



European
Commission

(Bio-)Waste Management in a Circular Economy in the EU

Bettina Lorz

European Commission

**DG ENV/Waste Management and
Secondary materials Unit B3**

4 November 2021

European Green Deal



A new vision for Europe

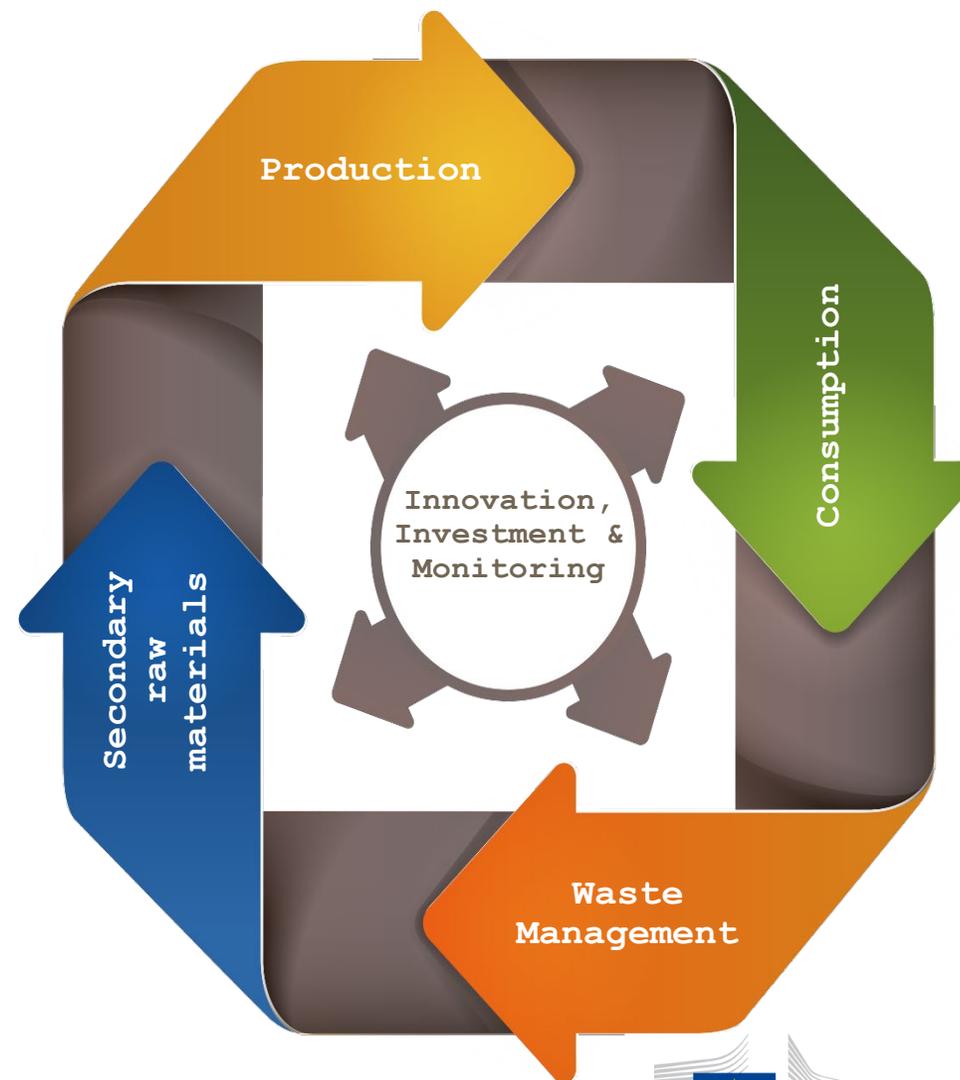


35 actions along the entire life cycle of products, to:

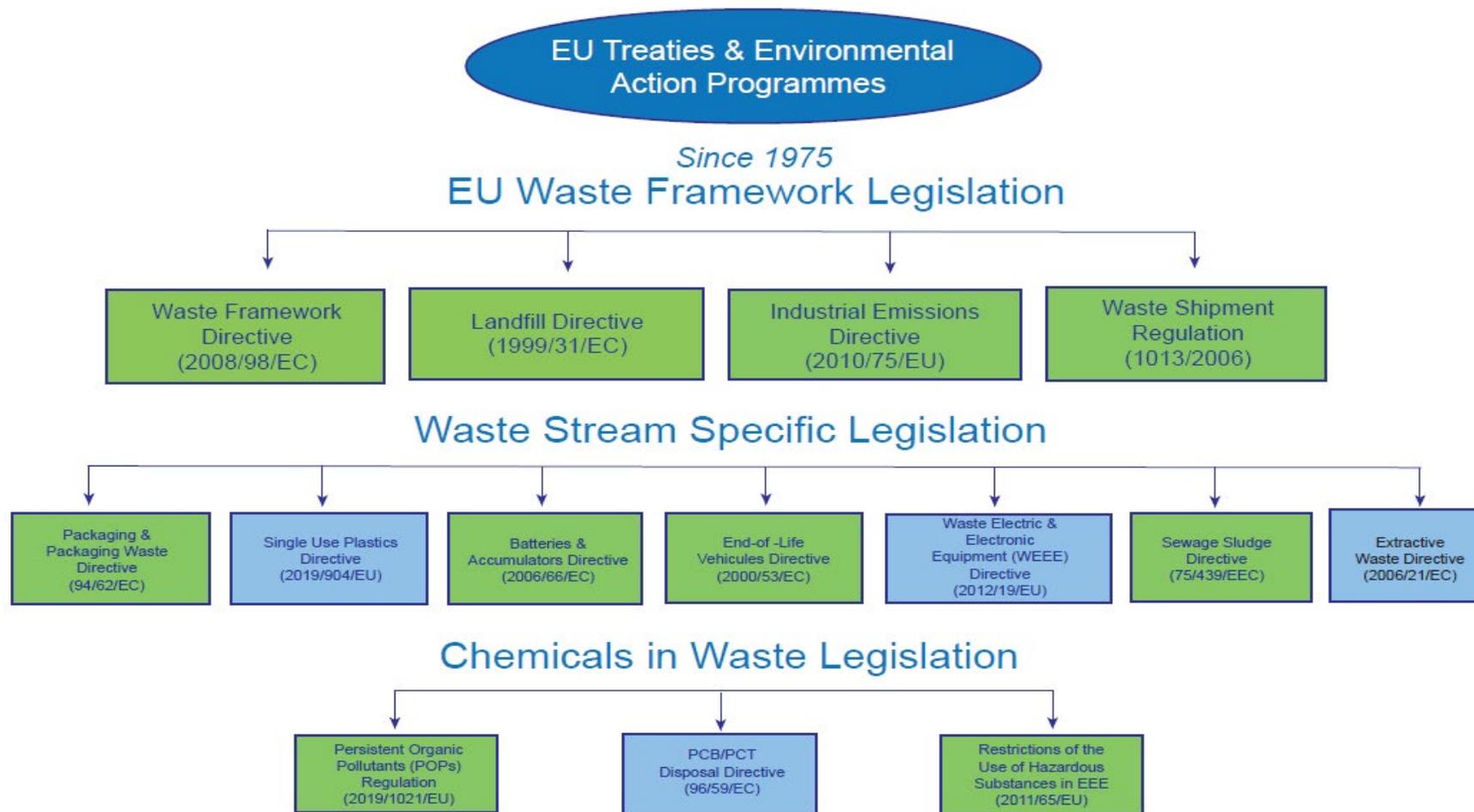
- Make **sustainable products** the norm in the EU
- **Empower** consumers and public buyers
- **Focus also on key product value chains:** electronics and ICT; batteries and vehicles; packaging; plastics; textiles; construction and buildings; food; water and nutrients
- Ensure **less waste**
- Make circularity work for **people, regions** and **cities**
- **Lead global efforts** on circular economy

CEAP 2.0 : waste policy

- ✓ Sound waste prevention and management are essential building blocks of the circular economy
- ✓ **Preventing waste from being created in the first place is key**
- ✓ **Once waste has been created, it needs to be transformed into high-quality resources**
 - **Specific waste reduction targets** for more complex streams
 - Enhance the implementation of the requirements for **EPR schemes**
 - Continue **modernising EU waste laws** (e.g. batteries, packaging, end-of-life vehicles, hazardous substances in electronic equipment)
 - Propose to harmonise separate **waste collection systems**
 - Review rules on **waste shipments** facilitating recycling or re-use within the EU; with also the aim to restrict exports of waste that cause negative environmental & health impacts
 - Assess the scope to develop further EU-wide end-of-waste criteria for certain waste streams

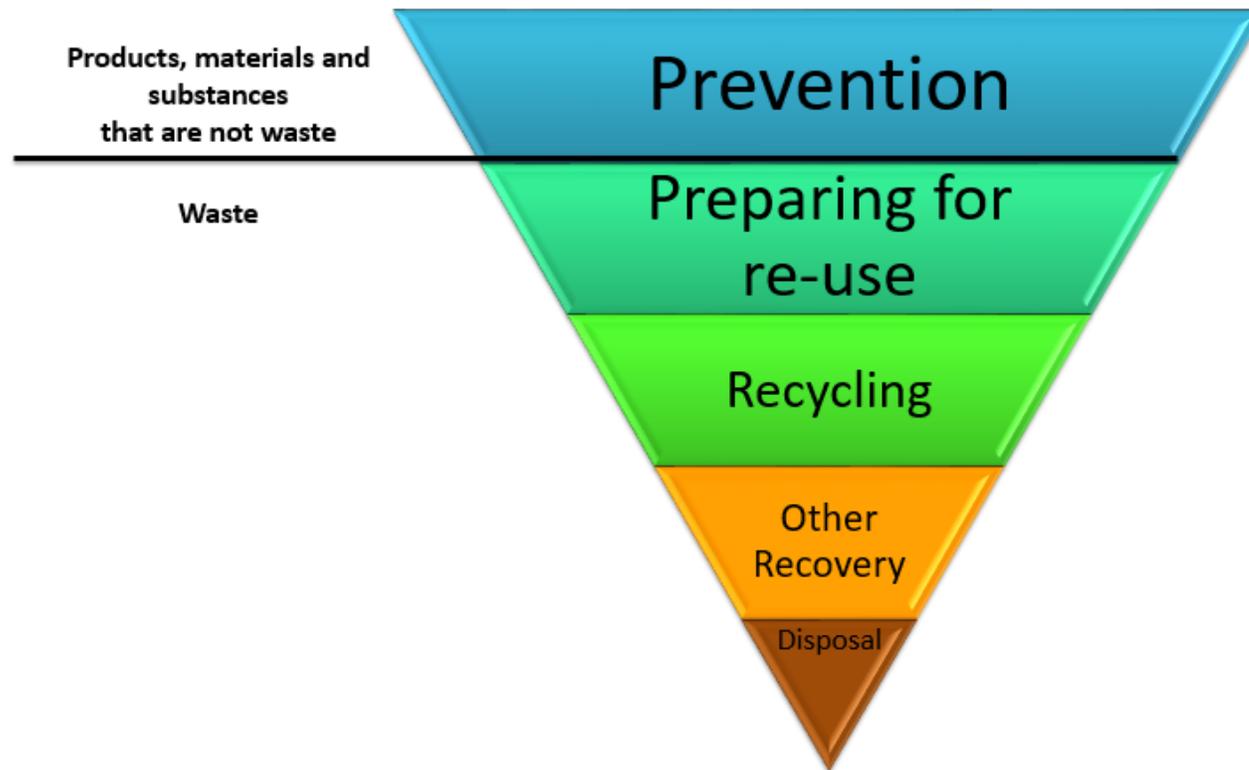


EU waste legislative agenda



In green: reviews required in -2024!

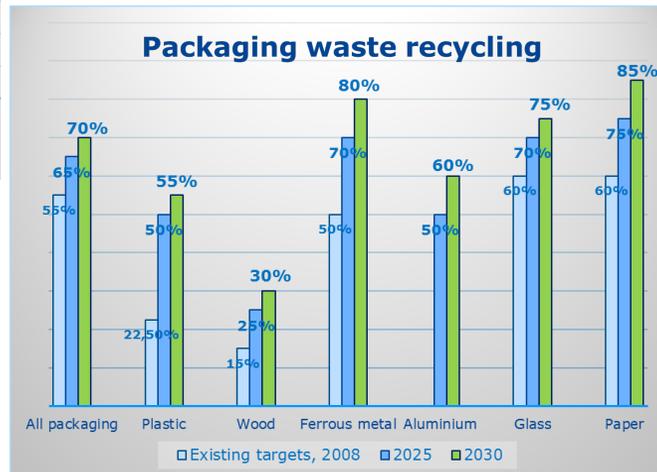
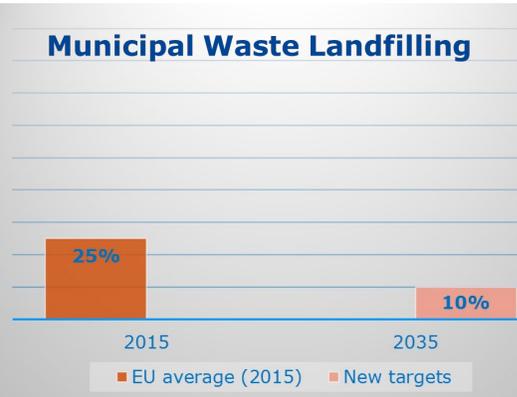
EU waste management policy: The Waste Hierarchy



2018 waste package

EU as a leading region in the world in turning waste into resources, future-oriented agenda:

- Gradual progress to **65% recycling** and **10% landfilling** of **municipal waste** by 2035
- 70% recycling of packaging waste by 2030
- Phasing out **landfilling** of all **recoverable waste**
- **Waste prevention** measures
- Reinforced rules on **separate collection** of waste
- **Extended Producer Responsibility**
- Economic/planning instruments



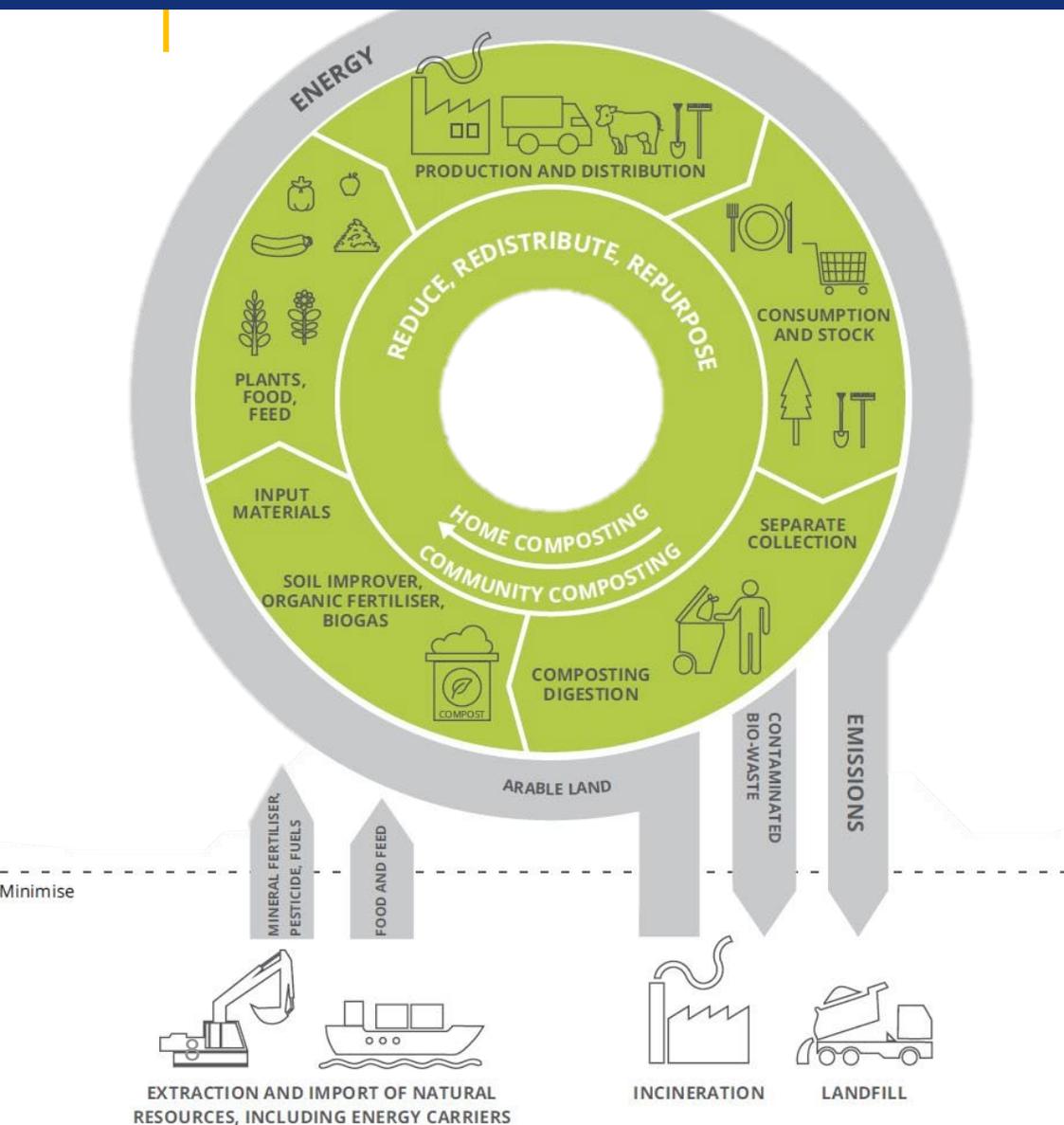
Biowaste and circular economy

European circular economy and waste policies increasingly address bio-waste as one of several key waste streams

Bio-waste — mainly food and garden waste – can play an important role in the transition to a circular economy, by both

- preventing its generation and
- capturing its potential as a source of valuable secondary resources e.g. valuable soil-improving material and fertiliser as well as biogas, a source of renewable energy

Bio-waste accounts **for more than 34 % of municipal solid waste generated**, amounting to 86 million tonnes in 2017 in the EU-28 (28 EU Member States for the period 2013-2020)



Farm to Fork Strategy

Tackling food loss and waste is key to achieving sustainability

Further actions to reduce food waste or transform them into valuable products, in synergy with the new CEAP



Across the 28 EU Member States:

- Approximately 88 million tonnes (173 kg per person) of food is wasted every year along the entire food value chain. This corresponds to about 20 % of all food produced
- Food waste (all steps of the lifecycle) accounts for at least 227 million tonnes CO₂ eq. a year, i.e. about 6% of total EU emissions in 2012

(EU FUSIONS, 2016).

Bio-waste obligations under new Waste Framework Directive

- **Recycling (and preparation for reuse) targets for municipal waste** (50% (2020), 55% (2025), 60% (2030), **65% (2035)**)
 - An obligation for all EU Member States to **collect bio-waste** separately or ensure recycling at source **by end of 2023**, and to ensure it is not incinerated
 - to reduce food waste generation in line with SDG12.3 to **halve food waste by 2030**, and to adopt specific food waste prevention programmes
 - Encourage food donation and other redistribution for human consumption
 - Measurement and reporting on food waste generation annually, starting in 2020.
 - A mandate for the Commission to propose a binding food waste reduction target by the end of 2023;
- With a share of 34 %, bio-waste is the largest single component of municipal waste in the EU

Bio-waste obligations under new Waste Framework Directive

- As of 1 January 2027 Member States may only count municipal bio-waste entering aerobic or anaerobic treatment as recycled if it has been **separately collected or separated at source** (Art 11a)
- Strict **recycling calculation rules** based on input into recycling (art 4 Decision 2019/1004)
- By 31 December 2024 Commission to **consider setting separate recycling targets for municipal bio-waste**
- Member States may allow **waste with similar biodegradability and compostability properties** to be collected together with bio-waste (Art 22.1)
- Obligation to set measures to
 - ❑ encourage the **recycling, including composting and digestion**, of bio-waste in a way that fulfils a high level of environment protection and results in output which meets relevant high-quality standards;
 - ❑ encourage **home composting**; and
 - ❑ promote the **use of materials produced from bio-waste**

Bio-waste related provisions in the Landfill Directive

- **Ban on the landfilling of separately collected waste** for recycling and preparation for reuse (Art 5)
- **Landfill reduction target** for municipal waste (max 10% by 2035) (Art 5)
- by 16 July 2016 **biodegradable municipal waste going to landfill** was to be reduced to 35% of 1995 levels (Art 5)
- **adequate pre-treatment of waste** before landfilling (clarification in ECJ ruling in the *Malagrotta* case) - but without compromising the waste hierarchy and recycling targets (Art. 6)

Separate collection of bio-waste

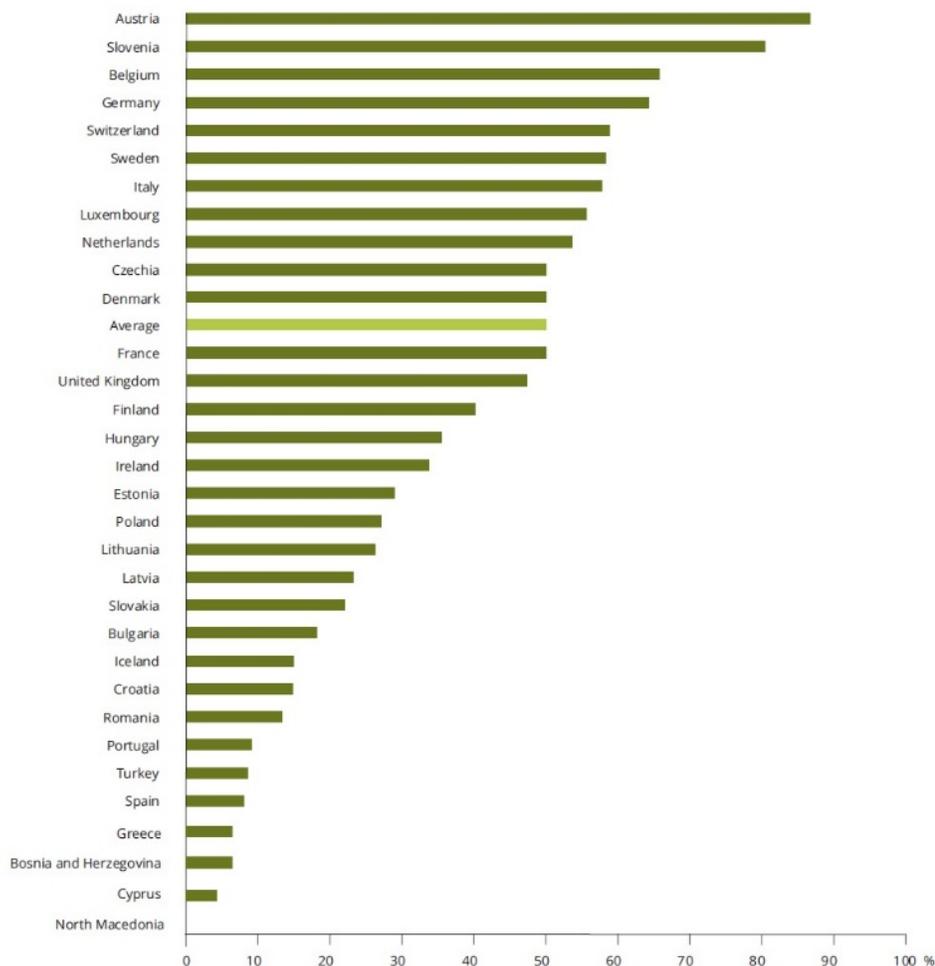
- a prerequisite for using bio-waste as a resource
 - enables high quality recycling of bio-waste for use as valuable secondary resources such as soil improvers, organic fertilisers and biogas
 - keeps the levels of impurities and contamination down as far as possible
- Implementing good bio-waste management systems is crucial
- Quality assurance systems covering all compost and digestates to improve trust in and awareness of the value of bio-waste
- In line with the Zero Pollution ambition set in the European Green Deal, when closing the circle of organic matter, we need to ensure that we do not contaminate in the process - soil, air and water
- E.g. Plastics need to be prevented from entering bio-waste
 - A high proportion of bio-waste still ends up in the mixed waste that is landfilled or incinerated,
 - plastic consumer products labelled as 'compostable' or 'biodegradable' without corresponding standards, instructions and infrastructure risk contamination of bio-waste and increase cost of treatment



MS have the obligation to ensure that recycling of bio-waste results in an output which meets relevant high quality standards and also fulfils a high level of environment protection

Bio-waste collection rates in 32 European countries

Bio-waste collected separately as a share of bio-waste generated (bio-waste capture rate), by country for 32 EEA member and cooperating countries, 2017



- About 50 % of the municipal bio-waste generated is collected separately in the countries that provided data (weighted average)
- The remaining 50 % of municipal bio-waste is collected with residual (mixed) waste
- The separate collection rates vary from 80 % or more in Austria and Slovenia to less than 10 % in Bosnia-Herzegovina, Cyprus, North Macedonia, Portugal, Spain and Turkey, demonstrating ample room/need for improvement at an individual country level

Notes: Excluding Albania, Kosovo, Liechtenstein, Malta, Montenegro, Norway and Serbia due to a lack of data. Data exclude bio-waste composted at home. Austrian data include a considerable share of park and garden waste.

Source: ETC/WMGE compilation based on data provided by Elonet through an EEA and ETC/WMGE survey (ETC/WMGE, 2019a), Eurostat (2020), and the European Reference Model on Municipal Waste (ETC/WMGE, 2019b) for Belgium, Bulgaria, Croatia, Cyprus, Czechia, Estonia, Germany, Greece, Italy, Lithuania, Luxembourg, Poland, Spain and the United Kingdom.

Figure: EEA 2020



Key factors of a successful system for separate bio-waste collection and management

Bio waste type e.g.

- Food waste
- Garden waste

Clear set of Objectives

Treatment infrastructure

- Community level
- Centralised

Selection of collection system e.g.

- door-to-door systems,
- street drop-off points, civic amenity sites,
- on-demand-collection.

Economic incentives

Administration of the scheme

Financial details

Targeted territory

Awareness raising

Bio-waste, circular economy and energy union

- Waste prevention is environmentally most preferable
- In line with the waste hierarchy, the bio-waste treatment technology which allows the highest exploitation of material and energy, is generally the preferable environmental option
 - The most common treatment methods for separately collected food/bio-waste, in line with circular economy principles, are **anaerobic digestion and composting**
- Commission Communication on the role of waste to energy in the circular economy (2017): anaerobic digestion is an attractive and optimal option to treat biodegradable waste while keeping it away from landfill sites
 - For instance, diverting one tonne of biodegradable waste from a landfill towards anaerobic digestion to produce biogas and fertilisers can prevent up to 2 tonnes of CO₂ equivalent emissions

Bio-waste, circular economy and energy union

- Member States to implement according to the local situation
- Best available technology **that can extract more materials and/or energy from bio-waste with the minimum environmental and climate impact possible**
 - This is confirmed by a life-cycle analysis carried out by the European Commission's Joint Research Centre (JRC, 2011) which identified a 'hierarchy' of options for bio-waste*
- EU Structural Funds are available to support prevention of waste, composting, anaerobic digestion, and separate collection

*<https://publications.jrc.ec.europa.eu/repository/bitstream/JRC65851/d4a%20-%20guidance%20on%20lct&lca%20applied%20to%20bio-waste%20management%20-%20final%20-%20online.pdf>

Next steps - separate collection of waste

State of play

Recent studies carried out (EY*, EEA**)

Next steps by COM: (required by EGD and CEAP) Proposal for harmonizing separate waste collection systems in 2022:

- Identify good practices and develop minimum harmonized rules for efficient separate collection systems (incl. context-related aspects)
- Address effective combinations of separate collection models, the density and accessibility of separate collection points, taking account of regional and local conditions
- Aspects that facilitate consumer involvement

*https://ec.europa.eu/environment/waste/studies/pdf/15.1.%20EC_DGENV_Separate%20Collection_guidance_DEF.pdf

**<https://www.eea.europa.eu/publications/bio-waste-in-europe>



Thank you!

DG ENV website on waste

<https://ec.europa.eu/environment/waste/index.htm>

European Green Deal and Circular economy

<https://ec.europa.eu/environment/circular-economy/>