

Biowaste - Need for EU Legislation?

Brussels, 9 - 10 June 2009

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Bio-Waste Need for EU Legislation
Multitalented Bio-Waste
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The last weeks were characterised by rather heated debates on bio-waste. The Green Paper on Biowaste and the corresponding Council Conclusion are in the political spotlight. Not for the first time. In fact there has been a wide cognition that there is a need to tackle this waste stream for a long time.

Already in 2001 the demand for legislative measures to steer this particular waste stream was formulated within the Sixth Environmental Action Programme. The request for a biowaste directive was repeated by the European Parliament and the Council on several occasions. In 2005 the considerable development that had been made on a stand-alone Biowaste Directive was unfortunately discontinued.

I dare say it is about time to finish the project 'Biowaste' and it is also time to bring an end to some fairy tales.

Fairy tale no. 1

- There is no environmental best treatment option for biowaste

Fairy tale no. 2

- Biowaste treatment contradicts the renewable targets

Fairy tale no. 3

- Separate collection and treatment of biowaste is more expensive than municipal waste disposal

Fairy tale no. 4

- A Biowaste Directive requires area wide coverage of separate collection

There is no environmental best treatment option for biowaste

is an assertion without substance

Bio-waste covers a variety of materials such as:

- Bio-waste from households
- Catering waste
- Landscape

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- Garden waste

Depending on the bio-waste material in question environmentally optimised treatment methods can be allocated. And why shouldn't it be possible? On the basis of previous experiences and methods available ligneous bio-waste of a certain calorific value is best suited for incineration with energy recovery, catering waste should mainly be used for digestion processes and partly for composting. Gardening waste on the other hand is ideally composted. On behalf of the German Environment Agency a study is currently carried out in order to identify the environmentally optimised treatment methods for different bio-waste materials.

Biowaste treatment contradicts the renewable targets

Biowaste is especially suited to contribute towards a sustainable resource and waste management in the EU and also plays a role fulfilling the EU's renewable energy targets. In general, bio-waste has a higher potential to contribute towards the reduction of greenhouse gas emission compared to - for example- energy plants cultivated for the purpose of energy production since the production chain is not included into the calculation of the Co₂ balance. In addition, unlike other biomass materials produced for energy production bio-waste does not come into conflict with food security and the right to food.

Biowaste management is a crosscutting environmental issue which not only affects waste management but is also relevant in the context of sustainable resource use, climate change and soil protection. The combination of anaerobic digestion facilities with composting plants for suitable biowaste streams allows efficient energy production and the recovery of compost at the same time. This treatment method allows making use of the energy cascade thereby gaining energy and compost.

The technology is available but not widely used yet. In Germany currently around 80 combined digestion/composting facilities for bio-waste are in place. Therefore the revised German Act on Renewable Energy Sources gives financial incentives to installations which exclusively ferment biowaste and are directly linked to a facility for composting the remaining digestate.

Separate collection and treatment of biowaste is more expensive than municipal waste disposal

In 2004 the German Institute for waste, waste water and infrastructure management – (Institut für Abfall, Abwasser und Infrastruktur-Management GmbH, INFA) investigated the costs for the separate collection and treatment of bio-waste as compared to collecting and

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disposing it together with residual waste. The cost analysis was done on the basis of model calculations. For two kinds of structures (rural and urban districts) the versions "with separate collection of bio-waste" and "without separate collection of bio-waste" were investigated. One major finding of the study was that the deciding factor for a comparison is the difference in the costs for treating bio-waste and residual waste. Logistics costs, on the other hand, play only a secondary role.

Since a high price level for disposing of household waste can be assumed throughout Europe if the environmental standard for household waste removal is set at a high level, significant cost savings can be achieved by collecting and treating biowaste separately. Composting is generally cheaper than incineration or mechanical-biological treatment of residual waste.

A Biowaste Directive requires an area wide coverage of separate collection

Rumour has it that a Bio-waste Directive would imply an obligation for area wide coverage of separate collection. This is highly unlikely. Even in Member States with a high collection rate for bio-waste not all municipalities managed to introduce separate collection schemes. Sometimes even for good reason. In rural areas home composting is widely spread and in some cities or district collection schemes are difficult to implement.

In Germany for example around 72 % of the municipalities offer biowaste collection to their citizens but this does not imply an area wide coverage even for these municipalities. On average about 56 % of the households are actually using the service of separate collection of biowaste. Nevertheless, we will work to increase the coverage.

But the example clearly illustrates that there is room for local and regional adaptation in a directive and there should be. After all it is common to consider the specific situation of Member States in EU waste management legislation.

Now we clarified some of the myths as regards bio-waste I would like to illustrate the **environmental relevance of bio-waste.**

There are a lot of good reasons to collect and recycle biowaste separately: the quantity of waste is reduced, the climate protected and resources conserved. According to data from the European environmental agency, (EIONET European Topic Centre on Resource and Waste Management), 254 million tonnes of household waste was produced in the EU member states (EU 25) in 2005. Based on numbers alone, biowaste makes up approximately 100 million tonnes of this total. This figure corresponds to the results of a survey on biowaste volumes conducted for the German Ministry for the Environment in the European member

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states (EU 25) and Norway. Based on this data, there was a total potential of approximately 113 million tonnes of biowaste and tree and grass cuttings that could be separately collected and recycled in these countries. Of this, only 24 million tonnes of biowaste is currently being used which represents 21 % of the total quantity. Biowaste frequently remains unused as a resource in many of the EU member countries and is sent together with residual waste to landfills. This also means that there would be less waste to dispose of if biowaste were consistently collected and recycled.

It must be assumed that in Europe, in the future, sending untreated household waste to landfills, even though it is cheaper, will become less and less common because it does more damage to the environment. This means separately collecting specific material flows and recycling these materials will be increasingly worthwhile, such as, for example biowaste composting. In short: the volume of household waste can be easily reduced by one-third by collecting biowaste separately and, at the same time, the cost of disposal can be eliminated in many cases.

Biowaste as a climate protector

The heads of state and government in the EU unanimously decided in the spring of 2007 to unilaterally reduce EU greenhouse gas emissions by 20 % by 2020 and, in the event of a global and comprehensive agreement, by 30 % over the international base year of 1990. Waste management is – after energy (including transport), industrial processes and agriculture – the fourth-largest cause of greenhouse gases in Europe. In 2004, a total of 109 million tonnes of CO₂ equivalent greenhouse gases were released in the waste sector of the European Union without the newly joined countries in 2004 and 2005 (EU 15). The primary source of emissions are landfills where the greenhouse gas methane is created by biological decomposition processes. Methane is roughly 21 times as damaging to the climate as the same amount of carbon dioxide. Untreated organic waste is practically the only relevant cause of the production of methane gases in landfills that affect the climate, lowering the quantities of these waste components stored in landfills would result in lower emissions. For good reason, the EU landfill directive thus stipulates a phased plan to reduce organic waste in Europe's landfills: the quantity sent to landfills is required to be reduced by 25 % by the year 2006, by 50 % by the year 2009 and 65 % by the year 2016. Member States may, under certain conditions, postpone the attainment of the targets. Unfortunately, the directive does not, however, contain any binding specifications such as how to reduce the organic percentages. Binding specifications to extend separate collection of biowaste would act as a

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supporting measure to implement the landfill directive so that the goals of the landfill directive are also reached. The following would also benefit the prevention of climate change: the reduction of biologically degradable waste in landfills by 65 % in Europe (EU 15) as stipulated by the EU landfill directive for the year 2016 would eliminate 74 million tonnes of CO₂ equivalents per year.

This number alone represents roughly one-fifth of the planned greenhouse gas reduction of the EU of 30 % for the year 2020. If a complete EU-wide landfill ban were introduced and enforced for biologically degradable waste, around 100 million tonnes of CO₂ equivalents could be potentially eliminated by the year 2020, a figure that represents 40 percent of the European target for preventing climate change. Collecting and recycling biowaste separately is thus one way to practice climate change prevention.

Biowaste as a resource protector

The humus content of much of the land in Europe is either too little or alarmingly low. Based on estimates, 45 % of all soil in Europe already does not have enough humus. The EU Commission calculates that this deterioration in Europe's soil costs a total of EUR 38 billion annually. The demand for humus fertilizer is expected to increase as the climate changes and weather conditions become more extreme and as plant production without livestock intensifies. A balanced humus content is, however, the basic prerequisite for soil fertility. Particularly in specialized purely agricultural farms, it must be ensured that adequate organic substances are returned to the soil. It is precisely the use of compost and fermentation residue that offers a good opportunity to stabilize or improve the humus content of the soil and encourage biological activity. Compost is particularly suited – better than, for example, liquid manure- to make up for humus deficiencies. This also has its economic benefits. Systematic humus management with compost brings agricultural farms considerable financial benefits as soil fertility improves. By separately collecting biowaste and recycling it as compost for agriculture, mineral fertilizers can also be replaced by 8 % to 10 %. This conserves not only limited resources of plant nutrients (e.g. for phosphorus) but also upland moor peat.

Conclusion

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In environmental terms, it makes sense to reduce the organic content in waste by separately collecting biowaste and then treating the resulting residual waste. This reduces the production of methane gas; compost or fermentation residue produced from biowaste can be used to improve the soil; usable energy is also produced when suitable biowaste is fermented in controlled processes. This type of strategy conserves resources, makes a considerable contribution to preventing climate change and lowers the costs of treating waste in a modern waste management strategy. This is why the German Ministry for the Environment has persistently pursued the goal of an EU biowaste directive.

It is essential to provide a perspective and investment security for the recycling industry and set drivers for the recycling of biowaste. Like other recycling directives an EU-wide stand-alone Bio-waste Directive with clear targets and set standards for input materials, process requirements and the output material has the potential to act as a driver for recycling and improve the quantity and quality of bio-waste recycling. Synergies of recycling and energy recovery of bio-waste can be achieved by combining the processes of anaerobic digestion and composting.

In my view the volume of biowaste and the environmental benefits resulting from the environmental sound treatment of biowaste justify the establishment of a directive.

On several occasions the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety expressed the opinion that end-of-waste-criteria for compost on their own are insufficient. The required legal measurement needs to cover essential questions such as separate collection, input lists, treatment methods and methodologies, quality requirements and quality assurance schemes. These complex issues are beyond the remit of the comitology procedure and need to be dealt with in a directive. Hence, the Ministry would like to stress that the possibility of end-of-waste-criteria for compost should be discussed in conjunction with a stand alone Bio-Waste Directive only.

Thank you for your attention