



GA4: Environmental Committee

Student Officer: Tuğrul Turan

Issue: Promoting circular economic principles

TIMUN '21 
Turkish International Model United Nations





Committee: Environmental Committee (GA4)

Issue: Promoting circular economic principles

Student Officer: Tuğrul Turan – President Chair

I. Introduction

With the high levels of industrialization and a population boom, the world economies have shaped their economies into what is known as a ‘linear’ economy. The approach is based on the principle of take-make-dispose, resulting in the disposal of the products after they are processed into finished products and consumed by the consumer community. While this practice of production and consumption enabled producers to produce in mass quantities without being concerned about the effects on the environment, the consumers enjoyed consuming them but disposed of the products in the environment whenever they were done.

In recent years a new type of economic model has emerged and started to gain worldwide attention. This economic model is called a ‘circular’ economy in comparison to our traditional production approaches. The linear economy mentioned above as traditional, easy, and cost less has a “take-make-waste” approach. Natural resources are gathered from the environment for production. Having been served to consumers, the products are then disposed of in the environment where they are left for natural disposal (which can take years) or incineration. This method creates environmental pollution, causes the exploitation and degradation of the world's natural resources, health problems, and risks to humans.

In comparison to a ‘linear’ economy, circular economic principles possess a regenerative and restorative approach. The method produces long-lasting products which are produced from already existing materials of used products. The circular economy model reuses and recycles old products to prevent mass disposals into the environment, enables consumers to save money and resources, removes environmental and economic risks. The circular economy is of great importance to the Sustainable Development Goals of the United Nations.

The research report will further elaborate on what circular economic principles are, guide the ways for a linear economy, implementing circular economic principles, and the hardships that the circular economic model possesses.



II. Involved Countries and Organizations

The European Union (EU)

The European Union, the producer of 2.5 tonnes of waste per year, is renewing its legislation concerning waste management. The changes will foresee more sustainable designs, waste replacement strategies, and consumer rights. The sectors that are dominated by resource input are given the highest importance by the European Union. In February 2021, the EU adopted the Circular Economy Action Plan, intending to form carbon-sustainable, toxic and carbon-free, and circular economic models. Also, in December 2019, the European Green Deal was accepted while in March 2020 the Circular Economy Action Plan was approved. Although in the European Union framework, significant decisions are taken, and European nations lead the transition to a circular economy, some EU countries have progressed more than others. Netherlands, France, Italy and Germany have progressed for several years in transitioning into a circular economy while some other EU countries are only just beginning. This highlights the disparity between countries in terms of eco-friendly economic practices, even in the same institution.

China

China's transition from a state-controlled economy to a market economy in the 2000s caused rapid economic growth for the country. Yet, the change came with environmental repercussions. Concerns for the environment urged China to take state-level action for a circular economy. In 2005, the implementation of a national strategy for the circular economy was adopted through the usage of the 3R method which foresaw the principles of "reduce, reuse, and recycle". China supports the shift to a circular economy model with consecutive Five-Year-Plans. Examples of circular economic principles include banning shopping for plastic bags in Shanghai, banning the intake of plastic wastes in 2018. Yet, it is important to note that, however strong the intention for adopting circular economic principles might be, China is amongst the world's top waste importers.

United States of America (USA)

In comparison to the European Union and China, on the federal level, the United States of America is yet to shift to a circular economy. The process on the federal level began in the 2015s although local and state-level jurisdictions long ago started to take action to give incentives for circular economic principles. Companies, local and state-level jurisdictions are overall eager to shift to a circular economy, and the process should be backed up by federal-level jurisdiction which would make it more effective in shifting to a circular economy. The report of Circular Colab, a non-profit organization promoting circular economy, suggests that 40% of the businesses in the United States utilize the "waste as a resource" approach. The



approach is the most fundamental principle of the circular economy where the wastes are circled in the economy to be used in the production of upcoming products. Other principles of circular economy are less popular compared to the “waste as a resource” approach. These are “design”, “product life extension”, “product as a service”, “material innovation”, “information transparency”, “financing”, “education and awareness”. The federal government can boost circular economic transition through incentives for popularizing other circular economic principles outlined above.

United Nations Industrial Development Organization (UNIDO)

As one of the organs of the United Nations, UNIDO is responsible for coordinating the world's transition to a circular economy. The organization prepared projects such as eco-industrial parks, Resource Efficient and Cleaner Production (RECP), Chemical Leasing programme to enhance the efficiency of resources and produce safe, easy to recycle, cleaner, and durable products. For example, the RECP programme launched in 2014 in Belarus enabled 30 companies to cut production related costs and reduce environmental impacts of production. The eco-industrial park programme unites companies to work cooperatively to reduce waste and increase production efficiency. UNIDO has projects that tackle the disposal of resources, refurbishing, and remanufacturing of products. As renewable energy is a significant aspect of the circular economy, UNIDO promotes the shift from non-renewable to renewable energy resources. UNIDO publishes guidelines for member states to better manage their energy resources and optimize them in the best way possible. UNIDO aids member states to optimize the energy gain in their extraction of resources.

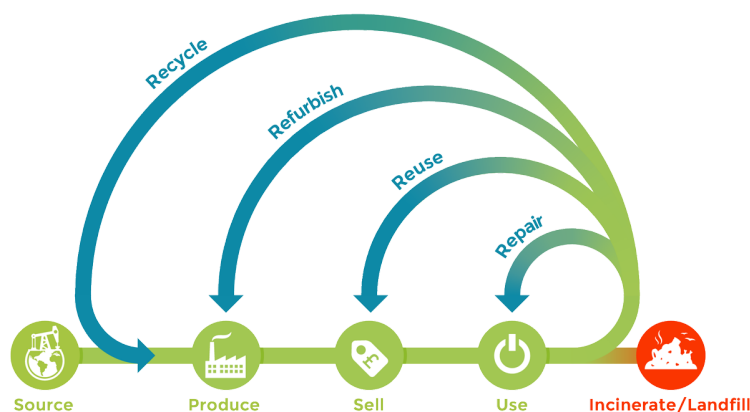
III. Focused Overview of the Issue

1. Principles of Circular Economy

Circular economic principles are divided into three. The first ensures the control of all waste and pollution produced and aims to minimize their levels. The step includes controlling the release of greenhouse gases and toxic materials, and controlling water, land, air, and other types of pollution such as that produced by traffic. The second phase is about keeping products and materials constantly in use in the circular economy cycle. In this step, durability, reuse, remanufacturing, and recycling are given priority. Products pass through several of these steps to continue existing in the economy. It foresees an economy where things are used, not used up and dumped up as waste. The third phase improves environmental conditions. Regeneration of natural systems is important for a circular economy as it avoids using



non-renewable resources and enhances renewable energy. Renewable energy is used instead of fossil fuels, and nutrients are returned to the soil thus supporting regeneration.



Circular economy

"Picture 1: Visual Representation of Circular Economy"

It is important not to confuse the circular economy with disposal and recycling in which products are used, disposed of, and returned to society. Although recycling constitutes a part of the circular economy, it consumes resources, energy, and labor. Therefore the circular economy envisages the production of long lasting durable goods as well as goods that are easy to reuse after quick changes. In comparison to recycling, products in a circular economy are not wasted and are returned to usage, products are expected to take minimum effort to recycle.

In a circular economy, cycles are divided into two: biological and technical. Consumption of food is considered to be helping the flow of the biological cycle. After anaerobic digestion and composting, biological waste (not considered to be waste in a circular economy) regenerate living systems such as marine ecosystems and soil. Technical cycles are returned to society through several methods: recycling, remanufacturing, repairing and reusing.

A circular economy wishes to keep the flow of the cycle through the usage of renewable energy. Considering a situation where recycling, remanufacturing, repairing, and reusing are fueled by non-renewable energy resources, would it really help the circular economy achieve its goal? No. Therefore the steps leading to a fully circular economy go through finding non-renewable energy sources and decreasing the cycle's dependence on resources.



2. Benefits of Circular Economy

The most predictable benefit of a circular economy is to the environment through its ability to lower greenhouse gas emission levels. Greenhouse gases in the circular economy would decrease as renewable energy replaced non-renewable energy. Reusing and dematerializing, healthy production processes and fewer materials would play a role in decreasing greenhouse gases. The Ellen MacArthur Foundation published in a report that by 2030 greenhouse gas levels would be lowered by half if circular economy is practiced.

A circular economy would also help agricultural practices and soil fertility. As the circular economy enables the flow of useful “waste” into the soil, it would prevent harmful materials from being left to their fate in nature. This would keep the soil fertile and enable it to refresh itself while keeping toxic materials away. Also, the water resources will be protected including seas, lakes, and oceans. Therefore fishing will become more efficient while marine ecosystems will be able to regenerate themselves.

Negative externalities would be lowered due to the circular economy. A negative externality can be defined as a business or an enterprise that causes pollution that diminishes the property values or health of people in the surrounding area. The effects are not only felt by the producers themselves at times but are always reflected in nature. An example can be a factory without the proper filtration systems, polluting the environment with toxic gases.

Although it requires investment to adapt to circular economic principles, once done so, circular economy will enable nations to boost their economic growth and GDP. Revenues will increase as production processes will become cheaper, faster, and efficient. As the population increases, keeping raw materials will become more and more essential. In a circular economy, resources will be saved to be only further used for fields and sectors with higher priority, helping member states to stock more of their natural resources.

The circular economic model will create job opportunities since practicing the new economic model will require unprecedented knowledge and skills in new sectors and fields. The World Economic Forum and Ellen MacArthur Foundation acknowledge the fact that new job opportunities will be created.

3. Hardships of Founding a Circular Economy

The most important hardship on behalf of the circular economy is economic barriers. Although a trend has started in recent years for a shift towards the circular economy, many businesses are still operating under the linear economy. In the short term, the circular economy would become a burden for



investors and enterprises since the benefits of this new model cannot immediately outweigh the number of investments that have to be made for reaching it.

Society has been accustomed to “use-waste” practices so much that there is little demand for the products of the circular economy. The nearly non-existent demand could be further lowered if enterprises of the circular economy reflect their investments on their prices. In comparison to enterprises of the linear economy model, the circular economy won't be able to compete in the market due to the most basic demand-supply equilibrium, at least in the short run.

Qualified personnel are scarce in society, primarily due to the fact that the circular economy concept is new for the consumers and the producers. The lack of human labor and human resources would hamper the development of the technical, technological, and informational side of the sector. To better address the scarcity, the educational side should be given importance.

It is an important question to address whether the already existing laws and regulations are ready for a shift from linear to circular economy. Laws and regulations should favor circular economic disciplines to achieve success and at least prevent the linear economy from having an advantage over enterprises of circular economy in terms of regulations. Although a change from linear to circular economy has started in terms of laws and regulations, change is yet to come.

IV. Key Vocabulary

Maintain/Prolong (&Share):

One of the essentials of a circular economy is to prolong the lifespan of products in use by managing ways to increase products' durability, maintenance, and repair. Longer-lasting products prevent the production of new products and therefore lessens the number of resources put into production.

Reuse/Redistribute:

Products related to technology and materials can be reused several times and get distributed to other consumers after a little change process. Examples of this include the enterprise of eBay.

Refurbish/Remanufacture:

Remanufacturing and refurbishment are two similar but different concepts. Both of the processes add a restoring value to the product. Remanufacturing is the disassembling of the product to its component level and rebuilding which ends up as a better-conditioned version of the same product. Refurbishment is a



process in which the product is repaired as much as possible and its look is improved. There is no replacement or disassembling of components in refurbishment.

Recycle:

Recycling is the process in which the product is returned to its original material state which allows the materials to be used for producing other products. The process is significant for the circular economy, yet the loss of labor and energy, material losses as well as the costs to manufacture a new product mean that recycling is an inferior process compared to other methods in the circular economy.

Cascades:

Cascade is the name given to the loop for products within the circular economy cycle. During the cascade process, the lifespan of the materials used is prolonged with utilizing the components in different usages over time. When the product is no longer available to remove down the cascade order, it is returned to the environment. An example for a cascade is a pair of jeans which are turned into furniture stuffing, later to insulation material, and lastly nutrients for soil.

V. Important Events & Chronology

Date (Day/Month/Year)	Event
January 2009	China's Circular Economy Promotion Law came into force.
December 2015	European Commission adopted the first circular economy action plan.
January 2016	The United Nations Sustainable Development Goals (SDGs), including circular economic principles, are put into force.
November 2016	Adoption of the Ecodesign Working Plan 2016-2019 by the European Commission.
December 2019	European Commission adopted European Green Deal
11 March 2020	European Commission adopted a new circular economy action plan
7 July 2021	China's "Development Plan for the Circular Economy" is released for 2021-2025

VI. Past Resolutions and Treaties

- [27 November 2018 dated General Assembly resolution:](#)



Based on a report published by UNIDO the UN General Assembly revised its 2016 dated resolution by adding the following clause related to circular economy: “Recognizing the potential benefits for countries to transform their economies to promote sustainable consumption and production patterns, by engaging with partners to integrate or implement concepts such as circular economy and Industry 4.0 for more sustainable industrial activity and manufacturing systems, according to national plans and priorities.”

The 2018 dated UNGA resolution highlights that the circular economy is gaining widespread attention by the international community and the United Nations.

- [Sustainable Development Goals of the United Nations:](#)

Adopted by the UN General Assembly in 2015 and put into force in 2016, the SDGs include objectives parallel to that of the circular economic principles. The goals are planned for a 15 year period and there are 17 SDGs. The SDGs that are in line with the circular economic principles are the numbers 7, 9, and 12, in respective order Affordable and Clean Energy, Industry, Innovation and Infrastructure, and Responsible Consumption and Production. Sustainable Development Goals are promises given by member states for a given period of time. They have to be fulfilled for their reputation towards the international community.

- [The first circular economy action plan adopted by the European Commission in March 2020:](#)

Published by the European Commission, the text is a major development for the circular economy. It can be said that the European Commission’s work is the most detailed guideline set by an institution concerning the circular economy.

VII. Failed Solution Attempts

Circular economic principles are recently gaining widespread acceptance, as it can be understood by the Past Resolutions and Treaties section. Naturally, there are no major failed attempts. It is not possible to understand from the mistakes of the past, yet delegates can address the hardships of forming a circular economy from the Possible Solutions section. We have data that suggests that the newly developing circular economic principles have not been as successful as we have imagined in the short run. According to a report of a Dutch think-tank, “Circular Gap”, The reused raw materials were 8.4 billion tonnes in 2016 and 8.65 billion tonnes in 2018. This highlights a change of 3%, a figure below the expected growth rate of the circular economy. The report states that 8.65% of 100.6 billion tonnes of raw natural materials which entered the global economy were reused in 2019. The data indicates %13 overall reuse rate for raw materials used worldwide. The report suggests that governments overlook circular economic principles and rather focus on renewable energy, energy efficiency and avoiding deforestation. Yet the report suggests



circular economic principles constitute all the concepts of renewable energy, energy efficiency and avoiding deforestation. The report suggests that the current failure is due to a lack of cooperation between national governments and firms.

VIII. Possible Solutions

Circular economic principles on their own are detailed enough to address the inequalities, environmental and economic repercussions we are facing today. Delegates may choose to either focus on elaborating the circular economic principles or address to find solutions to the hardships to the circular economic principles outlined in the last part of the Focused Overview of the Issue section of the report. Incentives could be given to make circular economic practices more attractive for producers. Qualified personnel could be addressed with educational action while laws and regulations should make the circular economy suitable for each member state. The issue of potential low demand for circular economic products should be addressed by promoting circular economic products and increasing aggregate demand for them. The question of how is what makes the issue harder than it seems to resolve. While asking for incentives or changes of regulations the delegates should ask what it takes to implement these strategies. The opportunity cost for these economic and political actions may discourage member states from implementing circular economic principles.

IX. Useful Links

To better understand the issue, two links of videos for circular economy are put below.

The video graphics by Ellen MacArthur Foundation explains the circular economy:

https://www.youtube.com/watch?v=zCRKvDyyHml&ab_channel=EllenMacArthurFoundation

The TEDx Talk given by Cillian Lohan, CEO of an Irish Non-Governmental Organization of the Green Economy Foundation explains the circular economy:

https://www.youtube.com/watch?v=cbm1MCTobVc&ab_channel=TEDxTalks

X. Works Cited

“China Circular Economy PROMOTION LAW.” Green Growth Knowledge Platform, 9 Apr. 2021, www.greengrowthknowledge.org/national-documents/china-circular-economy-promotion-law .



- “Circular Economy - Definition, Principles, Benefits and Barriers.” Youmatter, 21 Feb. 2020,
<https://youmatter.world/en/definition/definitions-circular-economy-meaning-definition-benefits-barriers/>
- “The Circular Economy in Detail.” Ellen MacArthur Foundation,
www.ellenmacarthurfoundation.org/explore/the-circular-economy-in-detail.
- “Circular Economy.” UNIDO, www.unido.org/our-focus-cross-cutting-services/circular-economy.
- “Circular Economy: DEFINITION, Importance and BENEFITS: News: European Parliament.” Circular Economy: Definition, Importance and Benefits | News | European Parliament, 3 Mar. 2021,
www.europarl.europa.eu/news/en/headlines/economy/20151201STO05603/circular-economy-definition-importance-and-benefits.
- “First Circular ECONOMY Action Plan.” Circular Economy,
https://ec.europa.eu/environment/topics/circular-economy/first-circular-economy-action-plan_en
- Hall, Jessica Anne, and Gordon Davis. “Circular Economy Legislation – The International Experience.” Circular Economy Legislation – the International Experience - Reusable Packaging,
www.reusablepackaging.org/insights/circular-economy-legislation-the-international-experience/.
- Kenton, Will. “Understanding Externalities.” Investopedia, Investopedia, 14 Aug. 2021,
www.investopedia.com/terms/e/externality.asp#:~:text=An%20externality%20is%20a%20cost,or%20received%20by%20that%20producer.&text=For%20example%2C%20a%20negative%20externality,people%20in%20the%20surrounding%20area.
- Koty, Alexander Chipman. “China's Circular Economy: Understanding the New Five Year Plan.” China Briefing News, 27 July 2021,
www.china-briefing.com/news/chinas-circular-economy-understanding-the-new-five-year-plan/.
- “UN General Assembly RECOGNIZES Potential of the Circular Economy and Industry 4.0, Strengthens Language on Women's Role in Industrial Development.” UNIDO,
www.unido.org/news/un-general-assembly-recognizes-potential-circular-economy-and-industry-40-strengthens-language-womens-role-industrial-development.