Quality products from waste through efficient waste separation

Meeting name
Place, xx/xx/xxxx

Speaker’s name
Organisation’s name
• Recycling rates of bio-waste fall behind the growing rates of material recycling
• Majority of 88 million t/a of European bio-waste is still lost through landfilling (40%) and incineration (20%).
Obstacles to bio-waste recycling

• On the policy side:
  – Absence of an EU-wide obligation to recycle bio-waste
  – Lack of common quality standards for compost/digestate

• On the practical side:
  – Difficulty in effectively separating bio-waste from other waste fractions and the impurity of the organic matter, even from separate collection, which causes problems for anaerobic digestion
Enabling high-quality recycling of bio-waste

• Bio-waste can be valorised twice:
  – Anaerobic digestion
  – Compost and fertiliser production

→ Efficient separation and purification of waste is a key enabler for high-quality recycling into high-quality products:
  – Biogas
  – Compost/fertiliser
  – Recyclables
  – RDF
The European project ‘SEPARATE’ supports the market entry of an innovative technology that separates organics from non-organic waste with an efficiency of more than 98%.
SEPARATE – The advantages

- High separation efficiency results in a range of high-quality products and key advantages for waste operators and municipalities:
  - Optimal use of organic matter due to high separation efficiency (>98%)
  - Lower maintenance costs and improved biogas digester performance (<0.5% plastic and inert material remain in organic fraction)
  - More gas yield per input unit due to broken cell structures of organic matter
  - Lower investment costs through shorter retention times
SEPARATE Waste System for MSW

MSW = Municipal Solid Waste
AD = anaerobic digestion
CHP = combined heat and power
RDF = refuse-derived fuel

Dry digestate / compost is a product or a waste, depending on laws and quality
Waste water is water from the process that needs cleaning
SEPARATE Waste System for separately collected bio-waste
SEPARATE – The activities

• Design and construction of mobile testing unit
• On-the-spot tests of different waste streams (MSW, separately collected bio-waste, mono-streams)
• Analysis of quality and characteristics of waste separated with the SEPARATE technology
  – Quality of the organic feedstock
  – Substances contained
  – Eventual suitability for composting
• Certification of results by renowned institutes and laboratories
SEPARATE – Country grouping

Ireland / UK
Co-mingled waste collection system prevails and results in different waste streams

Austria / Benelux / France / Germany
Developed separation and recycling systems; often overcapacity of incinerators

Southern Europe and Romania
Almost no separation of waste material; waste contains a lot of fruits but less meat and/or proteins

Scandinavia / Baltic countries
Comprehensive waste collection and separation systems; often overcapacity of incinerators

Eastern Europe
Almost no separation of waste material; waste contains a lot of ashes and construction waste
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