



The route to
circular economy



Stakeholder Views Report

Enablers and Barriers to a Circular Economy



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The R2π Project Consortium consists of **16 partners** from 9 countries, coordinated by **CSCP**:

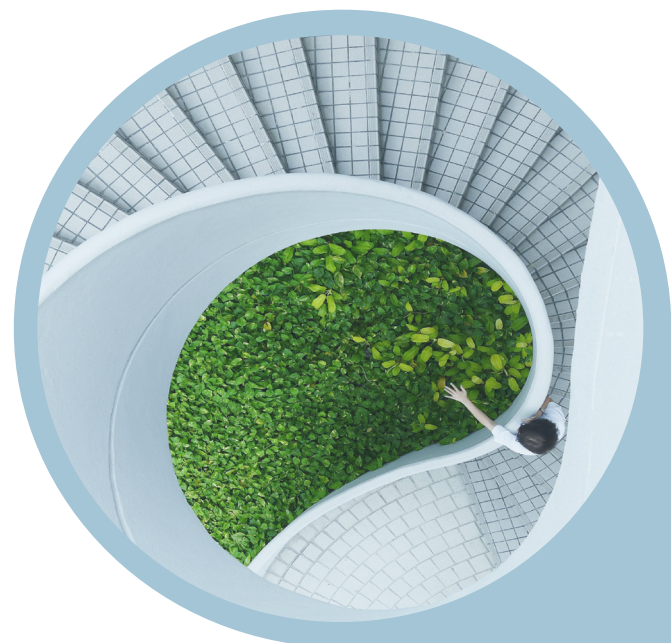


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Executive Summary

Circular economy business models allow Europe to address the challenges posed by the increasing scarcity and depletion of natural resource to ensure sustained economic development, minimise environmental impact and maximise social welfare.

Transitioning from linear to circular economy business models, however, is not simple. There are numerous obstacles at company and value chain levels, as well as from EU and local level policy perspectives. This report provides a simple, yet rich **overview of the barriers and enablers of circular economy business models** as identified by stakeholders, drawing upon a range of interviews, workshops and events, and a survey conducted with representatives of the European business sector.

Within businesses, stakeholders identified high-level commitment accompanied by long-term perspectives, the personal drive and attitudes of staff, as well as the promise of enhanced competitiveness as key in supporting the transition towards circularity.

Yet, from an internal company perspective, a number of factors were highlighted as getting in the way of the transition. Difficulties in financing new business models, taxation systems, resistance to change and the perceived lack of consumer demand are key examples of obstacles that hamper the circular transformation.

From the policy point of view, the EU Action Plan for the Circular Economy, as well as the Plastics Strategy and funding availability are important EU level enablers that support businesses willing to pursue their circular ambition; such an effort can also be supported nationally and locally, thanks to citizen engagement and individual level of awareness, multi-stakeholder platforms and governmental circular economy priorities in the development of smart specialisation strategies.

However, policy obstacles such as taxation and regulation concerning the use of secondary raw materials, as well as the lack of both harmonisation and integrated recycling plans across the EU persist. This is also the case when focusing on the national and local policy level, where poor waste management legislation, the lack of mandatory goals around circular targets, and public procurement led by financial criteria hinder the implementation of a circular economy.

Importantly, stakeholders provided interesting insights into possible solutions and recommendations able to overcome the challenges posed by circular economy barriers: tax incentives, the development of wealth-measurement systems other than GDP, material passports and quality standards to name a few. Future solutions should also focus on ensuring safe areas for innovation out of tendering calls, green public procurement and increased financial support.

Understanding both the obstacles and opportunities of the implementation of circular economy business models is key in the delivery of a Circular Economy. **Only by acknowledging the elements which hamper or facilitate the transition can business guidelines and policy proposals be designed to effectively and successfully support the transformation.**



Background and Context

“R2π – tRansition from linear 2 circular” is an EU Horizon 2020 project that aims to enable companies and their value chains to transition towards more viable, sustainable and competitive economic models.

The project supports the achievement of the European Union’s strategy in sustainability and competitiveness and its positioning as a world leader in the circular economy.

The international consortium of R2π consists of 16 partners from 9 Member States and Associated Countries (UK, Germany, The Netherlands, France, Spain, Malta, Poland, Belgium and Israel). It represents experts from the business sector, public bodies, think tanks and research institutes. R2π is coordinated by the Collaborating Centre on Sustainable Consumption and Production (CSCP).

R2π examines the shift from the broad concept of a Circular Economy (CE) to one of Circular Economy Business Models (CEBMs), by focusing on the opportunities and failures of both the market and policy-making. Its innovation lies in having a strong business model focus, as well as in the role of policy development.

The mission of the project is to identify and develop sustainable business models and guidelines to support the circular economy and to propose policy packages to assist their implementation. The ultimate objective of the R2π project is to accelerate the widespread implementation of a circular economy based on successful business models and effective policies to:

- ensure sustained economic development
- minimise environmental impact
- maximise social welfare

R2π unfolds in diverse contexts with a strong emphasis on stakeholder involvement and exchange, employing mixed methods, case studies, desk research, surveys where applicable, business guidelines and policy formulation. **Its main phases are:**

R2π project phases



Circular economy is one of the most important drivers for a better and more sustainable Europe

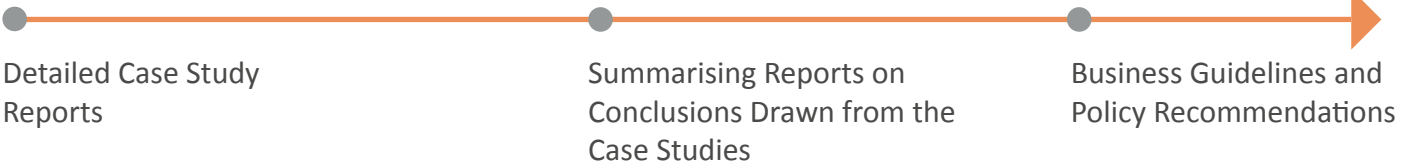
2017

2018

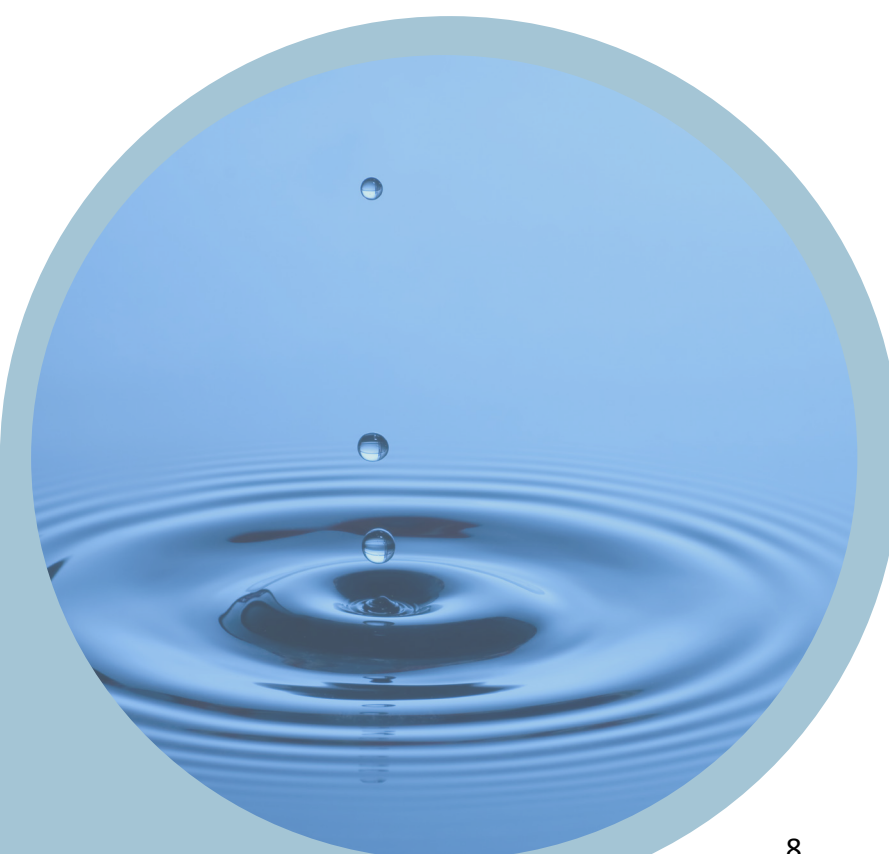


2018

2019



To allow for the future development of informed policy recommendations and business guidelines, the R2π Consortium has collected stakeholder insights into the main challenges and opportunities of the transition from linear to circular business models, from both company and value chain perspectives, and into the policy initiatives that hinder or support such a change. This report represents a useful stepping stone in the development of key recommendations for businesses and policy-makers engaged in promoting the transition from linear to circular economy business models.



Definition and Methods

Definition of Circular Economy

There is no **unique definition** of circular economy. The **European Commission** defines this concept under the EU Action Plan for the Circular Economy as follows: *“In a circular economy the value of products and materials is maintained for as long as possible; waste and resource use are minimised, and resources are kept within the economy when a product has reached the end of its life, to be used again and again to create further value.”*¹

To explicitly reflect the zero waste objectives at the core of circular economy and put the accent on its restorative and regenerative aspects, the **R2π Consortium has elaborated the definition further:**

*“The **circular economy (CE)** is an economy in which economic activities derive value under the conditions that an **existing resource stock within the system is continuously recirculated** to maintain its maximum value and utility over time, and fluctuations in that stock are in balance with the environment; enabling the viable and sustainable use of resources. All activities during product life cycle stages are designed to circulate the resources, and support the preservation and regeneration of the biosphere so that hazardous outputs are eliminated and regional resources are not degraded.”*²

By incorporating circularity into their business models, organisations will be able to **create, deliver and capture value in a way which enables efficient and regenerative use of finite resources** while, at the same time, **keeping products, components and materials at their highest value and utility.**

Methods adopted to gather stakeholder views

Stakeholder Dialogues, Workshops and Interviews

Since the launch of the project in 2016, the R2π Consortium Partners have organised numerous stakeholder dialogues and exchanges aimed at gaining insights into the main enablers and barriers of a circular economy in Europe.

The results of these exchanges were collected by CSR Europe prior to the development of this report. Partners were asked to summarise the enablers, barriers and breakthroughs identified by stakeholders, and to categorise findings according to company or value chain level, and EU or Member State policy perspectives.

CSR Europe subsequently elaborated these responses to develop this report.



Circular economy is the key approach that marries environment and economy

¹ European Commission (2015), “Circular Economy Package: Questions & Answers”, MEMO/15/6204.

² Geisendorf S., Pietrulla F. and Wolf P. (2017), “R2π Definition of the Circular Economy”, pp. 6-7.

Stakeholder survey

In April and May 2018, a survey was distributed online among European companies. Its purpose was to provide a broad snapshot of the state of play of the business sector's awareness and concern for issues related to the circular economy, efforts to implement circular economy business practices, as well as the role of policy in promoting the shift towards circularity.

In total, 83 responses were collected, across various countries and industries in Europe, of which one third (27%) from Environmental or Sustainability Officers within the respective organisations.

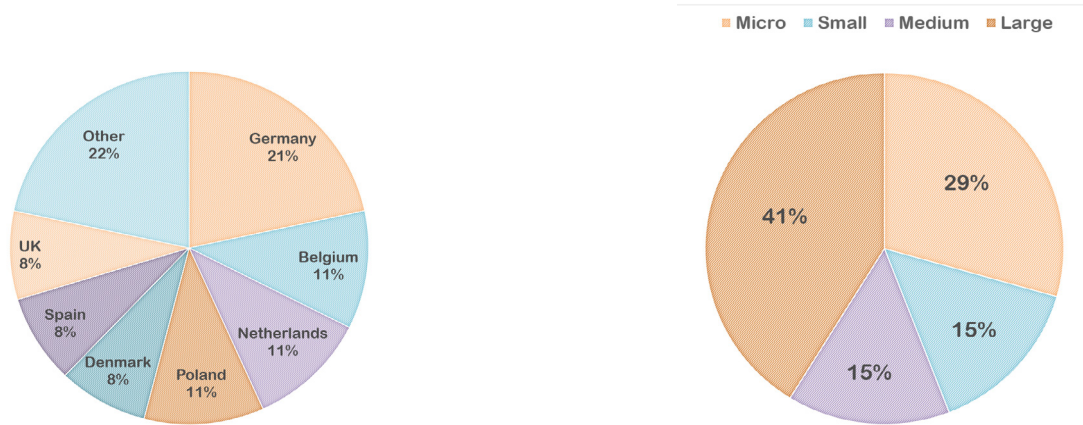


Figure 1

Figure 2

Figure 1: Geographical Distribution of Economic Actors

The graph shows the country breakdown of responses, with the majority coming from Germany (21%), followed by Belgium, the Netherlands and Poland (11% each), which attests to the wide dispersion of firm respondents.

Figure 2: Size Distribution of Respondents

The graph looks at the size distribution of the businesses involved in our survey, based on self-reported annual revenue. The majority (59%) are classified as either micro, small or medium, with another 41% of responses from large businesses.

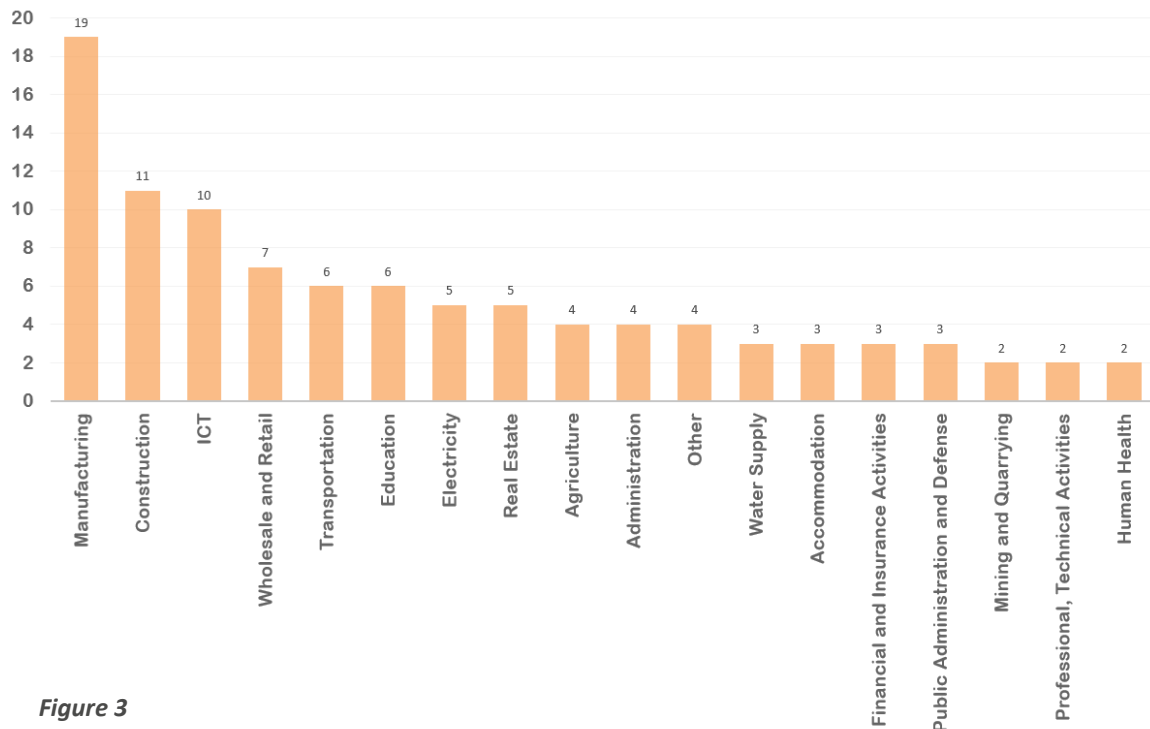


Figure 3

Figure 3: Industrial Sectors of Respondents

The graph provides a breakdown of the respondents' key industrial sectors. As seen from the diagram, the leading sector captured by this survey is manufacturing (19 respondents), followed by construction (11) and ICT (10).

Business Transformation: What are the main enablers and barriers?

Transformation is vital to overcome the complex economic, environmental and social challenges faced by our society.

As highlighted by the priorities set out by the European Commission, transitioning from the current status quo of linear business models to circular approaches is a key objective for the EU in its journey towards sustainability. **The implementation of innovative production systems moving towards circularity will not only benefit society, but it will also represent an opportunity for companies on a number of fronts.** As well as leading the private sector to positively affect economic growth, reduce its negative impact on the environment and create more jobs through innovation, it will in fact generate substantial net material cost savings for businesses.

Although increasing numbers of companies have begun their journeys towards circularity, a more widespread implementation of circular business models is needed. To facilitate this process, it is important to identify key enablers and barriers. For this reason, the R2π Consortium has worked to understand what can support circular economy business model implementation and what, instead, represents a barrier to such a process.



We need to accelerate this transition to a circular economy and improve the entire system

Enablers for transformation

A review of the key findings of stakeholder meetings reveals the following main enablers of business transformation for a circular economy at the company and at the value chain level.

Within the company

The following considerations emerge as **key enablers** at company level:

1. High-level commitment, with long-term business perspectives

The implementation of circular economy business models requires structural change within organisations. In this respect, top-management commitment is key. By viewing circularity as an economic opportunity, through top-down strategies in favour of long-term planning and investment, top management can facilitate the transition towards circularity.

2. The personal drive and attitudes of staff in an organisation

Companies in which circularity is tied to social goals, ethics and spirituality can enhance staff engagement. Purpose-driven approaches are highly motivating for employees, and ultimately allow companies to attract and retain talent, gaining productivity in a vibrant and stimulating environment, marked by committed staff.

3. The promise of enhanced competitiveness

To maintain market share and revenues in an environment of increasing competition, the importance of finding new business propositions is high. Forward-looking and innovative companies can gain competitive advantage over more static businesses, especially in light of growing consumer awareness on sustainability matters.

Additional enablers at company level:

Production approaches

- Adoption of product life-cycle approaches

Reporting and KPIs

- Transparency and reporting of non-financial information
- Relevance of achieving sustainability objectives (CSR strategies and UN 2030 Agenda)

Stakeholder awareness and consumer preferences

- Thorough understanding of all stakeholders of the concepts of value, circularity and their opportunities
- Growing environmental awareness of consumers

Economic prospects and ambition

- Potential to create new jobs
- Ambition to leave a lasting and inspirational footprint

Within the value chain

Across the value chain, the following considerations emerge as **key enablers**:

1. Innovative ecosystems, partnerships and collaboration of both stakeholders and competitors

Organisations that collaborate with others to change an industry have a strong impact on the value chain and facilitate the shift towards a circular economy. Collaboration can in fact encourage suppliers to innovate, resulting in circular design solutions. NGOs and public opinion also play an essential role in bringing circularity into companies' internal agendas. Moreover, cooperation with universities allows for the development of new technological solutions to support the change.

2. Standardisation of requirements across the value chain

Product certifications and calculations such as Life Cycle Assessments (LCA) on the potential impact and environmental aspects of products allow to track sustainability across the value chain. Through specific standards, it is in fact possible to assess how goods are produced, and subsequently disposed of at the end of their lives. This can facilitate the identification of socially responsible suppliers for a company's value chain, in favour of circular models.



We plan to continue growing, doing so sustainably against non-sustainable partners



We work with our competitors to solve system problems, and with non-profit organisations when we do not have the know-how

3. The spillover effects of international corporations on local supply chains

International corporations transitioning from linear to circular economy business models can influence the production models and business approaches of their subsidiaries. This ultimately affects local supply chains and companies, whose journey towards circularity can be facilitated and accelerated.

Additional enablers at value chain level:

Shared vision and certification use

- Shared circular economy vision among key suppliers
- Increased use of product certification to track sustainability across the value chain

Resource prices

- High value of a company's waste as it becomes input for other firms
- Availability of abundant, cheap, green energy to support secondary raw material use

Emerging preferences

- Demographic trends, such as change of patterns in mobility and non-ownership levels

Infrastructure, networks

- Context and availability of infrastructure supporting the uptake of circular practices
- Engagement with NGOs to develop holistic strategies in favour of circularity



We really believe that we are responsible for the entire value chain! Even in the stages where we do not normally work



We are changing the industry and helping smaller companies to go in that direction. We have the responsibility to do so



Barriers to transformation

Through case studies and multi-actor exchanges, the following information emerged on the key barriers of circular economy business model implementation.

Within the company

At company level, the following **barriers** emerged:

1. The financing of new business models coupled with taxation systems

Business transformation is costly. Added to the funds and upfront investment required for business innovation, other factors also contribute to the high cost of implementing circular models. These include the high costs of secondary products and raw materials, as opposed to the often lower cost of virgin resources (partially caused by higher taxes on labour which penalises reuse, repair and recycling) and current taxation systems, which tend to reward linear models rather than circular models (value-added tax on upcycled products, for example, requires paying twice for the same product).

2. Resistance to change

Static and conservative business cultures hamper business transformation, limiting the circular engagement of organisations. Existing business models may not be geared towards circularity, so long-term change may be necessary. Unsupportive corporate culture, lack of high-level commitment and unwillingness to take risk make this highly challenging.

3. Perceived lack of consumer demand

In many cases, there is little understanding of the concept of circularity and its benefits. Additionally, circular products tend to be more expensive than 'non-circular' goods. The combination of these two factors limits consumer demand for circular products.

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Changing business models is always an upfront investment, therefore, there must be incentives for this investment

Additional barriers which hinder the transition from linear to circular economy business models are the following:

Resource prices and financial considerations

- Fossil fuel subsidisation
- High cost externalities, including energy use, environmental quality, and ecosystem services
- Lack of understanding of the true costs of not transitioning towards circularity (life-cycle, externalities)

Lack of economies of scale

- Difficulty in reaching economies of scale in the recycling/reprocessing markets to produce 'green' goods

Reporting and KPIs

- Misalignment between company and societal goals

Awareness

- Association of circular economy with waste only - other business transformation opportunities may remain unexplored

Competition, quality

- Current way of tendering based only on lowest price



Within the value chain

A number of **barriers** pertaining to the value chain were mentioned:

1. Lack of a supporting secondary raw material market

For circular approaches to be successfully implemented, a sound secondary raw material market is necessary. For reasons ranging from regulatory factors to the idea that recycled products are of questionable quality, there is currently little space for secondary raw material markets supporting the transformation.

2. Current linear design of products

Many products are not designed to be repaired, disassembled or recycled. More focus on innovative ecodesign of products can lead to the development of goods which can be easily disassembled and repaired or recycled at the end of the first life cycle. These can be subsequently used as inputs in the production of further goods.

3. Lack of infrastructure

Current infrastructure is not sufficient in supporting the transition towards circularity. By allowing, for example, for efficient recycling and product recovery, suitable infrastructure is fundamental for transformation to occur and be long-lasting.

Additional factors identified by stakeholders as **barriers** to circularity are:

Convenience and pricing

- Higher convenience of purchasing rather than repairing goods, as many products are not designed to be repaired
- Absence of the right signals and values provided by the market

Infrastructure, networks

- Lack of knowledge of industries on what other industries /companies offer as resources, recycled materials, discarded materials
- Lack of trust and openness to share and collaborate

Reporting, KPIs

- Lack of industry guidelines and standards for reuse and repair

Awareness, know-how

- Lack of knowledge of incentives for companies to ensure product durability



Collection systems are not good enough. We need a step-change improvement in better collection

Possible solutions

In light of both the barriers and enablers of the implementation of circular economy business models, to face the upcoming challenges of the transformation, stakeholders suggested the following solutions:

1. A better understanding of the value of products and materials

Focusing too much on waste as the starting point for a solution is an incorrect approach; better design of materials and products is a more valuable starting point. Manufacturers often do not fully understand the value of keeping products in circulation longer or of reusing materials. Giving products and materials multiple lives is far more valuable than disposing of them, maintaining value rather than destroying it through landfilling, incineration and downcycling.

2. Better terminology

It is necessary to re-categorise “waste” as a resource. By calling end-of-life products “waste”, their value is immediately decreased and regulations often require that they be handled as non-valuable. However, when such products are somebody else’s resource, language and laws should reflect that.

3. Engage the whole value chain

Joining efforts along the value chain can support businesses in their journey towards circularity and eco-friendliness. By engaging the whole value chain through B2B and B2C collaborations, insights and solutions can be obtained. No single organisation will be able to make this transition alone, and multi-stakeholder cooperation will both multiply the opportunities and spread the risks.



We have to be willing to work together across and between the value chains

Further steps can also support the transition towards implementation. The additional suggestions include:

Improve pricing

- Integrate pricing so as to spread the high costs of certain activities across the entire value chain and ensure financial competitiveness (e.g. of recycling)

Support innovation

- Focus on innovation, technological development and adaptation across the entire value chain
- Provide financial support for R&D

Develop infrastructure and networks

- Develop suitable infrastructure (such as IT, and for appropriate recycling, recovery, etc.)
- Engage customers and wider stakeholders

Improve management strategies and plans

- Promote the life-cycle approach



Further insights into internal drivers

The findings of the stakeholder meetings can be compared with the findings of the survey conducted to investigate the relative importance of different stakeholders and issues in relation to environmental practices within businesses.

Clearly, leadership (CEO, CSR, Headquarters) and policy (EU, national Government) play a key role, as does technology. Brand and CSR (Corporate Social Responsibility) are also key influencers for these businesses, many of which belong to sustainability networks. The role of non-household consumers, suppliers and competitors again points to the importance of value chain considerations. Banks, market size and household consumers seem to have limited influence on environmental activities of these businesses.

This finding is echoed by a further question which the survey asked of respondents, namely to rate the extent to which they believe that their customers value a number of product characteristics. The top three valuable characteristics were quality, price and durability, with the latter being directly related to circular economy principles. By contrast, the other characteristics that feature heavily as part of circularity, namely environmentally-friendly production, reparability, recyclability and upgradability all obtained very low scores.

Thus, these results suggest that perceived consumer indifference towards key circular economy product features may also act to delay the transition towards more circular business models, given the lack of demand. Nonetheless, the perceived importance of both quality and durability also helps to create a business case for circular business models that are based on prolonging the product lifespan as much as possible.

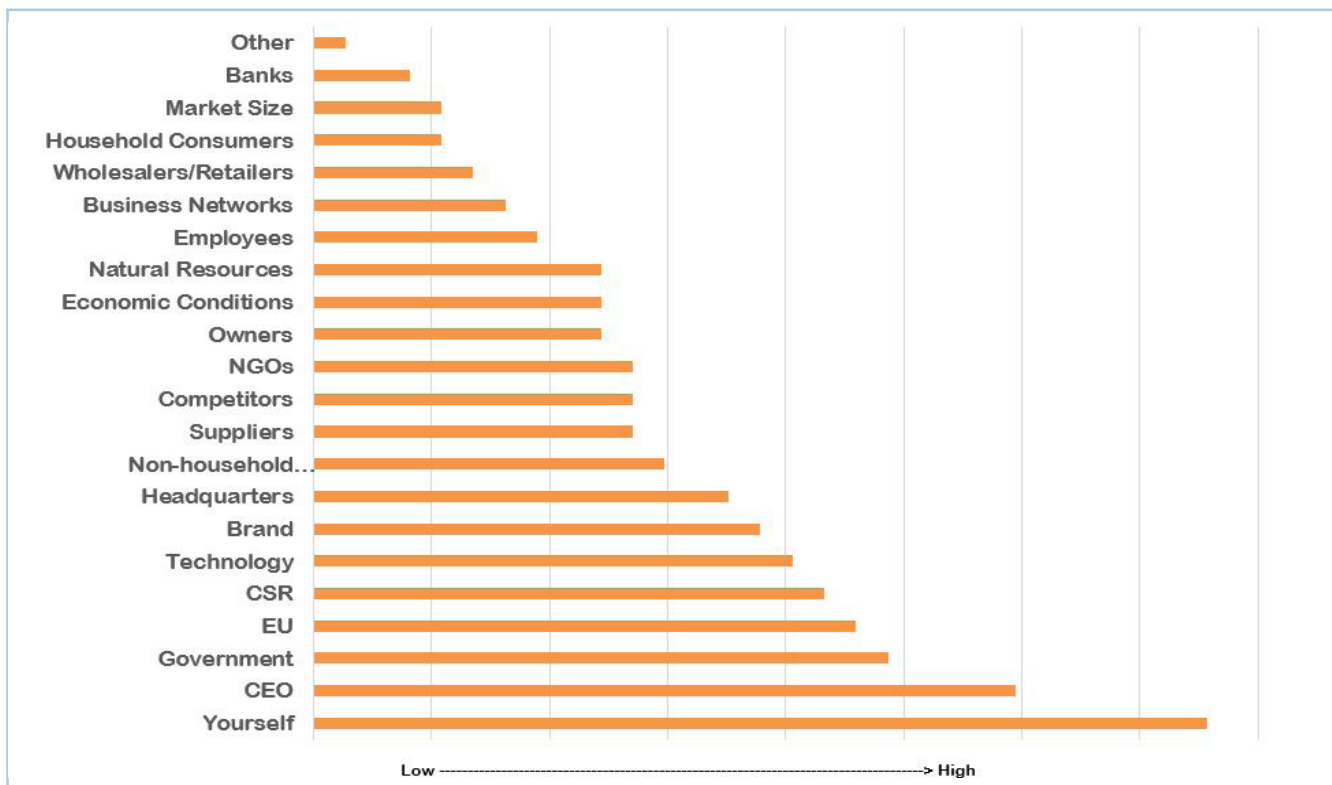


Figure 4: Influence of Various Stakeholders and Considerations on Environmental Activities

Synthesis

The following table summarises the above-mentioned barriers, enablers and solutions. It becomes clear that barriers, if tackled, can be considered as enablers for a transition to circular economy business models.

Main Barriers

- The financing of new business models coupled with taxation systems
- Resistance to change
- Perceived lack of consumer demand
- Lack of a supporting secondary raw material market
- Current linear design of products
- Lack of infrastructure

Main Enablers

- High-level commitment, with long-term business perspectives
- The personal drive and attitudes of staff in an organisation
- The promise of enhanced competitiveness
- Innovative ecosystems, partnerships and collaboration between stakeholders and competitors
- Standardisation of requirements across the value chain
- The spillover effects of international corporations on local supply chains

Other Barriers Mentioned

- Unfavourable prices and subsidies
- Financial considerations
- Lack of economies of scale
- Lack of reporting and KPIs
- Low awareness and know-how
- Competition and quality issues
- Demand for convenience
- Lack of innovation
- Lack of infrastructure and networks

Other Enablers Mentioned

- Compatible production approaches
- The use of relevant reporting and KPIs
- Stakeholder awareness
- Positive economic prospects
- Innovation and ambition
- Shared vision and certification use
- Emerging and consumer preferences
- Favourable resource prices and costs
- Availability of infrastructure and networks

Possible Solutions Mentioned

- Better understanding of the value of products and materials using better terminology, KPIs
- Engaging the whole value chain
- Improving pricing
- Supporting innovation
- Developing infrastructure and networks
- Improving management strategies and plans



Policy Context:

How can policy-makers create an enabling environment for the transition?

The EU policy framework

R2π was launched to support the objectives of the EU Action Plan for the Circular Economy, not only in the area of business models, but also in identifying and developing policies that will enable the transition.

The circular economy is one of the central policy platforms of the EU Horizon 2020 strategy, with the ambitious goal of transforming Europe's economy to boost global competitiveness, foster sustainable economic growth and generate new jobs. [Closing the loop - An EU action plan for the Circular Economy](#) is the European Commission's most recent circular economy policy, presented in December 2015. By focusing on key action areas (production, consumption, secondary raw materials, investment and innovation, monitoring, and waste management), its purpose is to guide the EU to transform the economy so as to generate new and sustainable competitive advantages for Europe.

Enablers

Policies play an important role in directing the private sector towards business transformation. As such, policy enablers, barriers and recommendations, both at EU and local level, can inform the transition from linear to circular business models.

EU policy level

At EU policy level, stakeholders view the following points as important **enablers** of circular economy business models.



The EU points at jobs, growth and better environmental performance; circular economy is a pathway to these

The EU Action Plan for the Circular Economy

Presented in 2015, its objective is to transform the economy of the European Union and its Member States in favour of sustainable production and consumption patterns, by supporting among others the transition from linear to circular business models.

EU Funding

Through programmes such as Horizon 2020, the EU provides funding to support innovation and the transition from linear to circular economy business models, contributing to sustainable business transformation across EU Member States. Other programmes are for example COSME, InnovFin, EFSI, LIFE and ESIF.

With their objective of promoting economic and social cohesion across the EU, the European Regional Development Fund (ERDF) and the Cohesion Fund (CF) can assist the transition towards circularity of EU Member States. Finally, the European Agricultural Fund for Rural Development (EAFRD) can also provide funding in favour of circular economy business models in rural economies and communities.

The EU Plastics Strategy

Since its launch in 2015, the European Commission has continued to deliver on the EU Action Plan, as proven by its recent Plastics Strategy. By addressing issues such as recyclability and biodegradability, this strategy aims at changing how products are designed, produced, disposed of and consumed, in favour of sustainability.



In addition to these areas, stakeholder exchanges conducted under R2π have allowed us to identify other important elements easing the transition towards circularity:

Regulatory measures

- EU Directives (i.e. on waste, packaging, etc.) supporting the circular economy agenda
- The EU Ecolabel, to certify services and products with low environmental impact

Harmonisation and advice

- The Product Environmental Footprint (PEF) methodology, to assess the environmental impact of goods and services over their life cycles
- The Organisational Environmental Footprint (OEF) method, to measure the environmental impact of organisations providing goods/services from a life cycle perspective

Other forms of financial support

- Support coming from development banks (European Investment Bank, European Bank for Reconstruction and Development)

National and local policy perspective

From the local policy perspective, important **enablers** for stakeholders are:

Governmental Circular Economy priorities in developing smart specialisation strategies

Through partnerships between public institutions, businesses and research institutions, national smart specialisation strategies aim at supporting sustainable and inclusive growth. By including the transition to a circular economy as a priority in these national strategies, local authorities can promote innovation in favour of circular business models.

Multi-stakeholder platforms

Government and council collaboration with universities and associations is important in conducting relevant research. Thanks to additional collaboration with businesses and citizens, policies and projects can be viewed from both private and societal perspectives, allowing value to be maximised for all.

Citizen engagement and individual level of awareness

The active participation of citizens is essential in pushing local sustainability agendas forward. Citizen bottom-up initiatives in favour of a circular economy contribute to achieving the systemic change needed for circular business transformation to occur.



Over and above the previously listed enablers, other **local level policy-related factors** are viewed by stakeholders as enablers of circular business model implementation:

Plans and targets

- Climate plans and carbon neutral targets, especially at city level, to guide local council efforts

Engagement in policy development

- Bottom-up approach to policy development that leads to greater social engagement
- Policies in favour of key national clusters to foster cooperation and innovation by promoting the agglomeration of economic entities collaborating towards circularity

Awareness raising

- Awareness raising campaigns, possibly focused on action-based initiatives (clean-up activities, hands-on workshops, etc.)

Dedicated support

- Encouragement of local artisans to promote reusing and repairing of materials/goods (e.g. supporting cobblers, tailors, etc.)



**We collaborate
with academics,
businesses,
governments and
citizens!**

Barriers

Policy, especially that designed for other goals, may also present barriers to the adoption of circular economy business practices.

EU policy level

Three key barriers negatively affecting implementation at EU level are the following:

1. Taxation and regulatory barriers to the use of secondary raw materials

Market-based incentives supporting the transition towards circularity are lacking. Most importantly, due to current taxation patterns, virgin raw materials are often cheaper than secondary ones, weakening incentives to engage in business transformation. Other than costs, regulations also get in the way of using secondary raw materials.

2. Lack of harmonisation across EU Member States

EU regulations are not equally applied by Member States. The differences in the enforcement of the EU framework challenge the EU's objective of becoming a circular economy leader in the global scenario.

3. Absence of an integrated recycling plan across the EU

For recycling to be feasible, high volumes of waste are required. Currently, there is no integrated recycling plan across EU Member States. The development of such a plan would allow for the collection of sufficient waste volumes required for efficiency to be achieved.

Additional factors identified as obstacles to the implementation of circular business models include:

Prices

- Externalities not being included in cost-benefit analysis, meaning environmentally-damaging products are relatively cheap
- Lack of distinction in regulations between circular and non circular businesses (e.g. double tax for upcycled products)

Piecemeal approach

- Lack of a holistic approach to circular economy initiatives (e.g. reused products do not diminish recovery targets)

Other policies

- Policy landscape and market signals in support of linear business models

Lack of information, KPIs

- Lack of information and clarity on the availability and eligibility of EU funds to support circularity

Local and national level

The following are three key issues identified by stakeholders as **barriers** hindering the widespread implementation of circular economy business models.

1. Public procurement led by financial criteria

Public procurement decisions are based predominantly on financial criteria, often without consideration of the environmental costs associated with linear business models. Given their important contribution to an economy's Gross Domestic Product (GDP), by not shifting demand from 'traditional' to 'circular' goods, local authorities do not contribute to incentivising the shift of businesses to circular business models.

2. Poor waste management legislation

Poor and inconsistent legislation concerning waste management represents a barrier for the achievement of a circular economy. In the absence of strong and consistent legislation, the risk occurs of having to face the inefficient high costs associated with the recycling of mixed waste, which ultimately reduces the residual value of recycling.

3. Lack of mandatory goals around circular targets

In addition to the lack of specific measurements enabling firms to assess their circularity progress, precise mandatory goals are missing. Setting clear, mandatory objectives can help cities in implementing projects linked to circular economy.

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Diverse regulatory frameworks in different markets are a huge challenge

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The public sector can powerfully drive private sector action through circular procurement

Stakeholders have also expressed concern about further barriers, namely:

Generally weak policy support

- Changing priorities due to electoral/political cycles
- Policies not allowing to take residual value into consideration for circular economy business models

Poor policy communication and enforcement

- Lack of transparency in collective schemes, as well as of information and statistics of collecting systems

Poor infrastructure, economies of scale

- Lack of infrastructure constraining individuals' ability to engage in pro-environment behaviour and possibilities for circularity to emerge

Legal barriers

- Legal barriers to making new products from waste streams
- Procurement laws based on ownership challenging circular economy business models (i.e. leasing)

How can policies support the transition?

Given the costs and difficulties encountered when engaging in business model transformation, incentives in support of the transition from linear to circular production patterns are required to facilitate the process. The objective hereafter is to consider key steps aimed at supporting this transformation.

At EU level

Tax incentives

For circularity to be achieved, it is important to create financial incentives for circular business models to be chosen over linear business models. Focus should be placed on lowering tax on labour and value-added tax on recycled products, increasing tax on virgin raw materials in favour of secondary raw materials, and on externalities.

Development of material passports and quality standards for reused/recycled products

Material passports provide detailed information on product characteristics and components. Knowing what materials are included in a product is key in contributing to a circular economy, as it allows to improve current recycling systems. An additional way of improving the recycling system would be to introduce standards for reused/recycled materials to certify their quality and technical characteristics.

Development of alternative ways to measure wealth beyond GDP

Sustainability relates to three key areas: economy, environment and society. By basing policies on GDP, initiatives are measured in economic terms only, while environmental and social factors are excluded. It is necessary to define metrics able to measure the real value to society of transitioning to a sustainable and circular economy.



Additional steps that can support the transition include:

Regulation

- Set minimum requirements for the mandatory use of reused/recycled inputs when producing goods
- Expand schemes such as Extended Producer Responsibility and ecodesign

Coordination

- Enhance coordination to ensure initiatives are interlinked (e.g. on circular economy, labelling, raw materials)

Financial support

- Integrate positive and negative externalities of both new and reused/ repaired goods to support their sale

At local level

Local authorities can assist the transition of businesses towards circularity in a variety of ways. Following, you will find three key areas of local authority intervention identified by stakeholders as crucial in this respect.

A safe area for innovation projects, out of tendering calls

Given the difficulty of getting projects out of niche and pilot levels, creating safe areas such as innovation labs allowing for solutions to be tested are key for widespread circular business model implementation. This provides the opportunity to demonstrate the validity of products, and ultimately allow for the improvement of innovations.

Scaling up green public procurement

A closer relationship between public procurement and businesses rewarding circular production models should be developed. This can increase the effort of companies to undergo sustainable business transformation, contributing to the widespread adoption of circular economy business models.

Financial support

The initial upfront costs of engaging in business transformation can be high. As mentioned, the EU provides funds to favour the transition towards a circular economy and the market uptake of circular solutions. By providing businesses with further financial support, local authorities can contribute to the practical implementation of circular business models.

The list presented above is key, but not exhaustive. Stakeholders have identified further suggestions to help local policy-makers wishing to support the circular economy business transformation:

Waste management

- Strengthen support for the repairing/recycling sector
- Shift focus from efficiency of waste management systems to reduction and prevention measures

Pricing and financial support

- Ensure externalities are considered when setting prices



We are looking for systemic solutions and holistic approaches



Awareness and communication

- Raise awareness among consumers towards demanding circular, efficient systems, as well as on ecological footprint

Further insights

Respondents in the survey were asked to assess the influence of a number of policy interventions on their business operations. The results are depicted in Figure 5.

Only two policies obtained a score that was either above or on the midpoint, namely circular economy policies and quality standards for reused/recycled materials. While it is difficult to interpret the choice of circular economy policies due to its generic nature, the relative influence of quality standards echoes earlier findings regarding the importance of such standards in order to encourage greater use of reused or recycled materials by businesses without forgoing quality, which is a key consideration for customers.

Minimum reuse/recycling input requirements also emerged as an important policy option, which suggests a greater role for more forceful government intervention in the drive towards greater business circularity.

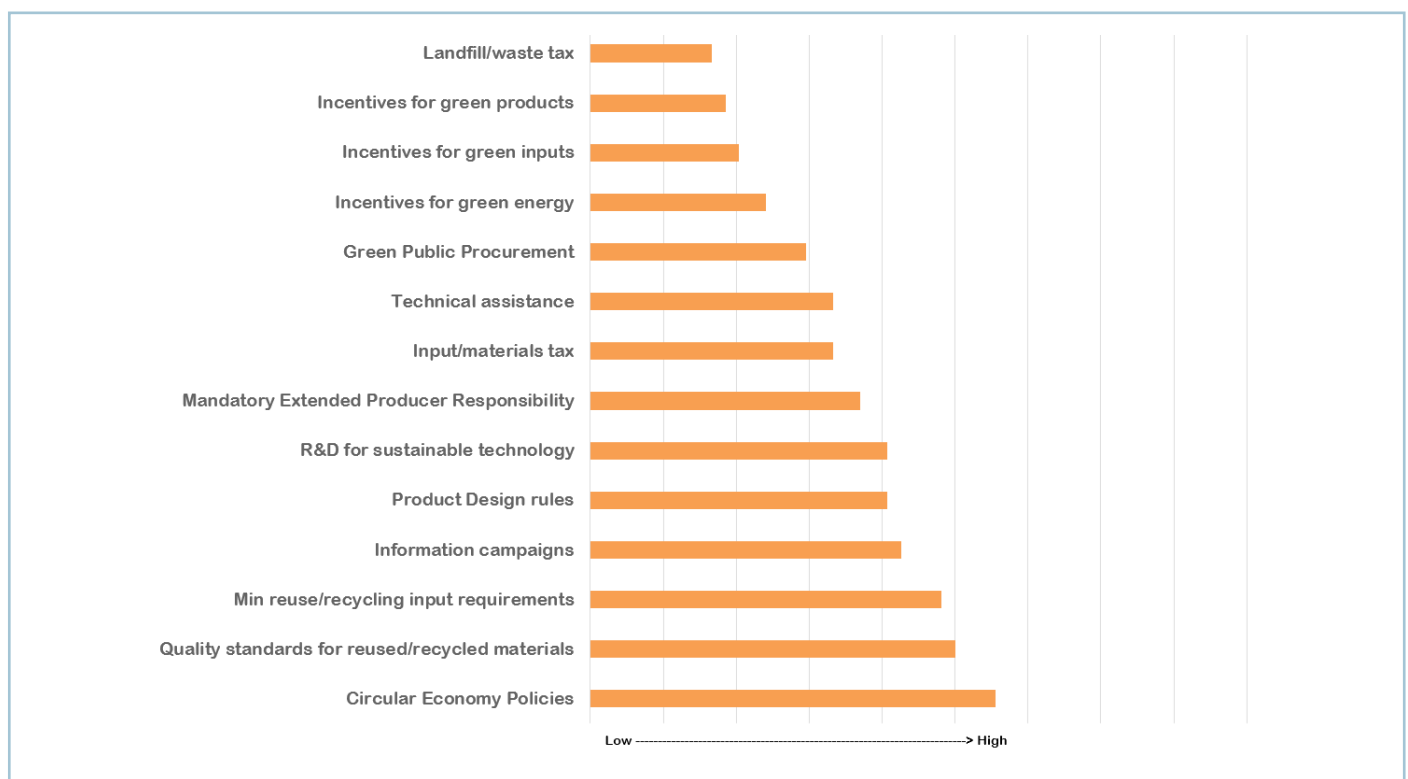


Figure 5: Influence of Policies on Business Operations

Synthesis

The following table represents a synthesis of the above **EU level policy barriers, enablers and solutions**:

EU Level Barriers

Taxation and regulatory barriers to the use of secondary raw materials

Lack of harmonisation across EU Member States

Absence of an integrated recycling plan across the EU

EU Level Enablers

The EU Action Plan for the Circular Economy

EU Funding

The EU Plastics Strategy

Other EU Level Barriers

Prices
Piecemeal approach, Policies in other areas
Lack of information, KPIs

Other EU Level Enablers

Regulatory measures
Harmonisation and advice
Other forms of financial support

SOLUTIONS AT EU LEVEL

Tax incentives
Development of material passports and quality standards for reused/recycled products
Development of alternative ways to measure wealth beyond GDP
Regulation
Coordination
Financial support

Similarly, **policy barriers, enablers and solutions at National and Local levels** are:

National & Local Level Barriers

Public procurement led by financial criteria

Poor waste management legislation

Lack of mandatory goals around circular targets

National & Local Level Enablers

Governmental Circular Economy priorities in developing smart specialisation strategies

Multi-stakeholder platforms

Citizen engagement and individual level of awareness

Other National & Local Barriers

Generally weak policy support
Poor policy communication and enforcement
Poor infrastructure, economies of scale
Legal barriers

Other National & Local Enablers

Plans and targets
Engagement in policy development
Dedicated support

SOLUTIONS AT NATIONAL & LOCAL LEVEL

A safe area for innovation projects, out of tendering calls
Scaling up green public procurement
Financial support
Waste management
Pricing and financial support
Awareness and communication

Conclusions

The stakeholder exchanges conducted by various partners of the R2π Consortium and the survey highlight that some enablers and barriers play a particularly relevant role in the journey undertaken by the EU towards circularity. **Committed leadership and engaged senior management**, as well as **clear legislation** are for example key in promoting the transition towards circular economy business models. Both the survey and stakeholder exchanges additionally underscored the importance of **strengthening local governmental policies** to support the widespread implementation of circular business models through, among other things, setting quality standards for recycled and reused materials, or by pushing for innovative initiatives.

A further important element, fundamental for businesses willing to engage in circular economy business transformation, is the bottom line. Currently, operating on linear business models seems cheaper and more financially rewarding than adopting circular solutions. **Virgin raw materials often cost less than secondary ones, and current taxation patterns are not supportive of the transition**, particularly the over taxation of labour and the under taxation of raw materials and waste, meaning circular business models sometimes represent a less profitable choice for businesses.

During the stakeholder exchanges conducted under R2π, an interesting point emerged: **for businesses, circular economy is not an end per se, but rather a means to an end, as it allows to gain business value through innovative and sustainable solutions**. For circularity to become the preferred business model, we must address the barriers and utilise the enablers. The instruments at our disposal to support this achievement are numerous. Linking circularity to the company's sustainability policy and objectives (such as corporate social responsibility strategies), and creating more favourable taxation systems to improve company margins, by for instance reducing VAT on repaired and reused goods, or by subsidising them in favour of the conservation of natural resources, are just some of the examples of what can promote the transition of the private sector towards the adoption of circular approaches.

Simply put, **work is required to ensure circular business models become the best option for companies willing to gain competitive advantage and maintain their market share while aligning their goals with society's goals**. Since the adoption of the EU Action Plan for the Circular Economy in 2015, changes in favour of circularity have been numerous and impressive. Yet, barriers both at the company level and along the value chain, as well as from a policy perspective persist. Overcoming these obstacles and seizing these opportunities is key for Europe to transition towards a more sustainable and competitive economic model, and is what will ultimately allow the EU to become the global leader in the circular economy.

The R2π Consortium has committed to assist Europe in its journey towards circularity, competitiveness and sustainability. In the months to come, it will proceed with the development of business guidelines and policy recommendations, with the objective of supporting the widespread and successful implementation of circular economy business models across the EU.

R2π Consortium Partners



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<http://in.bgu.ac.il/en/Pages/default.aspx>



Business Models Inc
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Carbon Trust
<https://www.carbontrust.com/home>



Collaborating Centre on Sustainable Consumption and Production
<http://www.scp-centre.org>



Cradle to Cradle Products Innovation Institute
<http://www.c2ccertified.org>



CSR Europe
<http://www.csreurope.org>



ESCP Europe Business School
<http://www.escpeurope.eu>



European Union of Craft Small and Medium-sized Enterprises
<http://www.ueapme.com>



Institute of Innovative Economy
<http://ingos.pl/index/index/language/en>



Jerusalem Institute for Israel Studies
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Sapir Academic College
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The Ministry of Economic Development of Poland
<https://www.mr.gov.pl/en>



University of Malta
<http://www.um.edu.mt>



University of Santiago de Compostela
<http://www.usc.es/en/investigacion/grupos/icede/index.html>



Whole Earth Futures
<https://www.wholeearthfutures.com>

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We are making a mistake to think that companies should have a goal to ‘be circular’ – we have a goal to provide useful products to our customers

”

I don't care at all about having more circular products. All I care is having more business value through sustainable products
