

12th October 2020 | 01:00 pm to 02:00 pm (CET)

ECN Public Session

Bio-waste in Europe: turning challenges into opportunities

Online meeting

Moderated by

Stefanie Siebert, Executive Director of ECN



 @compostnetwork

 @ECNnetwork

Bio-waste in Europe: turning challenges into opportunities

Key speech presented by

Almut Reichel

European Environment Agency (EEA)





Bio-waste in Europe – turning challenges into opportunities

Almut Reichel | ECN Annual meeting | 12th October 2020 | EEA

Overview

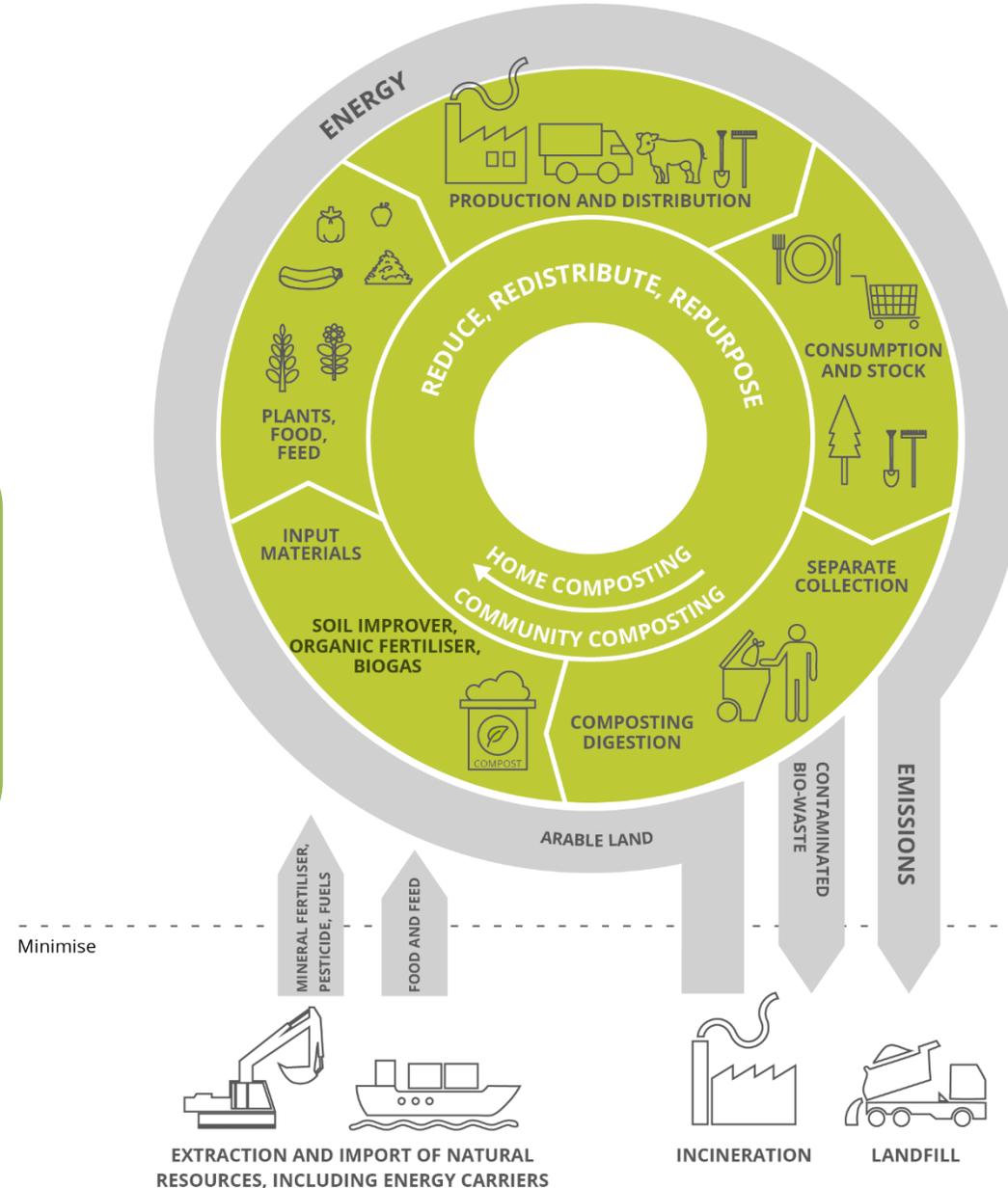
1. Introduction: bio-waste in a circular economy
2. Food waste prevention
3. Bio-waste management in Europe
4. Biodegradable and compostable plastics

Bio-waste in a circular economy

Bio-waste:

- Biodegradable garden and park waste,
- food and kitchen waste

- from households,
- offices,
- restaurants,
- wholesale,
- canteens,
- caterers,
- retail, and
- comparable waste from food-processing

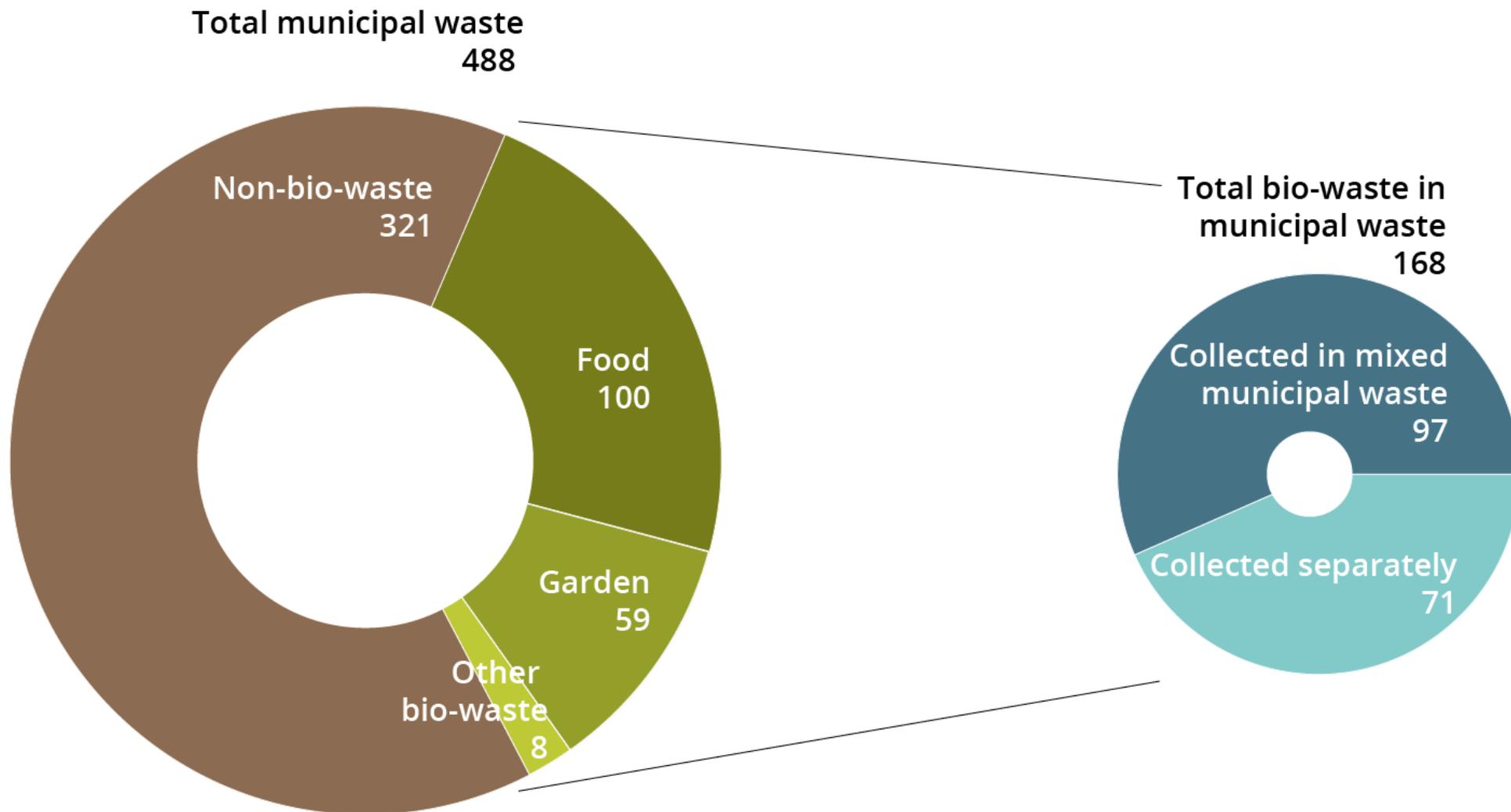


Waste Framework Directive:

- Separately collect bio-waste or ensure recycling at source by 2023
- Recycling and targets for municipal waste
- Monitoring food waste

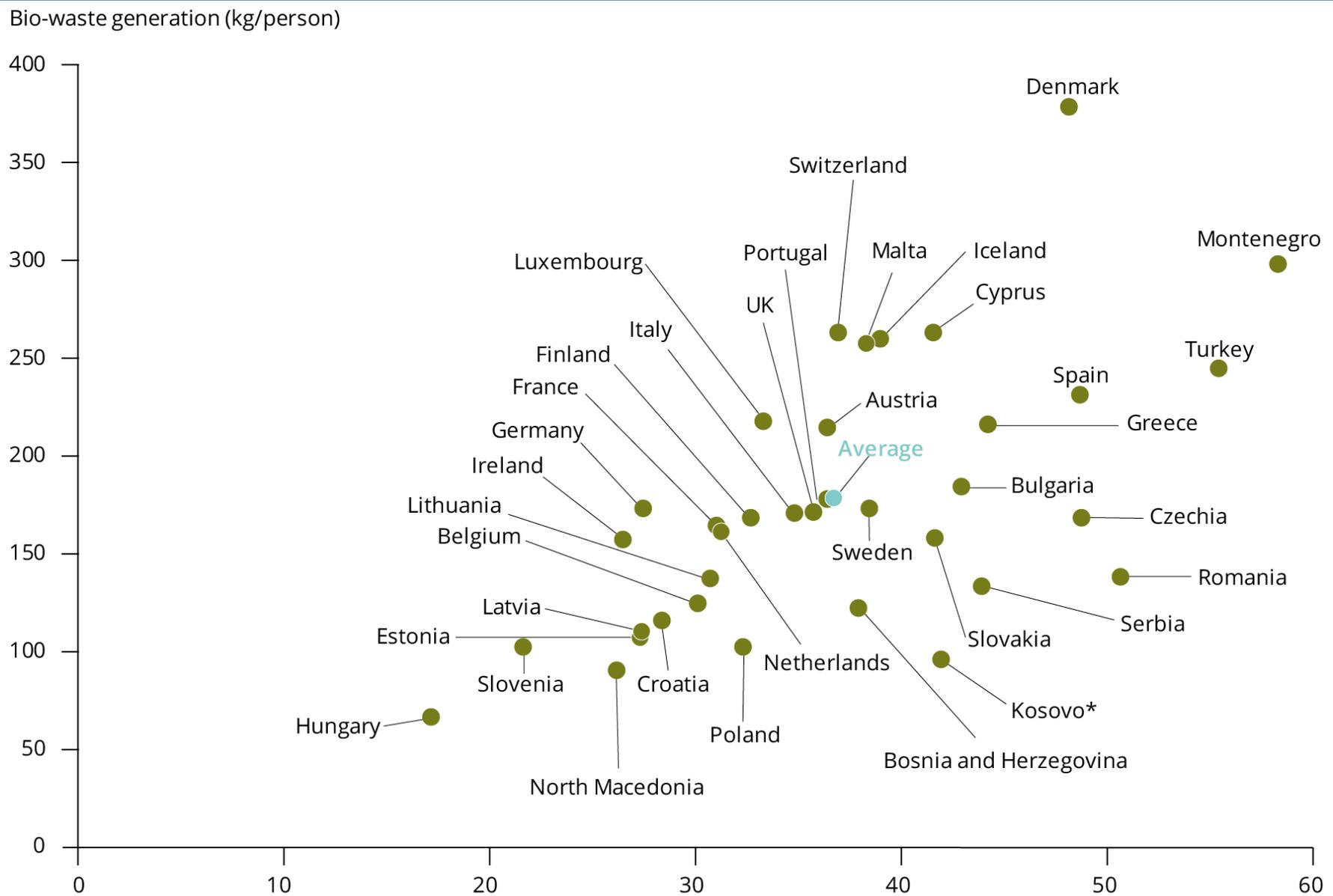
SDG: halve food waste by 2030

Bio-waste in municipal waste (EU-28)

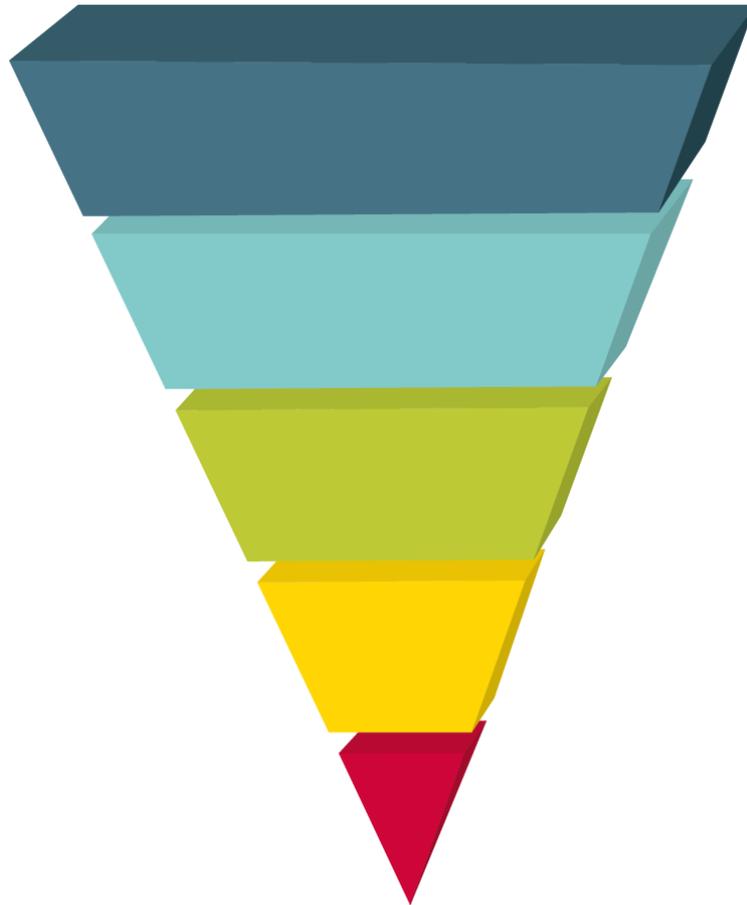


Unit = kg/person

How much bio-waste is there?



Food waste: prevent, reuse, recycle



Prevent

- Waste of raw materials, ingredients and products arising is reduced — measured in overall reduction in waste

Re-use

- Redistribution to people
- Sent to animal feed

Recycle

- Waste sent to anaerobic digestion
- Waste composted

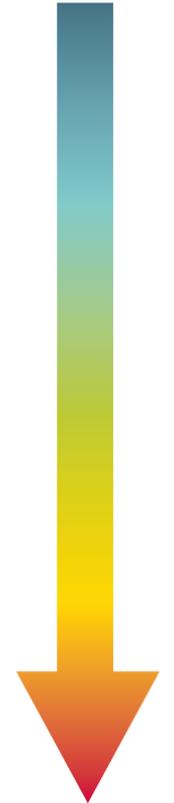
Recover other value

- Incineration of waste with energy recovery

Dispose

- Waste incinerated without energy recovery
- Waste sent to landfill
- Waste disposed of in sewerage system

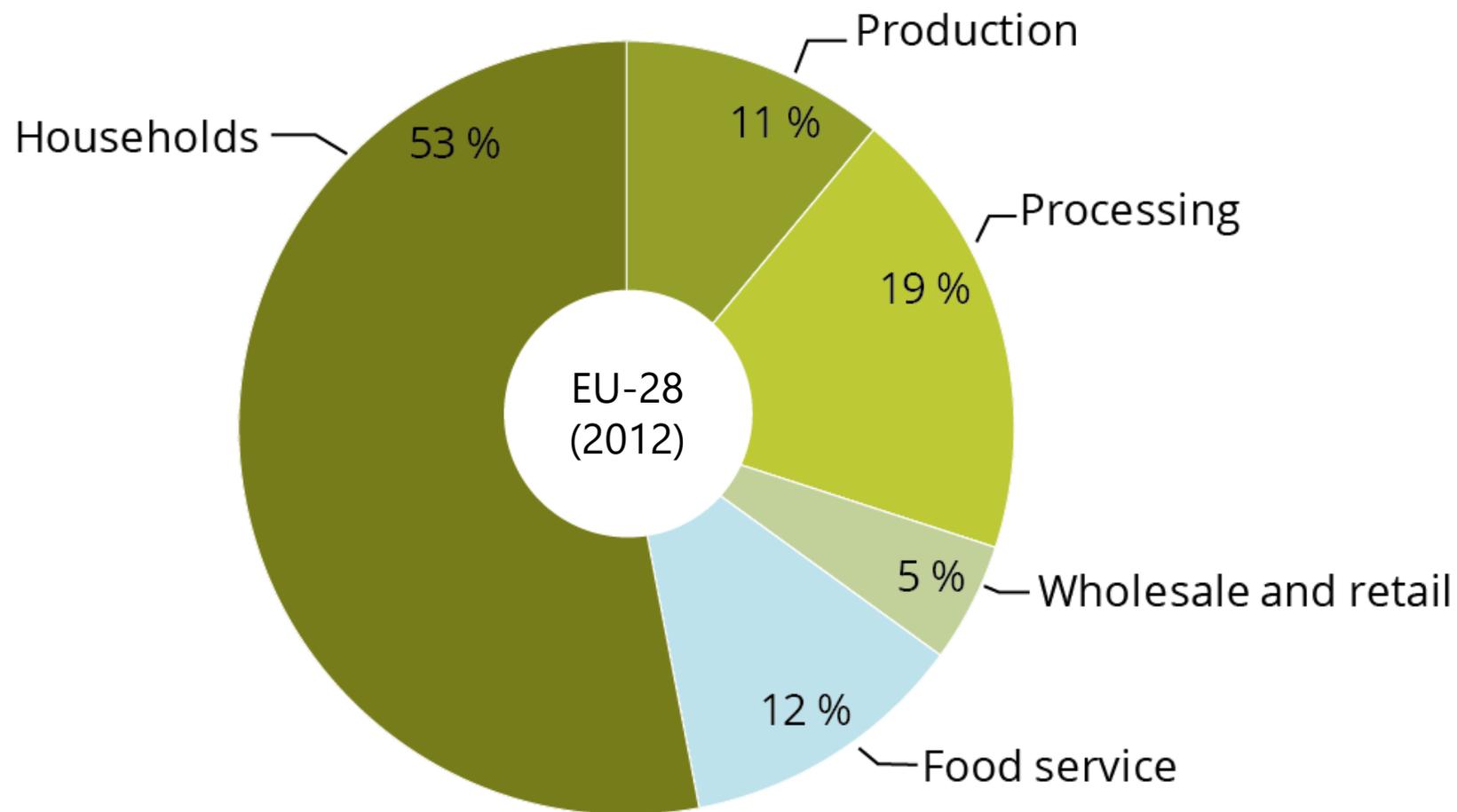
Most preferable option



Least preferable option

Source: Modified with permission from SEPA (2016)

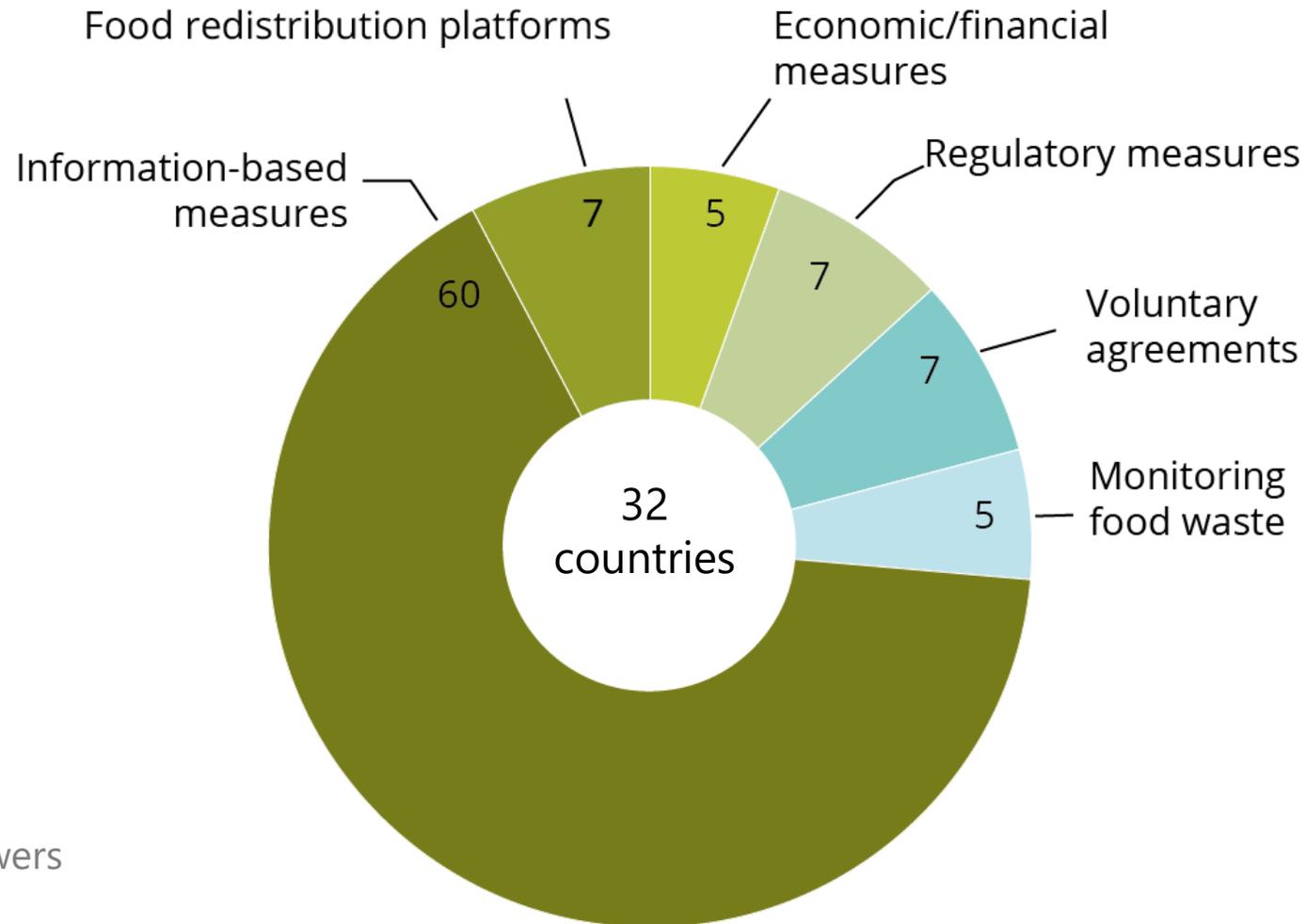
Food waste generation by sector



Source: Stenmarck et al. (2016)

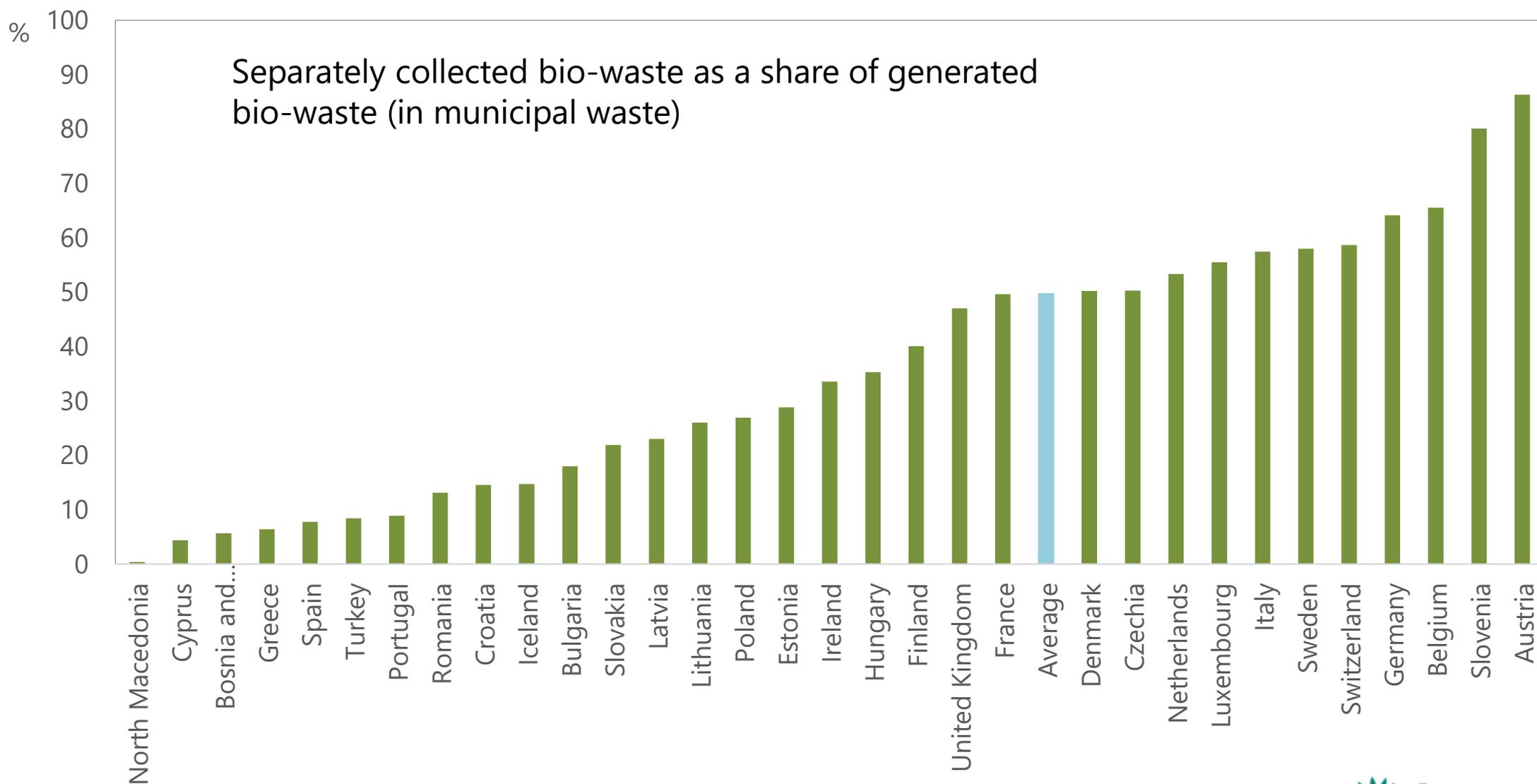
Food waste prevention policies

Number of measures not (yet) included in countries' waste prevention programmes



Source: Eionet answers to EEA-ETC/WMGE questionnaire (2019)

Separately collected bio-waste



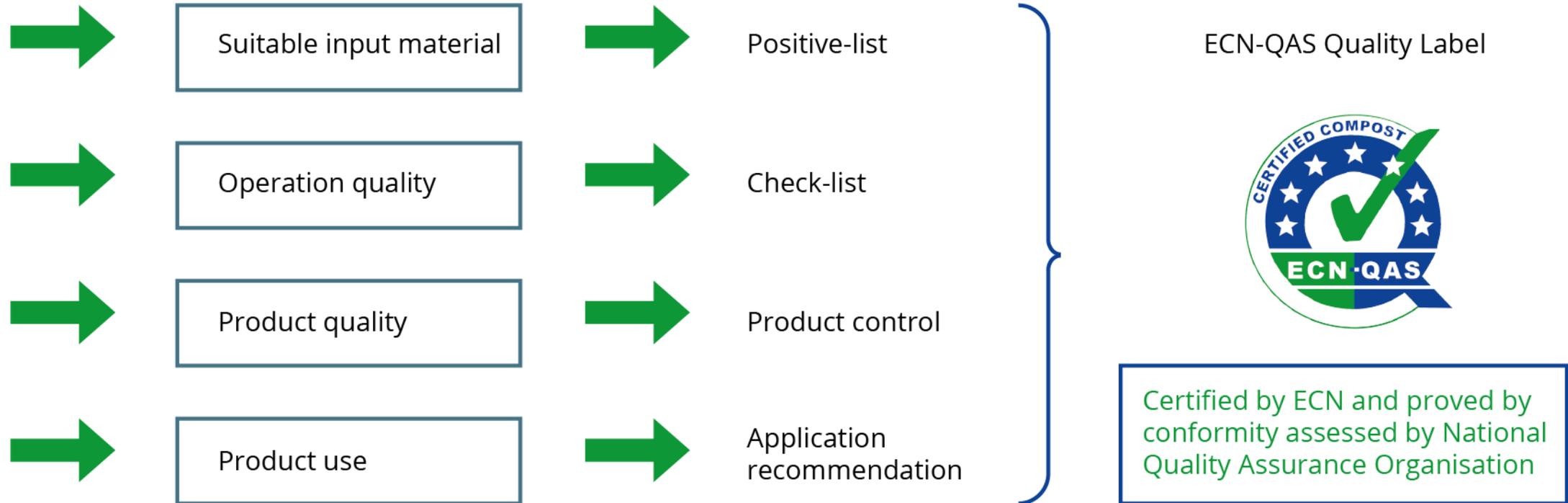
Source: EEA, based on provided by Eionet through an EEA and ETC/WMGE survey

The background of the slide features a close-up, slightly blurred image of food waste, including what appears to be a carrot and other vegetable scraps. A stream of water is visible in the upper right corner, cascading downwards. The overall scene is dimly lit, with the water providing a point of light contrast.

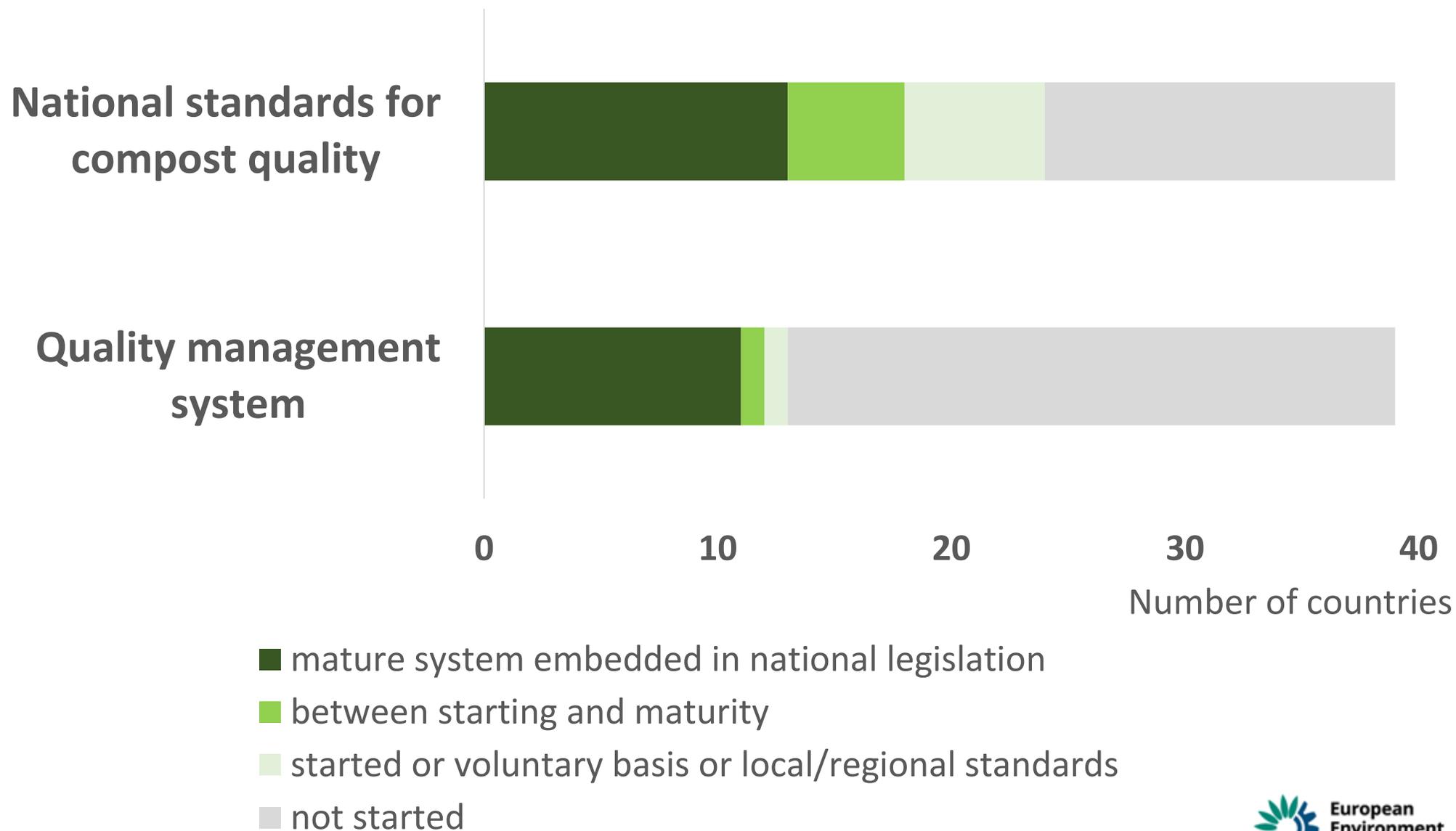
For feedback and discussion:

What is needed to get hold of the nearly 50 million tonnes of bio-waste ending up in the residual waste in the EU?

Quality management system

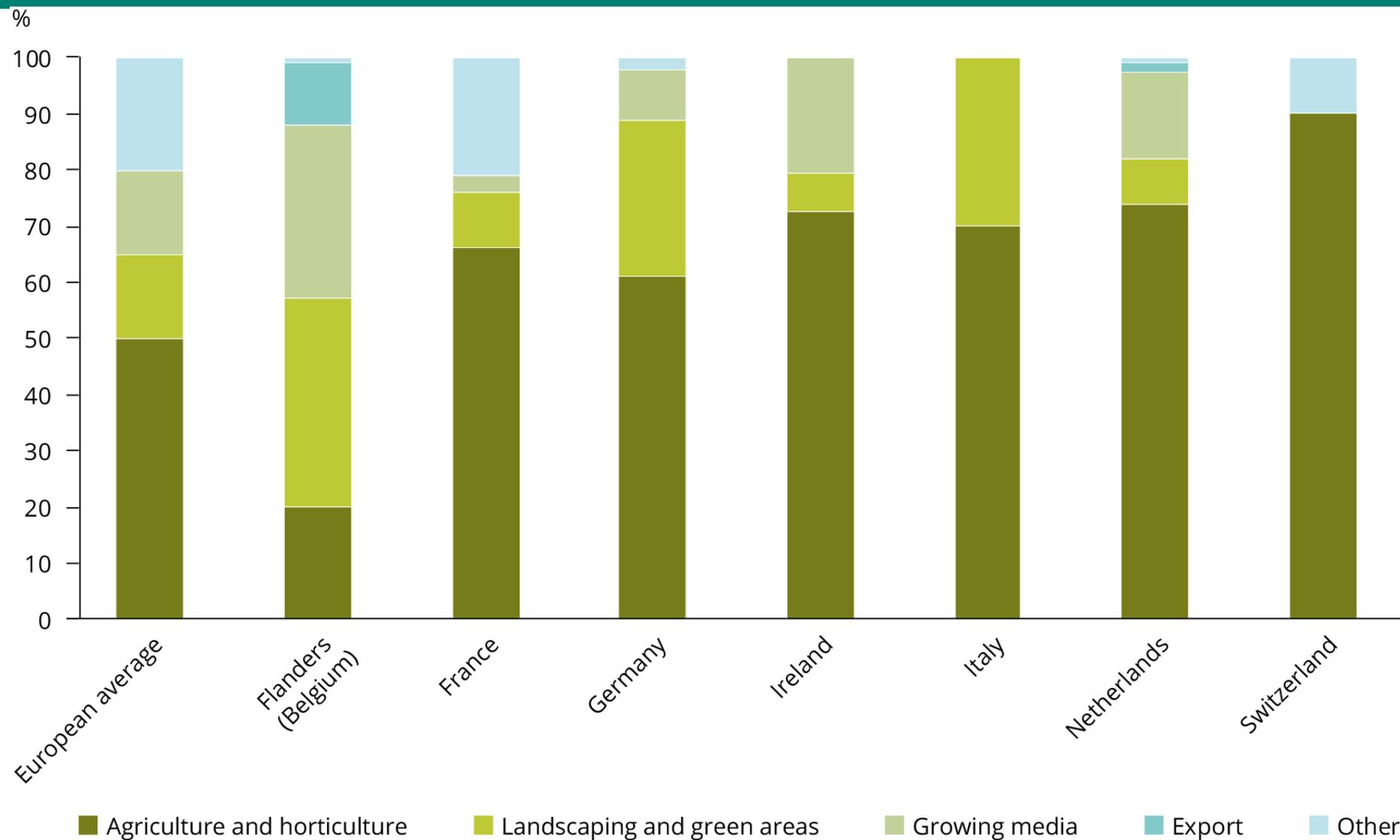


Quality assurance of compost



Source: EEA, based on information provided by Eionet through an EEA and ETC/WMGE survey

Market for compost



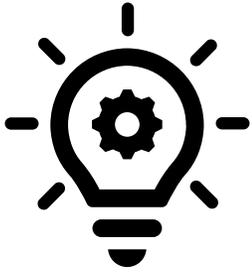
Source: EEA. Data for FR, IE, IT, NL from ETC/WMGE (2019a), for the European average from ECN (2019), for DE from BGK (2018), for Flanders from VLACO (2019), and for CH from Fuchs (2016).

Turning bio-waste into new products

If the bio-waste currently collected with mixed municipal waste was composted/digested, it could deliver another

- 134 000 tonnes of nitrogen fertilizer
- 44 000 tonnes of phosphate fertilizer

Emerging opportunities for higher-value products from bio-waste

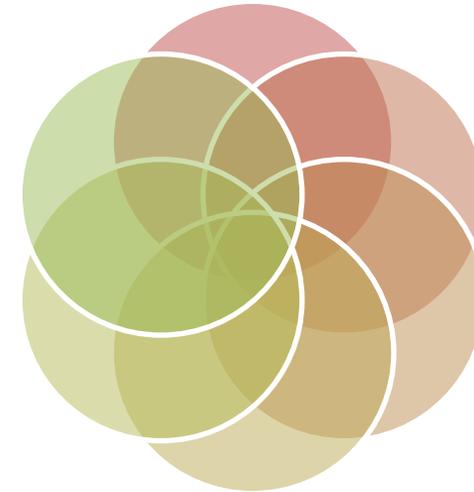


Bioethanol?

Animal feed and insect protein?

Volatile fatty acids?

Hydrochar and activated carbon?



Biohydrogen?

High-density biofuels?



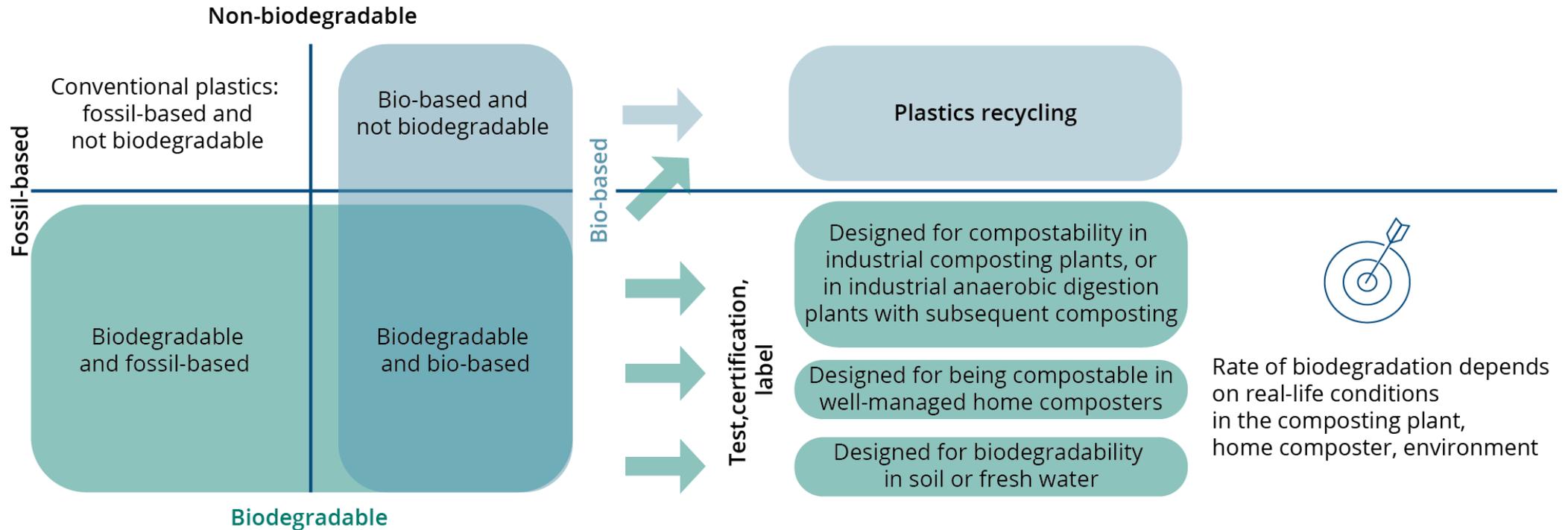
For feedback and discussion:

Future of bio-waste: from composting to bio-refinery – how can we extract more value from bio-waste?



Biodegradable and compostable plastics – challenges and opportunities

Biodegradable, compostable, bio-based...



- If and how quickly a plastic item biodegrades depends on: (1) if it is designed for biodegradation or composting and (2) the conditions it is exposed to after use and for how long.
- The conditions in home composters and in the open environment are very different compared to industrial composting plants and this affects the rate and extent of breakdown.

Consumer behaviour

- Many consumers struggle to understand the differences between biodegradable, compostable, bio-based plastics
- The term 'bioplastics' is often used but ambiguous
- Awareness is not necessarily followed by behaviour
- Will biodegradability claims lead to more littering? – poor evidence!
- Bad labelling practice in the market – confusing!

Standards and logo's

Environment	European Reference Standard	Certification and logos	Notes
Industrial composting	EN13432	    	EN 13432 refers to packaging. In addition, EN 14995 is a similar European standard for compostability of non-packaging products in industrial composting plants.
Well-managed home composting conditions	No European standard	  	The OK compost home label builds on a certification scheme developed by TÜV Austria Belgium NV. The DIN-Geprüft Home Compostable label is based on French standard NF T51-800 and/or the Australian standard AS 5810. National standards also exist in Belgium and Italy. A draft European standard exists for plastic carrier bags suitable for treatment in well-managed home composting installations (prEN 17427:2020).
Soil	EN17033		EN17033 applies to mulch films only.
		 	Based on a certification scheme developed by the label provider, but can be compliant with EN 17033 on request by adding two additional ecotoxicity tests.
Freshwater	No European standard	 	Based on a certification scheme developed by the label provider.
Marine water	No European standard	 	Based on a certification scheme developed by the label provider, using American standard ASTM D7081 (withdrawn) as a basis.

Source: EEA, with permission from certification organisations

Waste management of biodegradable/compostable plastics

Plastics recycling

Designed for compostability in industrial composting plants, or in industrial anaerobic digestion plants with subsequent composting

Designed for being compostable in well-managed home composters

Designed for biodegradability in soil or fresh water

- Currently biodegradable/compostable plastics is treated as impurity in plastics recycling
- Can in principle be recycled into new plastic
- Compostable bags can support bio-waste collection and reduce contamination with non-compostable plastics
- Acceptance of compostable bags depends on the technology of the composting/digestion plants

Policy implications for biodegradable plastics

- For which applications does it make sense to use them, and for which ones do they more harm than good?
- Some applications might need to be restricted
- Need for harmonised rules on labelling of compostable and biodegradable plastics
- Need for a clearer labelling and repeated information campaigns

For feedback and discussion:

**How far can biodegradable plastics help
keeping compost clean?**



Find the report and briefing at

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

<https://www.eea.europa.eu/themes/waste/resource-efficiency/biodegradable-and-compostable-plastics-challenges>

Contact: almut.reichel@eea.europa.eu

Announcement



A NEW BEGINNING FOR PEOPLE AND NATURE

#EUGreenWeek



Save Organics in Soil – Biological Cycle and Sustainable Agriculture

13th October 2020 | 09:00 am to 10:30 am (CET)
Live webinar on Webex platform

#EUGreenWeek #Saveorganicsinsoil



renew europe.



Hosted by

MEP Franc Bogovic and MEP Ensi Katainen

The debate is co-organized by the European Compost Network as online Webex meeting

Registration: <https://bit.ly/32MdVS2>

Date: 13 October 2020

Time: 09:00 am to 10:30 am