



same time, however, they can have serious consequences for the environment and health.

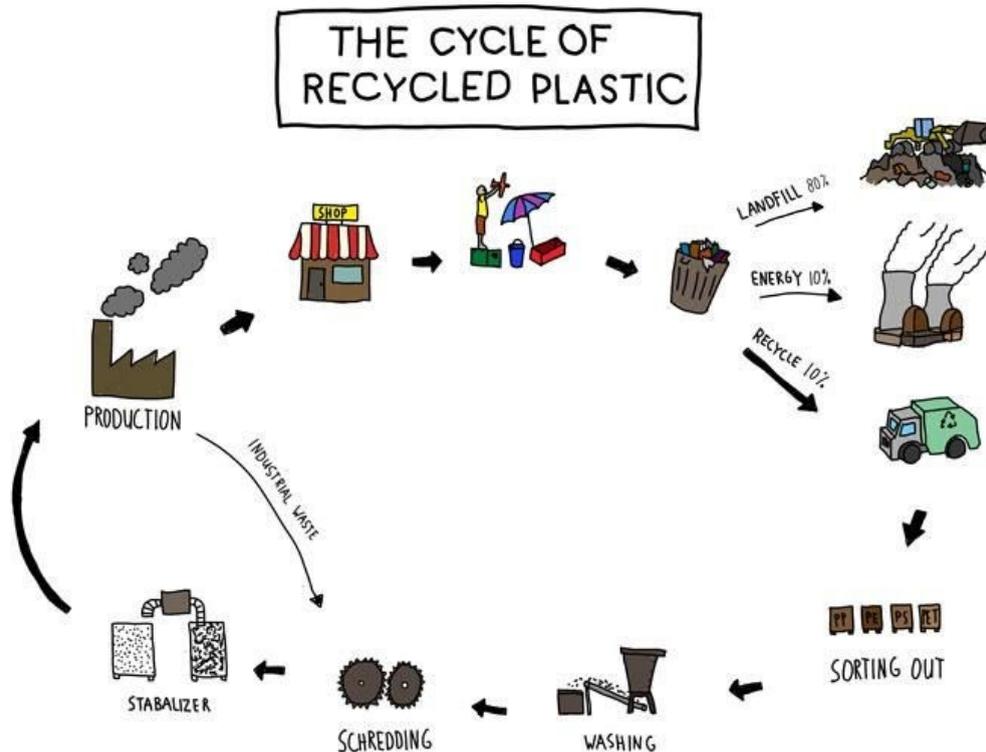
### History of plastic

The term “plastic” refers to a material consisting of any of a wide range of synthetic or semi-synthetic organic compounds, which by being malleable can be molded to solid objects. The first synthetic plastic was Bakelite, which was invented in 1907 by Leo Baekeland in New York. After him many chemists have contributed to the science of plastics, including Nobel prize awarded Hermann Staudinger, known as “the father of polymer chemistry” and Herman Mark, known as “the father of polymer physics”.

### Modern Reality

Due to their ease of manufacture, low cost, versatility and imperviousness to water and other substances, plastics have prevailed over traditional materials, such as wood, stone and glass.

However, their slow decomposition rate after their disposal as waste due to their composition of large molecules gave rise to many environmental concerns. Uncountable statistics have proven that plastics affect negatively the environment and the animal and human health. The most famous countermeasure against this problem is the promotion of recycling and it is a fact that many countries consider the partial or even complete ban of plastics.



## Definition of Key-Terms

Marine debris/litter: This is human-created waste that has been released either willingly or accidentally in a water area.

<sup>1</sup>

Developing countries: The World Economic Situation and Prospects (WESP) classifies all countries into three broad categories: developed economies, economies in transition and developing countries. The list of the least developed countries (LDCs) is decided upon by the United Nations Economic and Social Council and, ultimately, by the General Assembly, based on recommendations made by the Committee for Development Policy. The basic criteria for inclusion require that certain thresholds have to be met with regard to the Gross National Income (GNI) per capita, the Human Assets Index (HAI) and the Economic Vulnerability Index (EVI).

<sup>2</sup>

Policy reform: A process to make changes to the formal “rules of the game” including laws, regulations and institutions, to address a problem, or to achieve a goal such as economic growth, environmental protection and poverty alleviation.

<sup>1</sup>Information provided by the statistical annex of WESP, which was prepared by the Development Policy and Analysis Division (DPAD) of the Department of Economic and Social Affairs of the United Nations Secretariat (UN/ DESA)

<sup>2</sup>Definition provided by OECD, 2006 (DAC Guidelines and Reference Series Applying Strategic Environmental Assessment: Good Practice Guidance for Development Co-operation, OECD, Paris).

Sustainable Development Goals: SDGs are 17 international goals set by the United Nations, which are well known as "Transforming our World: the 2030 Agenda for Sustainable Development" or Agenda 2030, because the UN aims to have fulfilled

Figure3: The Sustainable Development Goals



these goals at that time. Each goal entails the achievement of specific targets as part of a new sustainable development agenda.

## Background Information

Although various agencies, NGO's, state and non-state actors have contributed significantly to enhance the people's awareness of the importance of environmental issues that the international community is facing, there are still many problems that need to be addressed.

An issue concerning the international community during the 21<sup>st</sup> century is the extensive use of plastics and their hazardous impact on the environment. This study guide is an overview of the topic as it includes only the basics; however, you should definitely make your own research in order to be able to participate in a fruitful debate.

### Plastics causing air pollution

It is well known that plastic bags are made from petroleum, but in the United States for instance, most of them are made from natural gas. Moreover, in order to produce these plastics petrochemical plants are needed, which pollute communities and harm workers. PVC plants can release dioxins that are carcinogenic and cause

reproductive and immune system disorders. Residents of the Persian Gulf countries, where such chemicals are produced, are regularly exposed to high levels of benzene and other carcinogenic chemicals above safe standards. Furthermore, when plastics are burnt, they release hazardous emissions. In addition, when a fire occurs, due to the fact that our way of living is based on plastics, the emissions from fires are becoming increasingly hazardous to those exposed to them.

### Plastics causing land pollution

Very little of the plastic we discard is recycled in waste-to-energy facilities. Most of the time, it ends up in landfills, where it may take up to 1,000 years to decompose, leaching potentially toxic substances into the soil and water. Chlorinated plastic can release harmful chemicals into the soil, which can then seep into groundwater or other surrounding water sources, and the ecosystem. Chemical effects are especially problematic at the decomposition stage. Additives such as phthalates and Bisphenol A (widely known as BPA) disrupt the hormone system of vertebrates and invertebrates alike.

### Plastics causing water pollution

The litter that is being delivered into the oceans is toxic to marine life, and human beings. Plankton, fish, and the human race, through the food chain, ingest these highly toxic carcinogens and chemicals. Eating fish that contain these toxins can cause an increase in cancer, immune disorders, and birth defects. In the Pacific, there are approximately 100 million tons of debris. Most of it is near the surface of the water, but it can also be found at a depth of 100 feet.

As far as tap water is concerned, in 2017, eighty-three percent of tap water samples taken around the world were proven to contain plastic pollutants. A ninety-four percent contamination rate was found in the United States of America. European countries had rates high as seventy-two percent.

You can also watch the following related video: <https://youtu.be/QTaADoOKqQY><sup>1</sup>

### IMPORTANT FACTS

- ❖ The UN Environment Assembly meets every two years in Nairobi, Kenya.
- ❖ The UN Environment Assembly has the universal membership of all 193 UN Member States.
- ❖ The average North American or European consumes 100 kilograms of plastic every year.

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<sup>1</sup> UN's mission to keep plastics out of oceans and marine life.

- ❖ Only fourteen percent of our plastic waste is being recycled.
- ❖ Kenya prepares for nationwide ban on plastic bags.
- ❖ The average person eats 80 kilograms of fish per year in the Pacific, 4 times more than the global average, and the proportion of fish known to have eaten plastic in the Pacific is thirty percent higher than the global average.
- ❖ India was the global host of the 2018 World Environment Day, which took place on June 5, 2018.
- ❖ Every year the world uses up to 5 trillion plastic bags.
- ❖ Each year, at least 13 million tons of plastic end up in the oceans, the equivalent of a full garbage truck every minute.
- ❖ During the last decade, we produced more plastic than in the whole last century.
- ❖ Fifty percent of the plastic we use is single-use or disposable.
- ❖ We buy one million plastic bottles every minute.
- ❖ Plastic makes up to ten percent of all of the waste we generate.
- ❖ Plastic waste exporting countries (usually MEDC's—More Economically Developed Countries) ship their waste to plastic waste importing countries (usually LEDC's—Less Economically Developed Countries).
- ❖ Most of the recyclable plastic material is shipped overseas to China and other Asian countries.
- ❖ In 2007, Britain's Sky News aired an expose on the conditions in Lian Jiao, a Chinese town that had become a toxic waste dump for the West's plastic recycling. Workers melted down plastics without wearing any kind of protective gear, and the air was thick with toxic emissions.
- ❖ According to the UN Food and Agriculture Commission, humans consume more than 90 million fish per year.
- ❖ Indonesia has committed to slashing its marine litter by seventy percent by 2025.
- ❖ Uruguay is planning to tax single-use plastic bags.
- ❖ In Canada, the United States, and the European Union, BPA has been banned from being incorporated in the production of baby bottles and children's cups, due to health concerns and the higher vulnerability of younger children to the effects of BPA. (BPA stands for Bisphenol A)
- ❖ Thailand bans waste imports as Malaysia considers doing the same.
- ❖ The United States and Japan refused to sign an agreement between the G7 countries to reduce plastic waste in the oceans and deteriorate the usage of single-use plastics, such as straws, bottles and cups.

## Major Countries and Organizations Involved

### United Nations Environmental Program (UNEP)

UNEP is an agency, founded in 1972, which coordinates the United Nation's environmental activities and is dedicated to assist developing countries in implementing environmentally sound policies and practices. UNEP has also shown its dedication to combat the issue of plastic pollution.



### United Nations Environmental Assembly (UNEA)

It is the world's most authoritative decision-making body on the environment, tasked with tackling some of the most critical issues of our time. During UNEA's sessions, the issues of marine debris and the need for necessary policy reforms have been discussed.

### UN Environment and the Partnership for Action on Green Economy (PAGE)

The Partnership for Action on Green Economy (PAGE), launched in 2013, after the Rio+20, supports countries wishing to embark on greener and more inclusive growth transformations. PAGE brings together five UN agencies —UN Environment, International Labour Organization, UN Development Programme, UN Industrial Development Organization, and UN Institute for Training and Research.

Figure4: UNEP's logo

### Europe

The European Commission prioritized actions on plastics in the Circular Economy Action Plan, to urge European businesses and consumers to use resources in a more sustainable way. The European Strategy for Plastics in a Circular Economy adopted on January 2018 will change completely the way plastic products are designed, used, produced and recycled in the EU. Its main commitments are to boost recycling methods and contribute to reaching the Sustainable Development Goals.

## China

China decided to ban imports of plastic waste in 2017, because the imports of plastic waste have had a great impact on the environment and the health of its citizens. China's policy decision is seen by some as a boost to develop sustainable plastic waste management practices and to urge for a fairer waste distribution on the part of waste exporting countries. PAGE is currently helping China to adopt green industrial policies. However, China is also proven one of the biggest plastic waste producing countries.

## United States of America

USA refused to reach an agreement to cut down the usage of single-use plastics, such as straws, bottles and cups. Among the G7 countries, Japan and the US refused to sign the plastics charter. This was not a surprise from the US, recalling its refusal to join the Paris climate agreement. Moreover, it is a fact that US together with UK are two major plastic waste exporting countries, shifting their waste to China, Thailand, Malaysia, among other Asian countries.

## Russian Federation

Citizens in Russia do not seem to abide by recycling guidelines. It is estimated that the volume of garbage in major Russian cities will in three years' time cover all current landfills in Russia. Although Russian representatives have shown dedication towards improving the waste sorting strategies, the lack of state organization delays the adoption of such measures.

## **Timeline of Events**

<b>Chronology</b>	<b>Event Description</b>
<b>1945</b>	Draw up of the UN Charter
<b>1972</b>	Creation of UNEP
<b>1992</b>	United Nations Conference on the Environment and Development and Agenda 21, UNCED
<b>2012</b>	Rio+20 Conference on Sustainable Development

<b>2013</b>	The 27 <sup>th</sup> UNEP Governing Council agreed on a number of institutional reforms, including the creation of the UN Environment Assembly as the new governing body with universal membership (Decision GC 27/2).
<b>23-27 June 2014</b>	First meeting of UNEA, First UNEA-1 resolution
<b>23-27 May 2016</b>	UNEA-2 (major areas of focus included: implementation of the 2030 Agenda for Sustainable Development, the Paris Agreement, illegal trade in wildlife, and marine litter and debris)
<b>19 September 2017</b>	28 <sup>th</sup> Annual meeting of the Secretariat of the Pacific Regional Environment Programme Members
<b>4-6 December 2017</b>	UNEA-3, The Ministerial Declaration, Resolutions and Decisions adopted at UNEA-3 "Towards a Pollution Free Planet"
<b>5 July 2018</b>	India was the host of the World Environment Day 2018 with the theme "Beat Plastic Pollution"

## Relevant UN Treaties, Resolutions and Events

### United Nations Environment Assembly (UNEA-2) in Nairobi, 27 May 2016

During UNEA-2, a lot of environmental issues were discussed in order to implement the 2030 Agenda for Sustainable Development and the Paris Climate Agreement. A key issue at UNEA-2 was "Marine Litter and Debris". Delegates asked for UNEP's help to enact governance strategies and approaches to combat marine plastic litter and microplastics.

### Previous Attempts to Solve the Issue

In the 28<sup>th</sup> annual meeting of the Secretariat of the Pacific Regional Environment Programme Members (September 2017), France proposed a ban on plastic microbeads, because they are causing enormous problems to oceans and marine life. Fishes mistake them for food and the small particles may concentrate toxins, which build up in fish species.

Additionally, during the global Clean Seas campaign, launched by UN Environment in February 2017, it was decided to urge Member States to eliminate microplastics in cosmetics and drastically reduce single-use plastic by the year 2022.

Although, there have been multiple attempts to address the issue and to reach an agreement among Member States to follow the same guidelines, no action has been taken. A UN agreement that would have called for specific, internationally agreed goals to eradicate plastic waste in the oceans has been rejected by the US, followed by India and China. In conclusion, although countries did agree that the issue of marine debris should be tackled, the final published resolution has no timetable and is not legally binding.

### UPCOMING EVENTS

- ❖ The PAGE GREEN INDUSTRIAL POLICY TRILOGY PRESENTATION will be held on February 22, 2018 in the Geneva Graduate Institute Centre for International Environmental Governance in order to inform policymakers, researchers and practitioners about both green industrial policies and the instruments available. Issues, such as plastic pollution, plastic waste management, recycling methods and even the potential complete ban of plastics, will be discussed.
- ❖ India was the host of the global World Environment Day celebrations on 5<sup>th</sup> of June 2018 with the theme “Beat Plastic Pollution”. “Beat Plastic Pollution” urges governments, industry, communities, and individuals to reduce the production and excessive use of plastics.

### **Possible Solutions**

The important thing here is, how international efforts, as well as the work of NGO's and UN non-state factors, can be enhanced, in what way the current situation can be improved and to what extent there can be policy reforms and changes on the legal framework of each country. Factors that play a significant role for the preparation of a resolution are: the policy of the country represented, the current policy of different nations and the already existing legislation, signed and ratified Conventions and Treaties.

Bear in mind that you should submit clauses, which will:

- Promote systematic dialogue among members of UNEP. Focus on ways to help developing countries to follow technological green growth policies.
- Recommend ways on how to raise more funds in order for LEDCs to have the opportunity to support environmental friendly policies.
- Call for the potential imposition of economic sanctions or for other ways of punishment in response to severe environmental “delinquencies”.
- Protect developing countries from the potential abuse of MEDCs that might try to use LEDCs as plastic waste dumps.
- Suggest ways to convince countries as the USA, China and India to reconsider their policies regarding the usage of daily-plastic bags.
- Further, urge Member States to promote environmentally friendly habits among their citizens. Also bearing in mind that only ten percent of the plastics is being recycled; find efficient ways to further urge citizens to recycle.
- Call upon Member States to raise awareness on the issue through mass media, workshops, campaigns, social media, school special subjects etc.
- Call for the employment of control agencies, which will provide annual data regarding the percentage of marine litter.
- Urge Member States to put pressure on companies that use Bisphenol A and other similar chemicals in the production of plastic bottles.
- Call for the wider ban on usage of Bisphenol A in the production of baby bottles and children's cups, due to health concerns and the higher vulnerability of younger children to the effects of BPA.
- Focus on the use of economic incentives and other market-based strategies as the key to more effective environmental protection and the restriction of the use of daily used plastics, such as plastic bags etc.

- Recommend the further employment of bodies and specialized agencies, which will put pressure on a national level to make sure that previous resolutions and the current legislation regarding environmental related issues is being respected and followed.

To assure that your clauses/resolutions are not only good ideas, but also efficient and realistic proposals, your clauses/resolutions should definitely answer the following questions:

- ✓ How can this idea become reality? How could this be implementable and possible?
- ✓ Who will forward the measure?
- ✓ How are we going to assure that loopholes cease to exist? Should the UN (in collaboration with its related agencies, such as —but not limited to— UNEP) help countries create a framework for a more strict law system?
- ✓ How should a nation deal with companies disrespecting environmental-related Treaties? What should the stance of the government be towards this phenomenon?
- ✓ How will the UN make sure that the existing treaties, legislation, and Conventions are being respected?
- ✓ Should the UN in accordance with the respective organizations recommend a global framework to address the issue or should it be each country's responsibility?

Further help:

[http://www.un.org/depts/los/consultative\\_process/ICP17\\_Presentations/Savelli.pdf](http://www.un.org/depts/los/consultative_process/ICP17_Presentations/Savelli.pdf)

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Figures:

**Figure 1:** “U.S. Plastic Corporation | Plastic Tanks | Plastic Buckets | Plastic Bottles | Labware | Plastic Tubing | PVC Pipe | U.S. Plastic Corp.” *Lexan™ Polycarbonate 9034 Sheeting | U.S. Plastic Corp.*

**Figure 2:** “The Cycle of Recycled Plastic.”

**Figure 3:** “The Sustainable Development Goals.” *Google Images*

**Figure 4:** “UNEP-logo”, UNEP

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