A STRONG CIRCULAR ECONOMY BILL FOR SCOTLAND – BRIEFING
June 2019

THE PROBLEM

A number of recent reports highlight the effects of our consumption, the quantity of products that we consume and how they are made, on the environment. Impacts are caused by both the extraction and processing of resources and the waste and pollution associated with products when they are discarded. For example, mining, quarrying and intensive forestry and farming are prime causes of habitat loss, and carbon emissions and other forms of pollution also impact on nature and our natural systems.

The extent of marine litter and pollution and the harmful effects of plastic pollution in general to wildlife and human health[1], nationally and internationally, have gained recent attention. However, the problem is wider than our use of plastic. Reports find 1 million species face extinction[2], and that 80 - 90% of biodiversity loss and water stress is caused by resource extraction and processing [3]. Globally, consumption of natural resources has tripled since the 1970's and is set to further double by 2060[4] and the increasing material weight of the world's economies is putting a more dangerous level of stress in the climate and natural life-support systems than previously thought[5].

It is not only environmental NGOs who are concerned about the unsustainable nature of resource extraction rates. Security of supply of raw materials is a core interest of business and the rising costs of raw materials was cited as a primary concern by 87% of Scottish business leaders[6].

Extracting materials and preparing them for use is responsible for half the world's carbon emissions[7]. The most recent UK CCC report told us it was time to look beyond our production emissions and that we have a duty to start to address our consumption emissions. 84% of Scotland's carbon footprint is from emissions embedded in goods we consume, with 54% associated with products that we import[8].

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[1] https://www.sas.org.uk/our-work/plastic-pollution/plastic-pollution-facts-figures/
[2] https://www.ipbes.net/
[3] http://www.resourcepanel.org/reports/re-defining-value-manufacturing-revolution ; https://www.theguardian.com/environment/2019/mar/12/resource-extraction-carbon-emissions-biodiversity-loss
[4] http://www.oecd.org/newsroom/raw-materials-use-to-double-by-2060-with-severe-environmental-consequences.htm
[5] https://www.theguardian.com/environment/2019/mar/12/resource-extraction-carbon-emissions-biodiversity-loss
[6] https://www.scottishchambers.org.uk/press-policy/press-releases/2018/01/966
[7] https://www.theguardian.com/environment/2019/mar/12/resource-extraction-carbon-emissions-biodiversity-loss
[8] https://www.gov.scot/publications/scotlands-carbon-footprint-2015/pages/4/

There is visible public concern over the twin climate and ecological emergencies. Public appetite to address plastic pollution and to move to a less wasteful society[9]; and concern over climate change is at an all time high[10].

In short, our production and consumption is far from sustainable[11]. The scale and nature of the products we consume is having an unprecedented impact on biodiversity and climate change. The social impact, mainly in developing countries, from harmful and toxic production processes is also unacceptable. There is recognition across society that there is an urgent need to address these issues.

A CIRCULAR ECONOMY,

The best way to reduce the quantity of natural resources that we consume (for example, minerals, timber) is to make our economy more circular. In contrast to our traditional linear – make, use, dispose – economy, a more circular economy keeps resources in use for as long as possible, extracting the maximum value from them whilst in use, and then recovering and regenerating products and materials at the end of each service life[12]. Through making better use of materials, we can reduce the quantity of natural resources consumed. A circular economy is also regenerative, waste and pollution are designed out, biological materials are returned to the system through composts, and biodiversity is restored and nurtured. There is growing recognition of the vast savings in carbon emissions that could be achieved through addressing emissions associated with consumption, by making better use of material resources[13]. Zero Waste Scotland estimate that, by 2050, a more circular economy, where material consumption is reduced by 50%, could reduce carbon emission by 11 million tonnes per year.

A more circular economy is not only good for the environment, but also offers opportunities for economic development and meaningful work. A study by Green Alliance shows it could provide employment opportunities at a range of skill levels and often benefiting former industrial regions[14]. Studies show the potential to the Scottish economy to be significant, worth up to £1.5 billion in costs savings per year[15].

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[9] https://www.green-alliance.org.uk/by_popular_demand.php

[10] https://www.theargus.co.uk/news/national/17628790.four-fifths-worried-about-climate-change-as-public-concern-hits-new-high/?utm_campaign=Carbon%20Brief%20Daily%20Briefing&utm_medium=email&utm_source=Revue%20newsletter

[11] Sustainable Consumption and Production is the 12th UN Sustainable Development Goal.

[12] http://www.wrap.org.uk/about-us/about/wrap-and-circular-economy

[13] https://www.zerowastescotland.org.uk/CarbonImpactsOfTheCircularEconomy; http://ec.europa.eu/environment/integration/research/newsalert/pdf/future_emissions_from_metal_production_can_only_be_cut_by_circular_economy_521na4_en.pdf ; https://docs.wixstatic.com/ugd/ad6e59_ba1e4d16c64f44fa94fbd8708eae8e34.pdf

[14] http://www.wrap.org.uk/sites/files/wrap/Employment%20and%20the%20circular%20economy%20summary.pdf http://www.wrap.org.uk/sites/files/wrap/Economic%20growth%20potential%20of_more%20circular%20economies.pdf https://www.zerowastescotland.org.uk/circular-economy/why-it-is-required

[15] https://www.zerowastescotland.org.uk/sites/default/files/Scotland%20and%20the%20Circular%20Economy%20%28a%20report%20for%20the%20Scottish%20Government%29.pdf

The Scottish Government has embraced this concept and adopted its Circular Economy Strategy: *Making Things Last* in 2016. There has been valuable work: for example, in supporting innovative enterprises, show-casing good practice, and investing in the Scottish Remanufacturing Centre. The Scottish Government is banning problematic products, such as plastic stemmed cotton buds; has introduced levies to disincentivise the use of plastic bags, and is developing a deposit return system.

However, we need more radical and systemic change to move all sectors of our economy to become more circular. The lack of clear policy horizons that investors like to see is shown to one of the main factors contributing to low levels of private investment in the circular economy [16].

The SNP made a commitment in its 2016 manifesto to bring forward a Circular Economy and Zero Waste Bill in the current parliamentary term[17] and we expect to see the announcement of such a bill in the next Programme for Government (2019 – 2020). The recent commitment by the Government that all policy areas would be reviewed in light of the Climate Emergency and that responding to the Climate Emergency would be at the heart of the Programme for Government, gives increased weight to the announcement of such a Circular Economy bill.

3 A CIRCULAR ECONOMY BILL

As with climate change, the transition to a more circular economy requires many distinct policy measures and other instruments which do not necessarily require primary legislation, for example improving systems for collecting products for recycling. However, also like climate change, without a framework of targets and a duty to introduce policies to meet those targets, we are unlikely to achieve the necessary change.

Our proposed asks for a Circular Economy Bill

3.1 Vision

The Bill should outline a vision for an economy where waste and pollution are designed out, products and materials are kept in use and natural systems are regenerated; and which provides fair and fulfilling livelihoods for all citizens.

It is important that the regeneration of natural systems is included, as there is a tendency for this to be left out of the discourse on circular economy.

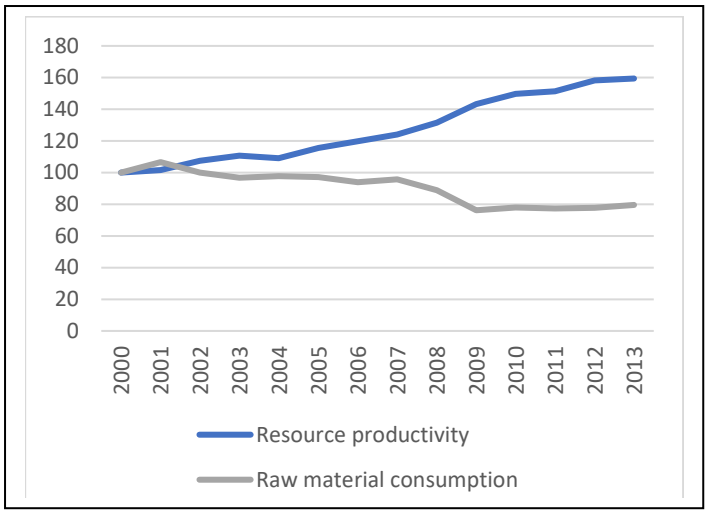
3.2 Targets

We need consumption reduction targets. It is the scale of consumption which is causing the problems and it is therefore the overall scale of consumption that needs to be addressed. It is worth noting that this is unlikely to be achieved through a focus on efficiency alone. DEFRA have a

[16] https://www.ellenmacarthurfoundation.org/assets/downloads/publications/Achieving-Growth-Within-20-01-17.pdf

[17] https://d3n8a8pro7vhmx.cloudfront.net/thesnp/pages/5540/attachments/original/1461753756/SNP_Manifesto2016-accesible.pdf?1461753756

headline target to double resource productivity by 2050[18], but looking at past trends, this may do little to reduce overall consumption. ONS data from the period 2000 – 2013 enable us to compare trends in resource productivity and raw material consumption[19].



This shows us that during the period 2000 – 2013, resource productivity increased by 59% but raw material consumption only reduced by 20%. What's more this reduction was largely as a result of the economic downturn, since when it has been relatively steady (and has continued to be so until 2015 – latest figures). This implies that the increase in efficiency has been offset by increase in consumption of products.

i) We need to set long term, interim and year on year reduction targets for carbon and material footprints to meet One Planet Prosperity, based on scientific advice.

The Scottish Environment Protection Agency (SEPA) has an aim of 'One Planet Prosperity' which has been adopted by the Scottish Government in the vision of the draft Environment Strategy. Using Ecological Footprint data (only available at UK level) SEPA highlights that our resource demand is approximately 3 times what the Earth can renew. This is based on the land and sea area required to supply us with food, fibres, timber, infrastructure and carbon demand; and absorb the wastes we produce. One Planet Prosperity is an aim we should all share.

There are other 'footprint' measures, sometimes known as 'the four footprints': carbon, material, water and land. These four metrics assess the carbon, material, water and land that are used in all the goods and services that we consume and, together, provide a guide to the impact of our consumption[20]. At the Scottish level we currently report, periodically, on our carbon footprint and will, in the near future, have data to enable us to assess our material footprint.

The carbon footprint covers greenhouse gas (GHG) emissions embedded in imported, as well as domestically produced, goods and services; and emissions directly produced by Scottish residents, such as from heating and transport. Reducing our carbon footprint should be a key target of a CE bill. We suggest that, in line with the need for all countries to be net-zero for carbon emissions, and the UK, as a developed nation, to be net-zero for GHG emissions, in order to have a more than

18 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765914/resources-waste-strategy-dec-2018.pdf

19 https://www.ons.gov.uk/economy/environmentalaccounts/articles/ukenvironmentalaccountshowmuchmaterialistheukconsuming/ukenvironmentalaccountshowmuchmaterialistheukconsuming

20 https://friendsoftheearth.uk/sites/default/files/downloads/four-footprints-technical-briefing-75801.pdf

50% chance of limiting warming to 1.5%[21], we should adopt a net zero carbon footprint target for 2050[22]. Please note that this is different to the 2045 net-zero target for production emissions proposed for Scotland.

The material footprint is sometimes called Raw Material Consumption and covers the raw material used for the production of any goods consumed in Scotland. It is measured by weight and includes metal ores, non-metallic minerals, fossil fuels (often referred to as the abiotic resources) and biomass, such as timber and fish (biotic resources). ONS periodically report on Domestic Material Consumption for the UK[23]. In the near future, there will be data available to measure basic flows of raw materials in Scotland.

To be sustainable, we can consume renewable resources at a rate which does not exceed the ability of the Earth to replenish those resources on a long term basis. Consumption of renewable resources can be measured through the biomass component of the raw material consumption indicator.

Although moving towards One Planet Prosperity entails a reduction in the demands that resource production put on our planet, the move to replace fossil fuels and other non-renewable / energy intensive materials with renewable resources (for example, the proposed substitute of timber for steel and concrete in construction) will put upward pressure on the production of timber and fossil fuel substitutes. We need to seek advice on what would be the best indicator(s) and appropriate targets to ensure that the land and sea demands (and associated impacts on biodiversity) of this keep us on track to One Planet Prosperity.

However, with regard to non-renewable resources, we should ideally phase out, or at least drastically reduce, their extraction and rely on reusing those materials which are already in our economy. This is in line with the CE targets adopted by the Netherlands, which aims to reduce consumption of minerals, metals and fossil fuels by 50% by 2030 and to 'achieve a circular economy by 2050'[24]. Scotland's consumption of non-renewable resources can be measured through the abiotic components (metals, minerals, fossil fuels) of the raw material consumption metric. We suggest a 50% reduction target for 2030 and advice on future targets.

Material consumption metrics are weight based and targets can potentially focus efforts on heavy materials. A combined weight and environmental impact metric would be beneficial [25] and there is a commitment in England's Waste and Resource Strategy to do some future work in this area[26].

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[21] https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/

[22] This is an ambitious proposition, and it would be interesting to have advice from UKCCC on a target for carbon footprints.

[23] https://www.ons.gov.uk/economy/environmentalaccounts/articles/ukenvironmentalaccountshowmuchmaterialistheukconsuming/ukenvironmentalaccountshowmuchmaterialistheukconsuming

[24] https://www.oecd.org/environment/ministerial/whatsnew/2016-ENV-Ministerial-Netherlands-Circular-economy-in-the-Netherlands-by-2050.pdf

[25] http://www.esauk.org/application/files/3215/3589/6450/20180820_Why_Wait_Weight_isnt_working_Smarter_measures_for_the_circular_economy.pdf

[26] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765914/resources-waste-strategy-dec-2018.pdf

However, past work in this field has failed to develop a metric that is considered robust and we consider such developments likely to take some time. If a weight based target is adopted, as suggested, we strongly recommend that this is complemented with measures to address specific problematic materials and a duty for the Resources Reduction Plan (see below) to specify actions to address materials with a high environmental impact

ii) Re-use

Re-use is preferable to recycling, and the addition of a reuse target will help drive the re-use sector. Spain was the first European country to introduce a re-use target[27] and there are calls for re-use targets in the EU CE Package[28]. The EU was due to publish a common methodology for re-use targets by March 2019, and this is expected imminently.

iii) Other targets to optimise resource use

There are other targets which may be needed to drive resource optimisation.

- Vital materials for the renewables sector could be a focus for specific targets. Scotland would like to continue to be at the forefront of the deployment of low carbon energy, but these industries require supplies of vital materials like rare earth elements and cobalt. Recovery and /or recycling targets could create a secure supply by reusing the materials in existing low carbon technologies, like EVs and wind turbines.
- As soon as data and a methodology are developed, a 'sharing' target could also be valuable.
- Use of agro-chemicals which leach into and cause harm to the environment are incompatible with a circular economy. We should limit the use of artificial nitrogen fertilisers in order to reduce nitrous oxide emissions and eutrophication; and shift towards integrated pest management.
- Public procurement offers significant scope to support and stimulate the circular economy. We know that there is work underway to try and build in circular economy criteria to public procurement processes[29] and some valuable initiatives[30], but increased effort in this area is needed.

3.3 A Duty on the relevant ministers to report annually on the progress towards these targets

3.4 A Resources Reduction Plan

Akin to the Climate Change Plan, the Resources Reduction Plan would introduce policies and programmes spanning 15 years and be updated every 5 years. The Plan would determine how much is done by different sectors and should also ensure that any particularly problematic sectors are contributing to the overall targets and any problematic materials are addressed. The Plan should also seek to maximise reprocessing in Scotland or minimise the distance materials have to travel to be reprocessed. Academics, third sector and social enterprises should be included in the stakeholders consulted during the development of Plans. It would also include milestones and outputs and Ministers would have a duty to report on progress every year to parliament.

3.5 A Resources Reduction Committee

[27] https://resource.co/article/spain-becomes-first-eu-country-set-target-reuse-11038
[28] https://www.rreuse.org/
[29] https://www.zerowastescotland.org.uk/content/sustainable-procurement
[30] http://crns.org.uk/reuse_consortium/fife-council-leads-way-reuse-furniture/

Establishment of a Circular Economy Committee to provide advice to Government to enable the Minister to fulfil his/her obligations under this Act in the most effective and timely manner. For example, we know that the adoption of economic instruments that shift the life cycle environmental (and social) costs of products onto the producer (as opposed to the tax payer or others) are necessary; but expertise is needed to recommend which instruments are suitable for different product types.

3.6 A duty on public bodies to act in such a way as to contribute to the targets set by this bill. This would extend the public duties brought in under the Climate Change Scotland Act 2009.

3.7 Powers

Scottish Government may consider it needs to update powers to regulate the sale of particular products / materials. The Environmental Protection Act (1990)[31] provides powers for the UK or devolved administrations to "prohibit or restrict" the use or supply of "injurious substances or articles." It is on this basis that the Scottish Government used secondary legislation to impose a ban on plastic microbeads and they plan to use the same approach to introduce their ban on plastic cotton buds. It has been suggested to us that this provision of powers could usefully be updated. Additionally, it is not clear whether new legislation might be needed in order for Scottish Government to introduce Extended Producer Responsibility (EPR) to new product types. We consider the use of EPR, whereby producers are given a significant responsibility – financial and/or physical – for the treatment or disposal of post-consumer products, to be one of the key tools which needs to be applied beyond the current range of product groups. It has the potential to prevent waste at source and promote product design for the environment.

3.8 Specific materials

Some materials are particularly problematic in the environment. Plastics are a ubiquitous and growing source of pollution and the exponential increase in these products has created a global crisis. Reducing the production and consumption of plastics, particularly single-use plastics, is an urgent priority and unnecessary single-use plastic items should be phased out. Additionally, solutions should be found for materials, or combinations of materials, which are either particularly harmful or difficult to recycle[32].

In banning single-use products, steps should be taken to prevent a one-for-one substitution of single-use plastic products with single-use products made from other materials. All resource use has an environmental footprint. 'Pointless' items do not need replacing, and reusable alternatives are often available. Bio- based, 'biodegradable' or compostable plastics are not a solution to the plastic pollution crisis as they mostly present similar risks to the environment as conventional plastics.

4 EU CONTEXT

[31] http://www.legislation.gov.uk/ukpga/1990/43/contents

[32] http://www.wrap.org.uk/sites/files/wrap/Plastics_Market_Situation_Report.pdf; https://www.ellenmacarthurfoundation.org/assets/downloads/EllenMacArthurFoundation_TheNewPlasticsEconomy_Pages.pdf ; https://www.recyclenow.com/recycling-knowledge/how-is-it-recycled/plastics

The Scottish Government has committed to keeping pace with Europe[33]. There are a number of EU regulations which are relevant to the circular economy.

EU 2018 Circular Economy Package[34]

- A Europe-wide EU Strategy for Plastics in the Circular Economy and annex to transform the way plastics and plastics products are designed, produced, used and recycled. By 2030, all plastics packaging should be recyclable. To reduce the leakage of plastics into the environment, the Commission has also adopted a new proposal on Port Reception Facilities, to tackle sea-based marine litter and published a report on the impact of the use of oxo-degradable plastic, including oxo-degradable plastic carrier bags, on the environment.

- A Communication on options to address the interface between chemical, product and waste legislation that assesses how the rules on waste, products and chemicals relate to each other.

- A Monitoring Framework on progress towards a circular economy at EU and national level. It is composed of a set of ten key indicators which cover each phase – i.e. production, consumption, waste management and secondary raw materials – as well as economic aspects – investments and jobs - and innovation.

- A Report on Critical Raw Materials and the circular economy that highlights the potential to make the use of the 27 critical materials in our economy more circular.

In 2018, the European Commission adopted other ambitious initiatives in the context of the Circular Economy Action Plan:

- A proposal for a Directive on the reduction of the impact of certain plastic products on the environment[35] - implementation of the EU Strategy for Plastics in the Circular Economy. The Directive proposes different measures for specific items made of single use plastics taking into account consumer behaviour as well as consumer needs and opportunities for businesses. When alternatives are clearly available – both single use and multi-use ones – market restrictions are proposed. Other measures include appropriate labelling, awareness raising, voluntary actions, and the establishment of Extended Producer Responsibility schemes that would also cover the costs for the clean-up of litter.
- A proposal for a Regulation on minimum requirements for water reuse - the proposal is setting minimum requirement to boost the efficient, safe and cost-effective reuse of water for irrigation - deliverable of the Circular Economy Action Plan

Waste

The revised legislative framework on waste[36] entered into force in July 2018. It sets clear targets for reduction of waste and establishes an ambitious and credible long-term path for waste management and recycling.

Key elements of the revised waste proposal include:

[33] https://www.holyrood.com/articles/news/scottish-government-bring-forward-new-legislation-ensure-scots-law-keeps-eu-rules

[34] http://ec.europa.eu/environment/circular-economy/index_en.htm

[35] http://ec.europa.eu/environment/circular-economy/pdf/single-use_plastics_proposal.pdf

[36] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L:2018:150:TOC

- A common EU target for recycling 65% of municipal waste by 2035;
- A common EU target for recycling 70% of packaging waste by 2030;
- There are also recycling targets for specific packaging materials:
    - Paper and cardboard: 85 %
    - Ferrous metals: 80 %
    - Aluminium: 60 %
    - Glass: 75 %
    - Plastic: 55 %
    - Wood: 30 %
- A binding landfill target to reduce landfill to maximum of 10% of municipal waste by 2035;
- Separate collection obligations are strengthened and extended to hazardous household waste (by end 2022), bio-waste (by end 2023), textiles (by end 2025).
- Minimum requirements are established for extended producer responsibility schemes to improve their governance and cost efficiency.
- Prevention objectives are significantly reinforced, in particular, requiring Member States to take specific measures to tackle food waste and marine litter as a contribution to achieve EU commitments to the UN SDGs.

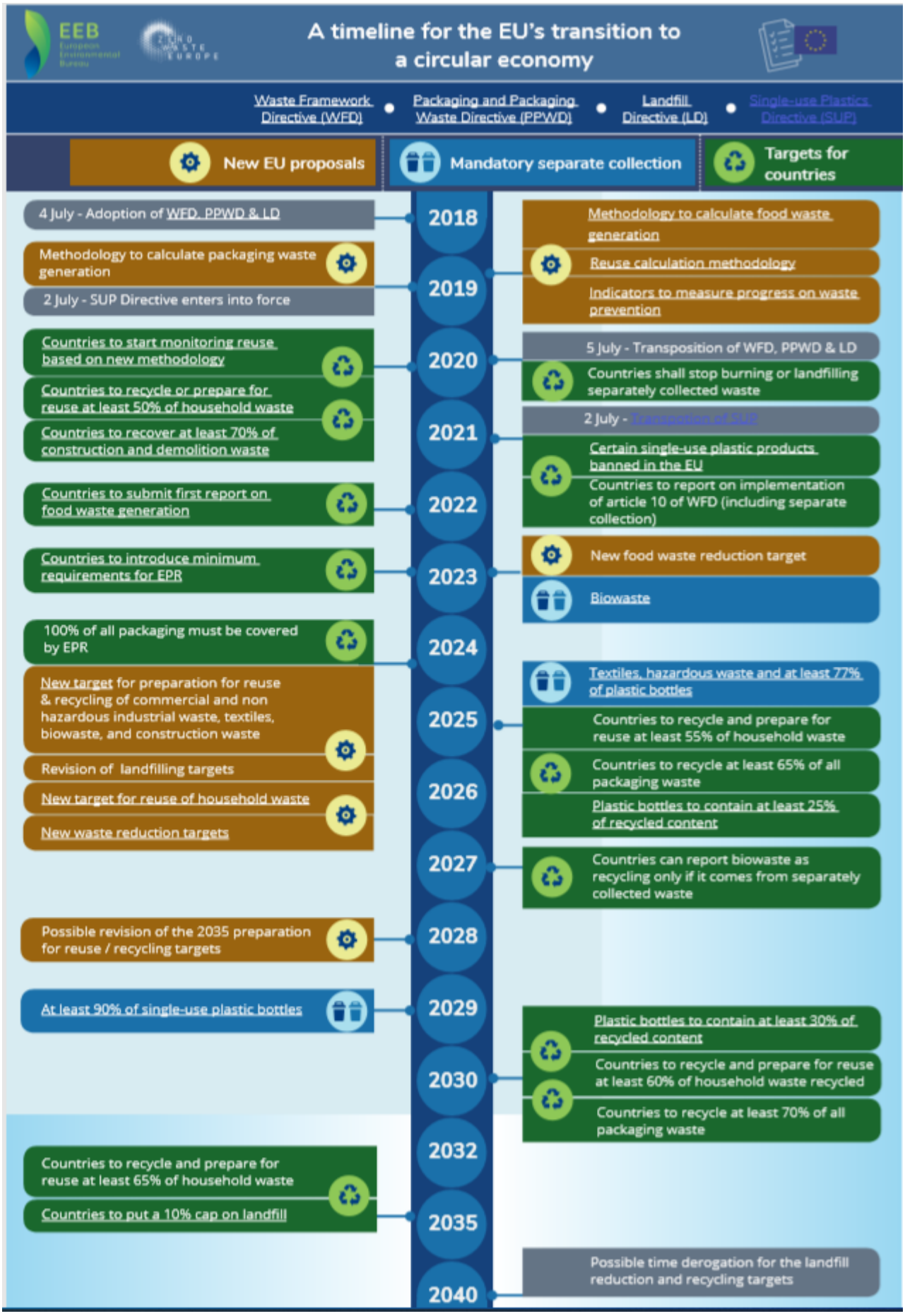
Ecodesign

The **Ecodesign directive**[37] provides consistent EU-wide rules for improving the environmental performance of products, such as household appliances and information and communication technologies. The Directive sets out minimum mandatory requirements for the energy efficiency of these products. The directive was reviewed in 2017[38] and a set of proposals are currently under consideration for fridges, lighting, displays, dishwashers and washing machines which would:

- Improve the design of certain products, so that key components can be easily repaired or replaced;
- Make spare parts available to consumers, retailers and repairers for 7 to 10 years;
- Give professional repairers access to technical information, such as the wiring diagrams or exploded views of products

[37] https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:285:0010:0035:en:PDF

[38] http://www.europarl.europa.eu/RegData/etudes/STUD/2017/611015/EPRS_STU(2017)611015_EN.pdf


EEB
European Environmental Bureau
ZERO WASTE EUROPE
A timeline for the EU's transition to a circular economy
Waste Framework Directive (WFD)
Packaging and Packaging Waste Directive (PPWD)
Landfill Directive (LD)
Single-use Plastics Directive (SUP)
New EU proposals
Mandatory separate collection
Targets for countries
4 July - Adoption of WFD, PPWD & LD
Methodology to calculate packaging waste generation
2 July - SUP Directive enters into force
Countries to start monitoring reuse based on new methodology
Countries to recycle or prepare for reuse at least 50% of household waste
Countries to recover at least 70% of construction and demolition waste
Countries to submit first report on food waste generation
Countries to introduce minimum requirements for EPR
100% of all packaging must be covered by EPR
New target for preparation for reuse & recycling of commercial and non hazardous industrial waste, textiles, biowaste, and construction waste
Revision of landfilling targets
New target for reuse of household waste
New waste reduction targets
Possible revision of the 2035 preparation for reuse / recycling targets
At least 90% of single-use plastic bottles
Countries to recycle and prepare for reuse at least 65% of household waste
Countries to put a 10% cap on landfill
2018
2019
2020
2021
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Methodology to calculate food waste generation
Reuse calculation methodology
Indicators to measure progress on waste prevention
5 July - Transposition of WFD, PPWD & LD
Countries shall stop burning or landfilling separately collected waste
2 July - Transposition of SUP
Certain single-use plastic products banned in the EU
Countries to report on implementation of article 10 of WFD (including separate collection)
New food waste reduction target
Biowaste
Textiles, hazardous waste and at least 77% of plastic bottles
Countries to recycle and prepare for reuse at least 55% of household waste
Countries to recycle at least 65% of all packaging waste
Plastic bottles to contain at least 25% of recycled content
Countries can report biowaste as recycling only if it comes from separately collected waste
Plastic bottles to contain at least 30% of recycled content
Countries to recycle and prepare for reuse at least 60% of household waste recycled
Countries to recycle at least 70% of all packaging waste
Possible time derogation for the landfill reduction and recycling targets