

Policy brief

Sustainable management of bio-waste: Regional cooperation for improved bio-waste management

This policy brief highlights the approaches which have been taken to improve management of bio-waste. The focus is put on European Union waste policy developments and regional actions encouraging more sustainable management of bio-waste.

1. What is bio-waste?

[The Waste Framework](#) defines bio-waste as “biodegradable garden and park waste, food and kitchen waste from households, restaurants, caterers and retail premises, and comparable waste from food processing plants and other waste with similar biodegradability and compostability properties”¹. It does not include forestry or agricultural residues, manure, sewage sludge, or other biodegradable waste such as natural textiles, paper or processed wood. It also excludes those by-products of food production that never become waste.²

Major environmental risk that bio-waste is posing, is the methane produced from the landfilling of bio-waste. In addition, if not managed properly, bio-waste can contribute to eutrophication of water bodies and damage human health. Poor management of bio-waste results in a waste of resources as it can be used to produce energy and improve soil quality.

In the EU, between 118 and 138 million tonnes of bio-waste arise annually³, of which currently only about 25% is effectively recycled into high-quality compost and digestate. Although there is an increase in the recycling of materials in recent years, the improvements in the recycling of bio-waste remain very modest⁴, as illustrated in Figure 1. On the whole, organic waste is still landfilled within Europe, leading to the release of uncontrolled greenhouse gases.⁵ The reasons for a tendency as such, could have been attributed among others to the absence of the EU-wide obligation to recycle bio-waste, as well as the absence of quality standards or end-of-waste criteria for generated compost.

In line with the calculations of the European Topic Centre on Sustainable Consumption and Production bio-waste accounted for 37 % of the municipal waste in Europe in 2008–2010.⁶

2. Policy context

The EU has long recognized the risks and opportunities stemming from bio-waste. One of the priorities of EU waste legislation is to improve the management of bio-waste.

The Landfill Directive⁶ obliges Member States to reduce the amount of biodegradable municipal waste that they landfill to 35% of 1995 levels by 2016 (for some countries by 2020). In line with the EU Action Plan for the Circular Economy⁷ the Commission will promote efficient use of bio-based resources through a series of measures including guidance and support for

¹ As per the Amendments adopted by the European Parliament on 14 March 2017 on the proposal for a directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste (COM(2015)0595 – C8-0382/2015 – 2015/0275(COD))

² COM(2007) 59.

³ [COM/2010/0235 final](#)

⁴ 2015, Briefing EEA

⁵ 2016, Bio-waste recycling in Europe against the backdrop of the Circular Economy Package, ECN

⁶ 1999/31/EC

⁷ COM(2015) 614 final

innovation in the bio-economy. Furthermore, the revised legislative proposals on waste that is part of the new Circular Economy Package contained a provision to ensure the separate collection of bio-waste. As a follow-up, the European Parliament adopted the waste legislative proposals in the Plenary on 14 March 2017. [The adopted text](#) on the waste proposal includes the following aspects that refer to bio-waste:

- 70% target for recycling of municipal waste with a 5% of that waste to be prepared for reuse by 2030
- Obligatory separate collection for the main waste streams, including bio-waste
- Separate collection at source of bio-waste and introduction of European waste codes for municipal bio-waste that has been separately collected at source
- Introduction of EU's food waste reduction target of 30% by 2025 and of 50% by 2030 compared to the 2014 baseline.
- Quality standards to be developed by European standardisation organisations for bio-waste entering organic recycling processes.

Waste management options for bio-waste include, in addition to prevention at source, collection, edible food rescue (in case of food waste), anaerobic digestion and composting, incineration, and landfilling. The environmental and economic benefits of different treatment methods depend significantly on local conditions such as population density, infrastructure and climate as well as on markets for energy and composts⁸.

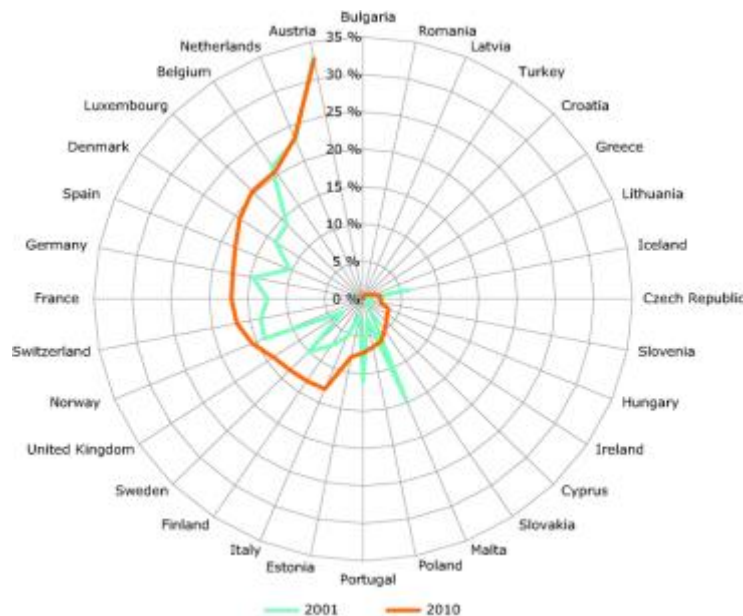


Chart 1: Bio-waste recycling in 32 European countries as a percentage of total municipal waste generated in 2001 and 2010

3. Sustainable management of bio-waste: why it matters

Sustainable management of bio-waste can be instrumental in building healthy, competitive and more sustainable regional economies. Specifically, the most significant benefits of proper bio-waste management include:

- Avoided emissions of greenhouse gases
- Contributing to improved soil quality and resource efficiency by the production of good quality compost and bio-gas
- Achieving higher level of energy self-sufficiency

⁸ COM(2008) 811

- Creation of new jobs
- Introducing technical innovations for bio-waste treatment
- Social gains such as improved quality of life and health

4. Good practices from European regions

There are numerous examples of good practices in proper management of bio-waste. Previous interregional cooperation programmes offered the relevant framework for regions to exchange and cooperate, and share their experiences. Two examples of INTERREG IVC funded projects are provided below:

- **INTERREG IVC Regions for Recycling (R4R)** was a three-year project (2012-2014) aiming at improving its partners' recycling performances through consistent comparisons and an exchange of good practices. The project identified, gathered and analysed a number of good practices related to bio-waste collection. Specifically, the R4R factsheets about bio-waste collection refer to Catalonia (Spain), the Southern Region of Ireland, city of Milan (Italy) and the Province of Styria. In addition the R4R partnership developed the R4R online tool which can be used as a tool to benchmark on bio-waste collection and treatment performances, using the DREC methodology that enables comparisons with harmonised indicators.
- **The Interreg IVC Pre-waste** project focused on the improvement of the effectiveness of waste prevention policies in EU territories. The objectives of the project included definition of a common methodology for efficient waste prevention policies for regions, including bio-waste. One of the project's key outputs was the collection of good practices and the project partners identified around 20 examples related to bio-waste, including bio-wastage, gardening waste prevention at source and composting. The good practices are available in the Pre-waste mapping report published within the project. Examples of best practices collected within the project:
 - Halmstad schools competing to reduce food waste in canteens, Sweden
 - Love Food Hate Waste campaign at national level
 - Eurest Services in Sweden reducing food waste in restaurant chain
 - "Dosa Certa" promoting food waste reduction in Restaurants in Portugal
 - Promotion of decentralised composting in Brussels

The current Interreg Europe programme also provides support to partners which intend to work together to address the challenges of sustainable bio-waste management. Two projects on this theme which have recently been approved are highlighted below.

- **BIOREGIO**, "Regional circular economy models and best available technologies for biological streams" is about improving and developing regional policies through increased focus on circular economy and particularly on biological streams such as food waste/bio-waste, municipal industrial sludge and agricultural residues. The project aims at transferring knowledge related to closing the loops of these streams. The focus is on best available technologies and relevant operation models (ecosystems, networks).
- **ECOWASTE 4FOOD**, "Supporting eco-innovation to reduce food waste and promote efficient economy in the consumption of resources", is a four-year Interreg Europe project that aims to improving policies for reduction and management of food waste. The seven partners of the project that was launched in March 2017 will not only tackle

the critical issue of food waste but will also showcase that food waste could be a useful resource that can contribute to improving the resource efficiency of Europe's regions.

5. In conclusion

Regions and cities have numerous instruments and tools at hand to encourage more sustainable management of bio-waste and play a key role in the process of transition to circular economy.

Specifically:

- Regions can set clear framework conditions by drawing up long-term visions or strategies or more concrete action plans advocating the resource potential of bio-waste with regards to soil improvement, renewable energy and contributing to the bio-economy.
- Regional policy makers can take steps in encouraging investments in bio-waste separate collection and treatment infrastructure. Efficient systems for separate collection based on source separation already exist and the key for success lies in adaptation to local conditions and user-friendly design.
- Regions can play a key role in establishing focused and practical educational programmes, including vocational training concerning separate collection systems, treatment of bio-waste and marketing of compost;
- Policy-makers can focus on development of cooperation mechanisms between municipalities which are essential especially in cases when technologies and investments (e.g. in anaerobic digestion plant) are economically viable only if the bio-waste comes from several municipalities.
- Regional and local authorities can provide incentives for the collection of unsold food products in food retail and food establishments and for their redistribution to charities.
- Cities and regions can promote biorefinery: the sustainable processing of bio-waste into a spectrum of bio-based products (food, feed, chemicals, materials) and bioenergy (biofuels, power and/or heat).

[The Interreg Europe Policy Learning Platforms](#) stimulate knowledge exchange in four thematic areas, one of these is the Environment and Resource Efficiency Platform, which includes cultural heritage activity. The Platforms provide a space for projects in the same family to share experiences and learn from each other. To ensure that the services and products provided by the Platforms meet user needs, we encourage you to share your ideas with the relevant Platform managers and thematic experts. You will find their contact details [here](#).

Sources of further information:

- EC, Roadmap to a Resource Efficient Europe, COM(2011) 571 final, 2011
- EC, A resource-efficient Europe – Flagship initiative under the Europe 2020 Strategy, COM(2011) 21, 2011
- EC. Closing the loop - An EU action plan for the Circular Economy. COM(2015) 614 final. Brussels, 2015
- EC, Communication on the Interpretative Communication on waste and by-products, COM(2007) 59 final, 2007
- EC, Communication on future steps in bio-waste management in the European Union, COM(2010)235 final, 2010

- European Compost Network, Bio-waste recycling in Europe against the backdrop of the Circular Economy Package, 2016
- 2016, Bio-waste selective collection schemes, ACR +
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- EC, Green Paper on the management of bio-waste in the European Union, COM (2008) 811 final, 2008
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#policylearning, #bio-waste, #sustainable #management, #cooperation

24 March 2017

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