

European Biogas Association (EBA)
Identification number in the transparency register: 18191445640-83
Rue d'Arlon 63-65
1040 Brussels
BELGIUM

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Consultative Communication on the Sustainable Use of Phosphorus EBA response

Q1 – Do you consider that the security of supply issues for the EU in relation to the distribution of phosphate rock are a matter of concern? If so, what should be done to engage with producing countries in order to tackle these issues?

It is not only a question of security of supply but much more of using natural resources sustainably. The EU should first endeavour to recycle its phosphorus to a much larger extent. Compost, digestate, mulch, manure and sewage sludge offer a huge quantity of available phosphorus which first should be used to close natural nutrient-cycles before relying on ending mineral resources. Through this, the EU could achieve a much higher independence in this problematic field.

Q2 – Is the supply and demand picture presented here accurate? What could the EU do to encourage the mitigation of supply risks through i.e. the promotion of sustainable mining or the use of new mining technologies?

In order to mitigate supply risks, the EU should promote best practices for full utilisation of organic fertilisers in agriculture. To prevent erosion, the use of valuable cover crops that cover the soil which would otherwise be open between the cultivation of actual (food/feed) crops and during winters should be promoted. Digestate on the other hand as an organic fertiliser includes nearly 100 % of nutrients in used substrates. Thus, by means of anaerobic digestion, the nutrients cycle can be closed as the nutrients of the substrates are recycled back to the soil and agricultural areas covered by plants prevent the leaching of nutrients into water bodies. Secondly, EU should strongly promote the separate collection of organic waste and treatment opportunities that facilitate availability of nutrients in a quality where they can be used for fertilisation without polluting soil with heavy metals and other harmful substances. In order to reach this, first of all each type of organic waste has to be collected separately and treated in facilities where nutrients are not lost for nutrition and secondly, the End-of-Waste (EoW) criteria for digestate and compost have to be finalised.

Q3 – Do you consider that the information on the worldwide supply and demand of phosphate rock and fertiliser is sufficiently available, transparent and reliable? If not, what would be the best way to obtain more transparent and reliable information at EU and global level?

The information about the lack of phosphorus and the upcoming supply problems should be more available and presented for the public. A clean recycling of biowaste is only possible if separately collected organic waste is mostly free of contaminants like glass, plastic, stones and paper. Therefore, it is important to provide EU citizens with information about the right way to separate waste and the purpose (producing organic fertiliser and energy) as it is the easiest way to reduce the dependence on phosphate rock.

Q4 – How should we handle the risk of soil contamination linked to phosphorus use in the EU?

The most needed phosphorus could be used in natural cycles so that contamination, like Uranium and Cadmium, through “new” phosphate from rocks could be minimised best. To reach this the EU should strongly support separate collection of organic waste, recycling of the included nutrients and work on to enhance farmer acceptance of replacing mineral fertilisers with organic ones in all agricultural areas. When the soil is freed from mineral fertilisers, the application of organic fertilisers such as digestate is most effective due to the prevented Cadmium and Uranium contamination.

Q5 - Which technologies have the greatest overall potential to improve the sustainable use of phosphorus? What are the costs and benefits?

Anaerobic digestion is an excellent technology to improve the sustainable use and recycling of phosphorus. Crop rotation, cover and catch crops reduce erosion, losses of phosphorus as well as other nutrients and the use of digestate for fertilising purposes (digestate contains the same nutrients as the raw material fed initially into the digesters) bring the nutrient back to the soil.

In addition, if biodegradable waste to landfill was banned and prioritised for anaerobic digestion, significant quantities of phosphorus from generated food waste would be recycled. Despite the EU’s efforts to prevent food waste, still one third of globally produced food for human consumption is currently lost or wasted. Increased digestion of food waste would at least recover nutrients.

Q6 – What should the EU promote in terms of further research and innovation into the sustainable use of phosphorus?

In order to reduce the use of mineral fertilisers, the EU should firmly pursue a higher level of nutrient cycle. In all circumstances where nutrients end up in waste streams, nutrients for nutrition should be obligatorily recycled to the largest possible extent in a way that those nutrients do not cause accumulation of soil by heavy metals, harmful substances and other contamination. To ensure that this can be done, firstly source separate collection of all organic waste streams has to be obliged in all member states. Landfilling, incineration without full nutrient recycling etc. has to be banned. The best treatment option is digestion where, as already mentioned, nutrients are conserved in the digestate and can be used for nutrition. Secondly, the EU has to lay down the end-of-waste criteria for compost and digestate as well as to introduce the new Fertiliser Regulation, with the inclusion of digestate, as soon as possible.

Q7 – Do you consider that the available information on the efficiency of phosphorus use

and the use of recycled phosphorus in agriculture is adequate? If not, what further statistical information might be necessary?

The EU should inform farmers and the wide audience of the different technologies available for the recycling of phosphorus. Farmers should also be encouraged and incentivised to replace mineral fertilisers with organic ones that facilitate recycling of phosphorus and other nutrients and additionally increase the humus content for the soil.

Q8 – How could the European Innovation Partnership on "agricultural productivity and sustainability" help to take forward the sustainable use of phosphorus?

Since EIP Agri's role is to build bridges between research and practice, also in this case the platform should help farmers to learn about better use of manure and to implement innovative projects related to recycling nutrients. Digestion of manure offers various advantages like e.g. improving the hygienic status, reducing the smell potential, increasing the availability of the nutrients. In this way, manure is first used energetically and afterwards through applying nutrient rich digestate on agricultural land.

Q9 – What could be done to ensure better management and increased processing of manure in areas of over-supply and to encourage greater use of processed manure outside of these areas?

Farm manure should first go through a digestion process to produce energy and fertiliser. After the process, the digestate can be separated, dried by the heat of the CHP (Combined Heat and Power) plant and even upgraded into a commercial organic fertiliser. In this way the manure from nutrient rich regions can be transported economically and ecologically to other regions and also marketed for applications in gardens and parks.

In regions where farmers are not capable to do this by their own, the digestion facilities could overtake the role of a regional organic nutrient treatment centre.

End-of-Waste criteria for digestate would encourage increased processing of manure in areas of over-supply. The trading of such organic fertilisers, enabled by the revised Fertiliser Regulation in turn would increase the use of digestate and other organic fertilisers also outside concentrated areas. The inclusion of processed manure in the "EC Fertilisers" Regulation (EC 2003/2003) would also facilitate transport and trade of nutrients from regions to regions.

Q10 – What could be done to improve the recovery of phosphorus from food waste and other biodegradable waste?

Firstly, obliged separate collection should be put in force followed by ban to landfilling and incineration. Secondly, digestion of biodegradable waste and the use of digestate and composted digestate as organic fertiliser should be promoted. The provision of Nitrate Directive (91/676/EEC) considering processed manure as a waste product excreted by livestock even in processed form (point "g" of Art 2), should be cancelled. Digested manure, rich in plant available nutrients, should be treated like a fertiliser product because manure is only included into the scope of the Waste Framework Directive according to Article 2(b), if it is destined for incineration, landfilling or use in a biogas or composting plant. Digested manure destined for direct agricultural use is therefore excluded from the scope of the Waste Framework Directive.

Q11 – Should some form of recovery of phosphorus from waste water treatment be

made mandatory or encouraged? What could be done to make sewage sludge and biodegradable waste more available and acceptable to arable farming?

The EU should definitely further develop technologies and set mandatory targets for the extraction of phosphorus from waste water in a useable form. Sewage sludge should be digested and where legally allowed, spread on fields as fertiliser. If the digestate from sewage sludge is burnt, phosphorus should be obliged to be recovered beforehand.

If only separated waste, manure and agricultural by-products are digested, a clean nutrient rich product - the digestate - is produced which can be used as an organic farm fertiliser directly in agricultural areas. To avoid a possible accumulation of harmful substances, clean organic waste streams should not be allowed to be treated together with sewage sludge or mixed municipal waste. Clear EU-wide End-of-Waste criteria and the revised Fertiliser Regulation will also encourage farmers to switch from mineral fertilisers to organic fertilisers. As manure is a naturally occurring substance, it is excluded from the REACH regulation. European Biogas Association recently prepared a position paper for the EU Commission explaining why digestate and manure must be exempted from the REACH registration.