EUROPEAN
COMMISSION

Brussels, XXX
[...](2020) XXX draft

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

A new Circular Economy Action Plan
For a cleaner and more competitive Europe

CONTENTS

1. INTRODUCTION

We only have one planet, yet by 2050, the world will consume as if we had two. In a world where material use is expected to double by 2060[1], Europe must use resources more efficiently and increase the amount sourced from recycling. This is an environmental imperative, when half of total greenhouse gas emissions and more than 90% of biodiversity loss and water stress come from resource extraction and processing of materials, fuels and food[2]. This is also an economic imperative as resource security is increasingly important both for the green transition and digitalisation and the EU remains heavily dependent on imports of materials and energy.

To absolutely decouple growth from resource use, we must change the way we produce, market, consume and trade, and the way we deal with waste. Despite recent improvements[3], the EU economy remains predominantly linear. We need a system change towards a circular model, retaining maximum value of products, materials and other assets for the benefit of the economy, the environment and our citizens.

A circular economy is instrumental in delivering our ambitious goal of turning Europe into a climate-neutral continent by 2050, in reducing pollution and in halting biodiversity loss, while reinforcing EU's sustainable competitiveness and industrial base. The circular economy must become beneficial not just to front-runners but to all citizens and economic players across value chains, throughout Europe and beyond. The EU can play an important role in establishing the circular economy at the core of achieving the Sustainable Development Goals globally.

For the EU to achieve the transition towards a circular economy by 2050, we need to decouple economic growth from resource use and its environmental impacts by reducing our [material footprint] by [half/significantly] as well as our [consumption footprint] to remain within planetary boundaries. We need to [significantly] increase] the circular material use rate and prevent waste. The amount of residual municipal waste should be halved in the coming decade. The EU should also take responsibility for its own waste and turn it into valuable secondary materials to avoid exports of wastes.

To step up our efforts in this second phase towards a circular economy in Europe requires focusing on upstream measures, on the way we produce and consume. It needs a strong and coherent product policy to drive up quality, durability and performance of products. It needs new business models to retain value in the economy for as long as possible. It needs waste policy to reduce waste, deliver clean material loops, increase recycling capacity and get secondary raw materials markets working. It needs specific attention to resource intensive sectors with potential for circularity. And it needs to build upon our international commitments and trade policy and the EU research and innovation agenda.

Accelerating the transition to a circular economy must involve stakeholders throughout value chains. It will open up new business and job opportunities, supported by key enablers such as digital technologies, sustainable investments, economic instruments, and fiscal incentives. This Circular Economy Action Plan reinforces the full potential of the EU Single Market, in particular to make products more circular, boost the share of secondary raw materials and strengthening the European clean technology industry.

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1 OECD, Global Material Resources Outlook
2 IRP Global Resources Outlook 2019
3 Reference to CEAP and Implementation report

2. PRODUCTION AND CONSUMPTION: MOBILISING INDUSTRY AND EMPOWERING CONSUMERS IN A CIRCULAR ECONOMY

2.1. Designing Sustainable and Circular Products

By 2030 only safe, circular, and sustainable products[4] should be placed on the EU market. Up to 90% of companies' impacts on the environment come from values chains[5] and up to 80% of products' environmental impacts are determined at the design phase. Therefore, it is crucial to set minimum requirements that prevent unsustainable products from being allowed on EU markets, to differentiate products based on their circularity and sustainability characteristics, to introduce new approaches and tools to make value chains more sustainable and to tackle features that are an obstacle to circularity. This will pave the way for reducing material consumption in a sustainable way, increasing the uptake of secondary raw materials and tackling waste generation.

European consumers and businesses deserve quality products that are designed to last and to perform efficiently. "Take-make-use-dispose" systems provide producers with little incentive to take an interest in what happens to their products after they are sold. The Single Market gives Europe a critical mass to set minimum standards in these areas and promote more sustainable approaches towards third countries. A harmonised EU policy framework must therefore set both clear product rules and incentives.

The Commission will present a sustainable product framework initiative that will ensure that products are designed for sustainability and circularity and for reduced environmental and social impacts throughout their life cycle, on the basis of comparable, and verifiable data. The initiative will target priority products with high impact. By facilitating the flow of information in the value chain, it will contribute to avoiding substances of very high concern in products, in line with existing chemicals legislation, making sure that we are better informed about chemical content.

Clear overarching principles will be established to guide policy making for products, prioritising reducing and reusing, establishing clear links between the sustainability performance of products and incentives, and banning the destruction of unsold unperishable goods.

Digital technologies are needed for managing product-related data, but the quality, relevance and availability of that data is key. A European Circular Dataspace will be developed, bringing together public and privately generated high value datasets, gradually integrating as many as possible of the existing EU product-related databases. Moreover, it should deal with issues of cybersecurity, business sensitive information, and controlled access to information. This data will then be accessible and used for various smart circular applications, allowing data to be attached to products, and enabling scenario building using big data and artificial intelligence. The Commission will bring together stakeholders along value chains in key sectors to work on protocols on data sharing and use.

Mandatory digital information along the value chain would allow data to be linked, making products' characteristics more accessible. Combining this with sectoral agreements amongst value chain actors to define the information to be included in an

[4] Unless described otherwise, products referred in here include raw materials, professional goods, consumer goods, and services.
[5] [add definition of value chain] McKinsey study available at : https://www.mckinsey.com/business-functions/sustainability/our-insights/starting-at-the-source-sustainability-in-supply-chains

electronic product passport[6] would make these products circular and permit better value chain management. Digital Europe Programme resources will be mobilised to support the development of the dataspace, products tagging and individual projects that build on these.

The Commission will also ensure that intellectual property legal framework remains an enabling factor for circular production and business models.

The sustainable product framework initiative will be accompanied by support measures for developing product sharing, reuse, repair, upgrade and remanufacturing activities, backing up a European 'right to repair', as described below. It will also look at the potential of new business models, such as the ones that maintain the company's ownership while leasing services to consumers.

In parallel, the Ecodesign Directive will further promote circularity in energy-related products, particularly via the 2020-2024 Working Plan. Priority actions will include regulatory measures on printers and consumables such as cartridges and possibly on common chargers.

2.2. Empowering consumers and public buyers

Consumers play a key role in the circular economy, driving EU efforts towards more sustainable lifestyles. If we are to move away from a "throwaway culture", we have to move away from a "disposability" culture.

Providing consumers with clear, correct and relevant information can help, for instance through mandatory product-related information on aspects such as durability or reparability. The Commission will strengthen consumer protection through an EU-wide ban of certain greenwashing and planned obsolescence practices.

We will establish a new 'right to repair' in EU consumer law, assuring consumers of the availability of spare parts and repair manuals, high-quality and affordable repair services, easiness to disassemble product components and access to product consumables.

Reliability of environmental claims is key to achieve this systemic transformation. Consumers need to trust environmental information. The Commission will present a legislative proposal requiring companies to substantiate their claims on environmental performance using Product and Organisation Environmental Footprint (PEF/OEF) methods. The Commission will also reinforce the role of the EU Ecolabel for products of environmental excellence, focusing on uptake by industry, use by public buyers and consumers' awareness and will promote collaboration with other "Type 1"[7] ecolabels. The Commission will review potential benefits of simplification, rationalisation and increased accessibility of existing sustainability labels.

Circular business models will revolutionise consumption, with digital technologies increasingly enabling asset sharing and product-as-a-service models, leading to increased intensity of use and decoupling wellbeing from material consumption.

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6 e.g. environmental footprint and social indicators, spare parts availability, information related to Extended Producer Responsibility , recyclability, sourcing, safety etc.

7 The International Organisation for Standardisation (ISO) identifies three types of labels, with ecolabelling fitting under the strongest Type I designation.

Public authorities have vast purchasing power (14% of EU GDP or roughly 2 trillion EUR/year) and this must be better exploited to trigger the demand for sustainable products and services. The flexibility introduced by the revised legal framework to favour sustainability, has not led to sufficient uptake of Green Public Procurement (GPP) yet. The Commission will therefore propose minimum mandatory green criteria and targets for public procurements in key sectors. Mandatory reporting on GPP will be phased in. Support measures such as guidance, training and dissemination of good practices will be further developed and funded. Public authorities across Europe will be encouraged to integrate green criteria (based on life-cycle costing methodologies as far as possible) and to use labels in their procurements. Public buyers will be encouraged to publish GPP commitments and to take part in the upcoming "Public Buyers for Climate and Environment" initiative.

The Commission will lead by example. It will define a long-term sustainable procurement strategy in the context of its environmental management and audit scheme (EMAS), as part of 2020 action plan to implement the objectives of the European Green Deal.

2.3. Sustainable Production Processes

Circularity is an essential part of a wider transformation of industry, along with the development and uptake of key enabling technologies, as well as new ways of working, bringing together Member States and industry along strategic alliances. Circularity can deliver substantial material savings and generate extra value in production systems. The Commission will explore how the Industrial Emissions Directive[8] could further promote circularity in industry, including integration of circular economy practices in upcoming Best Available Techniques (BAT).

Many companies are already generating revenues out of waste and by-products through industrial symbiosis, but there is untapped potential for further resource efficiency and reducing raw materials supply risks. The Commission will facilitate industrial symbiosis and, beyond regulatory measures, will engage with stakeholders to develop an industry-led reporting and certification system for enhanced reuse of secondary outputs.

Digital technologies will facilitate optimisation of material handling. The Commission will support better regional data on material flows, through the European Circular Dataspace, to identify potential for secondary materials and guide industrial ecology and investment.

Small and medium-sized private and social enterprises have the agility and creativity to create circular value and respond rapidly to the business opportunities. However, many existing SMEs will face challenges in adapting their business models to the transition. The new SME Strategy[9] will foster circular industrial collaboration by SMEs through clusters. It will build on the achievements of the Enterprise Europe Network (EEN) in training and advising SMEs, and on knowledge transfer via the European Resource Efficiency Knowledge Centre (EREK). In addition, the EU Environmental Technology Verification (ETV) scheme will be registered as EU certification mark and may extend its scope to promote cleaner production processes among SMEs.

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8 200/75/EU
9 [...]

3. LESS WASTE MORE VALUE

3.1. Aligning the waste legislative agenda to promote waste prevention and circularity

Despite actions taken by Member States, waste generation continues to grow with European citizens generating 488 kg of municipal waste per capita[10] per year. EU waste laws have driven major improvements in waste management since the 1970s. But they need to be continuously modernised to make them fit for the circular economy and digital age. Forthcoming reviews of legislation on batteries, packaging, end-of-life vehicles and shipments of waste will therefore focus particularly on preventing waste, promoting cleaner waste streams, higher-quality recycling, and a well-functioning internal market for secondary raw materials.

Packaging waste in Europe reached 173 kg per inhabitant in 2017 – the highest level ever. To tackle unnecessary and excessive packaging, and drive improvements in design for re-use and recyclability the Commission will reinforce the essential requirements for packaging under the Packaging and Packaging Waste Directive. Targets for reducing the generation of packaging waste will also be considered, along with further waste prevention measures.

Food systems have particularly high social, economic and environmental impacts, in view of the resources needed for production and transport. Food waste levels of 20% in Europe must therefore be tackled as a priority. Following the introduction of the methodology to measure food waste, and based on the data to be received from Member States by 2021, the time has come to set targets and measures to reduce it, in line with the EU commitments to achieve the UN Sustainable Development Goal on food waste[11]. Further waste prevention measures, such as targets, incentives, sharing of information and good practices, will be considered on the basis of a feasibility assessment.

The legislation on batteries will be modernised in the context of rapid global developments in electric mobility and energy storage. The review will improve the sustainability and competitiveness of the EU battery industry by setting sustainable product design requirements, rules on recycled content and measures to improve the collection and recycling rates of all batteries, as well as to improve the recovery of valuable materials and provide guidance to consumers. It could also explore the possibility of phasing out 'single use' batteries.

The revision of rules on end-of-life vehicles will also aim at promoting more circular business models in the EU by linking design issues to end of life treatment, considering rules on mandatory recycled content, for certain materials or components, and improving recycling efficiency.

In order to improve the coherence with relevant chemical and Ecodesign legislation it is planned to review EU rules on restrictions of hazardous substances in electrical and electronic equipment (RoHS). New limit values applicable to certain substances in waste will be set under the POPs (Persistent Organic Pollutants) Regulation to keep the recycling streams clean and address the risks to human health and the environment.

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[10] In 2016, the total waste generated in the EU-28 by all economic activities and households amounted to 2 538 million tonnes, which can be translated into about 5 tonnes per person or 65 kilograms for each 1000 euros of added value.

Separate collection of waste is a fundamental step to improve the overall effectiveness of waste management systems, and achieve high quality recycling. In order to help citizens better separate waste and to ensure high quality recyclates, the Commission will assess the feasibility of establishing an EU harmonized model for separate collection of wastes.

3.2. Boosting implementation and enforcement of EU waste legislation

While many Member States have in the past stepped up waste reforms, key EU waste management targets and objectives are not being achieved. Half of the Member States are at risk of non-compliance with the 2020 target to recycle 50% of municipal waste. Differences in Member States' performance also distort the level playing field between waste management operators.

Additional efforts are necessary to support industry and the Member States in ensuring high performance of waste management systems. High-level dialogues between the Commission and the Member States will provide support to policy reforms and raise awareness about the benefits of the circular economy and the possibilities of financial support through EU funds to build up high quality, high volume recycling value chains in the EU. When necessary, the Commission will also use its enforcement tools to further drive these reforms. The Commission will support the waste industry to build up high quality, high volume recycling value chains in the EU

3.3. Facilitating the circulation of safe and high quality secondary raw materials and tackling waste exports from the EU

Many secondary raw materials face challenges in competing with primary raw materials due to safety, quality and price concerns, as well as lack of efficiently functioning markets.

At the same time, the global market for waste is experiencing considerable changes. In the last decade, millions of tonnes of European waste have been exported to third countries, often without sufficient consideration for proper treatment in the countries of destination. Recent import restrictions by some countries have exposed our dependence on foreign waste treatment. Illegal shipments of waste also remain a source of concern.

To address these issues, the Commission will review EU rules on waste shipments with a view to facilitating shipments of waste for recycling, reducing exports from the EU of wastes, which are causing negative environmental and health impacts in third countries, and increasing control and enforcement to counteract illegal shipments. This will boost the growth of the recycling industry in the EU. The Commission will also support measures at multilateral, regional and bilateral levels to strengthen controls of shipments of waste and improve the sustainable management of waste in third countries.

EU chemicals policy encourages a shift to safer and safe-by-design chemicals. The Commission will continue to support research and innovation that leads to the substitution of substances and processes that negatively affect human health or the environment.

The safety of secondary raw materials can still be compromised when substances that are currently banned persist in recycled feedstock. To address this problem, the Commission will support the development of sorting and decontamination solutions, and will refine

methodologies to decide how to deal with the presence of substances of concern[12] in recycled materials and articles made thereof. The shift towards safe an cleaner material cycles requires waste operators to be properly informed of the presence of these substances in products. The Commission will co-operate with industry to progressively establish harmonised systems that can manage this information along the supply chain, in synergy with potential developments on electronic product passports. To this end, the Commission will provide clarity on what are substances of concern in different value chains.

Secondary raw materials can be rendered more affordable by effects of scale offered by a well-integrated Single Market. To address the lack of a fully harmonised approach as regards the determination of non-waste status, the Commission is monitoring the application of the revised rules on end-of-waste and by-product status by Member States. The Commission will support regional initiatives to cooperate on harmonising national end-of-waste and by-product criteria. On this basis, the Commission will assess the need to develop Union-wide criteria.

The classification and management of hazardous waste needs to be improved and further aligned in some aspects with the classification of chemical substances and mixtures[13]. The Commission will monitor the application of the new waste classification guidelines, promoting sharing of best practices among Member States and, if necessary, clarify and harmonise the classification of waste.

The quality and performance of secondary raw materials can be increased by standardisation. The Commission has already asked standardisation organisations to map out existing standardisation work at national, European and international level. The review of the Open Data and Public Sector Information Directive and the creation of a European Circular Dataspace should be used to enable an easier flow of information and foster an efficient marketplace and the uptake of secondary raw materials.

In order to ensure a level playing field between domestic and imported secondary materials, the Commission will make timely use of the restrictions on the use of substances of very high concern in articles to complement their introduction in Annex XIV under REACH, while continuing exploring options to improve enforcement at borders.

4. ENABLING CIRCULARITY IN VALUE CHAINS AND SECTORS

4.1. Circular use of biomass, water and soil

Increased demand for biomass (mostly of food and fibre) is one of the major drivers for biodiversity loss and climate emissions[14]. At the same time, the EU agricultural ecosystems including forest are approaching their supply limits.[15]

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12 Substances of concern include: those substances identified as of very high concern under REACH ('candidate list substances'); and, substances listed in Annex VI to the CLP Regulation for classification of a chronic effect. Moreover, in the context of the circular economy, substances posing technical problems for recovery operations or for the performance characteristics of the secondary raw material can also be considered as substances of concern. Precise sectorial identification of these substances posing technical or performance problems is needed, requiring further exchanges with relevant groups of stakeholders

13 REGULATION (EC) No 1272/2008

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15 Approximately 65%of the net annual increment of forests is currently harvested, though the rate significantly varies between Member States.

The Commission has committed in the recently adopted Biodiversity Strategy[16] to significantly reduce the negative impacts of production and consumption patterns on biodiversity. The initiatives included in this Circular Economy Action Plan will also contribute to this objective. In particular, the sustainable products initiative will aim at reducing the impact of products, including on biodiversity. Biodiversity impacts will be better integrated into the Product and Organisation Environmental Footprint methods.

Sustainable management of land is key to preserving our ecosystems. Circular approaches can contribute to reducing land consumption. Land can even be 'recycled', where brownfield sites are decontaminated, redeveloped or ecologically upgraded. With a view to achieving the 2050 'no net land take' target set in the European Green Deal and the Sustainable Development target of land degradation neutrality by 2030, the Commission will promote the rehabilitation of abandoned or contaminated brownfields and the decontamination of polluted soils before greenfields are exploited.

The forthcoming Farm-to-Fork Initiative will address unsustainable land use and other impacts of the food value chain. It will propose circular approaches to tackle sustainability challenges in linear food systems, for example in use of resources such as land, nutrients, water and chemicals. The Commission will also work with the food supply chain operators to seek commitments for more circular food production and retail practices.

In line with the long-term vision for rural areas[17], and in peri-urban and urban areas, where most products are used, discarded, collected and sorted, European funds can help harness opportunities in the circular bio-economy, which extends the available resource base through waste reduction, and cascading biomass use. The Commission will assess if and how the principle of cascading of biomass can be further introduced in relevant policies. Regenerative farming and circular business models should be promoted to enhance the sustainability of agricultural installations. In addition, funds will support the use of bio-waste and residues as a feedstock for the production of bio-based products and energy as well as local biorefining systems.

As announced in the Biodiversity Strategy, the Commission will develop an Integrated Nutrient Management, with the aim of ensuring sustainability in the application of nutrients while fostering nutrient recycling, increasing soil carbon content and reducing contamination of agricultural soils. The Commission will consider reviewing the Sewage Sludge Directive in order to maximise its contribution to the circular economy and increasing soil protection.

Water scarcity is a key problem, in particular during periods of drought. All water-using sectors can contribute to increasing the efficiency of water management thanks to innovations and adequate water pricing. The new Water Reuse Regulation will encourage circular approaches to water reuse in agriculture. The Commission's measures will also facilitate water reuse, including in industrial processes, the smooth functioning of the market, new business opportunities for water reuse companies, and consumer confidence in the safety of agricultural products.

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4.2. Plastics

The Plastics Strategy provided a strong and coherent response to a challenge of public concern. The creation of the "new plastics economy" still requires action.

Remaining challenges include reducing the release and presence of microplastics in the environment, especially from tyres, textiles and pellets loss. Methods concerning the measurement of microplastics unintentionally released need to be further developed and harmonised. Concrete actions such as labelling, certification and regulatory measures will be pursued, as well as measures to increase the capture through wastewater treatment. The Commission will also follow up on the proposed restriction under REACH on intentionally added microplastics, which will also address pellets.

The sustainability claims of bio-based plastics and plastics with biodegradable properties need to be verified. Labelling a product as 'biodegradable' may lead to consumer confusion, or have unintended consequences, in particular when there is no indication of the environmental conditions nor the time under which it actually degrades. The Commission will clarify the conditions under which the use of biodegradable or compostable plastics is beneficial to the environment, and the criteria for such applications, including from a behavioural perspective.

Bio-based plastics are usually presented as an alternative to using fossil resources. However, aside from greenhouse gas emissions, there are environmental impacts that need to be taken into account from a lifecycle (including land use) perspective. The Commission will propose a framework to ensure that the sourcing and use of bio base plastics results in genuine environmental benefits.

Unnecessary or difficult to recycle packaging remains a problem. Essential requirements in packaging legislation will be reinforced to ensure that all plastic packaging in the EU market is reusable or recyclable in an economically viable manner by 2030. [Placeholder for action addressing complexity of polymers]Despite being an energy-intensive process, chemical recycling shows promise for the future, where it can complement high quality mechanical recycling based on effective separate collection and sorting.

To boost demand for recycled plastics and based on the results of the assessment of regulatory or economic incentives that will be delivered by the Circular Plastics Alliance by June 2021, the Commission will consider legal requirements for secondary raw materials and continue supporting voluntary actions by industry to achieve the target of 10 million tons/year of recycled plastics used in products by 2025.

To reduce dependence on bottled water, public authorities must implement requirements of the Drinking Water Directive to make drinkable tap water accessible in public places, follow the green public procurement guidance[18] and conduct information campaigns to increase public awareness.

4.3. Textiles

Textiles and clothing have strong environmental impacts due to high water and energy consumption, associated emissions, land and chemical use. Textiles were found to be the fourth highest pressure category for use of primary raw materials and water after food,

[18] Food catering

housing and transport and fifth on GHG emissions[19]. Recycling levels in the sector remain low in the EU. Value chains for textiles are often complex and global. The EU textile sector – predominantly composed by SMEs – after a long period of restructuring has started to see signs of recovery although 60 % of clothing[20] in the EU is produced in third countries.

[graphic on schematic presentation of textile value chain to be added]

The Commission will, based on input from industry and other relevant stakeholders, propose a comprehensive EU strategy for textiles aiming to stimulate the market for sustainable and circular textiles in the EU.

The strategy will build on existing and new tools to boost the market for sustainable and circular textiles in the EU. These will improve the business and regulatory environment for sustainable and circular textiles in the EU and the competitiveness of the industry by, among others: (a) setting incentives for/supporting innovative solutions, circular materials and production processes and measures to ensure that textile products are designed for circularity; (b) improving transparency for circular textile products in the Single Market; (c) empowering consumers; (d) supporting Member States in meeting separate textile waste collection obligations by 2025; (e) boosting sorting, reuse and recycling of textiles through innovation, regulatory measures and encouraging industrial applications; and (f) promoting international cooperation on traceability (e.g. due diligence) and assessing the trade dimension of the sector.

To this end, the Commission will use the European Circular Economy Stakeholder Platform. It will also mobilise the textile industry and market actors along the value chain through an industry alliance to identify existing bottlenecks in circularity for textiles, secure their commitment to the European Green Deal and stimulate market innovation. This will provide necessary input for the comprehensive EU strategy on textiles.

4.4. Construction and buildings

The built environment requires huge amounts of resources for its construction and use, representing about 50% of all extracted material. This results in large environmental impacts. In particular, substantial amounts of greenhouse gas emissions, so-called embodied carbon, is generated as a result of the extraction, the manufacturing of construction products and construction. Recent reports show that, in 2015, the construction sector was responsible for over 40%[21] of the carbon caused by global production of materials[22]. While few Member states[23] have statistics on embodied carbon in general, an increasing number of them are aware of the potential of embodied carbon in the construction sector for overall national carbon reductions[24]. Initial national assessments show that building embodied carbon represents 5-12% of total national emissions[25]. Material efficiency has a significant potential to drastically reduce these emissions[26].

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[19] EEA Briefing report Nov 2019
[20] by value
[21] 2019 United Nations Environment Programme ISBN: 978-92-807-3766-0 Job number: DEW/2263/NA
[22] The global production of material caused 11.5 GtCO2e in 2015, up from 5 GtCO2e in 1995
[23] https://www.boverket.se/sv/byggande/hallbart-byggande-och-forvaltning/miljoindikatorer---aktuell-status/vaxthusgaser/
[24] Finland, France, Denmark
[25] IRP (2020), Resource Efficiency and Climate Change: Material Efficiency Strategies for a Low-Carbon Future. Hertwich, E., Lifset, R., Pauliuk, S., Heeren, N. A report of the International Resource Panel.

Despite relatively high recovery rates of used materials, Europe's construction sector will need to be even more ambitious in its waste management practices if it is to fully embrace Europe's circular economy[27].

This shows how, applying circular economy principles, which target emissions throughout the whole life cycle, will be necessary to achieve the objectives under the Paris agreement. The very strong link between climate and circular economy has however so far not been properly taken into account in policymaking.

The Commission will develop a comprehensive strategy for a sustainable 'Built Environment', which will cover sustainability in a wider sense and build on key actions already finalised with large sector participation[28]:

- Level(s) – the sustainability assessment and reporting framework
- EU Construction & Demolition Waste Protocol and Guidelines for Pre-Demolition Audits
- Circular Economy Principles for Buildings' Design

The future strategy will promote circularity principles during the whole life cycle, in particular it will: apply the life cycle approach on built assets to enable target setting on whole life carbon reductions; use Level(s) to integrate life cycle concepts in public procurement and EU sustainable finance framework, and develop adequate skills and facilitate their rolling out at national and regional levels. This will optimise reduction of whole life carbon and total environmental impacts in a cost-efficient way.

Future policy initiatives will optimise life cycle performance and enable ambitious target setting on whole life carbon reductions. This will require coherent integration of many policy areas: circular economy, material and energy efficiency, climate, digitalisation and procurement. As an example, the building renovation wave will incorporate circularity approaches. Moreover, the Commission will consider the revision of recovery targets for construction and demolition waste and its material-specific fractions in EU legislation. The Commission will revise the Construction Product Regulation, including the development of criteria/standards/rules/provisions for sustainability performance of construction products.

4.5. Consumer Electronics

With an average lifespan of 3 years, annual sales of 210 million units and a total EU stock of 630 million units, the environmental and climate impact of extending the lifetimes of smartphones and improving their recycling is immense. The generation of waste of electrical and electronic equipment, grows 3-5 % per year in the EU.

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[26] IRP (2020). Resource Efficiency and Climate Change: Material Efficiency Strategies for a Low-Carbon Future. Hertwich, E., Lifset, R., Pauliuk, S., Heeren, N. A report of the International Resource Panel. United Nations Environment Programme, Nairobi, Kenya: G7 countries could reduce greenhouse gas emissions from the production of materials for residential buildings between 50% and 80% in 2050 with greater material efficiency.

[27] European Environmental Agency briefing 'Construction and demolition waste: challenges and opportunities in a circular economy,' 16.01.2020

[28] Actions finalised under the first Circular Economy Action Plan and the Construction 2020 Strategy

In order to incentivise people to return their unwanted devices, the Commission will explore options for an EU-wide reward system to return or sell back old mobile phones, tablets and chargers. It will explore Ecodesign requirements (including on material efficiency) for ICT products that the Ecodesign directive does not already cover, including mobile phones, and will propose to implement a common charger solution, which will extend the lifetime and interoperability of chargers to prevent premature obsolescence. The Commission will also step up its efforts to further improve the treatment of e-waste and harmonisation across the EU in order to improve material-efficient, high-quality recycling of, inter alia, critical raw materials.

[section to be reviewed]

4.6. Mobility

The Commission will adopt a new regulatory framework for batteries to help the emerging battery value chain for electro-mobility to become more sustainable, addressing the challenge of sustainable mobility combined with the economic relevance of electric batteries for cars and the smart integration of automotive batteries into power grids. This framework could include a number of sustainability requirements, to address for instance the carbon footprint of battery manufacturing, ethical sourcing of raw materials and design for reuse and second life, based on a product information database to facilitate traceability, reuse and recycling processes, as well as compliance and market surveillance. This framework will also consider the contribution of the revised Directive for Batteries.

[DG MOVE to complete if appropriate]

5. CROSSCUTTING ACTIONS

5.1. Making circularity work for people, regions and cities

Circularity can be expected to have a positive net effect on job creation[29], increasing the economic activity of regions and communities through value retention and creation. But redistribution effects will be inevitable, potentially worsening the immediate economic outlook for rural communities or low-skilled workers.

The Commission will propose a Skills Pact for Europe including large-scale multi-stakeholder partnership addressing the transition to a digital and circular economy in key sectors and strategic value chains. Mainstreaming circular skills in the Blueprints for Sectoral Cooperation on skills, in connection with the European Alliance for Apprenticeships, will equip workers with competences to respond to a more circular economy.

The Just Transition Fund will particularly support people and regions most affected by the transition to a climate-neutral economy and society. The transition towards a circular economy will be one of its priority areas, in particular within "transition territories". [To adapt with info on the Just Transition Fund]. From 2021, the European Social Fund+ will give new impetus to education and training systems and lifelong learning, as well as

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social innovation and innovative business models, including when it comes to skills connected to sustainability.

Through Cohesion Policy, the Commission will make sure that all regions benefit from the opportunities of the transition to a circular economy. Cohesion policy funds, in addition to awareness raising and capacity-building, will help regions move up in the waste hierarchy, improve the recycling capacity of the EU, implement circular economy strategies and adapt their industrial fabric. For both the ERDF and the ESF+, upcoming Operational Programmes need to allocate the right amount of resources to circular economy infrastructures and training opportunities. Specific attention will be paid to outermost regions. Islands also deserve careful attention, due to their high dependence on resource imports and significant waste exports.

Intelligent Cities are instrumental players in delivering local Circular Economy Action Plans that can effectively empower their citizens and industries in the process. Cohesion policy support for integrated sustainable urban development strategies offers significant potential for helping cities design pathways towards a circular economy. The proposed European Urban Initiative and the Intelligent Cities Challenge Initiative will provide key assistance to cities in this regard. Circular economy will be among the priority areas of the recently launched Green city accord30.

The European Circular Economy Stakeholder Platform will continue to be the place for stakeholders to exchange information and find inspiration. The platform will benefit from a new model of governance, to better host sectorial exchanges, bringing new potential stakeholders or sectorial alliances.

5.2. Unleashing the potential of circularity for climate-neutrality

With 66% of direct CO_2 emissions connected to materials management[31], circularity is a major driver for climate-neutrality[32]. The Commission will explore the establishment of an open methodology for measuring the impact of circularity on climate change mitigation and adaptation. In addition, in the context of the Energy Union, the Commission will integrate the climate change mitigation potential of the circular economy into the EU GHG emissions accounting and modelling framework and strengthen the role of circularity in the next revision of the National Energy and Climate Plans (NECP) in 2023-2024 and in other climate policies.

The Innovation Fund[33] is an important instrument to cut GHG emissions in industry through circular approaches and business models. The Master Plan presented in 2019[34] includes a set of recommendations for competitive transformation of energy-intensive industries addressing, among others, developing markets for climate-neutral, circular economy products.

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31 Steel, aluminium, cement and plastics

32 ttps://www.ellenmacarthurfoundation.org/assets/downloads/Completing_The_Picture_How_The_Circular_Economy-_Tackles_Climate_Change_V3_26_September.pdf

33 C(209) 492 - Commission Delegated Regulation (EU) 209/856 of 26 February 209 supplementing Directive 2003/87/EC of the European Parliament and of the Council with regard to the operation of the Innovation Fund

34 Masterplan for a Competitive Transformation of EU Energy-intensive Industries Enabling a Climate-neutral, Circular Economy by 2050

5.3. Getting the economics right

Nudging market players towards sustainable business and investment decisions depends on economic factors integrating environmental externalities.

Mainstreaming circular investment requires a common framework for policy makers and investors. The Taxonomy Regulation[35], and the upcoming delegated act on the circular economy[36], will help establish a common language, helping assess circular projects, in the context of the renewed sustainable finance strategy, foreseen in the autumn 2018. The Circular Economy Finance Support Platform will continue tackling knowledge gaps and offering guidance on circular incentives and risks[37].

EU Ecolabel criteria for financial products currently under development will use the Taxonomy in order to steer financial flows in this direction. In parallel, the planned revision of the State Aid guidelines in the fields of the environmental and energy will help gear public spending towards circular solutions.

Information on business performance on the circular economy also drives sustainable investments. The Commission will support the development of environmental accounting principles[38] that complete financial data with circular economy performance data. The upcoming review of the non-financial reporting directive will address the increased need for enhancing the disclosure of environmental data by companies.

The Commission will also present a legislative proposal to foster the integration of sustainability criteria into business strategies. Similar to a 'due diligence duty', companies will identify social and environmental negative impacts along their value chain, integrating it as well in risk management systems.

Economic instruments have proved to be strong drivers for sustainable choices. While their introduction is primarily in competence of Member States, the Commission will encourage their broader application and increased cooperation when implementing them at national level. In addition, applying an Own Resource based on non-recycled plastic packaging waste offers room to continue exploring other market-based economic instruments at national level.

Extended producer responsibility (EPR) schemes take into account the environmental impact of the product and its potential in terms of waste prevention and recycling. The Commission will take measures on improving the performance of EPR schemes, in particular on eco-modulating producer fees, and examine how they could be applied to a wider range of products and be included into producer ownership models.

5.4. Driving the transition through Research and Innovation

Deployment of technological, business and social innovations is necessary to scale up among others industrial symbiosis, life cycle inventory data and innovative recycling technologies (e.g. chemical recycling). The strategic plan and future work programmes under Horizon Europe will support these objectives, with particular emphasis in deploying a sustainable and circular bioeconomy, achieving climate-neutral industries.

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[37] For RTD to complete

[38] In the context of the promotion of the development of standardized natural capital accounting practices

Investments in circular economy solutions will also be promoted through a dedicated natural capital and circular economy investment instrument under Invest EU and the Sustainable Europe Investment Plan.

A new partnership with the European Institute of Innovation and Technology (EIT) will support innovation, business creation and entrepreneurial education on the circular economy, addressing the fragmentation of the innovation landscape.

[To be completed by RTD with **one** paragraph]

6. LEADING EFFORTS AT GLOBAL LEVEL

Europe can only succeed if it drives the global transition to a climate-neutral and resource-efficient and circular economy where growth is decoupled from resource use and EU and world's environmental footprint is lowered. For emerging economies and key partners such as Africa (EU-Africa task force), Latin America and Asia, these new sustainable models will open up opportunities, strengthening the ties with European green businesses.

The Commission will proactively support the circular economy in the EU's bilateral, regional and multilateral policy dialogues, in the free trade agreements and in multilateral environmental agreements. The Commission will reinforce the role of EU delegations, step up cooperation with Member States' embassies and facilitate the contribution of businesses through the organisation of Circular Economy Missions and other outreach activities such as the Low-Carbon Business Partnerships.

Achieving circularity in specific global value chains will be among the priorities. The Commission will propose launching a global agreement on plastics, addressing plastic product design, use and waste management. The Commission will also set up a Global Circular Economy Platform to identify knowledge and governance gaps in advancing a global circular economy. Sustainable resource management (e.g. water, soil, minerals, biomass) is at the core of the transition. The Commission will thus explore the feasibility of defining a 'Safe Operating Space' for natural resource use and establishing an international agreement on the management of natural resources (Resource Convention).

The promotion of regulatory cooperation and, where appropriate, alignment with EU norms and standards, reduces the risks of competitive disadvantage for EU businesses. While respecting the World Trade Organisation rules and other obligations, the EU will ensure that Free Trade Agreements reflect circular economy objectives to promote goods, technologies and services that contribute to more circularity. In the World Trade Organisation reform process, the Commission will advocate for trade rules supporting the circular economy.

Public and private funding and investments are crucial to support the transition. The Commission will promote the circular economy in enlargement, development and neighbourhood cooperation in 2021-2027 projects, and in sustainable finance actions carried out through platforms and partnerships including the International Platform on Sustainable Finance (IPSF).

The Staff Working Document accompanying this Action Plan elaborates on the actions above.

7. MONITORING PROGRESS

The Monitoring Framework offers a snapshot of many dimensions of the circular economy. Adding indicators to the current framework for consumption and environmental footprints would improve the overall tracking of progress. Horizon Europe can help improve circularity metrics at various levels.

Indicators such as GHG abatement figures, toxicity/safety of reused and recycled materials and products, natural capital accounting or reporting on industrial symbiosis would be particularly useful.

In addition, an improved monitoring framework can inform relevant debates on the need to set aspirational targets to drive action towards achieving EU's circular economy objectives.

8. ANNEX

Action	Date[39]
PRODUCTION AND CONSUMPTION	
Proposal for a **sustainable product policy** legislative framework	2021
Support through the Digital Europe Programme for the **European Circular Dataspace** incorporating public and private data on products as a basis for an **electronic product passport**	XXXX
Eco-design Work Plan 2020 – 2024 including material efficiency requirements on durability, reparability and recyclability of products and review the methodology underpinning the Ecodesign directive to make it more circular friendly	2020
Eco-design measures on printers and **consumables such as cartridges**. Possible Eco-design measures on **common charger**	As of 2020
Legislative proposal on **information to consumers** on durability, reparability and early product failures and establishment of a '**Right-to-Repair**' to empower consumers	2020
Legislative proposal for substantiation of **green claims** using the Product/Organisation Environmental Footprinting methods	2020
Reinforce the **EU Ecolabel** through increased uptake by industry and awareness by consumers and possible simplification, rationalisation and increased accessibility of sustainability labels.	2020, onwards
Progressively **phase in mandatory green criteria for public procurement** (and their reporting) in targeted sectorial initiatives, EU funding or in product specific legislation	2021
Revision of the **Industrial Emissions Directive** to increase its contribution to circularity and inclusion of circular economy requirements in relevant upcoming Best Available Techniques (BAT)	
Industrial symbiosis reporting and system for improved visibility (CircLean)	2020
Foster the uptake of **resource efficiency** solutions in industrial eco-systems across Europe via the European Joint Cluster Initiatives, the inclusion of EREK into the European Cluster Collaboration Platform and the creation of Circular Economy Hubs for process industries	2020
Register the **Environmental Technology Verification** as EU certification mark	2021

[39] Dates are indicative and might be modified after exchanges with services

FROM WASTE TO RESOURCES	
Legislative proposal to review the Packaging and Packaging Waste Directive to reinforce the **essential requirements for packaging** and measures to prevent the generation of packaging waste	2021
Report on the feasibility of setting **waste reduction targets** and identifying and addressing barriers to prevention activities, accompanied by a legislative proposal as appropriate	2022
Adopt a new regulatory framework for **batteries** defining inter alia criteria for sustainability and recycled content and strengthening waste management rules	2020
Legislative proposals to review the **End-of-Life Vehicles Directive**, the **RoHs Directive**, amend Annexes IV and V of the **POPs Regulation**; and adopt guidance regarding the link between RoHS and eco-design requirements	2021
Promotion of best practices and assessment of the feasibility of establishing an EU **harmonized model for separate collection of wastes**.	On-going, 2022
Carry out a **high level political compliance promotion initiative** on waste to support Member States at risk of not meeting EU recycling targets for 2020 and 2025	On-going
Legislative proposal to **review the Waste Shipment Regulation**, with a view to better integrating a Single Market for secondary raw materials and to reducing export of waste(better control and measures to tackle illegal shipments, support to international initiatives against waste trafficking and promotion of sound management of waste, in the context of the Basel Convention).	2021
Monitor the development and effectiveness in MS of national **end-of-waste and by-product criteria**, and assess the need to develop Union-wide criteria. Monitor the application of **waste classification criteria**	on-going
Refine a specialised decision-making methodology to deal with the **presence of substances of very high concern** in recycled materials and articles made thereof	2021
Improve availability of and **access to information on the content of substances of concern** through the life cycle of products, in particular by establishing harmonised tracking systems	As of 2021, onwards
ENABLING CIRCULARITY IN VALUE CHAINS AND SECTORS	
Circular use of biomass, water and soil	
Reducing the negative impacts of production and consumption patterns on **biodiversity**	Onwards
Ensure the contribution of the European food chain to circularity through the **Farm to Fork**	
Promote land recycling and the decontamination of polluted soils	2022

Adopt an **Integrated Nutrient Management Initiative** setting a framework to ensure sustainability in the application of nutrients and revision of the **Sewage Sludge Directive** in order to maximise its contribution to the circular economy and increasing soil protection	2021 2022/2023
Ensure effective implementation of the **Water Reuse Regulation** to facilitate the uptake of water reuse and explore further possible areas of application of water reuse.	
Plastics	
Reduce the unintentional release of microplastics resulting from the use of products through actions such as standardisation methods for measuring quantities emitted, labelling, certification and possible regulatory measures will be considered, as well as measures to increase the capture through wastewater treatment.	2020
Follow-up on the proposed restriction of **intentionally added microplastics** under the REACH Regulation (including pellets)	Onwards
Policy framework for **bio-based plastics and plastics with biodegradable properties**	2020
Based on the results of the assessment of regulatory or economic incentives that will be delivered by the Circular Plastics Alliance by June 2021, **consider legal requirements for secondary raw materials** and continue supporting **voluntary actions** by industry to achieve the target of 10 million tons/year of recycled plastics used in products by 2025	
Ensure effective implementation of the **Drinking Water Directive**	
Textiles	
Propose a comprehensive **EU strategy for textiles** aiming to stimulate the market for sustainable and circular textiles in the EU.	2021
Construction and buildings	
Develop a **Strategy for a Sustainable Built Environment** including inter alia roll-out of the Level(s) methodology for the environmental performance of buildings	2021
Consumer Electronics	
Identify and support **reward systems to return or sell back** old mobile phones and chargers, tablets, laptops and PCs and feasibility analysis of Ecodesign requirements for ICT products that are not already covered by Ecodesign measures, starting with mobile phones	2021
Mobility	
(review of the Urban Mobitlity Package)	

New regulatory framework setting sustainability requirements for rechargeable **batteries** in electromobility and stationary applications and consider for other applications	
CROSSCUTTING ACTIONS	
Making circularity work for people and regions and cities	
Launch of a Large-scale multi-stakeholder partnership on skills for the circular economy and a **Blue Print Alliance for Circular Skills** to strengthen Vocational and Educational Training	2020 XXXX
Identification and share of best practices for smart specialisation approaches for circular activities in **Cohesion Policy** (monitor of Operational Programmes within the ESIF) and launch of the **European Urban Initiative**	Ongoing
Scale up the **European Circular Economy Stakeholder Platform**	2020
Unleashing the potential of circularity for climate neutrality	
Adopt a **methodology** to measure climate change mitigation and adaptation potentials of circular activities and integrate it in the **accounting framework** for GHG emissions and climate policies	2020
Getting the economics right	
Upgrade and extend the **Action Plan for Financing Green Growth** (Sustainable Finance Action Plan) to circularity using the Taxonomy Regulation	
Development of **Environmental and Social accountancy programme** and related governance solutions based on circularity principles	
Initiative on **sustainable corporate governance**	2021
Support to circular economic objectives through **economic instruments**(possibly mapping), taxation such as encouraging reduced taxation on repair activities, and second hand goods, state aid, EPR.	Ongoing
Driving the transition through Research and Innovation	
Launch **Horizon Europe calls for proposals, missions and partnerships** with a focus on circular economy (eg HorizonEurope Partnership on a circular bioeconomy for climate negative industries) and regional cooperation.	Ongoing
Support **research and innovation on green/safe-by-design chemicals** and materials and safe materials recycling, including chemical recycling	Ongoing
Establish a knowledge hub within the **European Institute of Innovation and Technology** (EIT) to boost innovation, business creation and entrepreneurial education on circular economy in activities	2021

LEADING EFFORTS AT GLOBAL LEVEL	
Continue Circular Economy Missions and implement an **integrated outreach to further promote circular economy at international level** (Staff Working Document)	As of 2020
EU-Africa Task Force on Circular Economy	2022
Support for a **global agreement on plastics** that would address the whole lifecycle of plastic and launch of a **global circular economy platform**	2021
Promote sustainable finance and integrating circular economy support measures into EU external policy	
MONITORING THE PROGRESS	
Complement the Monitoring framework of Indicators to reflect policy priorities	2021