

Dear Sir/Madam,

Re: Review of support for Anaerobic Digestion and micro-Combined Heat and Power under the Feed-in Tariffs scheme

I am writing on behalf of Biofuelwatch (www.biofuelwatch.org.uk) to respond to the consultation "Review of support for Anaerobic Digestion and micro-Combined Heat and Power under the Feed-in Tariffs scheme". We are limiting our response to those questions in Part 3 of the consultation: "Anaerobic digestion feedstock: sustainability and carbon cost effectiveness".

General background:

Biofuelwatch agrees with the use of biogas from waste, provided that the waste hierarchy principle is observed and that it does not divert waste away from composting.

However, we are deeply concerned about renewable electricity, as well as renewable heat, subsidies going to biogas made from crops grown for this purpose, namely from maize.

About 20% of all maize in the UK is currently grown for biogas. Biogas production and use has been rapidly expanding in response to renewable energy subsidies, especially Feed-in Tariffs and the Renewable Heat Incentive. Although it has been widely promoted as a sensible use for certain types of waste, the majority of biogas in the UK comes from maize. Maize offers a far higher biogas yield (measured as cubic metres per tonne) than waste feedstock such as food waste or manure¹. As a result, biogas producers have an economic interest to favour maize over waste feedstocks, especially when renewable energy subsidies are available for both. This, we believe, can only be changed by removing subsidies from biogas made from dedicated crops, especially maize.

The impacts of large-scale maize cropping in the UK are well summarised in a Soil Association report published in 2015.²

Maize monocultures have particularly serious impacts on soils: Firstly, it leaves large areas of soil exposed and unprotected from erosion throughout the growing season. Secondly, it is commonly harvested late in the year, leaving soils bare (or at best only covered with stubble) during winter rains and storms. Thirdly, maize harvesting requires a particularly high level of heavy vehicle movements, causing soil compaction. And fourthly, maize cultivation is associated with relatively high levels of pesticide and fertiliser use which, combined with the propensity for soil erosion and run-off, means high levels of pollution, including of water course.

Soil erosion and compaction increase the risk and the severity of flooding because water runs off fields and because soil is carried away and causes sedimentation of rivers.

According to a peer-reviewed study published in 2013, field investigations in the south-west of England between 2002 and 2011 found that "*late-harvested crops such as maize had the most damaged soil where 75% of sites were found to have degraded structure generating enhanced surface-water runoff*".³ According to the study, 38% of soils in the

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www.seai.ie/Renewables/Bioenergy/Bioenergy_Technologies/Anaerobic_Digestion/The_Process_and_Techniques_of_Anaerobic_Digestion/Gas_Yields_Table.pdf and <http://www.reaseheath.ac.uk/wp-content/uploads/2013/03/Feasibility-Study-Main-Report-final.pdf>

² www.soilassociation.org/media/4671/runaway-maize-june-2015.pdf

³ Palmer, R and Smith, R P, (2013) Soil structural degradation in SW England and its impact on surface water runoff generation' Soil Use and Man. 29:567 – 575

region showed high or severe degradation with signs of erosion and surface water runoff, 50% showed moderate damage, and just 10% had low levels of damage.

Growing maize for biogas is currently rewarded with double subsidies: Firstly, farmers who grow maize are subsidised under the Common Agricultural Policy, and secondly, renewable energy subsidies are available for turning maize into biogas, which allows operators of biogas digesters to offer a preferential price to farmers who produce the maize.

A recent report on soil health by the Environmental Audit Committee⁴ points out:

"The double subsidy for maize produced for anaerobic digestion is counterproductive and has contributed to the increase in land used for maize production. This subsidy regime represents a clear case in which better joined-up thinking across Government is required in order to ensure that soils are managed sustainably. The Government's ambition to manage all soils sustainably by 2030 cannot be met if Defra does not achieve buy-in from other departments to achieve the ambition."

Finally, growing maize for biogas competes with growing food or animal feed on the same land. The UK is already dependent on 40% net imports for all food consumed in this country, and is heavily dependent on animal feed imports. Studies published in relation to biofuels show that the indirect land use change impacts of diverting arable land to bioenergy production can be even more serious than the direct ones. Yet those impacts are ignored in the methodology used to calculate greenhouse gas emissions that DECC proposes extending to biogas.

Question 7:

We disagree with these proposals.

The land-use criteria proposed for biogas are those developed by the EU for biofuels. They aim to prevent the conversion of primary forests, other high-biodiversity landscapes and high-carbon landscapes such as peatlands to biogas. They are largely irrelevant to biogas production from energy crops, with the possible exception of maize grown on peat (though only if peat is newly drained for this purpose).

Biogas feedstocks are not globally traded and the impacts of biogas from maize largely affect agricultural soils, as well as rivers and other freshwater. Furthermore, the land criteria ignore indirect impacts, i.e. the displacement of food and feed production into other areas.

Greenhouse gas standards, we believe are meaningless in the absence of a credible, scientifically robust, and strictly enforced methodology. Many studies show that the indirect greenhouse gas impacts of using land to grow fuel rather than food can be far greater than the direct impacts. The research published in relation to ethanol (including from maize) is highly relevant in this context.

Question 8:

We believe that subsidies for biogas from crops grown for this purpose – especially maize – must be stopped, not limited. Biogas must only be supported if it is derived

⁴ <http://www.parliament.uk/business/committees/committees-a-z/commons-select/environmental-audit-committee/news-parliament-2015/soil-health-report-published-16-17/>

from waste, complies with the waste hierarchy principle, and does not compete with composting.

Question 9:

Option 1 would end subsidies for biogas derived from 'energy crops', including maize, but only for new biogas digesters. We believe that the growing evidence about the contribution of maize monocultures to soil degradation and flooding merits abolishing the 'grandfathering' principle in this case and ending subsidies for non-waste biogas produced in existing installations, too. After the devastating record-setting floods last winter, urgent measures to reduce surface runoff from soils, improve soil quality and thus soil water retention, and to prevent more fertile soil ending up as sediment in rivers are needed. Ending the double subsidy for maize for biogas (through renewable energy subsidies plus farm subsidies for growing maize) would be one simple and important step for reducing rather than further increasing flood risks.

Option 2 would allow for further, albeit less rapid, expansion of maize cultivation for biogas which would worsen the existing negative impacts. Given the higher yield of biogas from maize, new installations could be expected to use the maximum amount of maize that would still be subsidised.

Question 10:

"Self-certification" of compliance with feedstock rules would leave the door open to false reporting. There have been many examples of wrongdoings associated with self-certification in different sectors. Thus the Department of Transport's Renewable Transport Fuel Obligation Draft Post-Implementation Review published in December 2013 stated:

"One consequence of providing additional incentives for biofuels derived from waste materials is an increased risk of fraud. Following RED implementation the Administrator noted that the volumes of used cooking oil (UCO) derived biofuel being reported as coming from the Netherlands were implausibly high based on the population size."

We understand that the 'audit requirements' proposed for biogas are identical to those that have been in place for biofuels under the Renewable Transport Fuel Obligation since before 2013, i.e. that were in place when the mis-reporting occurred. The only credible way of preventing fraud and misreporting of biogas feedstock as being waste rather than maize would be for a regulatory authority – such as Ofgem – to have the remit to carry out regular unannounced spot-checks and to have the additional resources required for this.

Question 11:

We believe that biogas from waste must only be supported if that use of waste complies with the waste hierarchy principle and if there is no competition with composting.

Question 12:

As stated above, we believe that the proposed sustainability and greenhouse gas standard will be of little relevance to the impacts of biogas production, but that FITs for biogas made from 'energy crops', especially maize, must be withdrawn for existing installations as well as refused for new ones.

Best regards,

Almuth Ernsting

Biofuelwatch Co-Director