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# Making sustainable finance taxonomies work for the circular economy

## Lessons from the EU Taxonomy

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# Summary

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- The circular economy offers a promising economic strategy in times of supply-chain volatility, growing geopolitical tension and looming economic recession. Yet, in most sectors, circular economy activities still represent a small market segment. As a result, finance for those activities has been scarce.
  - Sustainable finance taxonomies – i.e. shared classification systems for defining environmentally sustainable investments – could incentivize additional investment in activities that substantially contribute to the circular economy transition.
  - The EU’s Sustainable Finance Taxonomy is the most ambitious and comprehensive existing taxonomy in terms of its scope, but more specifically with respect to embedding circularity. Following a detailed case study of the EU Taxonomy, this research paper identifies unique challenges associated with embedding the circular economy, with the aim of informing the development of sustainable finance taxonomies elsewhere.
  - First, achieving circularity requires the transformation of entire value chains. But a taxonomy, by nature, is structured on the atomization of individual economic activities being undertaken in specific geographic locations. In some cases, this tension limits scope for incentivizing transformational developments over multiple activities or along value chains.
  - Second, most intended users of a taxonomy lack awareness of, or are underprepared for, the myriad technical and procedural challenges in meeting the ambitious circular economy substantial contribution criteria (or avoiding causing significant harm) laid out in a taxonomy.
  - Finally, the current circular economy policy and legislative landscape is becoming increasingly fragmented. The ambition and clarity necessary to encourage widespread uptake of substantial contribution activities are currently lacking.
  - To overcome these challenges, the paper identifies three areas for action: (i) strengthening taxonomy architecture; (ii) improving taxonomy usability; and (iii) creating an enabling policy and legislative environment.
  - **Strengthening taxonomy architecture.** Designers of taxonomies may consider embedding and incentivizing the adoption of the waste hierarchy principles, measurable thresholds, and requirements and mechanisms that foster wider supply-chain collaboration. They may also consider how mechanisms for continuous improvement could be built in – paying particular attention to the creation of objective, qualitative criteria in place of existing qualitative criteria.

- **Improving taxonomy usability.** Governments may consider providing targeted financial and capacity-building support to stakeholders most affected by the taxonomy's introduction, in terms of adopting the use of circular economy metrics, data collection and reporting processes. They may also consider increase targeted training for accountants, legal and fiscal specialists to navigate the added layers of complexity that circular economy requirements entail.
- **Creating an enabling policy and legislative environment.** A taxonomy cannot drive transformative change in isolation. It must be supported by an ambitious enabling policy and regulatory environment that financially incentivizes companies to adopt circular activities. The launch of a taxonomy may therefore be accompanied by robust and ambitious industrial and economic circular economy strategies at the national level. At the international level, there would be value in exploring the benefits and practicalities of comparability and interoperability between taxonomies.

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# 01

# Introduction

**Despite the importance of the circular economy for economic resilience, social prosperity and environmental regeneration, investment in circular activities remains severely limited. Sustainable finance taxonomies could help close the circular finance gap.**

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The transition to a circular economy<sup>1</sup> is a vital industrial strategy to mitigate the impacts of the production and consumption of materials by intentionally designing out waste and pollution, recirculating products and materials (at their highest value) and regenerating nature. Yet, the circular economy faces a significant gap in the availability of finance.

A key question therefore is how can additional finance and investment be leveraged to accelerate the transition. The introduction of sustainable finance taxonomies holds promise in this respect. Sustainable finance taxonomies classify and categorize criteria for identifying sustainable economic activities and investments.

The EU is in the process of launching one of the world's most ambitious sustainable finance taxonomies, and has made the transition to a circular economy a key objective. The EU Taxonomy seeks to classify a set of economic activities that may substantially contribute, or cause significant harm, to the circular economy transition, judging them against specific criteria. It therefore provides lessons for policymakers and taxonomy designers elsewhere on the opportunities and unique challenges they may face when attempting to leverage taxonomies to accelerate the circular economy transition.

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<sup>1</sup> A 'circular economy' means an economic system in which the value of products, materials and other resources is maintained for as long as possible, enhancing the efficient use of those resources in production and consumption, thereby reducing the environmental impact of their use, minimizing waste and the release of hazardous substances at all stages of their life cycle, including through the application of the waste hierarchy.

## 1.1 The importance of the circular economy for economic prosperity and resilience

Natural resource extraction, processing, use and the dumping of resultant waste are responsible for around one-half of global greenhouse gas emissions, 90 per cent of territorial biodiversity loss and water stress, and one-third of pollution.<sup>2</sup> The transition to a circular economy<sup>3</sup> is a vital industrial strategy to mitigate the impacts of the production and consumption of materials by intentionally designing out waste and pollution, recirculating products and materials (at their highest value) and regenerating nature.

In addition to offering environmental benefits, the circular economy offers an alternative strategy for economic prosperity amid supply-chain volatility, growing geopolitical tension and looming recession. Circular solutions have been predicted to generate global growth opportunities approaching \$4.5 trillion by 2030.<sup>4</sup> Research in 2021 by Bocconi University, the Ellen MacArthur Foundation and Intesa Sanpaolo (based on a sample of 222 companies) showed that companies can deliver superior risk-adjusted returns by implementing circular approaches.<sup>5</sup> Circularity can also help improve countries' financial resilience and reduce environmental damage.

During the past 10 years, the circular economy transition has progressed from being merely a concept to operationalization in national and regional economic strategies – a prime example being the launch of the EU's Circular Economy Action Plan (CEAP) 2.0 in 2020.<sup>6</sup> Further, more than 450 circular-economy-targeted policies and legislation and 54 national roadmaps or strategies have been introduced in over 100 countries, while development of a wide range of standards is ongoing.<sup>7</sup>

Despite such developments, overall circularity of the global economy has decreased in the last five years, from 9.1 per cent in 2018 to 7.2 per cent in 2023.<sup>8</sup>

## 1.2 The circular economy finance gap

In most sectors, circular models still represent a small share of the overall market. Finance for circular economy initiatives has thus been scarce. While billions of dollars are being invested in circular solutions by both the private and public sectors, trillions are still invested each year in existing 'linear' models, inhibiting a systemic shift in the

<sup>2</sup> United Nations (undated), 'Facts and Figures', <https://www.un.org/en/actnow/facts-and-figures>.

<sup>3</sup> A 'circular economy' means an economic system in which the value of products, materials and other resources is maintained for as long as possible, enhancing the efficient use of those resources in production and consumption, thereby reducing the environmental impact of their use, minimizing waste and the release of hazardous substances at all stages of their life cycle, including through the application of the waste hierarchy.

<sup>4</sup> World Economic Forum (2019), 'It's time for the circular economy to go global - and you can help', <https://www.weforum.org/agenda/2019/01/its-time-for-the-circular-economy-to-go-global-and-you-can-help>.

<sup>5</sup> Bocconi University, Ellen MacArthur Foundation and Intesa Sanpaolo (2021), *The circular economy as a de-risking strategy and driver of superior risk-adjusted returns*, white paper, [https://group.intesasanpaolo.com/content/dam/portalgroup/repository-documenti/newsroom/news/White\\_paper\\_Circular\\_Economy\\_de-risking\\_Strategy\\_driver\\_Superior\\_Risk-adjusted\\_Returns.pdf](https://group.intesasanpaolo.com/content/dam/portalgroup/repository-documenti/newsroom/news/White_paper_Circular_Economy_de-risking_Strategy_driver_Superior_Risk-adjusted_Returns.pdf).

<sup>6</sup> The first EU CEAP was launched in 2015.

<sup>7</sup> Chatham House [circular-economy.earth](https://www.circular-economy.earth/) (2022), 'Trade flows', <https://circular-economy.earth/trade?year=2000&category=2&units=value&autozoom=1>.

<sup>8</sup> Circle Economy (2023), 'The Circularity Gap Report 2023', <https://www.circularity-gap.world/2023>.

economy. Initial estimates by Chatham House and Just Economics show that worldwide public sector spending on the circular economy totalled between \$500 billion and \$600 billion in 2020, compared with overall government spending of about \$13 trillion. Meanwhile, the value of annual circular economy spending by the corporate sector is estimated at around \$850 billion, compared with \$35 trillion in linear spending, suggesting that the circular economy's share of total global investment is only about 3 per cent each year.<sup>9</sup>

## **Worldwide public sector spending on the circular economy totalled between \$500 billion and \$600 billion in 2020, compared with overall government spending of about \$13 trillion.**

In addition to this lack of investment, the circular economy faces a significant gap in the availability of finance. The circular finance sector and existing circular investment funds account for an estimated \$50 billion, compared with \$100 trillion of financial assets under the management of the 500 largest asset managers worldwide. This is due, in part, to the circular economy being a relatively new topic for investors and the financial sector generally. Awareness of the circular economy is still low and there is a lack of tools available to assess which activities substantially contribute to a circular economy, as well as the investment opportunities and risks associated with these activities.

Nevertheless, sustainable finance frameworks, tools and standards have recently proliferated at the national and regional levels. The launch of the International Sustainability Standards Board (ISSB), under the International Financial Reporting Standards Foundation (IFRS Foundation),<sup>10</sup> at COP26 in 2021 was a pivotal moment for sustainability finance. The ISSB will develop a global baseline of high-quality sustainability disclosure standards to meet investors' information needs.

### **1.3 Unlocking investment via sustainable finance taxonomies**

Given the rapid conceptual and operational development and uptake of the circular economy in both the public and private sector, a key question is how can these new sustainable finance frameworks and tools be leveraged to accelerate the circular economy transition? One of the most important of these developments is the emergence of sustainable finance taxonomies.

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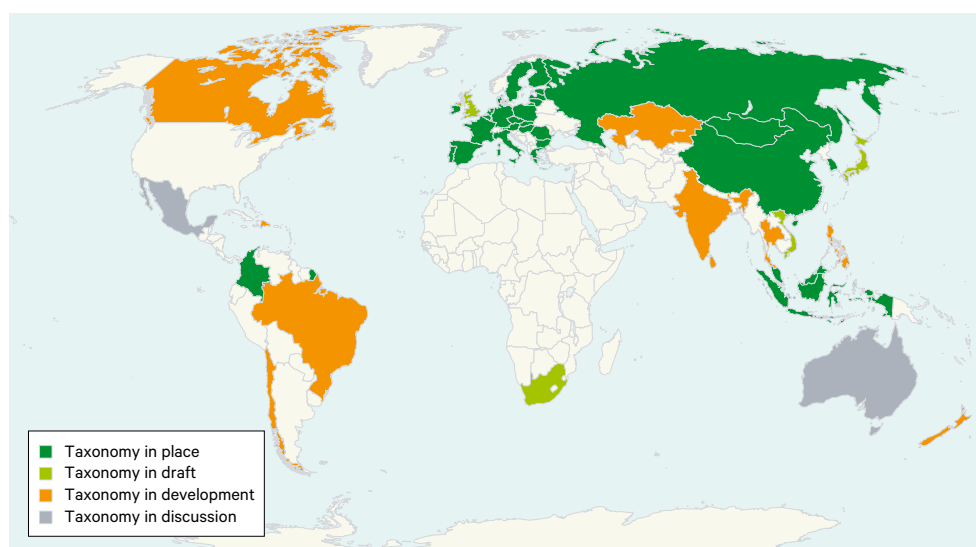
<sup>9</sup> Schröder, P. and Raes, J. (2021), *Financing an inclusive circular economy: De-risking investments for circular business models and the SDGs*, Research Paper, London: Royal Institute of International Affairs, <https://www.chathamhouse.org/2021/07/financing-inclusive-circular-economy>.

<sup>10</sup> IFRS Foundation is a non-profit organization that oversees financial reporting standard-setting. Its main objectives include the development and promotion of the International Financial Reporting Standards (IFRS), through the International Accounting Standards Board for accounting standards and the International Sustainability Standards Board for sustainability-related standards.



A taxonomy, put simply, is a shared framework and classification system for defining environmentally sustainable investments. It ensures all stakeholders share an understanding of what sustainable economic activities are and helps prevent ‘greenwashing’ by providing transparency. More than 20 sustainable finance taxonomies have now been launched or are at various stages of development worldwide. The circular economy is largely missing from most of the existing taxonomies but is being incorporated to varying degrees within several of those under development (for example, those being developed by the EU, South Africa, the UK and the ASEAN region).

**Figure 1.** Sustainable finance taxonomies in place, in development or in discussion



Source: Confederation of British Industry.

The EU’s Sustainable Finance Taxonomy is the most ambitious and comprehensive of these initiatives in terms of its scope, but more specifically with respect to embedding circularity. Yet there has been no lack of political challenges during the process of developing the EU’s Taxonomy. The Taxonomy Delegated Act, which entered into force on 1 January 2023, includes nuclear energy and natural gas as ‘transitional activities contributing to climate change mitigation’. In particular, the inclusion and classification of nuclear energy and gas undermines the credibility of the EU Taxonomy as a science-based investment tool and threatens to obstruct the achievement of a circular economy. Environmental groups have begun legal action against the European Commission on the grounds that this classification of nuclear energy and gas clashes with key EU laws, including not least the Taxonomy itself, and undermines the EU’s objective of preventing greenwashing.<sup>11</sup>

<sup>11</sup> Client Earth (2022), ‘EU Taxonomy: Environmental groups start legal action against ‘sustainable’ gas classification’, press release, 19 September 2022, <https://www.clientearth.org/latest/press-office/press/eu-taxonomy-environmental-groups-start-legal-action-against-sustainable-gas-classification>.

Embedding the circular economy as a core objective of sustainable finance taxonomies offers opportunities, but also faces many unique challenges. This is in part due to the circular economy being a holistic concept that cannot be easily measured and evaluated via a single outcome (in contrast to climate mitigation, for example, which can be measured by a single metric – CO<sub>2</sub>e reductions). The principles of circularity can also be applied to virtually any economic activity and sector, and as such it is expansive in nature. This can therefore make it difficult to identify and classify individual activities that substantially contribute. Such conceptual challenges are compounded by a relatively immature and fragmented enabling policy environment.

## **1.4 About this paper**

Many countries currently developing their own taxonomies for sustainable finance (such as South Africa and the UK) will look to the EU's Sustainable Finance Taxonomy as an example. This research paper therefore presents a case study of the EU's Taxonomy in Chapter 2, exploring how the circular economy considerations have been incorporated into it and the challenges of doing so. Chapter 3 outlines the most significant areas for consideration when embedding the circular economy within a taxonomy with respect to its: (i) architecture, (ii) usability; and (iii) wider enabling policy environment. Chapter 4 concludes the paper with recommendations to inform the development of other sustainable finance taxonomies.

Insights and recommendations for this paper were derived from a series of roundtable sessions hosted by Chatham House and E3G that brought together over 100 public, private and third sector stakeholders involved in the development or operationalization of a sustainable finance taxonomy. The findings are valuable for both taxonomy creators and users, and are particularly timely for policymakers – such as those from South Africa, the UK and the ASEAN region – currently in the process of integrating the circular economy within a sustainable finance taxonomy.

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# 02

# The EU Sustainable Finance Taxonomy: A case study

**The EU's Sustainable Finance Taxonomy is one of the first in the world to include the circular economy as a core objective. It therefore offers valuable lessons on political, technical and procedural challenges for future taxonomies.**

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## 2.1 Overview of EU Sustainable Finance Taxonomy development

The EU has set ambitious environmental targets over the past few years. For example, it aims to become the 'first climate-neutral continent by 2050 and to reduce greenhouse gas emissions by at least 55 per cent by 2030 compared to 1990 levels'.<sup>12</sup> Through the Taxonomy, the EU also aims to strengthen its resilience to climate change, to reverse biodiversity loss and the broader degradation of the environment, as well as enabling the transition to a circular economy.

Achieving these targets requires a substantial increase in investment. The EU alone will require roughly €350 billion in additional investment per year over the current decade to meet its 2030 emissions-reduction target in energy systems. This is additional to the €130 billion the EU will need for other environmental

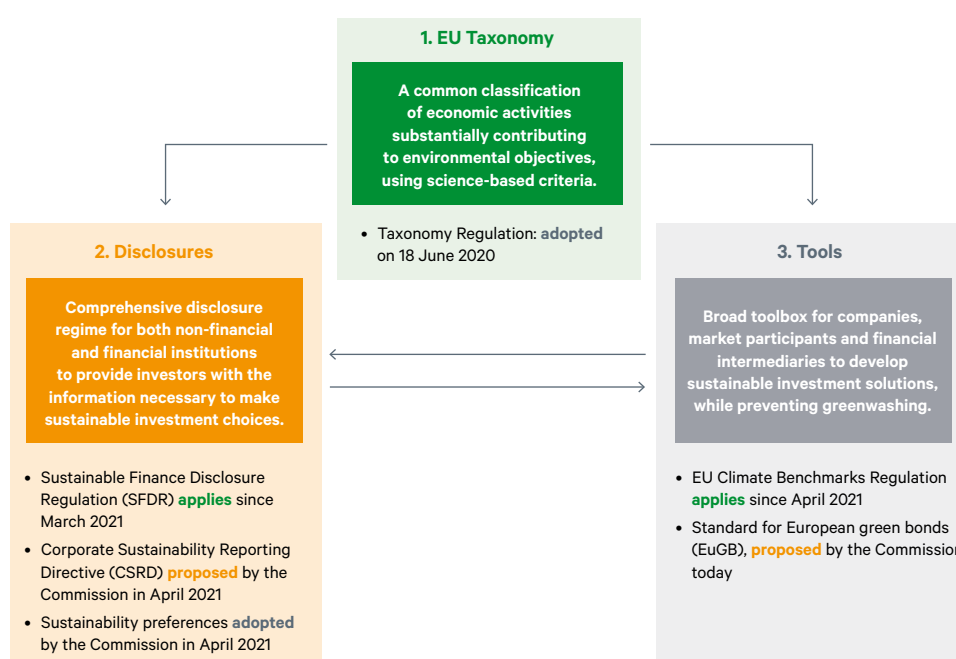
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<sup>12</sup> European Environmental Agency (undated), 'Total greenhouse gas emission trends and projections in Europe', <https://www.eea.europa.eu/ims/total-greenhouse-gas-emission-trends#:~:text=As%20part%20of%20as%20part,least%2055%25%20compared%20to%201990> (accessed 4 Feb. 2023).

goals.<sup>13</sup> Looking beyond the 2030 investment horizon, one study estimated that, during the period 2020 to 2050, a policy path compliant with the 2015 Paris Agreement on climate change will require public investments in the EU of between €11.7 billion and €16.3 billion per year above historic rates, excluding the transport sector.<sup>14</sup>

To help achieve these ambitious targets, the EU launched the Sustainable Finance Framework in 2018 and a supporting Sustainable Finance Strategy in 2021.<sup>15</sup> The Framework has three complimentary components (Figure 2).

**Figure 2.** Foundations for EU Sustainable Finance Framework



One part is a mandatory disclosure regime for both non-financial and financial companies, intended to provide investors with the information necessary to make informed sustainable investment decisions. This regime includes the proposal for a Corporate Sustainability Reporting Directive (CSRD), under which companies are required to disclose information on the impact of its activities on the environment and

<sup>13</sup> In addition, there is a significant need for investments to ensure the reskilling and upskilling and support labour market transitions to achieve the energy and climate targets. See European Commission (2020), 'Stepping up Europe's 2030 climate ambition: Investing in a climate-neutral future for the benefit of our people', communication, 17 September 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0562>; European Commission (2020), 'Employment and Social Developments in Europe 2020', annual review, 15 September 2020, <https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8342>.

<sup>14</sup> Foundation for European Progressive Studies (2022), *How to address Europe's green investment gap*, policy brief, 5 May 2022, [https://feps-europe.eu/wp-content/uploads/2022/05/final\\_5-may-22\\_footer-amend\\_how-to-address-europes-green-investment-gap.pdf](https://feps-europe.eu/wp-content/uploads/2022/05/final_5-may-22_footer-amend_how-to-address-europes-green-investment-gap.pdf).

<sup>15</sup> European Commission (2021), *EU Sustainable Finance Strategy*, fact sheet, July 2021, [https://finance.ec.europa.eu/system/files/2021-07/210706-sustainable-finance-strategy-factsheet\\_en.pdf](https://finance.ec.europa.eu/system/files/2021-07/210706-sustainable-finance-strategy-factsheet_en.pdf).

society; and the Sustainable Finance Disclosure Regulation (SFDR) – in force since April 2021 – which requires companies to report on the business and financial risks it faces due to its sustainability exposures (the ‘double materiality’ concept).<sup>16</sup>

Another is the development of tools covering benchmarks, standards and labels. Examples include the EU Climate Transition Benchmarks Regulation<sup>17</sup> and proposal for a standard for European green bonds.<sup>18</sup> These tools will make it easier for financial market participants to align their investment strategies with the EU’s climate and environmental goals.

Finally, and most significantly, is the EU Sustainable Finance Taxonomy, which is the focus of this paper. The Taxonomy aims to provide ‘a robust, science-based classification system, allowing non-financial and financial companies to share a common definition of sustainability and thereby providing protection against greenwashing.’<sup>19</sup> It is also intended to help investors and companies to plan and report on their sustainability transition. The EU Taxonomy Regulation (2020/852) was adopted in June 2020 and entered into force the following month.<sup>20</sup>

The Taxonomy applies to:

- **Financial market participants**, including occupational pension providers, offering financial products in the EU;
- **Large companies** that are required to report under the Non-Financial Reporting Directive (NFRD; set to be revised by the CSRD); and
- **The EU and its member states.**<sup>21</sup>

## Structure of the EU Taxonomy

The EU Taxonomy establishes six main environmental objectives (Box 1). Each objective itemizes a range of economic activities and criteria<sup>22</sup> aimed at ensuring the activity significantly contributes to the goal of the objective without significantly harming the other objectives. The current version of the EU Taxonomy covers an initial subset of economic sectors. However, the number of sectors included is likely to expand over time. The economic activities assessed under each objective are classified according to the EU NACE codes.<sup>23</sup>

<sup>16</sup> The concept of ‘double materiality’ recognizes that a company’s financial performance is influenced not only by traditional financial factors like revenue and expenses, but also by the environmental and social impact of its activities. At the same time, a company’s impact on the environment and society is also influenced by its financial decisions and activities.

<sup>17</sup> European Commission (2020), ‘Implementing and delegated acts - EU Climate Transition Benchmarks Regulation’, [https://finance.ec.europa.eu/regulation-and-supervision/financial-services-legislation/implementing-and-delegated-acts/eu-climate-transition-benchmarks-regulation\\_en](https://finance.ec.europa.eu/regulation-and-supervision/financial-services-legislation/implementing-and-delegated-acts/eu-climate-transition-benchmarks-regulation_en).

<sup>18</sup> European Commission (2021), ‘Proposal for a regulation of the European Parliament and of the Council on European green bonds’, <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52021PC0391>.

<sup>19</sup> European Commission (2021), ‘Communication from the commission to the European Parliament, the council, the European Economic and Social Committee and the Committee of the Regions: Strategy for Financing the Transition to a Sustainable Economy’, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021DC0390>.

<sup>20</sup> European Commission (undated), ‘EU taxonomy for sustainable activities’, [https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities\\_en](https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en).

<sup>21</sup> United Nations Principles for Responsible Investment (2021), *Investor Briefing: EU Taxonomy*, briefing paper, <https://www.unpri.org/download?ac=14786>.

<sup>22</sup> These criteria are established in secondary legislation via delegated acts.

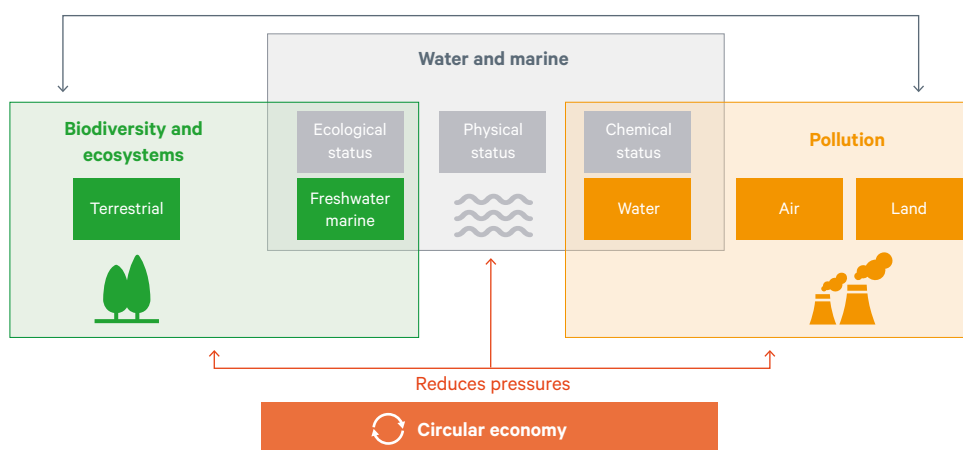
<sup>23</sup> The Statistical Classification of Economic Activities in the European Community. See Eurostat (undated), ‘Glossary: Statistical classification of economic activities in the European Community (NACE)’, [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Statistical\\_classification\\_of\\_economic\\_activities\\_in\\_the\\_European\\_Community\\_\(NACE\)](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Statistical_classification_of_economic_activities_in_the_European_Community_(NACE)).

**Box 1. EU Taxonomy objectives**

1. Climate mitigation (mandatory reporting from January 2022);
2. Climate adaptation (mandatory reporting from January 2022);
3. Sustainable use and protection of water and marine resources (mandatory reporting from January 2023);
4. Transition to a circular economy (mandatory reporting from January 2023);
5. Pollution prevention and control (mandatory reporting from January 2023); and
6. The protection and restoration of biodiversity and ecosystems (mandatory reporting from January 2023).

The relationship and complementarity between the six environmental objectives is based on the Drivers, Pressures, States, Impacts and Response (DPSIR) framework (Figure 3). The circular economy is a relatively unique objective, in that it is considered primarily an economic and societal response or system change required to reduce pressures or change the response for all of the environmental objectives. The other objectives, meanwhile, largely attempt to mitigate pressures (such as preventing land, sea and air pollution) and/or achieve a state change (on terrestrial and marine ecosystems). Although it should be noted that all six objectives are closely linked and overlap in many respects.

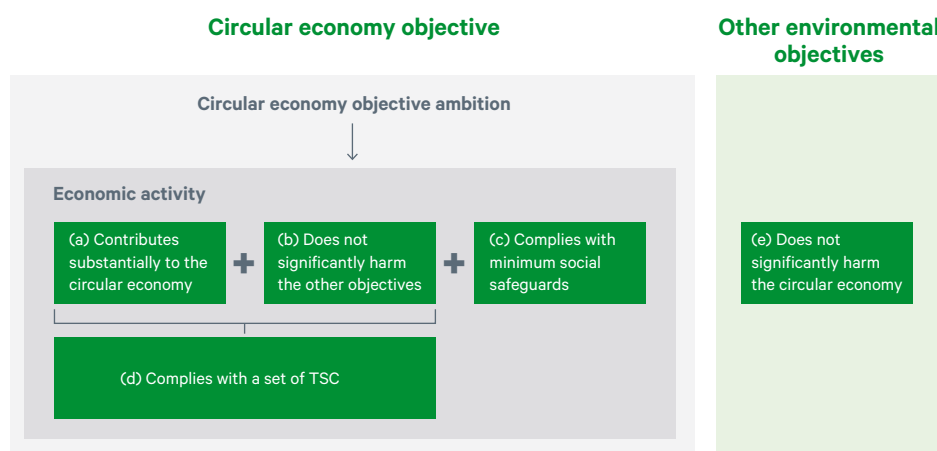
**Figure 3.** The circular economy as an enabler for other environmental objectives and reducing pressures



Source: Adapted from Platform on Sustainable Finance (2022), *Technical Working Group: Part A: Methodological report*, March 2022, [https://finance.ec.europa.eu/system/files/2022-04/220330-sustainable-finance-platform-finance-report-remaining-environmental-objectives-taxonomy\\_en.pdf](https://finance.ec.europa.eu/system/files/2022-04/220330-sustainable-finance-platform-finance-report-remaining-environmental-objectives-taxonomy_en.pdf).

The circular economy is embedded within the EU Taxonomy in two main forms (Figure 4). First, as shown above, it is one of the six main environmental objectives. The circular economy objective outlines the overall ambition level to achieve in terms of the transition, which is underpinned by substantial contribution criteria for a range of economic activities. Second, criteria are defined which ensure circular economy activities ‘do no significant harm’ (DNSH) to the other five objectives and comply with minimum social safeguards.<sup>24</sup> DNSH criteria are also defined for the other five objectives to prevent harm to the circular economy.

**Figure 4.** Structure of the circular economy objective and the four basic conditions



Source: Adapted from Platform on Sustainable Finance (2022), *Technical Working Group: Part A: Methodological report*.

The EU Taxonomy is the only such initiative to date that explicitly incorporates the circular economy, although both South Africa and the UK have declared that circularity will be a core objective of their own taxonomies under development. The construction and development of the technical screening criteria (TSC) to operationalize the EU Taxonomy’s six environmental objectives (particularly that on the circular economy) required substantial input from a broad range of subject experts. As such, the Platform on Sustainable Finance (PSF) was established to offer continuous advice to the European Commission, pooling expertise from the corporate and public sectors, industry, academia, civil society and the financial sector.

In March 2022, the PSF published its first set of proposed TSC for the four remaining environmental objectives, including objective 4 – transition to a circular economy.<sup>25</sup> In October 2022, a second, supplementary set of recommendations was published, which put forward additional TSC and provided a framework

<sup>24</sup> This report does not cover the minimum social safeguards as they are not considered unique to the circular economy objective.

<sup>25</sup> Initial tranche of recommendations divided into parts A and B. See Platform on Sustainable Finance (2022), *Technical Working Group: Part A: Methodological report*, March 2022, [https://finance.ec.europa.eu/system/files/2022-04/220330-sustainable-finance-platform-finance-report-remaining-environmental-objectives-taxonomy\\_en.pdf](https://finance.ec.europa.eu/system/files/2022-04/220330-sustainable-finance-platform-finance-report-remaining-environmental-objectives-taxonomy_en.pdf); and Platform on Sustainable Finance (2022), *Technical Working Group: Part B: Annex: Technical Screening Criteria*, March 2022, [https://commission.europa.eu/system/files/2022-03/220330-sustainable-finance-platform-finance-report-remaining-environmental-objectives-taxonomy-annex\\_en.pdf](https://commission.europa.eu/system/files/2022-03/220330-sustainable-finance-platform-finance-report-remaining-environmental-objectives-taxonomy-annex_en.pdf).

methodology to include ‘enabling’ activities (i.e. activities that contribute substantially to one or more of the environmental objectives by directly enabling other activities to make a substantial contribution).<sup>26</sup>

## 2.2 Substantial contribution to the circular economy transition

A circular economy activity is considered taxonomy-aligned if it: (i) makes a substantial contribution to the transition to a circular economy (see Box 2 for the definition of a circular economy); (ii) does no significant harm to any of the other five objectives; and (iii) complies with minimum social safeguards.

### Box 2. Definition of the circular economy as adopted in the EU Taxonomy

‘[C]ircular economy’ means an economic system whereby the value of products, materials and other resources in the economy is maintained for as long as possible, enhancing their efficient use in production and consumption, thereby reducing the environmental impact of their use, minimising waste and the release of hazardous substances at all stages of their life cycle, including through the application of the waste hierarchy...’

Source: Official Journal of the European Union (2020), *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*, 22 June 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R0852&from=EN>, art. 2.

Substantial contribution to the circular economy transition is determined by the combination of the headline ambition of the circular economy objective and the supporting TSC defined for each economic activity.

### 2.2.1 Circular economy objective ambition

Each environmental objective is underpinned by a headline ambition level which provides the intended goal of the objective. As outlined by the PSF, the headline ambition level should be ‘science-based, based on international agreements that EU supports, [and or] reflect EU’s response to international agreements or EU’s leadership on an objective’.<sup>27</sup>

The proposed headline ambition for the circular economy objective (Box 3) is to significantly reduce the EU’s material footprint.<sup>28</sup> This ambition was based on a range of published strategies and targets, including the European Commission’s commitment to develop indicators on resources encompassing consumption and material footprints; and the European Parliament’s call for binding targets to reduce the EU’s material and consumption footprints by 2030 and bring them within planetary boundaries by 2050. The ambition is laudable but, as there are no legally

<sup>26</sup> Platform on Sustainable Finance (2022), *Technical Working Group: Part A: Methodological report*.

<sup>27</sup> Ibid.

<sup>28</sup> Ibid.



binding agreements on the circular economy, material and resource efficiency or consumption reduction targets at the EU or multilateral levels, there are many challenges to overcome before it can be achieved (Section 3.1.1). Despite the absence of legal material consumption reduction targets at the EU level, some EU member states – such as Austria<sup>29</sup> and the Netherlands<sup>30</sup> – have introduced non-binding targets at the national level. However, these targets are considered exceptions to the rule and are not aligned with each other.<sup>31</sup>

### **Box 3. Headline ambition and targets for the EU Taxonomy circular economy objective**

By 2030, economic growth is decoupled from extraction of non-renewable resources and depletion of the stock of renewable resources is reversed, and by 2050 economic activity is largely decoupled from resource extraction, through environmental design for a circular economy to eliminate waste and pollution, keep materials and products in use at their highest value, and to regenerate ecosystems.

**Target 1:** Reducing the EU27 material footprint by 50 per cent by 2030 and by 75 per cent by 2050 (compared with a 2015 baseline of 14 tons per capita); and raising the circular material use rate of all materials to increase the average to at least 25 per cent by 2030. This target will be achieved by promoting increased durability, reparability, upgradability, reusability or recyclability of products; and by remanufacturing, preparing for reuse and recycling of used materials and products.

**Target 2:** Cultivating 25 per cent of total agricultural land and production forestry by 2030 and 100 per cent by 2050 using regenerative production methods. This target will be achieved by promoting regenerative agricultural practices such as agroecology and silvopasture.

Source: Platform on Sustainable Finance (2022), *Technical Working Group: Supplementary: Methodology and Technical Screening Criteria*, p. 29.

## **2.2.2 Technical screening criteria for substantial contribution**

Under each environmental objective, a list of economic activities (as categorized by the EU NACE codes) were identified as having the potential for substantial contribution to each environmental objective. For each activity, a series of TSC – including on the circular economy – were developed by the PSF and Joint Research Council (JRC) (with initial input from the Technical Expert Group on Sustainable Finance) for adoption by the European Commission. Each TSC attempts to provide clear guidance on how each economic activity should be performed in order to substantially contribute to the circular economy while doing no significant harm to the other objectives.

<sup>29</sup> Austrian Federal Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology (undated), 'Circular Economy Strategy', [https://www.bmk.gv.at/themen/klima\\_umwelt/abfall/Kreislaufwirtschaft/strategie.html](https://www.bmk.gv.at/themen/klima_umwelt/abfall/Kreislaufwirtschaft/strategie.html).

<sup>30</sup> Government of the Netherlands (undated), 'Circular Dutch economy by 2050', <https://www.government.nl/topics/circular-economy/circular-dutch-economy-by-2050>.

<sup>31</sup> Zero Waste Scotland (2022), 'Consumption Reduction Targets (Legal Status Research)', 18 May 2022, <https://www.zerowastescotland.org.uk/research-evaluation/consumption-reduction-targets>.

The lack of internationally recognized standards and methodologies<sup>32</sup> for measuring and evaluating circular activities has to date obstructed ‘the development and access to dedicated or non-dedicated finance, credit risk assessment, and the transferability and replicability of projects and investments across regions and jurisdictions’.<sup>33</sup> To overcome this challenge, the PSF and JRC took a clear and robust methodological approach to determine and define how an activity can make a substantial contribution to the circular economy transition.<sup>34</sup> The JRC identified four high-level categories to define substantial contribution (Box 4). Categories 1–3 each cover a single phase of a circular material life cycle, from production to use and subsequent recovery. Category 4 applies along the full material cycle.

#### **Box 4. Categories to define substantial contribution to the circular economy**

1. **Circular design and production.** Design and produce products and materials with the aim of retaining long-term value and reducing waste. Promote dematerialization by making products redundant or replacing them with a radically different product or service;
2. **Circular use.** Extend life and optimize use of products and assets during the use phase, with the aim of retaining resource value and reducing waste to help improve usage and supporting service;
3. **Circular value recovery.** Capture value from products and materials in the after-use phase;
4. **Circular support.** Activities that contribute to the circular economy objective by enabling other circular activities to take place, thus reducing pressure on the environment. There are two categories of enabling activities can be distinguished:
  - a. **Those that act on individual activities:** Examples include advisory services; activities providing (digital) tools for eco-conception; predictive maintenance; resource efficiency; development and manufacturing of equipment and machinery intended to enable circular production; and waste management; and
  - b. **Those that intervene at the interface between different activities:** Examples may include digital marketplaces for second-hand products or materials and activities involved in setting up industrial symbiosis strategy (e.g. installation of pipelines to transfer waste heat); enabling digital tools and applications, education and awareness-raising programmes; and advisory services to support circular economy strategies and business models.

Source: Canfora, P. et al. (2022), ‘Development of the EU Sustainable Finance Taxonomy – A framework for defining substantial contribution for environmental objectives 3-6, EUR 30999 EN’, Luxembourg: Publications Office of the European Union, <https://publications.jrc.ec.europa.eu/repository/handle/JRC126045>.

<sup>32</sup> Various circularity standards and metrics have been, or are under development, but none have been recognized or fully adopted at the global or even regional scale.

<sup>33</sup> European Commission (2020), ‘Categorisation system for the circular economy’, report, 9 March 2020, [https://research-and-innovation.ec.europa.eu/knowledge-publications-tools-and-data/publications/all-publications/categorisation-system-circular-economy\\_en](https://research-and-innovation.ec.europa.eu/knowledge-publications-tools-and-data/publications/all-publications/categorisation-system-circular-economy_en).

<sup>34</sup> Canfora, P. et al. (2022), ‘Development of the EU Sustainable Finance Taxonomy - A framework for defining substantial contribution for environmental objectives 3-6, EUR 30999 EN’, Luxembourg: Publications Office of the European Union, <https://publications.jrc.ec.europa.eu/repository/handle/JRC126045>.

A range of different approaches to evaluating substantial contribution were identified for each of the four categories (Figure 5). Each category of substantial contribution to the circular economy lends itself to a different approach.<sup>35</sup>

**Figure 5.** Suitability of approaches across all types of substantial contribution to a circular economy

Approach	Suitability			
	Circular design and production	Circular use	Circular value recovery	Circular support
(1) Impact-based	Very unlikely	Unlikely	Unlikely	Unlikely
(2) Performance in relation with the environmental target	Unlikely	Possible	Likely	Unlikely
(3) Best-in-class performance	Possible	Possible	Likely	Unlikely
(4) Relative improvement	Very unlikely	Possible	Unlikely	Possible
(5) Practice-based	Possible	Likely	Possible	Unlikely
(6) Process-based	Possible	Likely	Possible	Possible
(7) Nature of the activity	Unlikely	Likely	Possible	Possible

Source: Canfora et al. (2022), 'Development of the EU Sustainable Finance Taxonomy'.

Once the most suitable approach or approaches were identified for each category, a series of draft TSC were then formulated for each given economic activity (see Table 1 for an example).

<sup>35</sup> Ibid.

**Table 1.** TSC for textiles and garments

<b>Categories of substantial contribution</b>	<b>Performance criteria</b>	<b>Standards and certification schemes referenced</b>
Design for sustainability and durability	Compliance with holistic and detailed certifications for sustainable manufacture. High performance on standardized tests (as specified by ISO) for fabric resistance to piling and abrasion, colour fastness and durability of water, oil and stain repellents.	ISO standards for quality tests (multiple); EU Ecolabel; Blue Angel Ecolabel; upcoming EU Product Environmental Footprint Category Rules.
Sourcing of sustainable fibres	<ul style="list-style-type: none"> <li>Recycled and renewable synthetic content at least 70 per cent of garment weight and third-party verified;</li> <li>Recycled content (pre- or post-consumer) traceable to the feedstock source;</li> <li>Man-made cellulosic fibres (MMCF) from certified sources;</li> <li>Virgin cotton or natural cellulosic seed-fibres compliant with production and inspection requirements for organic production.</li> </ul>	Recycled content: RCS, SCS, UL 2809; verification and traceability in line with ISO 14021; MMCF: FSC, PEFC; Organic cotton: USDA NOP; Council Regulation (EC) No 834/2007.
Design for recycling	<ul style="list-style-type: none"> <li>For cellulose-based fibres, no more than 10 per cent non-cellulose-based content by weight;</li> <li>For protein-based fibres, no more than 2 per cent non-protein-based content by weight;</li> <li>For synthetic fibres, only mono-material polyester and polyamide accepted;</li> <li>Elastane content cannot exceed 2 per cent;</li> <li>No more than two fibres to be blended.</li> </ul>	None listed.
Chemical restrictions	<ul style="list-style-type: none"> <li>Comprehensive restrictions of Substances of Very High Concern under REACH regulations, both for the final product and during all production stages;</li> <li>Requirement of 90–95 per cent biodegradability, recyclability or eliminability in wastewater treatment for most spinning, sizing and wet treatment agents.</li> </ul>	Final product restrictions: EU Ecolabel; Blue Angel Ecolabel; AFIRM V.6; STANDARD 100 (OEKO-TEX). For dyes and auxiliaries: ZDHC Manufacturing Restricted Substance List V2.0. For test results: Performance supported by ISO 17025-accredited laboratory.

Source: Canfora et al. (2022), ‘Development of the EU Sustainable Finance Taxonomy’.

## 2.3 ‘Do no significant harm’ to the circular economy

Demonstrating that investments ‘do no significant harm’ is a cornerstone of the EU Sustainable Finance Framework. The inclusion of DNSH criteria ensures that any activity that substantially contributes to one of the six environmental objectives does not inadvertently and adversely impact the other five (otherwise referred to as environmental burden-shifting). DNSH criteria for the circular economy are included under each substantial contribution activity housed in the other five environmental objectives (Box 5). DNSH criteria also help to integrate circularity across the other five environmental objectives by ensuring that all classified economic activities respect minimum circular economy safeguards.

### Box 5. DNSH criteria for a circular economy

An activity is considered to do significant harm\* to the transition to the Circular Economy (including waste prevention and recycling) if that activity:

- (i) leads to significant inefficiencies in the use of materials or in the direct or indirect use of natural resources (...) at one or more stages of the life cycle of products, including in terms of durability, reparability, upgradability, reusability or recyclability of products;
- (ii) leads to a significant increase in the generation, incineration or disposal of waste, with the exception of the incineration of non-recyclable hazardous waste; or
- (iii) the long-term disposal of waste may cause significant and long-term harm to the environment.

And that: ‘both the environmental impact of the activity itself and the environmental impact of the products and services provided by that activity throughout their life cycle shall be taken into account, in particular by considering the production, use and end of life of those products and services’.

\* As outlined in Article 17 of the EU Taxonomy Regulation. Source: Lexparancy (undated), ‘Article 17 — Significant harm to environmental objectives’, [https://lexparancy.org/eu/32020R0852/ART\\_17](https://lexparancy.org/eu/32020R0852/ART_17).

In the most recent version of the EU Taxonomy, DNSH criteria for the circular economy within the climate mitigation and adaptation objectives are either missing entirely or vary widely in terms of detail and objectivity depending on the nature of the economic activity. This results in unjustified differences in their ease of implementation and effectiveness in preventing harm across various economic activities. The following three examples demonstrate how variable the current DNSH criteria are.<sup>36</sup>

<sup>36</sup> Examples drawn from European Environmental Bureau (2022), ‘Do No Significant Harm’ to Circular Economy in the Climate Taxonomy: Analysis and recommendations, report, April 2022, <https://eeb.org/wp-content/uploads/2022/04/Do-No-Significant-Harm-to-Circular-Economy-in-the-Climate-Taxonomy-EEB-report-April-2022.pdf>.

**Highly detailed DNSH criteria defined:**

Manufacture of batteries (sector code 3.4). Recycling processes meet the conditions set out in Article 12 and in Annex III, Part B, of Directive 2006/66/EC, including the use of the latest relevant Best Available Techniques, the achievement of the efficiencies specified for lead–acid batteries, nickel–cadmium batteries and for other chemistries. These processes ensure the recycling of the metal content to the highest degree that is technically feasible while avoiding excessive costs. Where applicable, facilities carrying out recycling processes meet the requirements laid down in Directive 2010/75/EU.

**Moderately detailed DNSH criteria defined:**

Manufacture of renewable energy technologies, equipment for the production and use of hydrogen, low carbon technologies for transport, energy efficiency equipment for buildings and other low carbon technologies (sector codes 3.1–3.3 and 3.5–3.6). Assess the availability of and, where feasible, adopt techniques that support: (a) reuse and use of secondary raw materials and reused components in products manufactured; (b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured; (c) waste management that prioritizes recycling over disposal in the manufacturing process; and (d) information on and traceability of substances of concern throughout the life cycle of the manufactured products.

**Low/no detail of DNSH criteria defined:**

Manufacture of plastics on primary form and of organic basic chemicals, but also for the manufacture of cement, aluminium, iron and steel, hydrogen, carbon black, soda ash, chlorine anhydrous ammonia and nitric acid (sector codes 3.7–3.17).

## 2.4 Sectoral example: Built environment

The built environment sector has the second highest environmental impact in the EU, exceeded only by food. Construction has the highest raw material consumption (1.8 billion tons) when considering all types of materials together – mostly comprising non-metallic minerals.<sup>37</sup> But these materials are not being fully utilized and much is wasted. Around 35 per cent of the EU’s total waste is generated by the construction sector.<sup>38</sup> Circular economy solutions could significantly mitigate these harms and reduce the life cycle impacts of built environment projects.

<sup>37</sup> Platform on Sustainable Finance (2022), *Technical Working Group: Part B: Annex: Technical Screening Criteria*.

<sup>38</sup> Eurostat (2023), ‘Waste statistics’, [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste\\_statistics](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste_statistics).

The EU Taxonomy holds significant potential to drive ambition and incentivize the closure of this circularity gap given the scale of construction investment across Europe. In 2021, total investment in construction increased by 5.2 per cent, accounting for €1.6 trillion or 11.1 per cent of EU GDP.<sup>39</sup> A ‘renovation wave’ is also expected, with around €275 billion of additional investment in building renovation needed every year to achieve the EU’s proposed 55 per cent emissions reduction target by 2030.<sup>40</sup>

The Taxonomy already defines how the built environment can substantially contribute to climate objectives and how it can harm others. In March 2022, the PSF also presented draft criteria for how construction and renovation can substantially contribute to the circular economy.<sup>41</sup> Since then, additional work has been conducted on draft TSC for demolition of buildings and other structures.<sup>42</sup>

**Around 35 per cent of the EU’s total waste is generated by the construction sector. Circular economy solutions could significantly mitigate harms and reduce the life cycle impacts of built environment projects.**

It seeks to drive performance through a focus on extending the life of materials, components and building through a variety of ways. Crucially, the PSF technical working group presented separate recommendations for construction of new buildings and renovation of existing buildings. Common elements in each include a focus on the design stage to ensure resource efficiency and avoid over-specification; keeping construction products and materials in use and at their highest value; and information and data provision such as life cycle assessments (LCA) and digital databases (see Table 2 for more detail on draft preliminary criteria).

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<sup>39</sup> European Construction Industry Federation (2022), ‘Overall construction activity’, <https://fiee-statistical-report.eu/european-union>.

<sup>40</sup> European Commission (2020), ‘Questions and Answers on the Renovation Wave’, press release, 14 October 2020, [https://ec.europa.eu/commission/presscorner/detail/en/qanda\\_20\\_1836](https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_1836).

<sup>41</sup> Platform on Sustainable Finance (2022), *Technical Working Group: Part B: Annex: Technical Screening Criteria*.

<sup>42</sup> Ibid.

**Table 2.** Draft recommendations for contribution to circular economy in the construction of new buildings and renovation of existing buildings

<b>Draft recommendations for substantial contribution to the circular economy transition<sup>43, 44</sup></b>	<b>Construction of new buildings</b>	<b>Renovation of existing buildings</b>	<b>Demolition</b>
At least 90 per cent (by weight) of the non-hazardous construction and demolition waste generated on the construction site is prepared for reuse or recycling	Yes	Yes	Yes
A life cycle assessment of the entire building has been calculated and the results are made publicly available	Yes	Yes	n/a
Construction designs and techniques support circularity	Yes	Yes	n/a
At least 50 per cent of original building is retained	n/a	Yes	n/a
The asset comprises at least 50 per cent from a combination of reused components, recycled content or responsibly sourced renewable materials	Yes	Yes	n/a
Components and materials used in the construction do not contain asbestos or other substances of very high concern	Yes	Yes	n/a
Electronic tools are used to describe the characteristics of the building as built. The information is stored in digital format and made available to the client	Yes	Yes	n/a
The building renovation complies with the applicable requirements for major renovations. Alternatively, it leads to a reduction of primary energy demand of at least 30 per cent	n/a	Yes	n/a
Conduct a pre-demolition audit and agree with client key performance indicators and procedures	n/a	n/a	Yes
<b>DNSH criteria on the circular economy<sup>45</sup></b>			
At least 70 per cent (by weight) of the non-hazardous construction and demolition waste generated on the construction site is prepared for reuse, recycling and other material recovery	Yes	Yes	Not stated
Operators limit waste generation in processes related to construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol	Yes	Yes	Not stated

<sup>43</sup> Ibid.

<sup>44</sup> Platform on Sustainable Finance (2022), *Technical Working Group: Supplementary: Methodology and Technical Screening Criteria*.

<sup>45</sup> European Commission (undated), 'About the EU Taxonomy Compass', <https://ec.europa.eu/sustainable-finance-taxonomy>.



Achieving these criteria will require a dedicated effort and a step-change along several parts of the built environment value chain to integrate circular economy models and objectives. A number of sectoral characteristics highlight some important implications for taxonomy application and use in the built environment:

- **Time frame of material use.** The longevity of materials used in built environment assets is often greater than the business planning cycles.<sup>46</sup> This can introduce uncertainty over future considerations at end-of-life and how to understand future markets, policies and technologies that may influence activity decisions over the life cycle. The EU Taxonomy gives a snapshot in time and is not well suited to incentivizing improvements over the longer term.
- **Owner/operator models and incentives.** Circular renovation is another important aspect of reaching a circular built environment but is often given less attention than new construction. For renovation, the challenge of varying owner/operator models can result in misaligned incentives to invest, as the costs and the benefits accrue to different actors. Scaling up the use of Design-Build-Operate-Maintain (DBOM) contracts could be one way to promote a life cycle approach and align incentives to maximize resource value.<sup>47</sup>
- **Missing secondary-material marketplace.** The marketplace for securing high-quality and accessible secondary materials for construction is limited. Greater investment is needed in nodal service providers that can collect and add value to waste products for reuse.

Despite the challenges, the EU Taxonomy does provide a mechanism that could help to align fragmented and diverse actors along built environment value chains. In time, it could contribute to building the necessary critical mass to enable the establishment of new material-recovery services and to mainstream new ‘norms’ for design decisions across the industry.

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<sup>46</sup> Acharya, D., Boyd, R. and Finch, O. (2018), *From principles to practices: First steps towards a circular built environment*, report, Arup and Ellen MacArthur Foundation, July 2018, <https://ellenmacarthurfoundation.org/articles/first-steps-towards-a-circular-built-environment>.

<sup>47</sup> Ibid.

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# 03

# Integrating the circular economy: Key considerations

**Integrating the circular economy into a taxonomy presents unique challenges compared with other environmental objectives. The taxonomy's overall structure, its ease of use and the wider policy landscape must all be considered.**

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This chapter presents a series of lessons and considerations drawn from the EU's process of integrating the circular economy within its Sustainable Finance Taxonomy. These considerations are divided into three main themes: (i) architecture; (ii) usability; and (iii) the enabling policy environment.

## **3.1 Architecture**

The structure of a taxonomy plays a critical role in its success. Given the cross-cutting nature of the circular economy, the integration of circularity across a taxonomy's architecture remains one of the biggest challenges.

### **3.1.1 Setting the ambition level**

The EU circular economy objective is highly ambitious, aiming to decouple economic growth from extraction of non-renewable resources and to reverse depletion of the stock of renewable resources by 2030. However, there are considerable procedural and political challenges to realizing those ambitions – including some that are unique to the circular economy transition.

### **Lack of international agreements on circular economy**

The ambition level of an environmental objective should ideally be based on binding international agreements. For example, the climate mitigation objective in the EU Taxonomy is based on the goals and targets of the Paris Agreement, which is an international agreement with standardized approaches to measuring and reporting on progress.

However, to date, no multilateral or regional binding agreement exists on either global resource use or the transition to a circular economy with which to align ambitions with. Rather, the global transition is becoming increasingly fragmented, with each individual country pursuing its own unique version with little alignment or harmonization.<sup>48</sup>

The difficulty of benchmarking the circular economy objective against legal targets or international agreements increases the ambiguity of the ambition, making it more difficult to develop clear and objective TSC. For example, in linking the ambition to EU-specific targets, it becomes increasingly challenging to ensure harmonization with other non-EU taxonomies, which may hold different levels of ambition.

Questions also remain about the precise terminology to be used when setting a circular economy ambition, given the lack of international agreement in that area. For example, the EU ambition is that ‘economic growth is *decoupled* from extraction of non-renewable resources’. Yet, there is much ambiguity surround the term ‘decoupling’. Does it refer to achieving absolute or relative decoupling, in terms of scale? Does it mean local (i.e. within the EU) or global decoupling? Is that decoupling permanent or temporary?<sup>49</sup> Such nuances in terminology and interpretation can result in significant differences in levels of ambition and scope, and therefore need to be strictly defined.

Another challenge is that the targets outlined in the EU Taxonomy’s circular economy ambition – such as reducing the EU’s material footprint by 50 per cent by 2030 – will not be achieved by the Taxonomy alone. Rather, hitting those targets requires the introduction of ambitious legislative measures that would likely go well beyond the current measures outlined in the CEAP 2.0. Another challenge that has received little attention is the fact that achieving such an ambition in the EU requires the simultaneous transformation of global value chains, thereby requiring multilateral coordination and collaboration on capacity-building and technology transfer between governments and industry.

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<sup>48</sup> Chatham House [circulareconomy.earth](https://circulareconomy.earth) (2023), ‘From concept to action: A global roadmap for an inclusive circular economy’, 31 January 2023, <https://circulareconomy.earth/publications/a-global-roadmap-for-an-inclusive-circular-economy>.

<sup>49</sup> European Environmental Bureau (2019), ‘Decoupling debunked – Evidence and arguments against green growth as a sole strategy for sustainability’, report, 8 July 2019, <https://eeb.org/library/decoupling-debunked>.

### **Cross-cutting nature of the circular economy**

As mentioned above, achieving circularity requires the transformation of entire value chains. Therefore, circularity cuts across all sectors and geographical regions. Yet, by nature, a taxonomy is structured on the atomization of individual economic activities – which, in some cases, can limit efforts to encourage more transformational developments over multiple activities or along value chains.

## **The cross-boundary nature of global value chains means that it will be necessary to achieve a certain level of harmonization or mutual recognition between all taxonomies.**

A circular economy also involves new economic activities not traditionally classified under existing codes. As such, there have been calls to move towards a more systemic approach which allows for value chain-wide transformation, rather than activity-based action. But how such an approach could practically be structured has yet to be articulated.<sup>50</sup> The cross-boundary nature of global value chains means that it will also be necessary to achieve a certain level of harmonization or mutual recognition between all taxonomies<sup>51</sup> – an example being the Common Ground Taxonomy pilot between the EU and China.<sup>52</sup> Harmonization between taxonomies would be made easier through mutual recognition of circular economy policies and legislation.

### **3.1.2 Developing TSC**

There are two areas for consideration when developing TSC to determine substantial contribution to a circular economy: (i) the development of science-based consumption targets; and (ii) accounting for circular hierarchy.

#### **Embedding science-based targets for circularity in legislation**

Unlike climate mitigation or pollution control, which have definitive and objective metrics and legal requirements for measuring and comparing activities (such as gCO<sub>2</sub> or biological oxygen demand levels), the circular economy does not yet have such clear metrics from which to develop TSC. In fact, the EU Technical Working Group identified that ‘[the circular economy]... is the most challenging environmental objective because it is a relative new concept in scientific literature.’<sup>53</sup>

A lack of robust metrics makes it difficult to determine which economic activity results in greater ‘circularity’ than another. Given that substantial contribution to the circular economy cannot be simply measured through one metric, current TSC in the EU Taxonomy incorporate a range of different criteria (as outlined

<sup>50</sup> Platform on Sustainable Finance (2022), *Technical Working Group: Part B: Annex: Technical Screening Criteria*.

<sup>51</sup> Climate Bonds (2022), *Global green taxonomy development, alignment, and implementation*, report, January 2022, [https://www.climatebonds.net/files/reports/cbi\\_taxonomy\\_ukpact\\_2022\\_01f.pdf](https://www.climatebonds.net/files/reports/cbi_taxonomy_ukpact_2022_01f.pdf).

<sup>52</sup> International Platform on Sustainable Finance (2021), *Common Ground Taxonomy – Climate Change Mitigation*, report, December 2021, [https://finance.ec.europa.eu/system/files/2021-12/211104-ipsf-common-ground-taxonomy-instruction-report-2021\\_en.pdf](https://finance.ec.europa.eu/system/files/2021-12/211104-ipsf-common-ground-taxonomy-instruction-report-2021_en.pdf).

<sup>53</sup> Platform on Sustainable Finance (2022), *Technical Working Group: Part A: Methodological report*.

in Section 2.2.2). Such diversity in substantial contribution could ‘lead to inconsistencies when monitoring transition plans and evaluating the share of economic activities aligned with the Taxonomy.’<sup>54</sup> This lack of objective metrics also means there is no easy way to assess whether the cumulative benefits derived from each TSC amount to realizing the overall objective ambition. It also makes the processes of ensuring TSC compliance difficult.

To maintain the claim that the EU Taxonomy represents a science-based approach, additional effort is required to systematically and scientifically evaluate whether the changes resulting from the TSC align with the ambition. This necessitates the development of new approaches to disclosure and reporting at the business level, as well as macroeconomic modelling and evaluation of material flows underpinned by robust and harmonized standards.

### **Accounting for the hierarchical nature of circularity**

In its current form, the structure of the EU’s circular economy objective and its respective TSC do not easily allow for adequate embedding of the waste hierarchy principles (to reduce, then reuse, then repair, remanufacture or refurbish, and finally recycle). For example, several circular economy TSC outline that ‘the activity would need to satisfy only one of these options (x,y,z) to be deemed to be making a SC [substantial contribution]’. This would encourage an organization to aim to meet only one of the criteria options, when the greatest impact would be achieved via a combination of activities along the value chain that would need to be coordinated and synchronized.

Take the economic category ‘wearing apparel’ as an example. Currently, it is recommended<sup>55</sup> that to meet substantial contribution for wearing apparel, organizations would only need to comply with criteria for one of the following four activities:

1. Design and manufacturing of new apparel;
2. Repair or refurbishment of apparel;
3. Design and implementation of a business model that extends lifespan in practice; or
4. Sale of second-hand apparel.

Yet, it is logical for the design of new apparel (1) to be driven by the extent to which repair or refurbishment (2) is prioritized, or by the business model that extends lifespan in practice (3). Hence, if organizations only aim for minimum compliance with one of the above criteria, rather than being incentivized to address them holistically, suboptimal circular solutions could emerge.

To achieve the ambition of the circular economy objective, organizations must be better incentivized to ‘race to the top’ of the waste hierarchy – i.e. towards activities that offer greater material and energy efficiency gains and reduced environmental impacts – while maintaining a systems perspective. If companies are not sufficiently incentivized, there is a risk that companies will be encouraged

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<sup>54</sup> Yue Wa, T. and Cobat, F. (2022), ‘Taxonomy criteria for non-climate objectives: a welcomed hard work with some inconsistencies’, Natixis, newsletter, 3 June 2022, <https://gsh.cib.natixis.com/our-center-of-expertise/articles/taxonomy-criteria-for-non-climate-objectives-a-welcomed-hard-work-with-some-inconsistencies>.

<sup>55</sup> Platform on Sustainable Finance (2022), *Technical Working Group: Part A: Methodological report*.

to align with less transformative activities at the bottom of the waste hierarchy (such as recycling) to maintain the status of substantial contribution with minimum effort. Companies investing significantly in infrastructure and other assets with which to align with these lower-level activities may also risk being locked in to a situation whereby it becomes increasingly difficult and costly to move up the hierarchy. However, it is not reasonable to expect companies in most cases to be able to reach the top of the hierarchy immediately. As such, incentives for progression may be considered through a transition lens.

An alternative challenge is the potential for trade-offs between numerous TSC and the need for companies to navigate these in their value chains. For example, by manufacturing a smartphone to be easily dismantled for upgrading or repair, a company may conversely reduce the item's durability by abandoning the use of glues to maintain water resistance and shock absorbance.

### **3.1.3 Do no significant harm**

As outlined above, DNSH is a critical safety net component in the EU Taxonomy. However, in their current proposed format, many DNSH criteria for the circular economy within the Taxonomy are inconsistent and opaque.

In 2022, the European Environmental Bureau (EEB) undertook a detailed review of the DNSH criteria for the transition to the circular economy in the adopted Delegated Act on climate mitigation and adaptation, as well as in the draft Complementary Delegated Act on gas and nuclear energy.<sup>56</sup> The study found current DNSH for circular economy to be inadequate in terms of clarity and ambition, thereby risking significant harm to the circular economy in pursuit of other environmental objectives. It should be noted that the PSF proposed much more complete DNSH criteria in their recommendations, but these were often not adopted by the Commission in the Delegated Acts.

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<sup>56</sup> European Environmental Bureau (2022), *'Do No Significant Harm' to Circular Economy in the Climate Taxonomy*.

**Table 3.** Summary of current limitations of circular economy DNSH

<b>Limitation of current circular economy DNSH</b>	<b>Description</b>
Inconsistent approach across economic activities	Specific quantitative requirements to prevent harm generally missing from DNSH criteria for the circular economy.
Indiscriminate use of non-applicability	More than one-half of the economic activities covered by the Delegated Act on climate mitigation and adaptation include no DNSH criteria for the circular economy (listed as ‘not applicable’ in 93 cases out of 183).
Lack of generic DNSH criteria for circular economy	Generic DNSH criteria, providing horizontal minimum requirements, for circular economy missing from the annexes of the Delegated Act on climate mitigation and adaptation. Generic criteria instead listed for all other environmental objectives. These generic criteria should provide horizontal minimum requirements to ensure no harm to the circular economy objective, point to most relevant definitions and standards in EU environmental law and provide indication of hazards to be taken into consideration for circular economy impact assessments.
Failure to consider the whole life cycle of economic activities	For so many activities, DNSH for circular economy listed as ‘not applicable’ or criteria only consider potential for harm arising at production phase. To adequately prevent risks for the transition to the circular economy, assessment should have carefully looked at use and end-of-life phases where most harm is to be expected (e.g. issues arising from the unsustainable use of single-use products vs reusable/repairable).
Insufficient implementation of waste hierarchy	Despite being required under the EU Waste Framework Directive, waste hierarchy principles not reflected in wording of DNSH criteria, representing a missed opportunity to ensure the EU Taxonomy promotes waste prevention and improved waste management. In limited cases where reference made to the waste hierarchy, wording lacks ambition and unsupported by clear thresholds and measurable requirements in terms of waste prevention, durability, reparability, upgradability, reusability or recyclability of products.
Vague and non-actionable criteria	Generalized lack of quantitative, measurable criteria to demonstrate no harm done to the circular economy. Substantive performance requirements and quantifiable targets based on measurable circularity metrics (e.g. circular material use rate, waste generated upstream and downstream, waste management, recycling and reuse in practice) not included.

Given the current DNSH limitations with regards to the circular economy, there is an urgent need to revise the act already in force and strengthen DNSH criteria based on the PSF’s original recommendations. The PSF acknowledged that a more consistent approach to DNSH criteria was needed for circular economy, with experts stressing the need for ‘a review of the DNSH criteria from the Climate Delegated Act to improve consistency and usability of the Taxonomy’.<sup>57</sup>

<sup>57</sup> Platform on Sustainable Finance (2022), *Technical Working Group: Part A: Methodological report*.

It should also be noted that the EU Taxonomy is designed to be revised every three years based on improvement in scientific knowledge and access to data, as well as technological changes. Continuous improvement is particularly important for the circular economy objective, as the objective is most reliant on qualitative criteria due to a combination of lack of knowledge on what may be considered a substantial contribution, as well as the lack of clear metrics or standards on which to base substantial contribution and DNSH criteria.

### **3.1.4 Extending the Taxonomy**

It has been estimated that only 1 per cent of economic activities supported by European financial markets<sup>58</sup> are currently Taxonomy-aligned. Achieving alignment for a substantial proportion of the remaining 99 per cent will be extremely challenging in the short to medium term. As a result, capital will – at least in the short term – only reach a small segment of activities. Despite this, most sectors outlined in the EU Taxonomy can still become more sustainable, even if they do not technically meet the criteria for substantial contribution.

**Despite the benefits brought about by a taxonomy extension, defining new categories and ‘transition finance’ would be an extensive exercise, requiring significant resources and strong commitment by all stakeholders.**

The EU Taxonomy also excludes a range of economic activities seen as having low potential to affect the transition towards sustainability (even though they can help the economy transition away from significantly harmful activities) or perceived already as doing no harm (even though they may play an important enabling role to achieve substantial contribution). Both ‘additional’ types of activities will need targeted finance. Furthermore, it is feared that non-classification could create a negative signal to future investors, risking funds being diverted to other activities.<sup>59</sup>

To address these points, on request of the European Commission, the PSF proposed in March 2022 a model for leveraging and extending the EU Taxonomy to benefit the wider economy (including activities designated as ‘red’ and ‘amber’) (Figure 7).<sup>60</sup> After consultation with a broad range

<sup>58</sup> Alessi, L., Battiston, S. and Melo, A. S. (2021), ‘Travelling down the green brick road: a status quo assessment of the EU taxonomy’, Frankfurt: European Central Bank, [https://www.ecb.europa.eu/pub/financial-stability/macprudential-bulletin/html/ecb.mpbu202110\\_2~ea64c9692d.en.html](https://www.ecb.europa.eu/pub/financial-stability/macprudential-bulletin/html/ecb.mpbu202110_2~ea64c9692d.en.html).

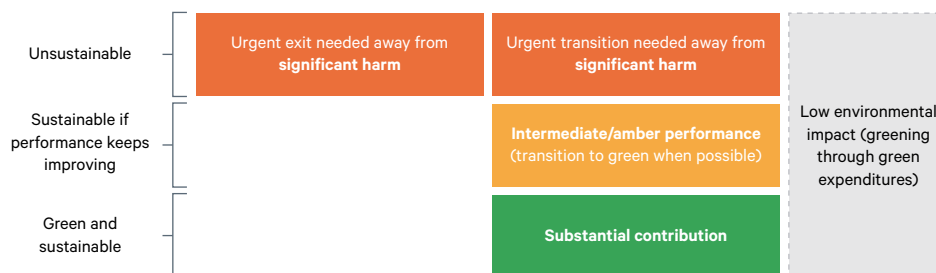
<sup>59</sup> It should be noted that current recommendations by the Technical Working Group do include a short list of activities that directly enable the circular economy transition, including: (i) marketplaces for the trade of second-hand goods for reuse; and (ii) provision of IT/OT data-driven solutions and software that provide a substantial contribution to circular economy.

<sup>60</sup> Platform on Sustainable Finance (2022), *The Extended Environmental Taxonomy: Final Report on Taxonomy extension options supporting a sustainable transition*, report, March 2022, [https://commission.europa.eu/system/files/2022-03/220329-sustainable-finance-platform-finance-report-environmental-transition-taxonomy\\_en.pdf](https://commission.europa.eu/system/files/2022-03/220329-sustainable-finance-platform-finance-report-environmental-transition-taxonomy_en.pdf).



of stakeholders, the study ‘found the balance of arguments to be in favour of an extended environmental Taxonomy, which would introduce greater transparency and clarity for investors and ensure market practices are aligned across the EU.’

**Figure 7.** Proposed extension to the EU Taxonomy



Source: Platform on Sustainable Finance (2022), *The Extended Environmental Taxonomy: Final Report on Taxonomy extension options supporting a sustainable transition*, report, March 2022, [https://commission.europa.eu/system/files/2022-03/220329-sustainable-finance-platform-finance-report-environmental-transition-taxonomy\\_en.pdf](https://commission.europa.eu/system/files/2022-03/220329-sustainable-finance-platform-finance-report-environmental-transition-taxonomy_en.pdf).

Despite the benefits brought about by a taxonomy extension, defining new categories and ‘transition finance’ would be an extensive exercise, requiring significant resources and strong commitment by all stakeholders (including the public and private sectors, and the financial sector) to ensure a robust outcome. It is questionable whether the European Commission would have the additional resources and capacity to develop and introduce such an extension in the near term. It should also be noted that the existing Level 1 regulation does provide ways to encourage a shift away from significantly harmful activities through the DNSH criteria. Nonetheless, the question of whether taxonomies should be extended to cover transition and non-harmful activities remains open and requires due consideration by other nations in the preliminary design stages.

### 3.2 Usability

Even if the above challenges are addressed, the Taxonomy must still be usable for its intended users. The following section provides an overview of conditions which need to be in place to make the Taxonomy usable for corporate reporting by businesses and finance institutions.

First, there must be a clear purpose and utility to reporting. Circular economy reporting is a means to an end, not an end in itself. Done well, it can provide the overarching framework to measure, evaluate and create strategies for resource-mediated impacts and risks.

Circular reporting needs to set precise standards that make the collection of data across supply chains more efficient – reducing multiplicity of data requests and providing the transparency requirements that enable corporate actors to explore new resource opportunities, for example, through industrial symbiosis. Companies can also apply circular economy principles to accelerate

and deconflict the achievement of goals on biodiversity, climate, pollution and water – all of which will increase in importance as taxonomies evolve and disclosure requirements expand.

For circular reporting to make sense, companies must also be encouraged to communicate the impact of their circular actions to enable actions by others – particularly along the value chain. While it is important for companies to disclose their risks and impacts to investors, actionable information for value-chain partners on where materials are taken, what is done to them and how they are disposed is equally necessary.

However, several challenges remain for companies and financial market participants charged with implementing the EU Taxonomy. Testimonies from early adopters of these tools and standards demonstrate that, despite the value offered by circularity metrics and reporting tools, there are still significant gaps between businesses in terms of their ability to meaningfully monitor and report on circularity (Box 6). This is, in part, due to the complexities and costs associated with material-flow accounting and relevant data gathering across the value chain. As such, there is a risk of mismatch between regulatory ambition and the ability of companies to comply.

### **Box 6. Circular reporting challenges**

Four key challenges currently exist when it comes to reporting for circularity: (i) lack, or high cost, of available data; (ii) low levels of maturity of reporting metrics and frameworks; (iii) low uptake; and (iv) lack of expertise.

- i. **Improving data availability.** To undertake circular impact assessment and taxonomy reporting, organizations will need to collect data from a wide array of sources along the value chain, including raw material extraction, energy use, procurement and production, consumption and use, waste production, recycling and recovery, and end-of-life data. Reporting tools and their users therefore need to account for the myriad of different data required. For example, the WBCSD Circular Transition Indicator tool consists of three modules that each require collection of data. These include: material flow and energy data (circular inflow, outflow, water circularity, renewable energy); material flow and production data (critical material, recovery type, waste circulation); and financial information (material productivity, revenues). The recently published European Sustainability Reporting Standard (ESRS) E5 also provides an overarching framework for how companies can evaluate and report on circularity for the CSRD. Research by Circle Economy found that, despite the tools and standards accounting for the broad data requirements, few companies can confidently claim to have a clear picture of their suppliers' waste impacts, let alone those of their customers. Accessing such data also requires data-sharing along value chains, which is presently uncommon (at least for this type of data). In addition, most companies have been collecting data for decades, but few have focused on material flows to compile the full suite of data needed to measure and understand their circularity impacts. Downstream

environmental impacts of circular interventions are particularly hard to measure and report, compared with energy-related climate mitigation measures, where emissions factors and scope boundaries are relatively simple to deal with.

- ii. **Building maturity of measurement standards.** Nearly all circularity metrics are relatively new, having been developed within the past four years to meet the increasing regulatory requirements for coherent and robust circularity metrics and reporting. Circle Economy produced a white paper<sup>61</sup> comparing the benefits and limitations of seven tools and metrics (Circle Assessment,<sup>62</sup> CTI,<sup>63</sup> CIRCelligence,<sup>64</sup> Circulytics,<sup>65</sup> Circularity Gap Metric,<sup>66</sup> GRI 306: Waste Standard<sup>67</sup> and Cradle to Cradle Certified).<sup>68</sup> That paper found that, apart from the Cradle to Cradle certification, all other metrics were evaluated to be progressing through maturity testing phases and therefore problems remained. Additional limitations in current metrics include the lack of ability to determine baselines and perform assurance on claims.
- iii. **Boosting uptake.** Given those relatively early levels of maturity of circular metrics and reporting tools, there has not been sufficient time for widespread adoption. In a recent content analysis of 94 leaders in corporate reporting,<sup>69</sup> it was found that only 20 per cent of those assessed reference circular economy and have metrics, and that very few CEO statements reference the circular economy.
- iv. **Strengthening expertise.** Varying levels of expertise are needed across an organization to apply such metrics. Some tools are well developed but have no third-party support (such as Circulytics). Others require third-party support such as CIRCelligence by BCG, which involves hundreds of questions and requires a BCG consultant (at least to conduct the initial test). As such, the operationalization of these metrics will come with an associated cost (either through internal staff training or outsourcing).

<sup>61</sup> Circle Economy (2020), 'Circular Metrics for Business', <https://www.circle-economy.com/resources/metrics> (accessed 20 Feb. 2023).

<sup>62</sup> Circle Economy (undated), 'Circular Assessment Tool', <https://cat.ganbatte.world>.

<sup>63</sup> WBCSD (undated), 'Circular Transition Indicators (CTI)', [https://www.wbcsd.org/Programs/Circular-Economy/Metrics-Measurement/Circular-transition-indicators#:~:text=The%20Circular%20Transition%20Indicators%20\(CTI,value%20chain%20positions%20and%20geographies](https://www.wbcsd.org/Programs/Circular-Economy/Metrics-Measurement/Circular-transition-indicators#:~:text=The%20Circular%20Transition%20Indicators%20(CTI,value%20chain%20positions%20and%20geographies) (accessed 20 Feb. 2023).

<sup>64</sup> Boston Consulting Group (undated), 'CIRCelligence', <https://www.bcg.com/capabilities/climate-change-sustainability/circular-economy-circelligence> (accessed 20 Feb. 2023).

<sup>65</sup> Ellen MacArthur Foundation (undated), 'Circulytics', <https://ellenmacarthurfoundation.org/resources/circulytics/overview> (accessed 20 Feb. 2023).

<sup>66</sup> Circle Economy, (undated), 'Circularity Gap Metric', <https://www.circularity-gap.world> (accessed 20 Feb. 2023).

<sup>67</sup> Global Reporting Initiative, (undated), *GRI 306: Waste Standard*, <https://www.globalreporting.org/standards/media/2573/gri-306-waste-2020.pdf> (accessed 20 Feb. 2023).

<sup>68</sup> Cradle to Cradle (undated), 'Cradle to Cradle Certified', <https://c2ccertified.org/get-certified> (accessed 20 Feb. 2023).

<sup>69</sup> Opferkuch, K., Caeiro, S., Salomone, R. and Ramos, T. B. (2022), 'Circular economy disclosure in corporate sustainability reports: The case of European companies in sustainability rankings', *Sustainable Production and Consumption*, July 2022, 32, pp. 436–56, <https://doi.org/10.1016/j.spc.2022.05.003>.

Additional barriers to usability exist when using and sharing foundational circularity metrics and data. Recent research by the EU Platform on Sustainable Finance highlighted five key thematic usability issues for the EU Taxonomy:<sup>70</sup>

- **Misalignment** between the sustainable finance reporting requirements across the regulatory framework including differing definitions of ‘sustainable investment’, ‘do no significant harm’, ‘good governance’ and risk approaches;
- **Sequencing issues** across the reporting framework, ensuring that data is available to financial institutions in order to satisfy their own reporting obligations;
- **Regulatory overload**, ensuring that the regulatory reporting requirements are evenly distributed and proportional to financial management programmes, financial undertakings, non-financial corporates, public sector actors and small and medium-sized enterprises (SMEs) use-cases;
- **Interpretive issues**, ensuring reporting requirements are clearly understood by all user groups (what needs to be reported, how and by when); and
- **Regulatory and data gaps**, filling any regulatory gap or addressing any regulatory hurdle that might hinder the use of the EU Taxonomy, and fostering the availability and accessibility of data.

Several strategies could be used to increase the usability of the Taxonomy and build capacity for implementation, both in future development and within reporting organizations. Finding ways to facilitate their implementation will only grow in importance as the EU Taxonomy spreads to additional and more diverse user groups, such as SMEs and public sector actors.

A first strategy is to foster greater engagement among circular reporting stakeholders and companies to build on the good work that exists, and to promote greater alignment with existing reporting frameworks and corporate capabilities to gather information. An example of this is the Circular Finance Roadmap 2030<sup>71</sup> and ongoing collaboration by a working group of financial institutions and various other organizations.

Second, actors can begin planning for a phased transition from qualitative to quantitative circularity disclosure. Qualitative disclosures will be needed where quantitative data cannot be disclosed during companies’ circular learning phase. But material flows and quantitative systems are needed in the long term.

Finally, encouraging greater supply-chain data transparency and traceability can remove some of the guesswork around what happens to a product after it leaves the factory. Solutions for understanding the impacts of products once sold, as well

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<sup>70</sup> Platform on Sustainable Finance (2022), *Platform Recommendations on Data and Usability*, report, October 2022, [https://finance.ec.europa.eu/system/files/2022-10/221011-sustainable-finance-platform-finance-report-usability\\_en\\_1.pdf](https://finance.ec.europa.eu/system/files/2022-10/221011-sustainable-finance-platform-finance-report-usability_en_1.pdf).

<sup>71</sup> Platform Voor Duurzame Financiering (2022), *The Financial Sector As A Driver Of The Circular Transition*, summary, February 2022, [https://assets.website-files.com/5d26d80e8836af2d12ed1269/620118bd0e16dd0ade090748\\_20220202%20-%20PDF%20Finance%20Roadmap%20-%20Digest%20EN.pdf](https://assets.website-files.com/5d26d80e8836af2d12ed1269/620118bd0e16dd0ade090748_20220202%20-%20PDF%20Finance%20Roadmap%20-%20Digest%20EN.pdf).

as the fate of materials after first use, are still nascent. Corporate sustainability reporting on circular economy can, in many cases, only make educated guesses on the fate of materials once they have entered the market.

### 3.3 Enabling environment

In addition to taxonomy architecture and usability, it is necessary to consider the wider enabling financial and non-financial policy and legislative environment. This environment is crucial for encouraging and facilitating organizations to adopt activities that substantially contribute to the circular economy.

#### Financial and non-financial impact reporting

As outlined at the beginning, a taxonomy is not a ‘silver bullet’. It needs to be designed and integrated into a broader suite of sustainable finance and non-financial mechanisms. For example, as part of the EU Green Deal, the EU launched a Sustainable Finance Roadmap in 2020, which includes measures to improve definitions on sustainable activities (the EU Taxonomy), disclosures among corporates (CSRD) and financial market participants and products (SFDR). Furthermore, developments like the proposed Directive for Corporate Sustainability Due Diligence and initiatives for substantiating green claims add to the demands on companies to gather sustainability-related information on their suppliers, operations and products (Box 7). Given the simultaneous development of this wide suite of financial and non-financial reporting mechanisms, there is a need to ensure harmonization between them to prevent companies being overwhelmed.

#### Box 7. Corporate Sustainability Reporting Directive and Environmental Sustainability Reporting Standard 5

In 2025, nearly 50,000 companies in the EU will be required to comply with the CSRD. The directive makes it mandatory for these companies to report on their double materiality risk from that year. This includes risks associated with the circular economy.

To enable companies to report on circularity and comply with the CSRD, the EU published ESRS E5, outlining what companies need to report on. There are seven main elements to these requirements under ESRS E5:

- **Materiality:** To determine which parts of a company’s value chain are important to report on;
- **Policies:** Circular economy policies the company has put in place to mitigate risks;
- **Actions and resources:** Circular economy actions and resources the company has committed to;
- **Targets:** Circular economy targets the company has established;
- **Resource inflows and outflows:** Material flows mapping using standardized metrics (such as GRI standards or Circulytics); and

- **Potential financial effects:** Assessing potential future effects of the company's current performance on circularity. (Note: Companies do not need to begin reporting on this until 2027.)

The CSRD (alongside ESRS E5) will bring complimentary benefits to the EU Taxonomy. Not only will the CSRD foster a culture of standardized circular economy monitoring and reporting, allowing companies to generate the necessary competence with which to report on Taxonomy alignment, but it will also generate a substantial amount of data to help strengthen circular economy-related TSC.

### **Fostering an enabling policy and legislative environment**

If the ambition of the circular economy objective of any taxonomy is to be realized, this ambition also needs to be reflected in, and supported by, the wider environmental policy and legislative environment. Only by mainstreaming this ambition level across policy domains, and providing economy-wide support for circular activities, can a taxonomy expand over time to include the full range of transition strategies required to achieve circularity.

Policy reform across many domains will be necessary to create a supportive ecosystem that incentivizes and delivers circular activities at scale. A first step would be to ensure that existing policy instruments are aligned with circularity. In the EU, this includes policies such as the EU Green Public Procurement criteria, the Construction Products Regulation and the Waste Framework Directive. There is also the need to develop policy in new areas covering support for systemic innovation across value chains. This will require specific capacity-building and tailored financial support. Consideration of the interplay between policies will also be crucial to manage unintended trade-offs or competing incentives.

No matter the level of ambition for circularity that future taxonomy developers (such as the UK) decide on, they will need to embed the circular economy across their environmental policy frameworks and industrial strategies. For example, if the UK adopts the EU's ambitious target of a 50 per cent material footprint reduction by 2030, this target will also need to be reflected in supporting policies under the Net Zero Roadmap and Plan for Growth.

### **Cross-border supply-chain actor support and capacity-building**

In many cases, meeting substantial contribution criteria for the circular economy will require collaboration and partnership with other actors along the supply chain, to enable cross-border flows of products, materials and resources. Yet not all actors (particularly upstream SME suppliers based in low-and middle-income countries) will be able to collaborate or adapt practices and processes sufficiently in the near term. This creates a double risk of critical suppliers losing market access to the EU and EU organizations dependent on those suppliers failing to meet taxonomy criteria. Therefore, it is imperative to scale up capacity-building and financial support to those suppliers most vulnerable

to the circular economy transition to help ensure a smooth and equitable transition along the entire value chain. Examples of initiatives that aim to do this include the EU's SWITCH to Circular Economy Value Chains project.<sup>72</sup>

### **Harmonization between taxonomies**

Chatham House research has identified over 450 circular economy policies and pieces of legislation introduced in more than 100 countries between 2010 and 2021.<sup>73</sup> These initiatives sit alongside 54 national circular economy roadmaps either completed or in development. Such a rapid proliferation of national and regional circular economy policies and legislation highlights the growing risk of fragmentation and incoherence. Yet it is important that taxonomies retain a certain level of harmonization to ensure that capital can flow freely and that the administrative burden on organizations which operate across multiple taxonomies remains low.<sup>74</sup>

The challenge faced by those involved in developing taxonomies is therefore to consider how potentially divergent domestic circular economy policies can be balanced with a sensible level of harmonization or mutual recognition (particularly of TSC). Harmonization efforts, however, should not come at the cost of ambition or encourage a 'race to the bottom'. Beyond national priorities, there is also a need for greater multilateral collaboration and coordination on the global circular economy transition.<sup>75</sup>

**It is imperative to scale up support to those suppliers most vulnerable to the circular economy transition to help ensure a smooth and equitable transition along the entire value chain.**

### **Embedding circularity within a social taxonomy**

The circular economy must not just be considered as primarily a transition of industrial activities, rather it must also be considered through a social just transition lens.<sup>76</sup> The EU's development of a social taxonomy – although currently postponed – will complement the existing Sustainable Finance Taxonomy with a classification tool for economic activities that contribute to the EU's social goals.<sup>77</sup> The circular economy promises to create millions of jobs worldwide. However, even if a job contributes to circularity, it may not automatically meet all human development and well-being criteria. A better understanding is necessary of both the types and quality of jobs likely to be created through circular activities, before these new jobs are incorporated into the social taxonomy.

<sup>72</sup> European Union (2023), 'SWITCH to Circular Economy Value Chains', <https://www.switchtocircular.eu>.

<sup>73</sup> Chatham House [circulareconomy.earth](https://circulareconomy.earth) (2022), 'Policies', <https://circulareconomy.earth>.

<sup>74</sup> Climate Bonds (2022), *Global Green Taxonomy Development, Alignment, and Implementation*.

<sup>75</sup> Chatham House [circulareconomy.earth](https://circulareconomy.earth) (2023), 'From concept to action'.

<sup>76</sup> Schröder, P. (2020), *Promoting a Just Transition to an Inclusive Circular Economy*, Research Paper, London: Royal Institute of International Affairs, <https://www.chathamhouse.org/2020/04/promoting-just-transition-inclusive-circular-economy>.

<sup>77</sup> Meager, E. (2022), 'Why the social taxonomy is no longer an EU priority', *Capital Monitor*, 12 September 2022, <https://capitalmonitor.ai/regions/europe/why-social-taxonomy-no-longer-eu-priority>.

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# 04 Conclusion and recommendations

**To ensure that future taxonomies support the circular transition, policymakers must consider how to integrate the holistic and transformational nature of the circular economy within a taxonomy's architecture, its usability and the wider enabling policy and regulatory environment.**

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Realizing global environmental goals at the same time as building economic resilience will require the widespread transition to a circular economy. Yet, due to its systemic nature, early stage of development, low data availability and limited awareness among the financial sector of circular business models, adoption of circular practices remains low and a significant financing gap exists.

Sustainable finance taxonomies promise to provide financial markets with clarity on the economic activities that substantially contribute to a circular economy, while at the same time directing finance towards those activities. Nonetheless, taxonomies themselves are also in the early stages of maturity, particularly when it comes to embedding the circular economy.

There are several unique challenges involved in embedding the circular economy within a sustainable finance taxonomy. The lack of binding multilateral agreements or targets on the circular economy, as well as globally recognized definitions, standards and methodologies for metrics and reporting makes it difficult to develop objective goals, substantial contribution and DNSH criteria. Furthermore, the current circular economy policy and legislative landscape is becoming increasingly fragmented and lacks the ambition and clarity necessary to encourage widespread investment in substantial contribution activities. The EU CEAP takes a step towards this but remains limited in its economic scope.

Existing taxonomies are also limited in that do not consider equally the need to shift away from significantly harmful linear activities or the need to encourage transition activities in sectors where substantial contribution to the circular



economy cannot be achieved. Nor do they consider the need to continue financing activities that currently ‘do no harm’ but are important enablers of the circular economy transition.

Finally, the complexity of circular economy reporting should not be underestimated. Levels of maturity in terms of metrics and methodologies remain low, while access to the relevant data required to report is limited. Lack of available data and the cost associated with gathering such data can result in low levels of enthusiasm and participation among companies.

To ensure that taxonomies being developed around the world support the circular transition, policymakers and practitioners must consider the following actions. These recommendations have been divided into the three categories detailed in Chapter 3 and derive from a series of roundtable sessions hosted by Chatham House and E3G that brought together over 100 public, private and third sector stakeholders involved in the development or operationalization of a sustainable finance taxonomy.

### **Strengthening taxonomy architecture**

- Engage with and learn from industry associations and individual companies that have managed to integrate circular economy principles into a profitable business model and disseminate lessons to wider stakeholder groups;
- Task Technical Working Groups to seek solutions to further embed and incentivize the adoption of the waste hierarchy principles, measurable thresholds, and requirements and mechanisms that foster wider supply-chain collaboration;
- Ensure DNSH criteria for the circular economy are consistent and objective by engaging with science-based expert advice, reached by consensus with all stakeholders represented (including civil society);
- Consider how mechanisms for continuous improvement are built into a taxonomy – paying particular attention to creation of objective, qualitative criteria in place of qualitative TSC and DNSH; and
- Assess the merits of extending existing taxonomies to account for the circular economy transition and enabling activities.

### **Improving taxonomy usability**

- Provide financial and capacity-building support to further develop and improve adoption of circular economy metrics, data collection and reporting processes;
- Increase targeted awareness-raising on the circular economy as a business strategy via peer-learning and business campaigns; and
- Train accountants, legal and fiscal specialists to navigate the added layers of complexity that circular economy requirements, minimum performance standards and the use of waste hierarchies entail.

## **Creating an enabling policy and legislative environment**

- For governments and policymakers seeking to introduce, discuss and vote into law objective and legally binding national targets for the circular economy: Ensure the goal of the circular economy objective within their taxonomy aligns with and supports such targets;
- Participate in, and encourage, multilateral discussions on:
  - Harmonizing circular economy elements of taxonomies in a context of increasing policy and legislative fragmentation; and
  - Providing financial and capacity-building support to suppliers in critical supply chains that will be most affected by the circular economy transition (particularly SMEs in low-income countries).
- For existing working groups on sustainable finance, such as that of the G20: Improve global comparability and interoperability of taxonomies; and
- For multilateral development finance institutions: Provide regulators engaged in developing taxonomies with conceptual frameworks and procedural guidance on how to include circular economy objectives and criteria (see, for example, the World Bank framework on developing a national green taxonomy).<sup>78</sup>

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<sup>78</sup> World Bank (2020), *Developing A National Green Taxonomy: A World Bank Guide*, report, June 2020, <https://documents1.worldbank.org/curated/en/953011593410423487/pdf/Developing-a-National-Green-Taxonomy-A-World-Bank-Guide.pdf>.

## Glossary

**Circular Economy Action Plan (CEAP):** A plan proposed by the EU to transition towards a circular economy that is sustainable and promotes growth.

**Corporate Sustainability Reporting Directive (CSRD):** A proposed EU regulation that would require large companies to disclose information on their environmental, social and governance performance.

**Design-Build-Operate-Maintain (DBOM):** A project delivery method that involves a single entity being responsible for the design, construction, operation and maintenance of a project.

**Do no significant harm (DNSH):** A principle used in the EU's Sustainable Finance Taxonomy to identify economic activities that could cause significant harm to the circular economy and disincentivize investment in such activities.

**Drivers, Pressures, States, Impacts and Response (DPSIR) framework:** A framework used to analyse and understand complex environmental problems.

**European Sustainability Reporting Standard (ESRS):** A set of reporting standards developed by the EU to standardize sustainability reporting for companies.

**Global Reporting Initiative (GRI):** An international organization that provides sustainability reporting standards and guidelines.

**International Organization for Standardization (ISO):** Responsible for developing and publishing international standards for various industries.

**International Sustainability Standards Board (ISSB):** An international organization responsible for developing sustainability reporting standards for businesses and organizations.

**Joint Research Council (JRC):** A research organization established by the European Commission to provide scientific advice and support for EU policies.

**Life cycle assessments (LCA):** A method used to evaluate the environmental impact of a product or service throughout its entire life cycle.

**NACE codes:** A coding system ('Statistical classification of economic activities in the European Community') used by the EU to classify economic activities.

**Platform on Sustainable Finance (PSF):** A platform established by the European Commission to develop and coordinate sustainable finance policies and initiatives.

**Sustainable Finance Disclosure Regulation (SFDR):** A regulation that requires financial market participants to disclose information on how sustainability risks are integrated into their investment decisions.

**Sustainable finance taxonomy:** A classification system that identifies and sets criteria for determining environmentally and socially sustainable economic activities and investments.



**Technical screening criteria (TSC):** Criteria used by the European Commission to determine whether economic activities contribute substantially to sustainability objectives.

**Waste hierarchy:** A prioritized framework that ranks waste management options from most to least desirable, emphasizing prevention, reduction, reuse, recycling and disposal as a last resort.



## About the authors

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