



WORLD CONGRESS
ISWA 2019
7-9 October Bilbao, Spain

Session: Benefits of compost and carbon on soils

Compost Production in Europe



European Compost Network ECN e.V.

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Outline

- **European Compost Network**
- **European Bio-Waste Management**
 - **Separate collection and bio-waste management**
 - **Compost production and Markets in Europe**
- **EU Circular Economy**
 - **Waste Legislation**
 - **EU Fertilising Product Regulation**

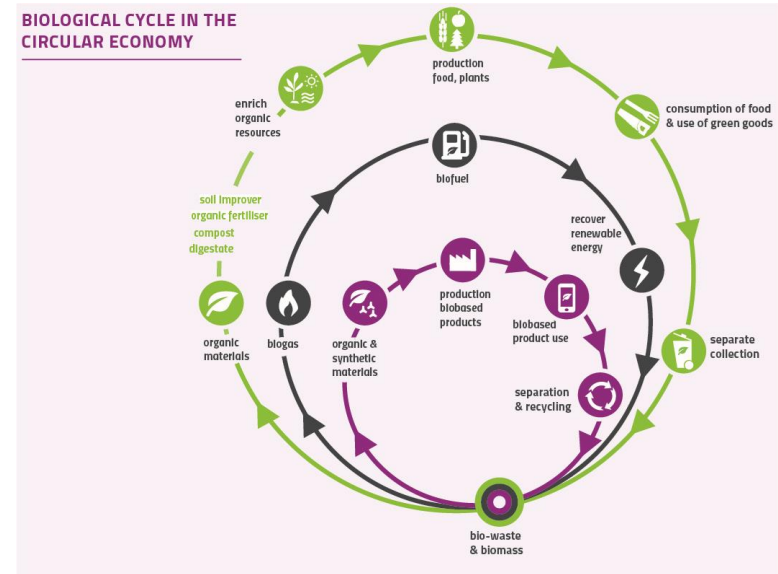


European Compost Network

ECN's Vision

“Living well within the limited resources of the planet respecting the organic cycle”

- ECN is the leading European membership organization
- Promoting sustainable recycling practices of organic resources: composting, anaerobic digestion...



63 members from 27 European countries

48 M tpa treatment capacities

4.500 treatment plants (composting & AD)



European Compost Network

ECN's objectives for the separate collection, biological treatment, production & use of quality compost and digestate :

1. FAVOURABLE LEGAL FRAMEWORK – EUROPEAN POLICY

Achieve an EU legal framework

2. MARKET DEVELOPMENT

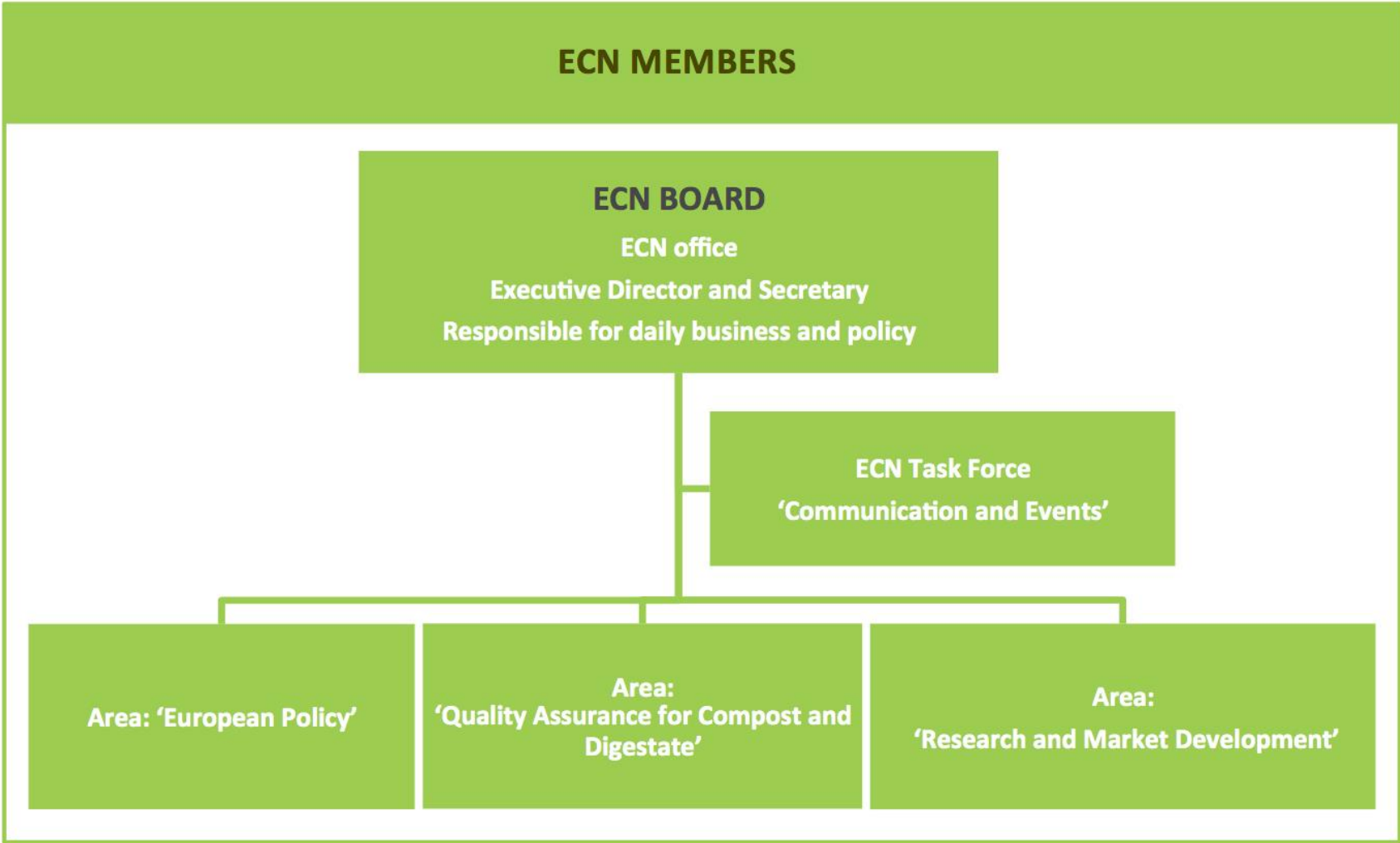
Achieve favorable market conditions across Europe

3. IMPLEMENTING QUALITY ASSURANCE SCHEMES

Achieve Europe wide implementation quality assurance schemes with ECN-QAS as a benchmark



European Compost Network - Work Structure



European Compost Network – ECN Board

ECN Board 2019

- **Kristel Vandebroek (BE, VLACO) - Chair**
- **Massimo Centemero (IT, Italian Composting Council, CIC) – Vice Chair**
- **Irmgard Leifert (DE, BGK) - Treasurer**
- Justine Faure (FR, Réseau Compost Plus)
- Susana Lopes (Lipor, Portugal)
- Domantas Tracevicius (LT, Biastra plius Ltd.)
- Tomasz Wojciechowski (PL, GWDA)
- Alin Murariu, (RO, Romanian Compost Association)
- Jens Måge, (NO, Avfall Norge)



State on Bio-Waste Management in Europe

ECN Status Report 2019

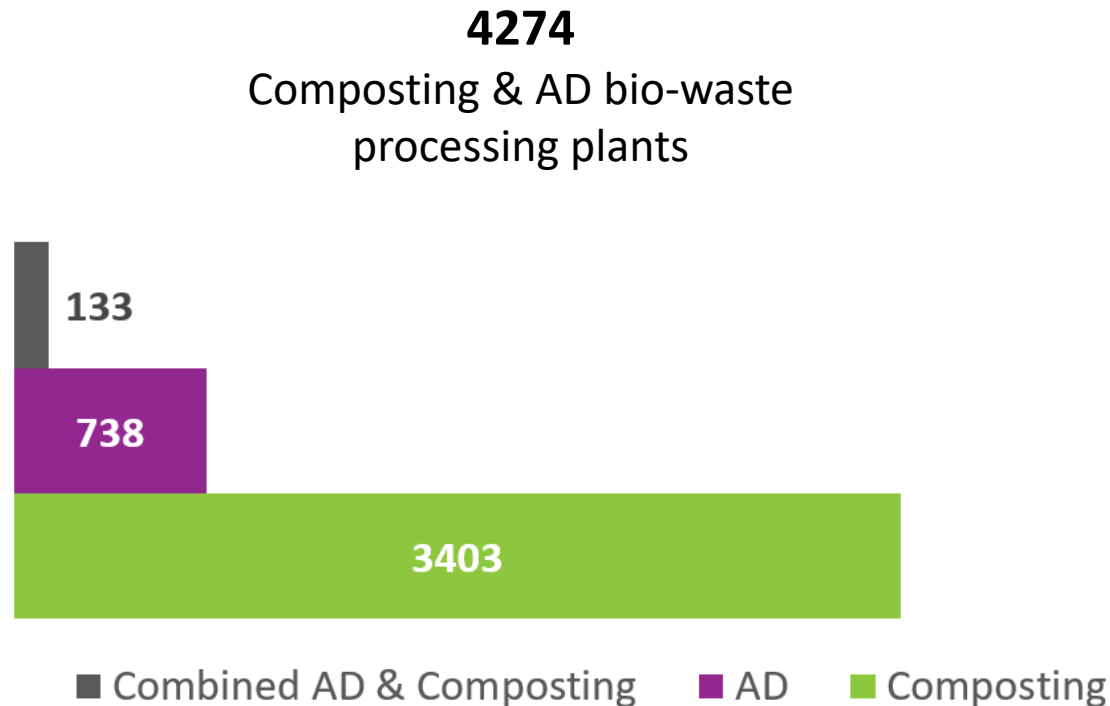
European Bio-Waste Management

Overview of bio-waste collection, treatment & markets across Europe

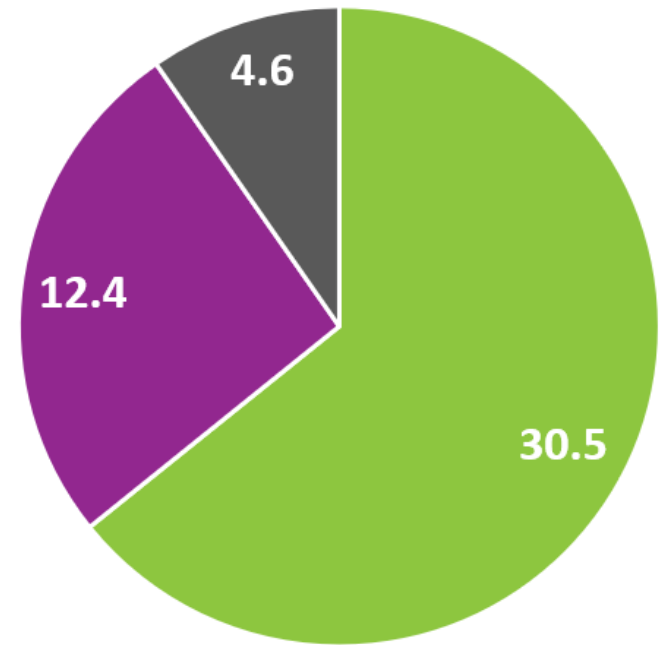
- Published by ECN, supported by ISWA WG BTW
- Data reporting results from 18 European countries



State on Bio-Waste Management in Europe



47,5 million tonnes
bio-waste composted / digested

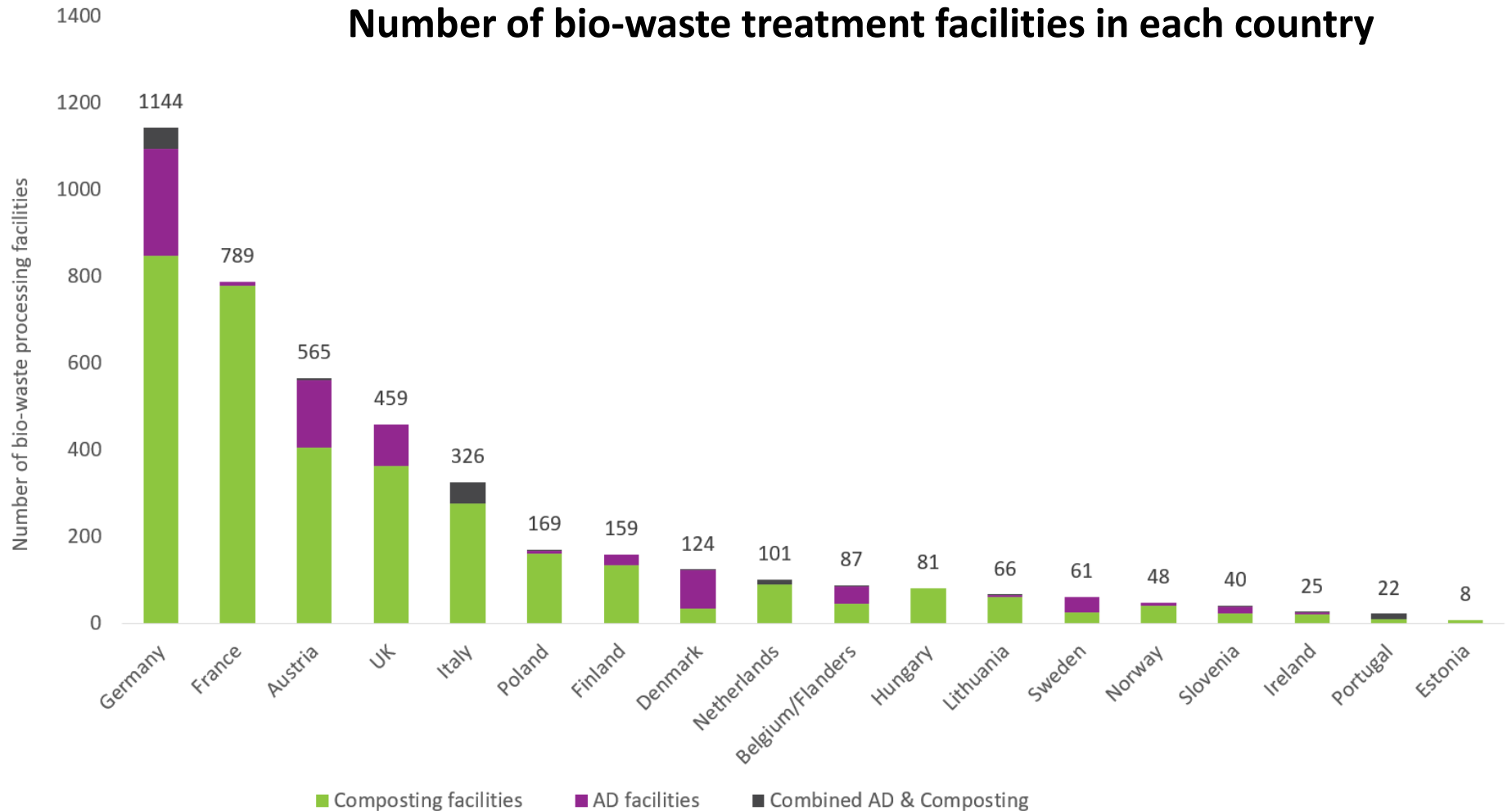


Source: ECN Status Report 2019, based on data from 18 European countries

* AT, BE, CH, DE, EE, FI, FR, HU, IE, IT, LT, NL, NO, PL, PT, SE, SI, UK

State on Bio-Waste Management in Europe

Number of bio-waste treatment facilities in each country

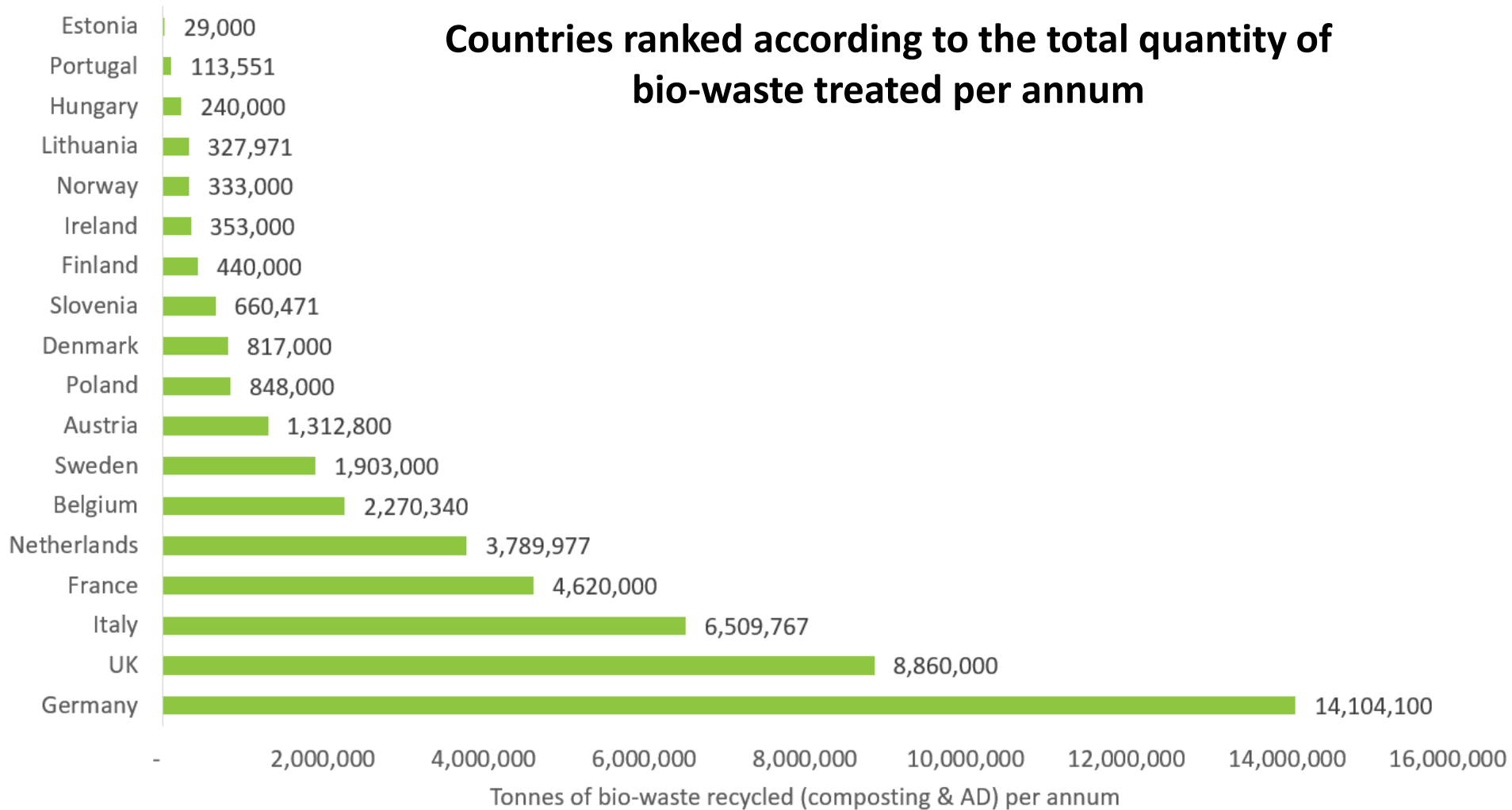


Source: ECN Status Report 2019, based on data from 18 European countries

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State on Bio-Waste Management in Europe

Countries ranked according to the total quantity of bio-waste treated per annum



Compost and Digestate Production

15.8 Mio. Tonnes of Compost and Digestate

if spread at 30 t/ha this should cover 528.000 hectares of land which results in **0.7% of the total arable land** across all 18 countries.



11.7
Million tonnes of
compost



4.1
Million tonnes of
digestate



Nutrients
129
Thousand tonnes of
NITROGEN RECYCLED



42
Thousand tonnes of
PHOSPHATE RECYCLED

(Theoretical estimates)

Carbon

3.5
Million tonnes
(dry mass) organic
carbon recycled

1.8
Million tonnes
(dry mass) humic
substances recycled



- **1.5 % of Total Inorganic Nitrogen***
- **4.3 % of Total Inorganic Phosphorus***

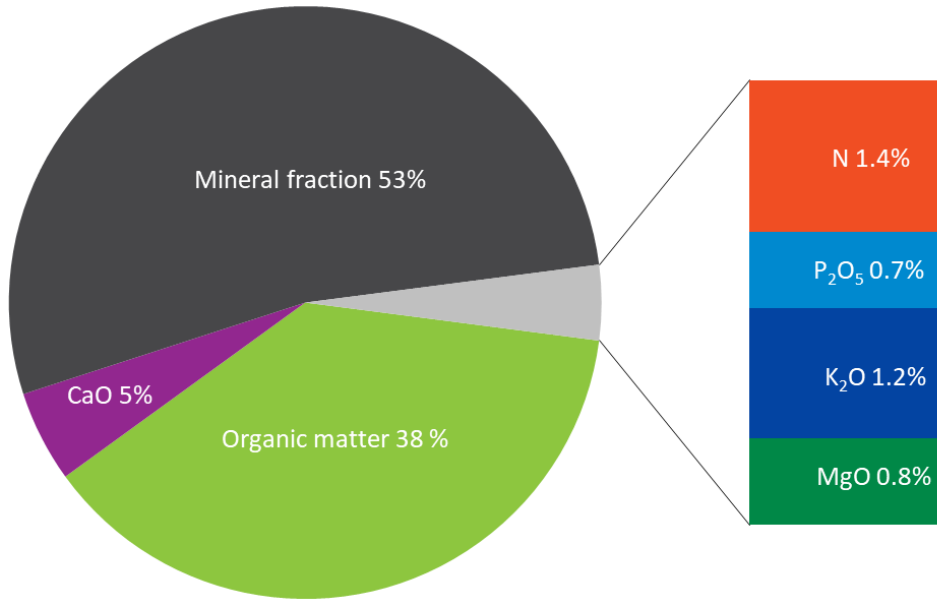
* consumed in 18 countries in 2016

Source: ECN Status Report 2019, based on data from 18 European countries

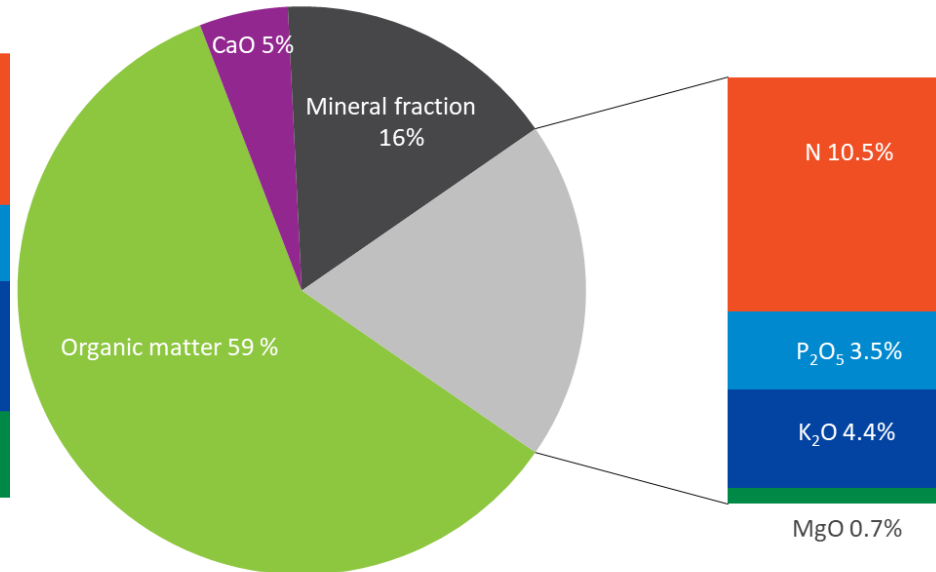
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Compost & Digestate – Nutrients and Organic Matter

Compost Typical Composition (% dry matter)



Digestate typical composition (% dry matter)



Carbon Recycling with Compost

11,7 Mio. tonnes of compost (fresh matter basis)

- 3,5 Mio. tonnes of organic matter (dry matter basis)

1 tonne of fresh compost = 300 kg organic matter

Application of 30 tonnes per hectare of fresh compost

- 9 tonnes of organic matter is added to the soil

Compost can play an important role in maintaining and increasing the soil organic matter!



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Source: ECN Status Report 2019

Soil organic matter in Europe



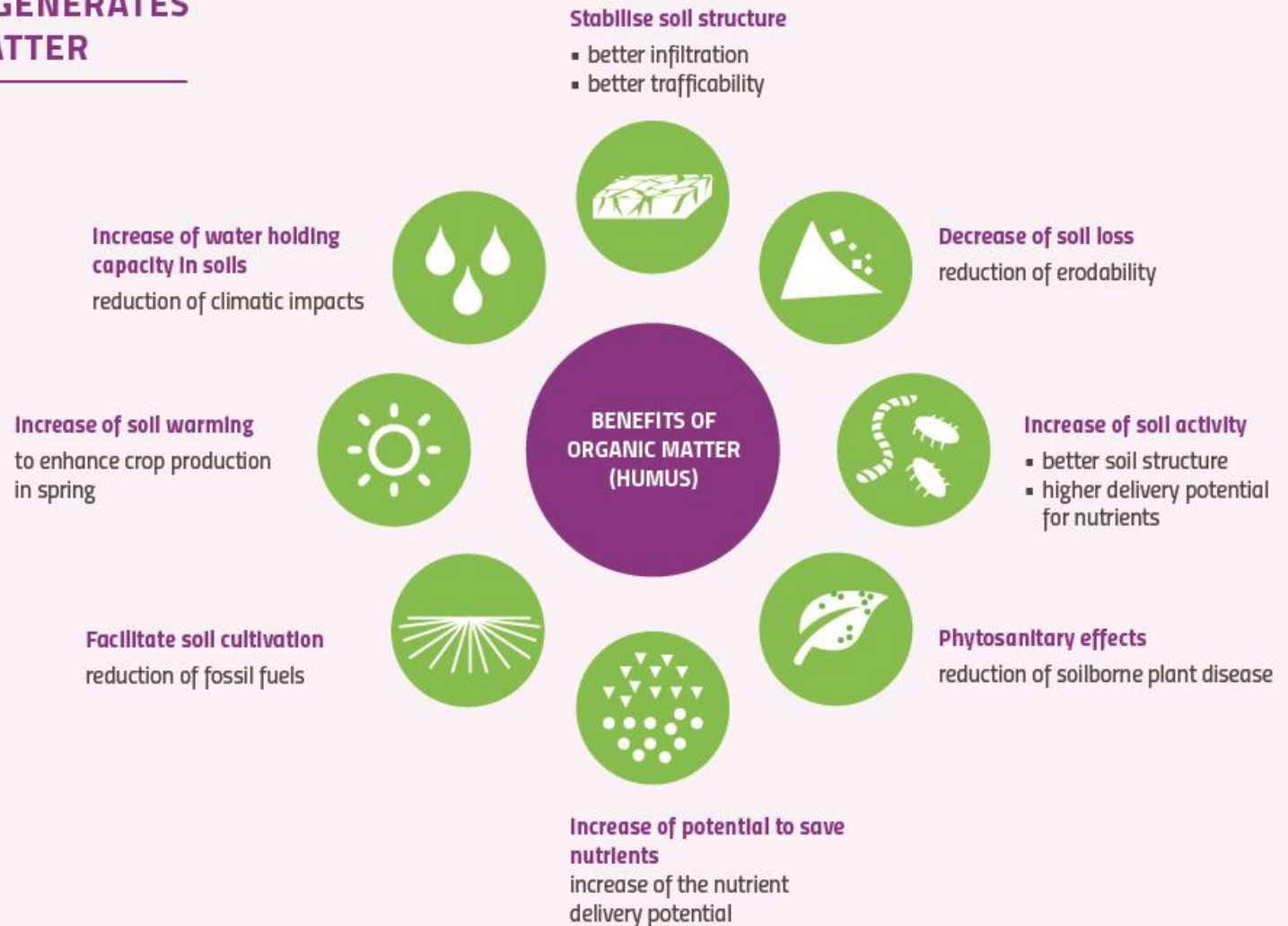
Source:

<https://esdac.jrc.ec.europa.eu/ApplicationAndServices>

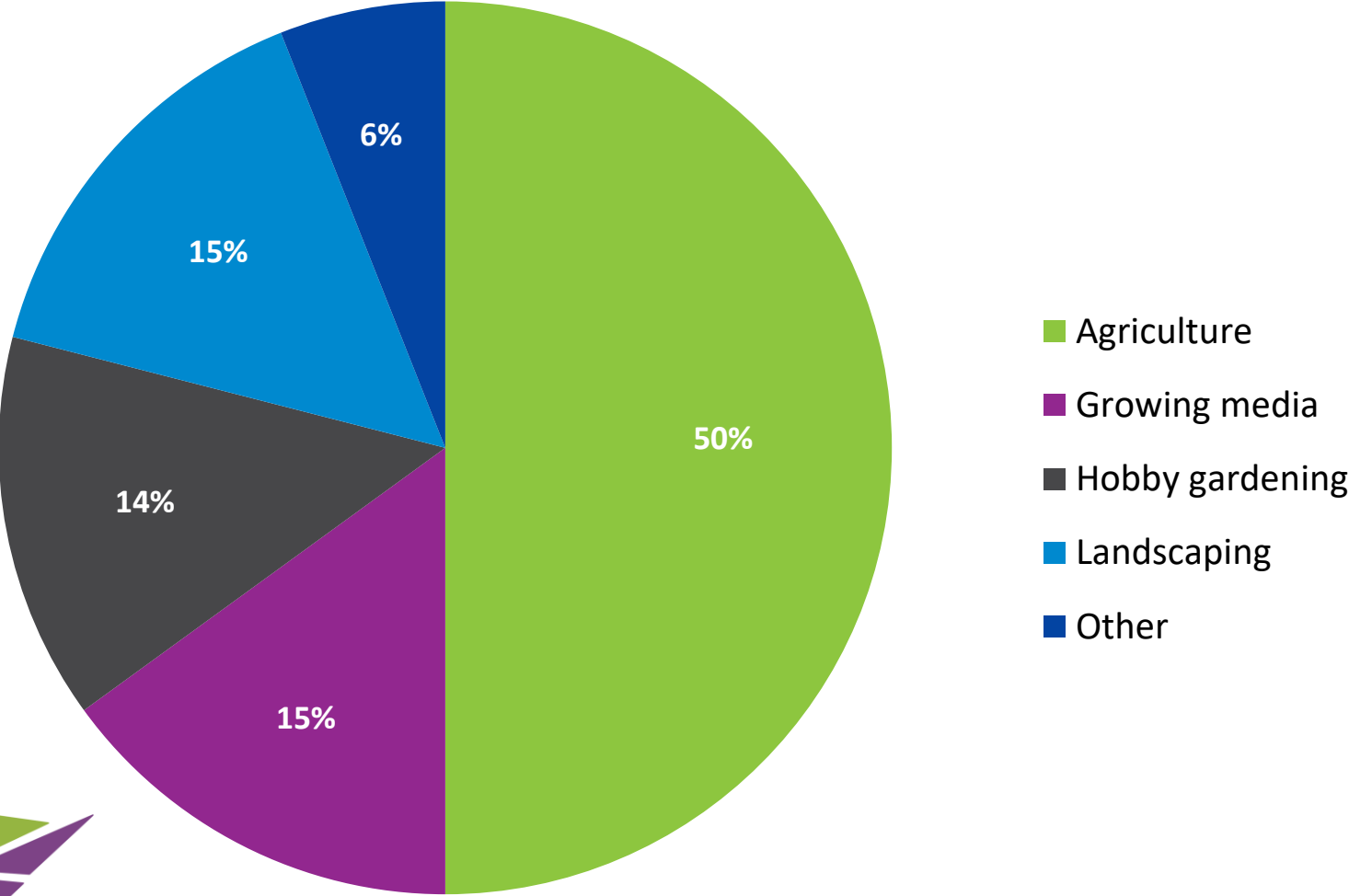
This map of predicted distribution of SOC content in Europe (2016) are based on aggregated 23,835 soil samples collected from the LUCAS Project (samples from agricultural soil), BioSoil Project (samples from forest soil), and Soil Transformations in European Catchments (SoilTrEC) Project (samples from local soil data coming from five different critical zone observatories (CZOs) in Europe)

Benefits of Carbon Recycling with Compost

BIO-WASTE GENERATES ORGANIC MATTER



European Compost Markets



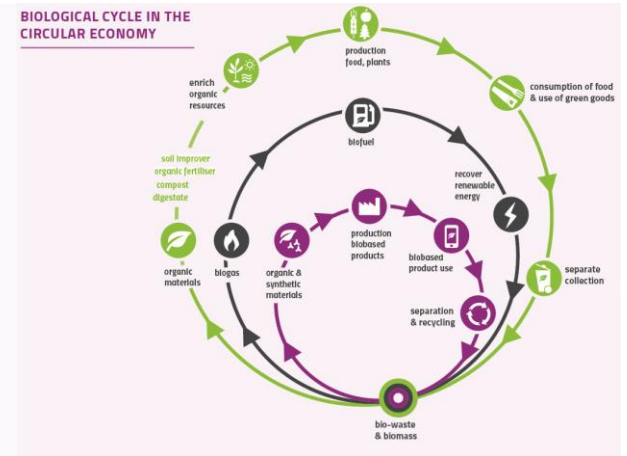
Source: ECN Status Report 2019

The EU Circular Economy

Objectives

- Reduction of waste production in Europe
- Promoting recycling
- Saving primary resources

BIOLOGICAL CYCLE IN THE CIRCULAR ECONOMY



➤ Revision of the Waste Framework Directive and Landfill Directive

- **Status: Adopted and implementation in Member States**

- Establishing of markets for secondary products

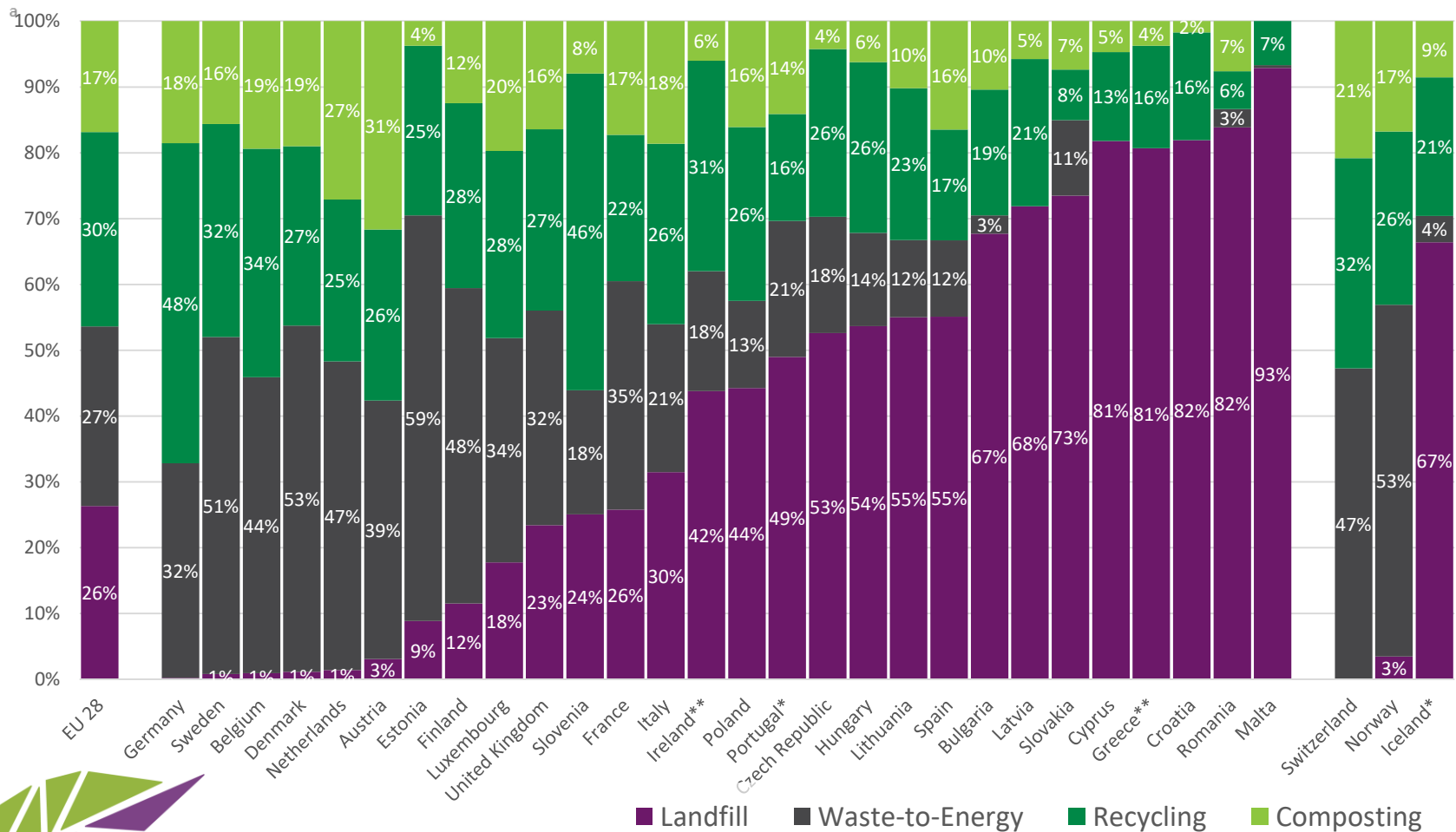
➤ Revision of the EU Fertilising Regulation –

- **Status: Adopted and implementation in Member States**



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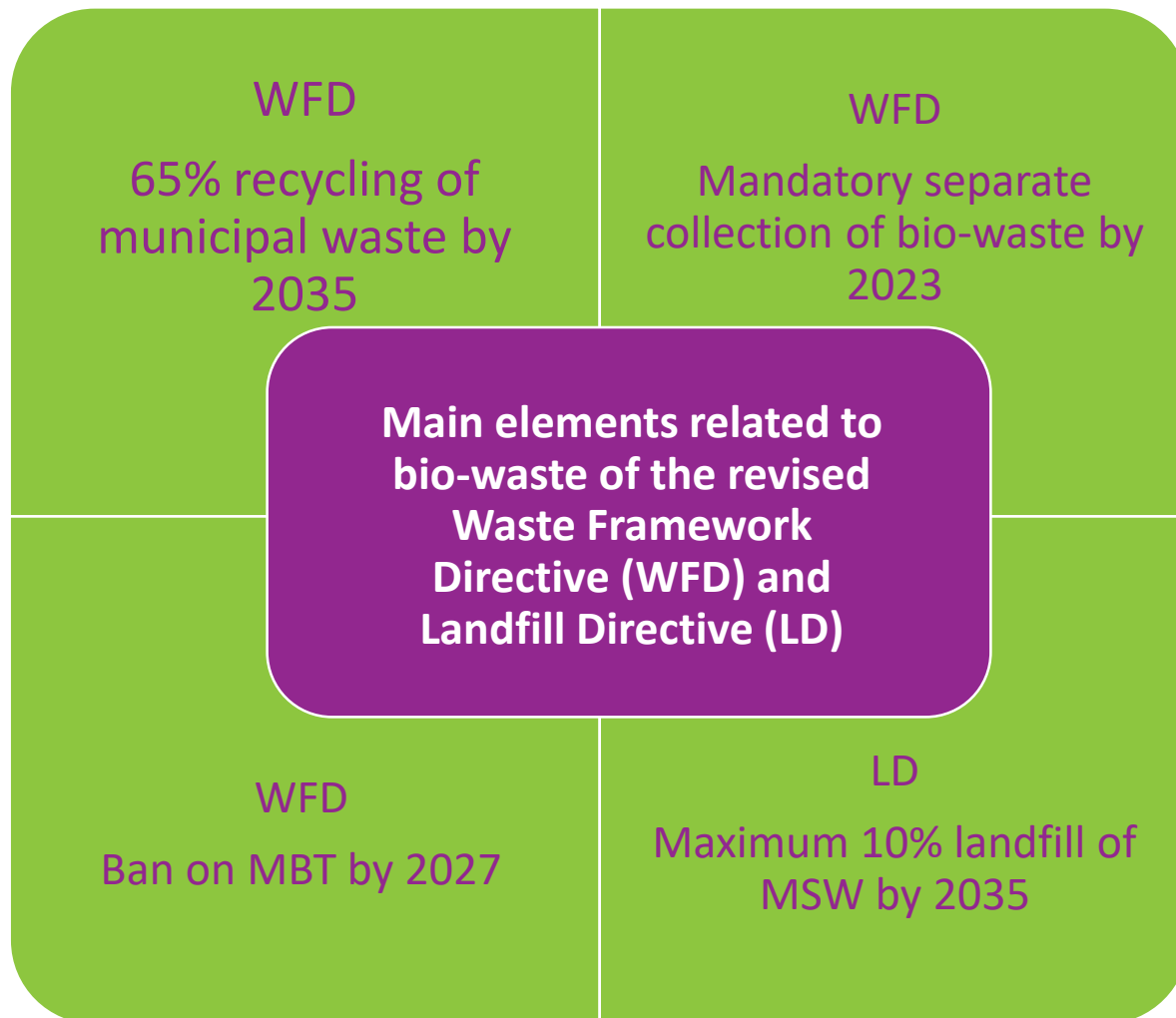
Status on MSW Management in Europe 2016



* : 2014 data (most recent data available)
 ** : 2012 data (most recent data available)

Source: EUROSTAT 2017

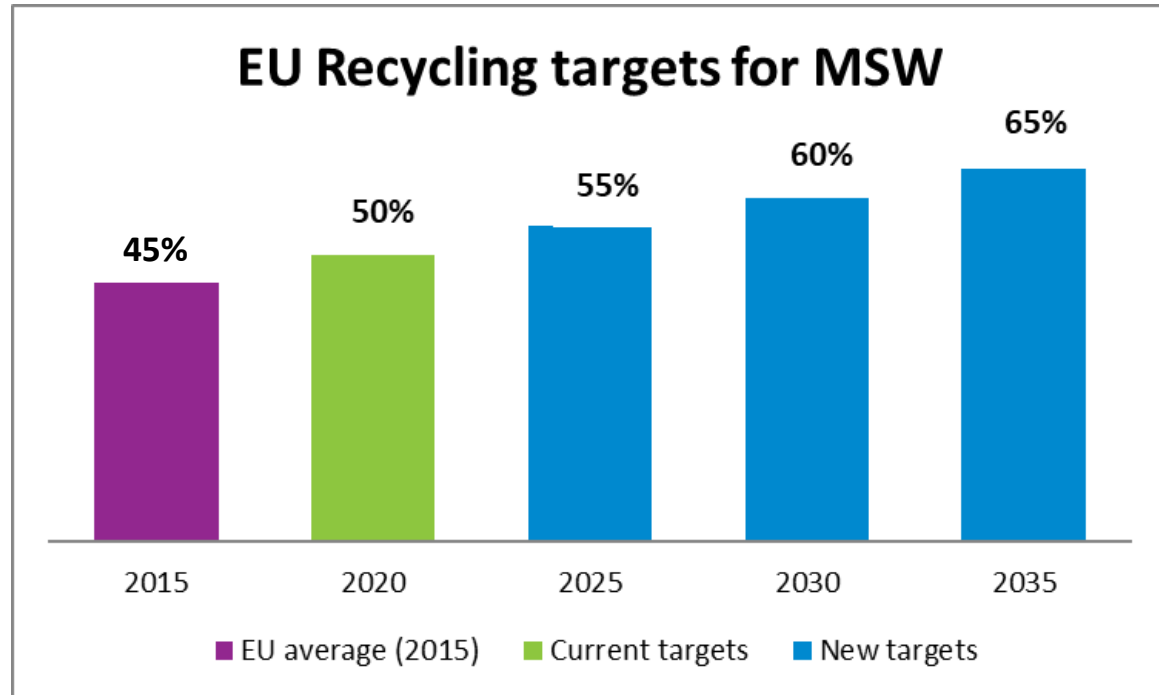
EU Circular Economy - Waste Legislation



Circular Economy - Waste Legislation

EU Recycling targets for MSW

- 5-year extension for countries with a low starting point
 - 11 MS: EE, EL, HR, CY, LV, LT, HU, MT, RO, SK, BG
 - Implementation + interim targets
- Single calculation method
 - Harmonised definition of municipal waste
 - Reporting input to recycling
- High Quality recycling of biowaste
 - Counting only separately collected and recycled bio-waste as of 2027



Source: EU COM/DG ENV 2018:

http://ec.europa.eu/environment/waste/target_review.htm

CE- WFD - Implementation decision on WFD

- Mandatory separate collection of bio-waste or separated at source by 31 Dec. 2023 (§22)
- MBT will no longer count towards recycling targets as of 1/1/2027 (§11a (4a))

Calculation rules for municipal bio-waste separated and recycled at source



Input



Removed fraction



Recycled material

EU Fertilising Product Regulation

Commission proposal COM(2016)157 final, published 17 March 2016

Objectives

- **Boosting organic matter (biowaste) recycling** from biowaste within CEP
- **Integration of organic fertilising products** into the scope of the NFR
- Introducing **harmonised EU rules for products** diverting from organic waste materials
- Creating access to CE marking and **free trade for organic fertilising products across EU**
- **Optional Harmonisation**, free choice to opt for compliance with national rules for fertilising products restricted to national markets or CE marked fertilisers with unrestricted access to EU market



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Structure of the EU Fertilising Product Proposal

Exhaustive list of Component Materials

Categories CMC (11)

- Quality
- Safety
- ...

CMC 3 Compost
CMC 5 Digestates other than from energy crops

Exhaustive list of Product Function Categories

PFC (7)

- Quality
- Safety
- Declaration
- ...

PFC 1 A. Organic fertiliser
PFC 3 A. Organic Soil Improver
PFC 4 Growing Media
PFC 7 Fertilising Products Blends

Conformity assessment procedure related to 'CMC/PFC' combination

- Modul A - D1
- Declaration of conformity

Modul D.1
Quality Assurance of Process and Products



Fertiliser Regulation - Quality assurance

Quality Assurance is a pre-condition for placing compost- or digestate-based fertilising products on the European Market

- External control of the quality assurance system by an accredited notified body



Further information

ECN Homepage:

www.compostnetwork.info

- ECN Status Report
- Factsheets
- ECN E_Bulletin
- Country reports
- ECN-QAS Manual

