

The Contribution of European Business Stakeholders to Accelerating the Circular Economy in the European Industry

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Abstract. *This study aims to identify the key entities active in the circular economy, specifically business associations within the European Union, and to analyze the strategic actions they undertake to strengthen and promote circular economy principles in industrial sectors. For this purpose, a qualitative study was conducted based on exploratory research as a working methodology, in order to obtain powerful information about the proposed research topic. The information gathering source was Google search engine, by entering the keywords circular economy and business associations. Two methodological steps were necessary to carry out the research. The first and the most important methodological step was based on the identification of business associations in the European Union. The second methodological step involved studying each site and extracting the actions undertaken by business associations and the working tools through which business associations support the transition to a circular economy. As a result, 28 business associations from a wide variety of industries were identified, with a variety of tools through which their voice is heard.*

Keywords: circular economy, business associations, sustainability, competitive industry, value chain.

Introduction

Because of the reduction of natural resources, the degeneration of air quality, water, soil and the impairment of natural ecosystems, waste management is a substantive problem for our society (Mionel, 2024). To achieve the goals of sustainable development and boost circular economy, a general consensus on the urgency of proper waste management (Sharma et al., 2021), which helps conserve natural resources and protect the environment, is needed.

The current challenges are bringing to the forefront the need for more harmonized approaches that could better integrate into the equation of sustainability various aspects such as: value chain, science-policy interface, etc. As a consequence, the concept of circular economy offers a framework to consolidate sustainable development and to build on the integration of policy-scientific knowledge. However, the implementation and monitoring of the circular economy have to overpass emerging aspects, such as the need to update national legislation and encourage stakeholders to develop standards for those types of waste streams that require rules (e.g. construction waste and demolitions, compost, etc.) or to develop innovative approaches (e.g. tracking the food waste).

Internationally, the use of the circular economy concept has a long history (Winans, Kendall & Deng, 2017). Its appearance has been closely related, but not limited, to the systemic practice (at both micro and macro levels) of the 4R model - reduce, reuse, recycle and recover. Particularly, the circular economy is building on a sustainable management perspective of resources in order to

contribute to 2030 Agenda (Khajuria et al, 2022). In this way, the implementation of the sustainable development goals (SDGs), especially SDG 12 – ensure sustainable consumption and production patterns, SDG 9 – industry, innovation and infrastructure, bringing the need for integrated promotion of environmental, social and economic elements. Thus, engagement efforts are the key to meeting SDGs in relation to circular economy.

The transformation of the circular economy is part of the international efforts to promote sustainable consumption and production patterns as part of the 2030 Agenda for sustainable development. The evolution of the circular economy is interlinked with various perspectives: starting from waste management, economic and business aspects (Ellen Macarthur Foundation, 2013), resource productivity and decoupling processes (OECD), etc.

Another perspective is the circular economy as being a restorative system that "aims to maintain the utility of products, components and materials and retain their value" (Ellen Macarthur Foundation, 2015). In agreement with Ayati et al. (2022), the idea of circular economy can be analyzed from two key perspectives: either focusing on recovering materials, components and by-products, or focusing on transforming a material into a new one or creating a new product. Additionally, the authors accentuate the importance of the concept "circular supply chain" by the fact that, the principles of circular economy are integrated in this concept.

As a concept and applicability, the circular economy is particularly noted in developed countries, but the real desire is that this concept be applied and have real results in developing countries (Halong & Anieke, 2021)

In order to promote circular economy practices, since 2016, more than 16 European Union member states have adopted national strategies, roadmaps and action plans (European Environment Agency, 2022) The circular economy monitoring framework is based on five thematic areas: production and consumption, waste management, secondary raw materials, competitiveness and innovation and global sustainability and resilience (Solomon et al., 2024)

In addition, the existence of a sustainability requires the presentation of clear objectives and action, as well as the existence of performance indicators on the basis of which the impact of products on the environment throughout the value chains is assessed in a transparent and accessible way. As a conclusion, sustainability and circularity are essential components of strategic planning (Pugliesi et al., 2022), actively involving existing stakeholders along the supply chain.

Literature review

Link between circular economy and sustainable development

Grafström and Aasma (2021) see in the circular economy an environmentally friendly production and consumption system in which materials and resources are continuously recycled, ensuring their repeated use. This model purpose to eliminate waste production and minimize the need for untapped resources (Aithal & Aithal, 2023), achieving a state of perfect circularity.

The idea of circularity appears outlined in 1976 in the report "The potential for substituting manpower for energy" (Reday-Mulvey & Stahel, 1977) where it describes the vision of an economic loop in relation to the creation of new places of work, increasing economic competitiveness, saving resources and preventing waste. The circular economy "can be extended to all sectors of activity through different types of synergies, which can generate positive or negative cumulative effects by association" (Tartiu et al., 2018).

The conceptual development of the circular economy has been underpinned by a diverse array of scientific and theoretical approaches over the past decades (Winans, Kendall & Deng,

2017), encompassing perspectives from ecological economics (Adami & Schiavon, 2021) to industrial ecology (Awan, 2020). Officially, the circular economy was introduced in 2010 by The Ellen MacArthur Foundation (EMF). This initiative has led to stakeholder involvement, promoting the integration of circular economy principles into their business networks and operational practices (Baah et al., 2022). After a while, the concept gained followers among influential global geo-economic actors, including the United Nations, World Economic Forum, NGOs and transnational corporations (Abdelmeguid, Afy-Shararah & Salonitis, 2022), through which the EMF advanced systematic solutions for a sustainable future across both the private and public sectors ((Kujala, Heikkinen & Blomberg, 2023).

From a transformational perspective (Chizaryfard, Trucco & Nuur, 2020), the circular economy follows the path of enhanced sustainability in production and consumption systems and decouples (in absolute terms) resource use and environmental impact from economic growth. (Lazarevic et al., 2022). In addition, the circular economy is seen as a fundamental pillar of sustainability and for this reason, the concept is integrated at the level of industries, playing the leading role in the emerging restorative industrial production model (Bressanelli et al., 2022). From an economic point of view, the circular economy becomes profitable due to the incorporation of technological solutions proposed specifically for this field (Khan et al., 2022).

From a wider perspective, the International Resource Panel presents the Drivers-Pressures-State-Impact-Response (DPSIR) model as a systemic approach to the analysis of the use of natural resources and the impact associated with this use (Salim et al., 2023). In addition, efficient management of natural resources play a crucial role in supporting the Sustainable Development Goals contained in the 2030 Agenda for Sustainable Development. An essential aspect of this approach is the fact that economic growth must be decoupled from the excessive consumption of resources. According to historical data, DeWit (2022) declared at the 26th Conference of the Parties (COP26) that the global extraction of natural resources will double by 2060 and the use of natural resources will increase from 11.9 tons to 18.5 tone per capita.

Other perspectives on the circular economy target specific areas such as: the interlinkages and synergies with the green economy (climate change and energy efficiency), sustainable development production and consumption patterns. Moreover, sustainable competitiveness in line with the concept of "doing more with less" can be a central pillar of resource efficiency and circular economy (Ștefănescu, 2019).

The United Nation Environment Assembly Resolution 5/11 on enhancing circular economy as a contribution to achieving sustainable consumption and production (2022) associates as benefits to a circular economy "more resource-efficient, less resource-intensive consumption and production practices and environmentally sound technologies and infrastructure." Moreover, the text emphasizes the "importance of inclusive multilateral and multi-stakeholder dialogues on sustainable consumption and production, resource efficiency and the circular economy to promote sustainable development."

As noted by Blackburn, Ritala and Keränen (2022) an important contribution to the state of knowledge on the circular economy is provided by various think tanks (e.g. CEPS, 2024) and several online platforms (e.g. Circular STEP, Circular Economy Coalition for Latin America and the Caribbean, Platform for Accelerating the Circular Economy (PACE), European Circular Economy Stakeholder Platform, Knowledge Hub). Additionally, new emerging international initiatives such as the World Circular Economy Forum are contributing to filling the knowledge gaps and building new perspectives in relation to nature, climate change and education.

The European Environment Agency (2017) is proposing key characteristics and enabling factors for a circular economy in line with the life cycle approach, and business models. Moreover, resource flows can be a tool for monitoring material flows at the macro-economic level. Other perspectives are linking the circular economy to bio economy or climate change (EEA, 2018). Still, according to the Europäischer Rechnungshof (2023) "EU circularity rate of 11.7 % is higher than the most recent global circularity rate which stands at 7.6 %, down from 9.1 % in 2018." In order to move forward towards more progress on resource efficiency there is a need for collaborative actions through stakeholders active in the supply chain.

At international and national levels (especially in Scandinavian countries), the science-policy interface is playing a key role in advancing toward more circular approaches in terms of resource efficiency and the promotion of waste as a resource (Berlin, Feldmann & Nuur, 2022; Hermann et al., 2022). Currently, many intergovernmental bodies are targeting the science-policy interface in the circular economy (Zhang, Zhao & Chen, 2024) in order to incorporate scientific results into the policy aspects (e.g. IPCC, UNCCD Science-Policy Interface, Intergovernmental Group on Earth Observations, etc.). Complementary to the existing initiatives there are various voluntary initiatives to monitor commitments to sustainability such as GRI Reporting which addresses both large and small companies, private or public aiming to report on their impact on the economy, the environment and people in a comparable and credible, transparent way. The efforts to track the progress are included also in universal standards, which allow for more consistent reporting on sectoral-specific impacts, such as ISO14001 (Environmental Management System), 9001 (Quality Management System), standards for energy-efficient buildings (e.g. BREEAM, LEED, International Green Building Code (IgCC)).

Other relevant initiatives: The Carbon Neutral certification program requires an initial carbon audit in the form of a life cycle analysis offering a comprehensive carbon audit that calculates the CO₂ emissions used in raw materials, fuel and electricity and the waste used in the production and distribution of that product (Zhou, 2023); The Effinature certification was designed to reverse the trend of biodiversity loss in the construction sector and to raise awareness among urban planners (Duffaut, Frascaria-Lacoste & Versini, 2022). It covers over 100 biodiversity areas by considering life cycle assessment in relation to sustainable value chains; warranty systems; green public procurement; the Environmental Product Declaration (EPD) includes relevant, verified and comparable information. This type of declaration brings together transparent and comparable data and information on the environmental impact of the product throughout its life cycle (Marsh, Allen, & Hattam, 2023); Green Circle Certified provides third-party certification of the sustainable aspects of products and manufacturing operations (Pal, Subhashini & Arunachalam, 2021). It provides validation of claims for recycled content, renewable resource content, carbon footprint reduction and renewable energy use; The Carbon Disclosure Project is a non-profit charity that works with investors, companies, cities, states and regions to manage their environmental impact (Chen et al., 2021).

Through CSRD (the Corporate Sustainability Reporting Directive), large companies and all companies listed on stock exchange are required to publish regular reports on the social and environmental risks they face, as well as how their activities impact people and the environment. The EU taxonomy for sustainable activities offers a classification system that establishes a list of environmentally sustainable economic activities. As a classification system, the taxonomy was created to combat the phenomenon of greenwashing (Choudhury, Islam & Sujauddin, 2023) and to stimulate sustainable investments. Thus, the definitions of sustainable activities associated with environmental objectives aimed at combating climate change (the part of reducing GHG and

adapting to the effects of climate change), sustainable use and protection of water and marine resources, transition to a circular economy, waste prevention and recycling, pollution prevention and control, protection of healthy ecosystems.

Building a circular economy momentum

At the level of each country, the development and stability of the circular economy is based on the respect of partnerships between the public and private sector (Owojori & Okoro, 2022). At the European Union level, the Action Plan for the Circular Economy underscores a strong European commitment to transitioning toward a circular economy with low carbon emissions (Spani, 2020). Stuchtey et al. (2018) proposed five key factors in the transition to a circular economy: (1) environmental sustainability, (2) competitiveness, (3) investment, (4) digitalisation and (5) security of resource supply. The EMF complements this list of key factors with a sixth element – collaboration.

Environmental sustainability refers to preserving a clean environment for future generations. Green companies and organizations (McPreak, Devirian & Seaman, 2010) implement strategies to minimize resource consumption, reduce waste, and monitor carbon emissions in their supply chains. Sánchez-García et al. (2024) claim that many businesses are stepping up their environmental efforts by adopting cutting-edge technologies (IoT) to significantly reduce their carbon footprint. The involvement of companies has a defining role in facilitating the transition to a circular economy. Thus, as affirmed by Geissdoerfer et al. (2020), sustainable development depends on the design and implementation of innovative circular business models. However, the other side of the coin comes from linear, resource-intensive economy, which in the long term poses significant risks to the environment and the profitability of companies (Del Pino et al., 2017).

Competitive advantage refers to that element of uniqueness of a company through which the company can clearly distinguish itself from its competitors. This advantage could be the desire for innovation within the company, exceptional customer service or the strength of the company as a brand in the minds of consumers.

Investment is another key element in the transition to circular economy. In other words, businesses based on circular economy principles are attractive investments for active capital market investors. A report financially supported by the Stiftungsfonds für Umweltökonomie und Nachhaltigkeit (SUN) and carried out by SYSTEMIQ and EMF highlighted ten (integrating mobility systems, designing and producing circular cars, pre-manufacturing car parts, deploying regenerative agricultural practices, closing nutrient loops, farming through indoor urban farms, developing new protein sources, designing and producing circular buildings, closing building loops, developing circular cities) attractive priorities for circular innovation and investment in Europe up to 2025. The total estimated value amounted to €1.5 billion. The report was launched at the World Economic Forum's annual meeting in Davos in January 2017 (SYSTEMIQ and the Ellen MacArthur Foundation, 2017).

The European Environment Agency defines the concept of "security of supply" as the availability of energy supplies at all times, in different forms, in sufficient quantities and at reasonable or accessible prices. Thus, there are three basic principles underpinning the security of supply chains (Ellen MacArthur Foundation, 2024): (1) creating local and global collaborative networks between suppliers – customers – industrial partners; (2) enable the circular flow of capital, goods and information, with a particular focus on tracking product data for efficient recycling and reuse; (3) keeping products and materials in continuous, thus maximizing resource efficiency.

The problems facing the environment can be solved by companies born in the era of linear economy and recycling economy by adopting new business models supported by the principles of circular economy. The latter entities, designed from the outset around circular principles, are often based on superior business models that encompass circular sourcing of raw materials, principles of the sharing economy, product-as-a-service offerings, product life extension strategies and robust resource recovery processes. Consequently, transforming existing market structures and industrial practices towards circularity is not a simple process and probably requires more than simply adopting new business models (Lacy, Long and Spindler, 2020).

The transition towards a circular economy requires the implementation of concrete policies and well-designed business models (Rizos et al., 2018). Moreover, circular economy has strong connections also with sharing economy perspective even if one is targeting the creation of a closed-loop system where resources are reused, repaired, refurbished, and recycled and the second one aims to shared use of resources, products, or services.

The transition towards new models can only be realized through *empathy* (Iida et al., 2021), which entails understanding the motivations, values, and interests of all stakeholders – such as people, institutions, industries – and economic factors like resources and information. Collaboration within the circular economy must exist as follows: (1) within the value chain, (2) between different value chains and sectors, (between stakeholders and (4) on a large scale. In conclusion the collaboration must extend from the local to the global level and from start-ups to SMEs and multinational corporations.

The Ellen MacArthur Foundation (2024) establishes a triad of ideas for effective collaboration: (1) clearly defining the role of each economic actor, (2) raising awareness, and (3) expanding the results. In the circular economy every economic actor must know what his role is in the fight for the environment and be held accountable for their actions that contradict the principles of the circular economy.

To achieve the expected results, all economic actors (coming from different cultural backgrounds, with different standards and regulations) must understand the architecture of the circular economy (see figure 1)

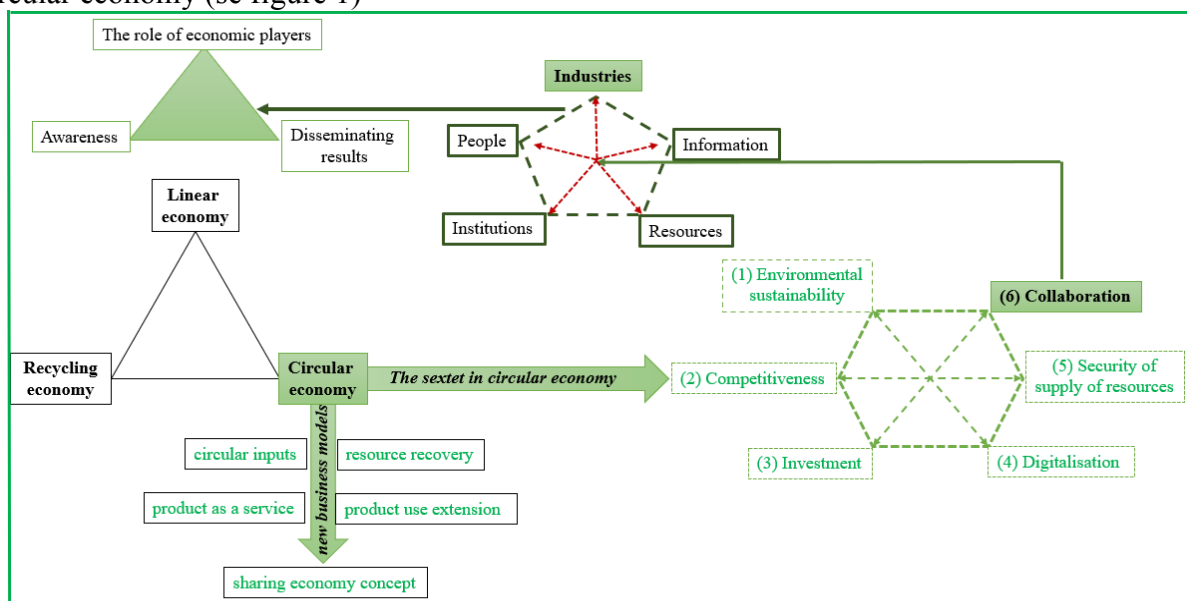


Figure 1. Circular economy architecture

Source: Authors' own research.

The challenges and success of the circular economy involve harnessing unique qualities, expertise, innovation, production capacities, financial resources and the influence of organisations, communities and individuals. Thus, there is a significant change in the relationship between companies and suppliers, they are encouraged to develop new business models to meet the demands of the circular economy. Thus appears the concept of "dematerialization", in which products are transformed into services through practices such as reuse, resale, rental and sharing. (Ellen MacArthur Foundation, 2024).

Methodology

In terms of research methodology, it was thought out in two big stages. The first stage aimed to identify the most important business associations connected with the idea of circular economy in the European Union. In the second stage, the focus was on the thorough analysis of the website of business associations in order to identify initiatives related to the circular economy and the form in which these initiatives related to the circular economy and the form in which these initiatives are made known to all interested parties.

Business associations selection

The development of the first stage, the identification of business association in the European Union, was based on the use of keywords such as "business associations" and "circular economy" and Google search engine. Following thorough keywords research, a taxonomy of the data extraction source resulted as follows: (1) primary sources of information that included reports issued by the European Union on circular economy. These reports provided clear and direct information about the business associations, actions, policies and strategies adopted at the level of the European Union; (2) secondary sources of information were scientific articles, press releases and other documents available to industry stakeholders on the topic of the circular economy. Thus, following the research, it was possible to create a database with the most important business associations in the European Union, the number of members that each association has, the industry to which each association belongs and the year in which each association was founded.

Circular economy specific actions of business economy

The second stage, the identification of the actions specific to the circular economy that business associations from different industries carry out and the form in which these actions are made known to all interested parties, was based on accessing and studying the website of each business association in the European Union identified in the first stage of the research. This approach has helped to accurately identify all the initiatives with which business associations support the circular economy and sustainable development goals.

Following this research methodology in two important stages, were identified the most active business associations in the European Union in the fields of circular economy, by categories, the result being summarized in the two tables in the paper. The results of the research are presented at length in the results and discussion section.

Results and discussions

In the European Union, following the research, 28 business associations were identified from various sectors of activity such as business, manufacturing, metal, engineering & technology-based industries, chemical, paper, automotive, agricultural, IT, telecoms and consumer electronics, pharmaceutical, plastic and rubber, flavour, biopharmaceutical, R&D intensive, apparel and textile,

electricity, business community, retail and wholesale, steel, gas, metals and mining, aluminium, clothing, footwear and equipment, food and drink, energy, hospitality and crafts. Each of the EU business association has its headquarters in Brussels, Belgium.

The actions proposed by the 28 voices of business association in the European Union are based on the Circular Economy Action Plan/CEAP package proposed by the EU in 2020.

Among the most recent actions undertaken by 25 of the 28 business associations presented in Table 1 (with the exception of CEPI, EUROFER and European Aluminium) is the joint letter addressed to the European Commission (EC) on November 5, 2024. In a common letter to EC, the business associations request the Commission to simplify the requirements of the Corporate Sustainability Due Diligence Directive (CS3D) as, otherwise, although companies support the principles of sustainability, the complex requirements could create competitive disadvantages. Along with their request, the associations also propose an easily manageable action plan: (1) consulting businesses and professional associations to identify solutions for clarifying and simplifying the CS3D requirements, (2) establishing a transition period, especially since CS3D requires companies to collaborate with suppliers to ensure full compliance across the entire value chain and (3) harmonizing the rules to ensure European competitiveness and the proper functioning of the single market (EURATEX, 2024).

Table 1. The powerful voices of business associations

Business associations	Members (no.)	Sector/Industry	Year of foundation
AmCham EU	165	Business	1962
BusinessEurope	42	Manufacturing	1958
Ceemet	20	Metal, Engineering & Technology-based industries	1962
CEFIC	650	Chemical	1959
CEPI	19	Paper	1992
CLEPA	100	Automotive	1959
COPA-COGECA	60	Agricultural	1962
DIGITALEUROPE	154	IT, telecoms and consumer electronics	1999
EBF	33	Banking	1960
ecoDa	21	Voice of directors in Europe	2004
EC EG	15	Chemical, pharmaceutical, plastic and rubber	2002
EFFA	51	Flavour	1961
EFPIA	92	Biopharmaceutical	1978
ESIA	-	R&D intensive	-
EURATEX	29	Apparel and textile	1996
Eurelectric	46	Electricity	2011
Eurochambres	40	Business community	1958
EuroCommerce	47	Retail and Wholesale	1993
Eurofer	35	Steel	1976
Eurogas	108	Gas	1990
Eurometaux	72	Metals and Mining	2011
European Aluminium	230	Aluminium	1981
FESI	114	Clothing, Footwear and Equipment	1960
FoodDrinkEurope	81	Food and Drink	1982
FuelsEurope	41	Energy	1963
HOTREC	47	Hospitality	1979
IOGP	94	Energy	1974
SMEunited	70	Crafts	1980

Source: Authors' own research.

BusinessEurope, the leading advocate for growth and competitiveness at the European level and main supporter of issues that most influence corporate performance, stated in a press release that ideas related to focusing on the entire product life cycle, government cooperation and the close connection between producer-user-recycler are important steps in the transition to a circular economy.

Eurometaux is representing the leading voice of non-ferrous metal producers and recyclers in Europe, advocates for the production, use, and recycling of non-ferrous metals across the continent. The organization plays an active role in EU policies and regulations which focus on four key areas: (1) energy and climate change, (2) chemicals management, (3) international trade and (4) sustainability. By words "Metals for Clean Energy. Pathways to solving Europe's raw materials challenge", found on the association's website, Eurometaux aims to highlight the key role that metals will play in achieving the EU's goal of climate neutrality by 2050.

Eurofer has been an important representative of the steel industry since 1976 and is currently supporting the EU Green Deal under the slogan "We are ready-are you? Due to its importance in the steel sector, Eurofer is intensively promoting the transition to an industry green, low-carbon steel industry. Furthermore Eurofer emphasizes that this transition is necessary because current production processes have reached their technical and technical and thermodynamic limit. Five years later, in 1981, European Aluminium, an important representative of the aluminium is "circularity", in the sense that it can be recycled over and over again without losing its properties (brightness, conductivity, durability and permeability). These properties of aluminium make it a key material for sectors such as transportation, construction, packaging, renewable energy and technology. Due to these properties, aluminium demand is expected to increase by 40% by 2050 compared to 2019 (European Aluminium, 2022).

Over the years in the paper industry, the Confederation of European Paper Industries (CEPI) has played an essential role in placing this industry among those that support sustainable and circular activities. Concern for the environment and the future of mankind has positioned the paper industry among the most sustainable sectors in Europe. CEPI is actively involved sustainable forest management, sustainable product supply, the transition to net zero emissions and long-term job creation. The paper recycling in Europe in 2021 was 71,4%, the highest rate globally. The industry continues to develop recycling practices and material utilization of residues by sharing best practices and fostering cross-sector alliances (CEPI, 2023).

In 1958, Eurochambers was born, the European Union's leading representative of the business community, advocating the introduction of an eco-design tool that covers all aspects of a product's life cycle. However, Eurochambers (2020) emphasizes that any new information and performance requirements addressed to companies must significantly increase circularity products (Eurochambers, 2022).

The European Circular Economy Stakeholder Platform supports the business community by organizing events and workshops where the main topic of debate is the circular economy. "Moving to Circular Fashion" is one of the workshops organized by European Union on 12 July 2022 in collaboration with the Italian Ministry of Ecological Transition and the Indonesian Chamber of Commerce and Industry. At the event in Brussels, representatives from business, government and collaborative initiatives shared their ideas on how to support the fashion sector while reducing its social and environmental impacts. (European Circular Economy Stakeholder Platform, 2022). In the last 15 years, textile production has doubled and the number of garments worn has fallen by up

to 36%. The COVID-19 pandemic has shown that the fashion industry must take urgent action on sustainable and circular business models. Brand representatives from the fashion industry are constantly collaborating to identify opportunities for implementing circular solutions across the values chain: the Jeans Redesign Project, brands, suppliers, end-of-first-use solution providers, e-retail representatives, design consultancy representatives, a sustainable fashion start-up and organizations working on collaborative solutions. Two key areas for action were identified from the debates: (1) public-private advocacy and (2) data about every stage in the life of a product so that circular and sustainable products can be rewarded. In addition, the workshop reinforced the findings of some researchers (Baah et al., 2022; Lacy, Long and Spindler, 2020) and helped to identify three basic principles in circular fashion (European Commission, 2021): (1) long-lasting use of clothes followed by resale, (2) products made should be based on the idea of reuse, (3) rethinking the use of safe and renewable and recycled materials. The new business models that companies in the fashion industry are implementing must leave behind the linear economy (Del Pino et al., 2017) and respect the characteristics of the circular economy by "creating value by exploiting the value retained in used products to generate new offers" (Linder & Williander, 2015).

The success of the circular economy in the European Union depends on the involvement of companies and business associations. The private sector is showing leadership in developing sustainable business practices. The AmCham EU Circular Economy (202) brochure presents 15 green solutions from member companies. These solutions are categorized according to their economic focus (products, processes and services) and aim to reduce the use of virgin materials and increase recycling, make tires fully sustainable, use more "handy" cups for various beverages, perfect carbon fibre recycling and recycled PET production technology, find recycling solutions for photovoltaics, toys, IT products and expand the production of active ingredients to make their pharmaceutical energy efficient. technology, recycle more pet food packaging and, last but not least, find practical solutions to make food packaging from modern recyclable materials and make water management smarter.

In a press release on May 26, 2020, under the title "Saving jobs while reducing emissions", CEMET and CLEPA together with four other European business associations called on the European Union for an industrial recovery plan based on both boosting production and sales and supporting industry on its journey towards a carbon-neutral future based on the Green Deal and Europe's climate goals. All the actions of the business associations are also supported by CEFIC, which states that the European chemical industry can become the central pillar of the European circular economy, offering innovative solutions from design to end-of-life of a product across the entire value chain, thus contributing to the achievement of SGDs.

In agriculture, the circular economy is supported by two business association, FoodDrinkEurope and COPA-COGECA, which in 2022 established a partnership to develop and coordinate the Pact for Skills in the Agri-Food sector. The main objective of the Pact for Skills is to qualify and re-skill the workforce and attract young people to the agri-food sector. To this end, the business associations promote and support the circular economy by publishing thematic articles

and brochures, organizing events, practical workshops in the financial sector and creating platforms dedicated to the economy.

Each initiative adopted by each business association (tab.2) raises awareness about the importance of the circular economy. This encourages technological innovation and public policy orientation.

Table 2. Business associations - thematic initiatives and pattern of initiatives

Business associations	Thematic initiatives	Pattern of initiative
AmCham EU	The Circular Economy. 15 innovative industry solutions that drive a sustainable future	Brochure
BusinessEurope	EU circular economy policy - BusinessEurope priorities for 2024-2029	Position papers
Ceemet	For a more competitive industry in a stronger Europe: a Ceemet perspective	Brochure
CEFIC	Connect Circular Economy	CEFIC Sustainable Development Indicators
CEPI	Circular Choices campaign 4EVERGREEN	Promotional campaign Cross-industry alliance
CLEPA	DrivingAmbition2Action	Brochure
COPA-COGECA	-	-
DIGITALEUROPE	The Tech sector: circularity in action	Research in publishing
EBF	Financing the Europe of tomorrow Circular Economy Lab	Brochure
ecoDa	Corporate Sustainability Due Diligence Directive: How to make it happen?	Webinar
ECEG	-	-
EFFA	The position of flavourings in the Farm-to-Fork value chain	Policy Manifesto
EFPIA	EFPIA White Paper on Circular Economy	Brochure
ESIA	The transition to a circular economy	Chapter in Guidance on the EU Taxonomy Framework
EURATEX	Circular textiles. Prospering in the circular economy	Strategy that identifies problems and proposes new solutions for circular economy in textile industry
Eurelectric	Decarbonising Distribution. A report on the carbon footprints and mitigation strategies of Distribution System Operators	Report
Eurochambres	Chambers for a Circular Economy. Actions to support SMEs' transition to a Circular Economy	Report
EuroCommerce	Transition to a Circular Economy and protection of the Single Market	Letter to President von der Leyen, Executive Vice-President Timmermans, Executive Vice-President Dombrovskis, Commissioner Breton, Commissioner Sinkevičius
EUROFER	Steel and the circular economy	Brochure
Eurogas	Towards a Climate Neutral Gas Sector	Commitment to action
Eurometaux	Circular Economy 2.0	Commitment to action
European Aluminium	Enabling the circular economy with aluminium	Strategy for reaching full circularity

Business associations	Thematic initiatives	Pattern of initiative
FESI	FESI supports The Policy Hub's Statement on the Circular Economy Action Plan publication	Commitment to action
FoodDrinkEurope	Circular Economy Action Plan	Position paper
FuelsEurope	A New Industrial Strategy for Europe and the Circular Economy Action Plan – A New Way to See the EU Industrial Value Chains	Position paper
HOTREC	European hospitality industry guidelines to reduce food waste and recommendations to manage food donations	Report
IOGP	IOGP Introduces Material Digital Passport System to Combat Material Fraud and Promote Circular Economy	Commitment to action
SMEunited	Circular economy is successful if SME oriented	Commitment to action

Source: Authors' own research.

Business stakeholders play a crucial role in the circular economy, as they are key actors in both the supply and demand sides of the economy. Their involvement is essential in transitioning from linear models of production and consumption to more sustainable, circular approaches (Del Pino et al., 2017). Their contributions play a key role in promoting new approaches as regards:

- innovating business models, such as product-as-a-service, leasing, sharing, and remanufacturing;
- developing and implementing circular practices; stakeholders in various industries can lead by example in integrating in traditional business operations new approaches to minimize environmental impact;
- collaboration and networking are essential to create closed-loop systems where materials and resources can be reused and recycled; stakeholders from different sectors can create synergies, collaborative networks for a better circular economy uptake (Aithal & Aithal, 2023);
- investment in technology and research to enable circular processes, such as recycling technologies, material recovery, or more sustainable product design (Del Pino et al., 2017);
- policy advocacy and industry leadership for circular economy policies (Lazarevic et al., 2022) and frameworks at the local, national, and international levels;
- consumer engagement for raising awareness about the benefits of circular economy practices (Ellen MacArthur Foundation, 2024).
- supply chain integration to ensure that circular principles (McPeak, Devirian & Seaman, 2010) are fully operational and traceable (from design, raw material sourcing to production, logistics and waste management).
- leadership and education – workshop, training programs and collaborative partnerships can help train and educate other businesses, consumers and young people.

Conclusion

The research, through its two major stages, shows that, at the European Union level, many business organizations have been established over time actively involved in supporting and promoting the circular economy.

The 28 business associations, through their initiatives, act as intermediaries between the private sector and policy makers, ensuring that the circular economy agenda is aligned with both economic and environmental objectives.

Their ability to ensure resource mobilization and promote collaboration between stakeholders is key factor in the evolution of the circular economy. However, business associations face a number of challenges in promoting the circular economy. These challenges include the diversity of circular economy regulations in EU countries, insufficient or limited funding, which hinders the full implementation of initiatives, lack of public awareness, which means that the success of circular economy efforts depends largely on consumer behavior, which varies significantly by country and culture.

The second stage of the research – highlighting actions supporting the transition to the circular economy – helped identify the actions that each of the 28 business associations took. Although the 28 associations come from different field of activity, all of them have a common goal, namely awareness of the importance of the circular economy, regardless of the industry to which the companies belong.

Thanks to the innovative initiatives of business associations, the circular economy is increasingly visible in the European Union. Through these initiatives were proposed optimization of product life cycles, improvement of waste management through intelligent system, promotion of recycling and permanent collaboration between all sectors of activity.

Although the research identified key initiatives to support and promote the circular economy, the research also presents limitations. Some limitations should be noted. Identifying business associations and their initiatives is a laborious, time-consuming action and there is a risk of not identifying all associations and initiatives undertaken. In this case, for a thorough analysis it would be useful to have a platform with all the information about the business associations supporting the circular economy. Moreover, there is a possibility that certain business association websites may not be updated and may not include all initiatives undertaken.

The recommendation from the research is to established an integrated platform with all business associations in the European Union. The platform's functionalities should be simple and allow business associations to register themselves. In addition, they should constantly update the field dedicated to circular economy initiatives and the field dedicated to the results obtained from their initiatives.

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