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DECREASING THE PRODUCTION OF PLASTIC WASTE BY IMPLEMENTING PRINCIPLES OF CIRCULAR ECONOMY

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INTRODUCTION

The issue of plastic waste has recently become increasingly urgent with an estimated 11 million metric tons of plastic entering the oceans every year, a number that could triple if serious action is not taken immediately. A possible solution to the problem could be offered by implementing principles of circular economy, which would mainly mean thinking of plastic as a renewable material rather than waste and designing a closed-loop economic system that would allow plastics to be used in multiple cycles for as long as possible.

KEY TERMS

Linear economy
an economy that is based on a take-make-dispose model which results in immense waste.

Circular economy
a model that aims to keep existing products in the system for as long as possible by reusing them and minimizing their waste.

Recycling
a process in which waste is converted into reusable material.

Chemical recycling
technologies that can break down plastics into their original chemical building blocks and transform them into secondary raw materials, so that they can be used to produce new materials and build up new products.

New Plastics Economy Global Commitment
a first of its kind collaboration (the Ellen MacArthur Foundation) that works with governments, international institutions and NGOs to achieve global circular economy

EPR (Extended Producer Responsibility)
a significant responsibility for the treatment and disposal of a product is shifted on producers in financial or physical means

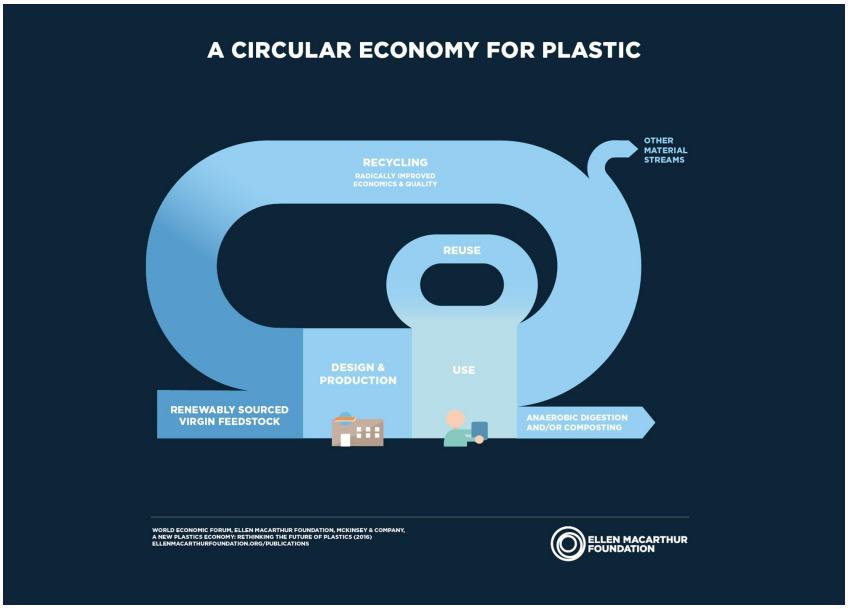
TIMELINE OF EVENTS

1907 – first fully synthetic plastic is invented by Leo Baekelend
1950s – rapid growth in global plastic production takes place
1960s - ocean pollution with plastic becomes increasingly apparent
1973 – PET bottle is patented by Nathaniel Wyeth
1977 – plastic bag starts to replace paper bag in grocery stores
2010 - New Plastics Global Economy Commitment is launched

PREVIOUS AND POSSIBLE SOLUTIONS

A groundwork for creating a circular economy for plastics would be laid on reducing the usage of the material. This would include redesigning packaging to make it lighter and more sustainable, meaning cutting down on the amount of plastic used or replacing it with an alternative material that would preferably keep the packaging in the economy for multiple cycles. Furthermore, as single-use plastics account for up to 40% of the yearly plastic production, a huge step taken towards a circular economy would involve limiting those single-use plastics in as many areas as possible, plastics used for hygiene and other safety

purposes should also be addressed. Supporting projects that promote circular economy would also be beneficial because this shift in an economic system would not only require collaboration across governmental and industrial sectors, but also informing the consumers about this model. To implement the circular economy in business areas, companies could be to a certain level assigned extended producer responsibility and the demand for recycled plastics could be boosted to ensure that less products are eliminated from the system after one use only. Lastly, possible ways and forms of recycling should be discussed. If circular economy for plastics is achieved, it has the potential to reduce the annual amount of plastics entering our oceans by 80%, reduce greenhouse gas emissions by 25%, save $ 200 billion per year and generate many new jobs.



MAJOR PARTIES INVOLVED

OECD (Organization for Economic Co-operation and Development)

The OECD has launched a programme on overall circular economy in several cities and regions to help them transition towards this model and has held a forum for designing sustainable plastics.

The Coca Cola Company, PepsiCo, Nestlé

Three of the globally biggest plastic producers that are now trying to aim towards the circular economy. To pursue this strategy, those companies have created similar plans to eliminate

unnecessary packaging and to make it reusable. They have also joined the New Plastics Economy.

European Commission

The European Commission has adopted a strategy for plastics in a circular economy and is funding several research programmes to implement this strategy.

People's Republic of China

China, as the country producing the most plastic waste, has introduced a plan that would include the elimination of single-use and non-biodegradable plastic bags and packaging as a part of their strategy for circular economy.

QUESTIONS TO CONSIDER

How can basic plastic-collection systems be ensured?

How can excessive plastic packaging be avoided? / What are the alternatives?

In what sectors could single-use plastics be eliminated?

How to ensure that companies/consumers adopt the new system?

What ways of recycling can be the most helpful to the system?

RECOMMENDED SOURCES FOR FURTHER READING

videos further explaining the principles and aims of circular economy for plastics:

https://www.youtube.com/watch?v=7b9R82vrA40

https://youtu.be/xmTQA-RNygQ

BIBLIOGRAPHY

"Creating a Circular Economy for Plastics." ERM, https://www.sustainability.com/thinking/creating-a-circular-economy-for-plastics/.

"Eleven Additional Governments Commit to New Plastics Economy." UNEP, https://www.unep.org/news-and-stories/story/eleven-additional-governments-commit-new-plastics-economy.

Hazlegreaves, Steph. "The Plastic Timeline: How Did We Get Here?" Open Access Government, 28 Jan. 2021, https://www.openaccessgovernment.org/the-plastic-timeline-how-did-we-get-here/102481/.

"History and Future of Plastics." Science History Institute, 20 Nov. 2019, https://www.sciencehistory.org/the-history-and-future-of-plastics.

McGinty, David. "How to Build a Circular Economy." World Resources Institute, 6 Aug. 2020, https://www.wri.org/insights/how-build-circular-economy.

Nunez, Christina. "Four Key Ideas to Building a Circular Economy." Science, National Geographic, 30 Sept. 2021, https://www.nationalgeographic.com/science/article/paid-content-four-key-ideas-to-building-a-circular-economy-for-plastics.

"Plastics." PACE, https://pacecircular.org/action-agenda/plastics.

"Recycling and the Circular Economy: What's the Difference?" How to Build a Circular Economy, https://ellenmacarthurfoundation.org/articles/recycling-and-the-circular-economy-whats-the-difference.

"The Age of Plastic: From Parkesine to Pollution." Science Museum, https://www.sciencemuseum.org.uk/objects-and-stories/chemistry/age-plastic-parkesine-pollution.

"Plastics and the Circular Economy." *Ellen MacArthur Foundation*, https://archive.ellenmacarthurfoundation.org/explore/plastics-and-the-circular-economy.

"Plastics in a Circular Economy." *European Commission - European Commission*, 14 Oct. 2021, https://ec.europa.eu/info/research-and-innovation/research-area/environment/circular-economy/plastics-circular-economy_en.