

Biowaste in the Circular Economy

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European Compost Network ECN e.V.



ECN | **Biowaste in the
Circular Economy**

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KEY MESSAGES TODAY



1. The role of biowaste in a Circular Bio-Economy
2. Progress in managing municipal solid biowaste in EU
3. Key benefits from biowaste recycling
4. ECN recommendations on the waste proposal



European Compost Network

Vision

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

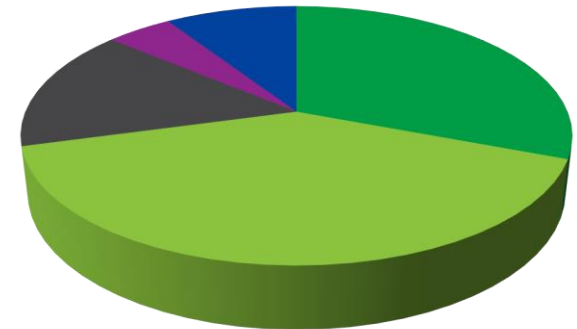


ECN: Leading European organization promoting **sustainable** composting, anaerobic digestion and other biological treatment of organic resources.



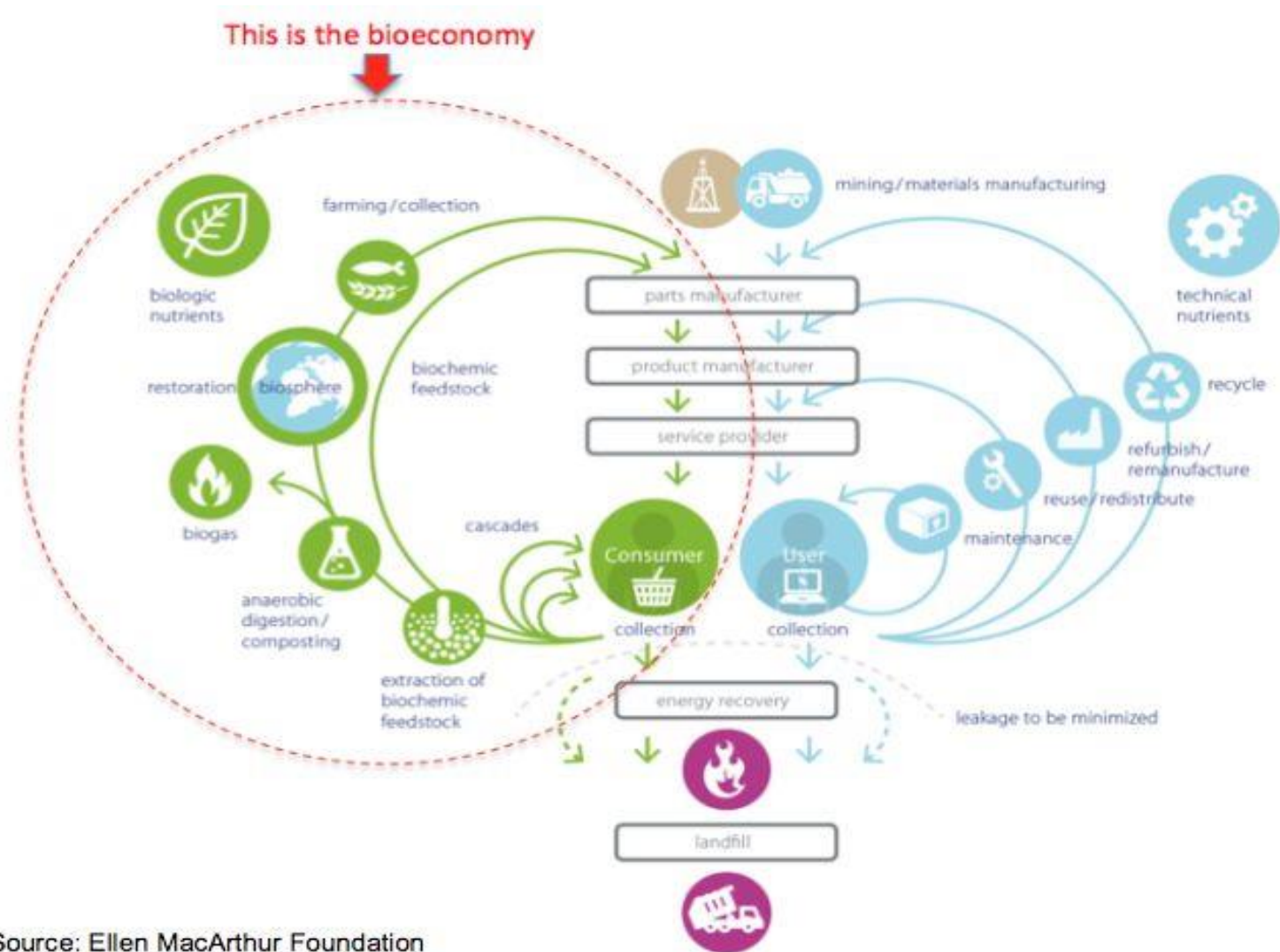
European Compost Network - who are we?

- 67 Members from 27 European Countries
- Represents more than 3.500 treatment plants (composting and anaerobic digestion) with more than 33 M tpa treatment capacities
- Compost and digestate production of 12-15 M tpa, used as
 - Organic Fertiliser
 - Soil Improver
 - Mixing component in Growing Media



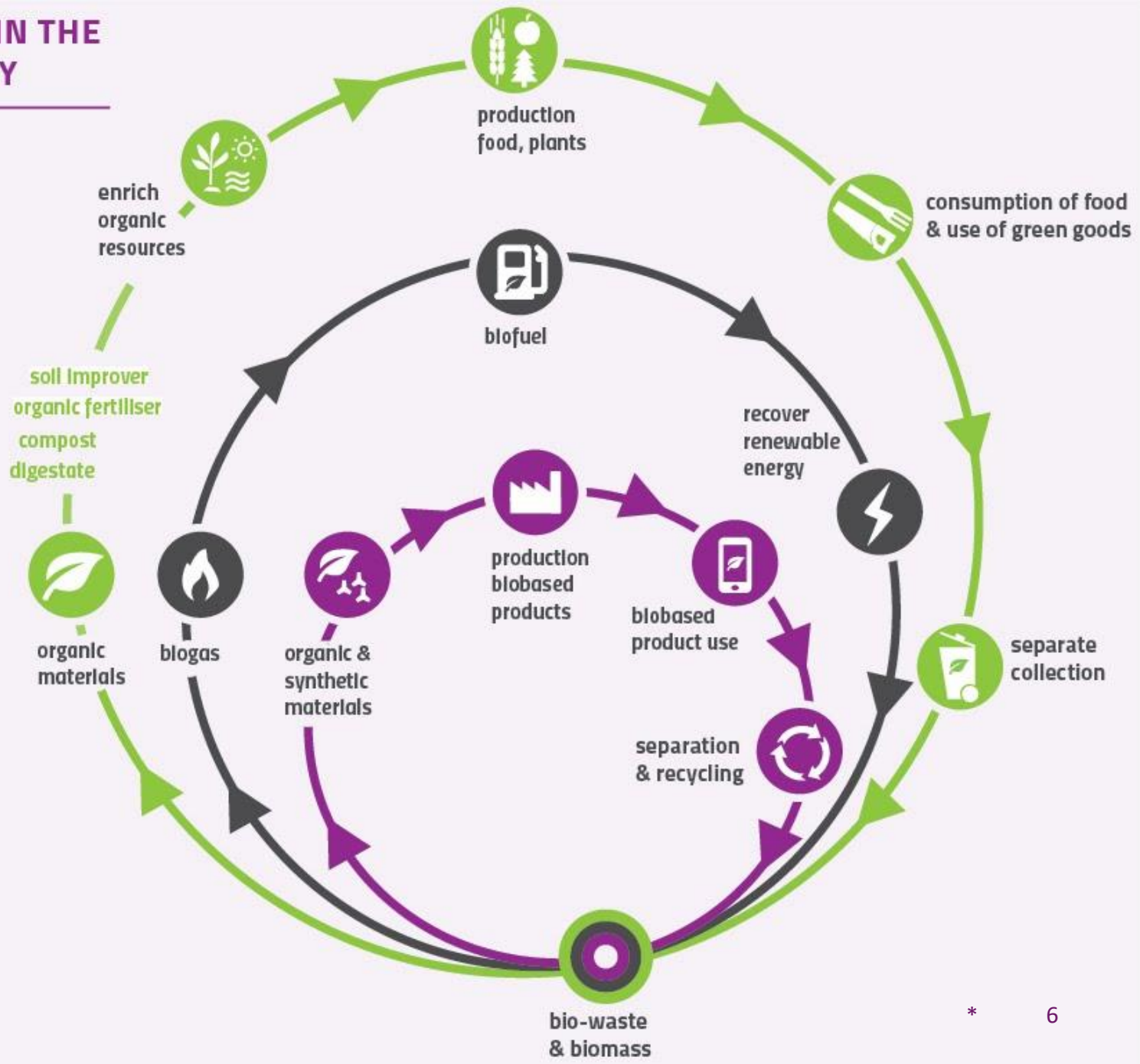
- Biowaste Organisations (20)
- Companies (26)
- Academic Institutes (10)
- Governments (3)
- Non-profit Environmental Organisations (6)

Circular bioeconomy



Source: Ellen MacArthur Foundation

BIOLOGICAL CYCLE IN THE CIRCULAR ECONOMY





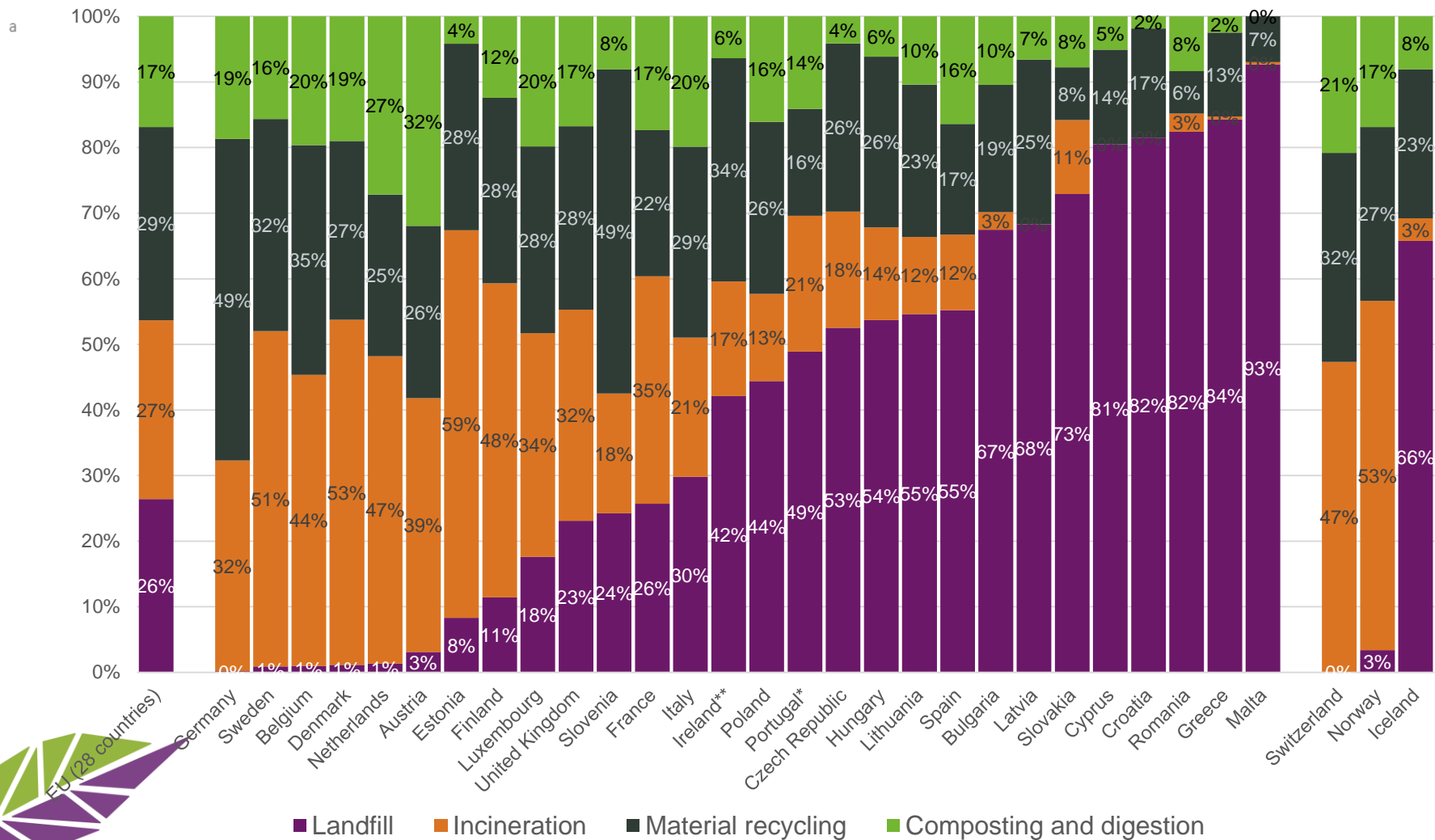
Potential of Biowaste in Europe

Biowaste in Municipal Solid Waste (MSW) (EUROSTAT 2016):

- 20-60 % biowaste in MSW
- Potential of biowaste from MSW in Europe: 96 Mt pa
- Recycling of biowaste in Europe: 40 Mt pa
- ❖ **56 Mt pa of biowaste from MSW is wasted**

Municipal solid waste treatment in 2015

EU 28 + CH/N/ICE

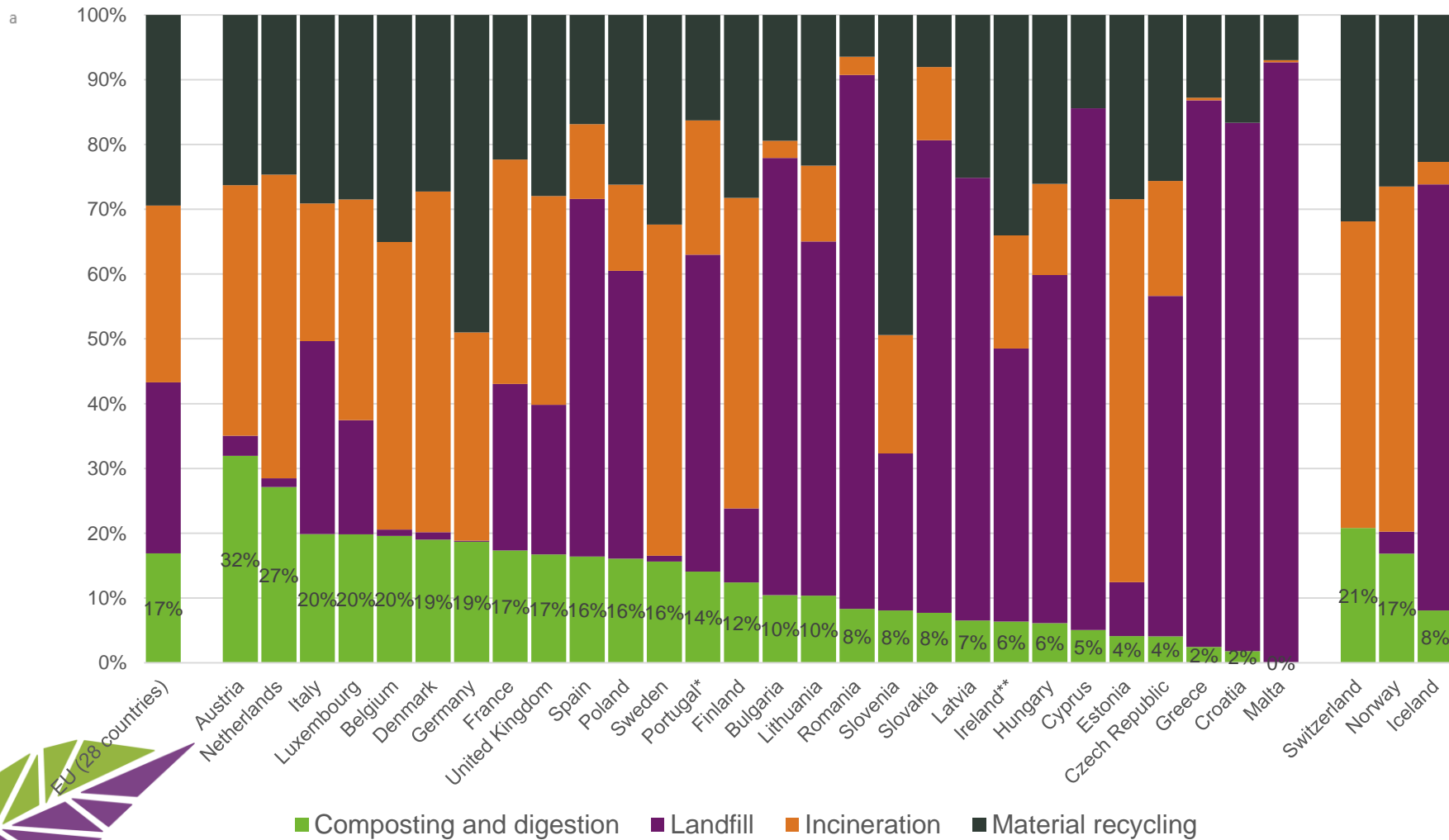


* : 2014 data (most recent data available)
 ** : 2012 data (most recent data available)

Source: EUROSTAT 2017

Municipal solid waste treatment in 2015

EU 28 + CH/N/ICE



Biowaste sources

- Food waste from households and similar
- Garden waste
- Crop residues
- Manure and animal byproducts
- Industrial biological residues

MSW



ECN

Treatment of Municipal Biowaste in Europe

Biological Treatment

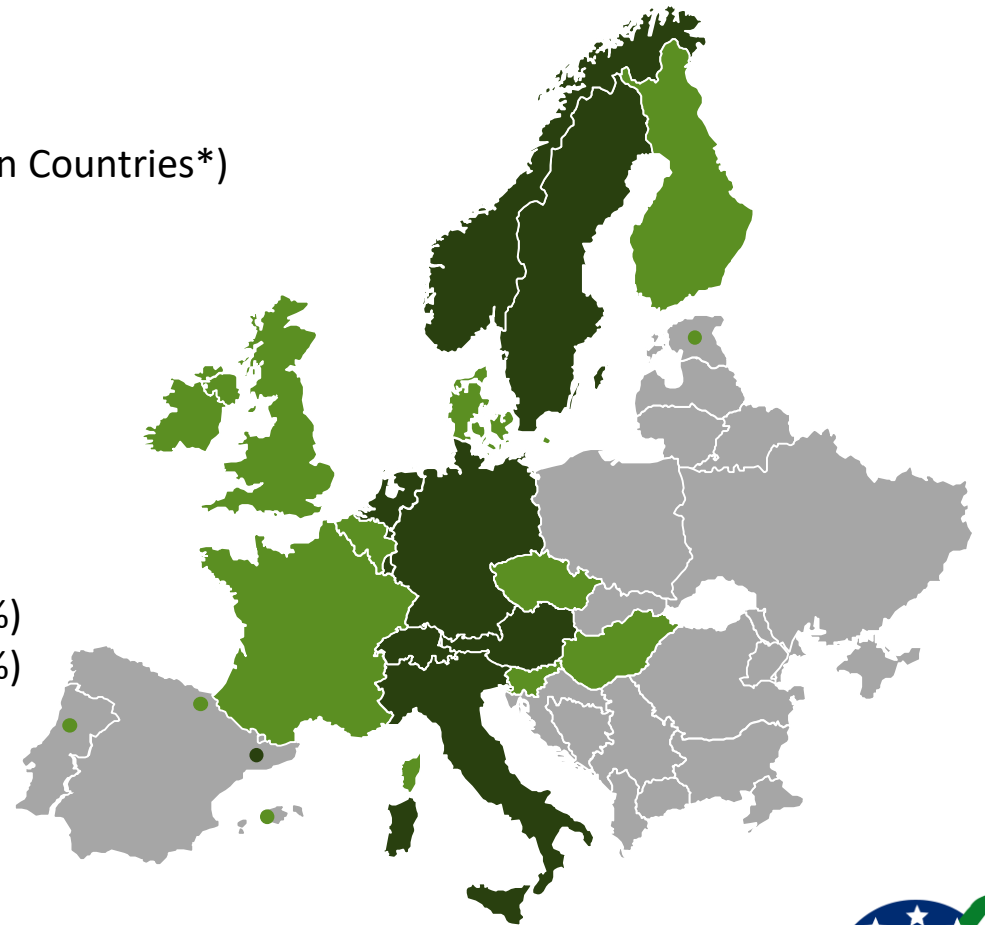
ECN Survey 2017 (results from 19 European Countries*)

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

Biological treatment

Municipal biowaste 33.2 million tonnes
Biowaste total 38.7 million tonnes
(municipal+commercial)

Greenwaste 20.5 million tonnes (62 %)
Biowaste 12.6 million tonnes (38 %)



- Separate collection and composting of biowaste
- Separate collection of biowaste in preparation/implementation
- Only limited collection of biowaste



Treatment of Municipal Biowaste in Europe

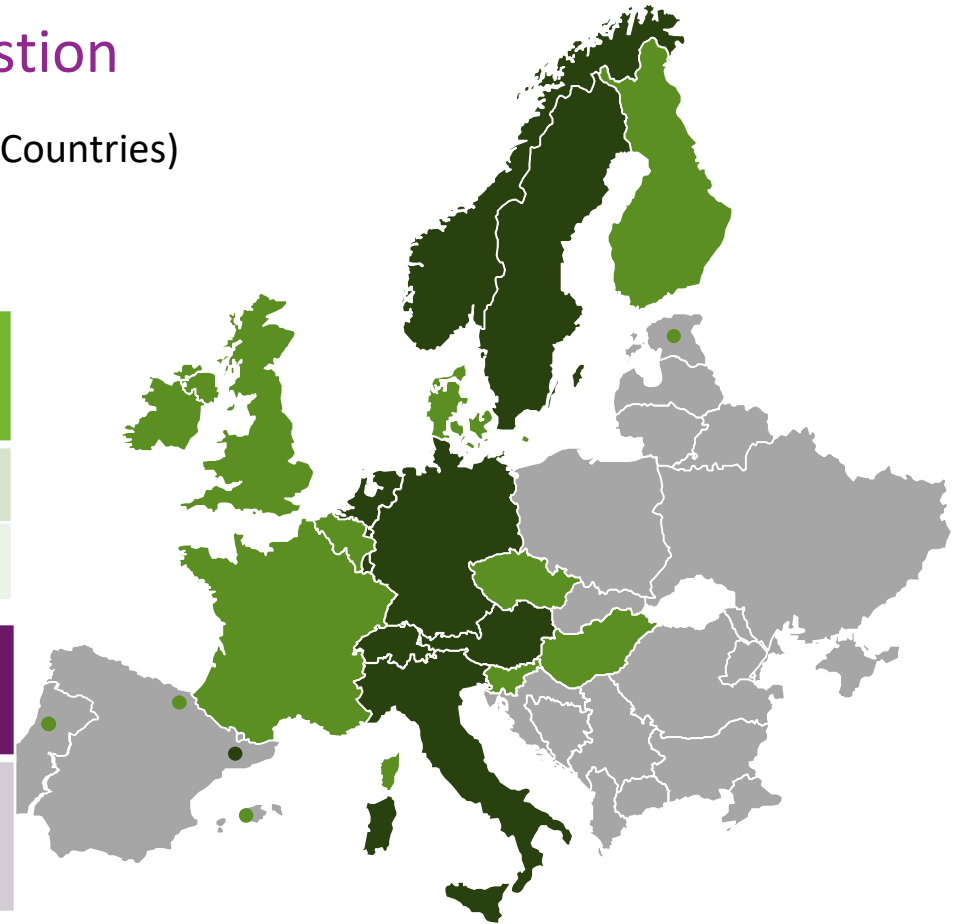
Composting and Anaerobic Digestion

ECN Survey 2017 (results from 19 European Countries)

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

| Composting | Plants | Input [mio tonnes/a] |
|------------|--------|-----------------------|
| Greenwaste | 1516 | 10.1 |
| Biowaste | 1272 | 13.4 |

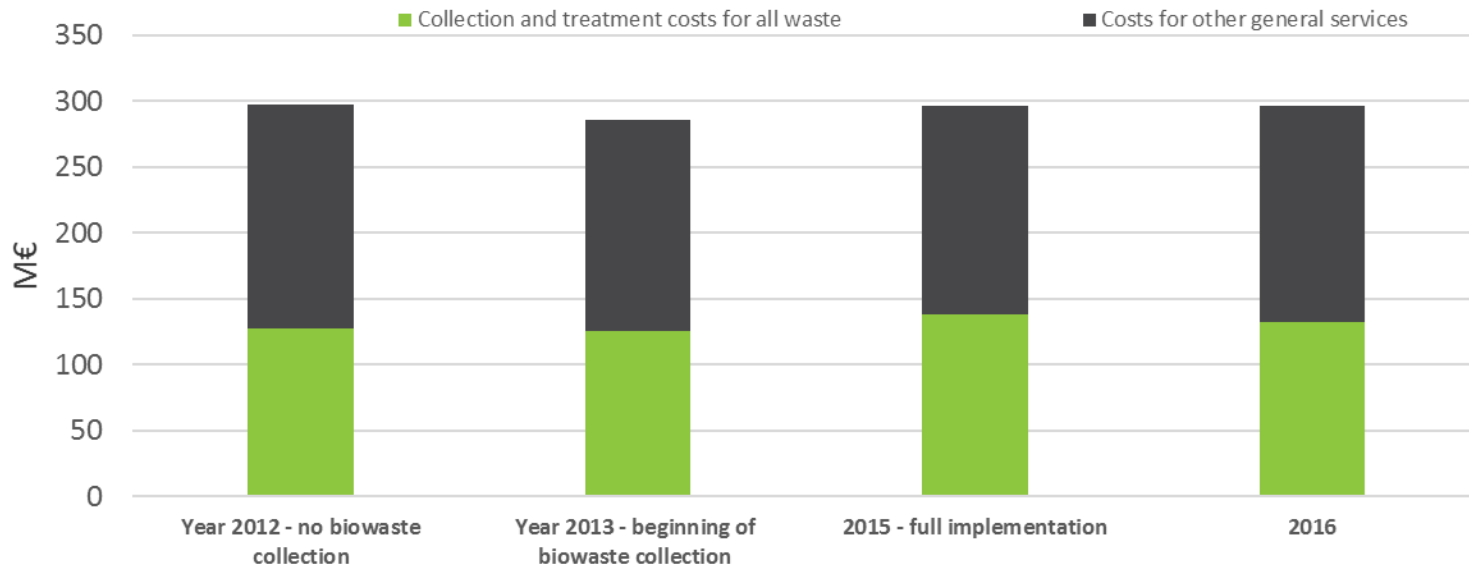
| Anaerobic Digestion | Plants | Input [mio tonnes/a] |
|--|--------|-----------------------|
| Biowaste (incl. Commercial & industrial biowaste+manure) | 2.150 | 24.1 |



- Separate collection and composting of biowaste
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Biowaste collection is technically and economically practicable – Example Milan (Italy)

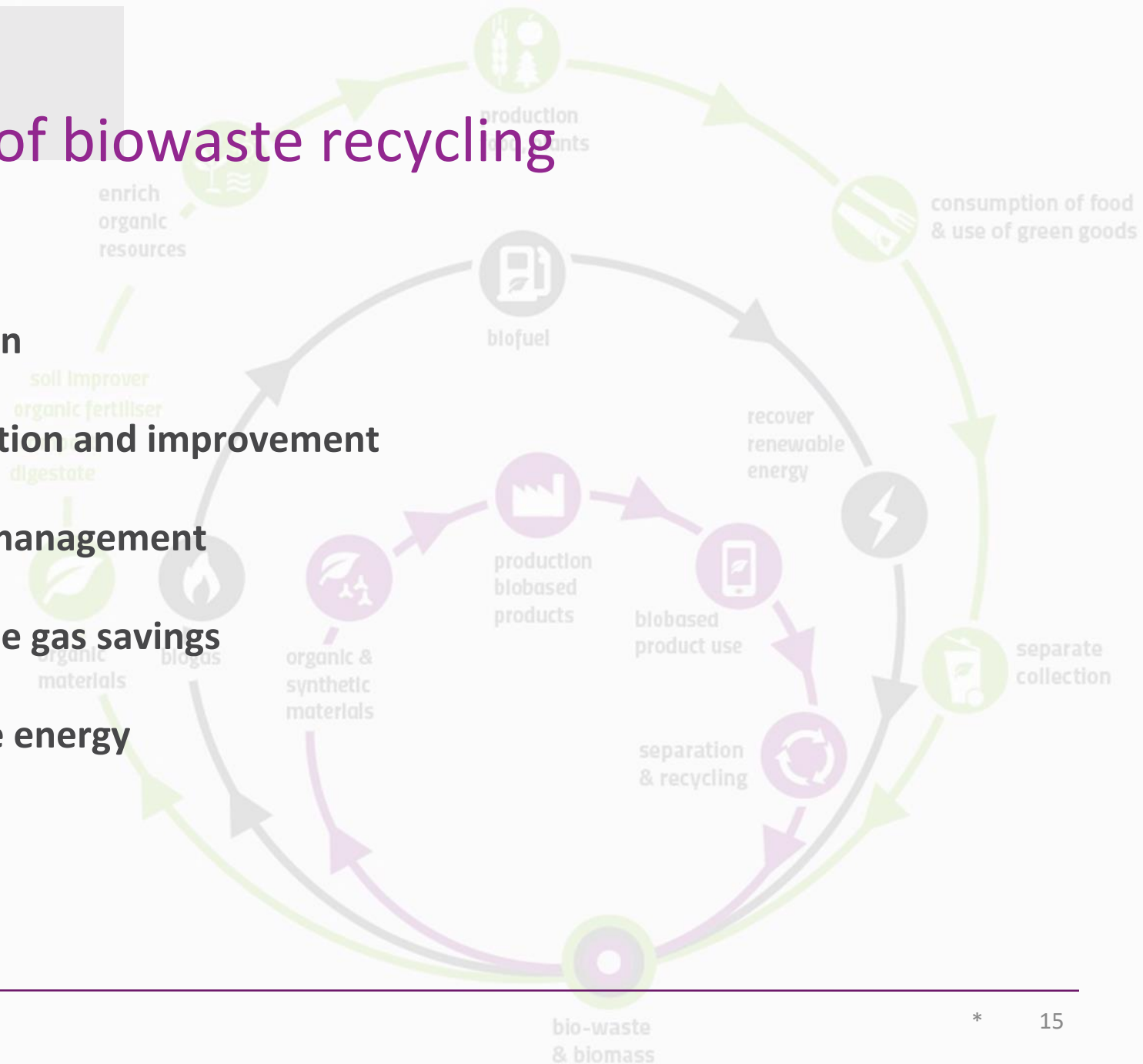


Source: Waste yearly financial plan of Milan

- **Total costs did not change when introducing residential biowaste collection door to door**

Benefits of biowaste recycling

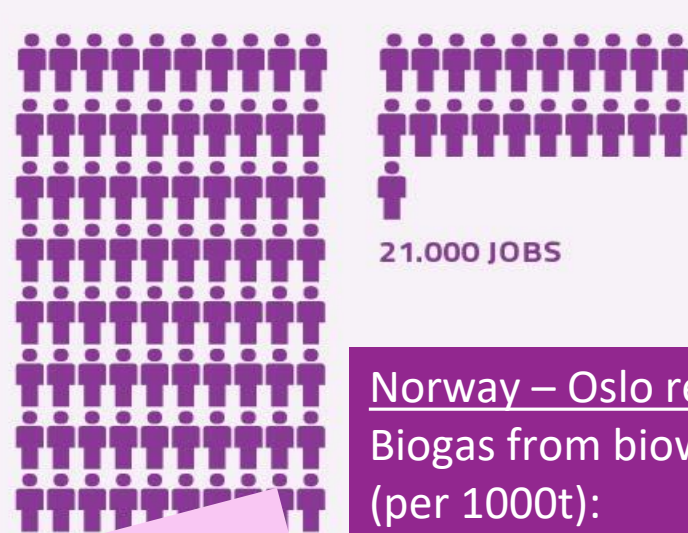
- Job creation
- Soil protection and improvement
- Resource management
- Greenhouse gas savings
- Renewable energy



Potential for Job creation in the EU

BIO-WASTE GENERATES JOBS

POTENTIAL DIRECT JOBS* IN THE BIO-WASTE SECTOR



Norway – Oslo region
Biogas from biowaste
(per 1000t):
2,5 jobs / 380 000 € GDP
EU: 35 billion € p.a.

230.000 lasting
jobs in EU

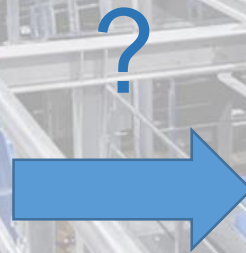
Soil protection and improvement

- Compost improves soil quality (biological activity, physical charact)
- Enhances plant growth - value adding through organic farming
- Reduced erosion
-



Resource management – renewable resources through source separation

- Use of compost and digestate saves virgin resources
 - Phosphorous
 - Peatland
- Enables recycling of dry residual waste resources



Greenhouse gas savings

Biowaste recycling contributes through

- Reduced methane emissions from landfilling
- Replacement of fossil fuels in transportation, heat and power production
- Replacement of mineral fertilisers and peat
- Carbon sequestration in soil



Renewable energy supply

Safe and 24/7 reliable renewable energy for transportation, heat and electricity purposes

Balancing a future renewable energy mix



ECN's key messages to the waste proposal

- Source separation of biowaste (Art 22): Keep provisions on separate collection & recycling of bio-waste; remove conditionalities; clarify definitions
- Separate bio-waste recycling target of 65%
- Recycling definition, Final recycling process, including a definition for organic recycling (only source separated biowaste)
- Establish separate waste codes for source separated biowaste
- Mandatory incentive scheme dedicated to bio-waste in MS