

A study of the UK organics recycling industry in 2009

Q&A

What is it for?

Q. What is it?

A. This report presents a market analysis study of the UK organics recycling industry for the calendar year 2009. It is the latest in a series of annual projects that originated in the mid-1990s with the former Composting Association members' survey.

Q. How will it be used?

A. This study is recognised across the organics recycling industry as the most definitive market analysis of the industry's current activities and performance, and the principal source of evidence on trends, and the structural and technological changes that are rapidly taking place within the industry. It is widely used by industry bodies, WRAP and funders to monitor inputs, outputs and markets. The results help WRAP inform its work and assess the extent to which it has met its targets, for example on developing markets for the outputs of organic waste treatment processes.

Scope

Q. What does it cover?

A. The study covers the full range of organic waste treatment processes, including anaerobic digestion (AD), in-vessel composting (IVC), mechanical biological treatment (MBT), open air windrow (OAW) composting, and thermophilic aerobic digestion (TAD). The main data cover input tonnages, output products and markets. There is also some data on turnover and employment in businesses in the sector. Data are collected and presented for each of the UK nations and for the UK as a whole.

Q. How was the information in the report obtained?

A. The information is a combination of data on regulated sites from all four UK nations' environment agencies, and data collected by a sample survey of processing sites. This approach minimises the burden of information provision on the companies involved. The sample survey included specific information not held by the regulators and information from a sample of sites exempt from the regulators' oversight.

Q. What period does the report cover?

A. The data refer to material processed by facilities in operation during the calendar year 2009. This is a change from previous years' surveys which covered financial years. It reflects the data collection cycle of the environment agencies. It does mean that there is some overlap between this report and

the previous one. However, this year's survey covers a wider range of sites and so is more comprehensive

As changes to the reporting period and the study methodology make comparisons difficult, this report is best viewed as a re-benchmarking of the previous 2008/09 survey, establishing a new baseline rather than simply tracking previous trends...

Q. Why is 2009 data only just being published?

A. The regulatory authorities' data collection and publication cycle is such that the 2009 data were the most recent available at the time when the fieldwork was begun in early 2011. This survey has covered a wider range of types of sites and includes a more extensive range of analyses than previous surveys, which has taken longer to carry out and is reflected in the revised structure of the report.

Q. Are these results representative of the organics recycling industry as a whole?

A. Because this survey used the regulators' databases on the scope, scale and waste inputs to the organics recycling industry, those data represent a 100% census of the activities of the permitted sites. The 2,733¹ smaller sites which are recorded by the regulators but exempt from the regulatory permitting schemes were sampled with a response rate of 9%. The supplementary information on end markets and end uses, market perceptions, technologies in use and business information was obtained by a sample survey encompassing both permitted and exempt sites. The overall response rate for the permitted sites was 50%.

Who was involved?

Q. What is WRAP's involvement in this survey?

A. Since 2006 this annual survey has been commissioned by WRAP, working in partnership with the growing number of industry organisations in the organics recycling sector. The Research & Evaluation team at WRAP were able to bring an added level of expertise to the commissioning and design of the survey. WRAP's involvement also enabled the target audience of the survey to expand beyond the membership of AfOR to include all types of sites.

Q. Who else was involved?

A. This year's study has been led by a partnership consisting of WRAP, the Anaerobic Digestion and Biogas Association (ADBA), the Association for Organics Recycling (AfOR), and the Renewable Energy Association (REA).

What did it tell us?

Q. What are the key findings?

A. The 2009 survey indicated that the quantity of compost manufactured in the UK continued to grow, in line with trends identified in previous surveys. IVC showed the greatest increase in the

¹ Not all of these sites were active at the time of the survey.

quantity of waste treated, compared with 2008/09 data. These data indicate that composting in the UK in 2009 continued to expand, becoming more technologically sophisticated by relying proportionally less on OAW and more on IVC. No change was observed in the quantities of waste processed by AD but this is anticipated to change in future years in response to government policies.

Just under 6Mt of organic waste was treated at the 309 permitted sites in 2009, with:

- 5.5Mt of waste recycled at AD, permitted composting (IVC and OAW) and TAD sites, which represented 93% of the total quantity of input waste to the industry; and
- 0.4Mt were processed at MBT sites.

There are estimated to be 2,104 exempt composting sites in operation in 2009, at which 0.9 Mt of organic waste was recycled.

At permitted sites, open-air windrow composting (OAW) was the dominant recycling method, followed by in-vessel composting (IVC), treating 3.1Mt (56%) and 2.1Mt (38%), respectively, of the total input quantity of waste. AD only accounted for 2% of the total (0.1Mt). This was broadly in line with findings in previous surveys, in which composting dominated.

There was a marked difference in the sources of wastes treated at composting and AD sites, with composting operations processing predominantly municipal wastes (80% of the input waste), and AD operations only processing 56% municipal waste, the remainder comprising commercial and industrial wastes.

More municipal wastes were collected through kerbside schemes than at 'bring sites', such as Household Waste Recycling Centres. The emergence of food waste only collection schemes was also noted, which was far greater than estimates in previous surveys. The majority of biodegradable local authority waste collected for recycling was green garden waste (69%), identified through the WasteDataFlow returns.

Analysis of business data collected via the survey of permitted sites shows that:

- The industry was dominated by a large number of operators running one or two sites;
- The estimated aggregate turnover for the organics recycling industry was £229 M;
- The permitted composting sector had an estimated turnover of £187 M, with turnover per tonne of material at composting sites ranging from £30 (OAW composting systems) to £61 (IVC systems);
- The AD sector had an estimated turnover of £11 M, with a calculated £105 per tonne turnover;
- A minimum of 2,325 full-time equivalent employees were engaged in organics recycling; and
- The composting sector is largely reliant upon gate fees as the primary source of revenue in their business models.

Overall, the majority of composts manufactured were used as soil conditioner, with agriculture comprising the key market sector for both compost (59%) and digestate (100%). However, compost was mostly applied to arable crops whereas digestate was mostly applied to grassland. Food waste-derived products continued to increase, representing 25% of the total quantity of compost in 2009. This may well be in response to local authority separate food waste collections and is in line with the observed increase in IVC.

61% of wastes processed at composting sites were either certified or undergoing certification to PAS 100. As PAS 110 was not published until 2010, it was not possible to certify products during 2009. However, of the eight AD operators who responded to the sample survey, two indicated that they

had applied and were working towards certification and three indicated that they would apply in the future.

For AD sites registered with the Office of Gas and Electricity Markets (Ofgem) to receive Renewable Obligation Certificates (ROCs), the sale of electricity generated from biogas provided a substantial income, whereas income from digestate was low. The mean quantity of biogas generated in 2009 was 1.3M m³ per site, with 72% of sites generating heat and electricity on-site.

Cost

Q. What did this survey cost?

A. The contractor's fee for the project was £53,288 including VAT at 20%. The project was subject to an open tender process, using the agencies which had been appointed to WRAP's Research and Evaluation Consultancy Services framework.

Next steps

Q. Will this survey be updated?

A. It is intended that the survey will be repeated annually. The next survey will be conducted early in 2012.