their discarded plastic waste secure and in closed landfills as well, which leads to none as inadequately managed considered plastic waste. Nevertheless, this does not mean there is no risk of plastic entering the natural environment, but the chances are significantly less compared to many LEDCs where 80-90% of plastic waste is disposed of inadequately.

Background information:

Since the expansion of plastic production itself is a major cause for ocean pollution, rapidly developing economies of countries especially in South(east) Asia can be held responsible. They often lack proper waste management policies and their governance systems and infrastructures fail to keep pace with the increase of the economic development. In many LEDCs the absence of sustainable waste management results in littering, open burning, and unmanaged disposal of plastics due to a shortfall of environmentally sound recycling systems. In addition, MEDCs have repeatedly used such regions as dumping grounds after China stopped importing waste in 2017. Therefore short-term strategies to tackle the problem of ocean littering are improving plastic waste collection and its environmentally satisfactory disposal. Mid-term strategies are plastic waste separation at source and the introduction of suitable plastic recovery and recycling systems as they are more economically reasonable and socially and environmentally acceptable. Both strategies can lead to a decrease of plastic waste leakage into the marine environment, nonetheless, the implementation of long-term actions, along the lines of sustainable production through eco-designing and labelling and the creation of awareness of a sustainable lifestyle, are necessary to generate radical changes.



The problem of plastic leakage into the marine eco-system has a wide range of social and economic impacts. Overall, the damage plastic pollution causes to our oceans and waterways produces high costs of an estimated \$13 billion per year. Those are connected mainly with

1) clean-up operations,

2) litter removal,

3) the repair and replacement of damaged vessels and gear:

Per year the total value of damage of ships due to littering amounts to \$297 million³ in the APEC region. The marine litter damaging vessels, fouling ship propulsion equipment or cooling systems are responsible for those costs. Additionally, disrupted supply chains and the loss of productivity and revenues can result from delays and accidents of vessels.

4) reduced fishing catches through a) the entanglement, b) the ingestion and c) the exposure to toxic materials and

5) a decrease in coastal tourism which impacts the related industries. The cleaning of polluted beaches and oceans in order to recreate aesthetic values of the marine environment is the main social cost.

The economy of many countries with a coast line is depending on tourists, hence, polluted beaches can be a reason for a decreasing number of visitors leading to loss of revenues and jobs in that sector as they discourage tourists to come. In the APEC region waste in the marine eco-system causes the loss of an estimated \$622 million per year⁴ only to the tourism sector.

Moreover, human health is threatened through

a) the direct impact of marine pollution, e.g. sharp splinters of broken plastic at the beach and

b) harmful toxic substances that enter the human body through the food chain when consuming sea food.

Especially in low- and middle-income countries the population often lacks access to regular waste collection services, resulting in about two billion people having to take waste elimination into their

³ https://wedocs.unep.org/bitstream/handle/20.500.11822/26014/Marinelitter_socioeco_study.pdf?sequence

⁴ https://wedocs.unep.org/bitstream/handle/20.500.11822/26014/Marinelitter_socioeco_study.pdf?sequence



own hands, leading to dumping for example into waterways and private open burnings which negatively affect human health and the climate due to toxic smoke. Furthermore, about three billion people do not even have environmentally sound treatment and disposal facilities, as only an average percentage of 39-51% of waste is collected in those countries and even less than 26% in peri-urban and rural regions. However MEDCs in Southeast/East Asia and the Pacific (e.g. Japan, Australia, Singapore, and the Republic of Korea) approach a rate of 100% for waste collection services. In those countries waste separation at source is common as well, unlike in many other countries in that area where informal waste pickers often do that job indecently. Due to the low price and availability of proper land, final disposal sites in low- and middle-income countries are often located near low-lying areas and waterways. More than 50 of plastic litter end up in open dumping sites in many of those countries, as reported by the International Solid Waste Association.

It is necessary to search for a solution to implement proper waste disposal of plastics, because marine littering is a threat to wildlife as well as humankind and damages our health and economy.

Glossary:

APEC – Asia-Pacific Economic Cooperation (an economic group established in 1989 promoting free trade and sustainable development in order to increase the independence of the economies in 21 countries in the Pacific Rim)

GA – General Assembly

GPA - Global Program of Action for the Protection of the Marine Environment from Land-based Activities

LEDC – Less Economically Developed Country (a country in which the average incomes are low)

MEDC – More Economically Developed Country (a rich country with a high Human Development Index [HDI] rating)

Mismanaged plastic waste – material (in this case plastic) at high risk of entering the ocean or being carried to the coastlines -> the total amount of material which is littered or inadequately disposed

NGO – a non-profit organization that operates independently of any government, e.g. National Geographic

SDGs – Sustainable Development Goals

Sustainable waste management – its goal is to reduce the amount of natural resources consumed and that the waste produced is kept to a minimum, for example by reusing materials taken from nature as many times as possible

UNEP – United Nations Environment Program



How to prepare as a delegate:

Dear Delegates,

bear in mind that preparation is key in order to hold a successful debate and therefore, we urge you to research carefully and detailed. Start by collecting basic information about your country in the following categories as this will give you a good overview on your country's positions in general: politics, economy, geography, history, and society. Find out about your country's alliances with others and then start your research on how your country specifically is involved in the topic of marine pollution.

Keep in mind that you as a delegate are required to write at least one draft resolution and two, preferably three, position papers so all topics in the Environmental Council are covered. All documents shall be handed in until XX XX 2020. Position papers and draft resolutions send in after the deadline will not be corrected. If you are a first timer and are a bit overwhelmed, feel free to reach out.

UN resolutions:

https://www.un.org/depts/los/general_assembly/contributions_2016/UNEP_Contribution_to_ICP_on_marine_debris.pdf (UNEP and GPA working to prevent, reduce and mitigate impacts by marine litter on marine and coastal ecosystems.)

Furthermore, the GA adopted the United Nations Agenda 2030 for Sustainable Development on 25th September 2015. It serves a plan of action which consists of 17 Sustainable Development Goals and 169 targets in order to keep the international efforts on reducing plastic pollution into waterways and oceans growing.

Useful links:

<https://www.nationalgeographic.com/news/2015/1/150109-oceans-plastic-sea-trash-science-marine-debris/>

→ Video: How can we keep plastics out of our oceans

<https://www.env.go.jp/press/files/jp/112576.pdf>

→ Use this link in order to find specific information on your country's achievements, goals for the future and measures already taken.

<https://www.iucn.org/resources/issues-briefs/marine-plastics>

→ With the link you get to a website which explains the issue easily and briefly.



<http://www.unesco.org/new/en/natural-sciences/ioc-oceans/focus-areas/rio-20-ocean/blueprint-for-the-future-we-want/marine-pollution/facts-and-figures-on-marine-pollution/>

→ This link guides you to facts about marine pollution.

https://wedocs.unep.org/bitstream/handle/20.500.11822/31555/Marine_Plastic_Pollution.pdf?sequence=1&isAllowed=y

→ If your country is India or Indonesia you should follow this link, because it is a review of a case study on marine pollution in those two countries

→ Even though the text might seem long, there are graphics and tables summing up the information which can be very useful for everyone

Sources:

- https://wedocs.unep.org/bitstream/handle/20.500.11822/31555/Marine_Plastic_Pollution.pdf?sequence=1&isAllowed=y (used on 21st June 2020)
- <https://www.iucn.org/resources/issues-briefs/marine-plastics> (used on 20th June 2020)
- <http://oceanrulers.org/plastic-crusades/plastic-statistics/> (used on 21st June 2020)
- <https://ourworldindata.org/plastic-pollution#which-countries-produce-the-most-plastic-waste> (used on 21st June 2020)
- <https://www.wti.org/institute/news/350/protecting-the-oceans-against-plastic-pollution/> (used on 21st June 2020)
- https://wedocs.unep.org/bitstream/handle/20.500.11822/26014/Marinelitter_socioeco_study.pdf?sequence (used on 21st June 2020)
- <https://www.nationalgeographic.org/encyclopedia/marine-pollution/> (used on 21st June 2020)
- <https://www.srwsocorp.com/what-is-sustainable-waste-management#:~:text=The%20goal%20of%20sustainable%20waste,is%20kept%20to%20a%20minimum.> (used on 2nd July 2020)
- <https://www.yaleclimateconnections.org/2019/08/how-plastics-contribute-to-climate-change/> (used on 5th July 2020)
- <https://www.yaleclimateconnections.org/2019/08/how-plastics-contribute-to-climate-change/> (used on 5th July 2020)