



European Economic and Social Committee

NAT/434
Management of bio-waste
in the EU

Brussels, 1 October 2009

OPINION

of the
European Economic and Social Committee
on the
Green Paper on the management of bio-waste in the European Union
COM(2008) 811 final

Rapporteur: **Mr Buffetaut**

On 3 December 2008 the European Commission decided to consult the European Economic and Social Committee, under Article 262 of the Treaty establishing the European Community, on the

Green Paper on the management of bio-waste in the European Union
COM(2008) 811 final.

The Section for Agriculture, Rural Development and the Environment, which was responsible for preparing the Committee's work on the subject, adopted its opinion on 2 September 2009. The rapporteur was Mr Buffetaut.

At its 456th plenary session, held on 30 September and 1 October 2009 (meeting of 1 October 2009), the European Economic and Social Committee adopted the following opinion by 160 votes to 1 with 4 abstentions.

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1. **Conclusions**

- 1.1 The European Economic and Social Committee welcomes the process initiated by the Commission in its Green Paper. Nonetheless, it regrets that the discussion has been restricted to bio-waste only rather than extending to all bio-degradable waste.
- 1.2 In the absence of any common legislation, it recommends drawing up legislation harmonised in terms of its principles and technical methods.
- 1.3 The EESC stresses the need to respect the waste hierarchy and to encourage and promote recycling as well as recovery, particularly energy recovery.
- 1.4 The Committee is in favour of ensuring that as much as possible is done to help prevent the production of waste by consumers and industrial producers though it is aware that the amounts which may thus be saved are insignificant. Since local conditions can have a significant impact on how bio-waste is managed and how the material produced is used, the Committee considers that the European Union should, for the time being, prefer clear guidelines and the definition of a quality objective to uniform binding rules on the means of producing compost. The Member States must therefore retain some room for manoeuvre in the implementation of European objectives. Nonetheless, a report should be drawn up on the implementation of the EU's policy five years after the directives come into effect. If the findings of this report are unsatisfactory, consideration should be given to legislation which is more restrictive in nature.

2. **What is meant by bio-waste?**

- 2.1 Bio-waste is understood to embrace biodegradable garden and park waste, food and kitchen waste from households, restaurants, caterers and retail premises, and comparable waste from food processing plants. The definition does not therefore include forestry or agricultural residues, manure, sewage sludge, or other biodegradable waste such as natural textiles, paper or processed wood. The subject of the Green Paper, therefore, is firmly focused on bio-waste and not on biodegradable waste, a broader notion which also encompasses bio-waste.
- 2.2 The total annual amount of bio-waste in the EU is estimated at 76.5-102 tonnes for food and garden waste included in mixed municipal solid waste and up to 37 tonnes for waste from the food and drink industry.

3. **Why a Green Paper?**

- 3.1 It must be stressed at the outset that national policies vary considerably from one Member State to another. The key question, therefore, is to establish whether such national policies are sufficient or whether Community action would be preferable, bearing in mind that local conditions, especially climatic conditions, are of particular importance.
- 3.2 The Waste Framework Directive calls upon the Commission to assess the management of bio-waste, with a view to submitting a legislative proposal or guidelines, if appropriate.
- 3.3 Two working papers were issued by the Commission in 1999 and 2001, yet the situation has changed substantially in the meantime, particularly following the accession of the 12 new Member States.
- 3.4 The aim of the Green Paper, therefore, is to explore options for improving the management of bio-waste in the European Union. This will involve launching a debate on the utility of future Community action, which will take account of the waste hierarchy and the potential economic, social and environmental gains. The difficulty of the task lies in the fact that many uncertainties surround this issue.

4. **Current techniques**

- 4.1 The following techniques are used in the Member States:
- separate collection, which allows the production of a superior quality compost,
 - landfilling, which is still widely used as a method of municipal solid waste (MSW) disposal,
 - incineration, involving energy recovery (less relevant in southern EU Member States, where there is less need to utilise heat produced),

- biological treatment,
- co-processing with other types of waste,
- converting compost material into pellets,
- aerobic processing,
- anaerobic processing
- mechanical biological treatment, which combines sorting with biological treatment.

4.2 All of these techniques are used in the Member States, although it is possible to identify three main trends: the use of incineration to divert waste from landfills, the existence of high material recovery rates with relatively low incineration, and the use of landfill.

4.3 There is also some variation in the existing standards. Standards on the use and quality of compost do exist, but they differ from one Member State to the next. There is also a standard on energy recovery. Both were drawn up at EU level.

4.4 The environmental and economic effects vary according to the techniques used. Landfilling is considered to be the cheapest option, while incineration requires higher levels of investment. It is difficult to establish a single cost for biological treatment due to the diverse range of technologies used.

5. **General considerations**

5.1 Scope of application

5.1.1 The scope of the Green Paper does not encompass all biodegradable waste. This choice is somewhat restrictive as it means that biodegradable waste is not considered in its entirety. In a sense, this has created a new category of biodegradable waste which includes only biodegradable waste from parks and gardens, kitchen waste and waste from the catering industry or the agro-food industry.

5.1.2 The channels for waste collection and the measures for the treatment of bio-waste and biodegradable waste, as well as recovery procedures, are drawn up and implemented in a common manner. It would therefore have made more sense to adopt a general harmonised approach based on a single set of rules. If it is impossible to put such harmonised legislation in place, rules with harmonised principles and technical methods will at least be needed.

5.1.3 Bio-waste management methods (and for biodegradable waste in general) must naturally respect the waste hierarchy: prevention, recycling (reuse is of little relevance in this case), other forms of waste recovery, including energy recovery and, lastly, disposal.

5.1.4 Waste prevention is the preferred method. In practice, this involves reducing the amount of unused food present in waste and cutting down on the production of garden and park waste

through specially tailored methods of cultivation. Nonetheless, realistically speaking, the production of bio-waste is inevitable.

- 5.1.5 Recycling should be considered to be the principal waste management method for such waste. It involves producing organic compost, or fertiliser through the process of methanisation. The collection method used prior to biological treatment is of critical importance. There are two possible options: separate collection at source or the collection of mixed waste followed by sorting at the waste plant. It should be noted that the quality of the materials used to produce compost has a significant impact on the quality of the end product. The vital issue here is to ensure that the objectives in the area of recycling and final quality are achieved irrespective of which technology or organisational methods are used.
- 5.1.6 In the case of biodegradable waste, the efficiency of the recovery process is optimised by methanisation. The energy recovery of residual waste is an essential complement to the recycling procedures for biodegradable waste and ensures that none of the energy it contains is wasted.
- 5.2 Use of compost
- 5.2.1 As far as the use of compost is concerned, it is worth stressing that the market for compost varies greatly according to the different circumstances existing in the various Member States; moreover, the import and export of compost is very limited. The market for compost is essentially local. In some countries, compost is primarily used for agricultural purposes; in others, the focus is more on using it for revegetation or as a fertiliser for retail sale. It would therefore make sense to draw up rules based on the end use of the final product. Three main types of use/product can be identified:
- Plant and soil nutrition
 - Improving the physical properties of soil
 - Partial replacement of soil.
- 5.2.2 In all cases, the health and environmental quality criteria of the final materials (compost or digestates) must be established on the basis of scientific risk analyses. The final quality criteria of the compost and digestates must be determined according to the planned use and based on genuine risk analyses underpinned by tried and tested methodologies.
- 5.3 The decision-making level
- 5.3.1 When considering how best to develop bio-waste treatment, the conditions for which vary according to factors such as geography, climate or the market for compost, it is better to delegate the task to the Member States within clear guidelines established at European level, and on the basis of scientifically established quality criteria.

- 5.3.2 The EU's policy should therefore involve defining standards for compost, strongly supporting separate collection and recycling, and defining standards for the compost production process and the exchange of best practices. Overall, the policy should retain a certain degree of flexibility, hence the preference for clear guidelines rather than legislative measures which are too restrictive and poorly adapted to local conditions. Local authorities have a broad range of measures at their disposal, including pricing and taxation policies. In France, for example, if a local authority opts for separate collection this entails a reduction in the tax on refuse collection, which benefits the taxpayer directly and acts as a strong incentive for local authorities. Nonetheless, it is still easier to organise separate collection in rural or semi-rural areas than in the heart of urban areas, particularly old towns.
- 5.4 Compost classification. Rather than classifying the quality of compost according to the type of collection method used (separate or mixed) quality criteria should be drawn up for the final product irrespective of its origin based on robust scientific and health criteria and its planned use.
- 5.5 Technologies to be encouraged. While it is difficult to impose separate collection since this may turn out to be very difficult in practice, particularly in the heart of urban areas, it should nonetheless be encouraged where it is technically and economically feasible. This should be accompanied by a strong information and communication campaign in order to encourage a change in people's behaviour and attitudes.
- 5.5.1 Biological treatment should be favoured over other forms of treatment, in particular landfilling. It is worth noting that economic and fiscal instruments can help encourage the development of alternative solutions to waste disposal e.g. by increasing or levying taxes on waste disposal for the purpose of financing their processing or utilisation. The alternatives put forward must also be affordable.
- 5.5.2 There is a need to focus on the waste hierarchy and to bolster waste prevention policies.
- 5.6 Plants not covered by the future IPPC Directive. Those plants which fall outside the scope of the future IPPC Directive (i.e. which treat less than 50 tonnes of bio-waste per day) should still comply with quality assurance standards. It should also be stressed that while such small plants represent 30% of installations, they process only a fraction of the total volume of waste.
6. **Specific comments: eight questions**
- 6.1 The Commission addressed eight specific questions to the various stakeholders. The European Economic and Social Committee would like to respond to these questions.

6.2 Question 1: waste prevention

6.2.1 We can only endorse the overall objective of preventing the production of waste. Prevention can be quantitative or qualitative in nature. In the case of the former, the idea is to limit the amount of waste entering municipal waste channels through composting at home or at local level; in practice, however, these techniques have a limited impact in terms of volume and have little effect over the short and medium term. In the latter case, the aim is to avoid the contamination of bio-degradable waste.

6.2.2 In both cases, there is a need to raise awareness and to educate the general public, who play a key role not only in the production of waste but also in terms of the separation and collection of waste. In particular, this process of awareness-raising must focus on the largest producers of waste.

6.2.3 The following concrete measures could be put forward:

- campaigns to prevent the creation of food waste;
- the use of biodegradable and fully compostable bags;
- separate collection of dangerous household waste;
- encouraging the development of separate bio-waste collection for the largest producers;
- preventing the production of waste in the supply chain.

6.3 Question 2 Restricting landfill

6.3.1 Reducing the amount of bio-waste sent to landfill sites benefits the environment and enables bio-waste energy recovery, making it possible to recycle materials and produce more compost, but is dependent on the availability of affordable alternatives.

6.3.2 Biological treatment should be encouraged, e.g. through financial incentives. In France, the increase in the tax on landfill was accompanied by additional funding for biological treatment. Consideration should also be given to setting a rate for the recycling of biodegradable waste.

6.4 Question 3: Options for the treatment of bio-waste diverted from landfills

6.4.1 The anaerobic digestion of waste for the production of biogas and the use of digestate to produce compost would appear to especially advisable. This method is in line with the "lifecycle" concept as it makes it possible to reduce greenhouse gas emissions, improve soil quality through compost and ensure biogas recovery.

6.4.2 Irrespective of the method used, priority should be given to recycling involving the production of fertilisers which will return to the soil, through biological treatment which has a proven beneficial impact on the environment.

- 6.4.3 The concept of the life cycle is interesting but its use is hampered by the fact that the instruments currently available for its implementation do not make it possible to apply it in practice. Management evaluation methodologies must be improved to take account of the effects of climate change and the soil quality issue.
- 6.4.4 Less stringent provisions should apply to the incineration of homogeneous waste given the lower risk involved in its incineration.
- 6.5 Question 4: energy recovery from bio-waste
- 6.5.1 Municipal biodegradable waste accounts for 2.6% of all renewable energy produced. This is the result of the treatment methods currently used: incineration, treatment of biogas derived from waste disposal sites, biogas derived from methanisation.
- 6.5.2 According to the European Environmental Agency, the energy potential of municipal waste could be equal to as much as 20 million tonnes of oil equivalent, which represents nearly 7% of projected global renewable energy potential in 2020. There is therefore considerable scope for progress in this field. We should not therefore automatically take a negative view of bio-waste energy recovery. The development of bio-waste methanisation should be seen as an option which is worthy of further promotion.
- 6.5.3 It is vital to promote the development of new and more efficient technology in order to boost waste disposal via biogas plants and foster other kinds of waste use in biofuel production.
- 6.6 Question 5: Bio-waste recycling
- 6.6.1 It is essential to support the increased use of bio-waste recycling and recovery. Not only is it necessary to inform and encourage bio-waste producers; we must also try to influence the public administrations responsible for these matters. Each Member State could be encouraged to set a target for the use of fertilisers from renewable sources.
- 6.6.2 The following measures could be considered:
- Tax incentives promoting recycling of biodegradable waste and compost/digestate recovery
 - The introduction of clauses into public contracts encouraging the use of fertilisers from renewable sources
 - The promotion of quality assurance systems at the various stages of the biological treatment process
 - Energy recovery of residual waste.

6.7 Question 6: Strengthening the use of compost/recycling

6.7.1 Considering the diversity of uses and products in question, rules should be set both for compost and its use.

6.7.2 There is a need to set maximum levels of contaminants, pollutants and pathogens for compost.

6.7.3 Regarding the use of compost, it would be useful to identify objectives in the area of:

- plant and soil nutrition;
- improving the physical properties of soil;
- the partial replacement of soil.

6.7.4 Each objective would correspond to the characteristics and quality of the compost in question. In each case, health and environmental quality criteria should be established for the final product on the basis of scientific risk analyses. These criteria would cover pollutants, pathogens and impurities.

6.7.5 The question of using compost obtained from mixed waste raises the question of the treatment method used. Separate collection at source is the surest method yet its organisation is not always simple. The alternative solution involves the collection of mixed waste followed by sorting at the waste plant or dedicated sorting facility. Therefore, as several different techniques are available, care should be taken to ensure that the objectives in the area of recycling or final product quality have been achieved, whatever method is used.

6.8 Question 7: Gaps in the regulatory framework

6.8.1 All waste treatment plants must be subject to a strict monitoring and regulatory framework. A text specifically dedicated to the management of biodegradable waste, which sets minimum European standards, would make it possible to improve monitoring of composting plants, which are often below this threshold, without having to modify the levels set in the IPPC Directive.

6.9 Question 8: Advantages and disadvantages of the abovementioned bio-waste management techniques

6.9.1 The Green Paper makes reference to the waste hierarchy. Accordingly, it quite rightly recommends restricting landfill. Incineration can represent a good method of bio-waste energy recovery, however, the nature of this process means that the nutrients contained in bio-waste cannot be used to improve soil quality. Composting has the advantage of producing a material which acts as a highly effective fertiliser and ensures soil nutrition. Its disadvantage lies in the greenhouse gases emitted during the compost production process. The anaerobic

digestion of waste involving the production and recovery of biogas and the use of digestate to produce compost is a more complex process which requires higher levels of investment than composting; nonetheless, it provides a purer source of renewable energy.

- 6.9.2 In any event, it is important to help maintain operators' capacity for technological innovation so that they can develop procedures and improve them both from an economic perspective well as in terms of quantity and quality. The key issue is to ensure the production of the highest quality compost possible and to focus on the importance of obtaining results, based on scientifically established thresholds, and not on setting pre-determined technical methods.

Brussels, 1 October 2009.

The President
of the
European Economic and Social Committee

Mario Sepi
