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# Proceedings

## Workshop

### *Ecologically Sound Use of Biowaste in the EU*

**Brussels, 31 May – 1 June 2006**

## Imprint

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## **Preliminary Remarks**

Over the past few years the recovery of biowaste has become an important part of waste recovery within the EU. Bio-waste holds a share of 30-45% of municipal waste across Europe. Composting or the fermentation of separately collected biowaste generates compost that improves the humus balance of soils and provides a substitute to mineral fertilisers. Therefore, the utilisation of biowaste contributes to a sustainable use of raw materials. In addition, the use of recycled biowaste also contributes to climate protection as it prevents the formation of climate damaging landfill gas with methane as its main component. Methane is formed and released in large quantities when biowaste is landfilled, which still is a common practise across Europe.

In view of these positive effects of biowaste recovery, the target of the Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste to reduce biodegradable waste from landfill to 35 % of the volume landfilled in 1995 by 2016, the recycling of biowaste seems a sensible option. This should lead to a situation where approximately 20-40 million tonnes of compost and composted fermentation residues will be generated within the Community. These residues can then be used for the fertilisation of soils and the improvement of their organic substance.

Surveys illustrate that the separate collection of biowaste is a basic prerequisite for the generation of compost with low pollutant concentrations. In addition, further qualitative minimum requirements for biowaste are needed in order to establish a level of protection for soils applicable throughout the Community. The accumulation of pollutants and the spreading of harmful plant organisms should be prevented. Such a specification would satisfy waste and soil management requirements alike.

In 2000, the Commission (DG Environment) tabled the draft proposal for a “Biowaste Directive” that provides for separate collection of biowaste and its use as compost fertiliser. Work on the “Biowaste Directive” was subsequently discontinued by the Commission.

Instead, the Commission announced recently to determine “quality requirements” in the Waste Framework Directive, without however being specific. The amended draft of December 21<sup>st</sup> 2005 does not contain any provisions to this end.

Austria, Portugal, Spain and Germany aim to continue the work on the “Biowaste Directive” (or similar regulations) with clear minimum requirements for compost produced from biowaste (including composted fermentation residues) and the obligation for a separate collection of biowaste including phytohygienic minimum requirements to prevent the spreading of plant diseases.

In cooperation with Austria, Portugal and Spain, Germany organised a meeting of experts in Brussels on **31 Mai/1 June 2006** to discuss the ecologically and agriculturally useful application of biowaste and the adequate legal prerequisites for the application of this material. The following brochure contains the statements and presentations of this meeting.

## **Ecologically Sound Use of Biowaste in the EU**

**HELGE WENDENBURG**

DIRECTOR-GENERAL – FEDERAL MINISTRY FOR THE ENVIRONMENT, NATURE CONSERVATION  
AND NUCLEAR SAFETY

on the occasion of the opening of the joint workshop organised by Spain, Portugal, Austria and  
Germany on 31 May 2006 in Brussels

Ladies and Gentlemen,

I would like to welcome you warmly to this workshop on the ecologically sound use of biowaste. It gives me great pleasure to open this event not only as a representative of Germany, but also on behalf of the Member States Spain, Portugal and Austria. These four Member States have jointly prepared and organised this workshop.

Why did we invite you to this workshop?

We are facing a radical change in the treatment of biological waste in Europe.

The Landfill Directive dating from 1999 provides for

- a 25% reduction in the volume of biodegradable waste consigned to landfill by 2006
- a 50% reduction by 2009
- and a 65% reduction by 2016.

The Landfill Directive thereby makes an important contribution to the protection of the environment. It not only protects our soils, but also the groundwater, the surface waters and – last but not least – our climate.

It is perhaps not widely known that the deposit of un-pretreated waste with high proportions of biodegradable materials as practised so far is one of the greatest emission sources of the greenhouse gas methane, not only at the national or Community levels, but also on a global scale.

As you know, the greenhouse potential of methane is twenty times higher than that of carbon dioxide, which means that cutting one tonne of methane emissions is worth as much as saving 21 tonnes of CO<sub>2</sub>. With this in mind, we must not relax our efforts in the area of CO<sub>2</sub> reduction – for example through emissions trading – but we should not neglect other fields of action either.

A study carried out by the Öko-Institut in Freiburg shows that municipal waste management can contribute as much as 11% to meeting the commitments of the European Community under the Kyoto Protocol. If the Landfill Directive is applied consistently, 3.5 million tonnes of methane, or 74 million tonnes of CO<sub>2</sub> equivalent, could be cut by 2016.

How can we make use of this climate protection potential and at the same time protect the soil and our water bodies?

Our answer, and that of Spain, Portugal and Austria, to this question is the promotion of the separate collection of biodegradable waste.

Ladies and Gentlemen,

The separate collection of biowaste has already been put into practice in many regions of Europe with a wide range of settlement structures. Due to the Landfill Directive, it will become even more common. We are going to try to promote and reinforce this trend.

Let me take this opportunity to describe the situation in my home country in greater detail: More than 20 years ago, it was proven for the first time that comprehensive local and regional concepts for the separate collection and composting of green waste and organic kitchen waste were workable. Large-scale trials demonstrated that the population accepted the introduction of a biobin for the separate collection of organic materials. This had been debated for a long time. Today, separate collection is part of our everyday lives.

In 1985, the treatment capacity for biowaste in Germany was only 100,000 tonnes per year – today it has reached about 10 million tonnes. This means that our capacity has become 100 times higher in only 20 years!

About 8.5 million tonnes of waste are treated in these facilities, resulting in the production of about 4 million tonnes of compost. In Germany, by no means all households are connected to the so-called biobin system. The connection rate is about 50%, which means that roughly one in two households has got a biobin – a quota that could certainly be improved to a certain degree. However, this quota will never come close to 100, 90 or even 80%.

The reduction of the amount of municipal waste due to the separate collection of biowaste can be compared to the effect of the collection of waste paper, waste glass or packaging materials. On average, 100 kg of biodegradable waste per capita are collected in the Federal Republic of Germany each year.

Separate collection has many advantages for the environment: A number of studies have shown that separate collection has led to a leap in the quality of biowaste composts as compared to compost from municipal solid waste (MSW). Biowaste composts contain up to 90% less harmful

substances than MSW composts. Impurities that are not suitable for composting, such as glass, plastic or composites, can be largely avoided through separate collection schemes. The same applies to diffuse pollution.

In order to ensure a continuously low pollution load that is largely independent of the collection area and the composting technique, the strict separate collection of biowaste is imperative.

Separate collection also makes sense from an agricultural point of view: It provides a new resource for the production of highly effective humus fertiliser. Against the background of structural change and the decreasing humus content of agricultural soils, this aspect is gaining more and more importance. Especially in farms focusing only on crop cultivation, organic matter has to be returned to the soil to prevent a loss of soil fertility. The application of composts provides an excellent opportunity to stabilise or improve the humus content of the soils and to promote biological activity. Besides biomass from agriculture, biowaste is the main source of humus. This is particularly interesting for Southern Europe, where we observe – as to some extent in Central and Northern Europe – a decreasing humus content of the soils.

The same applies to the return of plant nutrients such as phosphorus. Deposits of this plant nutrient are limited. In the long term, the agricultural sector will therefore have to increasingly consider the recirculation of phosphorus. The application of biowaste composts thus also makes sense from a financial point of view.

One factor is always essential: Only if the compost has got a high quality standard will it benefit the soils. Compost application must not result in the irreversible accumulation of persistent pollutants in the soil and the exceedance of threshold values derived from the principles of precaution and sustainability! This high quality can only be achieved by introducing separate collection.

Ladies and Gentlemen,

In the course of this workshop, Spain, Portugal, Austria and Germany would like to convince you **that as a matter of principle only biowaste composts produced from separately collected biowaste should be applied to soils. Our workshop places special emphasis on the question: “Do we as Member States want to and can we agree on the separate collection of biowaste and thus source-separated collection of these materials?”**

One thing should be clear from the beginning: It is not our goal to collect and then compost or ferment everything that is biodegradable! We are not striving to impose a general obligation to introduce the separate collection of biogenic waste on a large scale. However, we are aiming at the Europe-wide promotion of the separate **collection of high-quality biowaste for substance recycling**. The message the four organising countries would like to convey is the following: **“Quality clearly takes priority over quantity”**.

There is no doubt for us that materials of inferior quality should be disposed of, not recycled.

We know from experience that the separate collection of biowaste of the appropriate quality is not always feasible – for example in inner city areas. Sparsely populated rural areas – where home composting is often quite common – should also be allowed to opt out of the separate collection scheme. It is therefore vital to consider the specific local situation when deciding on the collection of biogenic waste.

Of course, one central question is: What does it cost? I can reassure you: I do not expect any additional financial burden for the citizens.

The separate collection and treatment of biowaste is initially of course more expensive than the collection and landfilling of un-pretreated waste as practised so far. However, the Landfill Directive and the Landfill Ordinance will render this kind of simple disposal impossible in the future. We therefore have to weigh the costs for separate collection and treatment against the costs for alternative treatment of residual waste. This will often be a zero-sum game, it is simply a question of organising the collection and choosing a technique for separating the waste. In individual cases, composting biowaste can be financially advantageous as compared to the treatment of residual waste, since the latter is more complex.

### **What can we do at the European level?**

I regret that a European biowaste directive has not been elaborated so far. In our opinion, the working paper dating from 2001 was a good starting point from which a biowaste directive could be drafted in a relatively short period of time.

We advocate such a directive, provided that the promotion of separate collection as a prerequisite for well-functioning quality assurance, starting from the source materials, is laid down at the EU level.

From my point of view, there are several reasons that support the introduction of a special directive on biowaste:

- Estimates of the biowaste potential of the Community range from 22 to 45% of domestic waste. In addition, there are large amounts of green waste from the public sector. Even cautious estimates see a potential of over 100 million tonnes of waste and 50 million tonnes of compost produced each year, which could theoretically be applied to very different types of soil.
- If it is not properly pretreated, biowaste can contribute to the dissemination of pathogens. Precautionary provisions for the treatment process and disease control measures are therefore necessary.

- Defining the criteria for the distinction between product and waste in biowaste composts is vital. In my opinion, a few individual threshold values for heavy metals are not sufficient for making this decision. This issue is of particular importance in order to protect our soils against diffuse pollution.
- The question arises if, as we support, compost should be made of separately collected biowaste or if compost can be produced from municipal solid waste. I do not agree with the view that such stabilised municipal solid waste materials should be freely tradable within the European Economic Area. Only if materials stem from separate collection or have been produced from such materials should any thought be given to the conditions under which they could be traded freely as a product.

All those are questions of such significance that they require extensive coordination with the pertinent EU bodies. From my point of view, the best way to achieve this would be a directive.

Ladies and Gentlemen,

On behalf of the four organising countries, I wish you an interesting introductory speech, a lively panel discussion and informative presentations. We very much hope that this workshop will contribute to forming your opinion on the ecologically sound use of biowaste.

My colleague Alejandro will carry out a brief survey among the representatives of the Member States tomorrow, as announced in the programme. Already at this point, I would like to ask the representatives of the Member States to participate in the survey if possible.

Whatever result we get tomorrow, I hope that we, together with the European Commission, will take this result into account in our further discussions on the ecologically sound use of biowaste. On behalf of the Federal Republic of Germany and certainly also of the other Member States, I can assure the Commission that you have our support for any follow-up work.

To conclude, I would like to thank the Goethe Institute for enabling us to host this event in such a central location.

I am also happy to welcome Mr Blokland and Mr Makela as representatives of the European Parliament and the European Commission here among us.

An equally warm welcome goes to the representatives of the European and national associations and authorities that have joined us, as well as to all speakers and participants in the panel discussion.

Thank you also to Mr Meeuws and our colleagues of OVAM. They have made a valuable contribution to this event by providing illustrative examples of biowaste recycling and by organising the visit to the biowaste treatment plant tomorrow afternoon.

You have already received the abstracts for the following presentations. Which leads us to Johann Wolfgang von Goethe, who writes in the most important of his works, Faust: “What one has down in black and white, it is a comfort to take home at night.”

I thank you very much for your attention and now give the floor to Professor Pretz for the scientific introduction.

## **Ecological and Economic Assessment of Biowastes**

**PROF. DR.-ING. THOMAS PRETZ,**  
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### **Abstract**

Speaking about biowastes at first a definition is need, what kind of waste the term biowastes describes. It has to be differentiated between several types of organic wastes. The “clean” type of waste is gained by selective collection of garden and kitchen waste from households. Garden and park waste, including cemetery waste, are similar to the biodegradable kitchen waste depending on the collection system and the season. The main quantity of biowastes is to be found in Municipal Solid Waste (MSW). Although the same term is used, the quality is quiet different depending on the source.

The significance of organic materials for waste management systems results from the mass content in the total amount of MSW and from its specific character. Organic materials are characterised by a low calorific value and high water content.

The European landfill directive is demanding a pre-treatment for MSW before disposal in landfills. Typical technologies for this pre-treatment step are Mechanical Biological Treatment (MBT) and incineration. Both are requiring an investment in technical infrastructure and commit to stable waste quality for a long time. Therefore each decision for a separate biowaste recycling system implies that the treatment system for MSW is directly concerned.

What are the main arguments for a solution with a separate way for biowaste treatment?

1. Biowaste is a source for organic fertilisers (compost).
2. Biowastes can be used as raw material for biogas production combined with the production of organic fertilisers (power, heat and compost).
3. The use of biowaste gives a good opportunity for CO<sub>2</sub> reduction.
4. A separate way for biowastes recycling offers possibilities for the reduction of landfill consumption.
5. Decreasing organic waste content in MSW supports the energetic MSW recycling, i.e. by the production of RDF

The products of all biowaste treatment methods with biological processes are organic fertilizers both for liquid or solid applications. These fertilizers are in competition to industrial fertilizers with high quality demands on one side. Moreover they must prove their suitability, which only is given for special soil qualities on the other side.

To achieve the high quality demands quality control in the whole production chain is required.

The first step in this chain is the collection system. Experiences with composting systems for MSW in the earlier 80 years of the last century have shown the limits to gain compost products.


The solution is that high qualities can only be reached with a mono collecting system for garden and kitchen waste from households and with strong regulations to rule out unreliable users.

For separate collecting systems the following conditions are required:

1. quality demand for all users and quality control for the first enrichment step,
2. offering a second, parallel collecting system without any quality restrictions for the users; sufficient volume for MSW (“grey bin”) to secure the quality of the recycling system,
3. an acceptable organisation of the complete waste collecting system considering hygienic and convenience aspects.

The economic aspects of biowastes recycling result from the efforts operating two parallel systems in waste collection and treatment. Both, the products from MSW treatment and biowastes recycling are featuring low or negative market values, except small shares of metallic or specialized organic products. In general the producers have to pay for the use of the main recycling products as well as for the disposal. If there is a corporate decision to provide recycling, legal regulations to subsidise recycling products can result, i.e. the German EEG. In this case power and heat from organic materials is promoted by legalised prices on a higher level than market value. While compost from biowaste is given to the market with a low or negative value of some € biowaste products for energy use achieve a revenue up to 40 €/t.


With the presentation “ecological and economic assessment of biowastes” an overview about the different treatment methods of biowastes will be given. The connection between different parts of the infrastructure for waste treatment will be explained as well as quality aspects of ambitious recycling products like organic fertilisers.



**Ecologically Sound Use of Biowastes in the EU**  
**Brussels, 31 May – 1 June 2006**


**Ecological and economic assessment of  
biowastes**

Prof. Dr.- Ing. Thomas Pretz

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Waste Materials I.A.R.

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**Biowastes – what kind of waste?**

- “clean” type of **biowaste** = biodegradable kitchen and canteen waste (20 01 08) - reclaimed from households by separate collection of kitchen and garden waste (*“green” or brown bin*) with severe quality demands for the collecting system
- Biodegradable waste from garden, parks and cemeteries (20 02 01), collected only by trained people
- Biogenous ingredients of Municipal Household Waste (MSW), collected with all waste particles the users want to dispose off (20 03 01)

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## The significance of biowastes

1. Biowaste is a large source for **organic fertilisers** and a **peat substitute**
2. Biowastes can be used as raw material for **biogas production** combined with the production of organic fertilisers (power, heat and compost)
3. Biowaste recycling gives an opportunity for **CO<sub>2</sub> reduction**
4. A separate way for biowastes recycling offers possibilities for the **reduction of landfill consumption**
5. Decreasing biogenous waste content in MSW increases the practicability of **energetic MSW recycling**, e.g. by the production of RDF

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## Biowastes in Germany

1. Biowaste from separate collection in households  
**3.4 – 4.0 Mio. t / a**  
or **42 – 49 kg / In\*a** (*inhabitant \* year*)  
differences between urban and rural settlements (**0 – 150 kg/l\*a**)
2. Biodegradable waste from garden, parks and cemeteries  
**4.1 Mio. t / a**  
or **50 kg / In\*a**

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## Organic fertiliser and peat substitute

**Main arguments for material recycling of biowaste:**

- Humus reproduction
- Phosphate recycling
- Peat substitute for household and horticulture use
- Secondary fertiliser in competition with industrial fertilisers but also
- Competition to other organic manures from agriculture

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## Organic fertiliser and peat substitute

- In Germany yearly consumption of **10 Mio. m<sup>3</sup> peat**
- 80 % from German deposits, resources reaching for only 15 – 20 years
- **Current substitution** by compost products from garden and park biowastes:  
300.000 m<sup>3</sup> or **3%**  
**estimated substitution rate:** 1.2 – 1.8 Mio. m<sup>3</sup>/a or **12 – 18%**

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## CO<sub>2</sub> aspects of peat and fertiliser substitution

- Substitution of CO<sub>2</sub> emissions in production processes of industrial fertilisers
- Substitution of CO<sub>2</sub> emissions in digging and treatment processes of peat and by peat resources saving
- Positive CO<sub>2</sub> balance for biowaste recycling with compost production in comparison with peat consumption ( 195 kg CO<sub>2</sub> / m<sup>3</sup> saving)<sup>1)</sup>

<sup>(1)</sup> Kranert Uni Stuttgart, Gottschall, Humus & Erden Kontor, 2005)

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## 2. Biogas and fertiliser production from biowaste

- biowastes fermentation processes offer an available **biogas potential** of **120 – 160 m<sup>3</sup> / t**  
or 0.3 m<sup>3</sup> biogas / kg Dry Organic Matter
- Biogas with an average CH<sub>4</sub> content of 65 % and a calorific value of H<sub>u</sub> = 6.5 kWh / m<sup>3</sup> (~ 65 % of natural gas)
- Biogas production from biowastes is combined with **production of organic fertilisers**  
**compost** for solid applications and / or  
**liquid fertilisers** depending on processing

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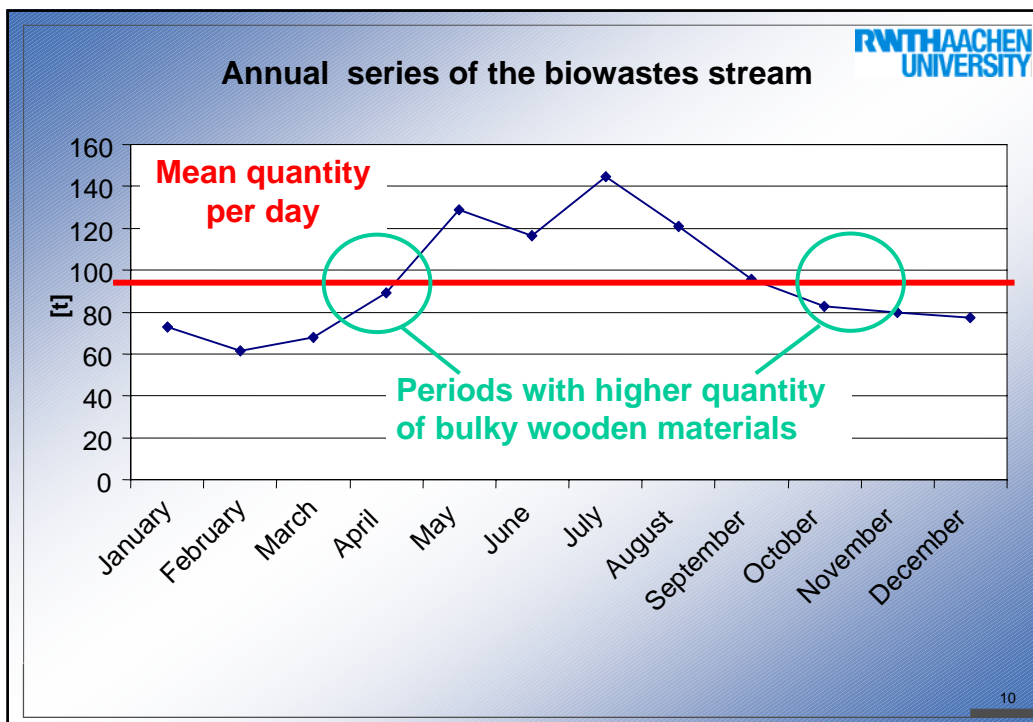
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### Energetic recycling of biowastes

- Calorific content of biowastes is mainly insufficient for energetic use
- Only a small share is able to be used as a fuel substitute
- Separately collected biowaste from household with a potential of approx. 3 %, only available during a short period
- Even the potential of wooden shares of bulky garden and park waste is limited; high quality as fuel substitute in the fraction > 40 mm after shredding and sieving

*$H_u \sim 15.000 \text{ kJ/kg}$ , ash content < 5% after 1st term of composting*

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### Material recycling of biowastes

- material recycling leads to **compost products** for different use; depending on the process type there are solid or liquid fertilisers (fermentation processes)
- Products must be **competitive** to **primary raw materials** (*industrial fertilisers or peat products*)
- **Legal regulations** for **primary products AND for waste recycling products** have to be considered (*e.g. fertiliser regulations*)


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### Material recycling of biowastes

- primary versus secondary raw materials -

**Industrial  
fertilisers**





3 kg / m<sup>2</sup> every 3 years  
– good soil quality

or

2 kg / m<sup>2</sup> every 3 years  
– medium soil quality

**Compost products**  
**Liquid fertilisers  
from fermentation**





SOIL

Possibility and quantity of  
secondary fertiliser utilisation  
depends on SOIL quality

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### Quality control for recycling products

- High quality demand for recycling products like organic fertilisers from biowaste recycling requires an intensive quality control over the whole recycling chain
  1. raw materials “**mining**” – **separate collection**
    - *technical enrichment from MSW possible?*
  2. waste **treatment** system with **biologic processes** and process control
  3. products to **market**
- **Product status** is only possible with a **quality control** system

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### Separately collected recycling fractions

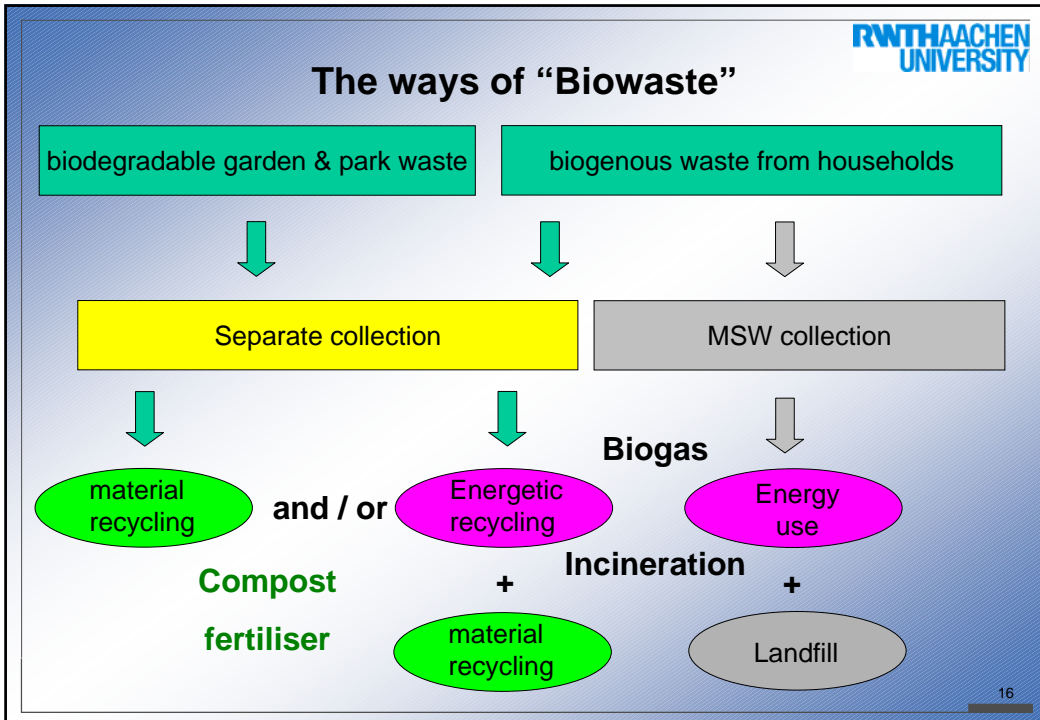
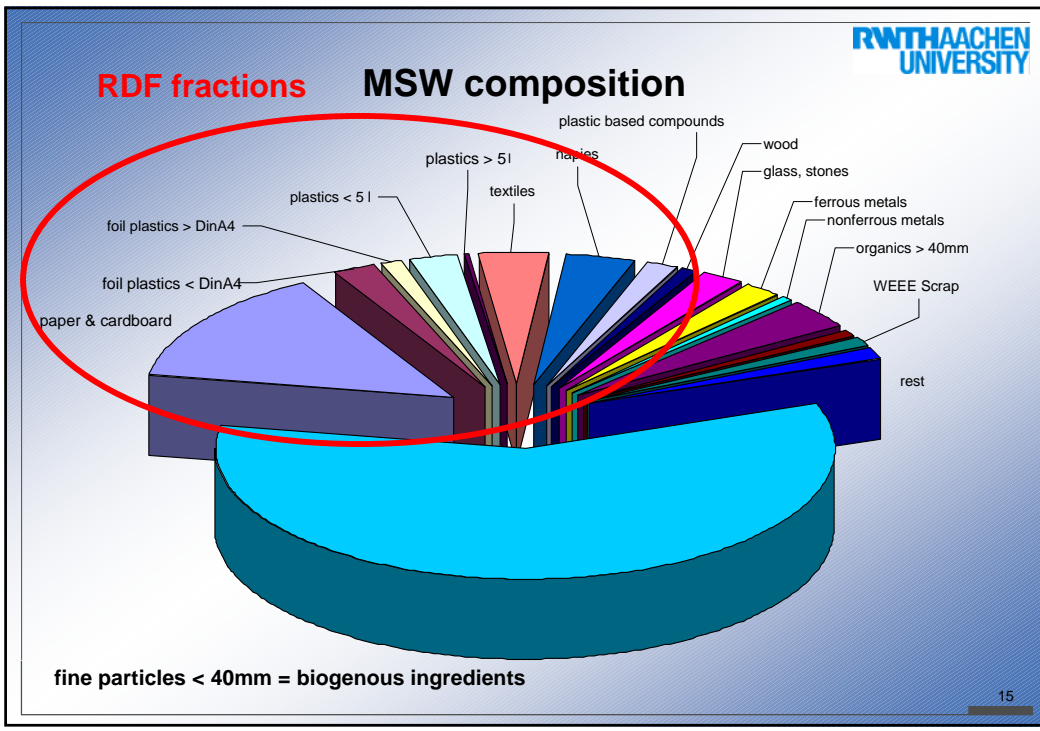
**Level A**

Level A: separately collected fractions with specific quality demands

**Level B**

Level B: MSW collection without any quality restrictions; waste collection is only considering hygienic aspects

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## Economic aspects of biowastes treatment

1. Material recycling with solid and liquid fertilisers results in **competitive products under quality aspects**
2. **Product value** is low or NEGATIVE, due to the lower convenience in utilisation, i.e. the **producer has to pay for utilisation!!**  
*(Here compost is largely comparable with several other recycling products like plastics, recycled construction materials or fuel substitutes)*
3. Only a small quantity of the products from biowastes is featuring a POSITIVE market value (< 10% of total product amount)
4. Large demand for "bio"fuel by specialised power plants is leading to positive market value for wood and wooden materials e.g. from biowastes

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## Economic aspects of biowastes treatment

1. **Energetic recycling is supported by national administrations**, in Germany by EEG rule, materials recycling is **only called for without financial incentives!**
2. Biogas production from biowaste and utilisation as fuel is supported with an amount up to 9 €cent/kWh, that means **up to 40 €/ t of biodegradable garden and park waste!**  
*(Impossible to achieve by materials recycling, not even with highly priced specialised products)*
3. Consequence: increasing quantities of biowaste shares are following the money into energetic recycling streams

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### Conclusion (1)

- Biowastes are a significant source both for material and energetic recycling
- solid and liquid fertiliser products from biowaste recycling have to be utilised under short term market aspects without any incentives but with several quality restrictions
- Governmental support is limited to energetic recycling aspects, so there is lack of competitive conditions
- For fertiliser utilisation a strong quality control for the whole recycling chain is required, absolutely starting with a separate collection of biowastes

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### Conclusion (2)

- Positive ecological effects can be achieved both with material and energetic recycling
- Due to the specific quality of biowastes there is no choice between the different types of recycling, only small quantities are suitable for use as fuel substitute
- "Recycling" of the biogenous content of MSW is limited to biogas production via fermentation process, but the final solid or liquid product is not comparable with products from separately collected biowaste. It must be stored in landfills!

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## **Panel Discussion**

### **– Pros and Cons for an EU Wide Provision on Biowaste –**

#### **CHAIR:**

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All participants where asked two questions, a common introduction question for all panel members and a second individual one.

#### **The common introduction question:**

*Biowaste accounts for 30 % to 45 % of municipal waste across Europe. The total biodegradable waste arising of municipal waste for EU 25 is estimated to be around 120 to 130 MT . Yet, the “waste stream” biowaste can contribute significantly to soil protection.*

*In your opinion what would be the most effective way to increase the use of biowaste as a resource in Europe?*

**Johannes BLOKLAND, MEP, Vice Chair of the Environment Committee**

**Individual question:**

*The Sixth Environmental Action Programme requires in Article 8.2 the development of legislation on biodegradable waste. As the vice chair of the Environment Committee of the EP would you consider the definition of end of waste criteria for compost sufficient in order to meet this requirement? What are your policy recommendations with regard to biowaste?*

As the rapporteur of the EP on the Thematic Strategy on Waste Prevention and Recycling my first remark is that our goal is to achieve a sustainable society which is based on prevention and recycling of waste. We have already a Landfill Directive with the aim to diminish the landfilling. And we have an Incineration Directive with the aim to prevent landfilling where possible. There are some specific directives to promote recycling (old cars, electronic waste and batteries). But we don't have a recycling directive which promotes recycling. We have only negative horizontal directives. Now we have a need for a positive directive on recycling. For the most important waste streams such as construction and demolition waste and biowaste we need a specific directives. That was agreed in the 6<sup>th</sup> Environmental Action Programme and the EU Commission has to produce this proposal for a directive in due time – in my opinion.

Only a directive is not enough.

As it is proved in The Netherlands, an information campaign is very strategic to reach a high quality of compost from separate collection of biowaste.

Separate collection of biowaste saves a lot of money for the consumer and the municipalities. A directive is necessary to give sufficient certainty to the investor.

Only end of waste criteria are not enough.

We need more incentives. Thank you very much.

**Franz MOCHTY, Ministry for Agriculture AND Forestry, Environment and Water Management, Austria**

**Individual question:**

*There are some differences regarding the most effective way on how to support the recycling of biodegradable waste in Europe. What options does the Council have to contribute to a practicable solution?*

Thank you, Stephen, I will try to answer both questions at once, starting with the experience in Austria.

The first activities of recycling of the organic fraction of household waste started at the turn to the eighties. Some waste treatment operators saw clearly that land filling of untreated household waste was not an environmentally sound option. And so they tried very hard to produce an

acceptable quality of municipal solid waste compost. In parallel an Austrian standard on the quality requirements for such a material was elaborated. Also some provinces established regulations on the quality of municipal solid waste compost and its use. But there was one major problem for these activities. The producer could not gain enough confidence for their material by the consumers. And it was never possible to establish a market for these products.

At the beginning of the nineties there was a most important step taken for achieving the actual situation in Austria in recycling of the organic fraction of the household waste. Some provinces started to promote a system for separate collection of high quality biowaste. Further the farmers themselves saw that the valuable resource, the organic fraction, can be – if it is well done – the source for high quality compost which is needed for environmentally sound farming taking into account humus management systems as known as one of the most important needs today.

There was an important paradigm change: away from the philosophy to get rid of an unwanted waste material to the conscious production of a compost product of high value for the environment and soil. This also affected the perception of the consumers. The people experienced and acknowledged how their separately collected biowaste was transformed into a high quality product supporting soil fertility and high quality food production. By recognising this natural and transparent recycling process, the citizens became a supportive partner.

This was the beginning of the success story of separate collection of biowaste and production of high quality compost in Austria.

In parallel Austrian compost standards were adapted according to the source separation system and some of the provinces issued regulations and waste management plans for biowaste recycling.

An important step on the federal level was the ordinance on separate collection of biowaste in 1992. This is one of the shortest (not even one page) but most effective regulations in the Austrian waste legislation. It introduced a general system for separated collection of high quality biowaste all over the country. The establishment of the collection system itself lies in the competence of the provinces.

Another key factor for the success of the recycling strategy in Austria was the education of the citizens. This task was done predominantly covered by provinces and municipalities during introducing the separate collection system.

All of these steps together increased the compost quality constantly and – as a result – the consumers confidence in compost.

Finally, based on the experience gained in the nineties a federal compost ordinance was elaborated with detailed requirements for the source material, the compost itself, a quality management and assurance system for the production of the compost including the monitoring, documentation and external quality approval system through quality assurance organisations as well as local authorities. This regulation serves as an interface to the soil regulations of the provinces.

On the one hand a uniform market for the *product compost* was introduced, on the other hand the provinces still have the possibility to take into account specific local conditions for the application rules for compost.

Summing up: the key factor for a successful recycling of biowaste is the confidence of the consumer in the final compost product. This can only be achieved if the consumer trusts in the entire production process starting from valuable, quality assured material fit for the purpose of high quality compost production. A prerequisite for this is on the one hand that the compost is produced with a transparent quality assurance system and on the other hand that high quality source material are used. Establishing a set of limit values for compost as a product on a European level is definitely not sufficient to reach that goal. Even more this would constitute a risk for establishing or maintaining the compost market by losing the confidence of the compost clients and consumers in the offered products. Thank you.

**Timo MAKELA, DG Environment, Sustainable Development, Directorate G – Sustainable Development and Integration**

**Individual question:**

*The Commission changed its perspective on how to support sustainable biowaste management most effectively. Whereas the Commission drafted a proposal for a Biowaste Directive in 2000 the work was discontinued recently. Preference is given to the establishment of end of waste criteria for the definition of compost to be placed on the markets. Nevertheless the Commission remains open for biowaste Directive as pointed out at the Environment Council meeting in March.*

*What are your major reservations with regard to EU-wide binding measures for the treatment of biowaste? In your view which requirements have to be fulfilled before reconsidering legislation?*

Thank you for this question. I think there is some misunderstanding about what the Commission really has proposed. We are out to promote the sustainable use of biowaste across the EU 25 or 27 countries in the future. Let me summarise the important issues:

There are two key issues for promoting the sustainable use of biowaste in Europe. First of all the Landfill Directive and the implementation of its progressive diversion targets. That is by far the most important driver for the use of biowaste as a resource. And as we all know the progress is mixed across the EU Member States and I am not only talking about the new members but also the old Member States. This will drive the change. And of course the second important thing was highlighted already by our Austrian colleague, which is the build up of the confidence in the use of biowaste in a sustainable way with a range of measures done nationally but also proposed by the European Commission in its proposal.

Let me then come to the 2<sup>nd</sup> set of questions.

First of all, the Commission has not changed its direction and policies. I really want to emphasise this right from the beginning. The Commission with its proposal is for binding rules for the management of biowaste, and not against binding rules. In fact such rules exist already. And we have proposed further rules, also to build the confidence in biowaste. Biowaste cannot be seen as a waste but rather as a resource in the future and with this notion and with this approach we can build up the confidence for biowaste of good quality in the future.

What are the binding elements we have proposed?

First of all there is the landfill diversion requirement. If all Member States will implement this not we in the Commission, but the Member States are forced to find a way for the alternative sustainable use of biowaste.

Additionally we proposed to introduce European wide quality requirements for compost and also standards for waste treatment across the EU.

We believe that there is a lack of citizens' confidence in the waste management, be it biowaste or anything else. And that is why we need good environmentally strict standards on waste management throughout the chain starting from collection to treatment and further until the use, in this case the use of compost. By doing so people start accepting waste management as an industrial or local solution rather than seeing it as a waste.

This is very important and we hope that we will get support for this proposal. This will be done and proposed through the IPPC directive, this is certainly a key of our proposal. Environmentally at a high standard also by preventing a shady or low standard operation to dump the prices etc. leading to unfair competition.

Thirdly, we clearly have stated: waste hierarchy as a guiding principle has been there and will remain from our perspective. Again this is a driver for sustainable use of biowaste. Of course with a notion of environmental impact. If there are cases where environmental impacts justify a diversion of the waste hierarchy, I propose that this should be a possibility.

It is clear that a mix of policy instruments are being used already in the Member States. Those countries who are advanced in recycling of the biowaste are also advanced in other ways of dealing with the biowaste. We need to see the reality in the Member States, that is where we come from.

How do we see the way forward from the proposal that has been presented?

If you think of additional legislative requirements, what could they cover? There are basically two ways of thinking how to go further.

First of all, should we move in the EU towards a total ban of landfilling biowaste? This would be environmentally and also for the sustainable use of the biowaste the most efficient way.

A second possibility is to introduce a mandatory treatment option across the EU – such as composting for biowaste – on a European level.

We have not got that far with the legislation. These two options from our perspective raise several issues as has been highlighted in the opening statement by Mr. Wendenburg. They need to be looked at and analysed a bit further.

I already mentioned that the progress of the diversion target of the Landfill Directive in the EU across 25 or 27 countries is mixed at best. Many Member States are struggling with this diversion target. From 1990 level up to 2016 the target is 35% at the moment. Of course we from the Commission are ready to go further as long as Member States are ready to move in this direction. We have not yet proposed it. Of course we have to be a realist with our proposals. Secondly we need to look whether we have a mandatory method for the waste treatment. We need to analyse it a bit further whether one size fits for all as an approach across the EU and of course there we need to look at the issues such as experience in the Member States or whether the diversion targets are going to be enforced. Also we need to look at the environmental impact side a bit further and also do some cost/benefit optimisation work. We have promised that we are ready to work with all of you on guidance to start with, come up with a best practise guidance on the management of biowaste perhaps than leading to something more binding in the future. This is something that we have proposed to start working rather immediately. We have also promised to come back to the issue in Europe by 2010, meaning that we keep on working in looking at what additional legislative measures, if any, would be needed. Thank you.

**Peter KNEISSL, FEAD**

**Individual question:**

*As a representative of the European waste management industry where do you see the economic potential for the sustainable use of biowaste? What are the pre-requisites to set up a viable infrastructure for the separate collection and treatment of biowaste?*

Thank you very much for the kind invitation to this very important conference. I represent FEAD, the European Federation of Waste Management and Environmental Services. FEAD was and is part of a coalition calling for the development of a separate directive on biowaste. This coalition included also ASSURE, ECN, EEB, ISWA and RREUSE. This coalition initiated a number of letters and a lot of discussions proposing a biowaste directive to the Commissioner Mr. Dimas. FEAD is calling for a biowaste directive covering the biological treatment of waste and organic matter recycling including the recycling of the organic material as a product. FEAD is in favour of integrated systems and this means that we do not favour one single treatment option. It is necessary to carefully analyse the different situations and possibilities in every country or region.

For example Austria: We have a landfill ban for untreated waste since 1 January 2006. It needs a lot of time to adapt and regulate all waste treatment systems in the right way. The Recycling Park Wels, in Austria includes a big incineration plant (see photo), with a capacity of more than 300.000 tons per year, a RDF production feeding some very interesting industrial energy

production systems, a demolition plant for construction waste and a composting plant with an integrated Biogas Plant.



Recycling Park Wels, Austria

To produce high quality compost for the use in agriculture and private gardens you need separate collection systems. The Landfill Directive is a very good incentive. But to fulfil the targets we should give the different treatment options the ecologic and economic chance.

Another good incentive is the Commissions intention to develop harmonised quality standards for compost to become a product (end of waste status). It is necessary for us to get good quality standards for EU wide transport (shipment and trade).

A lot of time is necessary to establish the right waste management and treatment systems.

Therefore a long term safe legal environment is necessary for the investments in treatment, processing, marketing, research etc.

Good contacts with the Commission is important to create this understanding. For a professional composting plant the return of investment time is at least 15 years. Thank you.

**Melissa SHINN, EEB**

**Individual question:**

*The EEB favours a legal binding framework on biowaste. Which are the main items that this framework must include? Where do you see the environmental advantages of a binding framework? Should such a framework include separate collection targets?*

What in our opinion would be the most effective way to increase the use of biowaste as a resource in Europe. I think it is very simple. It would be to combine the landfill diversion target which is an undifferentiated steer of biowaste out of landfill with a differentiated steer of that biowaste to the most beneficial environmental options and that is very clearly composting and other biological treatment options other than incineration. It is very important to use this momentum and take advantage of 157 Billion Euro of structural funds which will now be poured into the ten year enlargement phase. This is a very significant opportunity but it is now that the plans and programs for the application of these funds are being developed. And if the right

political signal should come on biowaste treatment and composting and other forms of biological treatment we will be able to make use of some of those funds.

In response to what we see as the main environmental advantages: the first one of course is obviously the climate change gas abatement, the reduction of greenhouse gasses (methane) from landfill. Recently a report commissioned by the German Federal Agency in August of last year calculated that landfills by themselves could contribute to greenhouse gas abatement by approximately 9 to 10% relative to the 30% reduction objective in the period of 1990 to 2020. If we want to make use of this potential we have to have a system which will really achieve this diversion and the Commission itself has questioned how far we will go there. So if we only manage to achieve a 50% we only make use of 50% of that 9% potential. So it would be logical to have a system that is synergistic with the landfill diversion target to allow us to go beyond even the objective that is set. We have 55% why do we not find 100%. We do not need a landfill ban to do that. We can do it by having a system which creates a positive drive, a positive pull of the biowaste by setting up the infrastructure.

And that leads me to the next question: there are also other environmental benefits that I think will be discussed today and one very significant one is the issue of soils and soil fertility. The debate on biowaste tends to focus very much on the greenhouse gases. But in fact there are equally significant potentials for environmental improvements in soil fertility, workability, water retention, desertification, all these critical environmental issues that the EU is also facing – not to mention the Soil Strategy the commission is preparing. And these are no less important than the greenhouse gas objectives.

What items should the framework include?

I think, at the end of the day it will be a very much detailed debate. But we see at least 3 core elements that this legislation should include. The obvious one is some kind of result orientated target. This can be specifically separate collection, this can also be recycling targets and to the definition of recycling you can therefore steer the biowaste to whatever treatment is relevant, e.g. composting. But of course within that directive you should also have the possibility of adapting the different situations. I think you should stress now that you have different realities in very diversely or lowly populated rural areas than you have in highly concentrated urban ones. For an EU directive it is entirely possible to adapt to the situation, in fact all of the EU waste directives and the landfill directive itself has what we call a differentiated approach which is adapting for example to population density. So you need to take into account the different situations in the directive. You also need to take account of the different treatment methods. So mixed waste treatment for example Mechanical Biological Treatment (MBT) or pure composting or anaerobic digestion. These are all different pathways and they need also to be defined so that you can distinguish between any objective that might be set for example for composting or not. So these are key elements above and beyond the quality criteria which everyone agrees is also part of the set up of such a legislation.

I think for us those are the main issues of today. I just like to add that in terms of composting installation standards across Europe, yes we very much agree this is part of that.

But we would have some very severe questions as to whether the IPPC Directive which is a directive aimed at big installations in order to harmonise the standard across Europe, would be the appropriate tool for that. Thank you very much.

**Jane GILBERT, ECN/ORBIT e.V.**

**Individual question:**

*There are different management options for biowaste: composting, fermentation and incineration. The Commission states in the recycling strategy that there is no single environmentally best option for the treatment of biowaste. Do you share this statement?*

Firstly with regard to question one, which is the most effective way to increase the use of biowaste as a resource.

I think it is worth pointing out that environmental protection and enhancement is actually at the heart of the EU and as such there are a number of different strategies that deal with the environment, just to name a few: the Göteborg Strategy which is setting out sustainability priorities, the European Climate Change Programme that is seeking strategies for the EU to reduce the emission of greenhouse gases. We recently had the revision to the Common Agricultural Policy and these importantly require farmers not only to keep the farm in good agronomic status, but also to keep it in good environmental condition. We have got the recently adopted Rural Development Strategy that aims to boost rural jobs and economic growth. The Lisbon agenda about increasing jobs and economic growth across the EU. And last but not least we have a number of waste strategies and the Landfill Directive being the most pertinent to today's discussion.

The ECN sees recycling of biowaste as a transformation, transforming what is a problematic waste into a very useful product and can go a long way to meet a number of these different strategies, not just the landfill directive. And I think what the ECN would really like to see is some sort of catalyst. We need a catalyst now to provide cohesion between these strategies and to realise the synergies that exist between them. In achieving that, I think there is going to be two key elements and these hopefully should lead to the effective use of biowaste as a resource but also to be efficient economically.

We need to see some regulatory push. Melissa has just spoken about the need for binding targets and I think this is something that we really do need to see across the EU. We need that specifically to create a critical mass for investment. Mr. Kneissl from FEAD has spoken about the long-payback period, 15 years to realise the economic investments is required. We need to reduce investment risks and need to provide a long term framework for Member States, for municipalities and for the industry to invest in. And the targets are a specific way of doing that to

actually promote investment in infrastructure right across the EU, bearing in mind that some countries such as Germany and Austria are quite far ahead but some other Member States are actually struggling to meet the landfill directive targets. So we really need a good platform for investment across all 25 Member States.

Secondly we need to see some market pull. We are talking about manufacturing of products from a waste. And we do need to see the application of quality assurance systems right away across the EU. This will probably include some elements of quality and end of waste criteria as the Commission has suggested. But that in itself does not go far enough. We need to build up consumer confidence as Mr. Mochty has said; this is going to be consumer confidence by the farmers by the food retailers and by the public as well. We are talking about complex supply chains and these people need the re-assurances that we are having effective uniform consistent products being manufactured and being tested to set criteria and standards and that we not just eco-dumping poor quality waste material on land.

Where there have been effective quality assurance systems in different countries this has really helped to promote end user confidence. The UK at the moment is developing its quality assurance system but in Germany the "Bundesgütegemeinschaft Kompost" in particular has been very good at actually providing that assurance specifically to the farming sector. And I think it is very important, given that we are living in a risk society, that we have that reassurance and the agricultural supply chain is going to be paramount in taking this forward.

So in conclusion to the first question what do we need to promote effectively biowaste as a resource: By having targets and regulatory push coupled with EU-wide quality assurance systems helping to market the product, I think we are going to end up with a win-win situation that is transforming a problematic waste into a very valuable resource and that is helping meet a number of EU wide strategies simultaneously, not just one directive. We are talking about climate change, about rural development and revisions to the common agricultural policy just to name a few. And these really are the heart of what the EU is trying to achieve.

In answer to the second question which was about there is no single environmental best option for the management of biowaste. Does the ECN share this view?

I think we need to say that there are a number of different options that depend on the local and national circumstances. But we do actually believe that biowaste management and biowaste as a resource is far too important for just to be lost either through disposal or through thermal treatment. The recovery and the reuse and closing nutrient cycle back on to agricultural land in particular is going to be absolutely fundamental.

One important statistic that we need to bear in mind is that about 90% of the enlarged EU is actually rural in nature. So we are dealing with 10% perhaps that is built up in urban areas but 90% of that is rural. The ECN firmly believes that we should be composting and returning as much biowaste as a resource, as a product as we possibly can and thus will involve composting and other biological treatment techniques. It is a too valuable resource to be lost and after all

composting by farmers has been documented for over 4000 years, so we have a fairly good track record in actual using it.

By adopting biowaste management and composting options – what this is allowing us to do? It is allowing Member States to adopt a range of differentiated solutions that is specific to their needs. What it allows are centralised and decentralised systems to work together. We are not talking about big or small. We are talking about some big systems, some big centralised composting systems coupled with home composting, some on-farm composting and some community composting schemes. We can have big and small sitting along side each other. I think this is a very important element, it seems to have been lost in some of these waste management discussions over the last few years. It allows us the option to bring together individuals, municipalities, local authorities and businesses in a way that can provide optimum solutions.

By being able to treat materials closer to where they actually arise and where they are going to be used which will also reduce transport costs significantly as well.

So what does this mean in practise? Well, it does mean that Member States, regions, municipalities can adopt an integrated but also flexible approach that allows it to be responsive to changes in the future. If we look back over the last 30 years and see where we were in terms of waste management we have come an awful long way. I do not have a crystal ball to look into the future but what I do see is by keeping an inherently flexible system adopting a range of different options for biological treatment it allows Member States to be responsive to changes in future, especially if fuel prices and the cost of oil is going to increase substantially within the next 15 years. I think that is one thing we can all be agreed on.

So in answer to the question there is no single environmental best option but we do believe that biological treatment should be at the heart of biowaste management because it does allow added value to be given to these materials, it allows a flexible, an integrated and a responsive approach. I think that by adopting some of the measures we will hopefully be talking about today and tomorrow that this will be a way forward to actually enable Member States to deal both in an environmentally but also socially and in an economically acceptable way to dealing with what at the moment is perceived to be a problem and that is biowaste.

**Helge WENDENBURG, Federal Ministry of the Environment, Germany**

**Individual question:**

*Biowaste accounts for 30 % to 45 % of municipal waste across Europe. The total biodegradable waste arisings of municipal waste for EU 25 is estimated to be around 120 to 130 MT . Yet, the “waste stream” biowaste can contribute significantly to soil protection.*

*In your opinion what would be the most effective way to increase the use of biowaste as a resource in Europe?*

In an ecological sound society only separate collection of biowaste is a sustainable way of the future. If I think about the last 20 years we discussed separate collection of biowaste in Germany I admit there were many problems. The public was afraid about health aspects and possible related problems. There were information about possible health risks for neighbours as well as employees of composting plants. So we needed regulations for composting facilities to solve this problem. Now we have composting facilities operating without problems and one of the lessons we learned were to localise these facilities not in the direct neighbourhood of settlements. You need a minimum distance of some hundred meters between these facilities residential areas. But I think one of the first steps is to learn separate collection because we also have to look at the aspect of soil protection and the effect to agriculture and we should only use products which are generated from separately collected biowaste. This is not only a question of waste management or energy recovery, the treatment of biowaste is also a task of soil protection and of agriculture and for that we need European standards. We need standards for compost, we need standards for treatment facilities and we need standards for separate collection. I look at the legislation of the EU we have an example for this. The Animal By-Product Regulation includes very specific regulations for composting and biogas plants if animal by products are used. But there is no regulation if other waste materials are used – and animal by-products are also waste. If we want to produce and use compost in an ecological sound manner we need regulations for both, for animal by-products and for biowaste.

**Contributions during the further discussion:**

**Stefan Scheuer, Policy Director EEB:** I want to come back to the remark of Mr. Makela that the Commission has not changed its direction with respect to the biowaste policy. This is really a problem for us because we have the 6<sup>th</sup> Environmental Action Programme (EAP) which is a legislation adopted by the Parliament and Council with the agreement of the Commission. It is a very important instrument and is telling the public that the EU is going to develop a sectoral approach to biowaste. This does not happen now. We don't see in the Waste Framework Directive that there is anything mapped out. Then we have been promised that it would come in the Soil Framework Directive or the Soil Thematic Strategy. As far as we understand this is not going to happen. We are now told that may be in future we could have some guidance document

developed and maybe if there is a consensus among all 25 or 27 Member States we could go further. This is already a problem in itself to state we would need all the 25 or 27 MS to agree. The EU is working with its democratic principles and voting majorities. There are definitely opportunities especially when looking at this very welcome event showing that there is a substantial support from a range of countries and stakeholders bringing forward a European interest. This should give a strong sign and bring back what was already agreed in the 6<sup>th</sup> EAP. My main point is: to ask the EP and the MEP as well as the Member States Representatives how they are going to respond to the fact the 6<sup>th</sup> EAP is not being respected and to the huge gap between what is promised and what is presented. A second question is addressed to the EU Commission, whether it could change its approach, if it would see now a substantial support for moving forward towards a separate legislation on Biowaste. Thank you.

**Timo Makela:** We haven't change the direction. There is needed some time for reflection for being able to decide whether a separate Directive on biodegradable waste is needed or not. We are fully respecting the 6<sup>th</sup> EAP. The Strategy is being reflected in the Council and the Parliament. Our Impression is that the views of the MS differ concerning the way forward. Certainly we are going to work on Biowaste. If you look on the strategy, by 2010 we will come back to this issue and will see what needs to be done. But we don't know precisely for several reasons what is the right way to go forward. Of course we can come up with a directive which takes up the biowaste to manage in a sustainable way. But this doesn't take the matter forward. Of course we listen now very careful what the Council and the Parliament say about the strategy.

**Franz Mochty:** Taking into account discussions on the WFD and the Strategy in the last months, it needs not only more support by the Commission but also by the Member States. If you would provide the arguments to Member States representatives that it is necessary at least to support a promotion of the separate collection of what ever kind of waste it would help us to go a step further. We need more support by Member States. This is a big demand from our side to go further in that subject.

**Penelope Vincent-Sweet, France Nature Environment:** Landfill directive rules are not sufficient. It is not a driver for France because we have more incineration than some countries, and it would be no problem to fulfil the Landfill Directive targets of 2010 just by means of incineration. However, even where the Landfill Directive forces countries to find other ways of biowaste management, the choice of alternatives is not motivated by sustainability or environmental protection, but by short-term economic factors. It can be quite tempting to burn the materials instead of putting on landfills, or to produce mixed waste compost as it is just beginning in France. When, after several years' wait, the new Biowaste Directive did not materialise, France updated its national compost standards, but to a rather lax level which allows most mixed waste composts to reach the standards. If there aren't rules made pretty soon large parts of France will establish mixed waste composting operations. Probably this technology will also be offered as a solution to the new Member States. And this is not driven by the motive of

sustainability but by large scale industrial interests which favour the construction of large highly technologic MSW composting, MBT and incineration plants.

**Timo Makela:** Those countries which use – based on national rules – in a responsible way different ways in dealing the biowaste, e.g. those applying technologies of energy recovery also recycle and also produce compost. From a statistical point of view these are not opposite options. Those who are not going in this direction are struggling with the landfill diversion. This is a political process in the Member States. Even with the present rules nothing prevents the Member States from going further than the EU rules require. We have now proposed a set of clear directions forward. The Commission cannot really decide for an individual Member State what strategy is going to be implemented. In this political process of course the confidence of the citizens plays an important role.

**Johannes Blokland:** Some Member States have more than 90% landfilling. We have to change that position. So we need obligations. An example from the Battery Directive: Only 5 Member States out of 15 have done anything following the guidance of the Battery Directive. Why? There was no obligation. Now we have an obligation and all Member States have to do a lot of measures. Also in the area of recycling we have to find solutions. Member States who have done a lot in incineration also have done a lot in recycling. This is not a contradiction. But they have tried to find a solution. They have done a lot for the waste hierarchy. Other Member States have done nothing so we have to change that. I think the only thing that can happen is a new very clear directive on biowaste.

**Helge Wendenburg:** We want to find a way towards a *recycling community* in the EU. It is not the role of the Commission to decide on the waste strategies for individual Member States. But what we need are rules and regulations for standards. I am afraid that we get a debate about compost as a product. If we do not have standards, if we might get compost which is manufactured from mixed waste we will have a discussion among the Member States. The logic of a directive on biowaste must be: if you want to obtain a product (compost) you have to use sources from separate collection. Also we need standards for the treatment facilities. This could be done under the IPPC Directive. We need common standards and not different ways of compost production and definition in each Member State. This is also the demand of the market.

**Jacques Hoffenberg, CCRE/CEMR :** We are very much in favour to define compost only as a product if it is made from source separated waste. The legislation should only cover quality standards and the requirements for composting facilities. But there is no best treatment option for biowaste which could be valid throughout the Community, taking into account the manifold local conditions. Therefore the choice of the waste management option should be left to the local level.

Since the Commission proposed to establish product standards via an end of waste regulation, we would require that these standards are adopted through co-decision and not by comitology.

**Melissa Shinn, EEB:** It is clear, there will be mixes of composting, anaerobic digestion and other methods of biological treatment. It is also clear that a certain minimum amount of these mixes has huge benefits and requires a kick-off. It is this kick-off – the so-called critical mass – which is not going to happen if you have got the economic factors tips against it. We have seen that we have subsidies for incineration of biowaste. We do not have the same subsidies for the supporting of recycling. You basically need to have something which levels the field at the very least. And this is exactly what a dedicated legislation can do. A Biowaste Directive can take the standards for the product, the installations through co-decision, and create a harmonised level across all over Europe (which we doubt IPPC could achieve), and could also level the playing field economically and create this kick-off. Once this kick-off has come then you will see an evolution of greater or lesser degrees of composting and other treatment methods. And we need this kick-off. This has been seen from other waste stream directives such as packaging and we will soon be seeing with the cars and electronic waste. Biowaste is one of the biggest fractions of municipal waste. There is absolutely no reason why we cannot harvest the benefits in particular for soil. It strikes me if we are so concerned about 9 % of our greenhouse gas emissions why can we not be equally concerned about 7.8 % of the damaged, desertified soils that can be addressed just by the municipal waste fraction not to mention other organic sources. These are very important environmental objectives and they can be achieved in a very simple way!