

**Consultation response by the Danish Government to the European Commission Green Paper on the management of bio-waste in the European Union**

Denmark welcomes the Commission's Green Paper. Denmark agrees with the Commission's view that due to differences between the Member States, it may be difficult or not very appropriate to set common bio-waste recycling targets while also avoiding adverse environmental, economic and administrative effects.

Consequently Denmark finds it necessary that sufficient flexibility is ensured to allow Member States to choose the best way to manage bio-waste either by prevention, recycling or incineration with energy recovery.

It is of great importance to Denmark that the current high Danish level of protection of the environment, including groundwater and soil, as well as health can be maintained, and consequently Denmark proposes that only minimum requirements for compost and its use are established at the EU level, so that Denmark is able to set more stringent requirements necessary to maintain the current level of protection.

Denmark calls on the Commission to incorporate occupational health and safety issues in the social and health impact assessment, as there is a general lack of solid data based on epidemiological studies of the health and safety effects of the various waste management solutions

Denmark also calls on the Commission to take initiatives on joint European approaches to waste prevention, where joint European efforts are appropriate. Additionally Denmark calls on the Commission to incorporate bio-waste in its work on creating a system for sharing information on best practise regarding waste prevention and in developing guidelines in order to assist the Member States in preparation of prevention programmes in accordance with article 29, paragraph 5 of the Waste Framework Directive.

Furthermore Denmark calls on the Commission to increase its focus on the development of new bio-waste treatment technologies.

Finally Denmark takes the position that the limit on the amount of biodegradable waste that is allowed on landfills could advantageously be lowered at EU level.

Please find below the Danish positions on the specific subjects raised by the Commission in the Green Paper.

### **Subject 1: Better Waste prevention**

In Denmark there have previously been campaigns encouraging households to compost garden waste and the vegetable part of food waste. By so doing waste collection is minimized and treatment and the resources in the waste are utilized in the garden. The decision on home composting or similar initiatives should be taken at Member States level and not at the EU level.

An effort for waste prevention should to be focused on those areas where the greatest benefits can be achieved. For this purpose knowledge of consumers', industry's and retailers management and use of food is necessary. Several Member States have conducted a range of studies, most recently the UK study on the amount of food wasted in the households.

Denmark would encourage the Commission to take the lead in collecting existing knowledge from Member States, and to identify, on the basis of this knowledge, those areas that would benefit the most from concrete initiatives. This could be dealt with in connection with carrying out the new Waste Framework Directive's article 29 (5), according to which the Commission must provide a system for exchanging information on best practice regarding waste prevention and prepare guidelines to assist Member States in creating the programs.

In addition, Denmark calls on the Commission to initiate initiatives on joint European approaches to waste prevention, where a joint European effort is appropriate. This could be in the area of packaging of foods.

### **Subject 2: Further restrictions on the amount of biodegradable waste that is allowed on landfills**

Denmark has worked actively, for many years, on reducing the amount of biodegradable waste sent to landfill facilities, and since 1997 it has not been permitted to landfill biodegradable waste, which can be recycled or incinerated.

The Danish position is that, with considerations of both safety; environment and climate, the limit on the amount of biodegradable waste that is permitted on landfills could advantageously be lowered at EU level.

### **Subject 3: Options for treatment of bio-waste diverted from landfills**

The choice of bio-waste treatment should be made on the basis of the waste hierarchy and the option should exist to depart from the hierarchy in those cases where it can be justified by life-cycle thinking concerning the overall impacts of the generation and management of the specific type of waste.

In Denmark more than 90 percent of garden and park waste is composted. More than 90 percent of organic waste from industry (with the exception of animal waste and food waste from industrial kitchens) is recycled either by

substituting raw materials, through anaerobic digestion of bio-waste, or as fertilizer for agricultural purposes. Retail bio-waste is collected separately in some cases but is also collected as mixed waste and incinerated with energy recovery. The allocation of the retail bio-waste between the mixed waste and the separately collected is not available, as the fraction of bio-waste in the mixed waste is not known.

In Denmark separate collection of bio-waste from industrial kitchens to use as animal feed was previously a requirement. This requirement was abandoned in 2002 due to the EC Regulation 1774/2002 laying down health rules concerning animal by-products not intended for human consumption (the by-product regulation) and subsequently the recycling rate has dropped. Today bio-waste can be anaerobically digested in accordance with the provisions in the by-product regulation or it can be incinerated with energy recovery along with household waste. The allocation between the two treatment methods is not available, as the fraction that is incinerated along with household waste is not known. Animal waste is collected separately and treated in accordance with the rules concerning by-products.

In Denmark it has been assessed whether it is most appropriate from an economical and environmental point of view to collect source separated bio-waste for composting or anaerobic digestion rather than incinerate the bio-waste as a mixed waste from the households at dedicated incineration facilities. The assessment showed that compared to the current practice at Danish incineration facilities it is not appropriate from an economical and environmental point of view, to carry out separate collection and biological treatment of the bio-waste. (The resulting report 814/2003 is enclosed).

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There may be local circumstances, however, that could alter that conclusion. For that reason the decision on whether bio-waste should be collected separately is delegated to Danish municipalities. The allocation between the two treatment methods is not available, as the fraction that is incinerated along with household waste is not known.

#### **Subject 4: Improved energy recovery from bio-waste**

Denmark is considering bio-waste to be an increasingly important source of renewable energy. It can contribute significantly and cost-effectively to fulfilling the EU targets replacing fossil fuels and reducing green house gas emissions. Denmark calls on the Commission to put more emphasis on the ways to incorporate bio-waste in the energy supply systems giving high priority to maximising energy efficiency.

In Denmark a significant fraction of the bio-waste from households is incinerated in Danish waste incineration facilities, which deliver electricity and heat to the electricity and heat grids. If the waste is incinerated at efficient facilities, which produce both electricity and heat, it can thus contribute to meet the EU's renewable energy targets.

The fraction of the organic household that is anaerobically digested also contributes to meeting the EU's renewable energy targets as the biogas is utilised for energy purposes. As the majority of the digestate is recycled for

agricultural use the anaerobic digestion in-directly contributes to energy savings, as the energy use for production of fertilizer is avoided.

#### **Subject 5: Improved recycling of biowaste**

It is deemed that in Denmark today there is a relatively high degree of recycling of the total amount of bio-waste; cf. the remarks to subject 3.

Denmark agrees with the Commission's view that, due to the differences between the Member States, it may be difficult or inappropriate to set a "one-size-fits-all" target for recycling while avoiding adverse environmental, economic and administrative effects. Consequently Denmark considers it necessary to leave room for national flexibility to identify the best waste management option for each situation.

#### **Subject 6: Strengthening the use of compost/digestate:**

Environmental protection of soil and groundwater has a high priority in Denmark since the majority of Danish drinking water is based on groundwater treated very simply by oxidation and filtration. The soil needs protection in consideration of groundwater and human health. Furthermore it can be added that the background level for heavy metals in Danish soils is lower than in many other Member States. Consequently Denmark has imposed strict requirements regarding the use of sludge, compost and the like for agricultural purposes to ensure that no pollution of soil and groundwater with undesired substances takes place.

Therefore it is of the great importance for Denmark to be able to maintain its high level of protection of soil and groundwater and consequently Denmark propose that only minimum requirements should be established for compost and its use in EU.

In Denmark the application of compost is regulated by the Executive Order on the Application of Waste for Agricultural Purposes which establishes limit values for heavy metals and xenobiotic substances, sanitary restrictions on applications of waste and restriction for total supply of nutrients. Furthermore, limit values for heavy metals in soil are established. The Executive Order is enclosed.

Denmark is not in favour of setting EU standards for pollutants and concentrations, but prefers minimum requirements. That could be minimum requirements for microbiological parameters, xenobiotic substances such as DEHP and NPE and heavy metals such as cadmium, copper, zinc, mercury and lead. The concentration limit value should be based on an environmental and health assessment and it should be possible for Member States to set up more stringent requirements according to national considerations where it is deemed necessary.

Regarding the use of compost (digestate) from mixed waste it is the overall Danish position that only source separated bio waste should be recycled. Denmark has previously considered it difficult to achieve a high quality of compost, due to impurities in the waste, unless a source separation had

been carried out. Denmark does not exclude the possibility that recent efforts to remove unwanted substances and materials from the waste (due to the producers' responsibility for batteries and WEEE, for example) have increased the quality of compost from mixed waste. It is the Danish opinion that if the Danish requirement of source-separation is to be deviated from, it should be reviewed whether compost from mixed waste can achieve the same quality as compost from source-separated bio-waste.

**Subject 7: Operational standards for small plants which do not fall under the IPPC**

In Denmark Environmental permit is required for composting facilities that receive 100 tonnes per year or more. The requirement for environmental permit for anaerobic digestion facilities in Denmark is 30 tonnes per day or more.

The application of compost/digestate for agricultural purposes in Denmark is regulated by the Executive Order on the Application of Waste for Agricultural Purposes and in this order sanitary requirements prior to application are established.

**Subject 8: Further development of bio-waste management techniques**

Denmark considers it to be important that funding for research and development of new treatment technologies for bio-wastes are established and Denmark finds that existing as well as future treatment technologies should be assessed on the basis of life cycle thinking.

Denmark has carried out a cost-benefit analysis of increased recycling of source separated organic household waste based on a life cycle assessment (LCA). The resulting report 822/2003 is enclosed  
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**Further remarks**

Denmark considers that it is not evident from the definition of bio-waste whether organic waste from industry, including animal waste, is covered, since the meaning of the term "comparable" is unclear. (The Waste Directive 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").

Denmark calls on the Commission to commit itself to consider whether waste from slaughterhouses, for example, is covered by the definition.