

# NO TIME TO WASTE:

Driving the EU's resilience  
and competitiveness through  
a circular economy

## University of Cambridge Institute for Sustainability Leadership

CISL is an impact-led institute within the University of Cambridge that activates leadership globally to transform economies for people, nature and climate. Through its global network and hubs in Cambridge, Cape Town and Brussels, CISL works with leaders and innovators across business, finance and government to accelerate action for a sustainable future. Trusted since 1988 for its rigour and pioneering commitment to learning and collaboration, the Institute creates safe spaces to challenge and support those with the power to act.

### Materials and Products Taskforce

## The Taskforce for Climate Neutral and Circular Materials and Products

The Taskforce for climate neutral and circular materials and products was created in September 2021, with the aim of driving forward policy action on sustainable materials by bringing together a group of progressive businesses across sectors and value chains. The group brings together companies that are actively committed to producing and using climate neutral and sustainable materials, and who want to work together to promote and support EU-wide measures to decarbonise material production and use.



## Corporate Leaders Group Europe (CLG Europe)

This Taskforce was founded by Corporate Leaders Group Europe (CLG Europe) which develops credible, ambitious positions amongst its membership and deploys effective strategic communications to engage with the highest levels of policy audiences. CLG Europe is diverse in its membership and representative of Europe in both geography and sector, welcoming the innovative talent of SMEs as well as leading established companies.



## The Wuppertal Institute

The Wuppertal Institute is a leading think tank for sustainability and transformation research focused on impact and practical application. Since its founding in 1991, the Wuppertal Institute's core mission has been contributing towards achieving the Sustainable Development Goals based on scientific evidence. One particular focus is on showcasing and shaping transformation processes for a climate-friendly and resource-efficient world. The work of the Institute's scientists includes researching system knowledge, target knowledge, and transformation knowledge and developing practical guidelines and strategies to support business, politics and society – at a local level, in Germany, in Europe and all around the world.



## We Mean Business Coalition

The We Mean Business Coalition is a non-profit coalition working with the world's most influential businesses to take action on climate change. The Coalition is a group of seven non-profit organisations: BSR, CDP, Ceres, CLG Europe, Climate Group, The B Team and WBCSD. Together, the Coalition catalyses business and policy action to halve emissions by 2030 and accelerate an inclusive transition to a net zero economy by 2050.

## Authors

Sanna Markkanen, Anum Sheikh, Diana Potjomkina, Martin Porter, Bianca Drotleff (CISL), Bettina Bahn-Walkowiak, Thomas Götz, Henning Wilts (Wuppertal Institute), with support from Giacomo Sebis and Krisztina Zálnoky.

## Citing this report

University of Cambridge Institute for Sustainability Leadership (CISL). (2024). *No Time to Waste: Driving the EU's Resilience and Competitiveness through a Circular Economy*. Cambridge, UK: Cambridge Institute for Sustainability Leadership.

## Acknowledgements

The authors would like to acknowledge the contributions of numerous people to the preparation of this study, including the employees of Amazon, Ball Corporation, Cemex, H&M Group, Rockwool, Saint Gobain, Signify, SSAB, SSE Renewables, Volvo Cars. While every effort has been made to faithfully reflect and build on the inputs provided, this paper does not necessarily reflect the views of these companies or the interviewees.

We also wish to acknowledge the many helpful comments of reviewers from Agora Industry, the University of Cambridge Institute for Sustainability Leadership, the We Mean Business Coalition, and the Wuppertal Institute. Special thanks are extended to Luca Achilli, Maria Åkerfeldt, Dr Eleanor Batilliet, Claudia Bierth, Agnes Borg, Céline Carré, Martin Casey, David Cembrero, Andrés Charry, Tahmid Chowdhury, Dr Kathryn Elliott, Mario Giordano, Javier Gonzalez, Owain Griffiths, Peter Handley, Jessica Haskell, Kimmo Järvinen, Martina Mazzini, Santeri Palomäki, Aylin Shawkat, Joan Marc Simon, Dominic Tscherny, Eliot Whittington, Ursula Woodburn, and Jie Zhou.

## Copyright

Copyright © 2024 University of Cambridge Institute for Sustainability Leadership (CISL). Some rights reserved. Except where otherwise indicated, the material featured in this publication is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Licence (CC BY-NC-SA 4.0).

## Disclaimer

The opinions expressed here are those of the authors and do not represent an official position of the members of the Corporate Leaders Groups and the Taskforce for climate neutral and circular materials and products, CISL, the wider University of Cambridge, or clients.



# EXECUTIVE SUMMARY

**This report examines the business case for EU action on the circular economy, which is currently receiving growing political and policy interest. It provides key recommendations in view of Commission President Von der Leyen's commitment to proposing a new Circular Economy Act as a priority in her upcoming mandate. This will be especially significant for businesses eager to innovate for sustainability and fully harness the potential of the circular economy transition. For these reasons, the need to accelerate the circular economy transition is also at the centre of CLG Europe's agenda for action by the new European institutions in the upcoming five-year term.<sup>1</sup>**

This report is therefore an opportunity to dive into these questions in more detail. It reviews the progress that the EU has made in creating a supportive policy environment for this transition. It then identifies the policy gaps, inconsistencies and stakeholder needs that must be addressed during the next five years to facilitate a swift and effective shift. By examining four systemic drivers and dimensions of change (policy and governance, capital allocation, market demand, and societal engagement), the report outlines priority actions based on an analysis of existing measures and business insights into overcoming barriers. The report emphasises how a more ambitious, integrated and politically prioritised approach – through the forthcoming Circular Economy Act and other strategic EU initiatives – could accelerate the circular economy transition, contributing to the EU's competitive sustainability, industrial success, and alignment with social, environmental and economic goals.

As Enrico Letta put it in his recent report, "Circular economy is the only possibility of saving the planet and changing the paradigm of present manufacturing."<sup>2</sup> The shift towards a circular economy is increasingly seen as vital not only for its core benefits – such as reducing waste, curbing overconsumption

and mitigating environmental harm from resource exploitation – but also for achieving broader goals. For the EU, it will play a critical role in securing strategic autonomy and resilience by reducing reliance on imports and promoting the reshoring of industrial activities. It will also support climate neutrality, nature conservation, clean industrial growth, cost savings for businesses, and the creation of new business models and high-quality employment. Without the circular economy, many of the EU's strategic objectives will be unattainable.

During the past five years, the EU has made significant strides in developing policies and legislation to promote a more circular economy, particularly through the Circular Economy Action Plan. While these efforts deserve recognition and ongoing support, they also require critical evaluation to identify what further progress is needed – both through the design and implementation of new policies and adjustments to existing ones. Although the current policies have not yet had enough time to fully deliver the environmental, economic and social benefits that they have been designed to produce, it is clear that more work remains, both at the policy level and among other stakeholders, including businesses. Despite these measures, the EU's economic model remains largely linear, with low demand for circular materials, products and services, and insufficient incentives for innovation. Additionally, there is a considerable implementation gap at the Member State and local levels.

Similarly to how the European Green Deal has aimed to act as a growth strategy by driving the development of global net zero markets and encouraging businesses to meet the rising demand for clean products and services, the EU's circular economy policies have sought to send a strong signal to businesses. Through its R&D programmes, funding support, and specific legislation on products and materials (eg packaging, electronics and cars), including the Ecodesign for Sustainable Products Regulation and Digital Product Passports, the EU has sought to foster an enabling environment to position its companies as global leaders in key circular technologies for construction,

heavy industry and textiles.<sup>3</sup> However, more needs to be done to strengthen the existing policies to generate outcomes at a faster pace. The existing strategies should also be aligned with new and emerging policy frameworks, such as the Net Zero Industry Act, to further drive investment in circular economy industrial development within the EU.

In this report, we explore the opportunities and challenges in accelerating the transition to a circular economy and provide policy recommendations for the forthcoming Circular Economy Act, focusing on the business perspective and how the Act could support the EU's resilience and competitive sustainability. We highlight barriers and actions identified by companies across various sectors, from apparel to cement and packaging to energy.

The report adopts a systemic view of the transition to a circular economy, linking changes in production and consumption patterns to broader systemic shifts in:



**Policy and governance,**  
including ambition and coherence.



**Capital allocation,**  
including public financing and private sector investment.



**Market demand,**  
including research and development into circular innovation and technologies and investment in a strong and circular Single Market.



**Societal engagement,**  
to ensure that the circular economy transition is just, inclusive and publicly supported.

These four systems are interconnected, and achieving a successful transition to a circular economy requires coordinated action across each of them, supported by an EU-level strategic objective on circular economy that is integrated into the bloc's and Member States' wider strategies, policies, and regulatory and financial instruments.

### Policy and governance

Policy and governance are crucial drivers of the business transition to a circular economy. Although several important circularity initiatives have been adopted, the overall strategy lacks the priority and coherence needed to maximise impact and support structural changes. The EU must implement a more ambitious and comprehensive policy framework that clearly shifts from a linear to a circular economy. This will require reframing the approach to waste, setting new goals and metrics for materials management, ensuring policy coherence, delivering on existing commitments, establishing consistent and ambitious standards, reducing transaction costs for circular projects and providing fiscal incentives for circular activities. Rather than treating the circular economy transition as a discrete environmental issue, it must be central to economic strategy and a vital part of the new Industrial Deal. This must be accompanied by senior-level decision-making responsibility

within the European Commission to ensure effective oversight and implementation across EU institutions.

### Capital allocation

Access to finance will be crucial for driving the reforms needed for the circular economy transition, with both private and public funding playing essential roles. Currently, investment in circular economy solutions is hindered by a persistent linear mindset among investors, leading to a shortage of private finance. Additional barriers include insufficient data on capital deployment, low awareness, complex requirements for accessing EU funding and inadequate public funding at the Member State level. Policymakers could improve access to finance by strategically leveraging public funds, such as investing in circular infrastructure and de-risking private investments. These efforts should be integrated into the development of the EU's industrial strategy and a potential Clean Industrial Deal.

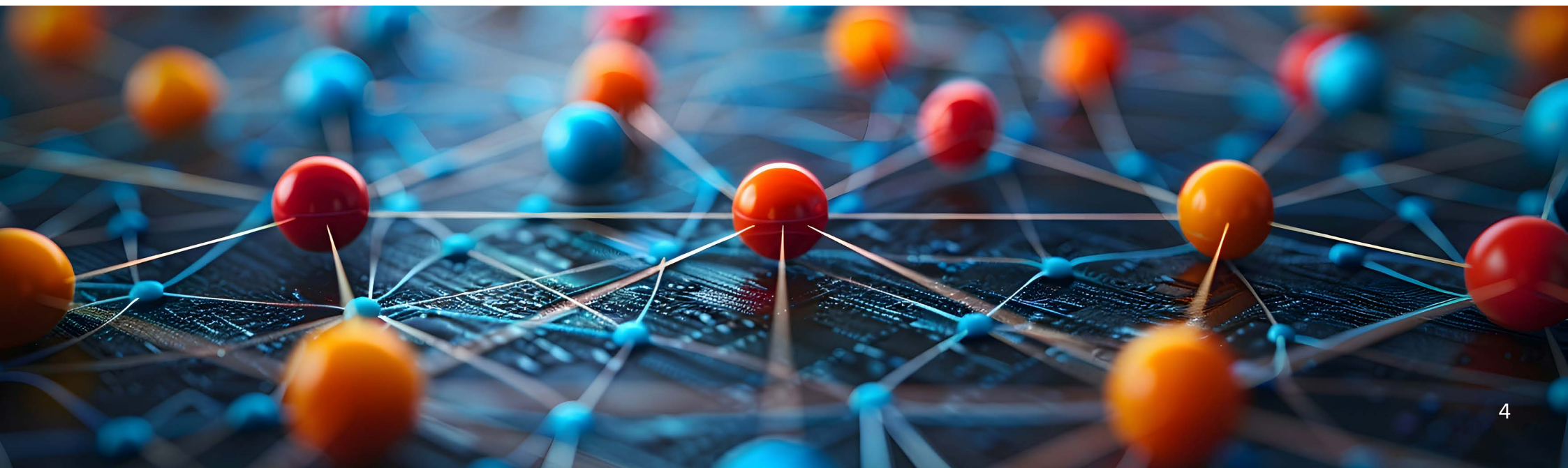
### Market demand

Research and innovation in circular designs, technologies and business models are crucial for ensuring the technological feasibility and commercial viability of the circular economy. Current barriers to the circular economy transition include

both supply-side challenges, such as high upfront transition costs, and demand-side issues, such as weak consumer and producer demand for circular materials and products. Additionally, the EU allocates only 2.3 per cent of its GDP to research and innovation, which is below the global average of 2.66 per cent.<sup>4</sup> To overcome these barriers, it will be essential to create lead markets through policies such as recycled content requirements, especially in public procurement, enhance the EU's innovation capacities and harness digitalisation for the circular economy.

### Societal engagement

A fair and efficient transition to a circular economy will require broad societal participation – as consumers, workers, entrepreneurs and voters. Currently, societal barriers include insufficient changes in consumer behaviour, low awareness of circular economy benefits, a persistent linear mindset and uncertainty about the labour market impact of the transition. These challenges could be partially addressed by encouraging and incentivising sustainable choices, ensuring that circular jobs are high-quality jobs, providing workers with the necessary upskilling and reskilling opportunities, and implementing strategies to support a just transition within and beyond EU borders.



# TABLE OF CONTENTS

<b>Executive summary</b> .....	<b><u>3</u></b>
<b>1. Introduction</b> .....	<b><u>6</u></b>
Defining circular economy (CE) .....	<u>7</u>
Systems-based approach to circular economy .....	<u>8</u>
<b>2. Circular economy in the EU</b> .....	<b><u>9</u></b>
The rationale for moving to a more circular economy .....	<u>9</u>
The current European policy framework .....	<u>11</u>
Key progress gaps .....	<u>12</u>
<b>3. Policy and governance</b> .....	<b><u>14</u></b>
Align strategies, objectives and policies across the EU .....	<u>14</u>
Implement consistent, ambitious and effective targets and standards ...	<u>17</u>
Provide regulatory certainty .....	<u>18</u>
Strengthen the links between the EU's circular economy and bioeconomy strategies .....	<u>18</u>
<b>4. Capital allocation: private investment and public financing</b> .....	<b><u>19</u></b>
Align public funding instruments to incentivise private investment .....	<u>19</u>
Direct public funding to address key barriers to circularity .....	<u>20</u>
Monitor and measure the deployment and impacts of investment .....	<u>20</u>
<b>5. Market demand: creating a strong circular Single Market</b> .....	<b><u>21</u></b>
Improve the competitiveness of circular economy solutions .....	<u>21</u>
Create lead markets for circular products and materials .....	<u>23</u>
Support, promote and mandate circular product design .....	<u>23</u>
Improve data collection and reporting on embedded emissions and material composition .....	<u>24</u>
<b>6. Societal engagement</b> .....	<b><u>25</u></b>
Encourage and incentivise sustainable choices .....	<u>25</u>
Foster circular employment opportunities for just transition .....	<u>26</u>
<b>7. Conclusions</b> .....	<b><u>28</u></b>
Policy recommendations .....	<u>29</u>
<b>Annex: delivery on the key actions of the 2020 circular economy action plan</b> .....	<b><u>30</u></b>



# 1. INTRODUCTION

**The EU is grappling with critical challenges that threaten its current and future wellbeing. These include reliance on material and fossil fuel imports, price volatility, climate emergency, environmental degradation and the risk of deindustrialisation as companies shift production outside the EU. To preserve its social cohesion, prosperity, resilience and competitiveness<sup>5</sup> – and to future-proof its economy against climate change – the EU needs to reduce waste and import dependency, and to improve the secure supply of materials and products that are critical for the low carbon transition across all sectors of the economy. Circular economy, alongside improved energy efficiency and the shift away from fossil fuels, could provide synergistic and sustainable solutions to these challenges.<sup>6</sup>**

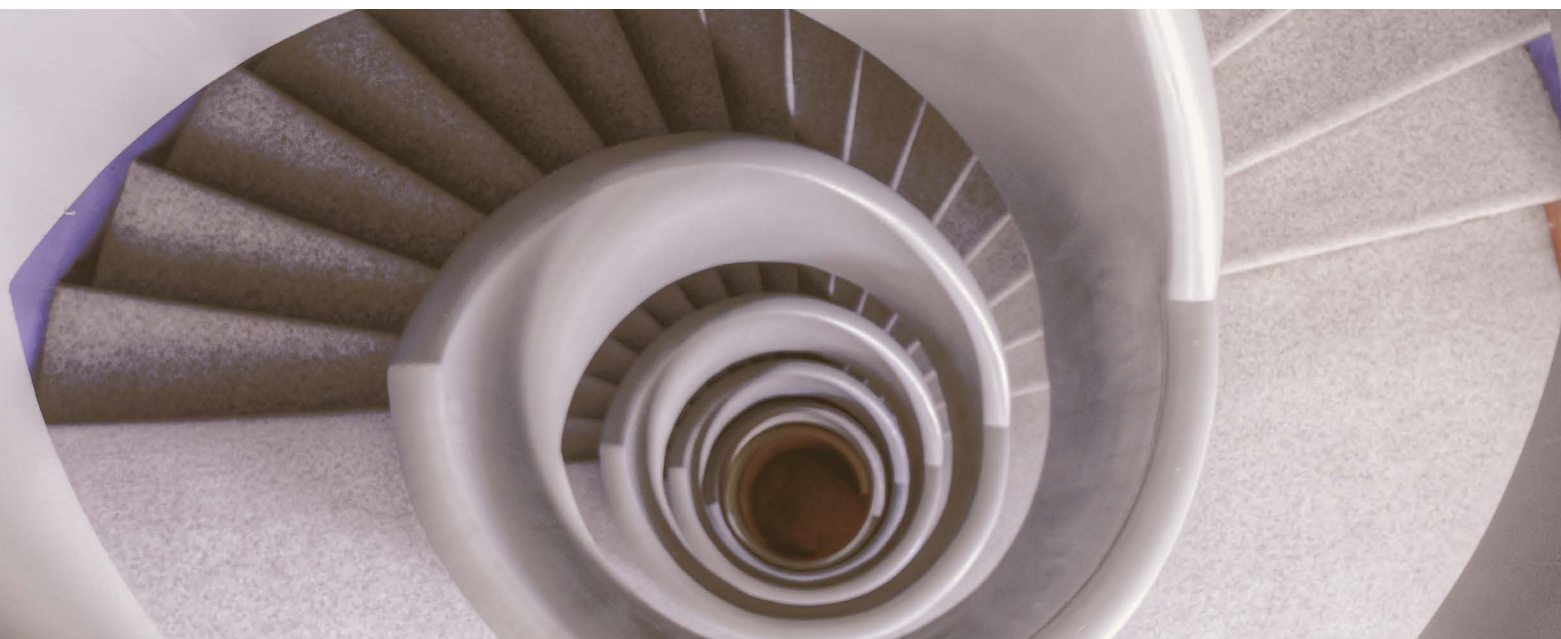
Given the role of circularity in achieving the EU's strategic goals, it is essential to establish it as a strategic priority and integrate it into the EU's policy and financial instruments. This

will require the design and implementation of regulatory and legislative measures to enable circular activities (as shown in Figure 1), and also the provision of essential infrastructure to improve the viability of circular economy practices and business models.

At present, political momentum for a circular economy is growing. The goal of “a more circular and resource-efficient economy” was featured in the EU Strategic Agenda 2024–2029,<sup>1</sup> and was highlighted as a key area to develop in the Letta Report on the future of the Single Market – according to Letta, “Circular economy is the only possibility of saving the planet and changing the paradigm of present manufacturing.”<sup>7</sup> It also featured in the election manifestos of several EU political party groups, the Antwerp Declaration for a European Industrial Deal,<sup>8</sup> and the EU Council's conclusions linking the block's competitiveness and resilience to circularity on 24 May 2024.<sup>9</sup> Ursula von der Leyen (reappointed as the European Commission president for a second five-year mandate in July 2024) has promised to present a new Circular Economy Act – a key policy priority together with European

competitiveness.<sup>2</sup> Her political guidelines, published ahead of the election, pledge to introduce a new Circular Economy Act aimed at creating market demand for secondary materials and establishing a Single Market for waste.<sup>10</sup>

To reap the full benefits of a circular economy, the EU as a whole, including all of its Member States, needs to transform how it uses resources from an unsustainable and wasteful linear economic model to a circular one – a core goal of its overall strategy. Building on the Strategic Agenda and other recent political commitments to it, much greater circularity is a strategic priority for the EU. As illustrated by the business case studies in this report, progressive businesses are eager to adopt more circular practices. However, they require supportive contextual conditions and infrastructure to make this shift possible: an EU-level strategic objective on circular economy must be integrated into the block's and Member States' wider strategy, policy, and the regulatory and financial instruments to facilitate this transition. Member States will also need to play an active role in implementing the changes that will enable the circular economy transition.



In this report, we explore the opportunities and barriers associated with an accelerated transition to a circular economy, emphasising the benefits of a circular and durable design, reuse, repair, remanufacturing and recycling. Although the early discussions around a circular economy were heavily influenced by the environmentalist movement, it will offer broader economic and strategic benefits, including:

- enhancing strategic autonomy by decreasing reliance on imports
- advancing climate neutrality by 2050, and conserving nature by reducing demand for energy and natural resources
- lowering greenhouse gas emissions by reducing demand for energy-intensive virgin materials mainly produced using fossil fuels
- reducing pollution and waste
- supporting the reshoring of industrial activity in Europe in the manufacturing sector by integrating recycled materials into manufacturing processes
- offering energy and materials savings to businesses, as well as savings related to waste disposal, and opening up opportunities for new business models
- generating decentralised employment, especially through repair, reuse and recycling activities.

### Defining circular economy (CE)

Various definitions of circular economy have emerged over the years but the central concept revolves around actions that involve *closing* (eg recycle, remanufacture), *slowing* (eg reuse, repair) and *narrowing* (eg rethink, reduce) resource loops.<sup>11</sup> Most recently, the international definition of a circular economy included in the new ISO 59004 standard is that of “*economic system (3.1.2)* that maintains a *circular flow of resources (3.1.6)* by recovering, retaining or adding to their *value (3.1.7)*, while contributing to *sustainable development (3.1.11)*”.<sup>12</sup>

There are also diverse classifications of circular economy activities, known as Rs, because of the first letter of each activity. These range from 3 Rs (reduce, reuse, recycle), to a more granular list of 10 Rs (refuse, rethink, reduce, reuse, repair, refurbish, remanufacture, repurpose, recycle, recover),<sup>13</sup> and to a list of 13 priority actions.<sup>14</sup> The Rs are ranked on the degree of

circularity: higher and more desirable levels of circularity mean that materials in the product chain retain their value and remain in circulation for as long as possible<sup>15</sup> – and are therefore often referred to as the ‘higher R’ strategies or actions. The same logic applies in the EU’s waste hierarchy:<sup>16</sup> higher R strategies are those that help to preserve the value of the materials as long as possible, whereas lower R strategies involve a greater loss of value.

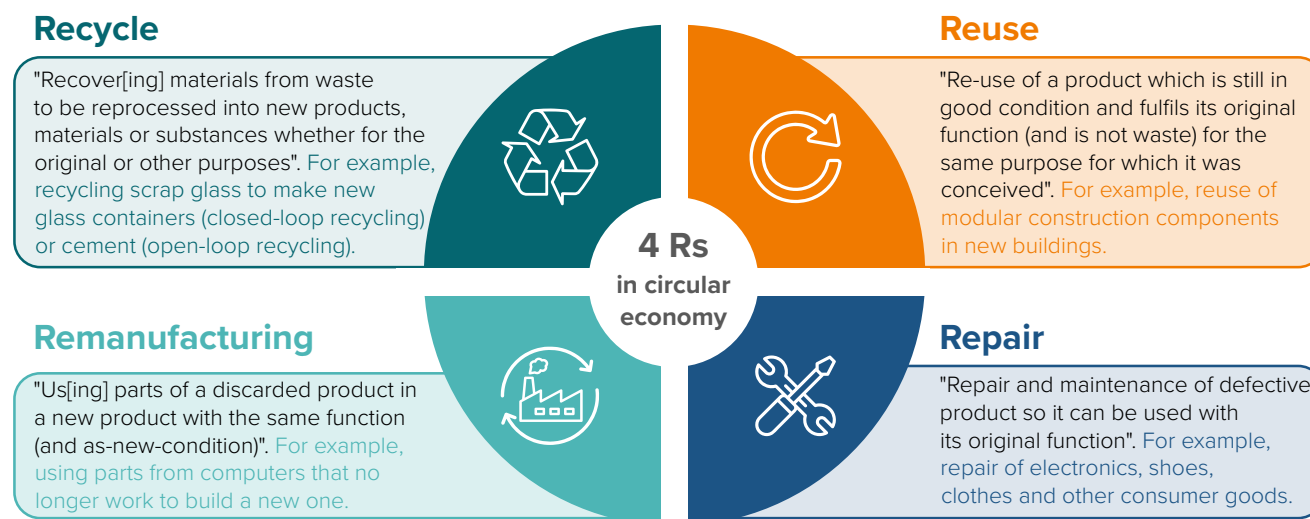
In this report, we use the EU’s EUR-Lex portal’s definition of circular economy as “a system where products are reused, repaired, remanufactured or recycled”,<sup>17</sup> with reuse being the highest-level R among the four, and recycling the lowest. Definitions and examples of these strategies are shown in Figure 1.

When we speak of the ‘transition to a more circular economy’ or the ‘circular economy transition,’ we envision a profound shift from a linear to a circular economic model. While a fully circular economy may be difficult to achieve, our focus should be on driving as close to that goal as possible through incremental

change over time, at a pace of change that is radically faster than current and recent progress. In this report, we use the concept of ‘circular economy transition’ to refer to the process as well as to the ideal outcome of the increased adoption of circular economy practices and business models.

It is also important to acknowledge that circular economy transition alone will not enable the EU to achieve its environmental and climate objectives, but must be implemented alongside other actions to reduce emissions, decarbonise the economy and reduce the impact that economic activities have on nature. For example, while the City of Amsterdam aims to achieve a 100 per cent circular economy by 2050,<sup>18</sup> a circular economy alone is unlikely to satisfy all of the material needs of the city’s population, and must therefore be complemented by the decarbonisation of energy-intensive industries and activities. What is certain, however, is that linear economic practices should only be a last resort, reserved for instances where circularity is technologically unfeasible.

**Figure 1:** Key circularity strategies (also known as the 4 Rs)



Source (for the definitions): European Commission, Directorate-General for Research and Innovation, Christian Schempp and Peter Hirsch, "Categorisation System for the Circular Economy – A Sector-Agnostic Categorisation System for Activities Substantially Contributing to the Circular Economy" (Luxembourg: Publications Office, 2020), p. 7. <https://data.europa.eu/doi/10.2777/172128>.

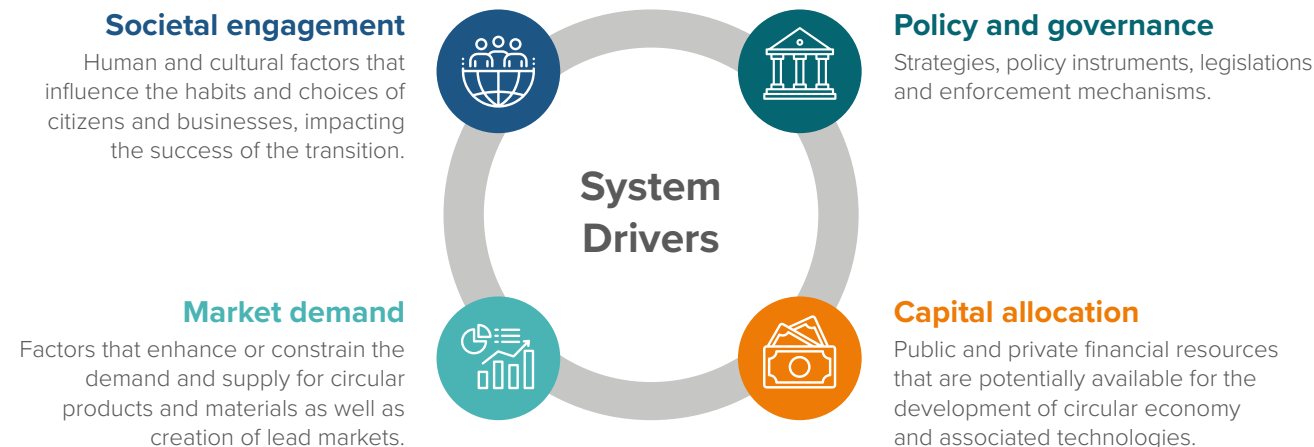
## Systems-based approach to circular economy

In this report, we adopt a system drivers approach to circular economy, which involves looking at how factors across the broader ecosystem may hinder or enable the transition to a more circular economy in the EU. Systems-based approaches to circular economy are well established in the literature,<sup>19</sup> and the EU's own 2015 and 2020 Circular Economy Action Plans have objectives that stretch across several systems.<sup>20,21</sup> Given the scope of the transition to a circular economy, which mandates fundamental changes in our economic model, co-ordinated action across systems is essential.

We have chosen to focus on four key system drivers: (1) policy and governance; (2) capital allocation, (3) market demand and (4) societal engagement (see Figure 2). To establish supportive contextual conditions for circular economy practices, the next EU institutions need to adopt a clear vision and strategy for advancing the transition to a circular economy over the next five years and beyond. The system drivers approach will be helpful in informing the process of developing a circular economy strategy that builds on the legacy of the European Green Deal, while also integrating supply and demand drivers for circular, recyclable, repairable and reusable materials and products, and the regulatory and financial solutions to support these.

**Policy and governance** covers the strategies, policy instruments, legislations and enforcement mechanisms that impact the development of a circular economy in the EU. These may include general planning regulations, specific product regulations, waste codes, reporting and monitoring requirements, and regulatory and fiscal incentives and disincentives. **Capital allocation** refers to the financial resources – both private investment and public financing – that are potentially available for the development of circular economy and associated technologies. **Market demand** involves factors that enhance or constrain the supply of or demand for circular products and materials, including technologies, market imbalances, product design and innovation, business models and creation of lead markets. **Societal engagement** indicates human and cultural factors that influence the habits and choices of citizens and businesses, impacting the success of the transition towards a circular economy. This includes skills, knowledge, demographics, wealth,

Figure 2: System drivers for circular economy



Source: Designed by CISL, building on a dynamic system drivers framework in Ari Ball-Burack, Pablo Salas and Joshua Whyatt, "Navigating low carbon disruption: Systems thinking and dynamic system drivers in power, road transport and agriculture" (Cambridge, UK: University of Cambridge Institute for Sustainability Leadership (CISL), 2023), [https://www.cisl.cam.ac.uk/files/navigating\\_low\\_carbon\\_disruption.pdf](https://www.cisl.cam.ac.uk/files/navigating_low_carbon_disruption.pdf).

and social norms and expectations. For the transition to a circular economy to be effective, these systems need to work synergistically to support, incentivise and accelerate it.

Our analysis and recommendations draw on desk research, the previous work published by the Materials and Products Taskforce, and insights obtained from business stakeholders during a workshop and interviews that were organised to inform this project, as well as insights from business and non-business reviewers. This report begins with an overview of the rationale for transitioning to a more circular economy and a brief critical evaluation of the progress that has, so far, been achieved in forming a competitive, sustainable and just circular economy in the EU (Chapter 2). Chapters 3 to 6 each focus on one of the four system drivers identified above, providing a business view of the core obstacles and enablers, as well as accompanying policy actions, pertaining to, respectively, policy and governance; private investment and public financing; markets, technology and innovation; and societal factors. Chapter 7 concludes with a comprehensive overview of how the circular economy can be strengthened during the next EU strategic cycle.



## 2. CIRCULAR ECONOMY IN THE EU

**In this chapter, we state the rationale for transforming the EU economy towards a more circular model, highlighting the environmental, economic and social benefits this could deliver. We then outline the current circular economy policy framework in the EU, and discuss some of the key gaps where the existing policies have, so far, failed to deliver substantial progress.**

### **The rationale for moving to a more circular economy**

The current linear ‘take-make-dispose’ system is unsustainable as it adversely impacts the environment and people’s wellbeing, and also the EU’s competitiveness and resilience in the global economy. Boosting material and product circularity is a strategic necessity for a broad range of environmental, economic and social reasons. This was recognised in the June 2024 Council Conclusions, which stated that “the transition to a circular economy, for both finite and renewable materials, will serve as a tool to lower pressure on climate, natural resources and ecosystems, with the additional benefit of being an economic and industrial accelerator for Europe, driving systemic and sustainable innovation and employment while increasing the EU’s self-sufficiency in critical raw materials”.<sup>22</sup>

From an environmental point of view, European material consumption has far exceeded sustainable levels, contributing to the global triple crisis<sup>23</sup> of climate change, biodiversity loss and pollution. In 2022, the average per capita CO<sub>2</sub> material footprint\* in the EU-27 was 14.9 tonnes, up by 900 kg per person since 2013.<sup>24</sup> This is more than double the sustainable consumption level, which the International Resource Panel estimates to be approximately 6–8 tonnes per capita.<sup>25</sup> If urbanisation continues without the necessary changes to the built environment, mobility systems and consumer lifestyles, this figure is projected to rise further.<sup>26</sup> Such overconsumption is incompatible with Europe’s ambition to become the first climate neutral continent by 2050, especially considering the International Resource Panel’s prediction of continued increases in the coming decades.<sup>27</sup>

High resource consumption correlates with high waste generation. Despite waste prevention being the top priority of the European Waste Framework Directive (adopted in November 2008 and last amended in 2023), the EU generated 2,135 million tonnes of waste in 2020 from all economic activities and households. This equates to 4,815 kg of waste per capita,<sup>28</sup> or more than the weight of three average-sized European cars.<sup>29</sup> However, this figure reflects only a fraction of

the total waste associated with the European economy, as it excludes waste generated during the mining and production of imported materials, and also waste legally or illegally shipped outside of Europe.

From an **economic** point of view, circularity will bolster the EU’s strategic autonomy and enhance the competitiveness of its companies. The past five years have exposed the risks of heavy reliance on imported energy and primary raw materials, highlighting vulnerability to global market price fluctuations. In industry, circularity represents one of the most cost-effective strategies to decarbonise the sector.<sup>30</sup>

By focusing on the targeted recovery of essential raw materials, the European economy can strengthen its resilience<sup>31</sup> and unlock new business opportunities, as previous Taskforce reports have demonstrated.<sup>32,33,34</sup> To improve their long-term competitiveness, an increasing number of companies, business associations and trade unions are advocating for an ambitious circular economy framework to create a level playing field for circular business models and support circular innovation.<sup>35,36,37,38</sup>

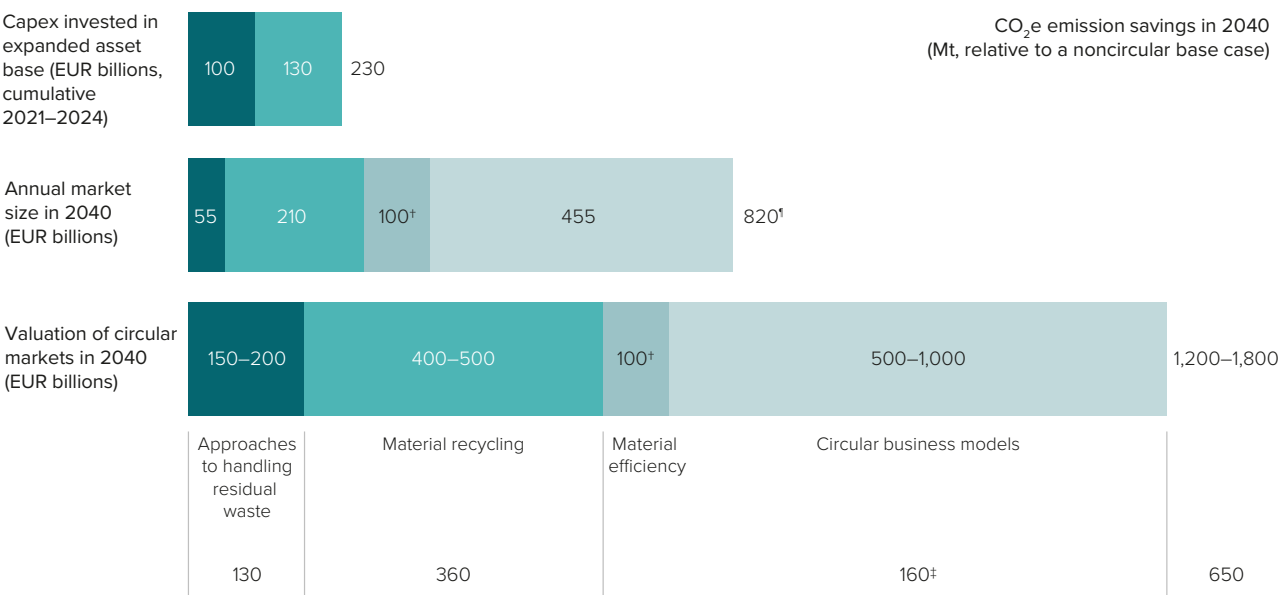
\* The ‘material footprint’ indicator quantifies the worldwide demand for material extraction (biomass, metal ores, non-metallic minerals and fossil energy materials/carriers) triggered by consumption and investment by households, governments and businesses and is measured as raw material consumption (RMC). It represents the amount of material in terms of Raw Materials Equivalent (RME) needed (or, the amount of extraction, domestic and abroad, required directly and indirectly) to produce the products consumed in the reference area.

In addition to enhancing the EU’s resilience, autonomy and competitiveness, the circular economy also offers a significant investment opportunity, as the circular economy transition will require the development of a new asset base. According to estimates from a private equity firm, the potential investments, market opportunities, valuation and CO2 savings could reach EUR 1 trillion by 2040, with only EUR 230 billion needed for investments in physical and infrastructure assets – an almost 1:4 ratio of investment to yield<sup>39</sup> (see Figure 3).

Since 2004, the EU has made notable progress, with economic gains, in harnessing the reduction of waste sent for disposal, which decreased from 1,027 million tonnes in 2004 to 806 million tonnes in 2020 – a decrease of 21.5 per cent. The share of disposal in total waste treatment also dropped from 54.1 per cent in 2004 to 40.9 per cent in 2020. However, despite these improvements, much waste is still disposed of in sanitary landfills, leading to the loss of valuable raw materials for European industry. Additionally, some of this waste is exported abroad, with approximately 32.7 tonnes, or approximately 1.5 per cent of the total, being sent to emerging economies such as Turkey in 2020 – a significant increase from 2004.<sup>40</sup> To capitalise on the economic potential or circularity and leverage it to strengthen the EU economy, close collaboration between EU businesses, investors and policymakers will be needed to improve raw material recovery rates and reduce waste exports.

From the **social** perspective, the circular economy could create approximately 700,000 new jobs within a decade.<sup>41,42</sup> According to external estimates summarised by RREUSE, circular economy activities generate a significantly higher number of jobs than landfilling or incineration: for every 10,000 tonnes of used goods, incineration creates one job, landfilling creates six jobs and recycling creates 36 jobs.<sup>43</sup> RREUSE’s own data also shows that the enterprises in its network that are active in reuse create approximately 700 jobs per 10,000 tonnes of material that they process, ranging from 200 to 1,400 jobs depending on the sector (see Figure 4).<sup>44</sup> While proactive policy is needed to enable the job creation potential and mitigate any negative impacts, the transition will open up significant opportunities to create sustainable, decentralised jobs across various sectors.<sup>45</sup>

**Figure 3:** Summary of investment opportunities within the circular economy in 2040



Source: Summa Equity, “Investing in a Circular and Waste-Free Europe” (Stockholm, 2023), <https://summaequity.com/wp-content/uploads/2023/04/230417-Investing-in-a-circular-and-waste-free-Europe.pdf> (reprinted with permission)\* © Summa Equity AB

\* Note on the figure from original source: †The circular market (annual revenues) is ~EUR 160 bn already today (the largest markets include recommerce for fashion and electronics, and recycling of steel); ‡Material efficiency refers to material reuse and reduction, resulting in lower material consumption—there is no revenue generation in this activity and hence the revenue figure is better explained as economic value, which is also kept constant in the valuation; †The CO<sub>2</sub>e savings from both circular business models and material efficiency are achieved through reduced demand for virgin material production and have not been separately estimated but contribute to the same reduction. Note that emission reductions from circular business models not attributable to material savings are not included. E.g., mobility sharing may reduce the total fuel consumption, or accelerate the transition to electric vehicles. Resulting CO<sub>2</sub>e savings are not included in this paper [the original Summa Equity report]

**Figure 4:** Number of jobs created per 10,000 tonnes of used goods



Source: Designed by CISL, based on data summarised and provided by RREUSE, see RREUSE, “Briefing on Job Creation Potential in the Re-Use Sector” (2015), and RREUSE own data, see RREUSE, “Briefing: Job Creation in the Re-Use Sector: Data Insights from Social Enterprises” (April 2021), <https://www.rreuse.org/wp-content/uploads/04-2021-job-creation-briefing.pdf>.

## The current European policy framework

The circular economy stretches across policy areas, including environment, climate, industry, employment, wellbeing, innovation, finance and competition. Depending on the policy area, decision-making and implementation may fall under the competence of the EU, Member States or local authorities, which complicates the co-ordination and implementation process. European institutions can set the overall framework and policy direction in Europe by developing strategies, action plans, legislations, recommendations to the Member States and collaboration platforms to promote circularity across Member States. However, it is important to consider the limitations of the EU's reach and the need for complementary actions at the national and local level.

The first Circular Economy Action Plan (CEAP), which aimed to promote “[t]he transition to a more circular economy” by “focuss[ing] on action at EU level with high added value”, was published in 2015.<sup>46</sup> Since then, the topic has increased in strategic importance and therefore focus in policy initiatives. During the past five years, the European Commission has emphasised the circular economy's strategic relevance as “one of the main building blocks” of the landmark 2019 European Green Deal.<sup>47</sup> One key driver has been the second CEAP

adopted in 2020,<sup>48</sup> which laid out a comprehensive and, in some parts, ambitious policy agenda. The circular economy has also been addressed under the Green Deal Industrial Plan (specifically the Critical Raw Materials Act) and, most recently, in the EU's Strategic Agenda 2024–2029.<sup>49</sup>

The 2020 CEAP includes 35 EU-level measures and legal acts, which have delivered varying degrees of progress since their adoption.<sup>50</sup> It is intended to serve as a “guideline for the transition in *all* sectors”,<sup>51</sup> but prioritises seven key product value chains that are considered central to the implementation of the circular economy because of their high use of resources and potential for circularity.<sup>52</sup> These priority areas include:

- construction and buildings
- food, water and nutrients
- plastics
- packaging<sup>53</sup>
- batteries and vehicles
- textiles<sup>54</sup>
- electronics, and information and communications technology.<sup>55</sup>

The CEAP aims to address circularity across the ‘before use’, ‘during use’ and ‘after use’ dimensions,<sup>56</sup> following the understanding of circular economy as a comprehensive concept that addresses the full life cycle of a product. A set of cross-sectoral initiatives rolled out under the CEAP – which have been adopted or are nearing adoption – aim to tackle greenwashing,<sup>57</sup> ensure products sold in the EU are more sustainable by design<sup>58</sup> (noting that up to 80 per cent of a product's environmental impacts are determined at the design stage),<sup>59</sup> improve reparability<sup>60</sup> and create market demand for recycled materials. Some examples of regulations introduced under the CEAP are briefly described below.

The recently adopted **Ecodesign for Sustainable Products Regulation**<sup>61</sup> enables the European Commission to set product-specific minimum requirements for circularity, reparability and recyclability for products sold in the EU, reaching beyond energy efficiency. It also introduces Digital Product Passports that can support circular business models by providing access to relevant data on embodied emissions.<sup>62</sup> The 2023 revisions to the Battery Directive aim to make batteries more sustainable throughout their entire life cycle – from the sourcing of materials to their collection, recycling and repurposing.<sup>63</sup> This will potentially emerge as a blue print for





future product regulations. **The Packaging and Packaging Waste Regulation** mandates that producers include a specific percentage of recycled plastic in their products.<sup>64</sup> The purpose of this regulation is to create both a push and a pull effect, encouraging investments in improved waste collection and recycling infrastructures, in addition to promoting more recycling-friendly product designs and circular business models, such as deposit return schemes. **The Critical Raw Materials Act**, which entered into force in 2024, sets minimum requirements for recyclability as well as minimum recycled content quota for specific product groups.<sup>65</sup>

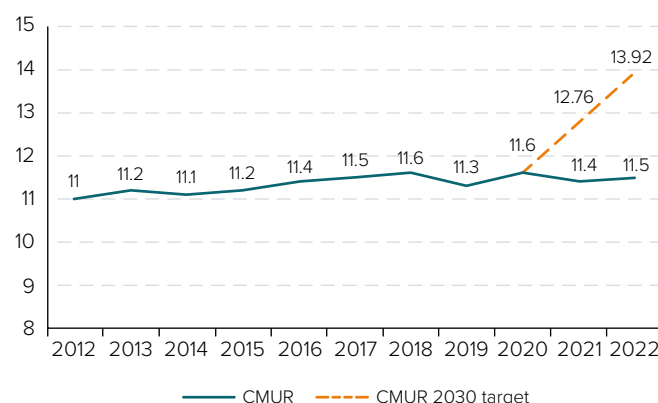
### Key progress gaps

Although the two CEAPs have successfully addressed some important challenges for the EU's circular economy transition, they have not delivered a systemic transformation. It remains to be seen how effectively the numerous regulatory incentives and initiatives at the EU level will translate into tangible results. Given that many decision-making competences lie with local, regional and national authorities, significant disparity continues to exist between (and within) the EU Member States. According to the 2023 European Court of Auditors report: "(...) there is only limited evidence that the Circular Economy Action Plans, and in particular the actions regarding the circular design of products and of production processes, had influenced circular-economy activities in the member states".<sup>66</sup> According to the auditors, most investments into circularity still went into waste disposal technologies.

Data from the Eurostat Circular Economy Monitoring Framework enables us to identify key aspects of circularity where a lack of progress is most evident. Revised in 2023, this Framework now includes 25 monitored indicators. Of these, only 11 have shown positive development during the past decade of available data.<sup>67</sup> Progress for the other indicators has been stagnant or incremental, but much too slow.

**Circularity of raw materials** lags behind EU targets and ambition (see Figure 5).<sup>68</sup> According to the 2020 CEAP, the EU must strive to keep its resource consumption within planetary boundaries by reducing its consumption footprint and doubling its circular material use rate (CMUR) during the coming decade.<sup>69</sup> This has been understood as a need to increase the CMUR – the share of used material resources that come from recycled waste materials – in the EU-27 from 11.7 per cent in 2020 to 23.4 per cent by 2030.<sup>70</sup> To achieve this target, the EU will need to improve its performance radically: as shown in Figure 5, the block's CMUR improved by a mere 0.5 percentage points between 2012 and 2022; thus, much faster progress will be required to achieve the 2030 target. However, this figure hides considerable disparities among the Member States, based on structural factors in national economies. For example, the Netherlands has reached a CMUR of 27.5 per cent, while Finland's CMUR rate remains at 0.6 per cent.<sup>71</sup> At the global level, the so-called circularity gap has also increased during recent years, with primary resource consumption growing faster than the recycling sector.<sup>72</sup>

**Figure 5:** Circular material use rate (CMUR) in EU-27 (2012–2022), compared with the target scenario



Source: Eurostat, "Circular Material Use Rate," Eurostat data browser, January 3, 2024, [https://ec.europa.eu/eurostat/databrowser/view/cei\\_srm030/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/cei_srm030/default/table?lang=en); projection based on the 2030 target added by CISL. The orange line indicating the path forward from 2020 assumes a linear increase of 1.16 per cent per annum until 2030 for illustrative purposes only.

One of the primary reasons for Europe's slow progress in improving its CMUR is the **prevailing demand for new materials over recycled ones**. Doubling the CMUR (as shown by the orange line in Figure 5) would require the EU to achieve more progress in a single year than it has managed during the past decade, a task the European Environment Agency (EEA) deems "very challenging".<sup>73</sup> Although the CMUR emphasises the use of recycled materials, achieving a higher CMUR will depend on improving the availability of high-quality recycled materials through practices such as product design that enables faster, easier and cheaper disassembly and decontamination of components and materials. In addition to fairly recent regulation such as the Ecodesign Directive, this will require enhancements in waste management, including diverting waste away from landfills (which remains the dominant method in many EU countries, and is the focus of the Waste Framework Directive) to recycling, and better processing and decontamination of materials during recycling.

From an industry perspective, **companies could enhance the resilience of their supply chains** by transitioning from imported virgin raw materials to secondary raw materials produced within the EU Single Market. This shift would reduce import dependencies and decrease vulnerability to global market fluctuations in raw material prices. However, taking the indicator of 'materials import dependency',\* the improvement during the past two decades has been marginal: just 1.3 percentage points during the past 22 years, increasing from 21.1 per cent in 2000 to 22.4 per cent in 2022 for the EU-27. This lack of progress is in contradiction to an increasing awareness of the importance of certain raw materials for the European economy, especially for a broad range of green/future technologies.<sup>74</sup> According to a comprehensive analysis, deployment of state-of-the-art technologies (eg for the collection and treatment of e-waste) could enable recycled materials to cover more than 50 per cent of the EU's annual demand for materials such as palladium, neodymium or cobalt.<sup>75</sup>

\* This indicator provides the ratio of imports (IMP) over direct material inputs (DMI) in percentage; see Eurostat, "Material Import Dependency," August 7, 2024, [https://doi.org/10.2908/CEI\\_GSR030](https://doi.org/10.2908/CEI_GSR030).

Beyond the CMUR, which is linked to the core understanding of circular economy as resource efficiency, **other indicators could be used for assessing the level of circularity, for example, circular design, innovation<sup>76</sup> or consumer behaviour.<sup>77</sup>** Yet overall, data on circular economy indicators that are not directly linked to material consumption remains limited. On the positive side, circular economy lending and financing provided by the European Investment Bank reached EUR 3.4 billion during 2018–2022 with an ‘improving’ trend.<sup>78</sup> On the negative side, the number of patents related to recycling and secondary raw materials (restricted to wastewater treatment or waste management) decreased by 42 per cent between 2015 and 2020, from approximately 357 to 206.<sup>79</sup> Showing a similar trend, the turnover in the EU-27 business-to-consumer repair sector, which currently stands at EUR 21.5 billion, has been ‘deteriorating’<sup>80</sup> – although this trend may be reversed by the new Right to Repair legislation.

The above-mentioned implementation and performance gaps are also reflected in the socio-economic dimension data on the circular economy. The EU monitors employment in the circular economy, which is understood as the number of persons employed in the recycling, repair, reuse, rental and leasing sectors. Notably, the waste management sector accounts for

more than 90 per cent of these jobs. Since 2014, employment in the circular economy has increased from 3.9 million to 4.3 million in 2021, an increase of just 57,000 persons per year.<sup>81</sup> To better capture the full picture for employment in a circular economy, the United Nations Environment Programme (UNEP) and Circle Economy have developed a **comprehensive methodology that assesses jobs gains across core, enabling and indirect circular sectors**, covering all employment activities that contribute to this transition.<sup>82</sup>

In summary, despite the adoption of several legislative and regulatory measures at the EU level to incentivise the transition to a more circular economy, regulatory advancements have not (yet) resulted in substantial improvement in the circularity of the European economy. This may be, at least partially, due to the recent adoption or implementation of some of the most significant directives. However, it is cause for concern that the advancements in technology that have improved the management of existing waste have largely been offset by an overall increase in waste.

Although the implementation of circular economy regulations will naturally require time, a recent Eurobarometer survey revealed that a majority of Europeans believe the transition

to a green economy should be accelerated, with only a quarter (25 per cent) favouring maintaining the current pace.<sup>83</sup> Yet, systemic changes in consumption patterns – such as shifting towards service-oriented models or adopting circular business practices – remain largely confined to pilot projects. From a business perspective, the implementation of the CEAP has primarily been driven by market regulation, with significantly less emphasis on enabling market competition or fostering innovation. It has also largely missed the opportunity to explicitly connect the circular economy with other developments, such as the increased attention directed at the bioeconomy, which could support circularity by reducing the demand for virgin, non-renewable raw materials.

In the subsequent chapters of this report, we examine the factors that have been identified by businesses as barriers to the uptake of more circular practices from the production or consumption perspective, and also factors that could help to overcome them. The chapters are organised in accordance with the four system drivers identified in the introduction: policy and governance; capital allocation; market demand; and societal engagement. Although discussed in separate chapters in this report, it is important to note that significant interdependencies exist between the different system drivers.





### 3. POLICY AND GOVERNANCE

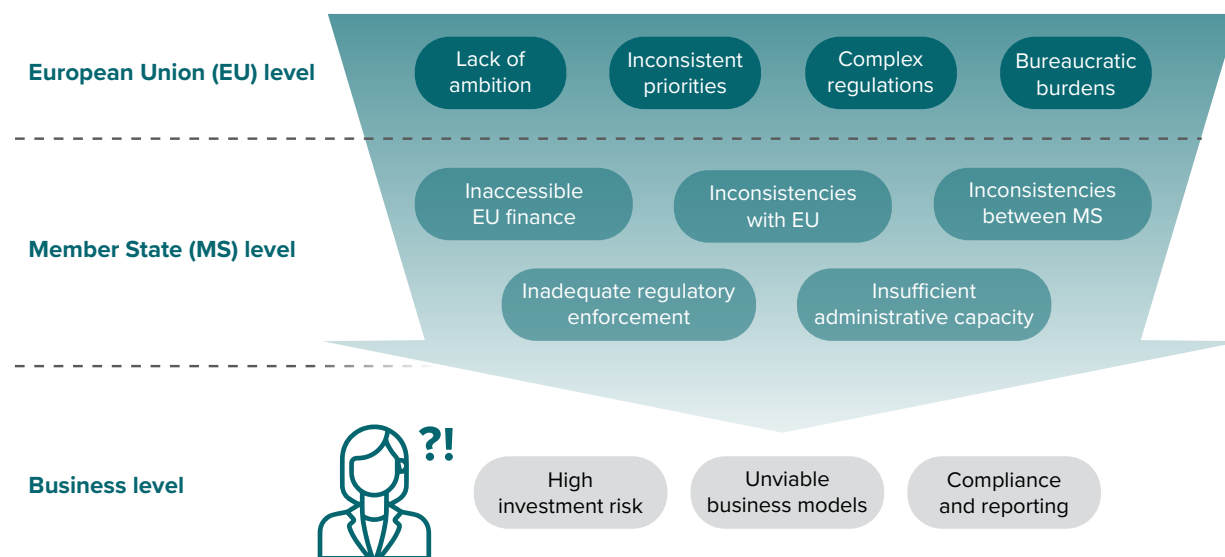
- Policy and governance impact all system drivers, influencing businesses' ability and willingness to engage in the circular economy transition. The EU, with its strong Single Market and net zero commitments, is well positioned to regulate towards greater circularity. Businesses have welcomed the EU's circular policy initiatives and support more ambitious actions.
- Despite this, the EU's current policies are not fully delivering on circular economy goals, as detailed in Chapter 2 of this report. A comprehensive policy framework and co-ordinated incentives are needed to shift from linear to circular economic models, addressing regulatory complexity, inconsistent standards and policy misalignment.
- Key areas for improvement include reframing waste policies, ensuring greater policy coherence, meeting existing commitments, setting effective standards and targets, and reducing transaction costs for circular projects.

#### Align strategies, objectives and policies across the EU

Like the net zero transition, the circular economy transition in the EU is governed by a complex, multi-layered and administratively convoluted governance framework that requires strong co-ordination between EU-level policies, national strategies, and regional/local initiatives and actors. Despite the Commission's objective of a transversal policy in its 2020 CEAP and the ongoing rollout of EU-level regulations on circularity, **stakeholders perceive a lack of a cohesive policy framework** (see Figure 6).

Our stakeholder engagement and analysis of the results identified several factors linked to the lack of cohesion in policy design, implementation and governance that currently present barriers to the effective adoption and upscaling of circular economy practices. These factors are listed in the table accompanying Figure 6, organised under three headings: challenges at the EU level, Member State level and business level.

**Figure 6:** Examples of policy and governance barriers to the circular economy transition in the EU



Source: Designed by CISL, based on the text of the present report.



At the EU level, a good example of a disjointed approach is how the circular economy is primarily governed in the European Commission as an environmental policy (DG ENVI), with limited co-ordination with other policy areas covered by different Directorates-General, such as climate (DG CLIMA), industry (DG GROW) or employment (DG EMPL).<sup>84</sup> This fragmentation can lead to inconsistencies between different policy priorities, duplication, or a situation where the opportunities of more synergistic policy implementation cannot be fully exploited or, worse, one policy cancels out the potentially positive impacts of another.

A good example of this type of policy conflict is the lack of synchronicity between the broader industrial strategy and chemicals regulation: in some instances, restrictions on the use of certain substances in recycled products, and other stringent requirements, have impeded the adoption of circular business models.<sup>85</sup> Similarly, although the plastics strategy focuses on promoting recycling and reducing fossil-based plastic waste, it does not address broader sustainability issues related to the use of alternative materials, such as bioplastics, or the chemicals used in such substitutes.

Because of the high complexity of co-ordination, it has been difficult to move away from linear thinking towards a coherent and ambitious circular policy vision for the EU. However, better alignment across the EU institutions could substantially enhance and accelerate the circular economy transition. A holistic, integrated and streamlined policy approach across all EU institutions should recognise the circular economy's role in meeting EU climate targets and other strategic priorities, prioritising resource retention over waste and focusing on 'high-level R' strategies in accordance with the EU's waste hierarchy. This has been recently recognised in Enrico Letta's report, which outlines how the future single market must embed circular economy principles – failure to do so would risk the EU losing a portion of the value of public and private investments.

At the Member State level, a lack of consistency in definitions, implementation and enforcement of regulations that enhance or incentivise more circular practices could result in undesirable outcomes, such as enabling circumvention, varied

progress rates and higher compliance costs for companies that operate across multiple Member States.<sup>86</sup> Transition to a circular economy will require significant reorganisation of most industrial processes, industrial ecosystems and waste management processes, which are largely the responsibility of the Member States. This often leads to differences in interpretation among the Member States or inconsistencies in implementation, for example:

- The recently adopted Ecodesign for Sustainable Products Regulation imposes (often unspecified) responsibilities along the value chain at regional and national levels.
- Implementation of extended producer responsibility (EPR) rules has resulted in a highly fragmented implementation throughout Europe, with over 80 different schemes in operation across EU markets.
- Inconsistent landfill and incineration fees across Member States allow companies to dispose of waste at a lower cost in another Member State, even if their domestic landfill fees and penalties encourage recycling and reuse – thus impacting the financial feasibility of circular economy strategies\* and the economic viability of circular business models.

To accelerate the circular economy transition, we need consistent and well-aligned implementation of EU rules across different Member States and a levelling up of the playing field, for example in terms of landfill fees. Companies must also receive the necessary assistance to facilitate doing business in compliance with national guidelines in multiple jurisdictions, as discussed above.

Our stakeholders also highlighted the challenges caused by **outdated definitions**. A good example of this is the (often outdated) building codes, which fail to reflect the latest technological advances and the need to create demand for recycled materials. Another example highlighted by our business stakeholders is the definition of 'waste': the Waste Framework Directive and the associated **rules on the classification of waste** in the EU were identified as among the largest and most fundamental barriers to greater circularity.

First, materials and products are often classified as 'waste' before they truly become 'waste', such as some by-products of manufacturing processes that could be used by other market actors. Second, once the material or product becomes classified as 'waste', it is subject to strict rules on handling, such as storage, transportation, repurposing or reuse, which make it more difficult to recover resources. These rules can make circularity impractical and serve to perpetuate the currently dominating linear approach to materials.

The need to reframe the EU's approach to waste – from the linear systemic paradigm to a circular one – is an important prerequisite to better waste management and a more circular economy. In the medium term, the EU needs to more fundamentally shift its approach from the current end-of-life focus of the Waste Framework Directive to reducing demand for materials in the first place. A recent report by Eunomia suggests transforming the Waste Framework Directive into a Materials Framework Directive, with specific actions such as: applying material taxation at the EU level; redefining the waste hierarchy by introducing more granular recycling and residual waste hierarchies and ranking them based on avoided emissions; imposing a duty to minimise material use; and introducing a materials application hierarchy.<sup>87</sup> This change would simplify the regulatory framework and ease administrative burdens. In the meantime, a more immediate solution would be to establish simplified EU-level end-of-life criteria for various material streams as suggested by the Letta report.<sup>88</sup>

Although the business stakeholders consulted during this study strongly support more ambitious policy action on the circular economy transition, they emphasised the importance of consistency and the introduction of **modern, consistent and simple standards and definitions**. In the short term, the EU should fully implement the 2020 CEAP, and ensure existing legislation is adequately operationalised and enforced via secondary legislation (where relevant). In the medium to long term, a fundamental shift is needed to integrate circularity across all relevant policy areas including climate, environment, competitiveness, employment, and education and training.

\* The 10 R strategies are: refuse, rethink, reduce, reuse, repair, refurbish, remanufacture, repurpose, recycle, recover. This report focuses on reuse, repair, remanufacture, recycle.

Most importantly, circularity should be better integrated into EU's industrial policy,<sup>89</sup> with specific regulatory incentives to promote circularity and disincentives for linear, fossil-fuels-based business models. Synchronising these drivers is crucial to fostering a thriving circular economy.

To accelerate the EU's transition to a circular economy, the new Circular Economy Act must make the regulatory landscape as easy as possible for businesses to navigate. For example, in a dynamic market context, the need for companies to wait several years to obtain necessary permits and operating licences hinders progress. One option to address this challenge could be the successful example of 'green deals' in the Netherlands that offer the opportunity to jointly discuss such issues with local policymakers, NGOs, etc. and to amend certain regulations in the light of new evidence.<sup>90</sup> As long as essential product characteristics such as reliability, safety and performance are not compromised, and environmental and social standards are respected, such 'regulatory sandboxes' could become crucial to increasing the speed of the circular economy transformation. Another regulatory enabler, which is easily within the EU's reach and must be addressed in the Circular Economy Act, is the acceleration of permitting processes for circular infrastructures and operations. Facilitated permitting procedures and regulatory sandboxes for cleantech in the Net Zero Industry Act have already received acclaim from stakeholders<sup>91</sup> – now it is time to roll out similar measures for the circular economy.

Diverse national implementation procedures and increasing reporting obligations, especially if insufficiently streamlined, can lead to extra costs for businesses operating across borders and the creation of new divisions within environmental administrations. Compliance with the new requirements may be especially, but not exclusively, difficult for smaller companies. One of the possible solutions here is 'one-stop-shop' contact points as suggested in the case study below.



#### **Case study 1: One-stop-shops as a means to facilitate business compliance with varying national EPR rules**

Extended producer responsibility (EPR) schemes have been introduced into policy and legislation across the EU since the 1990s to improve waste management. Examples of EPR schemes include fees modulation ('eco-modulation') to reward packaging design that is highly compatible with recycling infrastructure (together with penalties for designs that are not), and thus incentivise a more recyclable product design that reflects the true environmental cost of a product. During the past three decades, different EPR approaches have emerged among the EU Member States. Despite the intention of the latest revisions to the EPR obligations to eradicate discrepancies in EPR regulations across the Member States, fragmentation persists. This is mainly because EPR schemes and the payment of EPR fees are linked to Member States' waste management infrastructure, rather than to the rules or standards that are harmonised at the EU level. These complex and diverse regulatory requirements incur significant human and financial costs for companies, which particularly affect small and medium-sized enterprises (SMEs) that seek to sell their products across the Single Market.

For example, it costs approximately EUR 140,000 to comply with diverse Member State regulations and fees to sell a product such as a smartphone – which is subject to packaging, waste electrical and electronic equipment (WEEE), and battery EPR schemes – across the EU-27 Single Market. Moreover, the seller must complete 300 EPR reports annually, which is equivalent to 39 working days.\*

The fragmentation of EPR schemes becomes particularly apparent for those sellers selling in more than two of the Amazon Marketplaces within Europe. The varying and sometimes complex national requirements on EPR make it very challenging to guide the sellers through the process, especially given the fact that most of the sellers are from outside the EU and do not speak the EU languages that are needed to complete certain paperwork. In addition, in some EU Member States, Amazon as an online marketplace is responsible for ensuring that sellers are duly registered and also for blocking their products in cases of non-compliance. This responsibility has become a major challenge for Amazon and other online marketplaces, as the complexity of checking and confirming different data inputs can result in inaccuracy.

As a solution to this challenge, Amazon is proposing that the EU launches a digital one-stop-shop for EPR, where sellers can register, pay and report on their EPR compliance through a single, automatised form. This would not only save significant resources for small businesses (both human and financial) but also simplify and increase compliance across all different EPR schemes. Streamlining of these processes and the recycling infrastructure would therefore ease operations, reduce costs and improve the functioning of the EU Single Market.

\* For additional information: Ecommerce Europe, 'Extended producer responsibility policies that work for SMEs in Europe', 8 July 2020, <https://www.youtube.com/watch?v=liEoq-UPq0M&t=92s>



## Implement consistent, ambitious and effective targets and standards

The EU's ability to set ambitious standards is frequently mentioned as an enabler for a circular economy. Many business stakeholders welcome recent EU policy initiatives – for example, with regard to ecodesign,<sup>92</sup> the recycling targets set in the Critical Raw Materials Act<sup>93</sup> and putting a price on carbon through the Emissions Trading System (ETS). However, more remains to be done. Specific suggestions derived from business representatives in our focus group include:

### Harmonise standards and regulations

Business representatives have proposed several specific measures to improve and harmonise standards for circularity across the EU. These include the development of uniform standards for calculating recycled content and assessing the environmental impact of materials. Additionally, there is a call for globally recognised definitions and standards for 'fossil-free' and 'low carbon' materials, as well as more detailed waste codes and material hierarchies that rank materials based on avoided emissions.

Harmonised mandatory deposit return schemes for specific packaging types, simplified rules for material use to facilitate recycling, and effective waste shipment regulations are also recommended. Updates to construction codes to support

deconstruction rather than demolition, standardised regulations for the reuse and durability of construction materials would also facilitate circularity in multiple sectors.

The fragmentation of the Extended Producer Responsibility (EPR) and its inconsistent implementation remain a key issue for many businesses. Harmonised mandatory EPR schemes across the EU should cover the entire ecosystem and include effective eco-modulation of fees that set clear incentives beyond mere cost coverage.<sup>94</sup> Alignment between the EPR and Packaging and Packaging Waste regulations has also been emphasised among suggested improvements.

### Set ambitious targets to create and enable a level playing field for circularity

These targets should focus on the recycling, reuse, or reduced use of virgin raw materials to increase the value of waste streams and boost both supply and demand. Mandatory requirements for recycled or reused content in key sectors like buildings, vehicles, and packaging should be established, considering the availability of high-quality recycled materials and avoiding conflicts with the development of green technologies.<sup>95</sup> To implement these measures effectively, the European Commission could introduce a system of tradable recycling certificates. Business stakeholders have suggested that producers who finance the collection of

materials should have priority access to recycled materials. Additionally, regulations should be enacted to ensure the high quality of recycled materials, including minimum standards for recyclability to enable 'closed product loop' recycling and prevent downcycling. Progressive enforcement of bans on landfilling and incineration of recyclable materials is also advocated.

Design standards should be established to enable product and component upgrades and remanufacturing, particularly promoting modular and adaptable solutions. Incineration should be capped under the ETS, and circularity should be reflected in environmental, social, and governance (ESG) ratings. Finally, standard-setting, potentially entrusted to the European Committee for Standardization (CEN), should be integrated with other enabling factors, such as infrastructure and financing, to ensure that compliance with new standards is feasible and cost-efficient for businesses and authorities. Among these, it is essential to ensure that circular business models and products are eligible for insurance.







### Case study 2: Improving the circularity of construction materials: the case of gypsum

In 2022, Saint-Gobain launched a new gypsum product in France called Placo® Infinaé 13 that includes 50 per cent of post-consumer recycled content. This new step towards circularity was made possible through a EUR 3 million investment in its Chambéry plant to design a specific industrial process to accurately integrate recycled plaster and natural gypsum components in large volumes. The plant was also equipped with a storage area dedicated exclusively to recycled gypsum, sourced locally via networks of collectors and secondary material preparers. This setup ensures a large, continuous flow of quality recycled plaster. In addition, a conveyor belt with a dosing device was installed, which accurately measures the proportion of recycled plaster in the mix, thus guaranteeing a perfect composition for each board.

A similar process took place in Spain, where Placo Planet, an acoustic gypsum board, became the first plasterboard to be manufactured in Spain that contains 28 per cent recycled material and is fully recyclable. The product is

designed to be installed in partitions, ceilings and wall linings, providing all the required customer performance benefits, but minimising the environmental impact. Spain is also a market where in 2012 Saint-Gobain Placo launched the first collecting service on the market (Reciclaje Placo); this key piece in the circularity puzzle is critical for closed loop recycling of gypsum boards, and has recycled more than 10,000 tonnes.

While progress has been made in France, Spain and other European countries, more can be done to increase the proportion of recycled content in gypsum and other construction materials. However, this will require greater collaboration between public and private actors. For the private sector to invest in new circular solutions, the government must provide a conducive policy framework to ensure that investment can be leveraged effectively. For instance, if the government increases landfilling costs or creates landfill bans, circular solutions and business practices (such as those mentioned above) will become more attractive compared with linear ones. Similarly, to accelerate on-site quality sorting that enables separate collection, it will be necessary to deploy the updated EU Construction and Demolition Waste Management Protocol. Additionally, to facilitate closed loop transparency, digitisation needs to be deployed to better trace where the waste comes from or ends up. Finally, there is a need to facilitate the transborder shipment of waste destined for recycling, and also the permit granting process for those plants using such secondary materials. All of these measures will require action by both private and public stakeholders; increased consonance between the two should ensure maximum benefits are achieved and circular strategies are deployed faster.

Regulatory certainty is therefore a key driver of a successful and effective circular economy transition. Without regulatory certainty, private sector stakeholders may be hesitant to invest especially in circular products and processes, which often incur high upfront costs and take a long time to deliver returns on investment. This challenge is highlighted in the Saint-Gobain case study below; the investment angle is also discussed in more detail in Chapter 4.

### Provide regulatory certainty

The need for all green regulation to provide certainty and set a clear direction of travel for the private sector is emphasised in numerous publications by the Cambridge Institute for Sustainability Leadership (CISL).<sup>96,97,98</sup> Regulatory certainty plays a key role in creating and growing market demand (discussed in Chapter 5 of this report) and de-risking investment (discussed in Chapter 4 of this report).

### Strengthen the links between the EU's circular economy and bioeconomy strategies

The European bioeconomy is one of the EU's largest and most important sectors, encompassing agriculture, forestry, fisheries, food, bio-energy and bio-based products, such as bio-based plastics. The bioeconomy in Europe already employs approximately 18 million people and has an annual turnover of approximately EUR 2 trillion,<sup>99</sup> with significant growth potential. The European Commission's Bioeconomy Strategy for a Sustainable Europe<sup>100</sup> seeks to strengthen and scale up the sector by, among other things, launching a EUR 100 million Circular Bioeconomy Thematic Investment Platform to de-risk private investments and bring bio-based innovations closer to the market. At present, the Bioeconomy Strategy is primarily a research and innovation agenda aimed at enhancing the sustainable exploitation of biomaterials.

Shifting from non-renewable resources to biomaterials is an important innovation aspect of the circular economy agenda. The bioeconomy and the circular economy are thus conceptually linked. Both policy agendas converge with respect to economic and environmental concerns, research and innovation, and societal transition towards sustainability. However, these synergies could improve: the current Bioeconomy Strategy pays little attention to the ecodesign and recycling aspects of products and the role of innovative business models in these respects. The CEAP mentions biomass and biomaterials as a priority, but without an encompassing approach to their sustainable application, including biodiversity aspects and nutrient cycles.

Biomass, which forms an important part of the EU bioeconomy, could be an important lever for carbon neutral products manufacturing, but it is not necessarily circular or sustainable, and runs the risk of increasing pressure on natural resources with considerable environmental impact.<sup>101</sup> Bearing in mind the increasing competition for bio-based feedstocks in different sectors (eg for bio-based chemicals), a holistic policy framework is desirable to address the interconnected challenges and opportunities in cross-sectoral pathways to net zero that involve the substitution of fossil-based with bio-based feedstocks.<sup>102</sup>



## 4. CAPITAL ALLOCATION: PRIVATE INVESTMENT AND PUBLIC FINANCING

- Access to finance is a fundamental precondition for the reforms associated with the circular economy transition.
- Although the EU (and its Member States) is well positioned to raise significant resources and to steer private investment, progress has so far been impeded by the prevailing linear mindset of investors. This has caused a shortage of private finance and limited data on capital deployment.
- Although most of the financing for the circular economy transition must come from private sources, policymakers play a crucial role in facilitating this shift especially to enable industrial-scale circular economy investments. So far, the deployment of private capital has been hindered by complex EU funding requirements, low awareness of available funds and insufficient public funding at the Member State level. Policymakers could also do more to accelerate the transition by strategically leveraging public procurement and public funds including from the European Investment Bank, such as by investing in circular infrastructure and reducing the risks for private investors.

### Align public funding instruments to incentivise private investment

Circular economy initiatives around the world face a major financing gap: although the private sector spends an estimated \$850 billion annually on circular economy activities, this pales in comparison with the \$35 trillion invested in traditional 'linear' economic activities. This trend is also apparent in Europe: during 2015–2019, investment in the circular economy sectors within the EU Member States grew by only 9 per cent.<sup>103</sup> Insufficient investment and limited public financing are major obstacles to speeding up the circular economy transition, which demands significant upfront investment in new technologies and infrastructure.

Currently, key challenges for the EU are to **increase investors' awareness of the circular economy**<sup>104</sup> and streamline access to financing instruments by reducing the bureaucratic barriers. These measures could help to **shift private investment from linear business models to circular alternatives**.

Although the EU has made many public funding instruments available for the circular economy transition (such as shared management funds under the Cohesion Policy\*), these have not always been effectively used. While some of these may indirectly create an enabling environment for private investment (such as the European Regional Development Fund) they have not been deployed directly in circular initiatives. The funds that have been accessed to a limited extent during the period 2014–2020 have been spent on lower rather than higher R strategies.<sup>105</sup> Other financing opportunities are also available at the EU level, such as InvestEU, Interreg, the Innovation Fund (IF), the Single Market Programme (SMP) and the Risk and Resilience Fund (RRF). However, the effectiveness of these public funds in de-risking private capital and stimulating private investment in circular

economy initiatives remains unclear. The key challenge may not be the lack of financial resources and de-risking instruments *per se*, but their complexity, such as opaque eligibility criteria or co-financing requirements. These factors can prevent the effective use of available funds by the interested parties for the activities they regard most important.<sup>106</sup>

The EU is well positioned to improve access to and use of financial instruments for the circular economy transition. The EU Taxonomy,<sup>107</sup> which seeks to realign capital flows towards sustainable investments, provides a good starting point. Two articles of the Taxonomy are directly applicable to the circular economy:

- Article 9, which identifies the “transition to a circular economy” as one of the six key environmental objectives.
- Article 13, which specifies the economic activities that are categorised as making a substantial contribution to the circular economy transition, including more efficient, bio-based and sustainable use of natural resources, reduced use of primary raw materials by increasing the use of secondary raw materials, recycling of materials, waste prevention, and measures to increase the reparability, upgradability or reusability of products.

However, the Taxonomy has faced criticism for being bureaucratic and hindering technological innovation.<sup>108</sup> Moreover, by seeking to define detailed criteria for a broad range of activities, it only addresses a small segment of potential actions that could be financed through private investments. There is a strong need to develop innovative financing instruments for solutions to facilitate the development of the circular economy, which are often still deemed as risky and at the early stages of the technology learning curve.

\* Examples of shared management funds under the Cohesion Policy include the European Regional Development Fund (ERDF), European Social Fund Plus (ESF+), Cohesion Fund (CF) and the Just Transition Fund (JTF).

In this context, the European Investment Bank should consider expanding its venture capital programmes for circular innovations and its manufacturing and loan guarantees for circular investment projects. The European Investment Bank's initiative to mobilise EUR 10 billion for natural capital and circular economy initiatives by 2030 is a promising step.<sup>109</sup> Recently, the World Bank launched a \$100 million bond for the first time, which is designed to incentivise investments in waste management infrastructures through an outcome-based payments model.<sup>110</sup> To effectively shift the mindset of large-scale investors, who often view linear projects as safer and more preferable, similar long-term and well-structured initiatives will be essential.

### Direct public funding to address key barriers to circularity

In addition to mobilising and incentivising private investment, public funding needs to be **strategically directed to address key barriers to circularity**. Although public financing cannot and should not finance the entire transition process, it must be used effectively to make a significant impact. Besides funding research, innovation and circular public procurement (discussed in the next chapter), public sector investment should be directed at **enabling infrastructure and state aid**.

Investment in circular infrastructure, particularly sorting and collecting facilities, is an essential enabler for circular practices and business models. Without functional sorting and collecting systems, manufacturers will struggle to access recycled materials, reducing demand and stalling supply chain stability. Investment in public sector recyclables collection and sorting infrastructure is therefore a crucial priority for governments.<sup>111</sup>

The development of infrastructure and public sector services to facilitate circularity can be supported through mechanisms such as the EU Cohesion Fund, which intends to make EUR 12.5 billion available to circular economy and waste management during the 2021–2027 programming period.<sup>112</sup> Although the Fund's narrow scope – restricted to waste collection and processing, and excluding circular design or requiring Cohesion Policy funding for relevant investments<sup>113</sup> – is generally regarded as a limitation, Member States can still use these funds to address one of the major barriers to the circular economy: the absence of adequate infrastructure and processes for sorting, collecting, decontaminating and transporting recyclable and reusable materials. However, substantial differences exist between Member States in their intended allocations to these areas, largely due to differences in the size of national allocations under the Cohesion Policy and varying national priorities.

In terms of state aid, business stakeholders have emphasised the importance of directing it towards activities that foster competitiveness within the Single Market. This aid should align with the principle of competitive sustainability<sup>114</sup> and ensure that public funds support innovation and large-scale deployment of net-zero-compatible technologies. It should also aim to create quality employment in the green economy, instead of perpetuating 'carbon lock-ins' or bailing out linear businesses that lack long-term competitiveness. Overall, there is a preference for more co-ordinated EU-level funding to ensure public funds are used strategically for the benefit of the entire EU.<sup>115</sup>

### Monitor and measure the deployment and impacts of investment

Despite increasing awareness among investors and the financial sector, there is still a shortage of tools to define and measure activities that significantly contribute to the circular economy transition, and also to assess the related investment opportunities and risks.<sup>116</sup> This shortage has resulted in **inadequate data on how capital is allocated to circular economy initiatives**, impeding understanding on circular financing beyond tangible infrastructure, such as facilities and technologies linked to waste management, recovery and recycling.

Inadequate data makes it difficult to assess the broader investment landscape and identify opportunities and potential returns on investment in other circular practices and enablers, such as reuse, repair and redesign, thereby reinforcing a linear mindset among investors and impeding circular economy investment. Private investment in less tangible circular economy practices and enablers could be encouraged substantially by establishing a robust regulatory framework with clear guidelines for circularity, along with effective monitoring and reporting of investments and outcomes. Developing sound monitoring and measurement tools would help to close the investment gap by reducing businesses' hesitancy to invest in the circular economy.





## 5. MARKET DEMAND: CREATING A STRONG CIRCULAR SINGLE MARKET

- To enable the circular economy transition, the adoption of circular technologies and practices must be technologically feasible and commercially viable. This necessitates a balance between the supply of and demand for circular materials and products. Despite the EU having a strong research and innovation ecosystem, including tools to stimulate demand and supply, more effort is needed particularly on the demand side.
- Key barriers to the circular economy transition include high upfront costs and complex reverse logistics on the supply side, and weak demand from consumers and producers on the demand side. Additional challenges such as limited data collection and the high cost of disassembly, decontamination and recycling compared with the cost of using virgin materials further complicate the transition.
- To overcome these barriers, policymakers need to enhance the competitiveness of circular solutions through fiscal measures, create lead markets (eg through policies addressing recycled content requirements, especially in public sector procurement), support the EU's innovation capacities and harness digitalisation for the circular economy.

### Improve the competitiveness of circular economy solutions

Current economic structures and markets often favour linear models, disadvantaging circular solutions and businesses. Without appropriate incentives and obligations, companies have limited motivation to adopt sustainable and circular practices, especially if doing so increases operating costs or exposure to market volatility.

One major barrier to circular economy is the **high cost and complexity of the new reverse logistics infrastructure and systems** to collect, transport and process used products. These systems are needed to maintain the quality of the recycled materials and enable the return and reuse of products and materials. Without them, the value and recyclability of materials is adversely affected by contamination, resulting in leakage of materials from one product category (eg PET bottles and aluminium cans) into other sectors (eg textile and automotive industry), where they can no longer be recycled for their original use. This type of 'open loop' recycling, although better than landfilling and incineration, does not keep materials in use for as long as a 'closed loop' system would, reducing their value over time and thus the benefits of circularity on raw materials demand. This challenge is exacerbated by international supply chains which, in the absence of tools such as universal Digital Product Passports,<sup>117</sup> can lead to uncertainty about the material composition of products, thereby making it impossible to effectively recycle or reuse them or their components. However, the high upfront investments needed to develop these systems is so high that they can typically only be borne by central governments or public-private partnerships.

Reverse logistics systems to enable closed loop recycling and higher R strategies (as described in the Introduction) rely on new generation disassembly and decontamination technologies to recycle or reuse complex goods and the materials and components embedded in them. Like reverse

logistics systems, these new technologies require high upfront investment, which private sector entities will make only if they can be confident about the future returns on their investments.

The high cost of the reverse logistics systems and technologies drives up the cost of recycled materials and products manufactured from recycled or reused materials and components. When virgin raw materials can be sourced at the same cost as or a lower cost than alternatives made from recycled or reused materials, manufacturers have little financial incentive to use recycled feedstocks, negatively impacting demand. For example, the production of virgin plastic remains \$72 cheaper per tonne than the production of recycled plastic. Despite the quadrupling of recycled plastic production during the past 20 years, it still only accounts for less than 6 per cent of the 460 million tonnes of plastic produced each year.<sup>118</sup> Because of low demand, technology learning is slow and new technologies such as for the chemical recycling of plastic waste take longer to become economically viable and improve in efficiency. Additionally, the European plastic recycling industry faces competition from cheaper recycled content produced in Southeast Asia, which may not comply with EU social and environmental standards, further exacerbating the challenges for European recyclers.<sup>119</sup>

The differences in the production routes and required material inputs also mean that the supply of virgin materials can be more responsive than the supply of recycled materials to price fluctuations. Virgin resource extraction and manufacturing can typically be scaled up or down swiftly based on market signals. In contrast, the supply of materials made from recycled feedstocks is constrained by past consumption patterns and the processing capacity of recycling infrastructure, making it less adaptable.<sup>120</sup>

The Commission's report on the '*European Research Area (ERA) industrial technology roadmap for circular technologies and business model*' highlights how the EU's competitiveness in circular economy technologies is driven by its strong research and innovation ecosystem and the enabling environment provided by the Single Market rules that ensure a level playing field for its Member States.<sup>121</sup> This strong foundation positions EU businesses as global leaders, with 32 per cent of companies active in circular technologies, outpacing the USA (20 per cent) and China (4.4 per cent). However, to fully harness this potential, it is essential to enhance the development and adoption of these technologies throughout the entire life cycle of the materials and products. The EU's legislative framework for the circular economy, coupled with targeted support for research and innovation, plays a crucial role in creating a stable demand and stimulating circular technological developments. By fostering collaboration across key industrial ecosystems and facilitating the rapid deployment of circular technologies, the EU will be well positioned to maintain its competitive edge in the global market.

To further level the playing field for the circular economy, regulatory action is required, including setting consistent, ambitious and effective targets and standards, as described in Chapter 3. Additionally, **access to financial resources and a revision of the European and national tax systems**, which

often favour linear business models (eg regarding rules for the depreciation of products compared with circular services or fossil fuel subsidies),<sup>122</sup> are essential. The EU's fiscal policy should be restructured to ensure polluters face real fiscal disincentives whereas green activities are incentivised, thus improving the competitiveness of circular solutions and business models.

A 'circular taxation' system would require a comprehensive, step-by-step overhaul of the current tax system, rather than merely applying environmental/green taxes to address specific market failures or externalities. This overhaul should go beyond 'putting a patch' on a specific problem caused by the linear economic model, thereby supporting the transition to circularity by tackling the root cause of the problems.<sup>123</sup> Implementation of a circular tax system could transform economic profitability, and thus influence investor behaviour and alter the relative prices of goods and services. This shift would require fundamental changes to be made to the current tax system's structure, eliminating implicit costs for circular activities and removing both implicit and explicit subsidies for polluting activities. Some examples are:

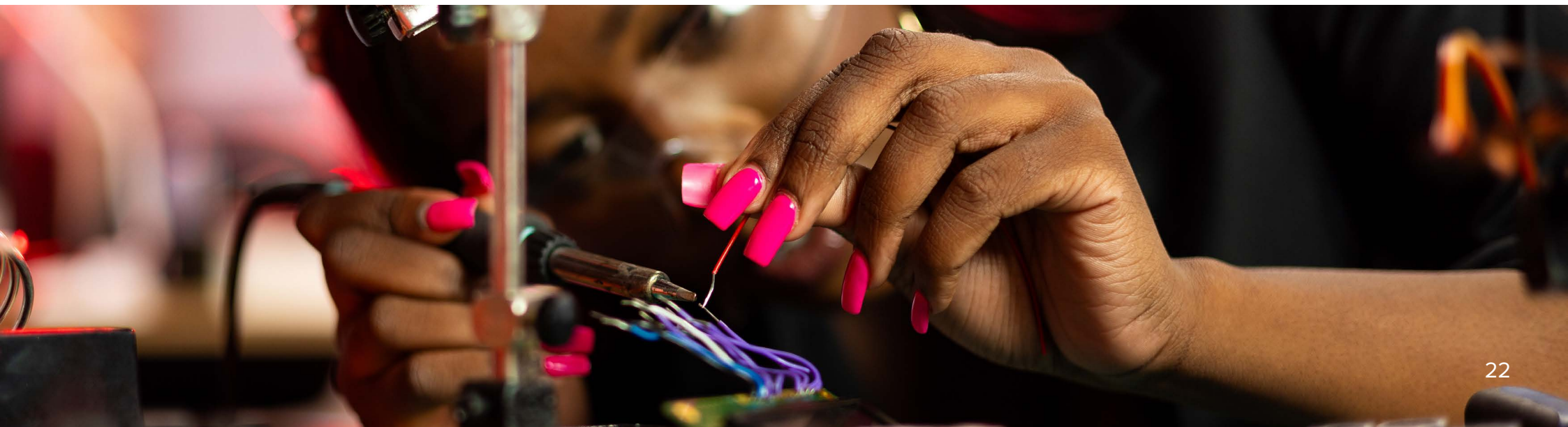
- taxes on waste landfilling
- material and product taxation at the EU level to incentivise producers to offer more circular, resource-efficient and low

carbon materials and products

- reduction of VAT on repair
- removing VAT on second-hand goods or donations of unsold goods.

Labour taxation is also important. Currently, in the EU-27, labour bears an average tax burden of 51.7 per cent, whereas green taxes (on all types of natural resource use and pollution) represent only 5.9 per cent of tax revenues. Circular activities, such as repair, reuse, recycling and redesign, are labour intensive, requiring more time, effort and customisation compared with traditional linear activities. This high tax burden on labour hinders the shift to circular practices.<sup>124</sup> To support this transition, the European Commission should consider reducing VAT rates on the production of secondary raw materials, making them more economically viable for recirculation within the EU.<sup>125</sup>

Finally, the EU's transition to circularity has significant global implications. International trade affects the EU's decarbonisation goal and its domestic policies can influence global practices. Although a more detailed analysis on this international dimension is necessary, fostering international partnerships could support decarbonisation in low-income trade partner countries. The EU should lead the change in setting global circular economy standards to align international



efforts with its own objectives, promoting climate neutrality, decarbonisation and a just transition globally. This leadership can be facilitated through the EU's trade policy and international instruments, such as the EU Carbon Border Adjustment Mechanism (CBAM) or the EU Deforestation Regulation (EUDR). In line with the Ecodesign for Sustainable Product Regulation (ESPR), instruments such as the CBAM could be expanded to address the resource intensity of imported products.<sup>126</sup> Additionally, the EU could strengthen its role in global circular economy standardisation efforts.

### Create lead markets for circular products and materials

According to an EEA study, five secondary raw material markets (wood, plastics, biowaste, aggregates from construction and demolition waste, and textiles) are currently functioning poorly because of **uncertain demand**.<sup>127</sup> This uncertainty results in reluctance among the public and private sector to invest in technologies that would integrate secondary raw materials into raw material supply operations.

To enable and accelerate the circular economy transition, the EU needs to develop the supply of and demand for circular products and practices in a balanced and mutually reinforcing manner.<sup>128</sup> The lack of measures to incentivise demand has been highlighted as a major barrier to the circular economy transition by business stakeholders and independent experts such as the EEA<sup>129</sup> and the European Scientific Advisory Board on Climate Change.<sup>130</sup> The lack of demand hinders innovation on the supply side, for example in developing new technologies for disassembly and decontamination. As mentioned before, low demand also adversely affects the technology learning process, preventing these technologies from reaching economies of scale that would result in lower prices.

To date, circular economy policies have focused primarily on the supply side, directing large-scale support for R&D, creating platforms to network and exchange experiences, sharing success stories and stories of failures, and setting up lighthouse projects to demonstrate technical feasibility. However, supply-side measures need to be accompanied by **the development of lead markets and market demand for circular products and services**, to both ensure the financial viability and improve the

resilience of circular industries. Several fiscal and regulatory measures can help to generate demand,<sup>131</sup> including:

- Circular public procurement. The necessary groundwork in terms of definitions, criteria, etc. has been developed, and Ursula von der Leyen has proposed to revise the Public Procurement Directive in her political guidelines for the new Commission.<sup>132</sup> Thus, it is a good time to make public procurement of circular materials obligatory, with the possibility of penalties if public tenders continue to focus on primary raw materials or exclude circular business models.<sup>133</sup> As detailed in CLG Europe's Business Agenda, clear objectives must be set, most notably in the construction sector as it has the highest material footprint.<sup>134</sup>
- Mandatory recycled content quotas and other targets, as detailed in Chapter 3.
- Insurance products for circular business models and circular products. Initially these could be supported by government-backed insurance schemes.<sup>135</sup>
- Monetary incentives for consumers and awareness-raising measures, as detailed in Chapter 6.

The EU has, so far, failed to effectively use demand-side policies to encourage and accelerate circularity, which could also include bans on non-recyclable products or tax exemptions for users who commit to buy circular.<sup>136</sup> Generating demand must be a key priority for the next EU institutions. The creation of a level playing field through policy interventions, subsidies for circular activities and penalties for unsustainable practices will be essential to encourage and incentivise circularity.

### Support, promote and mandate circular product design

Another barrier that adds to the unfavourable market conditions for circular materials is the physical design and assembly of products: most contemporary products and consumer goods are **not designed for circularity**, a factor that contributes to the high cost of disassembly, remanufacturing and repurposing. Redesigning products to fit circular economy principles (to ease disassembly and minimise the need for material decontamination) requires substantial innovation. The lack of product standards and inconsistent terminology and standards,

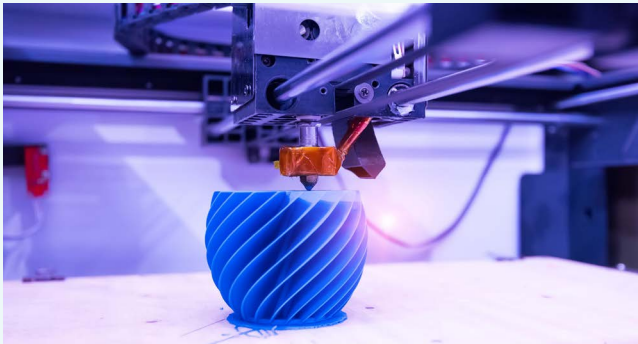
as discussed in Chapter 3, remains an obstacle to the design of circular products.<sup>137</sup>

To promote circularity, R&D are needed for new and innovative circular designs and processes. This includes accelerating the readiness of emerging technologies, for example by supporting commercial-scale demonstrations, quality assessment and control of discarded products, tracking take-back initiatives, sorting and collecting discarded items, and integrating data on content and composition for circular design and technologies.<sup>138</sup> Establishing the right market conditions to support technological development and innovation will be a fundamentally important enabling factor for the circular economy transition.

Considering the slow and incremental progress on circularity during the past decade, **greater support for innovation** is needed. Although the EU has a robust tradition of invention and innovation, its track record for scaling and deployment is less impressive. One useful enabler at the EU's disposal, which has been appreciated by business stakeholders, is the EU Innovation Fund – “one of the world's largest funding programmes for the demonstration of innovative low-carbon technologies” – which uses funding raised via the ETS.<sup>139</sup> The Innovation Fund is a tool for supporting technological excellence and mature technology that can be scaled up, helping to ensure that European innovation is deployed in the real economy.<sup>140</sup>

In addition to technical solutions, a mission-oriented innovation policy for the circular economy should focus on people, companies, business models and contextual factors that currently impede circularity. Navigating this complexity effectively requires approaches that go beyond traditional innovation policy and particularly traditional waste management policies.





### Case study 3: Use of 3D printing technology to maximise circularity and resource savings

Signify is using the rapidly maturing three-dimensional (3D) printing technology to address multiple sustainability concerns. As 3D printing is a highly flexible form of manufacturing, it can be used to manufacture luminaires (light fixtures or units) that are tailored to customers' exact needs, yet adhere to the principles of circularity. In these 3D-printed luminaires, nearly every component can be reused or recycled – thanks to a design that is conducive

to disassembly. They are also printed only on demand, which enables a significant reduction in inventory – an important factor in improving the overall sustainability of the product and Signify's operations.

The use of 3D printing allows Signify to use innovative raw materials that are recycled or repurposed. Bio-circular mass-balanced raw materials are materials from International Sustainability and Carbon Certification (ISCC PLUS) certified waste streams and residues. These materials can be tall oil (liquid rosin) from the wood processing industry or used cooking oil. The bio-circular granulate used as the raw material for Signify's 3D-printed luminaires is ISCC PLUS certified and 71.5 per cent renewable. Based on the colours and additives used in production alone, the official mass-balance rate (the conservation of mass/materials in systems) will be "at least 55%".

Another raw material used as an alternative to virgin raw materials is post-industrial waste. The 3D-printed filaments are made from recycled plastics produced during the manufacture of polycarbonate sheets for carports,

advertising signs or swimming pool covers. The waste material is sent to a grinding company that specialises in grinding transparent polycarbonate.

The use of 3D printing also allows the integration of several functions into a single component, for example incorporating the strain relief into the housing of a luminaire. This eliminates the need for two screws and a plastic part, thus reducing the amount of raw material needed and improving the efficiency of assembly. It also allows for more efficient disassembly, as the strain relief does not need to be separated into one or more waste streams.

Therefore, the innovative use of 3D printing in the manufacturing process enhances the sustainability and circularity of luminaires in many ways. It enables an overall reduction in the source material needed, the use of recycled raw material, and efficient assembly and disassembly, which in turn allows for high levels of recycling; other benefits include maintaining lower inventory levels and meeting consumer needs.

### Improve data collection and reporting on embedded emissions and material composition

Lack of standardised data collection and reporting on embedded emissions, recyclability and reusability makes it difficult to evidence and thus incentivise growth in the supply of and demand for circular activities, materials and products. For example, the EU's Circular Economy Monitoring Framework for innovation does not yet cover aspects that relate to the longer-term value retention of products and materials (ie design for circularity, or repair). As a result, none of the higher R strategies (reuse, rethink, reduce, refurbish, remanufacture and repurpose) can be adequately measured at present,<sup>141</sup> and companies using and producing circular products cannot prove lower environmental impact compared with competing products. In 2018, the International Resource Panel<sup>142</sup> called for the development of indicators under the heading of 'value retention' to map the circular economy and

its progress because of the key role that targets and indicators play in stimulating innovation.

At present, the European Innovation Scoreboard provides data about overall environment-related technologies,<sup>143</sup> without providing specific figures on circular economy activities. Likewise, the Eco-innovation Index only measures governments' environmental and energy R&D outlays,<sup>144</sup> without giving a clear picture of innovation related specifically to circularity. Therefore, businesses cannot properly assess value-for-money and return on investment (ROI) for such initiatives. Business leaders and companies have called for **clearer and more transparent targets and key performance indicators** that would be consistent and mandatory for all players, in order to reduce the risks associated with circular investment.<sup>145</sup>

**Digitalisation** and the widespread voluntary or obligatory deployment of tools such as Digital Product Passports would improve access to high-quality data, which would also enable the comparison of two products that perform a similar function.<sup>146</sup> The 2021 Materials and Products Taskforce report on the Digital Product Passport discusses how this tool (now to be widely introduced in practice thanks to the Ecodesign for Sustainable Products Regulation) can promote circularity by offering improved transparency, traceability and consistency throughout the supply chain, improving monitoring and reporting on sustainability indicators, and facilitating better communication with consumers.<sup>147</sup> Funding for innovation and scale-up is one way in which the EU can support circularity through digitalisation. To this end, the next European Commission should aim to consolidate Europe's global leadership in circular economy and digital product policy.<sup>148</sup>



## 6. SOCIETAL ENGAGEMENT

- Society plays a crucial role in the transition to a more circular economy, impacting the demand side as consumers, the supply side as workers and entrepreneurs, and overall direction as voters. Policymakers and businesses can influence societal attitudes, behaviours and the availability of skilled workers through various strategies. This chapter examines the current societal attitudes, by identifying the opportunities and barriers associated with the circular economy transition, outlining key enablers and priority policy actions.
- Societal barriers include consumer behaviour not changing at the necessary scale and pace, lack of awareness of the benefits the circular economy could deliver, persistent linear mindsets and uncertainty regarding the impact of the circular economy transition on the labour market.
- The EU benefits from a democratic system of governance and social market economy, which should facilitate a fair and societally inclusive circular economy transition. The challenges mentioned above can be partly addressed by encouraging and incentivising sustainable choices, alongside strategies to support a just transition. This approach includes ensuring that circular jobs, both within and beyond EU borders, are well paid, safe and secure, and that workers in industries that will shrink because of increased circularity have access to necessary upskilling and reskilling opportunities.

### Encourage and incentivise sustainable choices

Citizens' ability and willingness to make sustainable choices affect the speed of the circular economy transition for two reasons:<sup>149</sup> they drive demand for circular products and practices, and generate supply as entrepreneurs. However, to date, consumer behaviour has not been changing at the required scale and pace, although the EU average hides considerable differences in citizens' willingness to engage in circular activities between Member States and product categories.<sup>150,151,152</sup> The same applies on the supply side: apart from a few exceptions,<sup>153</sup> a linear mindset prevails in organisational cultures, business practices and investors' minds. This is largely due to factors such as lack of awareness and prevailing social norms and conventions. However, financial considerations and concerns about the life span of second-life products and their reliability and insurability also play a role.<sup>154,155,156</sup>

Current policies focus predominantly on providing consumers with information to enable informed decisions (eg eco-labels), instead of making circular alternatives more economically attractive – a factor that may well explain limited consumer demand for circular products and services, such as second-hand goods or repairs. Low consumer demand translates into lack of incentives for businesses to change, exacerbating the impact of the economic and organisational barriers that businesses face in the transition to a circular economy (as discussed in previous chapters). Business stakeholders who were consulted during the drafting of this report identified a need for more enabling measures, such as financial incentives, behavioural nudges or government initiatives to promote awareness among consumers.

The EU is well positioned to foster citizens' engagement in a circular economy, and the general desire among European consumers to make more sustainable choices appears to be high. In principle, Europeans are strongly in favour of a

circular economy and action against climate change: in recent Eurobarometer results, 84 per cent of Europeans agreed that “EU environmental legislation is necessary for protecting the environment in (our country)”. “[P]romoting the circular economy through reducing waste, and reusing or recycling products” is mentioned as the most effective action to tackle environmental problems, with 58 per cent of respondents choosing this option. Furthermore, 59 per cent of Europeans implied that they would be “willing to pay more for products that are easier to repair, recyclable and/or produced in an environmentally sustainable way”.<sup>157</sup>

Analysis from private companies has likewise documented an increase in preference for circular practices and products.<sup>158</sup> While second-hand buying has long been established for certain products (eg cars, consumer electronics, white goods and books), it is now also growing in other sectors such as clothing and footwear. For example, industry experts estimate that the volume of the second-hand fashion market in Germany alone will rise from approximately EUR 3.5 billion in 2022 to between five and six billion euros by 2025.<sup>159</sup> In some sectors, companies have started to develop take-back systems and specific circular strategies for their products, which could significantly boost circular business-to-consumer (B2C) activity. However, there is a need to capitalise on the overall positive attitudes of Europeans towards the circular economy to promote a consistent shift to a more circular behaviour across sectors.

From a policy perspective, **various measures can be devised to nudge consumers** to make more sustainable choices and engage in the circular economy more actively. These measures include awareness-raising, continuous stakeholder engagement, both on the side of companies and authorities,<sup>160</sup> and economic incentives and disincentives. Behavioural nudges and awareness-raising measures can also be implemented by, and for, **businesses**.

As part of the just transition agenda, the new European Commission needs to **ensure that the benefits from the circular transition are accessible to everyone**. In practice, this entails providing support to businesses and workers, and also to citizens who may not be fully aware of their rights as consumers (eg when it comes to the right to repair) or do not know how to access information about available circular economy services. Demand-oriented instruments such as tax exemptions for circular products could be used to reduce the costs of circular and sustainable choices, boosting demand and providing more affordable goods and services to consumers. Such measures could accelerate the growth of the circular economy, addressing the challenges outlined in Chapter 5.

### Foster circular employment opportunities for just transition

There are **socio-economic** aspects related to the circular economy that need to be considered, such as employment, health and safety, and participation.<sup>161</sup> The labour market is instrumental to the feasibility, functioning and social acceptability of the circular economy transition: without adequate numbers of suitably skilled workers, circular economy practices cannot expand. Moreover, it will be essential to

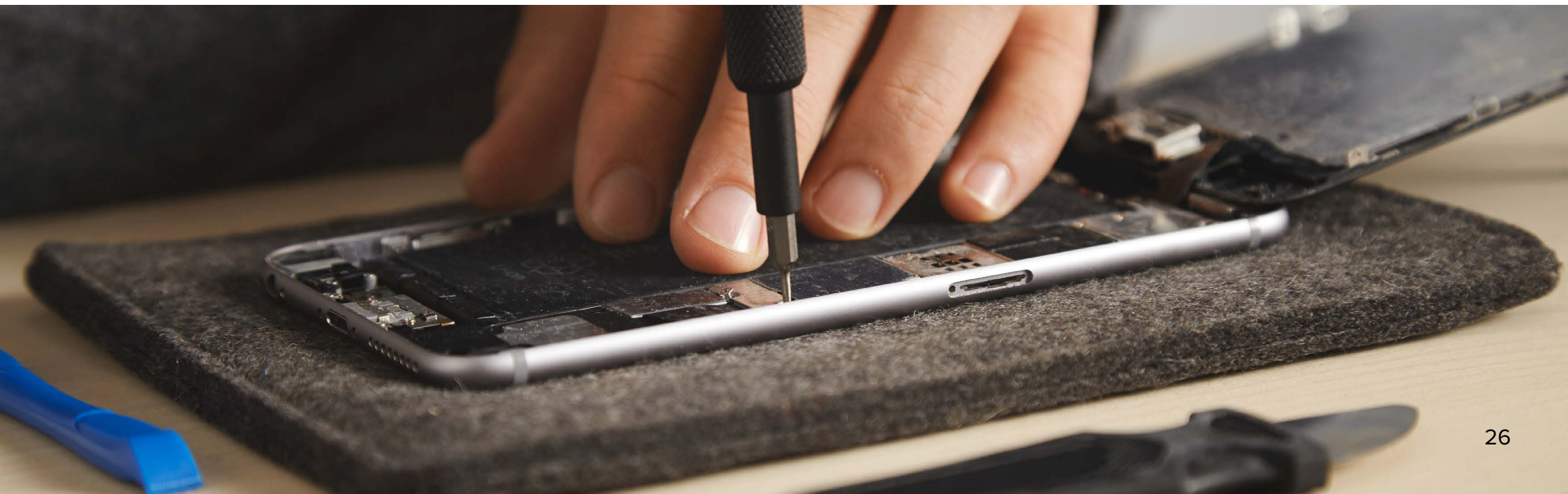
address any adverse labour market impacts, such as potential job losses in sectors that will shrink because of the circular economy transition, to promote societal buy-in and overcome reluctance to invest in the circular economy.

Although it is widely believed that the circular economy will create new employment opportunities (see Chapter 2), employment gains often come with caveats, such as the potential effects of automation, the availability of skills and geographical distribution. Various quantitative analyses have discovered that, while the net effects on EU employment would likely be positive, the sectoral composition of employment will change,<sup>162</sup> and “it will likely be unevenly distributed across geographies and within regions”, in particular on the global scale.<sup>163</sup>

Employment gains and losses, and their potentially unequal distribution, will depend on infrastructures, location of industrial clusters, structural disparities, educational programmes, size of informal job markets, gender, etc. For example, research by Cambridge Econometrics in partnership with DG ENVI and Trinomics found that sectors that produce and process raw materials will decline in size, while the recycling and repair sectors will grow. In manufacturing, the sectors that could

lose out the most include those that produce durable and high-value goods such as electronics, machinery, cars and accommodation, where the right to repair regulations will likely have a substantial impact on demand for new products. However, the circular economy transition will not occur in isolation, and its labour market impacts may be obfuscated by other concurrent changes, such as automation. For example, employment in the construction sector is expected to fall not only because of improved circularity but also because of productivity gains enabled by new building techniques, such as modular design.<sup>164</sup> Moreover, some sources suggest that job losses may be modest, especially within the EU; this is because the job losses will most likely be concentrated within the most material-intensive sectors, which employ only a very small number of workers.<sup>165</sup>

When it comes to job creation, the EU, as a ‘social market economy’<sup>166</sup> with a strong tradition of labour rights, is well positioned to ensure a **socially just transition** to a circular economy. A recent policy briefing produced by the Materials and Products Taskforce discusses this topic in detail and outlines policy recommendations for ensuring that any potentially negative impacts are minimised.





The key suggestions include:

- Assessing, addressing and monitoring the distributional impacts of circular economy policies on employment, including vulnerable workers.
- Ensuring adequate funding for the transition towards a socially just circular economy through the creation of a social taxonomy.
- Making social and environmental criteria mandatory for public procurement and access to EU funds.
- Investing in education and skills needed for the circular economy transition.
- Considering the global employment impacts of the EU's transition to a circular economy.<sup>167</sup>

A clearly articulated policy framework is essential to guide the transition to a circular economy, focusing on the 'future of work' rather than just its short-term labour market impacts.<sup>168</sup> This framework should aim to understand and manage the labour and welfare aspects of the transition in an inclusive and just manner,<sup>169</sup> seeking to maximise the potential co-benefits of job creation in the circular economy, such as those outlined in the Progetto Quid case study (see below). To this end, it is important to maintain dialogue and encourage new partnerships among different stakeholders, including policymakers, businesses and social economy entities, trade unions and education institutions.

It is also important for national and regional authorities within the Member States to invest in **upskilling and reskilling** the European workforce to ensure that businesses have the skills they need for the transition. It remains unclear whether the population currently possesses the necessary **skills and interest** in circular economy jobs, particularly those circular jobs that will likely be geographically concentrated, such as e-waste recycling.<sup>170,171</sup> Finally, consideration should be given to the global dimension of the EU circularity transition and any potential negative effects on other countries, particularly regarding employment:<sup>172</sup> although a reduction in waste exports to developing countries could break the cycle of poor quality jobs, it could also lead to loss of income and employment for some highly vulnerable workers abroad.

#### Case study 4: Promoting social inclusion through circular economy

Progetto Quid<sup>173</sup> is a social co-operative based in Verona, Italy. It creates fashion from recovered textiles that are discarded as waste by prestigious fashion and textile companies, while also helping to reintegrate disadvantaged and marginalised workers into the labour market.<sup>174,175</sup>

Progetto Quid was set up in 2013 and has grown rapidly: in 2022, it employed 131 people, 84 per cent of which were women. Moreover, 71 per cent of the workforce had a history of job fragility. Co-operative members include workers from diverse disadvantaged groups, including those who are not specifically recognised by Italian law (eg female victims of violence, refugees, asylum seekers, or young people not in education, employment or training).<sup>176</sup> The workers benefit not only from long-term employment opportunities but also from on-the-job training and holistic support.<sup>177</sup>

Progetto Quid is commercially successful: it has collaborated with major brands such as Calzedonia, Unilever, Ikea, L'Oréal and Vivienne Westwood, and is also selling its creations on the major e-commerce platform Zalando.<sup>178</sup> The co-operative mostly relies on local fabric waste, as 90 per cent of the fabric it uses comes from a 250 km range within Italy. The other 10 per cent originates from Spain, the UK and Croatia. So far, the co-operative has recovered 1,200 km of fabric, and it also donates its remaining stock to other social projects.<sup>179</sup>

Progetto Quid is therefore a successful example of how the circular economy can be harnessed to successfully generate quality local employment for vulnerable workers, while ensuring long-term economic sustainability.





## 7. CONCLUSIONS

**Circularity has an important role to play in delivering on the EU's strategic objectives, which include strategic autonomy, resilient and competitive sustainability, climate neutrality, and protection of nature and the environment. The circular economy transition will also promote high-quality employment, support local development and improve social inclusion of disadvantaged populations. Thus, during the next institutional cycle, transition to a circular economy needs to be put high on the EU's policy agenda.**

EU policymakers, businesses and other stakeholders are increasingly acknowledging the importance of a circular economy. During the past five years, several important regulatory initiatives were adopted or are nearing adoption (as outlined in Chapter 2). The EU is gradually shifting its focus from waste management and recognising waste as a resource and embedding circularity within the entire material and product life cycle, from the design phase to end-of-life.

These are welcome shifts, and they bode well for the EU's capability to undertake a more fundamental transformation of its economic model.

However, the EU needs to rapidly accelerate the circular economy transition. The progress on reducing waste generation and increasing circularity has been slow and limited in scope, and the recent regulatory changes will only deliver impact if they are adequately implemented and enforced. Although companies need to do their bit by adopting more circular practices and developing more circular products and business models, ambitious action is also needed to strengthen the framework conditions for a circular economy within the EU across the four systems identified in this report: policy and governance; capital allocation (private investment and public financing); market demand, (creating lead markets including supporting technology and innovation); and societal engagement. As the EU works across the various systems, it must ensure that the different drivers are integrated in a coordinated manner, creating a genuine business case for circular activities, products and services.

Instead of approaching the circular economy transition as a discrete area of environmental policy, it needs to be integrated into the EU's and Member States' broader strategies as an economic imperative – and the principles embedded in the single market. The development and setting of clearer targets and metrics to measure progress on and investment in circularity are essential for this, as are mechanisms such as Digital Product Passports to collect and share information on product composition, recyclability and embedded emissions. In both regards, significant progress has been made during the past five years, but accelerated action and greater alignment are urgently needed to improve the financial feasibility of circular products, materials and business models. An EU industrial strategy emphasising competitive sustainability would be a good starting point: ambitious targets to identify priorities and needs for co-ordination across these areas will be important as part of the EU's Clean Industrial Deal. This will need to be accompanied by the relevant senior level of decision-making responsibility in the European Commission to ensure that its development is overseen and delivered in practice, across all EU institutions and Member States.



## Policy recommendations

This report has offered a business perspective on how the EU can support a circular economy during the next institutional cycle. Below, we summarise the core policy recommendations.

### Transversal recommendations

Coordinate between financial, regulatory and market drivers to ensure that businesses have the right opportunities and incentives to make long-term investments in circularity.

Ensure that the standards and regulations related to the circular economy transition are technologically and economically feasible.

Execute a fitness check of existing legislation from the perspective of the circular economy, maintaining a systemic approach.



#### Policy and governance

Align strategies, objectives and policies across the EU including redefining concepts and definitions such as 'waste' to better facilitate the circular economy.

Deliver on existing legislation and connect the new CEAP with competitiveness and industrial decarbonisation agendas and frameworks.

Implement consistent, ambitious and effective targets and standards.

Provide regulatory certainty, including by reducing inconsistencies in regulation and enforcement between different Member States to level the playing field for a circular economy.

Strengthen the links between the EU's circular and bioeconomy strategies

#### Capital allocation (private investment and public financing)

Leverage public sector funds to incentivise private sector investment, including simplifying access to EU funds to support circular activities and innovation.

Direct public financing towards enabling infrastructure and innovation and upscaling of new circular technologies.

Monitor, measure and inform companies about available financing for the transition to a circular economy.

Allocate state aid according to competitive sustainability principles.

#### Market demand

Deploy policy measures such as fiscal incentives and regulation to improve the competitiveness of circular products, materials and business models.

Provide fiscal incentives for circular activities and disincentives for linear activities (eg VAT exemption on repair).

Ensure that the supply of and demand for circular materials and products develop in a mutually reinforcing way.

Create lead markets through ambitious demand-side policies (eg circular public procurement).

Support, promote and mandate circular product design.

Improve data collection and reporting on circularity by using tools such as Digital Product Passports.

Support the EU's innovation capacities and harness the potential of digitalisation for the circular economy.

#### Societal engagement

Encourage and incentivise businesses and consumers to make sustainable choices.

Ensure that circular jobs are adequately compensated, secure and safe.









Leverage the job creation potential of the circular economy transition to provide opportunities for disadvantaged populations and mitigate adverse employment impacts












Facilitate upskilling and reskilling for circular jobs.














# ANNEX: DELIVERY ON THE KEY ACTIONS OF THE 2020 CIRCULAR ECONOMY ACTION PLAN











Disclaimer: Information in this table was sourced by the Wuppertal Institute and edited by CISL. All information compiled is publicly available and was interpreted to the best ability of the individual authors.









Policy framework	Key action from the <a href="#">new CEAP</a>	Deliverable & status
Sustainable Product Policy Framework	Legislative proposal for a sustainable product policy initiative	 <a href="#">Regulation (EU) 2024/1781 of the European Parliament and of the Council of 13 June 2024 establishing a framework for the setting of ecodesign requirements for sustainable products, amending Directive (EU) 2020/1828 and Regulation (EU) 2023/1542 and repealing Directive 2009/125/EC</a> <i>Entered into force on 18 July 2024</i>
	Legislative proposal empowering consumers in the green transition	 <a href="#">Directive (EU) 2024/825 of the European Parliament and of the Council of 28 February 2024 amending Directives 2005/29/EC and 2011/83/EU as regards empowering consumers for the green transition through better protection against unfair practices and through better information</a> <i>Entered into force on 26 March 2024</i>
	Legislative and non-legislative measures establishing a new “right to repair”	 <a href="#">Directive (EU) 2024/1799 of the European Parliament and of the Council of 13 June 2024 on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394 and Directives (EU) 2019/771 and (EU) 2020/1828</a> <i>Entered into force on 30 July 2024</i>
	Legislative proposal on substantiating green claims	 <a href="#">Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL</a> <i>Pending: awaiting Council's 1st reading position; General Approach published 17 June 2024</i>
	Mandatory Green Public Procurement (GPP) criteria and targets in sectoral legislation and phasing-in mandatory reporting on GPP	 <a href="#">Art. 7 of Directive (EU) 2023/1791 of the European Parliament and of the Council of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (recast)</a> <i>Entered into force on 10 October 2024</i>  <a href="#">Art. 85 of Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC</a> <i>Entered into force on 17 August 2023</i>  <a href="#">Art. 65 of Regulation (EU) 2024/1781 of the European Parliament and of the Council of 13 June 2024 establishing a framework for the setting of ecodesign requirements for sustainable products, amending Directive (EU) 2020/1828 and Regulation (EU) 2023/1542 and repealing Directive 2009/125/EC</a> <i>Entered into force on 18 July 2024</i>
	Review of the Industrial Emissions Directive, including the integration of circular economy practices in upcoming Best Available Techniques reference documents	 <a href="#">Directive (EU) 2024/1785 of the European Parliament and of the Council of 24 April 2024 amending Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions (integrated pollution prevention and control) and Council Directive 1999/31/EC on the landfill of waste</a> <i>Entered into force on 14 May 2024</i>
	Launch of an industry-led industrial symbiosis reporting and certification system	 <a href="#">European Innovation Centre for Industrial Transformation and Emissions</a> <i>Currently under development</i>
		 <i>No evidence of delivery on this action</i>















Policy framework	Key action from the <a href="#">new CEAP</a>	Deliverable & status
Key Product Value Chains	Circular Electronics Initiative, common charger solution, and reward systems to return old devices	 <a href="#">Art. 18 of Regulation (EU) 2024/1781 of the European Parliament and of the Council of 13 June 2024 establishing a framework for the setting of ecodesign requirements for sustainable products, amending Directive (EU) 2020/1828 and Regulation (EU) 2023/1542 and repealing Directive 2009/125/EC</a> Entered into force on 18 July 2024
		 <a href="#">Art. 5 of Directive (EU) 2024/1799 of the European Parliament and of the Council of 13 June 2024 on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394 and Directives (EU) 2019/771 and (EU) 2020/1828</a> Entered into force on 30 July 2024
		 <a href="#">Commission Regulation (EU) 2023/1670 of 16 June 2023 laying down ecodesign requirements for smartphones, mobile phones other than smartphones, cordless phones and slate tablets pursuant to Directive 2009/125/EC of the European Parliament and of the Council and amending Commission Regulation (EU) 2023/826</a> Regulation shall apply from 20 June 2025
		 <a href="#">Commission Delegated Regulation (EU) 2023/1669 of 16 June 2023 supplementing Regulation (EU) 2017/1369 of the European Parliament and of the Council with regard to the energy labelling of smartphones and slate tablets</a> Regulation shall apply from 20 June 2025
		 <a href="#">Directive (EU) 2022/2380 of the European Parliament and of the Council of 23 November 2022 amending Directive 2014/53/EU on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment</a> Entered into force on 7 December 2022
		 <a href="#">Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2011/65/EU of the European Parliament and of the Council as regards the re-attribution of scientific and technical tasks to the European Chemicals Agency</a> Pending; Awaiting committee decision
		 <a href="#">Consolidated text: Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE)</a> New amendments entered into force on 8 April 2024
		 <a href="#">Commission Recommendation (EU) 2023/2585 of 6 October 2023 on improving the rate of return of used and waste mobile phones, tablets and laptops</a> Recommendation published on 6 October 2023
	Review of the Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment	 <a href="#">Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2011/65/EU of the European Parliament and of the Council as regards the re-attribution of scientific and technical tasks to the European Chemicals Agency</a> Pending; Awaiting committee decision
	Proposal for a new regulatory framework for batteries	 <a href="#">Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC</a> Amendment in force since 18 July 2024
	Review of the rules on end-of-life vehicles	 <a href="#">Proposal for a Regulation of the European Parliament and of the Council on circularity requirements for vehicle design and on management of end-of-life vehicles, amending Regulations (EU) 2018/858 and 2019/1020 and repealing Directives 2000/53/EC and 2005</a> Pending; Awaiting National parliaments' opinions

Policy framework	Key action from the <a href="#">new CEAP</a>	Deliverable & status
Key Product Value Chains	Review of the rules on proper treatment of waste oils	 Review finalised, no amendments proposed
	Review to reinforce the essential requirements for packaging and reduce (over)packaging and packaging waste	 <a href="#">Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on packaging and packaging waste, amending Regulation (EU) 2019/1020 and Directive (EU) 2019/904, and repealing Directive 94/62/EC</a> <i>Pending; European Parliament adopted proposal on 24 April 2024</i>
	Mandatory requirements on recycled plastic content and plastic waste reduction measures for key products such as packaging, construction materials and vehicles	 <a href="#">Art. 6 of the Proposal for a Regulation of the European Parliament and of the Council on circularity requirements for vehicle design and on management of end-of-life vehicles, amending Regulations (EU) 2018/858 and 2019/1020 and repealing Directives 2000/53/EC and 2005</a> <i>Pending; Awaiting National parliaments' opinions</i>
		 <a href="#">Section 4 of the Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on circularity requirements for vehicle design and on management of end-of-life vehicles, amending Regulations (EU) 2018/858 and 2019/1020 and repealing Directives 2000/53/EC and 2005/64/EC</a> <i>Pending; Awaiting National parliaments' opinions</i>
	Restriction of intentionally added microplastics and measures on unintentional release of microplastics	 <a href="#">Commission Regulation (EU) 2023/2055 of 25 September 2023 amending Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards synthetic polymer microparticles</a> <i>Regulation published on 25 September 2023</i>
		 <a href="#">Proposal for a Directive of the European Parliament and of the Council concerning urban wastewater treatment</a> <i>Pending; Council and Parliament provisional agreement on urban wastewater in March 2024</i>
		 <a href="#">Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on preventing plastic pellet losses to reduce microplastic pollution</a> <i>Awaiting Council's first reading position</i>
	Policy framework for bio-based plastics and biodegradable or compostable plastics	 <a href="#">COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS EU policy framework on biobased, biodegradable and compostable plastics</a> <i>Published on 30 November 2022</i>
		 <a href="#">COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL Sustainable Carbon Cycles</a> <i>Published on 15 December 2021</i>
		 <a href="#">COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS EU policy framework on biobased, biodegradable and compostable plastics</a> <i>Published on 30 November 2022</i>
		 <a href="#">DIRECTIVE (EU) 2023/2413 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652</a> <i>Entered into force on 20 November 2023</i>



























Policy framework	Key action from the <a href="#">new CEAP</a>	Deliverable & status
Key Product Value Chains	Policy framework for bio-based plastics and biodegradable or compostable plastics	 <a href="#">DIRECTIVE (EU) 2023/2413 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652</a> <i>Entered into force on 20 November 2023</i>
		 <a href="#">Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives</a> <i>Entered into force on 12 July 2020</i>
		 <a href="#">Regulation (EU) 2019/1009 of the European Parliament and of the Council of 5 June 2019 laying down rules on the making available on the market of EU fertilising products and amending Regulations (EC) No 1069/2009 and (EC) No 1107/2009 and repealing Regulation (EC) No 2003/2003</a> <i>Adopted on 15 July 2024</i>
		 <a href="#">Regulation (EU) 2019/1009 of the European Parliament and of the Council of 5 June 2019 laying down rules on the making available on the market of EU fertilising products and amending Regulations (EC) No 1069/2009 and (EC) No 1107/2009 and repealing Regulation (EC) No 2003/2003</a> <i>Adopted on 23 July 2024</i>
		 <a href="#">Commission Regulation (EU) 2023/2055 of 25 September 2023 amending Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards synthetic polymer microparticles</a> <i>Published on 25 September 2023</i>
		 <a href="#">COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Chemicals Strategy for Sustainability Towards a Toxic-Free Environment</a> <i>Limited evidence of delivery</i>
		 <a href="#">Biodegradability of Plastics in the Open Environment</a> <i>Published in December 2020</i>
		 <a href="#">Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment</a> <i>Limited evidence of delivery</i>
		 <a href="#">Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on packaging and packaging waste, amending Regulation (EU) 2019/1020 and Directive (EU) 2019/904, and repealing Directive 94/62/EC</a> <i>Pending; European Parliament adopted proposal on 24 April 2024</i>
		 <a href="#">COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS EU policy framework on biobased, biodegradable and compostable plastics</a> <i>Limited evidence of delivery</i>

Policy framework	Key action from the <a href="#">new CEAP</a>	Deliverable & status
Key Product Value Chains	EU Strategy for Textiles	 <a href="#">COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS EU Strategy for Sustainable and Circular Textiles</a> <i>Published on 30 March 2022</i>
		 <a href="#">Art. 18 of Regulation (EU) 2024/1781 of the European Parliament and of the Council of 13 June 2024 establishing a framework for the setting of ecodesign requirements for sustainable products, amending Directive (EU) 2020/1828 and Regulation (EU) 2023/1542 and repealing Directive 2009/125/EC</a> <i>Entered into force on 18 July 2024</i>
		 <a href="#">Annex V to Regulation (EU) 2024/1157 of the European Parliament and of the Council of 11 April 2024 on shipments of waste, amending Regulations (EU) No 1257/2013 and (EU) 2020/1056 and repealing Regulation (EC) No 1013/2006</a> <i>Entered into force on 20 May 2024</i>
		 <a href="#">Review of Regulation (EU) No 1007/2011 of the European Parliament and of the Council of 27 September 2011 on textile fibre names and related labelling and marking of the fibre composition of textile products and repealing Council Directive 73/44/EEC and Directives 96/73/EC and 2008/121/EC of the European Parliament and of the Council</a> <i>Review process launched on 12 July 2023</i>
		 <a href="#">Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2008/98/EC on waste</a> <i>Council adopted text on 17 June 2024; Pending European Parliament negotiations</i>
	Strategy for a Sustainable Built Environment	 <a href="#">COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL Strategy for the sustainable competitiveness of the construction sector and its enterprises</a> <i>Strategy published in March 2020</i>
		 <a href="#">Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL laying down harmonised conditions for the marketing of construction products, amending Regulation (EU) 2019/1020 and repealing Regulation (EU) 305/2011</a> <i>Close to adoption</i>
	Initiative to substitute single-use packaging, tableware and cutlery by reusable products in food services	 <a href="#">Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment</a> <i>Transposed into national law by 3 July 2021 with product design requirements for caps and lids of SUP beverage containers applied since 3 July 2024</i>

Policy framework	Key action from the <a href="#">new CEAP</a>	Deliverable & status
Less Waste, More Value	Waste reduction targets for specific streams and other measures on waste prevention	 <a href="#">Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives</a> <i>Revised 13 March 2024, setting higher binding waste reduction targets by 2030.</i>
	EU-wide harmonised model for separate collection of waste and labelling to facilitate separate collection	 <a href="#">Art. 10 and art. 11 of the Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives</a> <i>Amended on 18 February 2024</i>
		 Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on packaging and packaging waste, amending Regulation (EU) 2019/1020 and Directive (EU) 2019/904, and repealing Directive 94/62/EC <i>Pending; European Parliament adopted proposal on 24 April 2024</i>
		 Development of an EU harmonised model for separate municipal waste collection and related policy support <i>Report published in 2023</i>
		 Harmonising waste sorting labels across the EU <i>Design of possible labelling system on the way; most recently, expert workshop was held in June 2024; the next expert workshop is scheduled for the beginning of 2025</i>
	Methodologies to track and minimise the presence of substances of concern in recycled materials and articles made thereof	 <a href="#">Regulation (EU) 2022/2400 of the European Parliament and of the Council of 23 November 2022 amending Annexes IV and V to Regulation (EU) 2019/1021 on persistent organic pollutants</a> <i>Entered into force on 29 December 2022</i>
	Harmonised information systems for the presence of substances of concern	 <a href="#">COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on the implementation of the circular economy package: options to address the interface between chemical, product and waste legislation (Text with EEA relevance) options to address the interface between chemical, product and waste legislation</a> <i>Published 16 January 2018</i>
		 <a href="#">Database with information on articles containing substances of very-high concern</a> <i>Duty for suppliers to provide information since 5 January 2021</i>
		 <a href="#">Information flows on substances of concern in products from supply chains to waste operators</a> <a href="#">Final report (including annexes)</a> <i>Study was published in 2020</i>
		 Decision-making methodology to support decisions on the recyclability of waste containing substances of concern. <i>No evidence of delivery on this action</i>
		 Facilitate closer cooperation between existing chemical and waste management expert networks. <i>No evidence of delivery on this action</i>
		 Online EU repository for all adopted national and EU end-of-waste and by-product criteria. <i>No evidence of delivery on this action</i>
	Scoping the development of further EU-wide end-of-waste and by-product criteria	 <a href="#">Scoping possible further EU-wide end-of-waste and by-product criteria</a> <i>Study published on 2 March 2022</i>
	Revision of the rules on waste shipments	 <a href="#">Regulation (EU) 2024/1157 of the European Parliament and of the Council of 11 April 2024 on shipments of waste, amending Regulations (EU) No 1257/2013 and (EU) 2020/1056 and repealing Regulation (EC) No 1013/2006</a> <i>Published on 30 April 2024</i>



Policy framework	Key action from the <a href="#">new CEAP</a>	Deliverable & status
Making the Circular Economy work for people, regions, and cities	Supporting the circular economy transition through the Skills Agenda, the forthcoming Action Plan for Social Economy, the Pact for Skills and the European Social Fund Plus.	 <a href="#">European Skills Agenda</a> <i>Published in July 2020</i>
		 <a href="#">Building an economy that works for people: an action plan for the social economy</a> <i>Adopted on 9 December 2021</i>
		 <a href="#">Pact for Skills</a> <i>Launched on 10 November 2020</i>
		 <a href="#">European Social Fund Plus</a> <i>Launched in 2021</i>
	Supporting the circular economy transition through Cohesion policy funds, the Just Transition Mechanism and urban initiatives	 <a href="#">Regulation (EU) 2021/1058 of the European Parliament and of the Council of 24 June 2021 on the European Regional Development Fund and on the Cohesion Fund</a> <i>Regulation published on 30 June 2021</i>
		 <a href="#">Circular Economy in cities</a> <i>Limited evidence of delivery on this action</i>
Cross-cutting actions	Improving measurement, modelling and policy tools to capture synergies between the circular economy, climate change mitigation, and adaptation at EU and national level	 CIRCULAR ECONOMY <a href="#">Monitoring framework</a> <i>Released on 15 May 2023</i>
		 <a href="#">COMMISSION RECOMMENDATION of 16.12.2021 on the use of the Environmental Footprint methods to measure and communicate the life cycle environmental performance of products and organisations</a> <i>Published on 16 December 2021, undergoing review</i>
		 <a href="#">Circular economy and climate change mitigation – analysis and guidance on including Circular Economy actions in climate reporting and policy making</a> <i>Released on 22 February 2024</i>
		 <a href="#">Information website on Environmental Footprint Methods</a> <i>Website published and available</i>
		 <a href="#">Consumption Footprint Platform   EPLCA</a> <i>Platform published in 2024</i>
	Regulatory framework for the certification of carbon removals	 <a href="#">Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing a Union certification framework for carbon removals</a> <i>Text adopted by European Parliament on 10 April 2024; Council's 1st reading position awaited</i>
	Reflecting circular economy objectives in the revision of the guidelines on state aid in the field of environment and energy	 <a href="#">Communication from the Commission – Guidelines on State aid for climate, environmental protection and energy 2022</a> <i>Published on 18 February 2022</i>

Policy framework	Key action from the <a href="#">new CEAP</a>	Deliverable & status
Cross-cutting actions	Mainstreaming circular economy objectives in the context of the rules on non-financial reporting, and initiatives on sustainable corporate governance and on environmental accounting	 <a href="#">Mainstreaming circular economy objectives in the context of the rules on non-financial reporting</a> <a href="#">Art. 29b para 2 Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting</a> <i>Entered into force on 5 January 2023</i>
		 <a href="#">Mainstreaming circular economy objectives in the context of the rules on non-financial reporting</a> <a href="#">Art. 9 of the Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088</a> <i>Entered into force on 12 July 2020</i>
		 <a href="#">Mainstreaming circular economy objectives in the context of the rules on non-financial reporting</a> <a href="#">COMMISSION DELEGATED REGULATION (EU) 2023/2772 of 31 July 2023 supplementing Directive 2013/34/EU of the European Parliament and of the Council as regards sustainability reporting standards</a> <i>Published on 22 December 2023</i>
		 Mainstreaming circular economy objectives in initiatives on environmental accounting <i>No further evidence of delivery on this action</i>
Leading Efforts at Global Level	Leading efforts towards reaching a global agreement on plastics	 Lead international agreements on plastics pollution. <i>Global Treaty Expected to be concluded by 2025</i>
	Global Alliance on Circular Economy and Resource Efficiency	 <a href="#">Global Alliance on Circular Economy and Resource Efficiency</a> <i>Idea formulated in Circular Economy Action Plan on 11 March 2020, GACERE launched in February 2021</i>
	Mainstreaming circular economy objectives in free trade agreements, in other bilateral, regional and multilateral processes and agreements, and in EU external policy funding instruments	 <a href="#">COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS The power of trade partnerships: together for green and just economic growth</a> <i>Communication published on 22 June 2022</i>
		 Free Trade Agreement between the European Union and New Zealand <i>Agreement concluded on 25 March 2024</i>
		 TRADE AND COOPERATION Agreement between the European Union and the European Atomic Energy Community, of the one part, and the United Kingdom of Great Britain and Northern Ireland, of the other part <i>Agreement signed on 30 December 2020</i>
		 EU-China roadmap for circular economy cooperation <i>Cooperation agreed on 25 April 2024</i>
		 EU-ASEAN cooperation on circular economy <i>Strategic partnership commenced in 2020, emphasising circular economy</i>

# REFERENCES

- <sup>1</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Policy Briefing: The Green Deal and Beyond: A Business Agenda for a Sustainable, Competitive and Resilient Europe” (Cambridge, UK: Cambridge Institute for Sustainability Leadership, 2024), <https://www.corporateleadersgroup.com/reports-evidence-and-insights/collections/policy-briefings/green-deal-and-beyond>.
- <sup>2</sup> Enrico Letta, “Much More than a Market – Speed, Security, Solidarity: Empowering the Single Market to Deliver a Sustainable Future and Prosperity for All EU Citizens” (Paris: Jacques Delors Institute, April 2024), <https://www.consilium.europa.eu/media/ny3j24sm/much-more-than-a-market-report-by-enrico-letta.pdf>.
- <sup>3</sup> European Commission, “ERA Industrial Technology Roadmap for Circular Technologies and Business Models in the Textile, Construction and Energy-Intensive Industries” (Brussels: European Commission, 2023), <https://op.europa.eu/en/publication-detail/-/publication/573fa5de-9d8a-11ed-b508-01aa75ed71a1/language-en>.
- <sup>4</sup> WEF, “Innovating for the European Green Deal. White Paper” (Cologny/Geneva: World Economic Forum, January 2023), [https://www3.weforum.org/docs/WEF\\_Innovating\\_for\\_the\\_European\\_Green\\_Deal\\_2023.pdf](https://www3.weforum.org/docs/WEF_Innovating_for_the_European_Green_Deal_2023.pdf).
- <sup>5</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Competitive Sustainability Index: New Metrics for EU Competitiveness for an Economy in Transition” (Cambridge, UK: University of Cambridge Institute for Sustainability Leadership, 2022), <https://www.cisl.cam.ac.uk/competitive-sustainability-index>.
- <sup>6</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Competitive Sustainability Index: New Metrics for EU Competitiveness for an Economy in Transition.”
- <sup>7</sup> Enrico Letta, “Much More than a Market – Speed, Security, Solidarity: Empowering the Single Market to Deliver a Sustainable Future and Prosperity for All EU Citizens.”
- <sup>8</sup> “The Antwerp Declaration for a European Industrial Deal,” 2024. <https://antwerp-declaration.eu/>.
- <sup>9</sup> Council of the European Union. “A Competitive European Industry Driving Our Green, Digital and Resilient Future” (Brussels: Council of the European Union, May 24, 2024) <https://data.consilium.europa.eu/doc/document/ST-10127-2024-INIT/en/pdf>.
- <sup>10</sup> Ursula von der Leyen, “Europe’s Choice: Political Guidelines for the Next European Commission 2024-2029,” [https://ieue-monitoring.com/editorial/ursula-von-der-leyen-europes-choice-political-guidelines-for-the-next-european-commission-2024-2029/439228?utm\\_source=ieue-portal](https://ieue-monitoring.com/editorial/ursula-von-der-leyen-europes-choice-political-guidelines-for-the-next-european-commission-2024-2029/439228?utm_source=ieue-portal).
- <sup>11</sup> OECD, “Monitoring Progress towards a Resource-Efficient and Circular Economy” (Paris: OECD Publishing, 2024), <https://doi.org/10.1787/3b644b83-en>.
- <sup>12</sup> International Organization for Standardization, “ISO 59004:2024(En): Circular Economy - Vocabulary, Principles and Guidance for Implementation,” May 2024. <https://www.iso.org/obp/ui/en/#iso:std:iso:59004:ed-1:v1:en>.
- <sup>13</sup> José Potting, Marko Hekkert, Ernst Worrell, and Aldert Hanemaaijer, “Circular Economy: Measuring Innovation in the Product Chain” (The Hague, NL: PBL Netherlands Environmental Assessment Agency, January 2017), <https://www.pbl.nl/uploads/default/downloads/pbl-2016-circular-economy-measuring-innovation-in-product-chains-2544.pdf>.
- <sup>14</sup> Antonella Ilaria Totaro, “Introducing the New ISO Standards for the Circular Economy - They Are the First International Standards to Define the Circular Economy, Principles, Implementation, and Business Models,” 27 May 2024, <https://www.renewablematter.eu/en/new-iso-standards-circular-economy>.
- <sup>15</sup> José Potting, Marko Hekkert, Ernst Worrell, and Aldert Hanemaaijer, “Circular Economy: Measuring Innovation in the Product Chain.”
- <sup>16</sup> European Commission, “Waste Framework Directive,” accessed August 7, 2024, [https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive\\_en](https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive_en).
- <sup>17</sup> EUR-Lex, “Circular Economy,” 2024, <https://eur-lex.europa.eu/EN/legal-content/glossary/circular-economy.html>.
- <sup>18</sup> Ellen MacArthur Foundation, “Aiming for 100% circularity: Amsterdam,” <https://www.ellenmacarthurfoundation.org/circular-examples/shaping-a-sharing-economy-amsterdam>
- <sup>19</sup> See for example, Eleni Iacovidou, John N. Hahladakis, and Phil Purnell, “A Systems Thinking Approach to Understanding the Challenges of Achieving the Circular Economy,” *Environmental Science and Pollution Research* 28, no. 19 (May 1, 2021): 24785–806, <https://doi.org/10.1007/s11356-020-11725-9>.
- <sup>20</sup> European Commission, “Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - A New Circular Economy Action Plan for a Cleaner and More Competitive Europe,” March 11, 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN>.
- <sup>21</sup> European Commission, “Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Closing the Loop: An EU Action Plan for the Circular Economy,” December 2, 2015, [https://eur-lex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0012.02/DOC\\_1&format=PDF](https://eur-lex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0012.02/DOC_1&format=PDF).



<sup>22</sup> Council of the European Union, “The 8th Environmental Action Programme Mid-Term Review - The Way Forward to a Green and Just Transition for a Sustainable Europe - Council Conclusions” (Brussels: Council of the European Union, 2024), <https://data.consilium.europa.eu/doc/document/ST-11326-2024-INIT/en/pdf>.

<sup>23</sup> Inger Andersen, “The Triple Planetary Crisis: Forging a New Relationship between People and the Earth.” Virtual Speech presented at the Climate Action, UNEP, July 14, 2020, [https://www.unep.org/news-and-stories/speech/triple-planetary-crisis-forging-new-relationship-between-people-and-earth?gad\\_source=1&qclid=EALaQobChMlqr6qh8DThgMVXJSDBx3uUypcEAAAYASAAEgLgBPD\\_BwE](https://www.unep.org/news-and-stories/speech/triple-planetary-crisis-forging-new-relationship-between-people-and-earth?gad_source=1&qclid=EALaQobChMlqr6qh8DThgMVXJSDBx3uUypcEAAAYASAAEgLgBPD_BwE).

<sup>24</sup> Eurostat, “Material Footprints - Main Indicators,” 2024, [https://doi.org/10.2908/ENV\\_AC\\_RME](https://doi.org/10.2908/ENV_AC_RME).

<sup>25</sup> International Resource Panel, “Managing and Conserving the Natural Resource Base for Sustained Economic and Social Development,” February 7, 2014, <https://www.resourcepanel.org/reports/managing-and-conserving-natural-resource-base-sustained-economic-and-social-development>.

<sup>26</sup> International Resource Panel, “The Weight of Cities: Resource Requirements of Future Urbanization,” January 25, 2018, <https://www.resourcepanel.org/reports/weight-cities>.

<sup>27</sup> International Resource Panel, “Global Resources Outlook 2024 - Bend the Trend: Pathways to a Liveable Planet as Resource Use Spikes” (Nairobi, Kenya: UNEP International Resource Panel, 2024), <https://www.unep.org/resources/Global-Resource-Outlook-2024>.

<sup>28</sup> Eurostat, “Waste Statistics,” 2024, [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste\\_statistics#Waste\\_treatment](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste_statistics#Waste_treatment).

<sup>29</sup> Jesse Frederik, “Your Car Has a Weight Problem and We Need to Regulate It,” *The Correspondent*, February 24, 2020, <https://thecorrespondent.com/310/your-car-has-a-weight-problem-and-we-need-to-regulate-it>.

<sup>30</sup> Agora Industrie and Systemiq, “Circular Economy and Net-Zero Industry: Potentials for Energy-Intensive Value Chains in Germany; Executive Summary” (Berlin: Agora Industry/Systemiq, 2024), [https://www.agora-industry.org/fileadmin/Projekte/2022/2022-11\\_IND\\_Kreislaufwirtschaft/A-EW\\_320\\_Circular\\_Economy\\_Summary\\_EN\\_WEB.pdf](https://www.agora-industry.org/fileadmin/Projekte/2022/2022-11_IND_Kreislaufwirtschaft/A-EW_320_Circular_Economy_Summary_EN_WEB.pdf).

<sup>31</sup> WWF, “Eine Umfassende Circular Economy für Deutschland 2045: Zum Schutz von Klima und Biodiversität” (Berlin: World Wildlife Fund Deutschland, 2023), <https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/Unternehmen/WWF-Modell-Deutschland-Circular-Economy-Broschuere.pdf>.

<sup>32</sup> See for example, University of Cambridge Institute for Sustainability Leadership (CISL) and Wuppertal Institute, “Embracing Circularity: A Pathway for Strengthening the Critical Raw Materials Act,” Materials and Products Taskforce (Cambridge, UK: CLG Europe, 2023), [https://www.corporateleadersgroup.com/files/cisl\\_embracing\\_circularity\\_report\\_v5.pdf](https://www.corporateleadersgroup.com/files/cisl_embracing_circularity_report_v5.pdf).

<sup>33</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Circular Savings: Business Perspectives on Energy Savings through Circular Practices” (Cambridge, UK: CLG Europe, 2023), <https://www.corporateleadersgroup.com/reports-evidence-and-insights/collections/policy-briefings/policy-briefing-circular-savings-business>

<sup>34</sup> University of Cambridge Institute for Sustainability Leadership (CISL) and Wuppertal Institute, “Digital Product Passport: The Ticket to Achieving a Climate Neutral and Circular European Economy?” (Cambridge, UK: CLG, 2022), [https://www.corporateleadersgroup.com/files/cisl\\_digital\\_products\\_passport\\_report\\_v6.pdf](https://www.corporateleadersgroup.com/files/cisl_digital_products_passport_report_v6.pdf).

<sup>35</sup> “The Antwerp Declaration for a European Industrial Deal” (Antwerp, February 20, 2024), <https://antwerp-declaration.eu/>.

<sup>36</sup> BDI, “BDI unterstützt Action Plan ‘Circular Economy’ der EU,” 2024. <https://bdi.eu/artikel/news/bdi-unterstuetzt-action-plan-circular-economy-der-eu>.

<sup>37</sup> Trinomics, “European Social Partners’ Project on Circular Economy: And the World of Work - Final Report” (Rotterdam, 2021), [https://resourcecentre.etuc.org/sites/default/files/2021-10/Brochure%20Final%20report%20circular%20ecenomy\\_EN\\_v4\\_bis\\_compressed.pdf](https://resourcecentre.etuc.org/sites/default/files/2021-10/Brochure%20Final%20report%20circular%20ecenomy_EN_v4_bis_compressed.pdf).

<sup>38</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Green Circularity: Advancing the EU’s Climate Goals through a Circular Economy” (Cambridge, UK: CLG Europe, 2022), <https://www.corporateleadersgroup.com/reports-evidence-and-insights/collections/reports/policy-briefing-green-circularity-advancing-eus>.

<sup>39</sup> Summa Equity, “Investing in a Circular and Waste-Free Europe” (Stockholm / Oslo / Munich: Summa Equity, April 2023), <https://summaequity.com/wp-content/uploads/2023/04/230417-Investing-in-a-circular-and-waste-free-Europe.pdf>.

<sup>40</sup> European Council, “Waste Trade,” 2024, <https://www.consilium.europa.eu/en/policies/waste-trade/>.

<sup>41</sup> Nina Kuenzer, “The Potential a Circular Economy Offers for Rural Development in Germany and Europe,” *Territorial Agenda - A future for all places*, October 22, 2021, <https://territorialagenda.eu/news-articles/the-potential-a-circular-economy-offers-for-rural-development-in-germany-and-europe/>.

<sup>42</sup> European Commission, “Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A New Circular Economy Action Plan for a Cleaner and More Competitive Europe,” November 3, 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN>.

<sup>43</sup> RREUSE, “Briefing on Job Creation Potential in the Re-Use Sector,” September 2015, <https://www.rreuse.org/wp-content/uploads/Final-briefing-on-reuse-jobs-website-2.pdf>.

<sup>44</sup> RREUSE, “Briefing: Job Creation in the Re-Use Sector: Data Insights from Social Enterprises,” April 2021, <https://www.rreuse.org/wp-content/uploads/04-2021-job-creation-briefing.pdf>.

<sup>45</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Inclusive Circularity: Creating Decent and Fair Jobs in the EU” (Cambridge, UK: CLG Europe, 2023), [https://www.corporateleadersgroup.com/files/inclusive\\_circularity\\_-\\_creating\\_decent\\_and\\_fair\\_jobs\\_in\\_the\\_eu.pdf](https://www.corporateleadersgroup.com/files/inclusive_circularity_-_creating_decent_and_fair_jobs_in_the_eu.pdf).

<sup>46</sup> European Commission, “Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Closing the Loop: An EU Action Plan for the Circular Economy,” December 2, 2015, [https://eur-lex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0012.02/DOC\\_1&format=PDF](https://eur-lex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0012.02/DOC_1&format=PDF).

<sup>47</sup> European Commission, “Circular Economy Action Plan,” accessed August 9, 2024, [https://environment.ec.europa.eu/strategy/circular-economy-action-plan\\_en](https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en).

<sup>48</sup> European Commission, “Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A New Circular Economy Action Plan for a Cleaner and More Competitive Europe.”

<sup>49</sup> European Council, “Strategic Agenda 2024 - 2029” (Brussels: European Council, 2024), [https://www.consilium.europa.eu/media/4aldqfl2/2024\\_557\\_new-strategic-agenda.pdf](https://www.consilium.europa.eu/media/4aldqfl2/2024_557_new-strategic-agenda.pdf).

<sup>50</sup> European Commission, “Annex to the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A New Circular Economy Action Plan for a Cleaner and More Competitive Europe,” Brussels, 11 March 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN>.

<sup>51</sup> European Commission, “Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A New Circular Economy Action Plan for a Cleaner and More Competitive Europe.”

<sup>52</sup> European Commission, “Circular Economy Action Plan.”

<sup>53</sup> European Parliament, “Packaging and Packaging Waste - 2022/0396(COD),” Legislative Observatory, 2022, [https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2022/0396\(COD\)&l=en](https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2022/0396(COD)&l=en).

<sup>54</sup> European Parliament, “MEPs Call for Tougher EU Rules to Reduce Textiles and Food Waste,” Press Release, News, March 13, 2024, <https://www.europarl.europa.eu/news/en/press-room/20240308IPR19011/meps-call-for-tougher-eu-rules-to-reduce-textiles-and-food-waste>.

<sup>55</sup> European Commission, “One Common Charging Solution for All,” 2024, [https://single-market-economy.ec.europa.eu/sectors/electrical-and-electronic-engineering-industries-eei/radio-equipment-directive-red/one-common-charging-solution-all\\_en](https://single-market-economy.ec.europa.eu/sectors/electrical-and-electronic-engineering-industries-eei/radio-equipment-directive-red/one-common-charging-solution-all_en).

<sup>56</sup> European Environment Agency, “Capturing the Climate Change Mitigation Benefits of Circular Economy and Waste Sector Policies and Measures,” February 22, 2024, <https://www.eea.europa.eu/publications/capturing-the-climate-change-mitigation>.

<sup>57</sup> European Parliament, “Substantiation and Communication of Explicit Environmental Claims (Green Claims Directive) - 2023/0085(COD),” Legislative Observatory, 2023, [https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2023/0085\(COD\)&l=en](https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2023/0085(COD)&l=en).

<sup>58</sup> European Parliament, “Ecodesign for Sustainable Products Regulation - 2022/0095(COD),” Legislative Observatory, 2022, [https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2022/0095\(COD\)&l=en](https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2022/0095(COD)&l=en).

<sup>59</sup> European Commission, “Ecodesign for Sustainable Products Regulation: Making sustainable products in the EU the norm,” accessed June 17, 2024, [https://commission.europa.eu/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/sustainable-products/about-sustainable-products\\_en](https://commission.europa.eu/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/sustainable-products/about-sustainable-products_en).

<sup>60</sup> European Parliament, “Common Rules Promoting the Repair of Goods - 2023/0083/(COD),” Legislative Observatory, 2023, [https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2023/0083\(COD\)&l=en](https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2023/0083(COD)&l=en).

<sup>61</sup> European Parliament, “Ecodesign for Sustainable Products Regulation - 2022/0095(COD).”

<sup>62</sup> University of Cambridge Institute for Sustainability Leadership (CISL) and Wuppertal Institute, “Digital Product Passport: The Ticket to Achieving a Climate Neutral and Circular European Economy?”

<sup>63</sup> European Commission, “Batteries,” Energy, Climate change, Environment, 2024, [https://environment.ec.europa.eu/topics/waste-and-recycling/batteries\\_en](https://environment.ec.europa.eu/topics/waste-and-recycling/batteries_en).

<sup>64</sup> European Parliament, “Packaging and Packaging Waste - 2022/0396(COD).”

<sup>65</sup> European Union, “Regulation (EU) 2024/1252 of the European Parliament and of the Council of 11 April 2024 Establishing a Framework for Ensuring a Secure and Sustainable Supply of Critical Raw Materials and Amending Regulations (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1724 and (EU) 2019/1020,” April 11, 2024, <http://data.europa.eu/eli/reg/2024/1252/oj/eng>.

<sup>66</sup> European Court of Auditors, “Special Report 17/2023: Circular Economy - Slow transition by member states despite EU action,” accessed April 7, 2024, <https://www.eca.europa.eu/en/publications?ref=SR-2023-17>.

<sup>67</sup> Eurostat, “Circular Economy Monitoring Framework,” 2024, <https://ec.europa.eu/eurostat/web/circular-economy/monitoring-framework>.

<sup>68</sup> European Council, “Waste Trade.”

<sup>69</sup> European Commission, “Circular Economy Action Plan: For a Cleaner and More Competitive Europe” (European Commission, 2020), <https://www.eu2020.de/blob/2429166/156d2d98b66b2ff28b6990161eed91e9/12-17-kreislaufwirtschaftsaktionsplan-bericht-de-data.pdf>.

<sup>70</sup> European Environment Agency, “How Far Is Europe from Reaching Its Ambition to Double the Circular Use of Materials?” Briefing, June 20, 2023, <https://www.eea.europa.eu/publications/how-far-is-europe-from>.

<sup>71</sup> Eurostat, “EU’s Circular Material Use Rate Slightly up in 2022,” November 14, 2023, <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20231114-2>.

<sup>72</sup> Circle Economy Foundation, “The Circularity Gap Report 2024,” 2024, [https://www.circularity-gap.world/2024?mc\\_cid=cd777f9300&mc\\_eid=14f6567e08](https://www.circularity-gap.world/2024?mc_cid=cd777f9300&mc_eid=14f6567e08).

<sup>73</sup> European Environment Agency, “How Far Is Europe from Reaching Its Ambition to Double the Circular Use of Materials?”

<sup>74</sup> European Commission, “Critical Raw Materials,” 2024, [https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials\\_en](https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials_en).

<sup>75</sup> WWF, “Eine Umfassende Circular Economy für Deutschland 2045: Zum Schutz von Klima und Biodiversität.”

<sup>76</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Innovation for Sustainability - The Driving Force of Circular Economy Start-Ups” (Cambridge, UK: The University of Cambridge Institute for Sustainability Leadership, 2023), [https://www.cisl.cam.ac.uk/files/innovation\\_for\\_sustainability.pdf](https://www.cisl.cam.ac.uk/files/innovation_for_sustainability.pdf).

<sup>77</sup> For the latter, see Tetiana Shevchenko et al., “Consumer Behavior in the Circular Economy: Developing a Product-Centric Framework.” *Journal of Cleaner Production* 384 (January 15, 2023): 135568. <https://doi.org/10.1016/j.jclepro.2022.135568>.

<sup>78</sup> European Environment Agency, “Enabling Framework,” Circularity Metrics Lab, accessed August 9, 2024, <https://www.eea.europa.eu/en/circularity/thematic-metrics/enabling>.

<sup>79</sup> Eurostat, “Patents related to recycling and secondary raw materials,” last update 2 October 2023, [https://doi.org/10.2908/CEI\\_CIE020](https://doi.org/10.2908/CEI_CIE020).

<sup>80</sup> European Environment Agency, “Circular Metrics - Consumption,” accessed August 9, 2024, <https://www.eea.europa.eu/en/circularity/thematic-metrics/consumer>.

<sup>81</sup> Eurostat, “Circular Economy Monitoring Framework.”

<sup>82</sup> Circle Economy, “The Circular Jobs Methodology” (Amsterdam, December 14, 2021), [https://cdn.prod.website-files.com/5d26d80e8836af2d12ed1269/61af7196f9833e9eb597931e\\_20211203%20-%20CJl%20Brief%20-%20Methodology%20-%20297x210mm.pdf](https://cdn.prod.website-files.com/5d26d80e8836af2d12ed1269/61af7196f9833e9eb597931e_20211203%20-%20CJl%20Brief%20-%20Methodology%20-%20297x210mm.pdf).

<sup>83</sup> European Union, “Eurobarometer Survey: Climate Change,” Eurobarometer, July 2023, <https://europa.eu/eurobarometer/surveys/detail/2954>.

<sup>84</sup> On the lack of co-ordination between the EU’s circular and employment policies specifically, see University of Cambridge Institute for Sustainability Leadership (CISL), “Inclusive Circularity: Creating Decent and Fair Jobs in the EU,” (Cambridge, UK: CLG Europe, 2023), [https://www.corporateleadersgroup.com/files/inclusive\\_circularity\\_-\\_creating\\_decent\\_and\\_fair\\_jobs\\_in\\_the\\_eu.pdf](https://www.corporateleadersgroup.com/files/inclusive_circularity_-_creating_decent_and_fair_jobs_in_the_eu.pdf).

<sup>85</sup> European Commission, “Plastic Recycling,” 2024, [https://food.ec.europa.eu/safety/chemical-safety/food-contact-materials/plastic-recycling\\_en](https://food.ec.europa.eu/safety/chemical-safety/food-contact-materials/plastic-recycling_en).

<sup>86</sup> Francisco José Castillo-Díaz et al., “Challenges and Perspectives of the Circular Economy in the European Union: A Comparative Analysis of the Member States.” *Ecological Economics* 224 (October 2024): 108294, <https://doi.org/10.1016/j.ecolecon.2024.108294>.

<sup>87</sup> Eunomia, “Managing Materials for 1.5°C - An EU-Level Regulatory Framework for a Low-Carbon Material Economy” (Eunomia, 2024), [https://zerowasteurope.eu/wp-content/uploads/2024/03/2024\\_zwe\\_eunomia\\_report\\_managing-materials-1.5-degrees.pdf](https://zerowasteurope.eu/wp-content/uploads/2024/03/2024_zwe_eunomia_report_managing-materials-1.5-degrees.pdf).

<sup>88</sup> Enrico Letta, “Much More Than a Market – Speed, Security, Solidarity: Empowering the Single Market to Deliver a Sustainable Future and Prosperity for All EU Citizens.”

<sup>89</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Principles for an Ambitious EU Green Industrial Strategy” (Cambridge, UK: CLG Europe, 2023), [https://www.corporateleadersgroup.com/files/principles\\_for\\_an\\_ambitious\\_eu\\_green\\_industrial\\_strategy.pdf](https://www.corporateleadersgroup.com/files/principles_for_an_ambitious_eu_green_industrial_strategy.pdf).

<sup>90</sup> Green Deal, “How Does a Green Deal Work?” 2021, <https://www.greendeals.nl/english>.

<sup>91</sup> Cleantech for Europe, “Open Letter: Delivering a Net Zero Industry Act That Is Strategic, Targeted and Impactful,” June 19, 2023, <https://www.cleantechforeurope.com/policy/open-letter-delivering-a-net-zero-industry-act-that-is-strategic-targeted-and-impactful>; Eurochambres, “Position on the Net-Zero Industry Act,” May 2023, <https://www.eurochambres.eu/wp-content/uploads/2023/05/230502-Eurochambres-position-on-Net-Zero-Industry-Act.pdf>.

<sup>92</sup> European Parliament, “Ecodesign for Sustainable Products Regulation - 2022/0095(COD).”

<sup>93</sup> European Union, “Regulation (EU) 2024/1252 of the European Parliament and of the Council of 11 April 2024 Establishing a Framework for Ensuring a Secure and Sustainable Supply of Critical Raw Materials and Amending Regulations (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1724 and (EU) 2019/1020.”

<sup>94</sup> OECD, “Modulated Fees for Extended Producer Responsibility Schemes (EPR),” November 4, 2021, [https://www.oecd.org/en/publications/2021/11/modulated-fees-for-extended-producer-responsibility-schemes-epr\\_bbf84337.html](https://www.oecd.org/en/publications/2021/11/modulated-fees-for-extended-producer-responsibility-schemes-epr_bbf84337.html).

<sup>95</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Accelerating the Transition to a Climate Neutral and Circular Economy: How the EU Can Deliver through the Sustainable Products Initiative” (Cambridge, UK: Taskforce for climate neutral and circular materials and products – CLG Europe, 2021), [https://www.corporateleadersgroup.com/files/cisl\\_clg\\_eu\\_spi\\_policy\\_briefing\\_0.pdf](https://www.corporateleadersgroup.com/files/cisl_clg_eu_spi_policy_briefing_0.pdf).

<sup>96</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Market Driven Decarbonisation: The Role of Demand-Led Innovation in Supporting Emission Reductions in Foundation Industries” (Cambridge, UK: Cambridge Institute for Sustainability Leadership, 2023), [https://www.cisl.cam.ac.uk/files/innovate\\_uk\\_policy\\_briefing\\_market\\_driven\\_decarbonisation\\_2023\\_june.pdf](https://www.cisl.cam.ac.uk/files/innovate_uk_policy_briefing_market_driven_decarbonisation_2023_june.pdf).



- <sup>97</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Principles for an Ambitious EU Green Industrial Strategy” (Cambridge, UK: CLG Europe, 2023), <https://www.corporateleadersgroup.com/reports-evidence-and-insights/collections/policy-briefings/policy-briefing-principles-ambitious-eu>.
- <sup>98</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Unleashing the Green Economy: The Role of UK Business in Fast-Tracking Climate Action” (Cambridge, UK: CLG UK, 2024), <https://www.corporateleadersgroup.com/reports-evidence-and-insights/collections/policy-briefings/policy-briefing-unleashing-green-economy>.
- <sup>99</sup> European Commission, “A new bioeconomy strategy for a sustainable Europe” (2018), [https://research-and-innovation.ec.europa.eu/document/download/bc992135-8261-4941-b941-5f5bdeb4b2a0\\_en?filename=new\\_bioeconomy\\_strategy\\_for\\_a\\_sustainable\\_europe.pdf](https://research-and-innovation.ec.europa.eu/document/download/bc992135-8261-4941-b941-5f5bdeb4b2a0_en?filename=new_bioeconomy_strategy_for_a_sustainable_europe.pdf).
- <sup>100</sup> European Commission, Directorate-General for Research and Innovation. “A sustainable bioeconomy for Europe – Strengthening the connection between economy, society and the environment – Updated bioeconomy strategy” (Publications Office, 2018), <https://op.europa.eu/en/publication-detail/-/publication/edace3e3-e189-11e8-b690-01aa75ed71a1/language-en/format-PDF/source-149755478>.
- <sup>101</sup> European Environment Agency, “The circular economy and the bioeconomy - Partners in sustainability” (Luxembourg: Publications Office of the European Union, 2018), <https://www.eea.europa.eu/publications/circular-economy-and-bioeconomy>.
- <sup>102</sup> Katherine A. Collett, “Cleaning up Cleaning: policy and stakeholder interventions to put household formulations on a pathway to net zero,” Oxford Smith School Working Paper 23-07, 2023, <https://www.smithschool.ox.ac.uk/sites/default/files/2023-09/Cleaning-up-cleaning-unilever.pdf>.
- <sup>103</sup> European Environment Agency, “Investment, Jobs and Gross Value Added,” Circularity Metrics Lab, 2022, <https://www.eea.europa.eu/en/circularity/thematic-metrics/business/private-investment-jobs-and-gross-value-added-related-to-circular-economy-sectors>.

- <sup>104</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Innovation for Sustainability - The Driving Forces of Circular Economy Start-Ups.”
- <sup>105</sup> European Court of Auditors, “Circular Economy – Slow Transition by Member States despite EU Action; Special Report” (Luxembourg: European Union, 2023), [https://www.eca.europa.eu/ECAPublications/SR-2023-17/SR-2023-17\\_EN.pdf](https://www.eca.europa.eu/ECAPublications/SR-2023-17/SR-2023-17_EN.pdf).
- <sup>106</sup> OECD, “Financing the Circular Economy Transition,” in *Towards a National Circular Economy Strategy for Hungary* (Paris: OECD Publishing, 2023), 221–40, <https://doi.org/10.1787/93507fcc-en>.
- <sup>107</sup> European Union, “Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the Establishment of a Framework to Facilitate Sustainable Investment, and Amending Regulation (EU) 2019/2088,” L 198/14 § (2020), [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32020R0852; Holger Bär and Isabel Schrems, “Introduction to the EU Taxonomy for a Circular Economy” \(Berlin: NABU / FÖS, 2021\), \[https://www.nabu.de/imperia/md/content/nabude/sustainablefinance/210412\\\_nabu\\\_taxonomy\\\_circular-economy.pdf\]\(https://www.nabu.de/imperia/md/content/nabude/sustainablefinance/210412\_nabu\_taxonomy\_circular-economy.pdf\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32020R0852; Holger Bär and Isabel Schrems, “Introduction to the EU Taxonomy for a Circular Economy” (Berlin: NABU / FÖS, 2021), https://www.nabu.de/imperia/md/content/nabude/sustainablefinance/210412_nabu_taxonomy_circular-economy.pdf).
- <sup>108</sup> Jack Barrie and Patrick Schröder, “Can the EU Sustainable Finance Taxonomy Unlock the Circular Economy?” [www.euractiv.com](http://www.euractiv.com), June 20, 2023, <https://www.euractiv.com/section/energy-environment/opinion/can-the-eu-sustainable-finance-taxonomy-unlock-the-circular-economy/>.
- <sup>109</sup> European Union, “Financing the Circular Economy,” European Circular Economy Stakeholder Platform, September 29, 2020, <https://circulareconomy.europa.eu/platform/en/financing-circular-economy>.
- <sup>110</sup> World Bank, “World Bank’s New Outcome Bond Helps Communities Remove and Recycle Plastic Waste,” Press Release, World Bank, January 24, 2024, <https://www.worldbank.org/en/news/press-release/2024/01/24/world-bank-s-new-outcome-bond-helps-communities-remove-and-recycle-plastic-waste>.

- <sup>111</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Market Driven Decarbonisation: The Role of Demand-Led Innovation in Supporting Emission Reductions in Foundation Industries” (Cambridge, UK: Cambridge Institute for Sustainability Leadership, 2023), [https://www.cisl.cam.ac.uk/files/innovate\\_uk\\_policy\\_briefing\\_market\\_driven\\_decarbonisation\\_2023\\_june.pdf](https://www.cisl.cam.ac.uk/files/innovate_uk_policy_briefing_market_driven_decarbonisation_2023_june.pdf).
- <sup>112</sup> European Commission, “Cohesion Policy Support to the Circular Economy - Exploring Investment 2021-2027,” #EURegioDataStories, February 2024, 2021–27, <https://cohesiondata.ec.europa.eu/stories/s/21-27-Circular-economy/t6h5-3fup/>.
- <sup>113</sup> European Court of Auditors, “Circular Economy – Slow Transition by Member States despite EU Action; Special Report.”
- <sup>114</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Competitive Sustainability Index: New Metrics for EU Competitiveness for an Economy in Transition.”
- <sup>115</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Market Driven Decarbonisation: The Role of Demand-Led Innovation in Supporting Emission Reductions in Foundation Industries.”
- <sup>116</sup> Jack Barrie, Patrick Schröder, and Suzannah Sherman, “Making Sustainable Finance Taxonomies Work for the Circular Economy - Lessons from the EU Taxonomy,” Research Paper, Environment and Society Programme (Chatham House, June 2023), <https://www.chathamhouse.org/sites/default/files/2023-06/2023-06-15-sustainable-finance-taxonomies-circular-economy-barrie-schroeder-sherman.pdf>.
- <sup>117</sup> University of Cambridge Institute for Sustainability Leadership (CISL) and Wuppertal Institute, “Digital Product Passport: The Ticket to Achieving a Climate Neutral and Circular European Economy?”
- <sup>118</sup> Thomas Helm, “EU Doubles down on Circular Economy,” <https://www.netzeroinvestor.net/>, January 9, 2024, <https://www.netzeroinvestor.net/news-and-views/eu-doubles-down-on-circular-economy>.

- <sup>119</sup> Joan Marc Simon and Lauriane Veillard, “Is Europe set to become China’s recycling bin?” [www.euractiv.com](https://www.euractiv.com/section/energy-environment/opinion/is-europe-set-to-become-chinas-recycling-bin/), February 27, 2024, <https://www.euractiv.com/section/energy-environment/opinion/is-europe-set-to-become-chinas-recycling-bin/>.
- <sup>120</sup> Tetiana Shevchenko et al., “Consumer Behavior in the Circular Economy: Developing a Product-Centric Framework,” *Journal of Cleaner Production* 384 (January 15, 2023): 135568, <https://doi.org/10.1016/j.jclepro.2022.135568>.
- <sup>121</sup> European Commission, “ERA Industrial Technology Roadmap for Circular Technologies and Business Models in the Textile, Construction and Energy-Intensive Industries.”
- <sup>122</sup> Eunomia, “Circular Taxation: A Policy Approach to Reduce Resource Use and Accelerate the Transition to a Circular Economy” (Brussels: European Environmental Bureau, November 2022), <https://eeb.org/wp-content/uploads/2022/11/Circular-Taxation-study-EEB-Final-Report.pdf>; ECESP Coordination Group, “Circular Taxation Reflection Paper 2021” (European Circular Economy Stakeholder Platform, 2021), [https://circulareconomy.europa.eu/platform/sites/default/files/leadership\\_group\\_on\\_economic\\_incentives\\_-\\_circular\\_taxation\\_reflection\\_paper\\_2021.pdf](https://circulareconomy.europa.eu/platform/sites/default/files/leadership_group_on_economic_incentives_-_circular_taxation_reflection_paper_2021.pdf).
- <sup>123</sup> ECESP Coordination Group, “Circular Taxation Reflection Paper 2021.”
- <sup>124</sup> Eunomia, “Circular Taxation: A Policy Approach to Reduce Resource Use and Accelerate the Transition to a Circular Economy.”
- <sup>125</sup> VATupdate, “How Can VAT Stimulate the Circular Economy?” *VATupdate* (blog), March 13, 2023, <https://www.vatupdate.com/2023/03/13/how-can-vat-stimulate-the-circular-economy/>.
- <sup>126</sup> Eunomia, “Managing Materials for 1.5°C - An EU-Level Regulatory Framework for a Low-Carbon Material Economy.”
- <sup>127</sup> Malin zu Castell-Rudenhause et al., “Investigating Europe’s Secondary Raw Material Markets,” EEA Report (Copenhagen, Denmark: European Environment Agency, 2022), <https://www.eea.europa.eu/publications/investigating-europes-secondary-raw-material>.
- <sup>128</sup> Nicolas Berghmans at the event co-organised by IDDRI, Agora Industrie and Forum Energii. “How to Make the European Industrial Deal Succeed – Going beyond national approaches towards a European solution for clean industry” (Brussels, Belgium, June 11, 2024, <https://www.agora-industry.org/news-events/how-to-make-the-european-industrial-deal-succeed#downloads>.
- <sup>129</sup> European Environment Agency, “Accelerating the Circular Economy in Europe: State and Outlook 2024” (Luxembourg: Publications Office of the European Union, 2024), <https://data.europa.eu/doi/10.2800/055236>.
- <sup>130</sup> European Scientific Advisory Board on Climate Change, “EU Climate Advisory Board: Focus on Immediate Implementation and Continued Action to Achieve EU Climate Goals,” News, January 17, 2024, <https://climate-advisory-board.europa.eu/news/eu-climate-advisory-board-focus-on-immediate-implementation-and-continued-action-to-achieve-eu-climate-goals>.
- <sup>131</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Market Driven Decarbonisation: The Role of Demand-Led Innovation in Supporting Emission Reductions in Foundation Industries.”
- <sup>132</sup> Ursula Von der Leyen, “Europe’s Choice: Political Guidelines for the Next European Commission 2024-2029.”
- <sup>133</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Accelerating the Transition to a Climate Neutral and Circular Economy: How the EU Can Deliver through the Sustainable Products Initiative.”
- <sup>134</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Policy Briefing: The Green Deal and Beyond: A Business Agenda for a Sustainable, Competitive and Resilient Europe.”
- <sup>135</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Market Driven Decarbonisation: The Role of Demand-Led Innovation in Supporting Emission Reductions in Foundation Industries.”
- <sup>136</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Market Driven Decarbonisation: The Role of Demand-Led Innovation in Supporting Emission Reductions in Foundation Industries.”
- <sup>137</sup> DIN e.V., DKE and VDI, “Standardization Roadmap Circular Economy” (Berlin, Offenbach, Düsseldorf, 2023), <https://www.din.de/resource/blob/906910/0d691bed63405ae85f281336ed71162c/standardization-roadmap-circular-economy-data.pdf>.
- <sup>138</sup> Sayed Mohammad Ayati et al., “Toward a Circular Supply Chain: Understanding Barriers from the Perspective of Recovery Approaches,” *Journal of Cleaner Production* 359 (July 2022): 131775, <https://doi.org/10.1016/j.jclepro.2022.131775>.
- <sup>139</sup> European Commission, “Innovation Fund,” 2024, [https://climate.ec.europa.eu/eu-action/eu-funding-climate-action/innovation-fund\\_en](https://climate.ec.europa.eu/eu-action/eu-funding-climate-action/innovation-fund_en).
- <sup>140</sup> European Commission, “What Is the Innovation Fund?” accessed August 12, 2024, [https://climate.ec.europa.eu/eu-action/eu-funding-climate-action/innovation-fund/what-innovation-fund\\_en](https://climate.ec.europa.eu/eu-action/eu-funding-climate-action/innovation-fund/what-innovation-fund_en).
- <sup>141</sup> Eurostat, “Circular Economy Monitoring Framework.”
- <sup>142</sup> International Resource Panel, “Re-Defining Value – The Manufacturing Revolution. Remanufacturing, Refurbishment, Repair and Direct Reuse in the Circular Economy” (Nairobi: UNEP International Resource Panel, 2018), <https://www.resourcepanel.org/reports/re-defining-value-manufacturing-revolution>.
- <sup>143</sup> EC DG Research and Innovation, “European Innovation Scoreboard 2023” (Brussels: European Commission, 2023), [https://research-and-innovation.ec.europa.eu/knowledge-publications-tools-and-data/publications/all-publications/european-innovation-scoreboard-2023\\_en#:~:text=The%20EIS%202023%20is%20the,a%20lack%20of%20statistical%20data.](https://research-and-innovation.ec.europa.eu/knowledge-publications-tools-and-data/publications/all-publications/european-innovation-scoreboard-2023_en#:~:text=The%20EIS%202023%20is%20the,a%20lack%20of%20statistical%20data.)

<sup>144</sup> Haya Al-Ajlani et al., “EU Eco-Innovation Index 2022 - Policy Brief” (Ecorys, 2023), [https://www.researchgate.net/profile/Vladimir-Cvijanovic-2/publication/365489650\\_EU\\_Eco-Innovation\\_Index\\_2022\\_Policy\\_brief/links/637757192f4bca7fd06f2692/EU-Eco-Innovation-Index-2022-Policy-brief.pdf](https://www.researchgate.net/profile/Vladimir-Cvijanovic-2/publication/365489650_EU_Eco-Innovation_Index_2022_Policy_brief/links/637757192f4bca7fd06f2692/EU-Eco-Innovation-Index-2022-Policy-brief.pdf).

<sup>145</sup> See for example, Paolo Taticchi and Melina Corvaglia-Charrey, “Circular Economy Target Setting: New Guidance and Insights from Industry Leaders” (London, UK: UCL School of Management, 2022), <https://www.mgmt.ucl.ac.uk/sites/default/files/upload/White%20Paper%20Circular%20Economy%20Target%20Setting%20New%20Guidance%20and%20Insights%20from%20Industry%20Leaders.pdf>.

<sup>146</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Innovation for Sustainability - The Driving Forces of Circular Economy Start-Ups.”

<sup>147</sup> University of Cambridge Institute for Sustainability Leadership (CISL) and Wuppertal Institute, “Digital Product Passport: The Ticket to Achieving a Climate Neutral and Circular European Economy?”

<sup>148</sup> Eunomia, “Managing Materials for 1.5°C - An EU-Level Regulatory Framework for a Low-Carbon Material Economy.”

<sup>149</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Context Is Everything: Insights and Lessons for Successfully Delivering the European Green Deal” (Cambridge, UK: CLG Europe, 2022), <https://www.corporateleadersgroup.com/reports-evidence-and-insights/collections/reports/report-context-everything-insights-and-lessons>.

<sup>150</sup> European Environment Agency, “Accelerating the Circular Economy in Europe: State and Outlook 2024”.

<sup>151</sup> Nina Tura et al., “Unlocking Circular Business: A Framework of Barriers and Drivers,” *Journal of Cleaner Production* 212 (March 2019): 90–98, <https://doi.org/10.1016/j.jclepro.2018.11.202>.

<sup>152</sup> CISL, “Innovation for Sustainability - The Driving Forces of Circular Economy Start-Ups.”

<sup>153</sup> See for example, University of Cambridge Institute for Sustainability Leadership (CISL), “Innovation for Sustainability - The Driving Forces of Circular Economy Start-Ups.”

<sup>154</sup> This will be addressed in depth in an upcoming CISL publication.

<sup>155</sup> European Environment Agency, “Enabling Consumer Choices for a Circular Economy,” Briefing, February 7, 2023, <https://www.eea.europa.eu/publications/influencing-consumer-choices-towards-circularity/enabling-consumer-choices-towards-a>.

<sup>156</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Context Is Everything: Insights and Lessons for Successfully Delivering the European Green Deal.”

<sup>157</sup> European Commission, “Attitudes of Europeans towards the Environment,” Eurobarometer Report (European Union, 2024), <https://europa.eu/eurobarometer/surveys/detail/3173>.

<sup>158</sup> PWC, “Three Industries Where Consumer Behaviour Is Powering the Circular Economy,” PwC, accessed August 12, 2024, <https://www.pwc.co.uk/issues/esg/three-industries-where-consumer-behaviour-is-powering-circular-economy.html>.

<sup>159</sup> PWC, “Secondhand Auf Dem Wachstumspfad - Trends Und Treiber” (PricewaterhouseCooper GmbH, 2023), <https://www.pwc.de/de/handel-und-konsumguter/pwc-secondhand-auf-wachstumspfad-trends-und-treiber.pdf>.

<sup>160</sup> Angelina De Pascale et al., “The Circular Economy Implementation at the European Union Level. Past, Present and Future,” *Journal of Cleaner Production* 423 (October 2023): 138658, <https://doi.org/10.1016/j.jclepro.2023.138658>.

<sup>161</sup> Alejandro Padilla-Rivera, Sara Russo-Garrido, and Nicolas Merveille, “Addressing the Social Aspects of a Circular Economy: A Systematic Literature Review,” *Sustainability* 12, no. 19 (September 24, 2020): 7912, <https://doi.org/10.3390/su12197912>.

<sup>162</sup> Frithjof Laubinger, Elisa Lanzi, and Jean Chateau, “Labour Market Consequences of a Transition to a Circular Economy: A Review Paper,” *OECD Environment Working Papers*, no. 162, OECD Environment Working Papers, May 15, 2020, <https://doi.org/10.1787/e57a300a-en>.

<sup>163</sup> Circle Economy, International Labour Organization and World Bank, “Decent Work in the Circular Economy - An Overview of the Existing Evidence Base” (Circle Economy, May 2023), <https://www.ilo.org/publications/decent-work-circular-economy-overview-existing-evidence-base>.

<sup>164</sup> Cambridge Econometrics, Trinomics, and ICF, “Impacts of Circular Economy Policies on the Labour Market” (Cambridge Econometrics, Trinomics and ICF, 2018), <https://www.camecon.com/wp-content/uploads/2019/01/Circular-Economy-DG-Env-final-report.pdf>.

<sup>165</sup> Laubinger, Lanzi, and Chateau, “Labour Market Consequences of a Transition to a Circular Economy.”

<sup>166</sup> European Commission, “An Economy That Works for People: Ensuring social fairness and prosperity,” 2024, [https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/economy-works-people\\_en](https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/economy-works-people_en).

<sup>167</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Inclusive Circularity: Creating Decent and Fair Jobs in the EU.”

<sup>168</sup> Matthias Multani and Kris Bachus, “Which Labour for the CE? An Exploration of Narratives on Labour and Circularity in Flanders,” *Resources, Conservation and Recycling* 207 (August 2024): 107690, <https://doi.org/10.1016/j.resconrec.2024.107690>.

<sup>169</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Inclusive Circularity: Creating Decent and Fair Jobs in the EU.”

<sup>170</sup> Rebecca Clube, “Is Job Creation a Legitimate Social Benefit of the Circular Economy?” *Resources, Conservation and Recycling* 181 (June 2022): 106220, <https://doi.org/10.1016/j.resconrec.2022.106220>.



<sup>171</sup> Martin Geissdoerfer et al., “The Circular Economy – A New Sustainability Paradigm?”, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2930842](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2930842).

<sup>172</sup> University of Cambridge Institute for Sustainability Leadership (CISL), “Inclusive Circularity: Creating Decent and Fair Jobs in the EU.”

<sup>173</sup> “Progetto Quid,” <https://www.progettoquid.com/>.

<sup>174</sup> CECOP, “Progetto Quid (Italy),” September 29, 2022, <https://cecop.coop/stories/progetto-quid-italy>.

<sup>175</sup> Circle Economy Foundation, “Progetto Quid - Ethical Upcycling of Post Industrial Textile Waste,” Knowledge Hub, accessed August 12, 2024, <https://knowledge-hub.circle-lab.com/article/22582?n=Progetto-Quid---ethical-upcycling-of-post-industrial-textile-waste>.

<sup>176</sup> CECOP, “Progetto Quid (Italy).”

<sup>177</sup> CECOP, “Progetto Quid (Italy)”; European Commission, “Progetto Quid | European Social Fund Plus,” May 11, 2022, <https://european-social-fund-plus.ec.europa.eu/en/social-innovation-match/case-study/progetto-quid>.

<sup>178</sup> Barbara Chiodi, “Progetto Quid, not only sustainable fashion,” *Eco-a-porter* (blog), February 28, 2020, <https://eco-a-porter.com/2020/02/28/progetto-quid-non-solo-moda-sostenibile/>.

<sup>179</sup> Progetto Quid, “Ethical Sustainability,” February 16, 2022, <https://www.progettoquid.com/en/ethical-sustainability/>.

### **Cambridge insight, policy influence, business impact**

The University of Cambridge Institute for Sustainability Leadership (CISL) brings together business, government and academia to find solutions to critical sustainability challenges.

Capitalising on the world-class, multidisciplinary strengths of the University of Cambridge, we deepen leaders' insight and understanding through our executive programmes; build deep, strategic engagement with leadership companies; and create opportunities for collaborative enquiry and action through our leadership groups.

Over 30 years we have built up a leadership network of nearly 40,000 leaders and practitioners from business, government and civil society, who have an impact in every sector and on every continent. Their experience and insights shape our work, which is further underpinned by multidisciplinary academic research. His Majesty King Charles III is CISL's Royal Founding Patron and has inspired and supported many of the Institute's initiatives, during his time as the Prince of Wales.

#### **University of Cambridge Institute for Sustainability Leadership**

##### **Head office**

The Entopia Building  
1 Regent Street  
Cambridge CB2 1GG  
UK

T: +44 (0)1223 768850  
info@cisl.cam.ac.uk

##### **Brussels**

Sustainable Hub  
Rue du Commerce  
72, Brussels 1040  
Belgium

T: +32 (0) 2 894 93 19  
info.eu@cisl.cam.ac.uk

##### **Cape Town**

Workshop17 NCG 146  
Campground Road  
Newlands 7780  
Cape Town, South Africa

T: +27 (0)21 300 5013  
info.sa@cisl.cam.ac.uk

#### **Wuppertal Institute for Climate, Environment and Energy**

Döppersberg 19  
42103 Wuppertal  
Germany

T: +49 202 2492-0  
info@wupperinst.org

**www.cisl.cam.ac.uk**

**@cisl\_cambridge**

**@ClimateCLG**