Köln, den 27.02.2009

Statement of the Bundesgütegemeinschaft Kompost e.V. (BGK) on the Green Paper for the Management of Biowaste in the EU

The German Compost Quality Assurance Organisation (BGK) represents the organisation approved by the RAL (German Organisation for Standards and Labelling) to operate the quality assurance for the product types "compost" and "digestion residues (= digestates)" from biowastes in Germany. The BGK is an independent and neutral organisation. Quality assurance is the only obligation of the organisation and no other purposes or interests are part of its mission. About 8 million tons of separately collected biowastes are processed in composting and digestion plants in order to manufacture composts and digestates which are subject to quality assurance. This corresponds to around 70 % of the biowaste arisings in Germany. The biogas generated in the digestion plants is not subject to quality assurance.

Based on our 20 years of experience in quality assurance of high quality compost products, the still rising input material quantity to be composted and digested and in order to get valuable organic fertilisers and soil improvers, we see a promising chance for a European Biowaste or Compost Directive to encourage the sustainable recycling of the huge unused potential of biologically degradable wastes. Especially before the background of an environmental policy of the EU - intended to protect resources and the climate - a European Biowaste Directive should be initiated swiftly.

We very much appreciate that the EU Commission raises this topic with the publication of this Green Paper for the management of biowaste and take the chance to participate in the consultation.

Question 1: Waste prevention is at the top of the EU's waste treatment hierarchy. From your experience, what could be specific bio-waste prevention action at EU level?

As a whole, biowaste can't be avoided. On account of the large biowaste portion of 30 to 45 % in municipal solid wastes it should be recycled. By means of recycling the huge material and energy recovery potential can be used and disposal of these wastes will be avoided. So an efficient recycling of biowaste contributes essentially to the protection of the climate and our resources.

Para 29, article 2 of the Waste Framework Directive *(Directive 2008/98/EG of the European Parliament and Council from 11/19/2008 about wastes and for the repealing of certain guidelines (OJ L 312/3 of 11/19/2008))* refers to Annex IV, where examples for measures on waste avoidance are listed. Annex IV "*Measures, possibly effective on the frame conditions in connection with waste generation"* points out in item 1 that the Member States can implement measures for planning or economical instruments supporting the efficiency of resource recovery. One of the most essential preconditions for a high quality and efficient recycling of biowaste is separate collection. The relevance of biowastes is underlined in the Waste Framework Directive *(OJ L 312/3 of 19.11.2009)* with the special article 22 "Biowaste". Already herein is said that the Member States should use appropriate measures to promote separate collection of biowaste for the purpose of composting and digestion.

The resolution of the European Parliament from February 4th, 2009 *„2050: The Future begins today - Recommendations for the EU's future integrated policy on climate chance" (2008/2105/(INI))* points out under item 143 that a separate collection of biowastes and material recycling is to a considerable extent contributing to the avoidance of direct emissions from landfills.

In order to strive for those policy targets a request for separate collection must be laid down in the EU Biowaste Directive.

Question 2: Do you see benefits or disadvantages of further restricting the amount of biodegradable waste that is allowed on landfills beyond the targets already set in the EU Landfill Directive? If yes, should this be done on EU level or left decide by Member States?

Considering the fact that all endeavours must be undertaken to mitigate climate change, the implementation of an EU-wide prohibition of landfilling of non pre-treated wastes is urgently necessary.

Before the background that most of the Member States are far away from achieving the targets of the EU Landfill Directive, **an EU Biowaste Directive** - wherein separate collection is a must and recycling targets for biowastes are prescribed - is one of the most important European regulations which has to be launched immediately. The regulation of harmonised recycling targets and legal guidelines for the management of biowastes on a European level is a key issue for the development of sustainable waste management systems in the EU Member States. Furthermore an EU Biowaste Directive containing separate collection, requirements for the treatment of biowastes and quality criteria for the produced composts and digestates, will guarantee a sustainable utilisation of biowastes. At this point we would like to draw the attention to our position paper 01/2006 "Separate collection is a precondition for quality composts in Europe" *(BGK_Position_01_2006*) which is attached to this statement.

Question 3: Which options for the treatment of bio-waste diverted from landfills would you prefer to see strengthened and what would you see as their main benefits? Do you think that the choice of the treatment of bio-waste diverted from landfills should benefit from a wider and more consistent use of life-cycle assessment studies?

The material recycling of biowastes should be promoted, as the highest ecological benefit can be achieved here regarding protection of resources and the climate. This includes an energetic utilisation of suitable biowastes in form of pre-treatment such as anaerobic digestion. The arising digestates can be treated with structure material in a post composting process and degraded to high quality composts. Following § 5 of the Waste Framework Directive *(OJ L 312/3 from 11/19/2008)* material recycling of wastes obtains priority.

Experiences with Life Cycle Analyses proved that the ecological and resource-protective properties of composts cannot be considered correspondingly with the prevailing methods. Depending on which approach LCAs are compiled the results differ considerably. On account of this variety of outcomes LCAs are not suitable as a general instrument to assess biological waste treatment processes and options.

An EU Biowaste Directive with clear provisions for the treatment of biowaste and use of the recycling potentials is the best way forward to guarantee sustainable recycling of biowastes.

Question 4: Do you think that energy recovery from bio-waste can make a valuable contribution to sustainable resource and waste management in the EU and meeting the EU's renewable energy targets in a sustainable way, and, if so, under which conditions?

Energy recovery from biowastes can only be considered consistently with the target of a *"Recycling Society with highly efficient utilisation of resources"* if the digestion of suitable biowastes is supplemented with an additional downstream composting step. Incineration of biowastes or digestion of biowastes with the only target to generate energy cannot be seen in the context of a sustainable and resource saving environmental policy. The publication of the *"Guideline of the European Parliament and the Council on the promotion of the use of energy from renewable sources" (COM(2008)0019 – C6-0046/2008 –2008/0016(COD))* leads to an exclusive promotion of the energy recovery from biowastes. Therefore - following the idea of sustainable resource management - an EU Biowaste Directive has to be enacted implementing both targets, the one of an energetic AND the one of material based reuse of biowaste.

If biowastes are exclusively energetically used the large material based benefits of compost (organic matter and nutrients) get lost. Nutrients will be sluiced out of the closed loop. Regarding the conservation of the biological diversity material based reuse of biowastes may play a role. Not only that organic fertilisers and soil improvers are contributing to an increase of the water holding capacity and the biological activity of soils, in addition the use of composts in growing media substituting hereby peat contributes essentially to the conservation of valuable ecosystems

The separate collection and recycling of biowastes meets the purpose to recycle materials which can be used as valuable resources for the production of products. The essential targets of the biowaste management, which must be considered additionally in this discussion, are:

- the recovery of humus fertilisers,
- the recirculation and use of plant nutrients and
- the generation of materials for replacement of peat.

Question 5: Do you see a need for promoting bio-waste recycling (i.e. compost production or use on land of composted material) and, if so, how? How can synergies be achieved between bio-waste recycling and energy recovery? Please provide the necessary evidence.

Yes. In the works respectively the studies of the EU Commission for "Thematic Strategy on Soil Protection" it was distinctly pointed out that numerous soils in Europe show very low humus levels, however for the sustainable management of the soils an optimised humus content must be aspired. Numerous publications demonstrate that the humus reproduction performance of composts is very high.

Considering the progressing global warming this aspect gains more and more importance. Especially in the Mediterranean countries of Europe where desertification is obvious a soil cultivation that increases the humus portion must be promoted. Besides decreasing erosion effects the waste holding capacity of soils will be improved by higher humus contents. This on the other hand protects valuable water resources.

In other regions of Europe (high and low mountain ranges, intensively cultivated arable lands) soils are affected by erosion and sealing of the surface, too. The promotion of renewable energies and the follow up in form of increasing intensive cultivation of energy crops (especially corn) and the external use of plant residues (straw and similar) the soil will be increasingly leached. As a consequence they will become poor in humus and nutrient contents which results in negative changes of the soil structure. The demand and need for materials like compost improving the soil through application of stable organic matter will increase. In addition composts used as organic fertiliser and soil improvers will induce a reduction of nutrient consumption from mineral fertilisers thus enabling a considerable potential of resources to be protected.

Synergies between the energetic and material recycling can be achieved only in digestion plants where suitable biowastes are pre-treated to generate biogas. In order to achieve a sustainable humus-stabilised product such digestates should be post-composted after the digestion step. In conjunction with the promotion of renewable energies an increased removal of biomass (straw) from the arable land can be observed. Because this organic material needs to be replaced the demand for a humus stabilised compost product will rise.

In order to guarantee a sustainable use of composts and digestates an EU Biowaste Directive is necessary which regulates requirements for input materials, process standards, product criteria and application recommendations.

Question 6: In order to strengthen the use of compost/digestate:

- Should quality standards be set for compost as a product only or also for compost of lower quality still covered by the waste regime (e.g. for applications not linked to food productivity)?

Quality standards should be set in an EU Biowaste Directive for both, compost as a product and for treated biowastes/digestates of a lower quality.
In order to create confidence of the consumers for recycling products these shall be subject to national quality assurance schemes. This will prevent Member States to not comply with their monitoring obligations and their bureaucratic control efforts can be reduced.

- Should rules for the use of compost/digestate (e.g. limits on pollutant concentration in compost/digestate and land on which compost/digestate is applied) be set?

Limit values for quality composts should be stipulated for products which are freely marketable in the EU with no application restrictions. In this respect we refer to the study published by the EU Commission "*Heavy metals and organic compounds from wastes used as organic fertilisers",* where quality standards for composts are proposed which can be applied for a product standard (see table 1).

Additional restrictions for an application of treated biowastes and digestates of lower quality should be regulated EU-wide regarding the different application areas. Pollutant concentrations on soils where treated biowastes/digestates are applied must not be regulated in a EU Biowaste Directive. All materials not fulfilling the requirements of the lower quality level are subject to waste disposal.

- Which pollutants and concentrations should these standards be based on?

Also included should be the minimum requirements for a product characterization which comprises - besides pollutant standards - the obligation to declare and label nutrient contents, pH value and salt content/electrical conductivity. We recommend the criteria and concentrations listed in table 1 for the product standards. As already mentioned the product standard is based on the criteria which has already been worked out for the EU Commission in the study „*Heavy metals and organic compounds from wastes used as organic fertiliser "*

Table 1: Criteria and Concentration for Compost	
PARAMETER	**COMPOST(1)**
Organic matter	**≥ 15 % dm**
Nutrients (N,P, K; Mg, Ca)	**declaration**
pH value	**declaration**
Electrical conductivity	**declaration**
Salmonellae	**Absent in 25 g dm**
Impurities	**≤ 0,5 % dm**
Germinable seeds	**≤ 2 seeds per liter**
Lead (Pb) mg/kg dm	**130**
Cadmium (Cd) mg/kg dm	**1,3**
Chromium (Cr) mg/kg dm	**60**
Copper (Cu) mg/kg dm	**110**
Nickel (Ni) mg/kg dm	**40**
Mercury (Hg) mg/kg dm	**0,45**
Zinc (Zn) mg/kg dm	**400**

(1) Amlinger, F., Favoino, E., Pollak, M., Peyr, S., Centemero M., Caima, V., 2004: Heavy metals and organic compounds from wastes used as organic fertilisers. Study on behalf of the European Commission, Directorate-General Environment, ENV. A 2; http.//europa.eu.int/comm/environment/te/compost/index.htm

For treated biowastes and digestates not fulfilling the requirements of the product standard, which however are suitable to be recycled, we propose the criteria and concentrations listed in table 2. For those matierials requirements should be laid down in an EU Biowaste Directive. This waste standard is based on 2nd class in the second draft of the work paper “The biological treatment of biowastes” of the DG Environment (2001).

Table 2: Criteria and Concentration for Treated Bio-wastes and Digestates	
PARAMETER	**TREATED BIOWASTE / DIGESTATE RESIDUE (2)**
Organic matter	**≥ 15 % dm**
Nutrients (N,P, K; Mg, Ca)	**declaration**
pH value	**declaration**
Electrical conductivity	**declaration**
Salmonellae	**Absent in 25 g dm**
Impurities	**≤ 0,5 % dm**
Germinable seeds	**≤ 2 seeds per liter**
Lead (Pb) mg/kg dm	**150**
Cadmium (Cd) mg/kg dm	**1,5**
Chromium (Cr) mg/kg dm	**100**
Copper (Cu) mg/kg dm	**-**
Nickel (Ni) mg/kg dm	**75**
Mercury (Hg) mg/kg dm	**1**
Zinc (Zn) mg/kg dm	**-**

(2) European Commission, DG ENV.A.2, 2001: Biological treatment of biowastes. Working paper, second draft

- What are the arguments for/against the use of compost (digestate) from mixed solid waste?

In order to achieve a high quality of composts and digestates only separately collected biowastes should be used for recycling. These should be recorded in a positive list in a EU Biowaste Directive.

Mixed municipal solid wastes contain a larger variety of potential pollutants and impurities which cannot be collected without any limitations. Experiences in Germany showed that a

market for materials from collected mixed household wastes cannot be established. Such materials do not obtain any confidence of consumers.

Question 7: Is there any evidence of gaps in the existing regulatory framework concerning the operational standards for plants which do not full under the IPPC scope and if so, how should this be addressed?

Up to now no binding request for the use of best available techniques BAT can be found in the IPPC Guidelines. In addition BAT is not yet available for composting and digestate processes. A general problem of BREFs is the fact that they are only relevant for plant sizes with an input capacity of >50 t per day. That means that quite a number of plants treating biowastes in composting and digestion plants would not be covered by the regulatory frame of the IPPC, which would cause a distortion of competition. Furthermore BREFs do not include requirements for hygienisation (aspects of epidemic and phyto hygiene) of the used materials. At any case regulation is needed here.

It must be questioned in general whether a best-available technology for all of the composting and digestate processes can be defined. We refer at this point on the *ORBIT/ECN positionpaper 06/2007* for the setting of BREFs for composting and digestion of separately collected biowastes which is attached to this paper as a file *(ORBIT/ECN_BREF).*

The requirements on treatment of biowastes for composting and digestion processes should be standardised in a EU Biowaste Directive

Question 8: What are the advantages and disadvantages of the abovementioned biowaste management techniques? Do you see obstacles preventing the further developments and introductions of these techniques.

Until now those new techniques are not mature enough and need further research and development. It has to be questioned to which extend these techniques are suitable for the treatment of all biodegradable fractions. Main focus of the techniques should be the material recovery of biowaste in order to recycle the valuable organic matter and the nutrients.