



CIRCULAR ECONOMY, PROBLEMS AND CHALLENGES



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ABSTRACT

The article presents a broad overview covering the importance and formation of the circular economy as an independent concept, and its relationship with the phenomenon of new industrialization. A variety of interpretations of the concept of “circular economy” (foreign authors) is considered, the main approaches to its formation are determined. A comparative analysis of the main concepts of environmentalism economics (sustainable development, greening, green economy, circular economy) is carried out according to key features. The evolutionary development of the generating imperatives principles of the concept formation has been studied; features, current state and general development prospects are described. The concept of a circular economy is a universal way for the formation of green growth in the development of countries, allowing to overcome global environmental problems. In the conclusion, the revised concept of a circular economy is presented.

Keywords: circular economy, green economy.

ცირკულარული ეკონომიკა, პრობლემები და გამომწვევები

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ანოტაცია

სტატიაში მოცემულია ფართო მიმოხილვა, რომელიც მოიცავს წრიული ეკონომიკის, როგორც დამოუკიდებელი კონცეფციის წარმოქმნას და ფორმირებას და მის ურთიერთობას ახალი ინდუსტრიალიზაციის ფენომენთან. განიხილება “წრიული ეკონომიკის” (უცხოელი ავტორების) კონცეფციის ინტერპრეტაციების მრავალფეროვნება, განისაზღვრება მისი ფორმირების ძირითადი მიდგომები. ხორციელდება ეკოლოგიის ეკონომიკის ძირითადი კონცეფციების (მდგრადი განვითარება, გამწვანება, მწვანე ეკონომიკა, წრიული ეკონომიკა) შედარებითი ანალიზი ძირითადი მახასიათებლების მიხედვით. შესწავლილია კონცეფციის ფორმირების მთავარი პრინციპების ევოლუციური განვითარება; აღწერილია მახასიათებლები, არსებული მდგომარეობა და განვითარების ზოგადი პერსპექტივები. დასკვნაში მოცემულია ცირკულარული ეკონომიკის განახლებული კონცეფცია და დასაბუთებულია, რომ წრიული ეკონომიკის კონცეფცია არის უნივერსალური გზა ქვეყნების განვითარებაში მწვანე ეკონომიკის ზრდის ფორმირებისთვის, რაც საშუალებას იძლევა დაძლეულ იქნას გლობალური ეკონომიკური პრობლემები.

საკვანძო სიტყვები: ცირკულარული ეკონომიკა, მწვანე ეკონომიკა.



INTRODUCTION

In the middle of the XX century, the world scientific community, having analyzed the negative trends of scientific and technological revolution, came to the conclusion that the possibilities for economic growth by operating a linear (industrial) model on the scale of planetary development were limited and began to search for alternative solutions, one of which was the concept of a circular economy. The world is now using a linear take-make-dispose model. That is, the production of clothes looks like a chain, where a manufacturer takes a large amount of readily available natural resources and energy, uses them to make clothes, and then dispose of this product. Circular fashion is a regenerative system in which clothing can be reused in a circular fashion. The main idea behind the new pivot is that our products are valuable resources that should not be wasted at the end of their life cycles. Instead, we must keep them in a closed loop through reuse and recycling. The circular pattern invites each garment to be made in such a way that it can be reused. Thus, it is possible to protect the ecosystem from pollution and provide people with work. Moving from a linear to a circular economy has many benefits. First, it will reduce the burden on the environment and increase the security of the supply of raw materials. Second, consumers will be looking for more durable and innovative products that will improve their quality of life and save money in the long run. It's not just independent or sustainable apparel brands that are driving a circular economy in fashion. Big brands are also active. In January 2018, 64 of the world's leading fashion companies such as Adidas or Inditex, which includes Zara, Massimo Dutti, Pull and Bear and Stradivarius, signed a pledge to accelerate the transition to a circular business model.[2]

For example, Inditex has pledged that by 2020 its 2,000 stores will partner with local organizations to redistribute and recycle clothing. Smaller brands like Rapanui Clothing are taking a cradle-to-cradle approach. It is about encouraging its customers to send used brand clothing for recycling, reuse or recovery. By 2030, H&M plans to switch to 100% recycled or sustainable packaging, reduce water use in production by 25% and launch a function on the website that will allow consumers to find out the address of the factory where their clothes were produced, to get more information on the composition of materials and how they can be reused or disposed of. The brand was also one of the first to propose an in-store recycling scheme, in which customers were offered a £ 5 voucher in exchange for returning the garment for recycling. Also in April were produced from ecological materials: Piñatex - a leather substitute extracted from cellulose fibers of pineapple leaves, from Bloom Foam - a plant-based material made using freshwater algae bio-

mass (used in the production of shoes), as well as from Orange Fiber - silk fabric made from citrus cake, which remains during the production of juices.[3]

PROBLEMS AND CHALLENGES.

The works of foreign authors of the circular economy, various scientific-practical conferences, materials of international forums, research reports of international organizations, legislative-normative acts of local or international importance in the field of research, including declarations and agreements were studied and critically reviewed. Two research questions for the research, were identified: „What are the main conceptual similarities and differences between sustainability and circular economics? How is a conceptually circular economy related to sustainability? There are two main types of definitions circular economy: definitions from a resource perspective, where the emphasis is on creation of a closed circulation of material resources and to reduce the introduction of new, untouched resources, and definitions, which apply not only to material resource management, but and other aspects such as changing consumption patterns. The transition to a circular economy characterized by reduced use of primary resources, preserving the maximum possible value of materials and products and changing consumption patterns. Awareness of excess consumption is growing, but the global economy continues to exploit natural resources more and more wastefully. On average, humanity annually consumes resources 1.75 times the Earth's capabilities. If everyone lived like an average German, we would need about three Earth-equal planets to match the annual resources and waste generated. The solution to the problem of overexploitation of natural resources is their restoration and continuous circulation of resources within closed cycles of the economy. In a circular economy, products are used and repaired for as long as possible. They are then deconstructed so that the original materials can be reused to create new products of similar value. The current level of development of the circular economy is insufficient: its share in the world economy is on average 8.6%. However, in order to remain within the ecological capabilities of our planet, it is necessary to increase it to 50–70%. [4]

In the German economy in 2019, the share of the circular economy was only 10.4% - in the sense that only 10.4% of the resources consumed in production were recyclable materials. Progress in this direction is moving rather sluggishly. Over the past six years, growth in Germany has been only 0.1% per year. Even if the country doubles its pace, it will only be able to reach 50% by 2215. In favor of a circular economy, there are arguments of not only ecological, but also economic properties. The economy requires resources



to produce goods and services and ultimately create shareholder value. Unless companies start using recyclable materials radically more often, they will face resource constraints that will hamper their operations in the medium to long term. To become part of the circular economy, companies need to conduct a complete overhaul of their business models and answer the following questions for themselves:

- ✓ What types of materials are used and how should the product design be redesigned to optimize the use of materials?
- ✓ How can you organize the development, production and marketing of products in such a way as to ensure a continuous and closed flow of resources?
- ✓ What types of business models are needed to enable long product life, end-of-life collection and recycling?
- ✓ What new ecosystems need to be created to enable reuse, product recovery and raw material recovery?

By 2030, the transition to a circular economy could create additional economic opportunities for Germany in the amount of 140-200 billion euros. Moreover, this figure does not take into account the additional value of this approach for the environment and the reduction of costs for society in the future. The largest source of economic value is the recovery and reuse of circulating materials. To capitalize on this value, companies need to redesign their products, build end-of-life systems from scratch, implement innovative business models, and develop new recycling technologies. Circular economy initiatives can also create new market opportunities, strengthen customer relationships, reduce risks, increase employee motivation, and make supply chains more resilient to adverse events. This resilience can help companies weather unexpected shocks like the COVID-19 pandemic. Formulating and considering goals for recycling alone is far from sufficient and will not contribute to the development of a circular economy: First, recycling is the last priority in describing the circular economy concept. Prior to this, many other strategies have emerged that promote the reduction, repair, or reuse of products or parts of products. For example, in the packaging industry, it is necessary to reduce the amount of packaging before processing. Reusing instead of recycling is also a circular solution that applies to packaging. Second, a company cannot realize a circular economy alone. [3] If all of a company's packaging is 100% recyclable or biodegradable, but markets do not have a proper collection system or recyclable infrastructure, then, unfortunately, circular production does not make sense. The circular economy requires a new type of collaboration and interaction between companies and stakeholders within the same industry or ecosystem. Ac-

ordingly, the company needs to work with stakeholders throughout the value chain to ensure that the cycles are closed. It even requires lobbying to influence policies to strengthen the circular economy, as a closed economy can / should also be shaped by policy instruments and new social goals. The European Commission is demonstrating its willingness to invest in sustainable futures and thus halt or slow down the rise in global warming. Moreover, the Green Deal's goals not only encompass the environmental need for a greener future, but also include economic and social considerations that enable Europe to pursue a resource-efficient and future-oriented growth strategy. Specific areas for action to achieve the goals and therefore European climate neutrality can be found in the Green Agreement. One of the main measures mentioned is "to promote more efficient use of resources through the transition to a clean circular economy.

Circular economics has been a hotly debated topic for a number of years, and although it has received widespread acceptance, it is not yet universally applied. In Germany, for example, the Circular Economy Act (Kreislaufwirtschaftsgesetz, KrWG) has been in force since 2012, which follows the principle of handling waste that is safe for humans and the environment, taking into account technical, economic and social aspects. There are also economic benefits. A company can stand out from the competition and leverage the efforts to create a circular economy as a competitive advantage. However, one must always distinguish between honest effort and conscientiousness. Moreover, inaction and continuation of actions that are harmful to the environment and socially unfair are not environmentally or economically sustainable. In the long term, the costs to the company will be much higher than the current investment costs of sustainability. The circular economy model is an attractive concept for business because it offers many specific strategies for implementation at the corporate level and allows organizations to not only focus on resource efficient production, but also to ensure the reuse of resources throughout the value chain. At the political level, further legislation to strengthen the closed economy is also likely to be implemented. If the economy does not operate on its own, severe bans or high taxes are possible. Companies that are already operating today could be tax exempt, for example, or get an advantage because they are already complying with new standards and laws. It is also a clear competitive advantage for companies integrating a circular economy. Moreover, according to the EU and the Ellen MacArthur Foundation, a circular economy should lead to the creation of millions of new jobs and a significant increase in national GDP.[5]

So if the goal is green growth (another interesting topic), circular economy can lead the European econo-



my to sustainable growth. There are many strategies a company can consider when developing circular products. Which circular economy strategy from downsizing to reuse best suits a company's business model and goals varies from industry to industry. There are many innovative ways to create a closed loop at the corporate level. It is of course important that the company does not consider only one strategy, for example, recycling. Most manufacturers or packaging fillers, for example, are limited by recycling targets. They strive to produce recyclable packaging; if possible, integrate recycled materials into new packaging. For example, all major food companies have set such targets for recycling by 2025 and are also on track to achieve them.

CONCLUSION

Prerequisites necessary for effective transition to a circular economy:

- ✓ the need to develop a legislative framework in the field of ecology along the way tightening;
- ✓ development and adoption of measures of state support for enterprises under holding the transition and / or carrying out activities in accordance with the principles of circular economy;
- ✓ support and stimulation of research activities in the direction of the circular economy;

✓ popularization and promotion of the ideas of the global network environmentally responsible business among Georgian companies;

✓ increasing the level of environmental education and self-awareness of representatives of Georgian society.

Circular economy has tremendous potential for optimization management, technological solutions to eliminate the complex of ecological economic problems in the resource sphere. The formation of its theoretical foundations was influenced by economic theories of industrialization development of socio-economic systems. Summarizing the above, we can assume that the circular economy is an economic model based on the principles of circular closed technological and biological cycles, which can be considered as a kind of green economy tool for targeted action efforts to achieve sustainable development and the implementation of the key SDGs. The circular economy concept is a universal way to green growth in the development of countries, which makes it possible to replace the model of a linear economy, by the most: reducing the resource dependence of production, overcoming and smoothing the social economic stratification of the world's population, solving environmental problems caused by global crisis and, as a result, achieve a stable state of the planet and save life on Earth.

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