THE CROSSOVER BETWEEN **WATER AND ORGANICS**

Treatment: An OFT review is underway

In July of this year, the Office of Fair Trading (OFT) is due to complete a review, commissioned by Ofwat, to assess if the market for the treatment of organic waste is working effectively.

It will determine if there are legal and regulatory barriers that deter certain treatment alternatives and whether new incentives are needed to encourage the market further and thus make a greater contribution to the country's targets for renewable energy production and GHG reduction.

The review will focus particularly on codigestion, in which the water companies utilise their existing assets to treat organic wastes, in particular energy-rich food wastes, together with the sludge they generate during the treatment of wastewater.

So what is codigestion and why is it so important that it warrants attention from both Ofwat and the OFT? The recent growth of interest in anaerobic digestion cannot have escaped the attention of anyone in the waste industry and although it may seem a novel process, it has been operated successfully by the water industry for over a century. But until recently the raison d'être for digestion was very different.

Whereas historically the water industry has used the process simply to stabilise organic material prior to recycling it to land, it is now recognised as a valuable source of renewable energy in the form of biomethane. As such there is value in optimising the production of biomethane. Unfortunately sewage sludge is a very poor material to digest since it is very high in nitrogen and very low in carbon.

By contrast other organic wastes, and in particular food wastes, are high in carbon but low in nitrogen. So combining food waste and sewage sludge to provide the ideal C:N ratio would seem the perfect marriage providing ease of digestion and enhanced methane yields.

FINANCIAL

But there is also a financial incentive with both a gate fee for the organic waste and a number of government subsidies, most significantly the Renewables Obligations Certificate (ROCS) and the more recent Renewable Heat Incentive (RHI), though both cannot be claimed simultaneously.

Existing digesters treating biosolids receive 1 ROC for each 1 MWh of energy and these will be "grandfathered" so they continue to receive this level of subsidy. Any new digesters treating biosolids will receive just 0.5 ROC's on the basis that this is now a mature technology.

Where an existing digester treating biosolids is then used for codigestion, ROCs are allocated pro rata based upon a percent dry solids input. With one ROC currently achieving about £40-£50, this is a valuable income stream.

The RHI aims to provide financial support for those who install renewable heating and biogas injection into the grid. It is intended that the RHI will be in place for July 2011 and it is fixed at 6.5p per kWh (or £65 per MWh), index linked for 20 years.

The water industry's argument for codigestion is that they already have the necessary assets, not only for digestion of organic waste, but also for conversion of methane to other sources of energy, with treatment of the subsequent digestate.

Consequently it would be sensible to fully utilise any available capacity by accepting organic wastes as codigestates, together with an appropriate gate fee for their troubles. From an holistic environmental perspective, they have a strong point. Understandably the waste industry views this competition as unfair as they consider that the gate fee they receive together with the income from biomethane, must cover capital expenditure on new assets, a burden not borne by the water industry and thus the market place is not equal;

Environmental consultancy @qua enviro's managing director, Nigel Horan, and operations director Matthew Smyth discuss the growing issue of co-digesting organic waste and sewage sludge

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In addition to the economic argument there is the complex issue of the regulatory playing field. Waste handlers require a waste management licence to receive organic wastes, but if the waste is then handled and treated as required by PAS110 - The Quality Protocol for Anaerobic Digestate -then it will meet an end-of-waste criteria.

Water companies do not require a waste management licence to handle organic waste arriving at a sewage works via the sewer, yet they would if this self same waste arrived through the gate. As sewage sludge is not an acceptable input material for PAS110 then codigestate cannot meet an end-of-waste criterion and so will be difficult to recycle.

Ironically sewage sludge that is not codigested can be recycled to agricultural land without any reference to PAS110 provided it is treated according to the Safe Sludge Matrix. So the battle lines are drawn and with the arguments so close it is difficult to predict a winner.

Both sides have assets, skills and expertise in dealing with organic wastes that in harmony would make a major contribution to waste diversion and renewable energy generation.

The OFT and Ofwat face a tough challenge in bringing these talents together under a common framework for all organic wastes.

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