

## **CIRCULAR ECONOMY IN PRACTICE: KEY ACTORS IN SUSTAINABLE TRANSFORMATION**

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***Abstract.** This article explores the essential contribution of different actors in promoting and implementing the circular economy, a sustainable economic model that aims to minimize waste and maximize resources. The article provides a comprehensive insight into how the circular economy is being put into practice and underlines the importance of involving all actors in this sustainable transformation. By looking at the roles and collaborations between governments, companies, non-governmental organizations and citizens, this article provides a detailed insight into how the circular economy comes to life in practice. It emphasizes the contribution of key actors such as governments, who can enact policies and laws favorable to the circular economy, and companies, who can develop innovative products and processes. The article also highlights the active involvement of non-governmental organizations in educating and raising public awareness of the benefits of the circular economy and how citizens can contribute through responsible consumption practices. Through case studies and concrete examples, the article illustrates how these key players are working together to create a more sustainable supply chain and economic environment. In conclusion, it is emphasized that the collaboration between these actors is essential for achieving a successful transition to the circular economy and for building a greener and more sustainable future. This paper was supported by the State Program 20.80009.0807.22 Development of the mechanism for the formation of the circular economy in the Republic of Moldova.*

**Keywords:** circular economy, sustainable transformation, key actors, intersectoral collaboration, environmentally friendly policies, responsible consumption, waste management, public awareness

**JEL:** Q01, Q53, Q58

**UDC:** 338

**Introduction.** In a world where natural resources are increasingly limited and issues related to climate change and environmental degradation are becoming more pressing, the circular economy is a vital concept and a concrete solution to adapt to these global challenges (European Parliament, 2023). The circular economy is based on the principle of efficient utilization of resources, contrary to the traditional linear economy model, where raw materials are extracted, used and then discarded, thus creating a vicious circle of overconsumption and waste (Ellen MacArthur Foundation, 2013).

The circular economy is not just an abstract concept, but a tangible reality with significant implications for the environment, economy and society as a whole. The transformation to a circular economy requires concerted efforts from key actors, whether we are talking about governments, companies, non-governmental organizations or individuals. These actors have an essential role in promoting and implementing sustainable practices that maximize the use of resources and minimize the impact on the environment.

The transformation to a circular economy represents a significant change in the way society approaches production, consumption and resource management. To make the transition to the circular economy successful, the active involvement and cooperation of all key actors is fundamental, as the circular economy cannot be effectively implemented by a single part of society (Joël Ntsondé, 2021).

Diverse collaboration between different actors is essential, as the issue of moving to a circular economy model per state is quite complex, involving multiple industry sectors, governments, communities and individuals. No single part can cover all aspects and challenges associated with this transformation. In fact, the implementation of the circular economy requires *cross-sector collaboration*, through which different perspectives and varied expertise can be brought to successfully address this complexity. At the same time, taking into account the fact that industries are also interdependent, a change in one part of the supply chain or one sector can have repercussions on other sectors. For example, the adoption of sustainable packaging by manufacturers can influence packaging material manufacturers and logistics services. Collaboration is therefore essential to coordinate change and minimize potential negative effects.

At the same time, each individual actor brings specific resources and knowledge to the table. Companies can bring expertise in innovation and design, governments can provide infrastructure and regulations, NGOs can bring knowledge and expertise in public education and awareness, and individuals can contribute through their consumption behavior. Collaboration enables the efficient use of these resources and complementary knowledge.

Different actors have unique experiences and knowledge that can contribute to the development and implementation of circular economy practices. Governments can bring regulatory and public policy expertise, companies can bring technological innovation, NGOs can bring knowledge and experience in promoting sustainability, and individuals can bring behavioral change and public pressure.

Thus, the recognition that the circular economy is a cross-sectoral initiative, which cannot be achieved by a single entity or sector, emphasizes the importance

of cooperation between governments, companies, non-governmental organizations and individuals. This extensive collaboration is essential to overcome obstacles and effectively implement circular economy principles throughout the economic system, thus contributing to a healthier planet and a more sustainable society. At the same time, collaboration with a wide range of actors can increase the legitimacy and acceptability of transition efforts towards the circular economy. This is important so that changes are supported by the community and less susceptible to opposition or resistance.

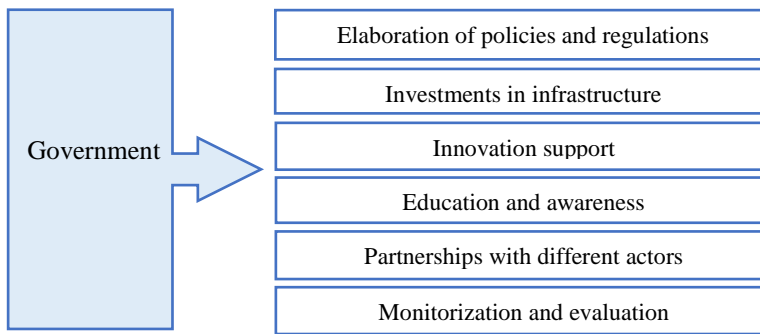
Another argument that comes in favor of cooperation between different actors is that the circular economy represents a collective effort of transformation, where each actor involved brings with it distinct resources and capabilities. Thus, governments provide financial support and infrastructure, companies invest in research and development, non-governmental organizations mobilize communities and human resources, and individuals, through their consumption choices and responsible behaviors, play an essential role in supporting the objectives of the circular economy. Cooperation between these actors enables a more efficient use of these resources and moves us towards a more sustainable and environmentally responsible future.

In conclusion, the circular economy is a collective challenge and an opportunity to create a more sustainable and resilient economic system. Through active collaboration and cooperation between governments, companies, non-governmental organizations and individuals, we can join forces to accelerate the transition to the circular economy and create a better future for all. It is imperative that these actors work together, share resources and contribute to achieving the goals of the circular economy for the common benefit of the planet and society.

In this paper, we will explore in more detail who these key players are and how they can contribute to the sustainable transformation of the economy by adopting and promoting circular economy principles. We will examine the role of governments, companies, non-governmental organizations and individuals and the impact they have on the transformation towards a more sustainable and circular economy. We will look at successful initiatives and case studies that demonstrate how circular economy practices can bring sustainable economic, social and environmental benefits. We will also discuss the obstacles and challenges these actors may encounter in this transition process and explore potential solutions.

Next, we will focus on the more detailed analysis of the essential contribution that key actors bring to the complex process of implementing the circular economy. This exploration will reveal to us the synergies and inter-relationships between these actors, which are crucial to the success of this vital transition to a more ecologically responsible economic model.

**The role of Government.** Government plays a fundamental role in promoting the circular economy, as it has the ability to influence regulations, public policy and the economic direction of a country. Based on figure 1, we can identify the main directions and functions that governments perform to support the circular economy.



**Fig. 1. Key aspects of the Government’s role in promoting the circular economy**

**Source:** elaborated by authors based on (Shogofa, et al., 2022).

The main function is that of regulator, or *the development of policies and regulations* (Naeem Allah Rakha, 2023). Governments can create and implement policies and regulations that support the circular economy. These policies may include introducing taxes on waste or non-recyclable materials, promoting resource efficiency standards, setting recycling targets and mandatory recycling, and promoting sustainable design. Governments can also invest in waste management infrastructure and facilitate collaboration between the public and private sectors to develop circular economy initiatives. They can also provide financial incentives for companies and projects that promote circular and innovative practices. Through these policies and measures, governments play a vital role in shaping and promoting the circular economy in society.

At the same time, governments can play a key role in *developing and managing the infrastructure needed to support the circular economy*. This may include building and operating recycling and waste processing facilities, developing resource management centers and transportation infrastructure for recyclables.

By building and operating these facilities, governments can create a solid infrastructure for the efficient collection, sorting and processing of recyclables. Also, the development of resource management centers can help monitor and optimize the use of resources, thus contributing to reducing waste and improving efficiency in the use of natural resources.

Transport infrastructure for recyclables is also essential to facilitate material flows in the circular economy. Governments can *invest in transportation networks* that facilitate the collection and distribution of recyclable materials to processing or production locations. This can reduce transport costs and encourage recycling and reuse of materials.

Governments can provide *funding and support for research and development* in circular economy technologies and practices. This may include grants for companies developing innovative solutions, tax incentives for investments in clean technologies and training programs to develop skills needed in this new economy.

Governments can promote *education and public awareness* of the circular economy through information campaigns and educational programs. This can help change consumer behavior and increase public acceptability for circular economy practices.

Through information and education campaigns, governments can help citizens understand the importance of the circular economy and realize the impact of their consumption decisions on the environment. They can also promote practices such as recycling, reusing and purchasing sustainable products through educational programs and awareness campaigns.

These efforts can help change consumer behavior and increase public acceptability for circular economy practices. As people become more aware of their environmental impact and the benefits of the circular economy, they may be more willing to adopt changes in the way they live and consume, thus supporting the transition to a more sustainable and circular economic model.

*Partnerships with the private sector and civil society* is another role that governments can play, by collaborating with companies, non-governmental organizations and other stakeholders to develop joint strategies and encourage the implementation of circular economy practices.

Thus, signing partnerships with the private sector and civil society is an essential way for governments to promote sustainable development and innovation. These collaborations can bring additional expertise and resources to develop robust circular economy strategies and accelerate their implementation.

By engaging companies, governments can benefit from cutting-edge technology and the financial resources needed to implement ambitious waste reduction and resource recovery projects. This partnership also allows for better monitoring of progress and rapid adjustment of policies according to real needs and challenges encountered on the ground.

Collaboration with non-governmental organizations and other civil society stakeholders makes a crucial contribution to promoting public awareness and ensuring transparency in the implementation of circular economy strategies. The involvement of citizens and interest groups in the decision-making process contributes to the legitimacy of government policies and increases the acceptability of these measures in the wider community.

Finally, governments can develop a robust framework for *monitoring and evaluating progress in implementing the circular economy*. This framework can include performance indicators that measure key parameters such as waste reduction, increased recycling and efficient use of resources.

Governments can also require periodic environmental reports from companies and organizations involved in circular economy strategies. These reports can provide relevant data on the impact of economic activities on the environment and help identify strengths and areas for improvement.

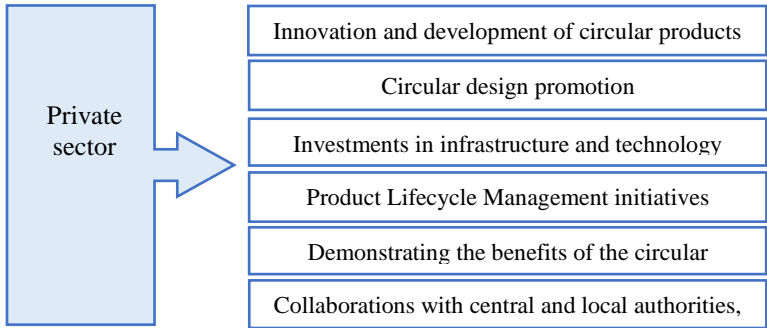
In addition, impact studies can be used to evaluate the effectiveness of implemented policies and measures. These studies can provide detailed data on the economic and environmental benefits of the circular economy and help

governments make informed decisions about directing resources and efforts towards sustainable development.

Therefore, constant monitoring and evaluation of progress in the implementation of the circular economy is essential to ensure the success of the strategies and to adapt them according to changes in the economic and environmental environment.

*We believe that **governments have a central role** in promoting the circular economy, as they can create an enabling framework and provide direction for the transformation towards a more sustainable economic system.* Through their policies and initiatives, they can help reduce the risks associated with overexploitation of resources and increase the resilience of the economy to the challenges of climate change and the depletion of natural resources.

**Role of private sector.** The private sector has an essential role in promoting the circular economy and is one of the key actors in this transition (see figure 2). Companies can bring technological innovations and business models that facilitate waste reduction, efficient recycling and resource reuse, thereby contributing to increased economic sustainability.



**Fig. 2. Role of private sector in the promotion of circular economy**  
**Source:** elaborated by authors based on (Rizos, Vasileios & Behrens, et al., 2018).

Private companies can play a crucial role in developing products and services that are designed to be sustainable, have a longer lifespan and be recyclable or reusable. Through innovation and research and development (R&D), these companies can contribute to the creation of technological and technical solutions that facilitate the circular economy. Thus, a first important role of companies in promoting the principles of the circular economy is *innovation and development of circular products*.

Companies can also integrate the principles of the circular economy into their design process, so that products are designed so that they can be *repaired, upgraded and recycled* more easily. This involves thinking about the end of product life during the design phase. It can also come as a requirement from the state, which can impose strict standards and regulations on product durability and recyclability, thus motivating companies to invest in green solutions and adopt a more environmentally responsible business model.

This approach to *sustainable design* not only helps reduce waste and resource consumption, but can also create new business opportunities, such as product repair and upgrade services. Thus, companies can gain a competitive advantage in a market increasingly concerned with sustainability and social responsibility, while contributing to building a more efficient and sustainable circular economy.

Companies can *invest in infrastructure and technology* to support circular economy practices. This may include building recycling facilities, modernizing production processes to reduce waste and conserve resources, and developing technologies for more efficient reuse or recycling. Also, modernizing production processes can help reduce waste and conserve resources. Companies can adopt cleaner manufacturing technologies and optimize supply chains to minimize material and energy waste.

In addition, the development of innovative technologies for more efficient reuse or recycling can open up new business opportunities and help create a more advanced circular economy. These investments not only have a positive impact on the environment, but can also give companies competitive advantages and prepare them for the future of a more sustainable economy.

Companies can develop and promote their *product lifecycle management programs*. This can involve repairing and maintaining products after the warranty has expired, facilitating the recycling or reuse of old products, and even buying back and remanufacturing used products. These initiatives can not only extend the life of products, thus reducing the need to produce new products, but also encourage customers to be more aware of their environmental impact and adopt more responsible consumption practices. Such programs can also strengthen the relationship between companies and customers by providing them with a sustainable and efficient solution for managing obsolete or defective products.

An example of a company that has successfully implemented circular economy practices is *Patagonia*, a well-known brand for outdoor equipment and clothing. Patagonia has developed several initiatives that promote the sustainable management of their products and the reduction of environmental impact.

One of these notable initiatives is *Worn Wear*, a program that encourages customers to repair or update their clothes instead of throwing them away. The company provides free or affordable repair resources and services, helping to extend the life of clothing items (Syniuk, 2021).

Patagonia also promotes recycling of old products by collecting used clothes and turning them into new materials to make new products. This circular economy approach encourages recycling and reuse, thereby reducing the waste of textiles and resources.

Through these practices, Patagonia not only demonstrates its commitment to sustainability, but also encourages customers to join this movement of environmental responsibility and awareness.

**Demonstrating the benefits of the circular economy** – can be a useful tool in promoting the principles of the circular economy and reinforcing the image of a company as sustainable and environmentally friendly. Companies can serve as examples of success in the circular economy, showing that it is possible to make

profits and protect the environment at the same time. These examples can inspire and motivate other companies to adopt circular practices.

When they demonstrate that they can make profits while protecting the environment through sustainable practices, they become true sources of inspiration and motivation for other organizations to adopt circular approaches as well.

A notable example of success in the circular economy is the company IKEA, one of the largest furniture manufacturers and retailers in the world, which has adopted a number of measures and initiatives to promote the principles of the circular economy, including (IKEA, 2023):

- *IKEA Circular Furniture Program*: IKEA has launched initiatives such as "IKEA Circular Hub" and "IKEA Second Life for Furniture" to encourage customers to return old furniture and recycle or reuse it. This allowed them to extend the life cycle of their products and reduced the amount of furniture ending up in landfills.

- *Use of recycled and sustainable materials*: IKEA has started using recycled and sustainable materials in the manufacture of their products. For example, they have introduced furniture collections made from responsibly sourced wood and recycled materials such as recycled PET plastic.

- *Rental and repair services*: The company is testing furniture rental services in select locations, allowing customers to rent furniture instead of buying it. They also offer repair services and spare parts to extend the life of the products.

Another company that successfully adopts the principles of the circular economy is the LEGO Group, the famous manufacturer of LEGO bricks.

LEGO has invested heavily in product development and initiatives to promote the circular economy. Here are some ways in which LEGO approaches the circular economy (LEGO, 2020):

- *Material recycling*: LEGO has set out to use 100% renewable and sustainable materials for the production of LEGO bricks and packaging by 2030. The company has already developed bricks made from bio-sourced polyethylene, obtained from cane sugar.

- *LEGO Replay Program*: LEGO launched the "LEGO Replay" program, which encourages people to return old or unused LEGO bricks, and LEGO cleans them and redistributes them to charities, thus helping to extend the life cycle of bricks.

- *Modular and flexible design*: LEGO designs its sets to allow continuous combination and reconstruction, so the same bricks can be used in different ways and support multiple play experiences.

- *Sustainable packaging*: LEGO focuses on reducing packaging waste and using sustainable packaging.

- *Education and awareness*: LEGO runs educational programs to encourage children to understand the importance of protecting the environment and the circular economy.

- *Investments in research and development*: The company invests in research and development to find new ways to make production and products more sustainable and to reduce its carbon footprint.



These successful examples can illustrate how companies can transform existing resources into sustainable value through practices such as recycling, remanufacturing or reusing materials and products. They can also emphasize the economic efficiency of waste reduction and resource conservation in production and distribution processes.

Therefore, companies that succeed in the circular economy can become opinion leaders and drive industry-wide change by promoting the concept of sustainability and influencing others to adopt circular practices in their own business. This general movement towards the circular economy can significantly contribute to reducing the negative impact on the environment and creating a more sustainable future.

Obviously, **collaboration with governments and NGOs is essential.** Private companies can work in partnership with governments and non-governmental organizations to develop policies and regulations that support the circular economy and to access funding or grants available for circular projects.

In addition, these collaborations can facilitate companies' access to funding or grants available for circular projects. Governments, in partnership with NGOs, can create financial support mechanisms or establish support programs for companies that adopt circular and innovative practices.

Through this synergy between the private sector, governments and NGOs, favorable conditions can be created for the development and consolidation of the circular economy throughout the economy. This collaboration not only helps to solve the problems of limited resources and environmental pollution, but also to stimulate innovation and competitiveness in the global market.

**Role of Non-Government Organizations.** Non-governmental organizations (NGOs) have a significant role in promoting the circular economy from several perspectives. In table 1 we have summarized the roles and ways in which NGOs can contribute to promoting the principles of the circular economy.

**Table 1. The ways in which NGOs can contribute to promoting the principles of the circular economy**

<b>Promoting awareness</b>
<ul style="list-style-type: none"> <li>▪ promoting public awareness and education regarding the benefits of the circular economy and the negative impact of the linear economy.</li> <li>▪ organizing information campaigns, seminars, conferences and events to draw attention to this issue and to encourage governments and industry to adopt more sustainable practices.</li> </ul>
<b>Monitoring and reporting</b>
<ul style="list-style-type: none"> <li>▪ tracking and evaluating progress in the implementation of circular economy practices in various sectors and reporting to the public and authorities about this progress.</li> <li>▪ identifying the obstacles and challenges that prevent the transition to the circular economy and making recommendations to address them.</li> </ul>
<b>Development of pilot projects</b>
<ul style="list-style-type: none"> <li>▪ developing and implementing pilot projects in partnership with local communities or businesses to demonstrate the viability and advantages of the circular economy in the real context.</li> <li>▪ these pilot projects have the potential to serve as concrete references and models for</li> </ul>

<p>other actors in civil society, the private sector or local and national governments, encouraging them to adopt similar circular practices.</p> <ul style="list-style-type: none"> <li>▪ strengthening awareness and commitment to the circular economy at the level of communities and organizations.</li> </ul>
<b>Advocacy at the government level</b>
<ul style="list-style-type: none"> <li>▪ influencing government policy.</li> <li>▪ lobby for the promotion of policies and regulations that support the circular economy, such as taxes and incentives for recycling and reuse, restrictions on single-use products or the promotion of green design.</li> </ul>
<b>Collaboration with the private sector</b>
<ul style="list-style-type: none"> <li>▪ collaboration with businesses to develop partnerships and joint initiatives to promote circular economy practices.</li> <li>▪ supporting technological innovations and sustainable business practices.</li> </ul>
<b>Education and training</b>
<ul style="list-style-type: none"> <li>▪ providing educational and training resources to help communities and organizations understand and implement circular economy concepts. These resources may include seminars, guides, training materials and technical support.</li> <li>▪ providing specialized technical assistance to support the process of transition to circular practices.</li> </ul>
<b>Research and development</b>
<ul style="list-style-type: none"> <li>▪ by granting grants and financial support - stimulating innovation and the development of advanced technological solutions and innovative processes that promote the principles of the circular economy.</li> <li>▪ intermediaries in collecting and sharing knowledge and experience regarding the circular economy. They can facilitate collaboration between researchers, companies and other stakeholders, thereby promoting the exchange of information and best practices to accelerate the transition to a circular economy model.</li> </ul>

**Source:** elaborated by authors based on (Polsterer, N. et al., 2017).

In conclusion, NGOs are key actors in promoting the circular economy through their sustained advocacy for favorable policies and regulations, through their efforts to raise awareness and educate communities and organizations, through collaboration with various stakeholders, and through the implementation of practical projects. Through these complex and diversified activities, NGOs contribute significantly to promoting a more sustainable economic approach and reducing the negative impact on the environment. Thus, they become essential catalysts for the shift towards a circular economy, with significant benefits for society and the planet.

**Role of academia.** Academia plays a vital role in promoting the circular economy through research, education and collaboration with other stakeholders (Almeida, M., 2021). Universities and higher education institutions are research hubs, where studies are conducted on the technical, economic and social aspects of the circular economy. This academic research contributes to the development of innovative solutions to reduce waste and create circular products and services with a lower impact on the environment.

Academia also *provides essential knowledge and skills for future generations of circular economy professionals*. Through specialized study programs, courses and seminars, universities prepare students to understand and apply the concepts and practices of the circular economy in the real world.

In addition, academia acts as an *intermediary between research and industry*, facilitating knowledge transfer and collaboration in the development and implementation of circular economy practices. Universities can work in partnership with businesses to develop applied research projects and provide advice on the changes needed to move to circular business models.

At the same time, research and academic expertise can *influence the development of government policies in favor of the circular economy*, providing data and solid arguments for the development of policies that stimulate recycling, reuse and waste reduction. Universities can also run projects and initiatives at local level, in collaboration with local communities, to promote circular economy practices at the grassroots level and to develop business models and technologies adapted to community needs.

A notable example of a country with an active academic role in promoting the circular economy is Denmark. *Denmark* has a long tradition of involving academic institutions in the development and promotion of sustainability and circular economy practices (The Danish Government, 2023).

The Center for Circular Economy Research is an eloquent example, where various academic research centers specialized in the circular economy are active. This close collaboration between academia, the private sector and government helps to develop innovative solutions and to study their impact on the economy and the environment (Tech center for circular economy, 2023).

Universities in Denmark offer specialized study programs in the circular economy and sustainability, thus preparing students with the knowledge and skills to tackle the challenges of the circular economy as future professionals.

Universities in Denmark also work closely with industry to develop and implement circular economy practices, including applied research and consultancy for companies interested in optimizing their processes and adopting circular business strategies.

Denmark also organizes conferences and academic events that bring together researchers, experts and professionals in the field of the circular economy, thus facilitating the exchange of ideas and experience and promoting the development of circular practices (University of Copenhagen, 2023).

Thus, Denmark serves as an eloquent example of a country with an academic environment active and engaged in promoting the circular economy, contributing to the development of knowledge and the implementation of sustainable practices throughout society and industry.

In conclusion, academia is an essential partner in efforts to promote the circular economy, contributing to the development of the knowledge, technical solutions and professionals needed to transform the global economy into a more sustainable and resource-efficient one.

**The role of civil society.** Civil society represents an important source of expertise and varied perspective in the development and implementation of circular economy policies. This can help identify more effective solutions and promote more equitable approaches in the transition to the circular economy. In addition, civil society can function as a channel of communication between citizens and

decision makers, ensuring that the concerns and needs of communities are taken into account in the policy development process.

Through their initiatives, civil society organizations can inspire and mobilize citizens to adopt more resource-responsible practices and support the circular economy. With the support and commitment of civil society, it is possible to achieve significant changes towards a more sustainable economy and more efficient management of resources, thus benefiting the environment and society as a whole.

Civil society has the ability to mobilize people and influence changes in society and the economy, thus contributing to the promotion of the circular economy and the advancement towards a more sustainable economic model. Through their actions, citizens and civil organizations can help reduce waste, pollution and negative environmental impact.

A notable example where civil society has been a strong actor for the promotion of the circular economy is *Germany*.

In Germany, non-governmental organizations, environmental groups and concerned citizens have played a significant role in driving changes towards a more circular economy. They have been actively involved in raising awareness and mobilizing public opinion, putting pressure on governments and the private sector to adopt more sustainable practices (Ecosense, 2021).

Thus, non-governmental organizations and environmental groups in Germany carried out awareness campaigns that educated citizens about the concepts of the circular economy, its advantages and how they can contribute to it through their behavior.

At the same time, German citizens participated in protests and signed petitions to demand changes in government policies and business practices to support the circular economy. These actions generated pressure on decision-makers, supported the development and implementation of laws and regulations that promote recycling, reuse and responsible management of resources. This included lobbying for more ambitious targets for recycling and waste management.

Also, in various German cities, local communities have initiated circular economy projects such as thrift shops, rental goods and community gardens with the active support of civil society.

These cases demonstrate the power and influence of civil society in promoting the circular economy in Germany and supporting changes towards a more sustainable approach to resources and the environment, and can be taken as examples for other countries.

**The interaction of the actors through the prism of the holistic and collaborative approach.** Bringing all actors together to promote the circular economy requires a holistic and collaborative approach involving governments, the private sector, civil society and academia. This collective effort is essential to address the complex challenges of transitioning to a circular economy and to fully leverage the benefits of this approach.

Through collaboration and open dialogue between these actors, effective strategies and policies can be developed and implemented to encourage circular economy practices. This partnership can also stimulate innovation and the

development of advanced technologies to support the transition to a more sustainable and resource-efficient economic model.

At the same time, the collaborative approach in promoting the circular economy will not only help protect the environment, but also create economic opportunities and improve the quality of life for communities and society as a whole. It is a joint effort to build a more sustainable and equitable future for current and future generations.

In our opinion, *the central role belongs to the Government* in promoting the circular economy by developing a national or regional strategic plan for the development and implementation of circular economy practices. This plan can define objectives, concrete measures and the timetable for implementation.

An example of a country that has adopted such a strategic plan to promote the circular economy is the *Netherlands*. The Netherlands has developed a comprehensive and ambitious approach to the transition to a circular economy and has developed a plan called the "*Netherlands Circular Economy Program*" (Nederland Circulair). (Government of the Netherlands, 2023).

In this plan, the Government has established an ambitious goal - to become a fully circular economy by 2050. This clear and ambitious goal serves as a guide for all future actions and policies. Thus, the Dutch Government has developed a national plan that sets strategic directions, intermediate objectives and concrete measures to achieve the circular economy objective.

At the same time, the Netherlands has allocated significant financial resources to support the innovation and implementation of circular economy practices. This includes subsidies for research and development as well as tax breaks for companies that adopt circular practices.

Academia can play a role in developing new knowledge and technologies for the circular economy. Governments and the private sector can support research and development through funding and collaboration with universities and research institutions.

The Dutch government works together with the private sector, non-governmental organizations and universities to promote the circular economy. This includes creating public-private partnerships and funding collaborative research and development projects. Thus, governments can collaborate with the private sector through public-private partnerships to develop circular economy initiatives. These partnerships can involve both public funding and private sector expertise to develop sustainable solutions.

The Netherlands has also invested in public education and awareness of the importance of the circular economy. This is crucial to engage citizens and businesses in circular economy efforts. Thus, civil society can act as a pressure force to influence governments and industry to adopt more circular practices.

Awareness campaigns, lobbying and protest actions can be used to draw attention to these issues. All actors can contribute to public education about the circular economy. Governments can support educational programs in schools, and civil society and academia can organize awareness campaigns and events to inform people about the benefits of the circular economy.

Finally, it is important that all actors conclude to monitor the progress in the implementation of the circular economy and to report the results. This may involve collaboration between non-governmental organisations, academia and the private sector to collect and analyze relevant data.

At the same time, actors can get involved in international circular economy initiatives, such as the Global Platform for the Circular Economy or trade agreements that include commitments to sustainable practices.

### **Conclusions.**

- The circular economy represents a fundamental change in the way we manage resources and creates opportunities for sustainable development. The transformation to the circular economy requires the joint efforts of governments, the private sector, academia and civil society. Without collaboration and coordination, it is difficult to achieve sustainability goals. Key actors from different sectors need to collaborate and take responsibility to make this transition possible and to help protect the environment and improve the quality of life for current and future generations.
- Governments have a central role in promoting the circular economy by developing policies and regulations, setting targets and providing financial incentives. They can create a favorable framework for the development and implementation of circular practices.
- The academic environment has the responsibility to contribute to the development of technologies, business models and innovative solutions that support the circular economy. Continued research and development is crucial to advancing this approach.
- Companies have an essential role in implementing the principles of the circular economy. They can innovate in product design and develop circular supply chains. They can also work with governments and other organizations to implement sustainable practices.
- Active involvement of civil society is important to support the shift towards the circular economy. Non-governmental organizations, activist groups and citizens can promote awareness and press for changes in consumer behavior and government policies.
- To transform the economy, it is necessary to invest in education and training to develop the skills needed for the circular economy. This includes training new generations and re-skilling the existing workforce.
- Environmental and resource issues are global, so international collaboration is essential. Key actors need to work together globally to address the challenges of the circular economy in a global context.

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