Commercial Waste Study – UK/France

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Executive Summary – English

Despite the UK and France operating under the same EU legislation, interpretation of the way that Commercial & Industrial (C & I) waste is managed is significantly different. Unlike in France, rates paid by businesses in the UK do not entitle them to any kind of waste collection service provided by their Local Authority, however a service can be requested at a cost.

The report focuses on a comparison of methods used within France and the UK. It includes best practise and case studies, current information on C & I waste composition, and an investigation into the viability of accepting commercial waste at UK Household Waste Recycling Sites (HWRSs).

Report conclusions identified that in order for any progress to be made in the way C & I is managed, the area needs to be broken down to gain a better understanding and therefore create an appropriate strategy. Report recommendations include:

- Analysis of waste according to business type for gaining waste composition data. A formula could then be used to determine an expected level of waste arising and composition, based on the business types found within a LA's area of responsibility.
- A much more detailed investigation is required on a more local level, looking into specific areas and individual HWRSs, in order to determine whether a HWRS is suitable disposal route for local business waste. Research should be focused into those areas where there is no WCA offered collection service and a high number of micro and small scale businesses.

In many areas of the UK, household recycling targets have already been exceeded. With this in mind, surely it is now time to set similar targets for the commercial sector.

Résumé Exécutif – en Français

Même si le Royaume-Uni et la France opèrent sous la même législation de l'UE, l'interprétation respective de la gestion des déchets Commerciaux et Industriels (C&I) est sensiblement différente. Contrairement au contexte Français, les taux payés par les entreprises dans le Royaume-Uni ne les autorisent pas à utiliser les services de collection de déchets fourni par leur Collectivité, cependant un service peut être demandé à un coût.

Le rapport se concentre sur une comparaison de méthodes utilisées en France et au Royaume-Uni. Ceci inclus des exemples de bonnes pratiques et des études de cas, les informations actuelles sur la composition des déchets C&I, et une investigation dans la viabilité d'accepter des déchets commercial dans les déchetteries pour les ordures ménagères.

Les conclusions du rapport ont identifié que pour améliorer la gestion des déchets Commerciaux et Industriels, le secteur a besoin d'être évalué pour avoir une meilleure compréhension et créer une stratégie appropriée. Les recommandations de rapport incluent:

- L'analyse des déchets selon le type de commerce pour avoir les données de composition de déchets. Une formule pourrait être alors utilisée pour déterminer un niveau de production de déchets approprié, et sa composition, fondé sur les types de commerces dans le secteur de responsabilité de la collectivité.
- Une investigation beaucoup plus détaillée est exigée sur un niveau plus local, examinant des secteurs spécifiques et déchetteries individuels, pour déterminer si une déchetterie est la route de disposition convenable pour les déchets commerciaux

locaux. La recherche devrait s’addresser aux secteurs où il n'y a pas de services offerts part une collectivité de communes, et un haut nombre d’entreprises à petite échelle.

Dans beaucoup de régions du R-U, les objectifs de taux de recyclages pour les déchets ménagers ont déjà été dépassés. Il est maintenant temps de fixer les objectifs semblables pour le secteur commercial.

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1. Introduction

Commercial and Industrial waste is an important consideration in terms of waste management in England because collectively they contribute 24% to total waste arisings, compared to household waste which contributes 9% (Defra, 2009a) as shown in figure 1.1.

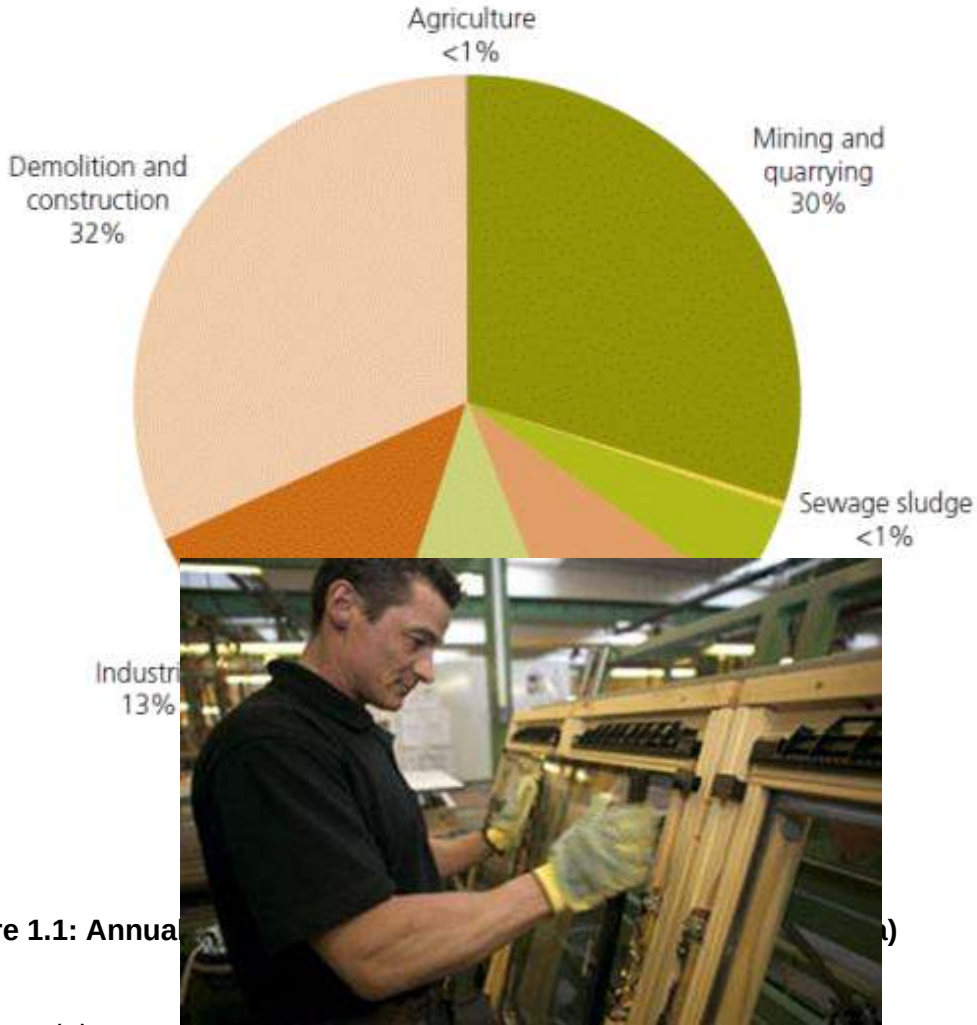


Figure 1.1: Annua)

Commercial waste as defined by the Waste Strategy 2007 is classified as, waste arising from wholesalers, catering establishments, shops and offices (in both public and private sectors). This category does not account for wastes arising from construction, demolition and excavation sectors (Defra, 2007b).

Currently in England, the percentage of authorities that provide a residual trade waste service (either collection and/or bring) is 65%. The percentage of authorities that provide a trade recycling service (either collection and/or bring) is 43%. (WRAP, 2010a).

1.1. The UK and France- facts and figures

France

Population of France: 65+ million. In France, the total waste generation figure for 2009 was 868 million tonnes (ADEME, 2009). The breakdown of this was as follows:

- Agricultural and forest waste 43 % (373.2m)
- Construction/public works 41 % (355.8m)
- **Business & commercial waste** **10 %** (**86.8m**)
- Household waste 3.5 % (30.3m)
- Waste from service 1.5 % (13.0m)
- Hazardous Industrial waste 1 % (8.6m)
- Healthcare waste 0.02 % (1.7m)

UK

Population of the UK: circa 61+ million. The total amount of municipal waste produced (and collected by Local Authorities) in 2008/09 was 27.3 million tonnes (Defra, 2009b), at a cost of over £3.1bn (a decrease of 1.2 million tonnes from the previous year). These costs are expected to increase to £4.2bn by 2013.

There is estimated to be more than twice the amount of **Commercial & Industrial** as household waste, figure put at around **68 million tonnes**.

1.2. Commercial waste in the UK and France

 In the UK, rates (known as 'non domestic' rates) that businesses pay towards the cost of local services, do not include the collection and/or disposal of commercially generated waste. Businesses do, however, have a 'Duty of Care' (NetRegs, 2010) to dispose of waste as defined by legislation. Commercial waste can be collected either by:

- A Waste Collection Authority (WCA), if they provide such a service. If collected by a WCA, it is a paying service and would subsequently be passed on to the Waste Disposal Authority (WDA) to dispose of. This then becomes classified as, and is included in 'municipal' (household) waste totals.
- A private waste contractor.

 In France, rates businesses pay towards the cost of local services, do include a waste collection service, from their 'Local Authority'. This only includes the collection of 'household' type waste, which is sufficient if a small business is only generating this type of waste. Should a business produce anything other than 'household' type waste, it would then be required to have a private waste contractor, licensed to handle and dispose of the type of waste it is producing. This may result in a business having a service provided by both its Local Authority (for 'household' type waste) and a private waste contactor for specialist waste needs.

In the UK, central government (via Defra) is currently undergoing a review of its waste policy (Defra, 2010a). This may result in the UK having a similar policy to that in France, and LA's may become responsible for collecting waste defined as 'household', from commercial properties in their areas.

The revised approach to municipal waste is based on waste classified using the List of Wastes Decision. Chapter 20 of this catalogue can broadly be considered to equate to

municipal waste. The regulation defines municipal waste as household waste and similar commercial, industrial and institutional wastes including separately collected fractions *(The List of Wastes (England) Regulations 2005, S.I. No.895).*

It is intended to also include parts of Chapter 19 (waste from treatment facilities) and Chapter 15 (packaging waste). This approach has been agreed with the European Commission and will bring the UK approach closer to that used in other Member States. It means that a much larger proportion of commercial and industrial waste is included within the definition, which is consistent with the increased focus Defra wants to place on this waste stream; and to bring greater convergence between the drivers to manage household and commercial waste further up the waste hierarchy so that the environmental impacts of waste are addressed regardless of its source.

The review (Defra, 2010a) will also include:

- New approaches to dealing with commercial waste and promoting 'responsibility deals' (reducing the amount of waste generated by production and retail)

No doubt packaging will feature highly in this review, as 'over packaging' tends to be one of the main bug bearers to householders.

1.3. Why the need to review commercial waste services?

One difficulty for Local Authorities, is trying to assess how much commercial waste is being illegally disposed of through the household waste route. This practice is known to take place, as many people work or run businesses from home and when surveyed, admitted to not using a waste contractor.

For these reasons we have to assume they are disposing of their waste via the domestic route, either via home collection or at HWRSs and Bring Banks, provided by Local

Authorities for householders. This activity collectively costs Waste Disposal Authorities millions in illegal commercial waste disposal costs.

This is why many Local Authorities have now introduced measures at their Household Waste Recycling Sites, to prevent the disposal of business waste via the household route. Measures include permit schemes for household waste to be delivered in a trailer or commercial-type vehicle and installation of vehicle licence plate recognition technology. These schemes have saved millions in disposal costs (WIN, 2008). There is, however, a cost to implement and maintain these systems and an argument that LAs could let businesses use these sites, but at a charge to cover the disposal costs.

Organisations such as WRAP (Waste Resources Action Programme) and BREW (Business Resource Efficiency in Waste) have offered funding over the past few years, to Local Authorities to create projects and schemes to educate businesses to do the right thing and prevent them using the household route for disposing of their waste. One of the main reasons for this is because to date, many of the larger waste contractors have not really provided suitable or affordable services for smaller businesses (SMEs) to dispose of their waste.

“There is an opportunity for the improved collection and sorting of waste from smaller companies and commercial premises, allowing the value in these materials to be recovered. Defra’s proposed change to the definition of municipal waste will help to encourage this.” (BIS and DEFRA, 2010).

Over the coming years, the separate collection of recyclable material from households and businesses will become even more important than it is today. Currently, many SMEs argue that they cannot find affordable trade waste recycling services – of the type provided to households – and end up disposing of materials they would otherwise recycle as part of a single residual waste collection (BIS and DEFRA, 2010).

1.4. Why the need to work closer with the commercial sector?

For the reasons explained in sections 1.2 and 1.3, businesses either:

- Believe their business rates provided them with a waste service.
- Want to recycle their waste but don't know how to go about it.
- Have a waste contractor that does not offer or provide them with a recycling service and think it will cost them more to do so.

This then results in many of them not being compliant or making any attempt to recycle. In many cases the majority of waste that smaller businesses produce (particularly offices), is recyclable. We need to encourage more businesses to do the right thing, including recycling more of their waste. In order to do this, the waste service industry needs to provide more suitable services, make them more readily available, more easily accessible and at more affordable costs. The very least is that paper waste should be recycled.

2. Project objectives and planning

The Defra report 'Commercial and Industrial Waste in England – Statement of aims and actions 2009' states that local authorities will "consider the Commercial and Industrial wastes that arise in their area". For local authorities to consider this waste they first need to know more about it, including the composition of Commercial and Industrial waste and the services already being operated at different LAs (Defra, 2009a).

The objectives of this report are:

- to research current information relating to the composition of commercial and industrial waste;
- to investigate the viability of HWRSs accepting commercial waste; and
- to compare the varying methods used within France and the UK.

This data can be collated into information useful as a model for Local Authorities wishing to improve the type of waste services they are currently offering or intending to offer their businesses, as well as the potential to be developed in to a national model.

The last *national* survey relating to commercial and industrial waste was conducted by the Environment Agency in 2002. The survey carried out with 4,500 commercial and industrial sector businesses, collected information for each business and included the type, quantity and form of waste and its disposal or recovery method.

As the last survey of business waste was undertaken more than seven years ago, given the changes in the economy and business approaches to resource efficiency since, this data is increasingly out of date. In order to inform and evaluate future policy, Defra urgently required this gap in evidence to be filled.

For this reason, earlier this year (2010), Defra organised a further 'Survey of Commercial and Industrial Waste Arisings 2010'.

This was a major project for both regional and national public bodies and will fill a large gap in our current knowledge of the picture of waste in England. The valuable information collected will feed in to discussions on waste management infrastructure requirements, planning, recycling and waste prevention policy, to name just a few.

High level interim results should be available from November onwards (not available at time of this report), with a detailed set of summary tables and comprehensive accompanying analysis to follow in December. Defra are keen to make the survey results as useful as possible to the widest audience, and further intends to publish a version of the raw, completely anonymised survey data which can be freely used for other commercial and non-commercial purposes.

In the mean time, many local authorities have carried out their own compositional analyses.

2.1. Method statement

We have researched current reports and findings to compile an up-to-date report on Commercial and Industrial waste disposal options, arisings and composition, and good practice. The research has taken place via internet research and some direct contact with Local Authorities, such as telephone and e-mail.

In addition, we have used networking opportunities provided by interaction with our French and English colleagues, facilitated through the Waste in Action/Agissons autour des déchets programme.

2.2. Research areas

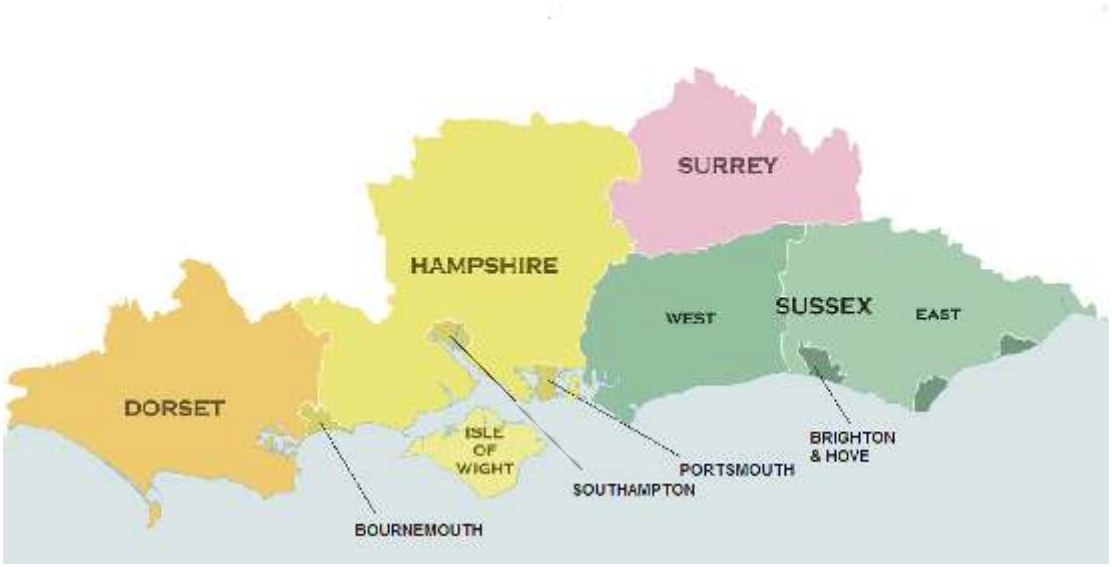


Figure 2.1: Map of research area

The authors of this report collectively represent Bournemouth Borough Council, East Sussex County Council and Surrey County Council. Investigation will be carried out not only through determination of current commercial and industrial research within the UK and France but also with regard to direct contact – our biggest resource will be our colleagues within other LAs in the UK. With a view to focusing on specified areas, the nearest geographical

neighbours to these councils will be investigated, to determine whether these council's offer a collection or the opportunity for commercial and industrial waste to access HWRS, and whether these councils have undertaken any type of waste composition analysis.

The councils researched for this report include:

East Sussex County Council is a Waste Disposal Authority containing five District and Borough Councils that have the responsibility of waste collection:

Eastbourne Borough Council

Hastings Borough Council

Lewes District Council

Rother District Council

Wealden District Council

West Sussex County Council is a Waste Disposal Authority. It contains seven Borough and District Councils that have a responsibility for collecting waste:

Adur District Council

Arun District Council

Chichester District Council

Crawley Borough Council

Horsham District Council

Mid Sussex District Council

Worthing Borough Council

Surrey County Council is a Waste Disposal Authority, who together with its eleven District and Borough Councils (Waste Collection Authorities), have formed the Surrey Waste Partnership. The WCAs are:

Elmbridge Borough Council

Epsom and Ewell Borough Council

Guildford Borough Council

Mole Valley District Council

Reigate and Banstead Borough Council

Runnymead Borough Council

Spelthorne Borough Council

Surrey Heath Borough Council

Tandridge District Council

Waverley Borough Council

Woking Borough Council

Hampshire County Council has a waste partnership, which works together to provide an integrated solution to Hampshire's municipal waste. The partnership goes by the name Project Integra and the partners comprise of;

Hampshire County Council - the Waste Disposal Authority (WDA)

The Unitary Authorities (U/A) of Portsmouth and Southampton, which are responsible for both collection and disposal

Veolia Environmental Services, the predominant waste disposal contractor

The eleven district and borough authorities in Hampshire, which are the Waste Collection Authorities (WCA):

Basingstoke and Deane Borough Council

East Hampshire District Council

Eastleigh Borough Council

Fareham Borough Council

Gosport Borough Council

Hart District Council

Havant Borough Council

New Forest District Council

Rushmoor Borough Council

Test Valley Borough Council

Winchester City Council

Dorset County Council is a Waste Disposal Authority. It contains six District and Borough Councils that have responsibility for collecting waste:

Christchurch Borough Council

East Dorset District Council

North Dorset District Council

Purbeck District Council

West Dorset District Council

Weymouth and Portland Borough Council

Bournemouth Borough Council (U/A)

Brighton & Hove (U/A)

3. Legislation and good practise impacting business waste in France and the UK

3.1. Packaging

 **In the UK**

Businesses must comply with packaging regulations if they **make**, **fill, sell** or **handle packaging** or **packaging materials**.

If their business produces or handles packaging and they fail to comply with the regulations they could be **prosecuted** and **fined**.

The packaging waste regulations ensure that businesses are responsible for recovering and recycling UK packaging waste. There are two sets of regulations that businesses may need to comply with:

- The **Packaging (Essential Requirements) Regulations** apply if a business **produces packaged products, or places packaging** or **packaged goods** on to the **market**.
- The **Producer Responsibility Obligations (Packaging Waste) Regulations (2005)** apply if a business **handles** more than **50 tonnes** of packaging in a year and has a turnover of more than **£2 million.** Changes were made to this regulation in 2006. These changes were made to help smaller businesses (Defra, 2006).

The UK business recovery and recycling targets were set at:

	2006	*2007*	*2008*	*2009*	*2010*
Paper	66.5	67	67.5	68	68.5
Glass	65	69.5	73.5	74	74.5
Aluminium	29	31	32.5	33	33.5
Steel	56	57.5	58.5	59	59.5
Plastic	23	24	24.5	25	25.5
Wood	19.5	20	20.5	21	21.5
Overall recovery	66	67	68	69	70
Min recycling*	92%	92%	92%	92%	92%

* Minimum amount of recovery to be achieved through recycling

Figure 3.1: UK business recovery and recycling targets (Defra, 2006)

Recent results showed Defra targets saw an increase in plastics from 29% to 32% and steel from 69% to 71%, which exceeds the original targets shown in the above table.

As a result**,** Trade Associations for the plastics and metal sectors have responded positively to the announcement of increased packaging recycling targets affecting the two waste streams over the next two years. (Reported in letsrecycle.com 27 October 2010)

Targets for packaging waste recycling under current regulations only run until the end of 2010. Plans are now underway for proposals to introduce revised packaging recovery and recycling targets for the period 2011-20.

The Advisory Committee on Packaging has recommended that future targets should be set for a minimum of the next 5 years in order to provide industry with greater certainty for planning and future investment.

The policy options are to either:

a) Roll forward the existing targets given they now meet the minimum EU requirement; or

b) To raise targets to achieve the UK's ambition to work towards the recycling rates achieved by the best EU performers. This will give the best benefits and is therefore the preferred option.

In France

France has adopted 'The Green Dot' (Eco labelling system) on all goods. The Green Dot is the license symbol of a European network of industry-funded systems for recycling the packaging materials of consumer goods. The trademark logo is protected worldwide.

This doesn't mean that the product or packaging is recyclable; in fact the Green Dot symbol is a trademark which simply means the company producing the product has made a contribution to the costs of a packaging reclamation and recycling scheme.

Eco Emballages is a private company accredited by the French public authorities to install, organise and optimise sorting and selective collection of household packaging.

3.1.1. Companies showing a commitment to reducing their packaging

Intermarché launches Ecolo

Intermarché has announced the launch Ecolo Pass, a new labelling initiative that will be introduced to private label products. The labelling is designed to encourage recycling by helping consumers sort each part of the packaging.

It appeared on several hundred products by the end of 2008, with the new packaging being rolled out to all 4,500 Sélection des Mousquetaires products by year-end 2009.

According to Intermarché, 4.4 million tonnes of waste from household products are generated in France each year and waste disposal is the main environmental concern of 74% of French people. However, the retailer says that people are not used to sorting their waste and therefore they ether do not do so regularly or they make mistakes when they do.

Intermarché's aim is to create a user-friendly system that is:

- Easier to read.
- Has more useful and understandable information.
- Features practical and clear advice.

The new packaging will feature an Ecolo Pass logo on the front of pack to make customers aware of the scheme. More detailed information will be available on the back of pack. The labelling system aims to help people sort their waste by featuring on every part of the packaging (container, lid, seal etc) not just the outer casing.

Intermarché believes that this step will help raise awareness of recycling because 1.5 million customers visit its stores every day and half the products they buy are private label.

The Ecolo Pass own brand-labelling enhancement is the latest in a series of steps taken by Intermarché to be more respectful of the environment. Examples of other initiatives are:

- The recycling of 99,640 tonnes of cardboard and 1,330 tonnes of plastic in 2007.
- Focus on reducing the amount of packaging of Intermarché and Ecomarché products since 2005, with 1,021 tonnes of packaging having been removed so far.

(Source ESMA - European Sales & Marketing Association's E-WATCH newsletter April 2008)

Marks & Spencer

Marks & Spencer recently launched new packaging that can break down on the compost heap.

They will be using the new packaging for the first time for its entire Swiss Chocolate Collection range. The new products went on sale in stores in October, in anticipation of high demand from shoppers in the run up to Christmas.

The trays will be made of plantic*, a material made from starch that is 100% compostable. When plantic* becomes moist it breaks down completely, making it ideal for home composting.

*Plantic is a new bioplastic technology (more detailed information available at www.plantic.co.uk)

Figure 3.2: The chocolate tray to be used by Marks & Spencer, which dissolves in water. (Article and photo reported in guardian.co.uk 25 October 2010)

- **L'Oréal**

Packaging plays a major role in the sustainable growth of L'Oréal's brands, serving many important needs in product distribution and storage, brand recognition and consumer use. L'Oréal has made significant progress in reducing the environmental footprint of its packaging in recent years.

3.1.2. The role of packaging

Packaging is a necessity. It is integral to the product and has many uses: protecting the product from factory to consumer, preserving it from external conditions, enabling it to be dispensed, informing the consumer about use and ingredients, and forming part of the brand identity.

Garnier's recent work (opposite) reflects the importance we place on understanding consumer behaviour and developing ways to promote recycling in the home, so meeting societal responsibilities as well as environmental ones.

3.1.3. **Sustainable packaging**

Packaging innovation at L'Oréal is focused on eco-design, weight and volume reductions, new materials and technologies, recycled content, and lifecycle evaluation. Their approach is based on "Respect, Reduce, and Replace":

- Respect – for nature and biodiversity
- Reduce – packaging weight and volume
- Replace – renewable resources and materials.

1980-2007	2007	2008-09	2010	2011 onwards
• Source reduction • Recycled cardboard • Materials selection	• Packaging & Environment policy • Position papers • FSC certifications	• Lifecycle analysis • Sustainable Packaging training • Funding for bio-plastics research	• Eco-design procedures • PIQET tool for environmental assessments • Recycled glass • Marketing guide • Reporting of indicators	• Standardised eco-design process • Tools implementation • Goal-setting

Figure 3.2: L'Oréal's roadmap (L'Oréal, 2009)

L'Oréal helped to set up Eco-Emballages, which specialises in processing domestic packaging waste, and Ecofolio, dedicated to paper management.

Garnier and Eco-Emballages: leading by example

Garnier recognises that its efforts in packaging eco-design can only be fully realised if consumers are engaged. Research by Garnier and Eco-Emballages showed that 84% of French consumers recycle in the kitchen but only 55% do so in the bathroom, and only 21% sort and recycle cosmetics packaging correctly. In 2009 Garnier launched a practical and original solution: the first-ever recycling bin for the bathroom, designed to make it as easy as possible for consumers to recycle.

3.2. French recycling performances in 2007

By the end of 2007, 98% of French people were able to sort their packaging waste.

The volume of domestic packaging contributed is 4.7 Mt.

Recycling performance by material (as a percentage of the total volume):

- Steel: 109%
- Aluminium: 28%
- Paper-card: 55%
- Plastic: 21%
- Glass: 75%

(Eco Emballages, 2007)

3.3. Business waste exchange sites

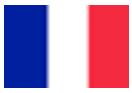
 **UK**

- **NISP**

NISP stands for National Industrial Symbiosis Programme. Industrial symbiosis brings together traditionally separate industries and organisations from all business sectors, with the aim of improving cross industry resource efficiency and sustainability; involving the physical exchange of materials. Whilst this report was being written it was announced that retrospectively from 1 April 2010, WRAP (Waste and Resources Action Plan) has taken on the responsibility for handling NISP's contract on behalf of Defra (Department for Environment Food and Rural Affairs).

- **Eastex**

The Eastex National Materials Exchange is a free online service that was set up for businesses and other organisations in the York & Humberside, East of England and more recently, Oxfordshire areas of the UK. It helps to keep reusable items in circulation and out of landfill. It works on the concept that one person's waste is another's resource; allowing items to be effectively and efficiently passed on and sourced. The online forum allows you to place adverts and pictures for available or wanted items.



France

- **Bourse-des-déchets**

Bourse-des-déchets is a website set up by 'Les Chambres de Commerce et d'Industrie' in eleven regions of France (Aquitaine, Auvergne, Centre, Champagne-Ardenne, Ile-de-France, Limousin, Midi-Pyrénées, Picardie, Poitou-Charentes, Provence-Alpes-Côte d'Azur and Corse), and is a cross between NISP and Eastex in the UK. It works on the basis that one company's waste is often the raw material of another.

The website was set up by a similar organisation to the Chambers of Commerce in the UK, giving businesses the opportunity to place advertisements to offer and request materials, in order to facilitate the exchanges between companies.

4. Projects piloted to date

In several parts of the country, various business-recycling schemes have been set up and trialled. These have included implementing business recycling collection rounds and introducing commercial Bring bank sites, both aimed at the SME market.

4.1. Case Studies – Local Authorities

 **UK**

The *London Borough of Islington* is a diverse borough made up of approximately 10,000 businesses. Of this number approximately 80% are small medium sized enterprises (SMEs). To help businesses think about their waste management practices, Islington Council decided to look at developing its own scheme. With funding from the BREW (Business Resource Efficiencies Waste) Centre they aimed to provide:

- Face-to-face support to Islington businesses
- Waste minimisation and reduction tools and techniques
- Information to businesses about the councils other business support services (e.g. green travel, energy efficiency)
- A list of contractors that provide recycling services in Islington

There are over 22,000 businesses operating in ***Cambridgeshire and Peterborough*****. RECAP (The Recycling in Cambridgeshire & Peterborough Partnership)** provided trade waste collection services to 4400 businesses, however Peterborough City Council and Cambridge City Council were providing a recycling service to only 738. To address the lack of recycling services, the RECAP partners set themselves a target to divert 3000 tonnes of biodegradable waste and 2000 tonnes of glass from landfill during 2009/10 through local authority recycling collection schemes.

The project had two core aims; the first was to develop the physical infrastructure necessary to facilitate improved resource use across the county. The second core aim was to raise awareness of legislation.

Sub-project 1: Developing a network of privately operated bring facilities.

Sub-project 2: Developing collection services.

Case studies are available to view in full on WRAP's website.

There have been several Local Authorities who have trialled trade waste collection services and encountered varying problems such as:

Mid Devon (MDDC) found it difficult to establish a pricing structure until the pilot scheme was up and running and they knew the type and weight of materials that they were collecting and the associated disposal means and gate fees. Once this was established they could choose the most appropriate vehicle and collection receptacles

One of the learning experiences of MDDC has been that regular quality checks need to be made and that collection operatives need to be aware of what is not acceptable on the scheme and reject bins. Initially MDDC did not do this and now believe that this "slippage" meant that some customers were using the recycling scheme as a cheaper means of disposing of waste that should have been going to landfill. This is largely because using black refuse sacks does not allow operatives to see the contents and by the time the load gets to the sorting plant it is all but impossible to identify the source.

South Ribble Borough Council already offered a trade waste collection service, where businesses were provided with 1100 litre wheeled bins to contain their waste. Charges were made per container and per number of collections. The waste was then collected in a separate vehicle and sent to landfill with no recovery.

They went on to survey the existing trade waste service customers to identify business sector, type and volumes of waste and willingness to pay for a recycling service.

146 businesses (20% of the customer base) indicated an interest. From this process, the bin sizes that customers required for residual waste and recycling were identified.

Due to the success of the scheme South Ribble Borough Council intend to continue to roll out this service to the whole of the borough. When all containers had been distributed, a refurbishment programme of the returned residual waste containers commenced, which enabled the service to be offered to many more customers (supply would be ongoing as current recycling containers were exchanged for residual waste containers).

Case studies are available to view in full on WRAP's website.

4.2. Case Studies – Businesses

Hotel Ibis in Lyon

The Ibis hotel in Lyon reduced its waste by 8% by:

- Replacing sets of tableware at breakfast.
- Replacing soap products in the bathrooms with liquid soap dispensers and plastic bottles with consigned bottles.

Simple gestures like this have proven successful with its customers.

(Source: reduisonsnosdechets.fr website)

Stratton Hotel in East England

A small family-run enterprise in the East of England:

- Committed to reduce and reuse waste from the business.

Their efforts have resulted in cost savings of over £8,000-a-year, with some 98 per cent of waste generated now reused or recycled.

(RECAP, 2007)

Lurem

Lurem is a specialist company in the manufacture of machinery and equipment for wood.

By investing in the purchase of two more powerful painting guns, allowed for more effective painting of parts. This resulted in Lurem reducing 13.4 tons of rejects to 4.1 tons

(Source: reduisonsnosdechets.fr website)

Abbey Corrugated Bedford

A corrugated sheet manufacturing company in Bedfordshire took action to reduce corporate waste. By carrying out a review, the company highlighted raw material waste as a cost saving opportunity. It was able to implement changes leading to more efficient practices. As a result, the company had cost savings of £151,000-a-year and reduced its waste of raw materials by 395 tonnes-per-year.

(RECAP, 2007)

Denis Papin Collectivites

The company Denis Papin Collectivités manufactures office furniture. For delivery, its products are put under heat-retractable film rather than packed in cardboard.

Double advantage: reduction of the volume of packing and less breakage owing to the fact that the products are visible and are transported with more precaution. All of these actions led to a reduction of waste by the company and made it possible to reduce half of the volume of their non-hazardous industrial waste, as well as decreasing the cost of collections and treatments.

(Source: reduisonsnosdechets.fr website)

The Cookie Man – Esher

The Cookie Man, a producer and supplier of bakery products to large supermarket chains was seeking to reduce cookie dough and cardboard waste to landfill.

They now demonstrate notable quantities of food waste and cardboard diverted from landfill by using measures such as waste minimisation, introduction of cardboard baling and food waste collections resulting in:

£77K financial savings in landfill tax and disposal costs

750 tonnes of food and cardboard waste diverted from landfill

Reduction of cardboard waste by 4.5% year

(Source: SurreyGreenSteps website)

Metaldyne

The Metaldyne company reduced its rubber consumption by 45% in 2 years by:

- Optimising the conditions of storage of its raw material “natural rubber”
- Optimising its process of transformation of rubber.
- It also limited sediment being produced; designed new injection moulding equipment and better organized its production.
- Thanks to these actions, it carried out an annual saving of €75k.

(Source: reduisonsnosdechets.fr website)

GE Commercial Finance UK

UK subsidiary of a global corporation adopts a wide range of waste reduction and recycling initiatives to substantially reduce waste to landfill

GE has reduced the volume of waste it sends to landfill by around 75%:

- Originally, two 1100 litre Eurobins emptied daily; now only one bin emptied three times a week.
- Cleaning costs are also down as centrally placed recycling bins do not take as long to service as individual bins.
- The reuse policy on stationery has brought further savings
- Carbon footprint has been lowered by using GE’s own compost on its grounds and from fewer waste collections

(Source: SurreyGreenSteps website)

4.3. Examples of French companies that have reduced their waste

4.3.1. Louis Vuitton's Actions in 2006 - The Elimination of Plastic

The elimination of plastic wrapping for deliveries resulted in a saving of 20 tonnes of plastic. The abolition of intermediate packaging for transport of products from workshops to stores resulted in a saving of 100 tonnes of packaging.

4.3.2. VELUX and the Environment

VELUX is working continuously to minimise waste in production by optimising the processes involved.

Focus on recycling

Much of their waste consists of wood, steel, aluminium and glass. These materials are easy to recycle and, for many years, the factories have been focused on recycling waste from production.

Figure 4.1: In the Velux workshop (photo from reduisonsnosdechets website)

Worldwide, VELUX has succeeded in ensuring that the Group recycles around 70% of its waste. Most of the remainder is combusted at waste incineration plants, and contributes to

the production of energy. A very small proportion - less than 1% - consisting of varnish and oil is sent for special waste treatment.

In addition, increased focus on rational supply patterns helps to minimise energy consumption for internal conveyance of materials, while wastage of materials is reduced through an increased focus on quality, improved maintenance of production equipment and uniform processes designed to give rise to fewer faults. In this way, a reduction in resource consumption per unit produced can be achieved.

5. What needs to be done?

5.1. re3 Partnership

In 2008 the *re3 partnership* of *Wokingham, Bracknell Forest and Reading Borough Councils,* in association with Business Link decided to develop a Business Waste Strategy and Action Plan. A survey was carried out to estimate regional business waste arisings, current business waste management infrastructure and to explore the perceived needs of businesses within the partner area.

A number of key issues were cited as being barriers for businesses not reducing or recycling more of their waste. These included lack of suitable recycling collection services, high direct costs, low levels of waste creation and lack of space for waste management storage.

Out of those surveyed 58% said they would go to their Local Authority for advice on waste management or legislation.

When questioned about what information or services might be useful in helping them to reduce waste or increase recycling, the most common responses were:

- More recycling collection services;

- More information about waste services/facilities in the area;
- Waste reduction information

As a result of these survey results the re3 Partnership produced a comprehensive ‘Guide to Business Waste’ (referenced).

5.2. Surrey County Council

Surrey County Council (SCC) had also drawn similar conclusions through engagement with local businesses via business partnerships and trade associations and came up with similar results to above.

Being the Waste Disposal Authority (WDA) and working in partnership with the Waste Collection Authorities (WCAs - boroughs and districts), under the ‘Surrey Waste Partnership’ banner, meant that with the help of BREW funding, they were able to deliver a model which would not conflict with WCAs who were already providing a trade waste collection service. In districts where businesses were not being offered any kind of service, a ‘Managing Agent’ was recruited under a tender process, so that incoming business waste enquiries could be referred on to just one point of contact for waste and recycling advice and services.

Research is being carried out as to how local authorities have provided either trade waste drop off points at their HWRC sites or bring banks sites for businesses (examples of barriers and successes follow on in section 9).

SCC also produced a ‘Business Waste Guide’, offering information and advice specific to businesses within the county (referenced).

6. Missed opportunities?

6.1. Glass

Providing better glass collection services to the hospitality sector – restaurants, pubs, hotels, sporting venues, in fact anywhere that sells drinks in glass bottles (wine and beer) (Coggins and McLlveen, 2009).

Glass exemplifies the trade-off in separation – mixed glass is easier to collect but sorted glass is much more valuable. Because there is much more demand for clear glass in the UK, but greater supply of green glass, mixed collections are potentially missing out on the value in the waste stream.

Technology to separate mixed colour glass is developing, which could solve the problem of mixed collections in the long term. However it can also present a hazard to manual collectors once smashed. The chief executive of SITA UK has argued that 'Separating glass from other recyclables' leads to a vast improvement in the quality of the material for reprocessing and quality is improved further when the glass is separated into individual colours.

Beyond reducing glass consumption, re-use and melting into new glass packaging are the most carbon-efficient ways to make the most of glass. It should be a priority to split glass out of the waste stream to drive up quality of collection of all materials.

6.2. Food Waste

San Francisco Bay Area utility turns food scraps into energy

In San Francisco, California, U.S.A, a variety of waste initiatives divert food waste from the commercial sector. EBMUD (East Bay Municipal Utility District) has embarked on a new project to turn food waste into power.

Believed to be the first of its kind in the United States, the project collects food scraps from about 2,300 restaurants and grocery stores in San Francisco's East Bay area. Instead of going to a landfill, the food goes into large tanks at the utility district's Oakland plant, where microbes speed up decomposition. The methane released from the decomposing food drives a turbine to generate electricity. (Source: Energy Services Bulletin April 2010 – published on the wapa.gov website)

If 50% of the USA's food waste went through a similar process as the above example, there would be enough power for 2.5 million homes a year. (Source: the EPA (Environmental Protection Agency)

6.3. Government Announce Structural Reform Plans

In July 2010, the UK government announced plans to hand more power to the public, with every department publishing a plan that sets out clear priorities and measurable milestones.

This has resulted in Defra drafting its Structural Reform Plan (16 Jul 2010), which includes under Action 3 the aim to:

- Support a strong and sustainable green economy, resilient to climate change.

How?

- To create the conditions in which businesses can innovate, invest and grow; encourage businesses, people and communities to manage and use natural resources in a sustainable manner and to reduce waste; and work to ensure that the UK economy is resilient to climate change.

There have been calls for:

- A more standard approach amongst Local Authorities responsible for refuse collections.

- The extension of credits under the CRC Energy Efficiency scheme to businesses that are sending their food waste to AD (Anaerobic Digestion)

This would signal a real commitment to AD, rewarding businesses that are prepared to do the right thing with their food waste and would certainly provide the impetus for commerce to review current waste management practices." (Reported in Recycling & Waste World 21 Jul 2010)

Latest news from the coalition agreement states that government will introduce measures to promote a huge increase in energy from waste through Anaerobic Digestion.

This will demonstrate the innovative use of Anaerobic Digestion (AD) to create renewable energy, reduce greenhouse gas emissions and avoid waste being sent to landfill

7. Waste composition

7.1. Composition of waste in the UK


Much more is known about the composition of household waste, from this research a strategy for dealing with the individual components was devised, meaning England is now well on its way to meeting and exceeding national targets for recycling and landfill diversions for household waste arisings.

An example of how waste compositional data has been used to streamline waste management is apparent through the approach taken to food waste. Kitchen waste accounts for a large proportion of a household's waste at 17% (Parfitt, 2002). From this discovery campaigns such as Love Food Hate Waste have evolved, aimed at making the public aware of how much food we waste and how to make lifestyle changes in order to reduce wasted food. Many Local Authorities have also embarked on separate food waste collections to remove these high proportions of waste from the refuse and instead recycle it.

In order for Commercial and Industrial waste to achieve the same success in reduction, reuse and recycling, there needs to be detailed information about composition so strategies can be devised to deal with this sector.

The difference between household waste composition and commercial and industrial waste composition is stark. Household waste is predictable from household to household, only the levels of materials disposed of tend to vary, depending on lifestyle variations but the materials themselves remain consistently the same. Commercial and Industrial waste as a category covers a wealth of different business types, each producing a different waste stream that can vary dramatically.

Current research not only within this report's area scope but also within England as a whole is piecemeal. Approaches to research so far have been inconsistent and inadequate. This is probably because local authorities and private companies, who may have carried out such research, have no incentive to share information as neither currently has any financial or legal obligation to do so.

In addition, until recently it has not been cost effective for Local Authorities to collect Commercial and Industrial waste. Many have offered the service out of a legal obligation to do so, however if asked have priced the service so that it was less competitive than the private contractors. With the government now turning their attention to Commercial and Industrial waste, a change in the way Local Authorities perceive Commercial and Industrial waste is apparent.

From a national waste management perspective, a detailed Commercial and Industrial waste composition would lead to appropriate methods for managing this waste and an improved service provision.

7.2. Commercial waste composition in France

 In 2007 a ‘French national household waste characterisation survey’ was carried out by ADEME, Frances equivalent to the UK’s Environment Agency. The results randomly selected from 100 municipalities to represent France as a whole, found the following relating to composition of commercial waste:

- 22% of residual waste collected was generated by economic activities
- Packaging waste (including from commercial/business activities) represents one-third of all household waste (ADEME, 2007).

In France, businesses receive a waste collection service, as provided by the equivalent of their ‘Local Authority’. This service provision is for collection of general household type waste only. Data collected from 2006 and earlier suggests that only 5 billion tonnes of a total 90 billion tonnes created by Commercial and Industrial businesses was collected by their ‘Local Authorities’ (ADEME, 2009), meaning that any compositional data collected through the municipal waste stream would only account for the 5 billion tonnes collected and not the other 85 billion tonnes collected through a private waste contractor or through a hazardous waste service.

It seems from looking at the national figures for France, that they also have little information regarding business waste composition. This is probably because they only have a duty to collect the household type waste, which will have the same composition, whereas anything outside of this area is the responsibility of the businesses to find a private contractor to deal with.

7.3. Comparison of Commercial and Industrial waste arisings and composition in the South of England

All of the local authorities involved in the comparison (those that are geographical neighbours to Bournemouth Borough Council, Surrey County Council and East Sussex County Council), including at county level, were contacted individually and asked to confirm whether they provided a waste and recycling collection for local commercial and industrial businesses and whether they had undertaken any research into commercial and industrial waste composition. Results are shown in figure 7.1.

The sample included 44 councils, of these 25 operate both refuse and recycling collections for Commercial and Industrial waste, 18 of the council's researched do not offer either a refuse or recycling service. Surrey County Council has a partnership with contractor MITIE, who manage commercial waste and recycling on the County Council's behalf. However not all of the districts and boroughs are involved in this arrangement, with 3 of Surrey's councils; Epsom and Ewell, Guildford, Reigate and Banstead Council's providing their own in-house Commercial and Industrial collections.

Council	Refuse Collection	Recycling Collection	Commercial and Industrial Waste Composition	Notes
East Sussex County Council				
Eastbourne Borough Council	No	No	No	
Hastings Borough Council	No	No	No	
Lewes District Council	Yes	Yes	No	
Rother District Council	No	No	No	
Wealden District Council	Yes	Yes	No	
West Sussex County Council				
Adur District Council	Yes	Yes	No	In conjunction with Worthing Borough Council
Arun District Council	Yes	Yes	No	Provided by contractors Verdant
Chichester District Council	Yes	Yes	No	
Crawley Borough Council	No	No	No	
Horsham District Council	Yes	No	No	
Mid Sussex District Council	No	No	No	
Worthing Borough Council	Yes	Yes	No	In conjunction with Adur
Surrey County Council				
Elmbridge Borough Council	Yes	Yes	See notes	Part of Beyond Waste study. Service offered by MITIE waste management
Epsom and Ewell Borough Council	Yes	Yes	See notes	Part of Beyond Waste study
Guildford Borough Council	Yes	Yes	See notes	Part of Beyond Waste study
Mole Valley District Council	Yes	Yes	See notes	Part of Beyond Waste study. Service offered by MITIE waste management
Reigate and Banstead Borough Council	Yes	Yes	See notes	Part of Beyond Waste study
Runnymead Borough Council	Yes	Yes	See notes	Part of Beyond Waste study. Service offered by MITIE waste management
Spelthorne Borough Council	Yes	Yes	See notes	Part of Beyond Waste study. Service offered by MITIE waste management
Surrey Heath Borough Council	Yes	Yes	See notes	Part of Beyond Waste study. Service offered by MITIE waste management
Tandridge District Council	Yes	Yes	See notes	Part of Beyond Waste study. Service offered by MITIE waste management
Waverley Borough Council	Yes	Yes	See notes	Part of Beyond Waste study. Service offered by MITIE waste management
Woking Borough Council	Yes	Yes	See notes	Part of Beyond Waste study. Service offered by MITIE waste management

Hampshire County Council				
Basingstoke and Deane Borough Council	Yes	Yes	See notes	Part of the Open University (OU) & the University of Southampton's study
East Hampshire District Council	No	No	See notes	Part of the Open University (OU) & the University of Southampton's study
Eastleigh Borough Council	Yes	Yes	See notes	Part of the Open University (OU) & the University of Southampton's study
Gosport Borough Council	No	No	See notes	Part of the Open University (OU) & the University of Southampton's study
Hart District Council	No	No	See notes	Part of the Open University (OU) & the University of Southampton's study
Havant Borough Council	No	No	See notes	Part of the Open University (OU) & the University of Southampton's study
New Forest District Council	Yes	Yes	See notes	Part of the Open University (OU) & the University of Southampton's study
Rushmoor Borough Council	No	No	See notes	Part of the Open University (OU) & the University of Southampton's study
Test Valley Borough Council	No	No	See notes	Part of the Open University (OU) & the University of Southampton's study
Winchester City Council	No	No	See notes	Part of the Open University (OU) & the University of Southampton's study.
Fareham Borough Council	Yes	Yes	See notes	Part of the Open University (OU) & the University of Southampton's study
Portsmouth City Council	No	No	See notes	Part of the Open University (OU) & the University of Southampton's study
Southampton City Council	Yes	Yes	See notes	Part of the Open University (OU) & the University of Southampton's study
Dorset County Council				
Christchurch Borough Council	No	No	No	
East Dorset District Council	No	No	No	
North Dorset District Council	Yes	Yes	Yes	
Purbeck District Council	No	No	No	
West Dorset District Council	Yes	Yes	Yes	
Weymouth and Portland Borough Council	No	No	No	
Bournemouth Borough Council	Yes	Yes	No	
Brighton & Hove City Council	No	No	No	

Figure 7.1: Local Authorities responses to whether they provided a C & I waste & recycling collection, and if any Commercial and Industrial waste composition had been undertaken.

Interestingly all of the councils, who provided a service, provided both a refuse and recycling collection. In a recent report by Wrap, only 63% of authorities they researched provided a residual waste collection service and also offered a recycling service (WRAP, 2010a).

Overall, only three of the local authorities approached were able to provide any data regarding the composition of business waste; Dorset County Council, West Sussex County Council and Surrey County Council. A fourth study was carried out independently by the Open University's (OU) Integrated Waste Systems research group and the University of Southampton in the Hampshire County Council area.

In all cases the study had been carried out either at County level or in conjunction with the County Council, the majority of the WCAs were not aware that these reports existed, as many replied 'no' or 'not that I am aware of' when asked if any waste compositional analysis was undertaken by their council.

7.3.1. **Dorset County Council**

Dorset County Council was the only local authority to have carried out any specific kind of commercial waste analysis; this was conducted by M·E·L in 2006. The analysis included a sample from two of Dorset's councils; North and West Dorset trade waste rounds.

The sample collected a total of 1282.42kg from 39 businesses and was based on a representative sample of businesses in each of the two districts. The waste was collected, hand sorted and reported separately from the other elements of the sample i.e. household and civic amenity waste.

The businesses, based on Standard Industrial Classification (SIC) business type, included; Motor trade, whole sale and retail (7), hotels and catering (7), post and telecommunications (1), finance (3), property (2), education (4), health (5), public administration (6), construction (2) and manufacturing (2) (M·E·L, 2006).

As Dorset County Council's trade waste analysis was separated by business type, they were able to establish quantities of specific materials for each business type. These can be seen in Figure 7.2.

The results from Dorset's analysis showed that the hotel and catering sector produced the most amount of waste at 72.06kg, followed by the construction industry at 64.02kg, with the finance sector producing the least at 9.09kg.

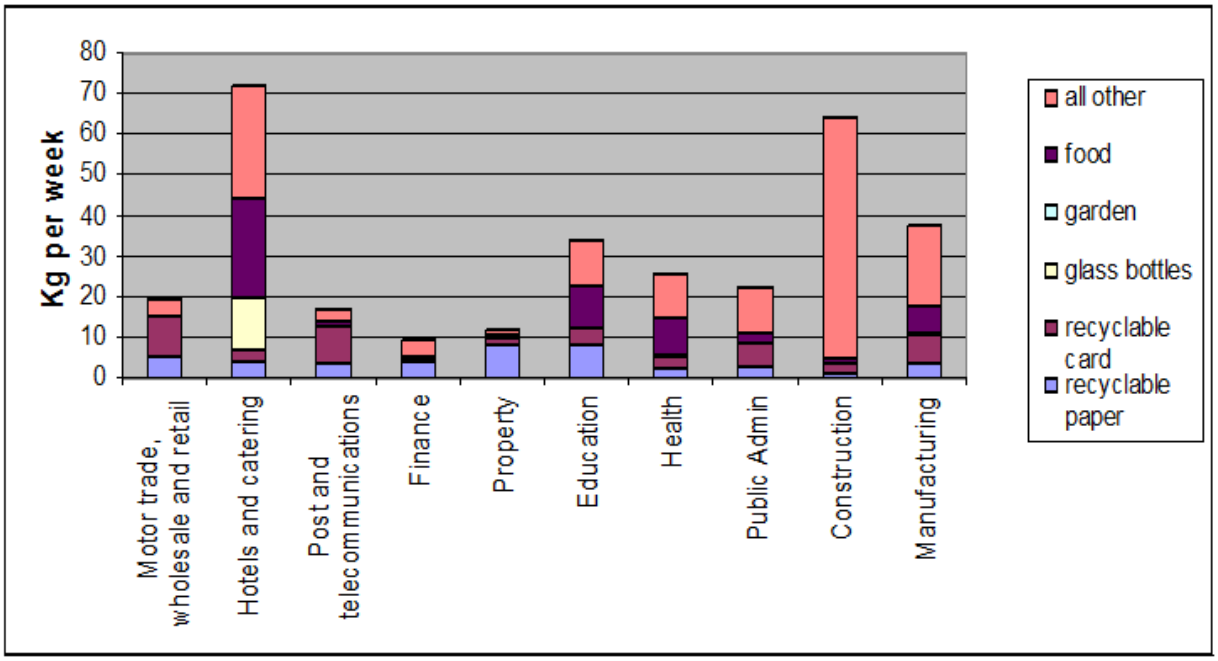


Figure 7.2: Kg weights of specific materials by business type for Dorset (M·E·L, 2006).

2009)

The results also show that the material type and quantities of waste produced by each business are variable compared with each other and against household waste production. Hotel and catering provided for the greatest glass and putrescible waste. Paper and card was found in every business sector though in varying quantities. Education, hotels and catering and health all disposed of large quantities of food. There is a large proportion, particularly within hotel and catering, construction and manufacturing which does not specify particular waste types but represents a large portion of each sectors waste arisings.

7.3.2. **West Sussex County Council**

West Sussex Council though having not carried out any commercial and industrial waste composition analysis did complete a business waste survey in November 2007 with the aim of identifying material quantity and types, willingness to recycle and support for council led services. The survey was distributed to 8,982 businesses by post and email.

Business types included in the West Sussex survey included; Public houses and hotels, restaurants and cafes, takeaways and other catering, garages and mechanics, manufacturing, other industrial, office based businesses, residential and care homes, other medical, sport and recreation, village and community halls, convenience stores, farms and growers, garden centres, hairdressers and beauticians, other shop premises and an 'other' category. As part of the survey, businesses were asked to rank the 5 most dominant materials arising in their waste streams (West Sussex County Council, 2007).

The results from West Sussex's business survey showed paper and cardboard was identified by the most number of businesses as being within their five most dominant materials, 38% of respondents identified paper as their dominant waste stream and 23% identified cardboard as their dominant waste stream. Glass bottles and jars, plastic containers, other plastics, and food and drink cans were each identified by more than 100 businesses as being one of the five most dominant materials in their waste (West Sussex County Council, 2007).

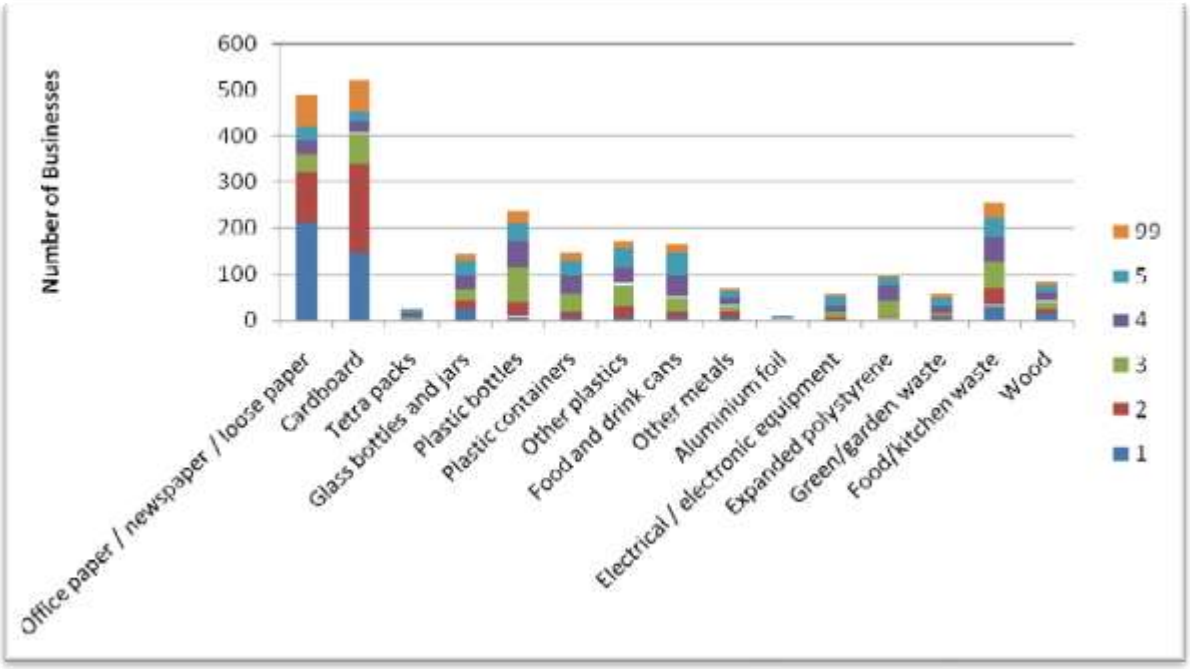


Figure 7.3: Survey results from West Sussex's Business Waste Survey question on most dominant waste materials (West Sussex County Council, 2007)

7.3.3. The Open University and the University of Southampton (Hampshire)

Although Hampshire County Council has not individually carried out a waste composition for businesses, they were involved in a study carried out by the Open University's (OU) Integrated Waste Systems research group and the University of Southampton. The study was found to have carried out research relating to commercial and industrial waste within the Small and Medium Enterprise (SME) food sector in Hampshire.

The scope of the study concentrated on the food sector and did not include the commercial and industrial business sector as a whole, or business size above small to medium. Though the results still carry weight because food manufacturing, retail and wholesale and the hospitality (hotel and catering) sectors together account for about 34% of all Commercial and Industrial waste and SME's waste accounts for 70% of business waste in England (Thomas et al, 2007). The study entitled 'Identification of Key Resource Streams in Commercial & Industrial Waste from Small Businesses in the Food Sector' was carried out in 2007 and focused on businesses within Hampshire.

The projects aim was to:

‘Provide a framework in which business, local authorities and the waste management industry can work to optimise the recovery and re-use of key resource streams, by correlating the findings with household waste data in Hampshire it offers opportunities for further exploring combined recovery and the potential gain from a comprehensive integrated approach to management of municipal and C&I wastes’ (Thomas et al, 2007).

The approach used was based on a computer-based interactive waste auditing tool – a ‘smart questionnaire’ called wasteQUEST, this approach meant that information provided would be thorough, consistent and presented in a manner that was understandable to its user (Thomas et al, 2007).

The survey areas included; business details, waste disposal methods, the types, frequencies and amounts of waste generated and waste awareness. The surveys carried out face-to-face and taking approximately 20-30 minutes, yielded data from 151 businesses, which consisted of nine food sector business types; manufacturing, wholesale, non-specialist retail, specialist retail, hotels, guest houses, restaurants, bars and catering (Thomas et al, 2007).

As a comparison for consistency between survey results and actual waste composition, a smaller waste analysis was carried out as part of the research involving 24 of the businesses from the survey.

The OU and the University of Southampton’s wasteQUEST survey, also identified food as the predominant waste stream, though the high food rate was inevitable due to the survey’s being exclusive to the food sector, followed by paper and cardboard then plastic and glass. Food manufacturing was found to have the highest, at 39%, organic waste production of the food businesses surveyed. Supermarkets and general stores had the highest proportion of paper and card at 71% of their total waste.

The hospitality sector yielded a 44% total glass waste production (Thomas et al, 2007). These results can be seen for the three categories in figures 7.4, 7.5 and 7.6. The results from the smaller waste composition analysis are shown in figure 7.7.

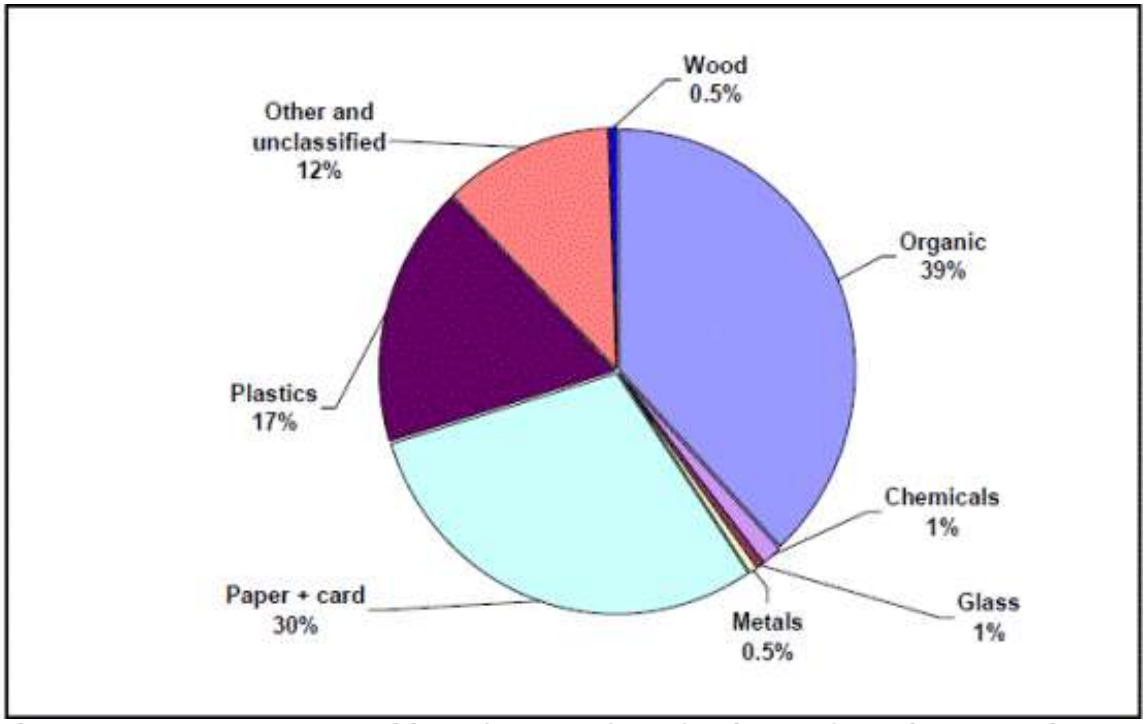


Figure 7.4: Average composition of wastes from food manufacturing SMEs in Hampshire (Thomas et al, 2007).

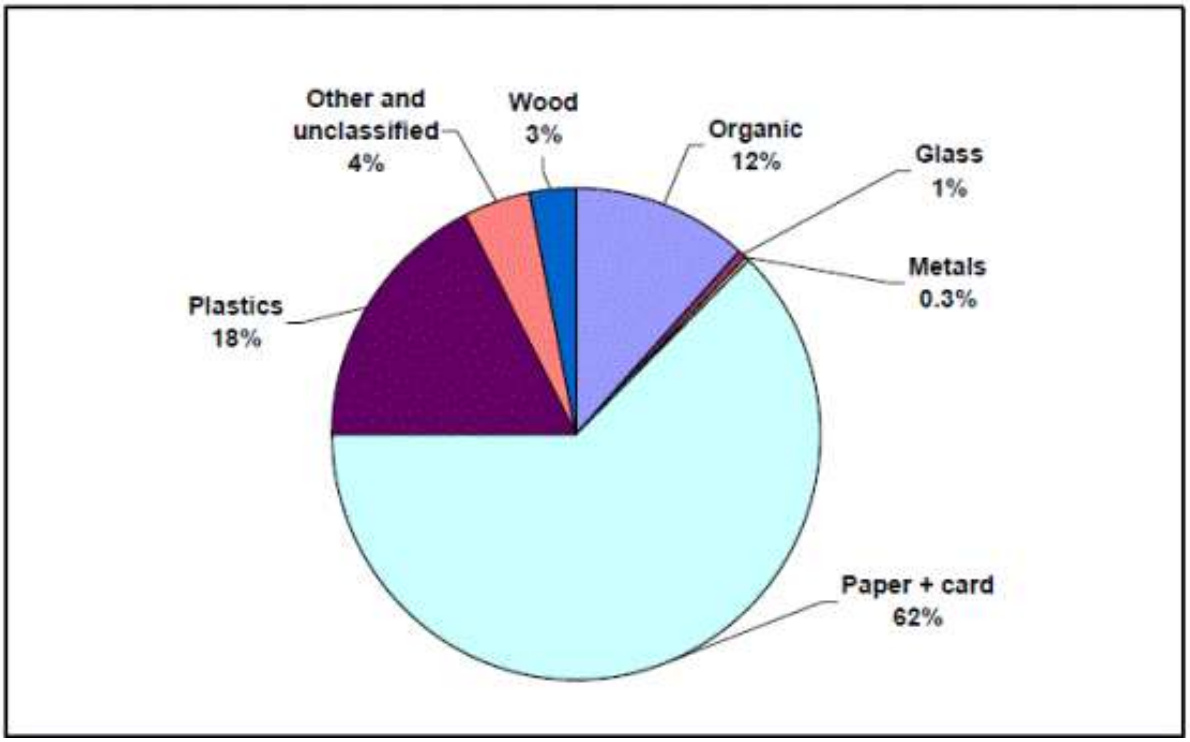


Figure 7.5: Average composition of wastes from food wholesale and retail SMEs in Hampshire (Thomas et al, 2007).

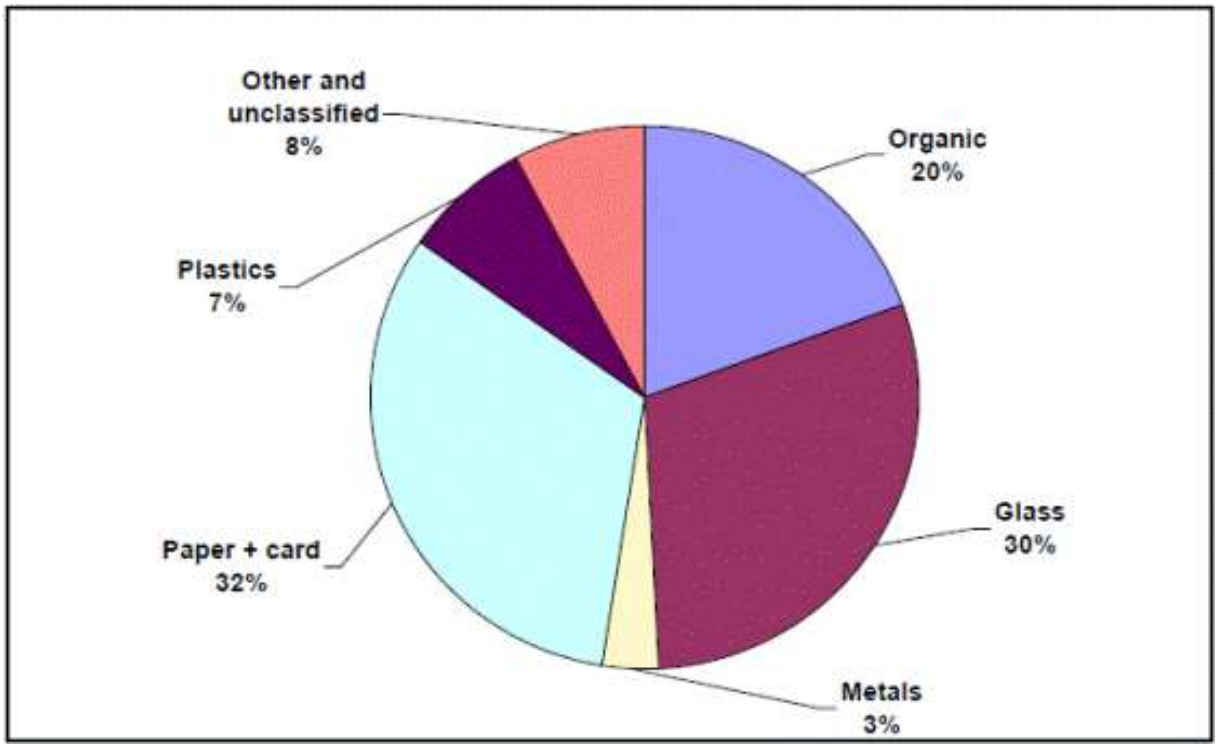


Figure 7.6: Average composition of wastes from hospitality sector SMEs in Hampshire (Thomas et al, 2007).

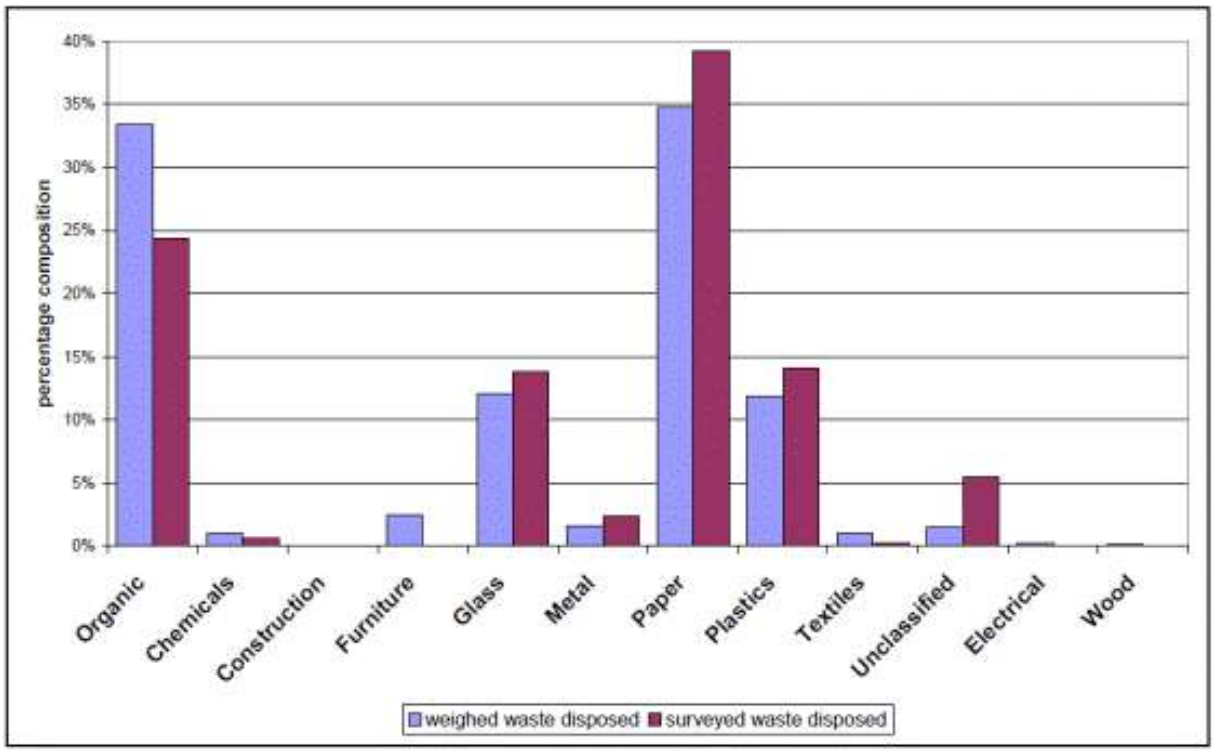


Figure 7.7: Comparison of results from the survey against composition analysis (Thomas et al, 2007).

Results from the waste compositional analysis, taken from 24 of the 151 businesses surveyed show a fair correlation to businesses survey responses, showing that businesses appear to understand the types and levels of waste produced on a regular basis but do not necessarily consider those wastes produced in smaller quantities and more infrequently i.e. Waste Electrical and Electronic Equipment, textiles, furniture and wood.

Both the survey and analysis showed, as historic research has, that paper, card and putrescible waste are the predominant streams produced (Wrap, 2010a).

7.3.4. **Surrey County Council**

Beyond Waste carried out an assessment of food waste arisings from non-household sources in Surrey in 2009 on behalf of Surrey County Council entitled 'Mapping the Organic Business Waste Resource in Surrey – Extrapolation Addendum', looked specifically at organic waste produced by Surrey's business sectors. This report was based on a review of data sources, an extensive telephone survey and actual waste audits conducted for certain business types (Potter, 2009).

The business types included in the survey were; canteens (221), pubs (784), supermarkets (158), eateries (1543), hotels (577), producer (5), schools (472), care home (501), specialised retail (179), sports and leisure golf clubs (148), wholesale (1), public sector, university and hospital (91). The number of premises included in the survey totalled 4591 (Potter, 2009).

Audits of food waste produced by a number of business premises were undertaken as part of the assessment to add weight to the survey data, through a process of separating food waste, followed by weighing and measuring the separated waste. This process was carried out over a three-week period with the average weekly arisings being calculated from this data (Potter, 2008).

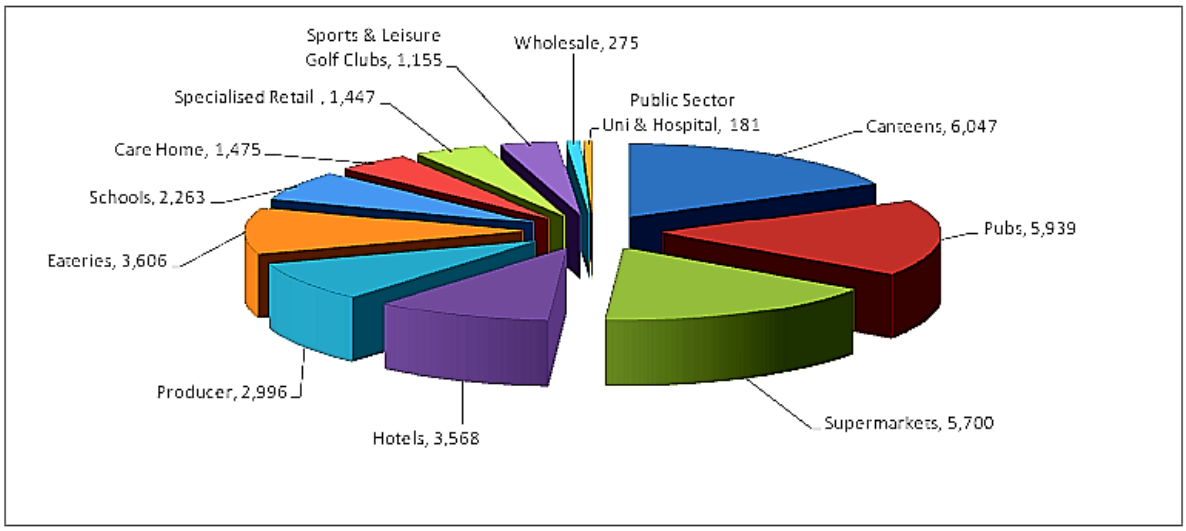


Figure 7.8: Breakdown of Commercial food waste arisings in Surrey by source (Potter, 2009)

In the report, it was shown that just less than 35,000 tonnes of food waste is generated by Surrey businesses each, year distributed across the 4,591 locations (Potter, 2009).

7.4. Comparison of results

The results from Dorset County Council's waste analysis meant that specific materials could be attributed to specific businesses, however this would not be practical as a model for UK local authorities as a whole, due firstly to the sample size not being adequate and secondly because the data was selected to represent the business types within its sample districts. Nationally business types would vary in different areas, due to different areas having different business types residing within them, for example in Bournemouth it is tourism, which means its business types predominantly consist of businesses such as hotels, restaurants and bars.

Though West Sussex's survey was applied to a greater sample size, due to the method of self-reporting used, businesses were only able to provide information on predominant waste streams rather than the quantities produced of a specific material.

The OU and University of Southampton's study of businesses within Hampshire's food sector also relied on self-reporting, though the survey was designed in a way that meant that

the survey discouraged the inclusion of irrelevant information. The survey was smaller than the West Sussex survey, lengthy to complete and only related to the food related business sector.

Surrey County Council's data was insufficient in terms of gaining insight into waste composition, though did show the quantities of food waste arising from businesses in the area.

The West Sussex study, because of its use of self-reporting by the businesses themselves, means that the data gathered was not adequate to gain a sufficient understanding of waste arisings or composition. Businesses do not take the time to gain an understanding of the quantity and types of waste produced because they do not need to. Services currently offered to businesses for waste management often only require a business to separate its waste into refuse or recycling, if that and this is unlikely to change because waste management is not high on the priority agenda for businesses. Their primary concern regarding waste is likely to be getting it removed legitimately and cost effectively.

The OU and the University of Southampton study, though designed to ask questions on waste composition in a very detailed way, was reliant on the knowledge and subjectivity of the interviewee and therefore, as with self-reporting cannot be deemed as an adequate approach to gaining detailed and accurate knowledge with regard to waste composition, though compared with West Sussex's self-reporting survey, could be considered to have yielded more accurate data. Added to which the survey was only completed for businesses within the food sector and so does not complete the scope of this research.

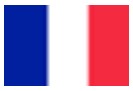
The results from all four studies show the predominant materials consist of paper, card and organic waste. This is consistent with previous research (Wrap, 2010a). However the Dorset study also shows that glass is a predominant stream for the hotel and catering sector, which historically has been considered a contentious material for collection but is a missed opportunity in terms of better resource management.

It is worth noting that Defra has recognised the need for more information relating to waste deriving from Commercial and Industrial sources and is currently in the process of carrying out a 'Survey of Commercial and Industrial Waste Arisings 2010', which is due for completion by the end of 2010. This survey will ask questions about waste types and quantities produced by businesses. However, this information is not yet available, and so the scope of the survey and its outcomes are not yet available for comment.

Data acquired for use within this research has been inadequate for gaining any appropriate insight into commercial and industrial waste composition. In addition, since the Dorset and West Sussex studies were carried out, England has undergone changes to its economic state, which will have had an impact of businesses waste arisings and possibly its composition.

8. Could Household Waste Recycling Sites accept Commercial and Industrial Waste?

8.1. Practice in the UK and France



In 2006, 90 million tonnes of Commercial and Industrial waste was produced in France, only five million of which was collected by local authorities (ADEME, 2009). The small amount that is collected is covered by the 'businesses rates' and includes the collection of general household type waste only. The remaining waste is either collected by a private waste contractor (29 million tonnes (Gaillochet and Chalmin, 2009)) or delivered directly by businesses to 'drop-off centres'.

There were 4,310 drop-off centres in France in 2008, which cover nearly all of the national territory and serve 91% of the population (Gaillochet and Chalmin, 2009). Drop-off centres or 'collection centres' are similar to the UK's Household Waste Recycling Sites (HWRS).

However, in France 67% of waste drop-off centres accept waste from businesses (ADEME, 2009).

SMEDAR is a partner for the Waste in Action/Agissons autour des déchets programme. SMEDAR manage the waste disposal in the Rouen area, where the waste collection centres are not open to trade waste. However, 5 out of the 22 collection centres in the area also have waste transfer sites (WTS) situated next to them. Here, traders can drop off their waste and pay by weight depending on the type of material. Pre-sorted recyclables have a lower cost per tonne then residual black bag waste to encourage recycling and to reflect the lower treatment and disposal costs. Most traders have accounts and are invoiced on a regular basis, but ad hoc businesses can also pay on the spot.

Figure 8.1: Commercial vehicle entering a WTS in Rouen, France

Figure 8.2: Weighbridge at WTS in Rouen, France

In the UK the Household Waste Recycling Sites accept household waste only and do not permit businesses to use them. These sites are one of the streams that businesses are known to use to illegally disposed of trade waste. A study into trade waste controls in Stoke-on-Trent City Council showed that 10.3% of users of Burslem HWRS were known traders and 17.4% were suspected (Seabrook, 2005). Many schemes have been introduced to prevent this illegal tipping, including permit schemes for household waste to be delivered

in a trailer or commercial-type vehicle and installation of vehicle licence plate recognition technology. These schemes have saved millions in disposal costs (WIN, 2008). There is, however, a cost to implement and maintain these systems. Bristol City Council allocated £36,890 to start up their permit scheme for 2 HWRSs and spent £38,000 in revenue each year to maintain it (Seabrook, 2005).

The same study into trade waste controls also showed that 61% of trade users of Burslem HWRS delivered their waste in non commercial vehicles (Seabrook, 2005), making it difficult to determine between household and trade use. Therefore one could argue that LAs could let businesses use these sites, but at a charge to cover the disposal costs. Perhaps something could be learnt from the French?

Figure 8.3: Household Waste Recycling Centre in Stockton

(http://www.recycleforstockton.co.uk/hwrecyclingcentre/householdwaste/)

Figure 8.4: Details of a permit scheme in Bradford

(http://www.bradford.gov.uk/bmdc/the_environment/waste_management_street_scene/waste/waste_collection/van_permits/)

8.2. Business types in each area

In order to determine whether a HWRS is a viable disposal route for C & I waste, one must first understand the business demographics of the area. Business type and size are key considerations. Large businesses find it easier to secure waste collection contracts with

private waste companies, as they tend to have a regular supply of larger volumes of waste. It is the small to medium size enterprises (SMEs) that struggle to find legal disposal routes and these are the business types that would be the target market for using HWRSs. Determining the business type can lead to an understanding of the type of waste that is produced. For example, agriculture, forestry and fishing industries are likely to produce large volumes of organic matter, including green waste and animal by products. It is essential to understand what type of waste businesses are producing in order to put together a strategy to dispose of it. This will also be explored in section 8.3 ‘composition of business waste’.

Figure 8.5 shows businesses by category for each of the research areas identified in section 2.2. Each area has a different mix of business types and would require individual analysis if considering whether a HWRS could be a viable disposal route. East Sussex County Council has 3,120 professional, scientific and technical businesses, and 2,475 retail businesses that would be producing office type waste and packaging.

It is a very broad categorisation and relies on assumptions to be made regarding what type of material a particular business type is producing, so this must be kept in mind when analysing this type of data.

Figure 8.6 shows businesses by size for each of the research areas identified in section 2.2. Over 99% of all businesses in each of the areas are SMEs, meaning that they employ less than 250 people. Over 95% of these companies are classed as micro or small, meaning that they employ less than 50 people. These business sizes in particular are likely to find it difficult to acquire a waste collection via a private contractor, as the amount of waste they produce is probably too small to attract one. As figure 7.1 in section 7 ‘Waste Composition’ shows, only 26 out of the 44 WCAs and UA’s in the research area offer a refuse and recycling collection service, leaving 18 Local Authority areas without a service. Therefore, this data, along with figure 8.6, shows that there is likely to be a significant potential market for trade users of HWRSs. To take the specific example of Brighton and Hove City Council,

97.22% of businesses in the area employ less than 50 people and the unitary authority does not offer a refuse or recycling collection service, so further research could be undertaken to see if it was feasible to open the local HWRSs to traders. Each area would require individual analysis.

This type of data can help to give an indication of the amount of businesses that would be likely to use a service such as a HWRS site open to traders, but it must be supported by more specific market research to determine the scope of the market and their requirements. BREW have produced a useful guidance note on how to create a business waste strategy, which includes example of a business waste questionnaire that looks at identifying the type of waste produced by local businesses and the services/support they require (BREW, 2005).

	East Sussex County Council	Brighton & Hove U/A	West Sussex County Council	Surrey County Council	Hampshire County Council	Portsmouth U/A	Southampton U/A	Dorset County Council	Bournemouth U/A	TOTAL
Agriculture, Forestry & fishing	1,230	40	1,290	795	1,850	10	10	2,000	20	7,245
Production	1,340	440	2,165	2,540	3,600	375	360	1,410	305	12,535
Construction	3,040	1,170	4,215	6,830	7,740	855	840	2,690	870	28,250
Motor trades	755	235	1,025	1,635	1,905	240	285	635	195	6,910
Wholesale	1,030	475	1,845	2,750	2,800	275	300	825	250	10,550
Retail	2,475	1,550	3,825	5,210	5,510	870	935	2,160	1,045	23,580
Transport & storage (incl. postal)	540	195	1,095	1,615	1,710	180	295	555	130	6,315
Accommodation & food services	1,575	1,115	2,080	3,280	3,210	615	570	1,415	615	14,475
Information & communication	1,300	1,395	2,545	6,095	4,900	335	340	930	445	18,285
Finance & insurance	410	315	985	1,630	1,370	130	215	350	230	5,635
Property	715	490	1,245	2,150	2,040	205	260	655	300	8,060
Professional, scientific & technical	3,120	1,890	5,265	11,795	9,360	625	860	2,295	780	35,990
Business administration and support services	1,655	1,095	3,065	5,305	4,545	560	545	1,300	475	18,545
Public administration and defence	190	115	250	300	440	65	65	270	40	1,735
Education	560	360	825	1,360	1,590	170	190	480	200	5,735
Health	1,500	820	1,975	2,715	2,750	425	545	955	435	12,120
Arts, entertainment, recreation and other services	1,815	1,270	2,720	4,695	4,245	510	545	1,490	505	17,795
TOTAL	23,250	12,970	36,415	60,700	59,565	6,445	7,160	20,415	6,840	233,760

Figure 8.5: UK Business in research area by activity (Wetherill, 2010)

	East Sussex County Council	Brighton & Hove U/A	West Sussex County Council	Surrey County Council	Hampshire County Council	Portsmouth U/A	Southampton U/A	Dorset County Council	Bournemouth U/A	TOTAL
Micro (0-9)	19,935	10,865	30,645	52,270	49,940	5,095	5,565	17,440	5,625	**197,380**
Small (10 - 49)	2,815	1,745	4,720	6,770	7,790	1,050	1,300	2,485	985	**29,660**
Medium (50 - 249)	465	305	900	1,470	1,610	260	250	440	205	**5,905**
TOTAL (SME (0 - 249))	23,215	12,915	36,265	60,510	59,340	6,405	7,115	20,365	6,815	**232,945**
Total businesses	23,255	12,970	36,415	60,700	59,565	6,445	7,160	20,415	6,840	**233,765**
Percentage micro	85.72%	83.77%	84.15%	86.11%	83.84%	79.05%	77.72%	85.43%	82.24%	**84.44%**
Percentage small	12.10%	13.45%	12.96%	11.15%	13.08%	16.29%	18.16%	12.17%	14.40%	**12.69%**
Percentage medium	2.00%	2.35%	2.47%	2.42%	2.70%	4.03%	3.49%	2.16%	3.00%	**2.53%**
Percentage SME	**99.83%**	**99.58%**	**99.59%**	**99.69%**	**99.62%**	**99.38%**	**99.37%**	**99.76%**	**99.63%**	**99.65%**

Figure 8.6: UK Business in research area by size (Wetherill, 2010)

8.3. Composition of SME business waste

As well as understanding the types of businesses in the area, it is also essential to discern what type of waste they are producing and in what quantities in order to determine whether the HWRS can meet their requirements. This has been researched thoroughly in section 7 'Waste Composition'. The results from the studies undertaken in the Dorset County Council, West Sussex County Council, Surrey County Council and Hampshire County Council areas was that the predominant materials consist of paper, card and organic waste, consistent with previous research (Wrap, 2010a).

8.4. Waste types accepted at HWRS

In order to determine whether the HWRSs can meet the requirements of the local businesses, analysis must be undertaken as to what waste can be delivered. Please see appendix one for a full list of which materials are accepted at each of the existing HWRSs in the research areas.

The data shows that all but two of the HWRSs in the research area accept the top three materials identified in section 7; paper, card and the green element of organic waste. Hailsham HWRS in East Sussex does not accept cardboard and Littlehampton HWRS in West Sussex does not accept paper.

However, none of the sites have a container for the food and kitchen element of organic waste. The food waste could of course be included in the residual waste, but this would be a disadvantage for both the councils and the businesses. Landfill tax is currently £48 per tonne and will rise by £8 per tonne a year until it reaches £80 in 2014/15, so it is beneficial to remove as much waste from the residual stream. Also, processing organic matter can produce useful products, such as soil conditioners. It is likely that costs charged to the business would be higher for residual waste than recycled so both parties would benefit if

food waste could be recycled at HWRSs, especially due to the high level produced by businesses.

The Dorset, West Sussex and Hampshire studies all identified glass as a main material produced by businesses in addition to the 3 top wastes mentioned above. All HWRSs in all of the research areas currently accept this waste stream.

Both the West Sussex and Hampshire studies revealed plastic bottles and containers as being another significant waste type in their respective areas. None of the HWRSs in the research area have the facility for plastic containers; most only accepted plastic bottles. This is most likely a reflection of the end processor market, and although these are in their infancy, they are developing in the UK. All of the HWRS in Hampshire, including the unitary authorities of Portsmouth and Southampton, do not accept plastic bottles. These are joined by Forest Row, Hailsham, Mountfield and Wadhurst in East Sussex and Midhurst in West Sussex.

The West Sussex Study also showed that food and drinks cans made a significant contribution to the trade waste stream. All of the HWRS in Hampshire, including the unitary authorities of Portsmouth and Southampton, do not accept cans and tins. This is also the case for Midhurst in West Sussex.

There are many possible reasons for some of the HWRSs not being able to receive the full range of recyclable materials. It could be due to capacity issues with the site not having any spare physical room for another container. It could be a planning consent issue, which could potentially be rectified by a material amendment or a further planning application. For those councils that simply have one or two HWRSs that cannot accept a specific material type then traders could be directed to use another site. However, for Hampshire and it's U/As there would be an issue for traders wishing to dispose of plastic bottles and/or tins/cans.

8.5. Capacity of HWRS

The real capacity of a HWRS and its actual tonnage throughputs need to be taken into account when considering whether there is any spare capacity for allowing trade use. This is another reason why it is essential to determine who will be using it, how often, what will they be disposing of, how much etc.

Most sites will have a maximum capacity of tonnage it can process in a year. There will be an operational or 'real' capacity and possibly a capacity limit set by the waste planning authority as a planning condition within a planning consent. Planning conditions exist to protect the local amenity, whether from a safety or nuisance point of view.

Planning conditions can also include restrictions on vehicle movements, i.e. how many vehicles are allowed to enter and exit the site. If traders were allowed in then this would increase vehicle movements due to increased disposals and also increasing frequency of haulage vehicles having to empty the containers.

As mentioned in section 8.4 'waste types accepted at HWRSs', a planning consent can set out exactly which materials can be delivered to the site.

A significant issue could arise if a planning consent specifies that only household waste may by accepted by the site, restricting traders from using it. Consideration must also be given to any EA licensing controls.

It is often the case with planning issues that if a council can produce a strong case for amending or removing the condition then it can be rectified. If the site physically does not have the capacity to receive any further waste then modifications to the size or structure could be explored, but cost must be kept in mind. It may be that due to all of the restrictions that some sites are simply not viable for allowing trade use and in this case focus should be shifted to those that are. Another option is to convert an existing HWRS into a trade waste

recycling site that does not allow household use, but this has political implications. There are many considerations and again it requires analysis on a site by site basis.

8.6. Covering costs

Additional costs in allowing trade use of a HWRS include additional staffing, haulage and end disposal costs, costs of changing site layouts and updating site technology. These should be partly offset by the additional income from recycling sales, however it is worth noting that reprocessing markets are currently unstable. These costs would need to be recovered by the charge to traders to dispose of their waste at the site.

The charges to traders should be different for residual and recycling to encourage recycling and reflect end disposal / reprocessing costs. “Local authorities and businesses should be challenging their waste management companies to incentivise waste reduction and separate collection of recyclable waste”. (BIS and DEFRA, 2010).

What is the best method of charging the traders in order to recover these costs? The basic options available for charging waste producers include a trade waste permit system, flat rate per visit, tonnage based system and key-fob/card system. Each have their advantages and disadvantages, which are explored in detail in Resource Futures Trade Waste Feasibility Study (2007). The report concluded that using a weighbridge and/or some form of key-fob/card charging system would be the best option.

The key fob system requires trade waste producers to open an account and pay in advance for credits to dispose of waste. They are issued with a key-fob/swipe card, which hold their account details. They can re-credit these at any time. At the site, incoming traders pass over an inbound weighbridge and swipe the key fob card. After disposing of their materials they pass over an outbound weighbridge and their account is then charged according to the actual weight of material they have brought onto site. At this point a weighbridge ticket is issued, which includes a balance of the account. This system does involve additional

investment and in the case of Newtonabbey Borough Council, one additional weighbridge was installed at the site at a cost of £18,000. The system may require additional administration resources to allow traders to recharge cards etc, but the advantages are that it works on a polluter pays principle, it's relatively easy to administer in terms of charging the waste producer, there is the option to introduce variable charges for recycling and it is easy for traders to use (Resource Futures, 2007).

9. Providing Bring Sites for businesses to recycle

Several Local Authorities have similarly trialled providing such a service for their local business community.

These trials have given Local Authorities a better understanding of the different issues and potential business models to consider in setting up a bring site for traders, and will result in local authorities making more informed decisions about whether a bring site is appropriate for their area and how they might go about setting one up.

A local authority needs to know the profile of the potential users of the site and the type/quantity of waste they dispose of. Research beforehand may be necessary in order to gauge this.

It is thought to be better to provide a residual waste disposal service to compliment any recycling service offered, as customers may only use a waste recycling centre if they could do both, especially as often they require a quick turnaround time.

It is therefore important to meet these needs although interestingly after a short time customers often end up recycling more than they actually said they would in the first place.

9.1. Research

If you do undertake research then you could consider using the sources below:

- Existing site users (if appropriate)
- Your local sustainable business network
- Business Link
- Chambers of Commerce (CoC)
- Federation of Small Businesses (FSB)
- Economic Development Officer

Or, alternatively you may have to buy the contact details from a market research company

Case study 1 - Pilot trade waste recycling centre 2006/7 Kent County Council

Lessons learnt:

- You may not be able to contact all businesses in your area
- Offering a free recycling service will not cover the operating costs (even though some businesses think it should be free).
- It is difficult to start a recycling centre without an existing customer database to rely on.
- Complicated pre-booking systems don't work.

Any proposals for a bring site for trade waste need to be carefully assessed. Criteria include:

- Revenue cost to Council
- LATS (Landfill Allowance Trading Scheme) implications
- Continuity of service
- Legal implications
- Standard of service and costs to businesses
- Service to rural customers
- Cost of haulage

Things to bear in mind when budgeting for a bring site:

- Set up and staffing costs can be high; a project needs to be able to recover these from trade sales.
- A flat rate fee for recyclates needs to cover waste contractor's operating costs.
- The price of recyclates can go up and down so this needs to be factored in your budgeting. Regularly review the price of recyclates.
- The costs of introducing a commercial waste recycling service may outweigh the benefits. For example, the set-up costs for a surface-mounted weighbridge can reach £14,700 per site for installation and calibration, on top of annual maintenance costs.

Case study 2 - Introduced recycling at existing waste transfer stations - Northumberland County Council 2008/09

Working in tandem with the county council's PFI contractor, waste transfer stations in Alnwick, Berwick, and Hexham were opened to small traders, along with a new transfer station being developed to serve the whole of SE Northumberland.

Consideration was given to how to help the bring sites to be more accessible to SMEs by reducing minimum tonnages and introducing credit card payments for example. As well as increasing access to recycling, a key objective of this work was to reduce fly tipping. It has been successful in meeting both of these objectives.

Case studies: Health & safety requirements

West Sussex County Council

Currently two waste transfer stations in the County offer a trade waste and recycling service - Burgess Hill and Westhampnett. The sites are managed by Viridor, on behalf of West Sussex County Council.

It is a health and safety requirement that all small businesses using the sites have the correct Personal Protection Equipment (hi-vis and boots), have flashing beacons and reversing beepers.

Buckinghamshire County Council

Has ten Household Waste Recycling Centres (HWRC's) operated on its behalf by a private contractor. Five of these sites are open to trade waste from local businesses and traders. Each of the five trade sites has a weighbridge located in close proximity to the site entrance where a member of the site staff checks if traders are registered waste carriers and that they

have duty of care transfer notes to accompany the waste being delivered. After being weighed the trader proceeds up to use the same containers for recycling and disposal as a householder. The trader off loads by hand into the appropriate container and then reweighs and pays at the weighbridge. Health and Safety issues arose previously at one site where a separate tipping area was provided within the contractor's operational area. Here traders were required to have appropriate high visibility outerwear, and safety boots etc. The site has now been expanded and redesigned to keep all customers separate from site operations.

North West

In June 2010 the first trade recycling centre (TRC) was opened in the North West. The pilot TRC project will help users tackle the many barriers to recycling trade waste through a bespoke recycling centre.

Amy Glover, business development manager, Envirolink Northwest, said: "The disposal of trade waste has traditionally presented local businesses with some difficulties. Lack of capacity, opportunity and incentive has discouraged the practice of trade recycling. However the development of facilities such as these will improve the region's recycling rates. We are confident that the pilot site will be a success and we hope that this will be the first of many to appear across the North West."

Designed by Centrol Recycling Group the TRC pilot is projected to service 5,000-6,000 businesses in the area.

Rachael Oborn, group chairman, Centrol Recycling Group, commented: "By offering fixed cost recycling and a seven-day site opening we are confident TRC will become an invaluable tool for SMEs to recycle more waste in a cost effective way."

Excerpts from the above Case Studies have been taken from WRAP's website and can be found under Local Authorities BREW Trailblazer reports (WRAP, 2010b).

All of the above case studies, featured in BREW's report 'Guidance notes – providing a Bring Site for traders to recycle' (January 2010), mostly seem to be referring to or addressing 'trade waste' rather than 'commercial' waste, and there is quite clearly a difference, as explained in 'Conclusions' at the end of this report.

The Surrey Waste Partnership therefore, decided to undertake a survey of all it's household 'bring sites'. The purpose of the survey was to consider whether 'bring sites' were still a necessity, taking in to consideration that kerb side recycling schemes now collect more material streams.

Part of the study was also to assess 'who' use the sites, and whether any might be suitable for 'commercial' use.

Here is a summary of our initial findings.

SWP research findings on bring bank sites within Surrey and recommendations for commercial bring bank use.		
Surrey's survey results As part of the site-by-site survey and assessment we were also asked to investigate the possibility of utilising existing bring sites for **commercial** use. •It is believed that **commercial** users are already using the bring site network to deposit recycling. •Often hard to find evidence to prosecute offenders. •Only 15 people admitted that they use the sites to deposit work materials out of over 1,000 people	**Defining a commercial bring site** -Council owned land or site where there is mutual benefit to the landowner. -Suitable space for vehicles. -Suitable space for additional or larger containers. -Minimise the impact on householders experience -Increased level of supervision, monitoring and enforcement. -Site controls –height barriers, opening times. -Compliments existing Collection and CRC services.	**National findings** •Need to be competitively priced •Sites are manned and open at agreed time only – material quality and monitoring – Issue Waste Transfer Notes •Recycle as much as you like •Take traffic and space into consideration •Choice of location - dedicated site or incorporate into a trade waste-recycling site at an existing HWRS? • Locate at a business/trade park to collect glass, card, paper, cans and plastic. • Locate at a Cash and Carry to collect paper, card, rigid and flexible plastic. • Locate at an Industrial Estate to collect Non-Hazardous Waste - paper,

asked. 1.5% •Anecdotally vans did turn up and drove off when they saw surveying staff. •11 site were identified as being potentially suitable for commercial recycling	-Located to reduce environmental impact of road travel.	cardboard, plastic bottles, glass and cans. •Limit opening times and supervise access to avoid contamination •Waste contractor operates for free in return for material sales

10. Conclusions and recommendations

10.1. Conclusions

Data acquired for use within this research has been inadequate for gaining any appropriate insight into commercial and industrial waste composition. However the research did mirror historical commercial waste composition such as that found in the Environment Agency's 2002/2003 report.

The feasibility of opening a HWRS to trade users is dependant on a range of factors that vary with each individual site. Consideration must initially be given to the needs of the local businesses, which are determined by the business type (agriculture, catering etc), the company size, and the waste types and volumes they produce. It must then be determined whether these needs are being met elsewhere by private contractors or a WCA collection service. The HWRS must then be assessed to see if it is able to meet these requirements, taking into account capacity, planning and permitting restrictions and waste types accepted. Most of the HWRSs in the research area appeared to meet the needs of businesses in terms of the waste types they accepted, although there appears to be a gap where food/kitchen waste is concerned. Due to the varying constraints between individual sites, trade access could be limited to those few HWRSs most suitable or where the cost benefit analysis works best. This may involve limiting these sites to trade users only and preventing household use,

but this would have political implications. Alternatively, a council may decide that alternative options are better, such as providing trade waste bring sites, which is explored in section 9.

From our research, it is apparent that there needs to be more clarity around understanding of the words '*trade*', '*commercial*' and *'business*'.

'*Trade'* is normally associated with tradesmen (builders, plumbers, landscape gardeners), who are required to have waste carriers licenses (issued by the Environment Agency). Some Waste Disposal Authorities already allow this type of waste to be brought into their Waste Transfer Stations and traders are charged accordingly (usually a minimum charge).

This type of waste is NOT allowed into a HWRS, CA site or CRC.

Similarly, 'Commercial Bring Site' and 'Waste Transfer Station' are being compared as if they are the same, but they are not.

Waste Transfer Stations have weighbridges and generally accept *trade* waste but not *business* or *commercial* waste for recycling.

HWRSs do not have weighbridges and very few accept *commercial* waste (legally or knowingly).

Businesses are currently **not** required to be in possession of a waste carrier's licence, if they are transporting 'their own waste', but this is something that may change under Defra's current waste review.

Smaller businesses (SMEs) are also more likely to 'recycle' more of their waste streams (e.g. offices/commercial properties producing waste such as paper, plastics, cartridges, batteries, cans, glass and small retailers producing waste such as cardboard, paper, glass, plastics), if a facility such as a 'commercial bring bank' was:

- Made available to them close to their business.
- To accept smaller amounts of waste.

- Provided at a reasonable cost.

This could be at an existing HWRS/CA/CRC site or similar facility.

Providing a facility to enable SMEs to recycle smaller amounts of either segregated or co-mingled dry recyclable waste, does not need to be the same type of facility provided for 'tradesmen' for C & D (construction) or green waste.

It is evident from this report that we have some way to go in understanding the true scale of:

1. The amounts of C & I waste being generated.
2. Where it is all going.
3. How much of it is illegally entering the municipal waste stream
4. The disposal cost of illegal commercial waste

10.2. Recommendations

Dorset County Council's results were based on waste composition analysis, meaning that they were able to identify the total quantity produced and the specific materials produced by specific businesses.

The method used within Dorset's study where waste was analysed according to business type would also be the best method, if done on a national scale, for gaining waste composition data relating to different business types, preferably by using the consistent approach of using SIC business types. This way a local authority can use a formula to determine an expected level of waste arising and composition, based on the business types found within its area of responsibility. A service can then be provided that will meet the needs of its local businesses and give the local authority an understanding of the waste management facilities which require procuring in order to successfully dispose of the waste produced.

This method could be improved through a more detailed compositional study than was used for the Dorset analysis, where rather than limiting the analysis to the five materials and an 'other' category, the other category would need to be broken down into specific materials.

Any future research undertaken on commercial and industrial waste arisings and composition would need to be carried out using a consistent formula, undertaken by a body outside of the business and using an approach similar to the Dorset study but using a more in-depth breakdown of materials, in order for any research to be valid and useful, for improving the services offered to and the materials recycled by, businesses in England.

In order to determine whether a HWRS is suitable disposal route for local business waste a much more detailed investigation is required on a more local level, looking into specific areas and individual HWRSs. Research should be focused into those areas where there is no WCA offered collection service and a high number of micro and small scale businesses. Income from sales of recyclates will influence the charge to traders so exploration needs to be taken into end processor markets for recyclables disposed of at the HWRS – is there a market for the additional C&I waste and at what level? Similarly, capacity at end disposal such as energy from waste facilities and landfill sites needs to be determined for the C & I refuse and any rejected recyclates.

Further research is required into methods of encouraging and supporting businesses to reduce their waste so there is less waste to manage. This would result is less of a need for infrastructure to dispose of it and the associated capital and revenue costs. "The area of greatest business opportunity lies in **reducing or eliminating waste at source**, when materials have most value and none of the costs of disposal or treatment have been incurred." (BIS and DEFRA, 2010)

In many areas of the UK, household recycling targets have already been exceeded. With this in mind, surely it is now time to set similar targets for the commercial sector.

1. We need to work with businesses and not against them.
2. We need to provide clear guidance.
3. We need to provide services and facilities at a price that will not prevent them from doing the right thing.
4. We need to create ‘barriers’ that will deter them from doing the wrong thing.
5. As a last resort, enforcement needs to be stronger.

Reference List

ADEME, 2007. French national household waste characterisation survey. [Online] Available at: < http://www2.ademe.fr/servlet/getDoc?sort=-1&cid=96&m=3&id=65047&ref=17618&nocache=yes&p1=111> [accessed October 2010]

ADEME, 2009. Waste figures for France 2009. [Online] Available at: <http://www2.ademe.fr/servlet/getBin?name=61D79140E199A12942CD6DEEBB7ACEE01271143857087.pdf> [accessed October 2010]

BIS and DEFRA, 2010. "Less is more": Business Opportunities in Waste & Resource Management

BREW, 2005. Guidance Note - Creating a business waste strategy. [Online] Available at: <http://www.lga.gov.uk/lga/aio/1565451> [accessed November 2010]

Coggins and McLIveen, 2009. A Wasted Opportunity? How to get the most out of Britain's bins

DEFRA's Draft Structural Reform Plan [online] Available at http://www.defra.gov.uk/corporate/about/what/documents/defra-srp-100716.pdf [accessed November 2010]

Department for Environment, Food and Rural Affairs (Defra), 2006. The Producer Responsibility Obligations (Packaging Waste) Regulations, 2005. Is your business complying? Summary January 2006

Department for Environment, Food and Rural Affairs (Defra), 2007a. Annex C2: Commercial and Industrial Waste. Waste Strategy for England 2007 Annexes, Page 1.

Department for Environment, Food and Rural Affairs (Defra), 2007b. Waste Strategy for England 2007.

Department for Environment, Food and Rural Affairs (Defra), 2009a. Commercial and Industrial Waste in England – statement of aims and actions 2009

Department for Environment, Food and Rural Affairs (Defra), 2009b. *Municipal Waste Management Statistics for England 2008/09.* Press release, 5 November 2009

Department for Environment Food and Rural Affairs (Defra), 2010a. Review of Waste Policy. [Online] Available at: < http://www.defra.gov.uk/corporate/consult/waste-review/index.htm> [accessed August 2010]

Department of Environment Food and Rural Affairs, 2010b. Consultation on meeting EU Landfill Diversion Targets March

Eco Emballages, 2007. Eco Emballages Annual Report 2007. [Online] Available at: <http://www.ecoemballages.fr/fileadmin/contribution/pdf/instit/rapports-annuels/rapport-annuel-2007-english.pdf> [accessed September 2010]

Environment Agency, 2006**.** Commercial and Industrial Waste Survey 2002/3. [Online] Available at: <http://www.defra.gov.uk/evidence/statistics/environment/waste/wrindustry.htm#wrtb5> [accessed October 2010]

Environmental Protection Act 1990

Gaillochet, C and Chalmin, P, 2009. World Waste Survey 2009.

Letsrecyle.com, 2010. Increased packaging targets announced in letsrecycle.com [online] Available at

<http://www.letsrecycle.com/do/ecco.py/view_item?listid=37&listcatid=5669&listitemid=56564&section=glass> [accessed November 2010]

L'Oréal, 2009. L'Oréal 2009 Sustainability Report. [Online] Available at: <http://sustainabledevelopment.loreal.com/> [accessed October 2010]

Marks & Spencer launches compostable chocolate box packaging. [Online] Available at <http://www.guardian.co.uk/environment/2010/oct/25/chocolate-box-compostable-packaging> [accessed November 2010]

Measurement Evaluation Learning (M.E.L), 2006. Municipal Waste in Dorset: A Compositional Study- A Draft Report. Dorset County Council.

NetRegs, 2010. Duty of care – your waste responsibilities. [Online] Available at: < http://www.netregs.gov.uk/netregs/63197.aspx> [accessed August 2010]

Parfitt. J, 2002. Analysis of household waste composition and factors driving waste increases. WRAP.

Potter, 2008. Beyond waste report: Mapping Organic Business Waste Resource in Surrey. Surrey County Council and Surrey Economic Partnership.

Potter, 2009. Beyond waste report: Mapping Organic Business Waste Resource in Surrey- Phase 2 Extrapolation Addendum. An assessment of food waste arisings from non-household sources in Surrey. Surrey County Council.

Recap, 2007. Dealing with it: a guide to managing business waste. [Online] Available at: <http://www.cambridgeshire.gov.uk/NR/rdonlyres/154D5956-D72C-4200-B6BE-79EDD7832FB6/0/business_waste_leaflet_v4.pdf> [accessed October 2010]

Resource Futures, 2007.Trade Waste Feasibility Study

Seabrook, G, 2005. Civic Amenity Site Survey and Trade Waste Controls for Stoke-on-Trent City Council. [Online] Available at: < http://www.win.org.uk/site/cms/contentDocumentView.asp?chapter=29&category=387> [accessed November 2010]

Statutory Instrument 2005 No. 895: The List of Wastes (England) Regulations 2005 (Internet).

Surrey County Council: A business case to reduce your waste leaflet [online] Available at http://www.surreycc.gov.uk/sccwebsite/sccwspages.nsf/LookupWebPagesByTITLE_RTF/The+essential+business+waste+guide+for+Surrey+businesses?opendocument [accessed October 2010]

Thomas. C, Dacombe. P, Maycox. A, Banks. C, Khan. T and Slater. R, 2007. Identification of Key Resource Streams in Commercial & Industrial Waste from Small Businesses in the Food Sector. Open University and the University of Southampton [online] Available at < http://oro.open.ac.uk/22899/1/food_sector_C%26I_report_part_1_Apr07.pdf> [accessed October 2010].

West Sussex County Council, 2007. Recycling Business Waste in West Sussex- Analysis of Questionnaire Results.

Wetherill, P, 2010. Office for National Statistics - UK Business: Activity, Size and Location – 2010

WIN, 2008. Case Study 2008: Hampshire saves an estimated £1 million per year on trade waste controls at Household Waste Recycling Centres.

WRAP, 2010a. Local Authority trade waste and recycling survey 2010.

WRAP, 2010b. Trailblazer projects. [Online] Available at: <http://www.wrap.org.uk/local_authorities/support_funding/trade_waste_recycling/local_authority_projects/trailblazers/> [accessed September 2010]Smithers, R, 2010.

Bibliography

http://www.bourse-des-dechets.fr/

http://www.bradford.gov.uk/bmdc/the_environment/waste_management_street_scene/waste/waste_collection/van_permits/

http://www.brighton-hove.gov.uk/index.cfm?request=c1229515

http://www.eastsussex.gov.uk/environment/rubbishandrecycling/recyclingsites/wastesites.htm

http://www.eastex.org.uk/

http://www.ecoemballages.fr/

http://www.nisp.org.uk/

http://www.recycleforstockton.co.uk/hwrecyclingcentre/householdwaste/

http://www.recycleforwestsussex.org/household_waste_recycling_sites

http://www.reduisonsnosdechets.fr/

http://www.plantic.co.uk/

Appendix 1: Materials Accepted at HWRSs in the Research Area

East Sussex County Council												
HWRS	Crowborough	Eastbourne	Forest Row	Hailsham	Hastings	Heathfield	Lewes	Maresfield	Mountfield	Newhaven	Seaford	Wadhurst
Aerosols	X	X	X	X	X	X	X	X	X	X	X	X
Aluminium Foil	X	X	X	X	X	X	X	X	X	X	X	X
Bonded Asbestos		X	X		X	X					X	
Bric-a-Brac	X	X	X	X	X	X	X	X	X	X	X	X
Cans/Tins	X	X	X	X	X	X	X	X	X	X	X	X
Car Batteries	X	X	X	X	X	X	X	X	X	X	X	X
Cardboard	X	X	X		X	X	X	X	X	X	X	X
Cooking Oil	X	X	X	X	X	X	X	X	X	X	X	X
Electrical Goods	X	X	X	X	X	X	X	X	X	X	X	X
Engine Oil	X	X	X	X	X	X	X	X	X	X	X	X
Fluorescent Tubes/Energy Saving Bulbs	X	X	X	X	X	X	X	X	X	X	X	X
Fridges/Freezers	X	X	X	X	X	X	X	X	X	X	X	X
General Rubbish	X	X	X	X	X	X	X	X	X	X	X	X
Glass Bottles/Jars	X	X	X	X	X	X	X	X	X	X	X	X
Green Garden Waste/Christmas Trees	X	X	X	X	X	X	X	X	X	X	X	X
Hardcore/Rubble	X	X	X	X	X	X	X	X	X	X	X	X
Household Batteries	X	X	X	X	X	X	X	X	X	X	X	X
Metal Items	X	X	X	X	X	X	X	X	X	X	X	X
Mobile Phones	X	X	X	X	X	X	X	X	X	X	X	X
Paper (Newspapers/Magazines/Junk Mail/White Telephone Directories)	X	X	X	X	X	X	X	X	X	X	X	X
Plasterboard	X	X			X						X	
Plastic Bottles	X	X			X	X	X	X		X	X	
Soil	X	X	X	X	X	X	X	X	X	X	X	X
Textiles/Shoes	X	X	X	X	X	X	X	X	X	X	X	X
Timber/Wood	X	X	X	X	X	X	X	X	X	X	X	X
TVs/Computer Monitors	X	X	X	X	X	X	X	X	X	X	X	X
Tyres	X	X			X		X					
Yellow Pages	X	X	X	X	X	X	X	X	X	X	X	X

Source:
http://www.eastsussex.gov.uk/environment/rubbishandrecycling/recyclingsites/wastesites.htm

Brighton & Hove City Council		
HWRS	Brighton	Hove
Aerosols	X	X
Bonded Asbestos		X
Bric-a-Brac/Furniture	X	X
Cans/Tins	X	X
Car Batteries	X	X
Cardboard	X	X
CDs/DVDs/Video tapes	X	X
Cooking Oil	X	X
Electrical Goods	X	X
Engine Oil	X	X
Fire extinguishers		X
Fluorescent Tubes/Energy Saving Bulbs	X	X
Fridges/Freezers	X	X
Gas bottles		X
General Rubbish	X	X
Glass Bottles/Jars	X	X
Green Garden Waste	X	X
Hardcore/Rubble	X	X
Hazardous Chemicals	X	X
Household Batteries	X	X
MDF/Chipboard	X	X
Metal Items	X	X
Paint	X	X
Paper / Directories / Books	X	X
Plasterboard	X	X
Plastic Bottles	X	X
Soil	X	X
Textiles/Shoes	X	X
Timber/Wood	X	X
Toys	X	X
TVs/Computer Monitors	X	X
Tyres		X

Source: http://www.brighton-hove.gov.uk/index.cfm?request=c1229515

West Sussex County Council											
HWRS	Billingshurst	Bognor Regis	Burgess Hill	Chichester	Crawley	East Grinstead	Horsham	Littlehampton	Midhurst	Shoreham	Worthing
Asbestos			X	X	X					X	
Cans/Tins	X	X	X	X	X	X	X	X		X	X
Car Batteries	X	X	X	X	X	X	X	X	X	X	X
Cardboard	X	X	X	X	X	X	X	X	X	X	X
Cooking Oil	X	X	X	X	X	X	X	X	X	X	X
CDs	X	X	X	X	X	X	X	X	X	X	X
Electrical Goods	X	X	X	X	X	X	X	X	X	X	X
Engine Oil	X	X	X	X	X	X	X	X	X	X	X
Fire Extinguishers	X	X	X	X	X	X	X	X	X	X	X
Flammable Materials	X	X	X	X	X	X	X	X	X	X	X
Fluorescent Tubes	X	X	X	X	X	X	X	X	X	X	X
Fridges/Freezers	X	X	X	X	X	X	X	X	X	X	X
Gas Bottles	X	X	X	X	X	X	X	X	X	X	X
General Rubbish	X	X	X	X	X	X	X	X	X	X	X
Glass Bottles/Jars	X	X	X	X	X	X	X	X	X	X	X
Green Garden Waste	X	X	X	X	X	X	X	X	X	X	X
Hardcore/Rubble	X	X	X	X	X	X	X	X		X	X
Hazardous Household Waste	X	X	X	X	X	X	X	X	X	X	X
Household Batteries	X	X	X	X	X	X	X	X	X	X	X
Metal Items	X	X	X	X	X	X	X	X	X	X	X
Paper	X	X	X	X	X	X	X	X	X	X	X
Plastic Bottles	X	X	X	X	X	X	X	X		X	X
Plasterboard			X	X	X					X	
Soil	X	X	X	X	X	X	X	X		X	X
Textiles/Shoes	X	X	X	X	X	X	X	X	X	X	X
Timber/Wood	X	X	X	X	X		X	X		X	
TVs/Computer Monitors	X	X	X	X	X	X	X	X	X	X	X
Tyres	X	X	X	X	X	X	X	X	X	X	X

Source: http://www.recycleforwestsussex.org/household_waste_recycling_sites

Surrey County Council															
HWRS	Bagshot	Camberley	Caterham	Cranleigh	Dorking	Earlswood	Epsom	Farnham	Guildford	Leatherhead	Lyne	Sunbury	Warlingham	Witley	Woking
Aerosols	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Aluminium Foil	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Bonded Asbestos							X		X			X			
Bric-a-Brac/Furniture	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Bulky rigid plastic	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Cans/Tins	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Car Batteries	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Cardboard	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Cooking Oil		X				X	X		X		X				
Electrical Goods	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Engine Oil	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fridges/Freezers	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
General Rubbish	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Glass Bottles/Jars	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Green Garden Waste/Christmas Trees	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Hardcore/Rubble	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Metal Items	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Paper (Newspapers/Magazines/Junk Mail/White Telephone Directories)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Plasterboard		X				X	X		X			X			X
Plastic Bottles	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Soil	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Textiles/Shoes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Timber/Wood	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TVs/Computer Monitors	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Tyres	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Source: http://www.surreycc.gov.uk/sccwebsite/sccwspages.nsf/LookupWebPagesByTITLE_RTF/What+you+can+recycle+at+our+Community+Recycling+Centres?opendocument

Hampshire County Council																								
HWRS	Aldershot	Alresford	Alton	Andover	Basingstoke	Bishops Waltham	Bordon	Casbrook (Timsbury)	Eastleigh	Efford	Fair Oak	Farnborough	Gosport	Hartley Wintney	Havant	Hayling Island	Hedge End	Marchwood	Netley	Petersfield	Segensworth	Somerley	Waterlooville	Winchester
Animal Waste	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Bonded Asbestos				X	X					X									X					
Car Batteries	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Cardboard	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Electrical Goods	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Engine Oil	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fluorescent Tubes/Light Bulbs	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fire Extinguishers	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fridges/Freezers	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Furniture	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Gas Bottles	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
General Rubbish	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Glass Bottles/Jars	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Green Garden Waste	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Hardcore/Rubble	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Hazardous Household Waste			X	X	X		X					X						X	X		X			X
Household Batteries	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Metal Items	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Paint	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Paper (Newspapers/Magazines/Telephone Directories)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Plasterboard	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Soil	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Textiles/Shoes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Timber/Wood	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TVs/Computer Monitors	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Source: http://www3.hants.gov.uk/waste-and-recycling/hwrcs-2/wap.htm

Portsmouth City Council	
HWRS	Port Solent
Animal Waste	X
Bonded Asbestos	X
Car Batteries	X
Cardboard	X
Electrical Goods	X
Engine Oil	X
Fluorescent Tubes/Light Bulbs	X
Fire Extinguishers	X
Fridges/Freezers	X
Furniture	X
Gas Bottles	X
General Rubbish	X
Glass Bottles/Jars	X
Green Garden Waste	X
Hardcore/Rubble	X
Hazardous Household Waste	X
Household Batteries	X
Metal Items	X
Paint	X
Paper (Newspapers/Magazines/Telephone Directories)	X
Plasterboard	X
Soil	X
Textiles/Shoes	X
Timber/Wood	X
TVs/Computer Monitors	X

Source: http://www3.hants.gov.uk/waste-and-recycling/hwrcs-2/wap.htm

Southampton City Council	
HWRS	The Chapel
Animal Waste	X
Car Batteries	X
Cardboard	X
Electrical Goods	X
Engine Oil	X
Fluorescent Tubes/Light Bulbs	X
Fire Extinguishers	X
Fridges/Freezers	X
Furniture	X
Gas Bottles	X
General Rubbish	X
Glass Bottles/Jars	X
Green Garden Waste	X
Hardcore/Rubble	X
Hazardous Household Waste	X
Household Batteries	X
Metal Items	X
Paint	X
Paper (Newspapers/Magazines/Telephone Directories)	X
Plasterboard	X
Soil	X
Textiles/Shoes	X
Timber/Wood	X
TVs/Computer Monitors	X

Source: http://www3.hants.gov.uk/waste-and-recycling/hwrcs-2/wap.htm

Dorset County Council											
HWRS	Blandford	Bridport	Christchurch	Louds Mill	Portland	Shaftesbury	Sherborne	Swanage	Wareham	Weymouth	Wimbourne
Bonded Asbestos	X		X						X	X	
Bric-a-Brac	X	X	X	X	X	X	X	X	X	X	X
Cans/Tins	X	X	X	X	X	X	X	X	X	X	X
Car Batteries	X	X	X	X	X	X	X	X	X	X	X
Cardboard	X	X	X	X	X	X	X	X	X	X	X
CFC Recovery	X	X	X	X	X	X	X	X	X	X	X
Electrical Goods	X	X	X	X	X	X	X	X	X	X	X
Engine Oil	X	X	X	X	X	X	X	X	X	X	X
Fluorescent Tubes/Light Bulbs	X	X	X	X	X	X	X	X	X	X	X
Fridges/Freezers	X	X	X	X	X	X	X	X	X	X	X
Furniture	X	X	X	X	X	X	X	X	X	X	X
Gas Bottles	X	X	X	X	X	X	X	X	X	X	X
General Rubbish	X	X	X	X	X	X	X	X	X	X	X
Glass Bottles/Jars	X	X	X	X	X	X	X	X	X	X	X
Green Garden Waste	X	X	X	X	X	X	X	X	X	X	X
Hardcore/Rubble	X	X	X	X	X	X	X	X	X	X	X
Household Batteries	X	X	X	X	X	X	X	X	X	X	X
Metal Items	X	X	X	X	X	X	X	X	X	X	X
Paper (Newspapers/Magazines/Telephone Directories)	X	X	X	X	X	X	X	X	X	X	X
Plastic Bottles	X	X	X	X	X	X	X	X	X	X	X
Plasterboard	X	X	X	X	X	X	X	X	X	X	X
Soil	X	X	X	X	X	X	X	X	X	X	X
Textiles/Shoes	X	X	X	X	X	X	X	X	X	X	X
Timber/Wood	X	X	X	X	X	X	X	X	X	X	X
TVs/Computer Monitors	X	X	X	X	X	X	X	X	X	X	X

Source: http://www.dorsetforyou.com/householdrecyclingcentres

Bournemouth City Council	
HWRS	Millhams
Cans/Tins	X
Car Batteries	X
Cardboard	X
Cooking Oil	X
Electrical Goods	X
Engine Oil	X
Fluorescent Tubes/Light Bulbs	X
Fridges/Freezers	X
Furniture	X
Gas Bottles	X
General Rubbish	X
Glass Bottles/Jars	X
Green Garden Waste	X
Hardcore/Rubble	X
Hazardous Household Waste	X
Household Batteries	X
Metal Items	X
Paint	X
Paper (Newspapers/Magazines/Telephone Directories)	X
Plastic Bottles	X
Soil	X
Timber/Wood	X
TVs/Computer Monitors	X
Tyres	X

Source:
http://www.bournemouth.gov.uk/Residents/Waste_Recycling/Millhams_Community_Recycling_Centre.asp