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To: EU Commission, DG Environment

From: *waste denmark*

GREEN PAPER On the management of bio-waste in the European Union

General remarks.

The Green Paper draws a rather accurate picture of the actual practices in Member States and of the available treatment techniques applied to biowaste. The Green Paper includes the important recognition of the fact that advantages and disadvantages of the different management methods depend strongly on local factors. We regret though that it does not stress strongly enough that the most serious environmental impact from the management of biowaste comes from methane emissions. This would have allowed for drawing a clear line between landfilling, which is the worst solution, and the other treatment methods, which have more comparable environmental impacts.

The definition of "biowaste" (p. 2) narrows down the definition established in the Waste Framework Directive since manure, sewage sludge, or other biodegradable waste such as natural textiles, paper or processed wood are excluded. *waste denmark* doesn't find necessary this narrowing down, which consequences are not assessed.

The definition of compost (p. 4) covers products from biowaste composting and composted digestate from biogas plants. This definition does not relate to the quality of the input materials. In the text, expressions like "quality compost" and "compost of lower quality". *waste denmark* has the view that the use of the designation "compost" ought to be limited to products resulting from the treatment of source separated waste only. The materials produced by the other treatment options could be designated by the generic concept of "stabilised biowaste".

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The last paragraph of section 3.2. (p. 7) underlines the limited contribution that compost from waste can deliver to soil improvement initiatives applied to agricultural land. Depleted soils, which could benefit from the addition of organic matter, are also to be found elsewhere than in agricultural areas. If these areas are also taken in account, the potential contribution from compost is further reduced to approximately 2 % of the needs. *waste denmark* has the opinion that the Green Paper should make it even clearer that the management of biowaste is primarily a waste policy issue. It should therefore not be the object of soil or agricultural policy agendas.

Question 1: Prevention.

It results clearly form the definition of waste that kitchen and garden residues are to be considered as waste only when households intend to discard them. If, on the contrary, households intend to use these wastes to produce compost in their backyards or gardens, these residues will never be registered as waste. The promotion of home composting is thus the largest single contributor to waste prevention that can be adopted at Community level in the framework of waste policy initiatives.

Question 2: Landfilling.

Directive 1999/31/EC establishes reduction targets for the amounts of biodegradable waste that may be landfilled. It is worth noticing that these targets only apply to municipal waste. It is *waste denmark* opinion that the reduction targets should apply to all biodegradable waste.

The same Article 4 foresees that the targets shall in 2014 be reconsidered on the basis of a Commission report on the practical experience gained by Member States. *waste denmark* is willing to contribute to the debate and provide information on the implementation of the ban on landfilling biodegradable waste that can be either recycled or incinerated. This ban has been applied since 1997. *waste denmark* has the view that the European Union could benefit from further reduction targets established at Community level.

Question 3: Treatment other than landfilling / LCA.

As stated in the general remarks, landfilling is the worst option for biowaste. Methane emissions from landfills represent approximately 30 % of all anthropogenic emissions of this gas. Methane emissions have a climate effect which is 23 times higher than CO2 and biowaste contains resources that are not exploited if it is landfilled.

The environmental profile of the other treatments applied to biowaste depends largely on local factors. It is therefore difficult to identify the potential benefits of measures adopted at Community level to promote a specific treatment method. It is *waste denmark* views that the choice of the most appropriate treatment option belongs to the local level and should be maintained there.

Question 4: Energy recovery.

The text of the agreement recently reached by the Council and the European Parliament on the revision of the RES Directive underlines the role that biomass, including the biodegradable part of both household and industrial waste, should play in achieving the targets regarding the share of renewable energy in the total energy consumption and in reducing the dependence on imported fossil fuel.

Biogas and incineration are so far the two most important treatments that allow for energy recovery from biowaste. Literature shows that, if incineration facilities optimize there energy efficiency, energy recovery can be one of the best solutions for this waste stream. Energy recovery is particularly well suited if plants make use of combined heat and power technology and have the possibility to deliver all the energy produced to the district heating and electricity networks.

It will be crucial to establish a framework that, beyond giving the opportunity to recover energy from biowaste with the current technologies, allows for the development and uptake of new technologies like for example energy stockpiling through the production of bio fuels like ethanol. Recital 4a to the new RES Directive underlines this need: "*Mulighederne for at skabe økonomisk vækst gennem innovation og en bæredygtig konkurrencedygtig energipolitik er blevet anerkendt. Produktionen af vedvarende energi afhænger ofte af lokale eller regionale små og mellemstore virksomheder (SMV'er). De muligheder for vækst og beskæftigelse, som de regionale og lokale investeringer i vedvarende energi skaber i medlemsstaterne og deres regioner, er vigtige. Kommissionen og medlemsstaterne bør derfor støtte nationale og regionale udviklingsforanstaltninger i disse områder, opfordre til udvekslingen af bedste praksis inden for produktionen af vedvarende energi mellem lokale og regionale udviklingsinitiativer samt fremme anvendelsen af strukturfinansiering på dette område.* "

Question 5: Recycling, synergy energy recovery/recycling.

Article 4 of Directive 2008/98/EC establishes a priority order for prevention and treatment options. The material recycling should, according to this hierarchy, rank higher than other forms of recovery, hereunder energy recovery. It must though be stressed that according to the second paragraph of this article, the choice of local solutions should reflect the overall consequences of the production and management of the waste.

The adoption of Community measures for the promotion of biowaste recycling show against this background very limited relevance. In this connection, the Green Paper reverses the value chain when it states that "Strengthening the supply of "clean" bio-waste could encourage investment in composting and biogas facilities." As for any other production, it is the demand for compost and other materials from biowaste that drives investments. The source separation of biowaste can be a means to live up to the quality requirements established by buyers. The separation at source of biowaste should never become a waste policy goal in itself.

Question 6: Use of compost.

The use of the word "compost" for products resulting from the treatment of separated biowaste, which can be used in food production as well as for materials resulting from the treatment of mixed waste, which belongs to the waste regime, can in itself be a barrier against the uptake of compost. It is well known fact, that many agro-food producers include in their contracts with their suppliers clauses that ban the use of soil improvement materials from waste in the production of agricultural goods. It is *waste denmark* opinion that the use of the designation "compost" ought to be limited to products resulting from the treatment of source separated waste.

Quality standards.

Standards are the common language for producers and customers. They play the double role of setting result requirements for the treatment processes and of guaranteeing the quality of the product to consumers. The establishment of quality standards contribute to promoting the trade of the products or materials they apply to. Since the use opportunities for treated biowaste depend on its quality, *waste denmark* has the view that different standards should be established corresponding to he different applications.

Environmental issues.

The use of treated biowaste can have environmental consequences. The most serious ones are:

- The contents of pollutants like heavy metals and organic compounds can contribute to increasing the concentrations in soils. This again may lead to unbalance in the ecosystems and result in heavy metals being taken up in the edible part of plants and vegetables. Among the organic compounds, those that are the most problematic are the ones that present a potential for accumulation.
- The risks to spread pathogens coming from humans, animals and plants.
- The unbalanced addition of nutrients like phosphor and nitrates.

The rules applying to the use of treated biowaste should therefore be based on the content of pollutants as well as on the different applications.

The pollutants and the establishment of maximum concentrations thereof are part of the quality standards that may apply to the results of the different treatments. At the same time, the sampling and analysis of the measured parameters represent costs that impact greatly the marketing of treated biowaste. Promoting the recycling of biowaste requires therefore that we strike a balance between costs and the environmental and health considerations to be made. The probability of the presence of pollutants depends on the quality of the input material. It is thus necessary to establish different requirements for compost and for stabilised biowaste. The Community has a role to play in establishing standard procedures for sampling and analysis of the relevant pollutants and pathogens. For the elaboration of a complete list of these parameters, there is currently enough information available in literature, hereunder the Commission own study, Heavy metals and organic compounds from wastes used as organic fertilisers (ENV.A.2./ETU/2001/0024)JULY 2004.

The measurements of pollutant contents in compost from separated waste show that the concentrations are comparable to those of most types manure. Concentrations are much higher in stabilised biowaste. The above mentioned study indicates for example 50-100 higher concentrations of PCBs in stabilised biowaste than in compost. Because mixed biowaste can be contaminated by numerous pollutants, it is quite impossible to establish an exhaustive list of parameters that should be measured to prevent any environmental or health problems. The use of stabilised biowaste should therefore be regulated by waste legislation and made dependant on the quality of the recipient.

Question 7: Operational standards / IPPC.

A number of treatment operations applied to biowaste fall currently outside the scope of Directive 96/61/EC, which only covers disposal operations. They have so far thus only be covered by the general permitting requirements of Article 9, §1 of the WFD. The formulation of these requirements is rather vague and their interpretation in Member States has been widely diverging. This again results in very different treatment requirements and operational standards, which prevent the establishment of a level playing field.

waste denmark welcomes the Commission proposal for a directive on industrial emissions (IPPC recast). The proposal offers an extension of the scope to include a.o. the recovery treatment operations applied to biowaste.

Question 8: Other treatment methods / R&D.

Because alternative methods to make use of biowaste are still under development, it is for the time being hard to assess their pros and cons. The potential contributions of these methods to the climate and soil policies are, as underlined in our general comments, some among the elements that should be considered when the choice of the most appropriate management system has to be made. In designing the future measures applying to the management of biowaste, it will be very important to ensure that these measures allow for the research in, the development and uptake of new treatment technologies.

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