

Circular Economy and Textiles: Challenges and Opportunities.

V. Liogkas¹, M. Vitoraki²

1. Seconded National Expert – NTUA PhD candidate on Circular Economy
vliogkas@mou.gr
2. Environmental Studies Program, DERE – The American College of Greece,
Ag. Paraskevi

Presenting author e-mail: mvitor@acg.edu

Abstract

The textiles industry is one of the largest sectors of the European economy, providing jobs to 1,7 million people and contributing to economic growth. However, textile production and consumption clearly follow a linear model with increased environmental impacts in terms of resource use, emissions of pollutants and greenhouse gases as well as waste generation. The EU textile industry generates waste estimated at 16 million tonnes per year. Around two-thirds of this waste is landfilled or incinerated, with a high environmental impact and at great cost. Valuable resources not recovered from the waste stream are lost.

Resource consumption, adverse environmental and climate impacts, and social effects, occur in every phase of the textiles lifecycle, from the production of fibres and textile products to distribution and retail, use, collection, sorting, recycling, and waste management. It is important to underline that textile products represent the fourth highest pressure category in terms of resource use (water, land, chemicals) and climate impacts, after food, housing, and transport

The Ellen MacArthur Foundation defines a circular textiles system as one that is: “Restorative and regenerative by design and provides benefits for business, society and environment. A system in which clothes, fabrics and fibres are kept at their highest value during use, and re-enter the economy after use, never ending up as waste.”

Moving to a circular textiles system will provide major environmental, social and economic benefits, contributing to sustainable development.

In 2019, the European Commission identified textiles as a priority category for the circular economy and aims to fully address it through a specific action plan.

In this paper we will discuss the role of policy options in promoting the transition to a circular textiles system in Greece and the EU countries. We will focus on the ongoing preparation to meet the 2023 legislative requirement for the separate collection and treatment of municipal textile waste in Greece, by taking a systemic perspective including:

- collection infrastructure/financing, public awareness, incentives, EPR scheme
- investment plans for repair, reuse, treatment, and fibre-to-fibre recycling.
- Examples of clustering of municipalities for scale, joint investments, and PPPs (Public Private Partnerships).
- Cluster low-cost loans/loan guarantees/investment incentives for the deployment of recycling capacity.

- Develop clear government guidelines for the diversion of textile waste from landfills and incinerators.
- Increase demand for recycled fibres.
- Develop Quality Assurance Systems.
- Support business advice services and training
- Bottlenecks and drivers
- Construction, operational and maintenance cost
- Jobs creation, training and upskilling needs technical education.
- Social acceptance, citizens' participation, volunteers, NGOs, solidarity schemes and sharing economy schemes.
- Waste prevention and reuse initiatives.

Key words: circular textiles system, policy tools, circular business models, textile separate collection and treatment

References

Integrated framework on Waste Management – Greek Law 4819/2021, article 10, paragraph 1, available in Greek at [Νόμος 4819/2021 - ΦΕΚ 129/Α/23-7-2021 \(Άρθρα 1 - 94\) \(Κωδικοποιημένος\) - ΠΕΡΙΒΑΛΛΟΝ - ΟΙΚΟΔΟΜΕΣ \(e-nomothesia.gr\)](http://www.e-nomothesia.gr)

[European Strategy for textiles \(europa.eu\)](http://europa.eu)

Greek Action Plan on Circular Economy 2021.

Available at <C:\Users\lobourka\AppData\Local\Temp\mso2B15.tmp> (ypen.gov.gr)

Support on EPR schemes for mattresses and textiles for Greece. Final Report by Eunomia. 16th March 2021 [Final-Report_EPR-for-textiles-and-mattresses-210316.pdf](http://ypen.gov.gr) (ypen.gov.gr)

Policy Brief – Prospering in the Circular Economy, (2017), EURATEX, available at: http://euratex.eu/fileadmin/user_upload/images/position_papers/position_papers_2017/SB-26-2017_A1_EURATEX_CE_policy_brief.pdf

Stimulating Textile-to-Textile Recycling (2017), Nordic Council of Ministers, available at: <https://www.norden.org/en/publication/stimulating-textile-textile-recycling>

A Nordic Textile Strategy, Part II: A Proposal for Increased Collection, Sorting, Reuse and Recycling of Textiles (2015), Nordic Council of Ministers, available at: <https://www.norden.org/en/publication/nordictextile-strategy>

Transforming waste textiles into innovative green products (2018), European Commission website, available at: http://ec.europa.eu/regional_policy/en/projects/slovakia/transforming-waste-textiles-into-innovative-green-products

Ellen MacArthur Foundation's 2017 report A New Textiles Economy: Redesigning Fashion's Future