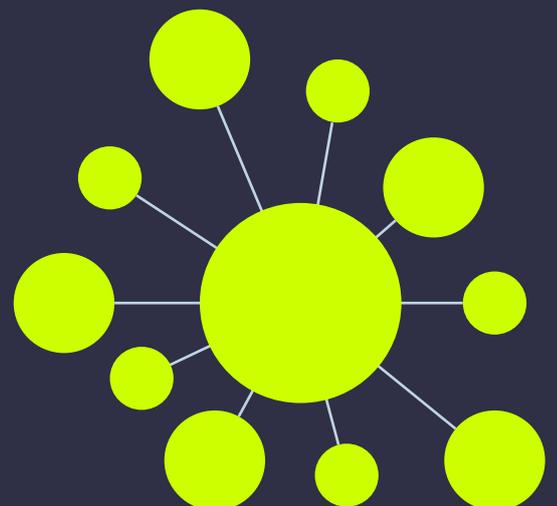


# How policymakers can achieve a resilient recovery with the circular economy

Policies that are aligned with circular economy principles can play a vital role in recovery packages by stimulating value creation and economic resilience. Prior to the pandemic, a number of governments were already taking steps to promote a circular economy approach. Many recognised that a new economic model is required that is less wasteful and environmentally damaging, as well as not so critically dependent on globalised linear supply chains and cheap virgin raw materials. In the aftermath of the Covid-19 crisis, it is crucial that as policymakers aim to deliver more jobs and equitable growth in the short-term, they also address the global systemic risks of our current linear economies to simultaneously reduce long-term risks linked to climate change and biodiversity loss. In doing so, policymakers will be able to achieve the multiple public policy objectives of the 21st century.

Building on the past ten years of research carried out on the circular economy, the Ellen MacArthur Foundation highlights in this paper how policymakers can pave the way towards a resilient recovery. As part of this, ten attractive circular investment opportunities that spread across five key sectors of the built environment, mobility, plastic packaging, fashion, and food, have been identified. Each sector is independently explored in a series of Insight papers. These individual papers, as well as the full combined paper, can be found at the Ellen MacArthur Foundation page: [Covid-19: The economic recovery](#).



# Introduction

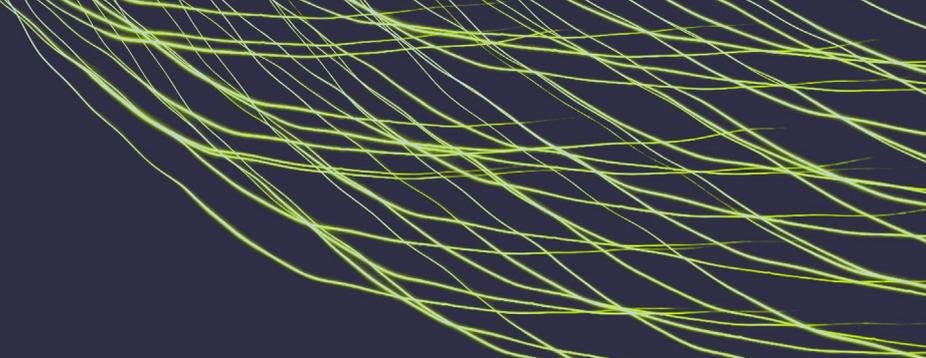
**The world is facing an unparalleled global crisis, highlighting the shortcomings of our current system.**

In the space of just a few months, the Covid-19 pandemic swept across the world restricting the movement of millions of people, impacting lives and jobs, disrupting international supply chains, and bringing global economies to a halt. In doing so, the pandemic and the lockdown measures have revealed our system's exposure to a variety of risks, and triggered the most severe economic recession in nearly a century.<sup>1</sup> The current situation has also revealed our limited ability to contain and adapt to the systemic risks posed by the pandemic within a highly interconnected world relying on rapid and frictionless global flows of people, goods, and information.<sup>2</sup> More importantly, the current crisis has highlighted the shortcomings of our linear system. This is a system in which resource extraction and waste production—which are inherent to the way we make and produce goods—cause untenable environmental degradation, climate change, biodiversity loss, and pollution.

**How governments act today will shape the post-Covid-19 world for generations to come.**

With the Covid-19 pandemic revealing the vulnerability of global systems to protect the environment, health, and economy,<sup>3</sup> many voices from governments, businesses, and civil society have been calling for a response to the devastating impacts of the pandemic that is inclusive and does not turn attention away from other global challenges.<sup>4</sup> An alliance of 180 European politicians, business leaders, MEPs, and environmental activists have, for example, urged that investments are directed towards the shaping of a "new European economic model: more resilient, more protective, more sovereign, and more inclusive".<sup>5</sup> Over 100 investors, representing EUR 11.9 trillion in assets either managed or advised, have also called on European business and finance leaders to ensure a green recovery be delivered.<sup>6</sup> These calls are taking place at a pivotal time, since investments and policy actions will determine the direction of economic recovery both in the short-term and the long-term. The pandemic may also be reconfiguring the roles of state and market actors for years to come.<sup>7</sup>

i Covid-19 triggered the most severe economic recession since the Great Depression in the 1930s, with GDP declines of more than 20% and a surge in unemployment in many countries.



**A circular economy offers a tangible pathway towards a low-carbon and prosperous recovery.**

With around USD 10 trillion in economic stimulus being unveiled by governments all around the world, there is an unprecedented opportunity to “move away from unmitigated growth at all costs and the old fossil fuel economy, towards a lasting balance between people, prosperity, and planetary boundaries.”<sup>8</sup> European Commission President Ursula Von der Leyen presented such a vision for Europe by saying, “We will need to ‘bounce forward’ and not ‘bounce back’. And we will need to build a resilient, green and digital Europe. At the heart of this will be our growth strategy, the European Green Deal, and the twin transition and opportunity of digitalisation and decarbonisation.”<sup>9</sup> As an integral part of this European strategy, the circular economy is a framework for resilience and regeneration that delivers on multiple policy objectives. Policymakers, CEOs, and other influential individuals are mobilising businesses and governments around the world to join the journey towards achieving a resilient recovery with the circular economy in response to the economic impact of the coronavirus pandemic.<sup>10 11</sup> The circular economy therefore remains highly relevant to keep in the sights as new sources of growth and economic renewal are considered. Achieving such a recovery will require the rethinking, resetting, and redesigning of the economy from one that is merely reactive in a time of crisis to one that is prosperous, inclusive, low-carbon, and mitigates the risk of future crises.

**The Ellen MacArthur Foundation highlights how policymakers can help pave the way towards a low-carbon and prosperous future, while drawing on ten attractive circular investment opportunities.**

For policymakers, embracing the roles of setting a common direction of travel, making the economics work, unlocking circular investment opportunities, and fostering collaboration will be essential in creating the enabling conditions for the recovery. As part of this, directing investment into ten circular opportunities across five key sectors of built environment, mobility, plastic packaging, fashion, and food, can help jump-start the transition in these industries while ensuring their improved future resilience. Together, these policy actions and investments can help achieve both the short- and long-term goals of the public and private sectors, while contributing to the creation of a more resilient economy and reducing the risk of future shocks.

# How policymakers can help pave the way

Towards a low-carbon and prosperous future

Policies that are aligned with circular economy principles can play a vital role in recovery packages by stimulating value creation and economic resilience. Prior to the pandemic, a number of governments were taking steps to promote a circular economy approach, recognising that a new economic model is required that is less wasteful and environmentally damaging, as well as not so critically dependent on globalised linear supply chains and cheap virgin raw materials. In the aftermath of the Covid-19 crisis, it is crucial for policymakers to address the global systemic risks of our current linear economies as they aim to deliver more jobs and equitable growth in the short-term, and reduce long-term risks linked to climate change and biodiversity loss.

To meet these short- and long-term ambitions through a circular economy, policymakers have a key role to play in:

- **Setting a common direction of travel:** a resilient recovery with the circular economy
- **Shaping incentives** to enable a circular, low-carbon economy
- **Fostering collaboration** to obtain system-level solutions
- **Unlocking circular investment opportunities** to meet key public priorities

# Setting a common direction of travel: a resilient recovery with the circular economy

## **There are still many uncertainties about how the economic landscape will evolve.**

The many uncertainties that remain around the Covid-19 virus and its potential cure—through a vaccine or a widely available treatment—are still weighing on the economy and people’s lives and livelihoods. There are also uncertainties around the economic impact of the pandemic, the policy responses, the speed of recovery, and the extent to which pandemic-induced shifts will persist in society e.g. shifting consumer patterns, business travel, working from home.<sup>12</sup> As a result, macroeconomic projections are showing massive divergences,<sup>13</sup> and while policymakers are providing unprecedented support to households, firms, and financial markets, a McKinsey study highlights that the uncertainty is still present which is “toxic for an economic recovery”.<sup>14</sup> It is therefore important to establish clear visions and to align strategies towards a new economic model for long-term prosperity and resilience.

## **Ambitious policies will be needed that not only focus on short-term ‘rescue’, but also on long-term ‘recovery’ efforts.**<sup>15</sup>

At a global level, it is estimated that 30% of all economic stimulus funding is being directed to areas with highly relevant impacts on the environment, yet most of this is being mobilised without any clear environmental conditions.<sup>16</sup> In fact, studies have shown that the vast majority of the policies for economic stimulus—that have already been implemented in G20 countries since the onset of the pandemic—are more ‘rescue’ than ‘recovery’ policies, paying limited attention

to climate, sustainability, and resilience.<sup>17</sup> Many countries around the world are still prioritising ‘brown’ stimulus packages over ‘green’ ones, relaxing, for example, laws around controlling pollution and standards for vehicle energy-efficiency.<sup>18</sup> Only a few of the member states of the European Union,<sup>ii,19</sup> the United Kingdom, and Canada are attaching some conditions to ensure stimulus packages dedicate attention towards shaping a more sustainable transition.<sup>20</sup> As an example, Spain has prominently featured green investments in their draft national recovery plans. Over the next 3 years, 37% of the EUR 72 billion in funds will be spent on the green and ecological transition which include schemes aimed at: expanding renewable power, promoting e-mobility, and making buildings energy efficient.<sup>21</sup> However, the large majority of countries are prioritising ‘brown’ stimulus packages. This therefore presents a missed opportunity for many, since recent analysis by the European Central Bank (ECB), World Bank, and OECD, shows that ‘greener’ economies with less carbon-intensive activities are better placed to ensure faster recoveries.<sup>22</sup> In particular, countries with higher environmental protection measures in place, are expected to experience higher GDP and sectoral growth compared to countries that do not prioritise these measures.<sup>iii,23</sup> Therefore to ensure a long-term recovery, it is critical that government ambitions and actions not only focus on safeguarding national economies during crises, but also pave a way forward towards a wider economic reform that is more resilient against future global risks.

ii In addition to stimulating a green recovery, the EU has set a union-wide greenhouse gas emissions reduction goal of 55% including emissions and removals by 2030 compared to 1990.

iii “Recovery” has been defined as the two year period after a recession; “Environmental protection” is measured by an index of environmental protection stringency (EPS), for the countries with below-median and the countries with above-median EPS; “Sectoral growth” is the growth difference between the least and the most carbon-intensive sector during recovery.

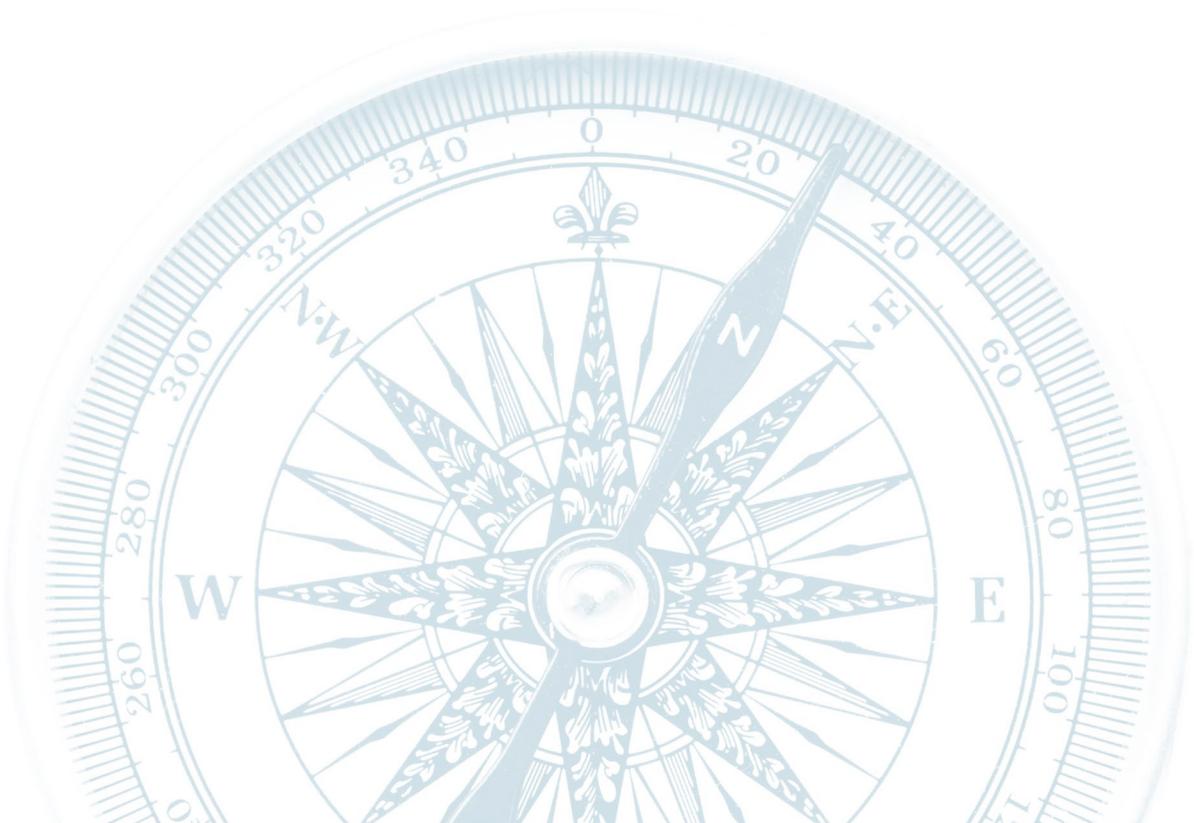


**It is encouraging to see many governments seizing this once-in-a-lifetime opportunity to ensure a truly sustainable recovery, but countries should go much further in greening their support packages. Climate change and biodiversity loss are the next crises around the corner and we are running out of time to tackle them. Green recovery measures are a win-win option as they can improve environmental outcomes while boosting economic activity and enhancing well-being for all.**

Angel Gurría, Secretary-General, OECD <sup>24</sup>

**Circular economy policy strategies provide a pathway towards a resilient and low-carbon economic recovery.** The circular economy—as a solutions framework to decouple economic growth from resource use and environmental impact—can help shape a pathway towards a more resilient and low-carbon economic recovery. It is a pathway that must, however, be supported by complementary policies to enable a more inclusive and ‘just transition’ that reduces inequalities within and between countries, leaving no one behind.<sup>25</sup> The circular economy also acts as a delivery mechanism for achieving mutually reinforcing economic, societal, and environmental objectives; addressing challenges and policy objectives that are interlinked. It does so by fostering innovation and competitiveness, increasing productivity, reducing resource dependency and environmental impact, increasing resilience, and creating new jobs. As an example, the *Breaking the Plastic Wave* report by the Pew Charitable Trusts and

SYSTEMIQ has shown that a comprehensive circular economy approach for the plastics sector has the potential to reduce the annual global volume of plastics entering our oceans by over 80%, generate savings of USD 200 billion per year, reduce greenhouse gas (GHG) emissions by 25%, and create 700,000 net additional jobs by 2040.<sup>26</sup> As this shows, the circular economy, in taking a systemic approach to tackling global challenges, can help ensure a stronger recovery that is not only more resilient and prosperous, but also meets multiple policy objectives, both in the short- and long-term. The EU has, for example, since before the pandemic paved the way by establishing the European Green Deal—of which the Circular Economy Action Plan is a key pillar—and in light of the current context, it is now being placed at the core of the Covid-19 recovery package offering a roadmap to reinvigorating the economy and ensuring climate-neutrality.<sup>27</sup>



# Fostering collaboration to obtain system-level solutions

## **A global crisis requires international and well-coordinated recovery efforts.**

The Covid-19 pandemic has affected us all to varying degrees and an international coordinated response will be of vital importance.<sup>28</sup> Strong public–private collaboration will be essential in the shaping of a post-pandemic future that and ushers in redefined growth towards a next wave of prosperity, while also improving society's resilience to future shocks. Such a transition, enabled through a circular economy, will, for example, require collaboration between governments, the investment community, industries, companies, academia, and civic organisations. The value of such international coordination was demonstrated before the pandemic by the Fourth United Nations Environment Assembly (UNEA-4),<sup>iv</sup> which in 2019 focused a session on 'Innovative solutions for environmental challenges and sustainable consumption and production'.<sup>29</sup> The conference brought together five heads of state and government, 157 ministers and deputy ministers, and almost 5,000 participants from 179 countries, which led to a Ministerial Declaration and 26 thematic resolutions on topics such as: sustainable consumption and production (SCP); resource efficiency, chemicals, and waste; biodiversity and ecosystems; environmental governance.<sup>30</sup>

## **An integrated and collaborative approach is needed for tackling global systemic challenges.**

As expressed by the Institute of Advanced Sustainability Studies, "the governance of systemic risks, and of pandemics in particular, is a genuinely interdisciplinary undertaking".<sup>31</sup> However, the siloed way of working is quite ingrained within many political systems and in the way in which societal challenges are being tackled. As an example, a study has emphasised how policies—that were pursued during the 2007–2009 financial crisis and the subsequent European debt crises that peaked in 2011–2012—failed to achieve the integrated objectives that were set, due to policymakers addressing priorities, like employment and growth, in isolation.<sup>32</sup> With regards to overcoming the impacts of the Covid-19 pandemic with the circular economy, similar concerns exist. Namely, the risk remains high that circular economy strategies are being narrowed down to waste management policies, while sitting in isolation from the rest of economic policymaking. Instead, an integrative and

collaborative approach is needed to help manage system-level challenges that are transboundary by nature. This will require working with cross-cutting thematic teams or departments, bringing a new lens, and helping unearth new solutions that meet multiple policy objectives. The circular economy should, for example, be mainstreamed into interconnected policy areas (such as construction, transport, and urban planning policies) and thematic strategies (such as industrial renewal, climate change, resilience, and nature-based solutions<sup>33</sup>), helping reinforce synergies that can address key priorities such as employment, growth, and decarbonisation. This can support the emergence of a common vision, and enable the transition benefitting from the expertise and leadership of different actors.

## **As economies recover from the pandemic, inevitably reshaping global trade and value chains,<sup>34</sup> integrating circular economy practices into trade policies will be a key area for future engagement.**

Transitioning to a more circular economy will inevitably have implications on a global scale. However, to ensure circular economy practices are integrated into trade policies, improved policy coherence will be needed.<sup>35</sup> According to the Institute for European Environmental Policy, this could include: the better harmonisation of recovery programmes; standardising definitions and standards; reviewing regulatory systems; improving the integration of the circular economy into EU trade policy and free trade agreements; championing trade incentives for circular economy goods; and increasing cooperation between countries.<sup>36</sup>

## **The circular economy offers a 'systems approach' to economic development that is critical for stimulating collaboration, enabling innovation, and building resilience for a post-Covid-19 future.**

It often involves stakeholders from across the entire value chain and collaboration to help rethink the way in which products are made and used. As discussed in the paragraphs above, global challenges are too complex to be approached with isolated efforts. When it comes to complex challenges around materials streams like plastics, textiles, or food, high levels of commitment, and incentives and actions at pre-competitive level are needed from those with a stake in the way materials cycle in the economy. For example, the Jeans Redesign—

iv The UNEA is the highest level global decision-making body on issues related to the environment and has been held every two years since 2013.

created by the Ellen MacArthur Foundation's Make Fashion Circular initiative<sup>37</sup>—brought together more than 40 experts from academia, brands, retailers, manufacturers, collectors, sorters, and NGOs to co-develop guidelines<sup>v</sup> for circular jeans.

**Such opportunities do not only exist for specific product supply chains but also for industries as a whole, which encompass an even wider system of actors.** In this respect, ambitious strategies and collaboration platforms play key roles in setting the direction of travel and enabling co-creation, innovation, knowledge exchange, and alignment. As an example, in its proposal for A New Industrial Strategy for Europe,<sup>38</sup> the European Commission has acknowledged that policymakers need to look closely at the opportunities and challenges facing industrial ecosystems. These ecosystems encompass all players operating in a value chain, each having their own specific expertise, and bringing different research and innovation skills. In light of this, the Commission has expressed being ready to co-design and co-create solutions with the industry itself, as well as with societal partners and all other stakeholders in order to ensure the industry can successfully lead the ecological and digital transitions and drive competitiveness.<sup>39</sup> The European Battery Alliance is another good example of system-level collaboration, bringing together more than 120 European and non-European stakeholders representing the entire battery value chain. It has made the EU an industrial frontrunner in this key technology. Moreover, alliances can also help steer work and aid the financing of large-scale projects with positive spill-over effects across Europe, using the knowledge of SMEs, big companies, researchers, and regional actors to help remove barriers to innovation and improve policy coherence.

**Building circular economy knowledge and capacity will be essential to help to accelerate the transition for a lasting recovery.** As a part of this, sharing learnings and best practices from the implementation of recovery programmes among key actors and regions will be critical to ensure the goals of the recovery are effectively reached across the globe.<sup>40</sup> For example, the United Nations Economic Commission for Europe (UNECE) is mobilising experts—from their network of eight International Public-Private Partnership (PPP) Specialist Centres—to develop knowledge and guidance on PPPs to help build back stronger from the Covid-19 pandemic.<sup>41</sup> Together there is an opportunity to rebuild confidence, demonstrate a clear and unambiguous way ahead, and pave the way for a better and more resilient future.<sup>42</sup> As seen in the built environment where disruptive technologies—that enable circular practices, such as durable and flexible design, and industrialised processes of construction—could be applied to a greater degree if the capabilities and skills necessary to do so were made available throughout the industry.<sup>43</sup>

<sup>v</sup> The Jeans Redesign Guidelines set out minimum requirements on garment durability, material health, recyclability, and traceability. Based on the principles of the circular economy, the guidelines will work to ensure jeans last longer, can easily be recycled, and are made in a way that is better for the environment and the health of garment workers.

# Shaping incentives to enable a circular, low-carbon economy

**As economies restart, there is an opportunity to restructure SME and wider business support schemes towards long-term resilience.** The dramatic and sudden loss of demand and revenue that followed the pandemic has caused many businesses, especially SMEs,<sup>vi,44</sup> to face severe liquidity shortages.<sup>45</sup> Public financial support will therefore be essential to help SMEs bounce back or even survive the impacts of the pandemic. While policymakers in the EU, in response to this challenge, have increased budgets for direct public support mechanisms and SME subsidies,<sup>46</sup> many of these tend to only focus on short-term liquidity needs.<sup>47</sup> However, to shape a stronger and more resilient long-term recovery, there is an opportunity to restructure SME schemes. For example, schemes could be provided that help businesses implement circular economy principles to improve their competitiveness and environmental performance, leverage digital technologies, achieve inclusivity, and strengthen their resilience against future shocks.<sup>48</sup> The pandemic has also shown the importance of local value chains, while reliance on stretched international supply chains is now being perceived as riskier. Governments therefore also have a role to play in supporting businesses that offer more localised, diversified, and distributed production—through repair, refurbishment, remanufacturing, and local production—as they can help pave the way towards a more resilient future that enhances the economic development of communities.<sup>vii</sup> In achieving these cross-cutting objectives, the circular economy acts as a key delivery framework.

When it comes to larger businesses, governments can also help guide the transition to a cleaner and more resilient recovery by attaching conditions within, for example, stimulus packages, state aid, and bailout funds. This can help increase the uptake of certain practices or technologies that contribute to a better recovery. In Austria, for example, the government has asked airlines to commit to reducing carbon emissions as a condition for its support,<sup>49</sup> and in France, a EUR 7 billion package of state-guaranteed loans for Air France, in which the government is a shareholder, comes with the requirement that the airline reduces domestic CO<sub>2</sub> emissions by 50% by 2024.<sup>50</sup> The tax system is a powerful tool to shape economic activity and combat systemic issues that long predated the Covid-19 pandemic,

providing a conducive environment for a circular economy. Since the onset of the pandemic, fiscal packages have been aimed at cushioning the immediate impact of the sudden drop in economic activity.<sup>51</sup> The current crisis also presents governments with an opportunity to shape, for the long-term, a more prosperous economic recovery that also meets environmental objectives. In particular, the OECD stresses that lowering taxes on labour and capital, in favour of taxing environmentally harmful consumption and production, can play an important role in stimulating job creation and investment.<sup>52</sup> It is this shift of taxes that could play an instrumental role not only in the valorisation of resources, but also in the stimulation of labour intensive circular business models such as R&D, repair, maintenance, and recycling.<sup>53</sup> To give an indication of the benefit, a study on Finland showed that over the course of seven years (2019–2025), reducing labour taxes, increasing environmentally related taxes, and phasing out environmentally harmful subsidies could reduce carbon emissions by 8.4 million tonnes, save EUR 924 million on energy import bills, as well as add 115,600 person years of employment and EUR 12.9 billion in GDP.<sup>54</sup> Another study has also shown that cuts in taxes on labour income may even outperform other stimulus plans in promoting job creation for those who lost their jobs in the Covid-19 downturn, i.e. jobs that are care-orientated (such as retail trade, hospitality, social work) and involve manual labour (such as construction, manufacturing, maintenance).<sup>55</sup> With these benefits in mind, The Ex'tax Project—a think tank striving for a fundamental tax shift from labour to natural resource use and consumption—has now started a new research project on fiscal innovation and reform, with the ultimate aim of offering a perspective on putting the Netherlands, and ultimately the European Union, on a pathway towards a green and inclusive recovery.<sup>56</sup>

In addition, specific fiscal support can also play a vital role in stimulating innovation and incentivising circular economy practices. Reducing taxes such as value added taxes on reuse, repair, and remanufacturing activities can incentivise circular designs and business models and support the circulation of valuable goods, materials, and nutrients. Other fiscal measures can increase the use of secondary materials and encourage the adoption of regenerative food production. While these

vi SMEs provide 70% of jobs in countries around the world and about half of economic activity.

vii However, the environmental implications of such a shift are far from clear.

instruments are increasingly being put in place, more will be needed to help accelerate the transition.

**To pave the way towards a low-carbon Covid-19 recovery, the OECD has emphasised that both the removal of fuel subsidies and the introduction of long-term carbon pricing will be needed to help align price signals with green stimulus packages.**<sup>57</sup> While the pandemic may have derailed carbon reduction plans, the need to decarbonise the economy remains as urgent as ever.<sup>58</sup> The prevailing economic and financial frameworks are hardwired for and by the linear economy, and the cost of inaction on tackling emissions could amount to USD 600 trillion by the end of the century.<sup>59</sup> A circular economy can help meet global climate targets by transforming the way we produce and use goods.<sup>60</sup> Relying solely on energy-efficiency and switching to renewable energy will only address 55% of global GHG emissions. By adopting circular practices, the remaining 45% can be tackled.<sup>61</sup> However, companies seeking out circular economy opportunities that help shape a low-carbon economic recovery,<sup>62</sup> can face multiple market failures including unpriced negative externalities, transaction costs, split incentives, imperfect information, insufficient public goods or infrastructure, and insufficient competition.<sup>63</sup> Unpriced negative externalities often take place across virgin material extraction, product use, and disposal which do not reflect their full associated environmental and societal costs. This is particularly apparent with fossil fuels with, for example, the

fuel used in international aviation and maritime transport being generally exempt from carbon pricing initiatives.<sup>64</sup> However, pricing negative externalities can help level the playing field<sup>65</sup> and scale the circular economy.

In addition, policymakers can also use subsidies, especially in times of crisis, to promote future areas of growth and employment, and incentivise producers to minimise their resource dependency by exploring circular opportunities. As an example, subsidies that are environmentally harmful should be phased out as these could hinder a swift transition to a circular economy and the tackling of challenges such as climate change. Actions to this effect are already being taken in some places, as evidenced by Nigeria's decision to end subsidies for fossil fuel consumption.<sup>66</sup> Unfortunately, these measures are not yet commonplace as today, much of the subsidies still go towards unsustainable production systems. When it comes to energy, for example, more than twice the amount of subsidies are going to fossil fuels (USD 478 billion in 2019) compared to renewables.<sup>67</sup>

However, the OECD, after reflecting on the lessons learned from past green stimulus packages, has observed that it is only by combining the removal of environmentally harmful subsidies with the pricing of negative externalities, that such measures can help accelerate a carbon-neutral recovery, and improve resilience to future shocks from climate change.<sup>68</sup>



**The key point is not that climate change will be disastrous. The key point is that, if we learn the lessons of Covid-19, we can approach climate change more informed about the consequences of inaction, and more prepared to save lives and prevent the worst possible outcome. The current global crisis can inform our response to the next one.**

Bill Gates, Co-founder, Microsoft Corporation<sup>69</sup>

# Unlocking circular investment opportunities to meet key public priorities

**All aspects of finance will play an important role, not only in the immediate response to the Covid-19 crisis, but also in the recovery phase, supporting the transition to a more resilient economy.** Investors, banks, and other financial services firms have the scale, reach, and expertise to support businesses to make the shift towards a circular economy. This is not just about investing in perfectly circular companies or divesting from extractive ones, but about engaging and stimulating all companies, across industries, in their transition. Governments, central banks, and financial regulators will complement and enable the private sector shift. As highlighted in a recent study published by the Ellen MacArthur Foundation, *Financing the circular economy: capturing the opportunity*,<sup>70</sup> the market for financing the circular economy is rapidly taking off with early examples showing how investors, banks, and insurers are already capturing these opportunities across asset classes and economic sectors. For example, while no such fund existed in 2017, in the past three years ten public equity funds focusing partially or entirely on the circular economy have been launched by leading providers including BlackRock, Credit Suisse, and Goldman Sachs.<sup>71</sup>

**Governments and financial institutions can offer direct financial support for circular economy activities and breakthrough innovations that contribute to shaping a more resilient post-Covid-19 future.** Governments can align taxes and subsidies to promote growth and employment in ways

that favour a circular economy approach as discussed in the section above on 'Shaping incentives to enable a low-carbon economic recovery'. However, public institutions can also invest directly in certain economic activities and sectors, including by issuing loans and guarantees at favourable rates, setting price controls, and providing resources like land and water at below-market rates. Some countries, like the UK, are considering setting up a state-backed Green Investment Bank 2.0 to ensure the government-led recovery from the Covid-19 lockdown keeps the country on track with its climate goals, while also generating thousands of jobs.<sup>72</sup> Another example is the European Investment Bank (EIB), which has highlighted the important role that the circular economy plays in the Covid-19 economic recovery.<sup>73</sup> The support around a more circular economy was already set in motion prior to the pandemic, with the EIB launching a Joint Initiative on the Circular Economy making EUR 10 billion in investments available from 2019 to 2023. The initiative will provide "loans, equity investment, or guarantees to eligible projects, and develop innovative financing structures for public and private infrastructure, municipalities, private enterprises of different size, as well as for research and innovation projects".<sup>74</sup> Recently, the EIB has also launched a new guidance for supporting the transition, which—in addition to setting eligibility criteria for financing—includes a revised section on circular economy categories and project types, a new section for cities, and additional case studies.<sup>75</sup>



**We need to be bold, and invest in a green and circular recovery. Taken together, the Green Deal and the circular economy action plan show us exactly what needs to be done. They are like a powerful vaccine that can help us become more resilient and protect us when other crises will appear or existing ones may worsen. The transformation is already under way, and businesses, consumers and public bodies are endorsing and supporting the sustainable model. It will be vital to draw on that momentum, and use the circular economy to define a new structure for rebuilding the economy.**

Virginijus Sinkevičius, European Commissioner<sup>76</sup>

**In response to the crisis, central banks can explore the possibility of adjusting their bond-buying activities and financial modelling practices to support the transition to a circular economy.** While the less

conventional method of quantitative easing (QE) has its limits in the current low-interest situation—and its effectiveness to stimulate the economy is still debated,<sup>77</sup>—central banks could potentially explore green quantitative easing. It could act as a tool to help lower the cost of borrowing for circular economy projects, as well as stimulate central banks to buy more green bonds with positive environmental impacts.<sup>78</sup> For example, the circular economy could be considered as a key delivery mechanism in the European Central Bank’s examination of using its trillion-euro asset purchase scheme to pursue green objectives, or the European Banking Authority’s work on a green supporting factor. More broadly, central banks and financial regulators could also benefit from integrating not only climate change into their risk assessments and financial modelling, but also the potential of the circular economy to address these risks. In fact, the circular economy could inform scenario analyses on fundamental solutions, such as the redesign of products and services, that complement the current focus on supply-side changes, with demand-side measures (e.g. car electrification versus car-sharing models).

**Investments through public procurement<sup>viii,79</sup> will be vital tools for the rebuilding of societies and economies during the recovery phase.** As governments

look to rebuild their societies and economies, after having addressed the immediate emergency response, there is an opportunity to leverage public procurement—that makes use of circular economy criteria—to help shape a recovery that is more prosperous, low-carbon, and resilient. The circular economy acts in this respect as a key delivery mechanism by keeping materials in use which reduce resource dependency, lower emissions, and increase resilience (through diversified supply chains). Given governments’ large purchasing powers, making it mandatory in tenders for public procurement to use, for example, recycled materials that are compatible with a circular economy, can create demand and accelerate the transition.

More broadly, such measures can make circular designs and business models the default options in public procurement, strengthening the demand for circular economy products and services, as well as for more flexible buildings and infrastructure designs. As an example, Amsterdam has developed its Roadmap for Circular Land Tendering that includes 32 performance-based indicators for circular economy building developments.<sup>80</sup> The city developed such a circular land tender process in the Zuidas area<sup>81</sup> where a multifunctional mixed-use building will be designed to include a material passport, reclaimed resources, and design for disassembly, alongside the highest BREEAM<sup>ix</sup> sustainability standard. At a European level, the European Commission is setting out several actions in the Circular Economy Action Plan to help facilitate the integration of circular economy principles in public procurement.<sup>82</sup>

viii Public procurement represents an average 12% of GDP in OECD countries and 30% of GDP in developing countries.

ix BREEAM is the world’s leading sustainability assessment method for master planning projects, infrastructure, and buildings. It recognises and reflects the value in higher performing assets across the built environment life cycle, from new construction to in-use and refurbishment.

**In addition, governments and financial regulators can enhance transparency by providing standardised definitions and metrics for circular economy investments that contribute to a low-carbon economic recovery.** A good example is the common classification system or 'taxonomy' under development in the EU which is being created to encourage private investment in sustainable growth and a climate neutral economy.<sup>83</sup> Providing policymakers, businesses, and investors with a common language on circular economic activities that substantially contribute to a low-carbon and resilient recovery, can help scale the efforts of all stakeholders involved, track progress, and eventually evaluate the impacts achieved. As such, the EU's recovery plan will now be guided by a green finance taxonomy, where the circular economy features.<sup>84</sup> Moreover, such a system could also be of particular use in blended finance solutions where public and private capital come together to help fund circular economy infrastructure and innovation.

**In the recovery phase, investment in specific sectors and areas will critically be needed to help shape a more prosperous and resilient economy.** Yet, even in the EU, where its Green Deal is seen as the "motor of the recovery", there are to date few concrete investment plans in place despite the wealth of opportunities. In light of this, the European Commission has stressed that "clearer and stronger investment signals are urgently needed for today's investment planning and decisions to be coherent with the transition to climate neutrality".<sup>85</sup> To help ensure investments can be directed towards areas that can help achieve a resilient economic recovery that also tackles environmental challenges, the Ellen MacArthur Foundation presents ten attractive circular economy investment opportunities that spread across five key sectors.<sup>x</sup>

x Each sector has been independently explored in a series of 'Insight' papers which can be found at the Ellen MacArthur Foundation page: Policy & investment opportunities shaping a resilient and low-carbon economic recovery.

# 10

## circular investment opportunities

Towards a low-carbon and prosperous future



**The concept of the circular economy is so important, it's a foundational blueprint. If we could get more and more of the money owners to agree that this is a good way to invest, not just for social reasons, not just for environmental reasons, but for investment reasons, performance reasons**

Larry Fink, CEO, BlackRock

Following the onset of the pandemic, governments all around the world have made trillions of dollars available to stimulate the economy. The question now being raised is where these funds should be best allocated. Stimulating a system shift that builds long-term resilience—working to keep economies from collapsing, preserve jobs and income, while at the same time supporting a transition to a dynamic, prosperous and low-carbon economy—is the key challenge of the moment. Some of the decisions that governments are taking now have the potential to shape a new era of development. Thus, the circular economy, as a tangible way of achieving this vision, emerges as more relevant than ever.

Building on research carried out over the past ten years on circular economy across various sectors and regions, the Ellen MacArthur Foundation has identified ten attractive circular investment opportunities which address both the short- and long-term goals of the public and private sectors. Two circular investment opportunities are highlighted for each sector; the first outlining a way of optimising the use of assets, materials, and nutrients (i.e. during the use phase), and the second presenting a way for ensuring that the materials and nutrients can be circulated to maintain their value (i.e. in the after-use phase). Together, the two opportunities foster system effectiveness by providing added value for business, reducing exposure to

resource price volatility and supply shocks, and improving societal access to high-quality, affordable, and healthy products and services. For the environment, they offer a pathway towards optimising resource use, while also designing-out waste and pollution. In addition, the role of design—as an essential prerequisite to achieving a circular economy—in combination with trends such as digitisation and decarbonisation, run as cross-cutting themes through each sector and opportunity.

Though numerous investment opportunities for enabling the creation of a circular economy across these sectors exist, the opportunities presented were selected due to their ability to offer solutions to key challenges created by the pandemic (by e.g. increasing resilience, and enabling access to vital goods); meet governmental priorities for economic recovery (e.g. stimulate innovation, create jobs, meet Sustainable Development Goals (SDGs) and climate targets); offer circular economy growth potential (driven by e.g. innovation, policies, and evolving customer preferences); and help reduce the risk of future shocks (e.g. those relating to climate change and biodiversity loss).

For the complete paper or a deep-dive in each of the five sectors and opportunities, please visit the Ellen MacArthur Foundation page: [Covid-19: The economic recovery](#).

# These opportunities spread across five key sectors:

## The built environment

- 1 Renovation and upgrade of buildings
- 2 Building materials reuse and recycling infrastructure

## Mobility

- 3 Multimodal mobility infrastructure
- 4 Automotive refurbishment, remanufacturing, and repair infrastructure

## Plastic packaging

- 5 Innovative reuse business models for plastic packaging
- 6 Plastic collection, sorting, and recycling infrastructure

## Fashion

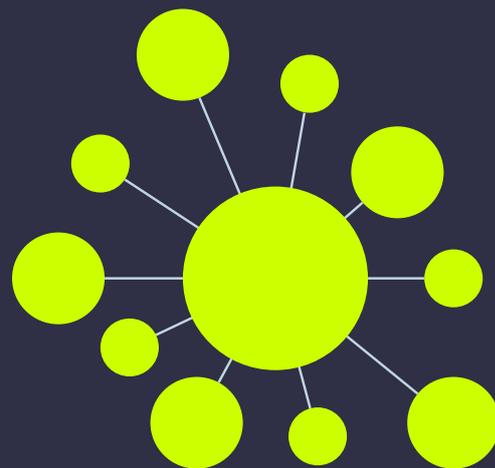
- 7 Rental and resale business models for clothing
- 8 Clothing collection, sorting, and recycling infrastructure

## Food

- 9 Tools enabling farmers to shift to regenerative agricultural production
- 10 Food surplus and by-product collection, redistribution, and valorisation infrastructure

# 10

## circular investment opportunities for a resilient recovery



### Built environment

Shaping a liveable, cost-effective, and low-carbon built environment

- 1 Renovation and upgrade of buildings
- 2 Building materials reuse and recycling infrastructure



Every **EUR 1** invested in energy-efficiency renovations can yield **EUR 5** in public finance returns.<sup>86</sup>



Utilising recycled or reused steel for building construction could generate up to **25%** in material cost savings per tonne of steel.<sup>87</sup>

**2 million**  
energy-efficient homes



**2 million**  
new jobs

Retrofitting **2 million homes** for energy-efficiency could create nearly **2 million new jobs**.<sup>88</sup>



The processing of recycled aggregates compared to virgin ones could reduce GHG emissions by **40%** or more.<sup>89</sup>

### Mobility

Shaping an interconnected, low-carbon, and resilient mobility system

- 3 Multimodal mobility infrastructure
- 4 Automotive refurbishment, remanufacturing, and repair infrastructure



Multimodal mobility systems could bring **USD 1.6 trillion** in benefits in **2030** for **China**, assuming 42% of all car kilometres were made by shared vehicles.<sup>90</sup>



The remanufacturing of vehicle parts can increase skilled labour requirements by up to **120%**.<sup>91</sup>



Multimodal mobility systems reduce **global** CO<sub>2</sub> emissions by **70%** or 0.4 billion tonnes of CO<sub>2</sub> in **2040**.<sup>92</sup>



The number of EVs on the road is expected to reach almost **10 million this year**, as sales grow despite the Covid-19 pandemic.<sup>93</sup>

# Plastic packaging

Shaping a more competitive and less polluting plastic packaging industry where plastics are kept in circulation

**5** Innovative reuse business models for plastic packaging

**6** Plastic collection, sorting, and recycling infrastructure



Replacing just **20%** of single-use plastic packaging with reusable alternatives **globally** offers an economic opportunity worth at least **USD 10 billion**, while saving about **6 million tonnes** of material.<sup>94</sup>



The processing of recyclables can sustain about **20 times more** jobs than landfill, and plastic manufacturers making use of recycled materials, about **100 times more**.<sup>95</sup>



Returnable packaging market projected to grow from **USD 37 billion** in **2018** to **USD 59 billion** by **2026** (across industries).<sup>96</sup>



Reducing growth in plastic production and consumption can avoid **one-third** of **global** projected plastic waste generation by **2040**.<sup>97</sup>

# Fashion

Shaping a competitive and low-carbon fashion industry that promotes increased utilisation

**7** Rental and resale business models for clothing

**8** Clothing collection, sorting, and recycling infrastructure



Compared to buying new, one pre-owned purchase is said to save on average **1kg** of waste, **3,040 litres** of water, and **22kg** of CO<sub>2</sub>.<sup>98</sup>



The lost value of textile waste amounting to more than **USD 100 billion** annually could be retained, by capturing and recirculating materials.<sup>99</sup>



The secondhand market is projected to reach nearly **twice the size** of fast fashion by **2029**, with resale models expected to drive the increase (growth projected at **414%** in the next five years)<sup>100</sup>



**71%** of customers are expressing a greater interest in circular business models, such as rental, resale, and refurbishment, as well as investing in higher quality apparel **following the pandemic**.<sup>101</sup>

# Food

Shaping a resilient, healthy, and food-secure food system

**9** Tools enabling farmers to shift to regenerative agricultural production

**10** Food surplus and by-product collection, redistribution, and valorisation infrastructure



Spending **USD 78-116 billion** (on accelerating the adoption of regenerative annual cropping) could save **USD 2.3-3.5 trillion** in lifetime operational costs.<sup>102</sup>



**USD 700 billion** in environmental costs caused by the food waste created in the current system could be avoided.<sup>103</sup>



**72%** of Europeans have reported a greater willingness to put effort into healthier eating in the future.<sup>104</sup>



Reducing edible food surplus and increasing the composting of inedible by-products and green waste could save **1.7 billion tonnes** of CO<sub>2</sub> annually.<sup>105</sup>

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