

Adam Maxfield
Markets and Projects - Infrastructure Organic Waste Market Study
Office of Fair Trading
Fleetbank House
2-6 Salisbury Square
London
EC47 8JX

23 May 2011

Dear Mr Maxfield

Re: Office of Fair Trading Organic Waste Market Study

AMDEA is the UK trade association for large and small domestic appliances; heating; water heating; floor care and ventilation. We represent manufacturers at UK, European and International level; with government and EU political institutions; in standards and approvals; with non-governmental organisations; with consumers and in the media. AMDEA protects and promotes its members' interests in all these fields.

Some of AMDEA's member companies have a particular interest in the market for organic waste because they manufacture domestic food waste disposers (FWDs). These in-sink devices grind food waste to minute particles and deliver this waste stream directly to waste water treatment and anaerobic digestion (AD) plants, via the sewage system. FWDs have proved to increase the capture of significant additional commercial value from food waste, in the form of nutrient rich soil improver and biogas, extracted once sewage sludge is processed.

With over seventy years' experience in the manufacture and operation of FWDs, in over eighty countries, AMDEA's members have developed a significant body of scientific research and practical experience relating to the issues which you now seek to investigate.

Summary of key views:

- Maximising the use of, or improving, existing waste treatment assets provides best value for consumers and benefits the environment.
- Regulations governing the treatment of sewage sludge (SS) and other organic waste (OOW) should be unified.
- Incentives for renewable energy from SS and OOW should also be harmonised.

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- Sending kitchen waste via FWD to existing treatment plants, via the sewers, provides best value for consumers, who have paid for the plants.

We welcome this opportunity to address each of the specific questions you pose:

Is the market delivering to the benefit of consumers, both in terms of efficiency and innovation?

No it is not. Consumers pay for waste management, water supply, wastewater management, incentives for non-fossil energy and fines for failing to comply with EU legislation. These payments are made to different organisations but overall the market is not delivering the best value to consumers, whose payments finance water industry assets, sewage systems and wastewater treatment plants and any end products of commercial resale value.

Citizens everywhere give rise to sewage sludge (SS) and to other organic waste (OOW). Treatment facilities already exist for SS and by 2015 85% of the SS in England and Wales will be anaerobically digested. Most of this digestate will be recycled to land within existing recycling programmes. Digesting OOW with SS using the existing infrastructure would appear to be the most cost effective option for consumers. The digesters might need to be increased in number, or the capacities of the existing stock could be trebled by thermal hydrolysis pre-treatment. Using the existing infrastructure as a base gives better value than new-build on new sites. It is also quicker to implement than building new infrastructure on new sites and therefore gives the greatest chance of meeting the deadlines in EU legislation and avoiding infraction proceedings, which would be money wasted and of no benefit to consumers.

Are there factors that may be preventing a competitive market from developing and if so what are they?

The division of rules for using treated organic wastes on land, and the differences in incentives for renewable energy distort the market and consequently inhibit efficient operation of the market.

From the perspective of protecting agricultural soils, the crops grown on them, biomass living within them, water filtering through them, etc. the Sludge use in Agriculture Regulations (1989) have been effective. They have been strengthened by the Safe Sludge Matrix and the requirement for hazard analysis and critical control points (HACCP). It would be easy to accommodate the requirements of the Animal By-Products Regulations as and where appropriate. If these SS instruments were extended to cover OOW it would remove a very significant barrier to co-treatment and maximising use of existing assets and have no detriment to the environment or to health. The Waste Regulations, Quality Protocols and PAS 100/110 that apply to OOW are costly, inefficient and to some extent arbitrary. This unnecessary division between the outputs from treating SS or OOW inhibits co-treatment and the benefits this could have for consumers. Unifying the regulations would not diminish environmental or health protection. It would increase the confidence of stakeholders who buy produce from land treated with SS and OOW.

The difference in incentives for renewable energy, depending on whether the feedstock was SS or OOW, also inhibits co-treatment and the benefits this could have for consumers.

Exploring the conditions for current and potential competition, including:

- **Competition between water and sewerage companies (WASCs) and non-WASCs to treat and dispose of sewage sludge**
- **Competition between WASCs and non-WASCs to treat and dispose of organic waste**
- **Competition between WASCs to treat and dispose of sewage sludge**

De-regulating or outsourcing SS treatment (partly in order to enable co-treatment of OOW) has many attractions, but the bottom line is that irrespective of commercial considerations SS and OOW have to be treated and disposed. Based on past experience of outsourcing, it is very possible that a purchaser of SS treatment would pay too much for the assets and subsequently cut corners in an attempt to balance finances; this could jeopardise the security of recycling. This potential - but easily foreseeable - unintended consequence makes the selling off of SS treatment and disposal different from breaking up other monopoly positions, as it introduces another sensitivity.

Areas of particular interest: Transportation of organic waste (both to treatment facilities and for disposal) and what limits, if any, the costs of transporting organic waste may place on the geographic size of the market(s). When we refer to organic waste we mean both SS and OOW. We are mindful that transporting SS and OOW may raise different issues depending on what is being transported.

The threshold for financial viability of anaerobic digestion of SS is about 100,000 people and coincidentally it is about the same for food waste. Thus a town of 50,000 people would be too small for mono-treatment and the SS and OOW would have to be transported to remote treatment centres. However co-treatment would be financially viable because that would achieve the critical mass of feedstock. Locating AD at a WwTW means that there is also the capability of treating dewatering liquor, which is proving an as yet unresolved issue for OOW biogas plants.

Whether there is spare capacity in existing waste treatment assets that could be used to treat additional waste streams and the costs of increasing capacity levels?

Connection to the electricity grid (or gas grid) and access for heavy goods vehicles are critical site-selection criteria for biogas plants; WwTW already have these infrastructure features.

The capacity of existing SS digesters can be trebled by retrofitting thermal hydrolysis before the digesters. This would also increase the specific biogas yield, the output would be 'enhanced' treated [ABPR compliant] and the digestate would dewater better. The mass of dewatered digestate to be transported for recycling would be less and it would stack better.

In-sink food waste disposers are a means of diverting kitchen food waste at source. Operational monitoring over 15 years has shown that when FWD installations in a town went from 0 % to 50 % of households, the biogas yield increased by 46% but the flow and load on the WwTW did not change.

Whether environmental regulations and/or standards have the potential to act as a barrier to competition developing?

As discussed above, the disparity of regulations for SS and for OOW inhibits co-treatment and is thus a barrier to competition.

The incentives/disincentives resulting from the price regulation framework and how these affect investment decisions and competition in the market?

As mentioned previously, the disparity of market-distorting incentives for renewable energy inhibits co-treatment and is thus a barrier to competition.

Planning and building regulations, in particular whether these may constrain entry into and/or expansion within the waste treatment market.

The benefits of vertical integration of treatment facilities (and potential trade-offs with other considerations).

Vertical integration of anaerobic digestion, biogas utilisation, digestate dewatering, liquor treatment (possibly resource recovery) and digestate recycling offers consumers the benefits of security of operation and certainty that their SS and OOW will be treated and disposed responsibly and with maximum resource recovery. Dewatering reduces the transport requirement for onward recycling. Recovery of struvite (magnesium ammonium phosphate) from dewatering liquor is valuable for phosphate conservation and a tool in mitigating the phosphate crisis. Recovery of 25% ammonia solution represents a second resource that vertical integration and economy of scale enable.

The "50% rule" derived from the Water Industry Act would appear to be a means by which WASC consumers and shareholders share in the benefits of co-digestion and vertical integration.

If you have any further queries please do not hesitate to contact us,

Yours sincerely

A handwritten signature in black ink that reads "Douglas Herbison". The signature is written in a cursive style with a long horizontal stroke extending to the right.

Douglas Herbison
Chief Executive