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Market research in to commercial and industrial waste arisings in Greater Manchester

Low Carbon Network Report

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Prepared for **Business Growth Hub** by **Eunomia**

www.businessgrowthhub.com

EXECUTIVE SUMMARY

This project was commissioned to develop the Business Growth Hub's understanding of the waste management and reprocessing sector for commercial and industrial (C&I) waste in Greater Manchester to inform the development of the low carbon sector support service.

Introduction

The C&I sector comprises businesses such as manufacturers, retailers, hotels and offices. It produces a wide range of waste, much of which is amenable to improved offsite management. The sector is also able to move relatively quickly to adopt new solutions that the market may offer, this provides potential business opportunities for companies operating in the waste management, recycling and reprocessing industries. Wastes from extractive industries, such as mining; from agriculture; and from construction and demolition work are typically regarded as separate from C&I waste, as they require different handling and treatment.
We therefore examine how Greater Manchester's waste management, recovery and recycling sector could capitalise from the opportunities that exist to improve C&I waste management. In particular, we focus on:

- the amount and type of C&I waste that is produced in Greater Manchester;
- the capacity that is currently available to treat it;
- the 'capacity gap' between the waste that is produced and the treatment capacity;
- what this information means for the market opportunities for collection and treatment of C&I waste; and
- the factors that are likely to shape waste arisings and management in the future.

Background

There are strong market drivers for the UK's waste market which provides businesses with a financial incentive to recycle by making waste disposal costly. However, the case is especially strong for high value materials, such as metals, and materials that are widely produced (such as paper, plastic and glass). There are weaker market drivers for materials that have lower value (e.g. food waste, which incurs treatment costs – although these are much lower than for residual waste), are difficult to collect (e.g. bulky items), or which are produced sporadically or by relatively few businesses (e.g. mattresses, waste electronics), will often be less cheap to recycle. Without a clear financial incentive, businesses are less likely to access recycling services – even if they would be cost neutral or even offer a small saving.

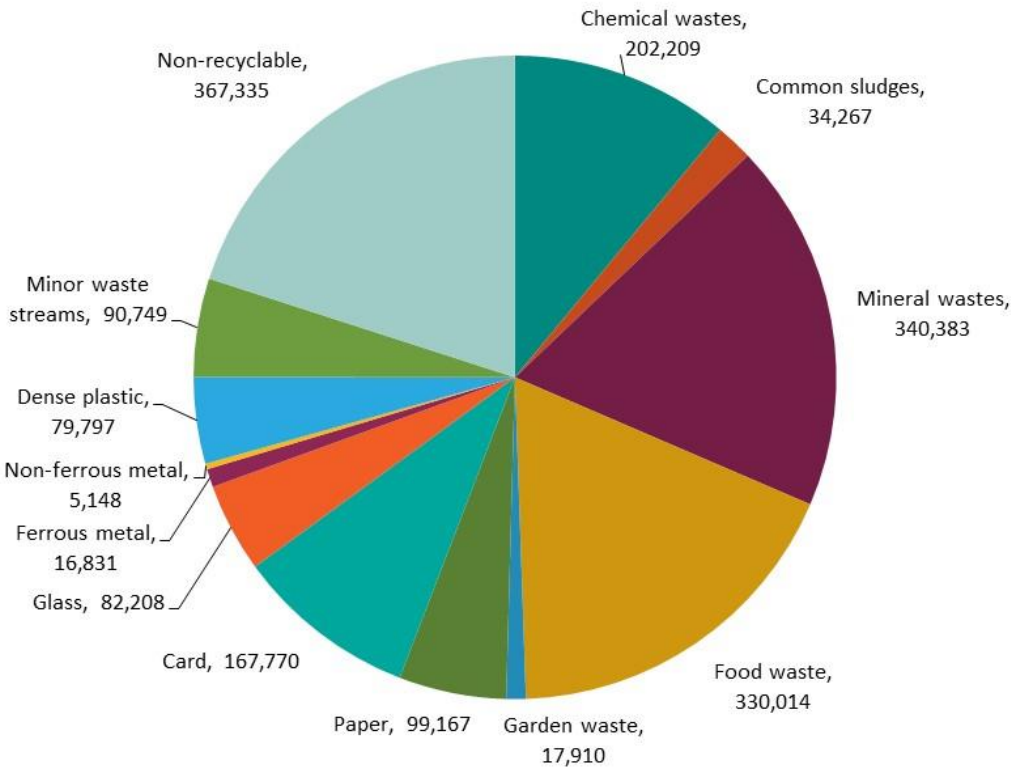
However, if take up of these services can be improved, their cost is likely to decrease as a result of economies of scale; and recycling these materials offers opportunities for waste collectors and reprocessors to add value.

In addition to the business opportunities increased recycling rates would create, the economic benefits of improved waste management would be accompanied by environmental benefits, and help to bring Greater Manchester's businesses to the forefront of the developing circular economy. Unfortunately, the data available on C&I waste is scant and unreliable, making any analysis of waste arisings and treatment relatively difficult. In order to provide reasonable estimates of waste arisings, data from several sources has been brought together and adapted to answer the research question posed.

Findings

Our analysis suggests that businesses in Greater Manchester produce 1.8 million tonnes of C&I waste each year. The business sector that contributes the largest share of Greater Manchester's C&I waste is the retail and wholesale sector (26.5%), followed by other services (15%) and the food, drink and tobacco sector (14.7%). The likely composition of this waste is shown in Figure E-1.

Figure E-1: Estimated Composition of C&I Waste (Tonnes)



The compositional data suggests that some 45% of Greater Manchester's C&I waste is straightforwardly recyclable. Some of the chemical, mineral and sludge wastes will also be recyclable, although these descriptions are insufficiently specific to enable much commentary to be provided on this. Within the material stream categorised as 'minor waste streams' will be a good deal of material that has the potential for beneficial use, including wood, textiles and waste electronic along with other more difficult material streams to recycle such as wood and sanitary waste. Within the non-recyclable waste we have included non-specific categories of waste such as "miscellaneous combustibles".

Greater Manchester has a considerable amount of waste treatment capacity. However, over 1.1 million tonnes of the 2.5 million tonnes of capacity comes under the Greater Manchester Waste Disposal Authority (GMWDA) Private Finance Initiative (PFI) contract with Viridor-Laing. Much of this is currently utilised for the treatment of waste from households, but the future of the contract is currently uncertain, and some or all of this capacity may in future become available to treat C&I waste.

The waste arisings are compared with the available treatment capacity in Table E-1. The following observations can be made regarding the findings:

- Excluding GMWDA facilities, Greater Manchester appears to have a modest surplus, around 77,000 tonnes per annum, of C&I waste treatment capacity.
- However, were the GMWDA facilities to become available for merchant waste, Greater Manchester would have a considerable excess of waste capacity, some 1.2 million tonnes.
    - However, this capacity is not necessarily well matched with the waste that local businesses produce. It appears that the greatest shortfall is for residual waste treatment capacity.
    - The next greatest area of under-capacity appears to be minor waste streams, such as textiles, wood, WEEE and furniture – although much of this material may currently be handled as residual waste. Facilities handling such materials are not readily identified.
    - The third greatest area of under capacity is food waste. However, it is again likely that a significant proportion of the food waste in the composition may be found within the residual waste stream. Further, some of the capacity indicated as available for the treatment of garden waste is also suitable for food waste treatment.
    - It appears that Greater Manchester has an excess of MRF sorting capacity, and is likely to be importing some mixed recycling from outside the region.

Table E-1: Capacity Gap Analysis - Greater Manchester

Facilities	Status		Food	Garden	Dry Recycling	Minor Waste Streams[1]	Non-recyclable (Residual)[2]	Mineral, Chemical and Sludge Waste[3]	Unknown	Total
Capacity (tpa)	Operational	Total	418,000	176,783	1,060,717	0	837,815	0	8,104	**2,501,419**
		Non-GMWDA	293,000	1,783	970,717	0	60,815	0	8,104	**1,334,419**
		GMWDA	125,000	175,000	90,000	0	777,000	0	0	**1,167,000**
	Consented		0	0	0	0	159,000	0	0	**159,000**
	Planning		0	0	0	0	24,000	0	0	**24,000**
Waste Arisings			330,014	17,910	450,922	90,749	367,335	576,859	n/a	**1,833,789**
Gap (All Operational)			87,986	158,873	609,795	-90,749	470,480	n/a	8,104	1,244,489
Gap (excluding GMWDA)			**-37,014**	**-16,127**	**519,795**	**-90,749**	**-306,520**	**n/a**	**8,104**	77,489

[1] These include textiles, waste electronics and wood.
[2] Material that is not normally recyclable (e.g. certain types of rigid plastics, composites, window glass etc) and material that is not clearly categorised.
[3] These materials are of a specialist nature and treatment facilities for them are not commonly captured within information on waste infrastructure. Identifying appropriate treatment capacity would require greater information on the characteristics of the waste than is available.

The Future

After a period of policy stability in the UK, we are now entering a period of uncertainty in the waste sector – both nationally, and in Greater Manchester in particular. The following key areas of uncertainty have been identified.

- Brexit: Over the last two decades, the UK's waste management policy has been to a large degree shaped by European Union waste legislation, which has provided long-term direction. Following last year's referendum on leaving the EU, there is no longer quite so much clarity. The EU is currently developing new, more ambitious waste legislation, which could significantly affect the way C&I waste is managed, pushing towards greater resource efficiency and higher recycling levels. Depending on the shape of the Brexit deal, the UK may (or may not) adopt this new legislation.
- Regardless of the direction of policy, many larger businesses are taking their own measures to improve their environmental performance, which may in turn have a substantial impact on the type and quantity of waste management services they require. Some important developments are:
    - the increased use of 3D printing;
    - the increased use of composite materials; and
    - the increased use of leasing and service models.
- The GMWDA is currently a major user of Greater Manchester's waste treatment capacity. It has announced that it will terminate its PFI contract with Viridor-Laing, under which it commissioned a great deal of infrastructure. Were it to decide that it no longer wished to use some or all of the facilities it commissioned, the result would be to free up significant amounts of waste treatment capacity for the local C&I sector, profoundly affecting some of the apparent opportunities available in the region.

While there is uncertainty over the future, waste management has been an area of rapid change for many years. There are significant opportunities for the SME sector in Greater Manchester to explore that are likely to be viable, regardless of the outcome of the considerations raised above.

Opportunities

Despite the difficulty in developing reliable, comprehensive and detailed information on waste arisings and facilities, it is possible to draw some conclusions about market opportunities for waste management, recycling and reprocessing companies in Greater Manchester. These range from services focused on preventing waste through to the collection and treatment of additional source-separated materials for recycling. The principal opportunities identified are:

- To offer enhanced account management services as an add on to a collection service. This might result in increased, better quality or even new material to collect as well as better relationship with clients.
- To market services to collections of business such as those in a Business Improvement District to help improve the economies of scale for collections from smaller business and for less common waste streams (e.g. textiles, mattresses, furniture, WEEE, carpet).
- Develop partnerships between businesses that specialise in reprocessing less common waste streams (e.g. textiles, mattresses, furniture, WEEE, carpet) and collectors to offer a seamless service to local businesses and / or develop an Uber style front end to link services from a number of companies to customers.
- Start to develop new services and treatment processes for emerging waste streams such as lithium ion batteries, Astroturf and 3G pitches, 3D printing polymers and composite materials. New business opportunities may arise from developing new, cost effective ways to manage these waste streams