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A REPORT BY ENVIROS CONSULTING LTD: FEBRUARY 2010

Birmingham City Council

WASTE CAPACITY STUDY

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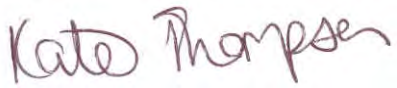
Quality Control Sheet

Publication title	Birmingham Waste Capacity Study
Project number	BI0110002
Volume number	1 of 1
Version	Final Report
Date	February 2010
File Reference	Birmingham Waste Capacity Study Final Report February 2010.Docx

Prepared under the management of:



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Executive Summary

Birmingham City Council is in the process of producing a Core Strategy which needs to be underpinned by a robust evidence base. A fundamental part of the evidence base for waste management is establishing the need and capacity for waste management facilities, which is a complex process that must be based on the best available information.

This capacity assessment study seeks to provide the technical evidence base to allow informed discussions on the Core Strategy Preferred Option. The study looked at a number of elements including:

- Existing and emerging legislation and policy which should inform decisions related to waste and planning;
- Current and future waste arisings for municipal, commercial & industrial, construction demolition and excavation waste and hazardous waste;
- Number, location and capacity of existing waste facilities;
- Wastes Birmingham should manage in the future.

A consultation workshop was held in Birmingham with stakeholders to discuss the project and to consider assumptions and views in relation to growth projections, theoretical capacity of waste facilities and how Birmingham should approach managing wastes in the future. Feedback from the workshop was incorporated in to this report.

The analysis of capacity information at permitted, exempt and accredited reprocessor waste management facilities in Birmingham is estimated in the range of 4 to 5 million tonnes per annum, of which 2 – 2.5 million tonnes is waste transfer capacity. In terms of end treatment/disposal points, Birmingham does not have any active landfill sites and the Energy from Waste Facility in the city takes only municipal waste.

The way in which waste is managed in the future will have to take account of existing and emerging legislation, for example the EU Landfill Directive and the Waste Framework Directive. The West Midlands Regional Spatial Strategy concludes that it is not commercially feasible for each Waste Planning Authority to have sufficient facilities to manage all their own waste streams with different characteristics. However, the 'equivalent self sufficiency' concept has been accepted to ensure that each Waste Planning Authority area manages the equivalent tonnage of waste arising in their area[1]. Different authorities in the West Midlands will be better placed to treat certain types of waste and accommodate the appropriate types of waste facilities.

In terms of future planning in Birmingham there is a need to treat waste as a resource, move waste up the hierarchy and treat the waste as near to source as possible. It is important that these factors are considered and that Birmingham plan to make land available on industrial estates and in commercial areas where waste management activities can be developed.

[1] West Midlands Regional Spatial Strategy (September 2009), Report of the Panel :Volume 1 Report. Examination in Public

1 Introduction

Birmingham City Council is in the process of producing a Core Strategy which needs to be underpinned by a robust evidence base. A fundamental part of the evidence base for waste management is establishing the need and capacity for waste management facilities, which is a complex process that must be based on the best available information. This study will form a significant part of the evidence base for the Core Strategy.

There are a number of elements that influence the capacity need within an area including:

- The arisings of different waste streams (including municipal, commercial, industrial, CD&E and hazardous).
- The potential growth in these waste streams which will be affected by planned growth within an area but also the effects of waste prevention and minimisation, reuse and resource efficiency.
- The number, type and capacity of existing facilities, including those facilities which are not required to hold an environmental permit but play an integral role in the waste management infrastructure.
- The demand of recycled materials which can drive the need for new facilities, this is of particular interest in Birmingham in terms of utilising secondary and recycled aggregate in supporting the construction and future growth in the city.

This capacity assessment study seeks to provide the technical evidence base to allow informed discussions and decisions on the Core Strategy Preferred Option.

A consultation workshop was held in Birmingham with stakeholders to discuss this study and to consider assumptions and views in relation to growth projections, theoretical capacity of waste facilities and how Birmingham should approach managing wastes in the future. Feedback from the workshop was incorporated in to this report, a summary of the outcomes is provided in Appendix 11.

2 Legislative and policy review

This section considers the potential impact of planning and waste policies and legislation on future waste generation and the provision of associated waste treatment capacity.

This is not a review of all waste and planning legislation and policy as only key pieces of legislation and policy have been considered at the Local, Regional, National and European levels.

2.1 European Legislation

2.1.1 The revised Waste Framework Directive

The old Waste Framework Directive (2006/12/EC) set legal requirements across the EU including the need for waste facility permitting and national waste strategies and the need to use the European Waste catalogue to help track wastes.

The Waste Framework Directive has recently been revised and is far more wide reaching than its predecessor. The Directive was formally adopted on 20th October 2008.

The amended Directive sets the EU's first waste recycling targets for household and non-hazardous construction and demolition waste. It also enshrines the five-step waste hierarchy into EU law (Figure 14) introduces a definition of by-products that will allow some materials currently defined as waste to become non-wastes..

The Directive will require countries to take "necessary measures designed to achieve" a target to recycle 50% of waste from households by 2020. This is in line with the English waste strategy, while Scotland and Wales have recently proposed targets of 60% and 64%, respectively for 2020. The wording allows waste "from other origins… similar to waste from households" to count towards the target, suggesting that trade waste could be used to meet the target. By 2015 member states must set up separate collections for at least paper, metals, plastics and glass provided they are technically, environmentally and economically feasible. Member states must also "take measures to encourage" the separate collection of biowaste.

The Directive's wording with respect to collections of recyclates implies that co-mingled collections would not be allowed to continue post-2015. Article 11(1) of the Directive states that member states shall establish separate collections for paper, metal, plastic and glass by 2015 "where technically, environmentally and economically practical and appropriate" to "promote high-quality recycling". Defra has stated that while the UK intends to encourage separate collections, it will allow co-mingled collections to continue after 2015 "where this is the most effective means of increasing recycling rates in the local circumstance." The UK has since received written confirmation from the European Commission that it has "agreed with the UK's interpretation of these provisions, while making clear that in the final analysis this was a matter for the European Court of Justice".

There is also a target for member states to reuse, recycle or recover 70% of non-hazardous construction and demolition waste by 2020. But as with the recycling target, the obligation on member states is "to take necessary measures designed to achieve" the target. No target for commercial and industrial waste was agreed. If these targets are not met by 2020, the Commission can take member states to court for non-compliance.

No waste prevention targets were set. Instead, the Directive obliges member states to establish waste prevention programmes within five years of its entry into force. The Commission is required to set "waste prevention and decoupling objectives for 2020" in 2014, but only if these are deemed "appropriate". There is also a requirement for the Commission to draw up eco-design policies by 2014 aimed at promoting recyclable and reusable products and limiting waste.

Other measures in the directive include:

- Incineration: The Directive will "re-brand" incinerators meeting certain efficiency thresholds as methods of recovery rather than disposal.
- Definition of waste: The Directive will include a definition of "by-products" that will place some materials outside waste controls if certain criteria are met. There is a provision committing the Commission to develop "end-of-waste" criteria for materials such as aggregates, paper, glass, metal, tyres and textiles.
- Producer responsibility: The concept of extended producer responsibility was also introduced into the Directive for the first time, allowing member states to make manufacturers, importers or retailers of products responsible for the costs of their treatment or disposal.

Comment

The revised Waste Framework Directive has begun to assert pressure and propose changes for the management of both municipal and non-municipal waste streams. For example through the target to recover 70% of Construction and Demolition waste, the requirement to introduce eco-design policies may impact on C&I waste and the requirement for waste prevention plans is likely to cover all waste streams.

2.1.2 Renewable Energy Directive and Renewable Energy Strategy (2001/77/EC)

The Renewables Directive[2] has a target to deliver 20% of all Europe's final energy demand from renewable sources by 2020. The UK's share of this target is 15% renewable energy by 2020. This compares to current levels of around 1.5%. The Renewable Energy Strategy outlines the ways the UK could increase the uptake of renewable energy to meet this target, via both financial and non-financial measures. Specific measures to support advanced technologies have been proposed. In addition to the overarching actions to be introduced for all renewables, specific measures to promote the use of both biomass and biogas include:

- Discouraging landfill of biomass as far as is practical, thereby maximising its availability as a renewable fuel.
- Considering the scope for Local Authorities to collect and separate organic food waste, so that it can be broken down to biogas through anaerobic digestion.
- Encouraging Waste Incineration Directive compliant infrastructure and support for anaerobic digestion as a means of generating energy from waste.
- A biomass communications program to raise awareness about the benefits of bioenergy, including energy from biomass waste.

It is important to stress that the targets agreed to in the Renewable Energy Directive will require a step change in the energy generation in the UK. It is clear that the Government consider that biomass from wastes will play a key role in meeting the challenging targets, through technologies such as AD and greater uptake of combined heat and power.

2.1.3 The Landfill Directive (199/31/EC)

The overall aim of this directive is to deal with the full social, environmental and economic impacts of landfill as a disposal option while generally improving waste management practices. The directive also aims to reduce greenhouse gas emissions from landfill sites.

[2] Directive on the Promotion of Electricity from Renewable Energy Sources in the Internal Electricity Market (2001/77/EC)

It addresses the need for future improvements in landfill practices across the EU and contains a mix of strategic objectives for reducing the amount and nature of wastes going to landfill together with strict provisions for the regulation and management of landfills. Changes to construction, operation and aftercare of landfill sites are key areas covered and almost all wastes will require pre-treatment before disposal.

Key directive provisions relate to the gradual reduction in BMW going to landfill and the promotion of alternatives such as recycling, composting and energy recovery from waste. The directive defines BMW as that which is capable of undergoing anaerobic or aerobic digestion, such as food and garden waste, paper and cardboard. Current estimates indicate that about 60% of household waste is biodegradable.

The directive will also bring other changes in waste management across the EU, e.g.:

- A complete ban on the landfill of certain hazardous waste;
- Separate landfills for hazardous, non-hazardous and inert wastes, effectively ending the current practice in the UK of co-disposal; and
- Introduction of a requirement for treatment of waste prior to landfill and the establishment of acceptance criteria for waste arriving at sites.

The UK, along with other countries with high dependence on landfill, has been granted a four-year derogation to meet the targets imposed by the directive. The amount of BMW sent to landfill must be reduced first to 75% (by weight) of 1995 production levels by 2010, then 35% by 2020.

Implementation of these targets, assuming the four-year extension period, is:

- 2010 Reduction to 75% of 1995 baseline
- 2013 Reduction to 50% of 1995 baseline
- 2020 Reduction to 35% of 1995 baseline

These targets take no account of growth in BMW arisings. The volume of household waste produced in the UK is rising by about 1% per annum. This has major ramifications for the recycling levels to be achieved by each of the target dates.

Comment

The Landfill Directive will impact on waste producers mainly through increased disposal costs relating to the higher operating standards imposed on sites. There will also be a need to use alternative waste management options for certain wastes, which may incur increased transport costs. Increased costs will provide an incentive to increase the recycling and composting of waste.

2.2 National Waste Policy and Legislation

2.2.1 National Waste Strategy 2007

The revised Waste Strategy 2007 (WS 2007) for England was published in May 2007 and sets out the Government's approach to sustainable waste management in England. The main aims of the strategy are:

- To put more emphasis on waste prevention and re-use, to meet and exceed the European Landfill Directive diversion targets for biodegradable municipal waste and non-municipal waste;
- To secure the investment in infrastructure required; and

- To maximise the environmental benefit from that investment through the promotion of the recycling of resources and recovery of energy from residual waste using a variety of technologies.

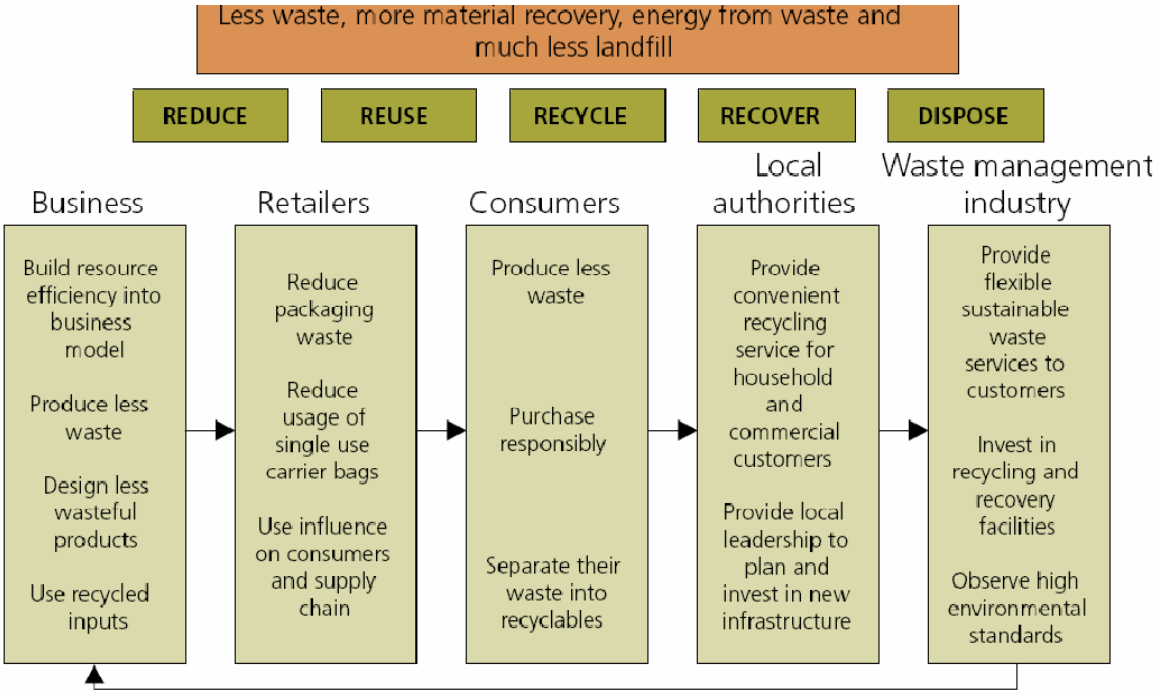
The Strategy also aims to build on National Waste Strategy 2000 which set out the Government's policy with regard to the management of waste and was founded on the principles of Best Practical Environmental Option (BPEO) and the Waste Hierarchy of:

- Reduction;
- Re-use;
- Recycling and composting;
- Recovering energy; and
- Disposal by incineration or landfill without energy recovery.

Through sustainable waste management, including the reduction, re-use and the recycling and composting of waste, the Government aims to break the link between economic growth and the environmental impact of waste.

Figure 1 shows how the objectives and targets set out in the Waste Strategy 2007 will impact on business, retailers, consumers, local authorities and the waste management industry. The main impact on the industry will be to divert more waste from landfill through the investment in infrastructure to increase the diversion rate of materials from landfill sites towards recycling, recovery and reuse.

Figure 1 The influence of the Waste Strategy on waste production and management on businesses, retailers, consumers, LAs and the waste management industry (Waste Strategy for England 2007)



WS 2007 sets higher national targets than those set in 2000, namely:

- **Recycling and composting of household waste** – at least 40% by 2010, 45% by 2015 and 50% by 2020; and

- **Recovery of municipal waste** – at least 53% by 2010, 67% by 2015 and 75% by 2020.

There is also a target to reduce the amount of commercial and industrial waste landfilled in 2010 by 20% from 1994 levels. To date targets on commercial and industrial waste is being driven by incentives rather than by regulation.

Comment

It is therefore important that Waste Planning Authorities plan for a range of waste management facilities to ensure they provide sufficient capacity for waste recycling and recovery in order to meet these challenging targets.

Both Scotland and Wales have set higher targets (at 70% by 2025) within their national strategies for municipal waste recycling. When the national strategy for England is reviewed it is likely that the national targets will be increased and the option to impose more binding targets on other waste streams may also be considered.

2.2.2 Planning Policy Statement 10: Planning for Sustainable Waste Management

The planning system for waste was reformed in 2005 with the publication of Planning Policy Statement 10 (PPS10) and its 'companion guide'. PPS10 forms part of the policy framework for England on waste management. The policies in PPS10 are to be taken into account by the regional planning bodies when preparing their regional spatial strategies and by local planning authorities in the preparation of local development documents with regard to waste matters. The policies in PPS10 may also be material in the determination of individual planning applications where the principles include avoiding the duplication of control and working effectively with pollution control authorities. Additionally, when considering planning applications for waste management facilities before the review of development plans, it is made explicit that planning authorities should have regard to the policies in PPS10 as "material considerations" which may supersede the policies in their development plan.

PPS10 builds on the Government's policy on waste to protect human health and the environment by reducing the production of waste and using it as a resource wherever possible and acknowledges the need to move waste management up the 'waste hierarchy' of reduction, reuse, recycling and composting, recovery of energy and disposal as a last resort. Regional planning bodies and all planning authorities therefore need to deliver planning strategies that help deliver sustainable development through driving waste management up the waste hierarchy by providing a range of facilities with sufficient capacity to do this.

The importance of locating waste management facilities close to the source of waste arisings (the 'proximity principle') is also addressed in PPS10. One of the key planning objectives of PPS10 is for regional planning bodies and Waste Planning Authorities (WPAs) to deliver strategies that *"enable waste to be disposed of in one of the nearest appropriate installations"* (para. 3).

PPS10 also acknowledges the importance of protecting green belts from inappropriate development, but recognises that there are particular locational needs associated with some types of waste management facilities and that these needs along with the wider environmental and economic benefits of sustainable waste management should be material considerations when determining planning applications for development within green belts.

2.2.3 Landfill Regulations and Landfill Tax

The Landfill Regulations (England and Wales) 2005 contains the requirements from the EU Landfill Directive. One of the key requirements of the Directive is to reduce the amount of biodegradable waste sent to landfill by:

- 75% of the 1995 baseline level by 2010;
- 50% of the 1995 baseline level by 2011;
- 35% of the 1995 baseline level by 2020;

The Landfill Regulations are the central force driving the sector to develop new technologies, which is steering the movement in the waste management industry away from landfill. To achieve these reduction targets the Government has employed a trading mechanism between local authorities, called the Landfill Allowance Trading Scheme (LATS). The scheme provides each authority with biodegradable municipal waste (BMW) landfill allowances, which are set on an annual basis. The total allowance is equal to the targets set within the EU Landfill Directive. Under the LATS Local Authorities can either abide by the allowance given, buy permits to counterbalance an exceeded allowance, or sell any surplus allowance to other Local Authorities.

The Regulations utilise the Landfill Tax as an economic instrument to reduce the amount of waste landfilled. This is applied through The Landfill Tax Regulations which impose a tax (per tonne) on the majority of waste sent to landfill sites. From April 1 2009 the level of tax per tonne is set at £40 (for waste releasing emissions, known as active waste) and will rise again by £8 per tonne in 2010, thus a tax rate of £48/tonne. In the 2009 Budget it was announced that the landfill tax for active waste will continue to increase by £8 per tonne on 1 April each year from 2011 to 2013.

Comment

The landfill tax will continue to be an important driver on the diversion of many waste streams from landfill and is likely to continue to increase beyond 2013. This will further stimulate the movement towards alternative treatment technologies.

2.2.4 Renewables Obligation

From a financial viability perspective, the Renewable Obligation (RO) can be regarded as a key driver in enabling the development of Anaerobic Digestion (AD), Mechanical Biological Treatment (MBT) with AD and advanced thermal (gasification and pyrolysis) facilities in the UK. Renewable Obligation Certificates (ROCs) received by such facilities for the generation of each megawatt hour (MWh) of electricity are currently being traded at around £52[3]. Depending upon the supplier and time of year, this can add between 100 and 150% to revenues from electricity sales. In April 2009, banding of the RO was introduced to vary the number of ROCs awarded to different technologies, as summarised in Table 1.

The new RO banding will present significant new opportunities for most energy from waste technologies, and specifically Advanced Conversion Technologies (ACTs). An important point to note here, however, is that ACTs do not currently attract additional funding support should they be configured to deliver heat in addition to power. The RO, therefore does not function as a driver for CHP to be implemented as part of such facilities.

[3] The average price of ROCs sold in January 2009, was £51.81 – Non Fossil Purchasing Agency Limited

It should be acknowledged that incineration facilities which incorporate heat provision have been eligible for ROCs for some time, but this has not resulted either in new facilities being configured in this way or existing facilities retrofitting CHP capability. In part, this is due to the costs of developing heat networks, but also due to the costs incurred by meeting RO criteria for sampling and measuring the biomass content of the waste to be incinerated[4]. To promote the use of heat the Government is now proposing an alternative heat incentive, as discussed in Section 2.2.6.

Table 1 ROC Banding for Energy from Waste Technologies

Technology	ROCs / MWh
Anaerobic Digestion	2
Advanced Gasification/Pyrolysis[1]	
Biomass CHP[2]	
Biomass[2]	1.5
Standard Gasification/Pyrolysis[3]	1
Incineration with CHP	
Sewage Gas	0.5
Landfill Gas	0.25

Notes:

1. Advanced gasification/pyrolysis: will need to demonstrate that the syngas at the inlet to the generating station when measured at 25 Celsius and 0.1 megapascals has a gross calorific value of at least 4 megajoules per cubic metre
2. Biomass CHP and biomass are important bandings for waste treatment technologies that can produce a waste biomass fuel that is over 90% biomass by calorific value
3. Standard gasification/pyrolysis will need to demonstrate that the syngas at the inlet to the generating station has a gross calorific value of at least 2 megajoules per cubic metre when measured at 25 degrees Celsius and 0.1 megapascals

2.2.5 Small Scale Renewable Energy Feed-in Tariff

The powers to introduce a feed-in tariff for renewable energy generated by small scale technologies (no more than 5MW) have been included in the Energy Act 2008[5]. For small scale ACTs the possibility of a guaranteed long-term, premium price for heat generated under such a tariff may offer significant benefits over reliance upon the ROC market.

The feed-in tariff mechanism is likely to also support the development of smaller scale ACT facilities that may currently experience difficulties in raising finance, specifically where banks may be reluctant to consider long term ROC revenues within funding models.

[4] Incineration facilities incorporating CHP (and ACTs) receive ROCs according to the biomass content of the input waste stream

[5] Feed-in tariff: a guaranteed premium payment on electricity generated

2.2.6 Renewable Heat Incentive

A further financial incentive for renewable heat producers has been enabled by Government, through the Energy Act 2008. The underlying principle of the Renewable Heat Incentive (RHI) will be to financially reward the generation and use of renewable heat, including that generated by the biomass fraction of wastes. As a consequence it can be expected that this mechanism will provide enough incentive for developers of ACT facilities to find commercial heat users (customers) for their planned facilities. It is uncertain as to how exactly the mechanism will function and how it will be linked with the RO, but it is likely that some kind of feed-in tariff similar to that for small scale renewables, outlined in Section 2.2.5, will be implemented.

2.2.7 Producer Responsibility

There is a range of producer responsibility legislation aimed at increasing the reuse, recovery and recycling of products. The main regulations are:

- Producer Responsibility Obligations (Packaging Waste) Regulations 1997;
- End of Life Vehicles Regulations 2003 and End of Life Vehicles (Producer Responsibility) Regulations 2005;
- Waste Electronic & Electrical Equipment Regulation 2007;
- Batteries and Accumulators Regulation 2009.

The potential implications on capacity needs in Birmingham are summarised in Table 2.

Table 2 Producer responsibility regulations

Regulation	Comment
Packaging Waste Regulations	This responsibility lies with those in the packaging supply chain. As the targets imposed on business to recycle packaging waste increase businesses will need to ensure packaging waste are being recycled. This may increase recycling capacity needs.
End of Life Vehicle Regulation	The regulations have been in place for a number of years and there is not likely to be any significant change in capacity requirements for dealing with end of life vehicles.
Waste Electronic & Electrical Equipment Regulation	The requirements will increase the quantity of WEEE recovered/recycled and capacity may need to increase to reflect the growing quantities of material separated for recovery. Although a number of facilities may operate under exemptions from environmental permits.
Batteries and Accumulator Regulation 2009	The regulations may increase the need for transfer stations, material may be collected via WEEE treatment facilities. It is likely that any battery recycling/recovery plants will be on a national scale.

2.3 Regional Waste Policy and Technical Studies

2.3.1 West Midlands Regional Spatial Strategy (WMRSS)

The Regional Spatial Strategy (RSS) for the West Midlands was approved by the Secretary of State in June 2004 and became the adopted RSS in September 2005. During the approval process the Secretary of State raised a number of issues to be addressed in future revisions to the document. These are being addressed in three phases.

In January 2008 the Phase 1 revisions to the WMRSS were formally adopted. These revisions were in relation to the Black County and so are not directly relevant to Birmingham City Council. The Phase 2 revision to the WMRSS is currently underway. This will include revisions to housing figures and waste management policies. The Phase 2 submission document is discussed in more detail later in this section.

The existing RSS sets out a number of waste management targets for the West Midlands region. Although it recognises that the region is largely self-sufficient in terms of meeting its own needs for waste treatment and disposal, there is still a large amount of household and industrial waste being sent to landfill. Therefore, the following targets have been set for waste management in the region (Policy WD1);

- To recover value from at least 40% of municipal waste by 2005; 45% by 2010; and 67% by 2015; and
- To recycle or compost at least 25% of household waste by 2005; 30% by 2010; and 33% by 2015.

It is recognised that additional facilities need to be provided in order to *"recycle, compost or in other ways recover value from at least 47.9 million tonnes, between 1998/99 and 2020/21"* (Policy WD2).

In terms of the need for additional waste management facilities in Birmingham, in the RSS as currently adopted, Birmingham is grouped with Solihull and the Black Country to form what is termed as the West Metropolitan Area. Policy WD2 of the RSS sets out the need for waste management facilities in the West Midlands region, Table 3.

Table 3 WMRSS Policy WD2 Need for Waste Management Facilities

	Municipal Waste, Recycling & Composting Facilities	Municipal Waste Recovery	Cumulative landfill void capacity required for all waste streams taking into account the target reductions in the National Waste Strategy 1998/99-2020/21		
	Annual throughput required by 2020/21 ('000 tonnes)	Annual throughput required by 2020/21 ('000 tonnes)	Municipal ('000 tonnes)	Industrial & Commercial ('000 tonnes)	Construction & demolition ('000 tonnes)
Metropolitan Area (Sub Region) *NB. includes Birmingham*	845	1,020	16,616	31,709	Not able to divide by sub region
West Midlands Region	1,734	1,940	38,789	75,236	28,700

It is identified that the West Midlands Region need to provide additional waste management facilities as set out in Table 4.

Table 4 WMRSS Policy WD2 Need for Additional Waste Management Facilities

	Recycling and Composting		Recovery – either EfW or MRF		
	Additional capacity required by 2021 (annual throughput in '000 tonnes)	Equivalent number of facilities @ 50,000 tonnes pa capacity	Additional capacity required by 2021 (annual throughput capacity '000 tonnes)	Equivalent number of EfW facilities required at 300,000 tpa	Equivalent number of MRF's required at 50,000 tpa
Metropolitan Area (Sub Region) *NB. includes Birmingham*	781	16	382	1	8
West Midlands Region	1,524	30	1,106	3-4	22

Policy WD3 of the WMRSS sets out the criteria for the location of waste management facilities. It advocates that for proposals for new waste management facilities, waste planning authorities should;

- Guide development to appropriate locations, having regard to the proximity principle and other environmental and amenity principles as identified elsewhere in the WMRSS;
- Wherever possible and consistent with the principles of the Best Practicable Environmental Option and Proximity, encourage the use of rail and water transport in preference to road transport; and
- Require the submission of a waste audit and provision for in-house or on-site recycling and treatment of wastes, in the case of minor proposals.

The policy also advocates that Development Plans should restrict "the granting of planning permission for new sites for landfill to proposals which are necessary to restore despoiled or degrade land, including mineral workings, or which are otherwise necessary to meet specific local circumstances".

- **Draft Phase 2 Revisions to West Midlands RSS**

  In terms of the Phase 2 revisions to the adopted WMRSS, the Preferred Option Submission Draft was submitted by the West Midlands Regional Assembly (WMRA) in December 2007. The Examination in Public (EiP) was held between April-June 2009 and the report of the Panel was published in September 2009.

  Phase 2 incorporates revisions to housing and waste management figures, both relevant to this study. Economic growth plans in relation to urban regeneration zones are also discussed here as these are relevant to Birmingham City and may impact on the C&I waste stream in the long term and CD&E in the short term.

- *Housing*

  In terms of housing supply, the Phase 2 revisions would require the West Midlands region as a whole to provide a net total of 365,600 new homes between 2006 and 2026 equating to an annual average of 18,280 new homes. Birmingham City Council must provide a net total of 50,600 new houses between 2006 and 2026. This equates to an average of 2,530 new homes per annum. In this respect Birmingham City Council is to provide approximately 14% of all new homes in the West Midlands region.

  In terms of the proposed phasing of new housing development, Policy C4 advocates that priority will be given to providing new housing in the West Midlands Conurbation (including Birmingham) early on in the plan period to maintain progress with 'urban renaissance', with new development in the rest of the region increasing at a slower pace. In the West Midlands Conurbation as a whole, this equates to a rising trajectory of house building to 8,000 houses by 2016 and then a per annum average of 7,800 houses from 2016-2026 (Policy C4).

The conclusion of the panel at the EiP[6] recommended an increase in housing requirement for the West Midlands region of 32,300 houses over the Preferred Option bringing the regional total to 397,900 new houses by 2026, with Birmingham providing 57,500 new houses.

- *Economic Growth*

Policy PA1 advocates 'prosperity for all' by stating the following;

"Major Urban Areas (MUAs) will be the primary focus for additional investment in sustainable economic growth with an emphasis on creating greater opportunities for development and support for existing economic activities within agreed regeneration areas. Sustainable economic growth will also be promoted in the rest of the Region including the Settlements of Significant Development to ensure an appropriate balance between new housing and new employment land provision. The rural areas of the Region will also be supported through the sustainable modernisation and diversification of the rural economy".

Policy PA2 identifies five urban regeneration zones where investment will be focused in order to "encourage urban renaissance and help reverse long-standing trends of decentralization of economic activity and population and to encourage the regeneration of economies". These five urban regeneration zones include:

- East Birmingham and North Solihull
- North Black Country and South Staffs
- North Staffordshire
- Coventry and Nuneaton
- South Black Country and West Birmingham

A number of High Technology Corridors are also designated in Policy PA3. These are intended to encourage the diversification of the Regional economy within which cluster developments, closely linked to the Region's critical research and development capabilities and advanced technologies will be promoted. These corridors include;

- Birmingham to Worcestershire (Central Technology Belt)
- Coventry, Solihull and Warwickshire and
- Wolverhampton to Telford.

- *Waste*

Birmingham is addressed separately in the Phase 2 revisions and has no longer been included as part of the Metropolitan Area. The Phase 2 revision recognises as a minimum that targets in WMRSS and LDDs conform to national planning guidance for diverting and recycling/recovering municipal waste. The Phase 2 revision therefore proposes that national targets for waste are adopted. In terms of regional targets for waste management in Birmingham, Policy W2 sets the targets for municipal waste diversion in Table 5. The diversion targets in Table 5 are based on housing figures and LATS allowances allocated to Birmingham.

[6] West Midlands Regional Spatial Strategy (September 2009), Report of the Panel :Volume 1 Report. Examination in Public

Table 5 Municipal waste minimum diversion targets (Policy W2)

Municipal waste	Min. diversion from landfill (tonnes)	Max. landfill (tonnes)
2005/06	498,000	62,000
2010/11	551,000	57,000
2015/16	575,000	53,000
2020/21	602,000	46,000
2025/26	612,000	56,000

For Commercial & Industrial waste (C&I), the WMRSS policy is based on C&I waste being managed more as a resource and waste being managed further up the hierarchy, with a greater level of change than that which is proposed in WS 2007. Based in the increase in the landfill tax escalator and producer responsibility obligations WMRSS anticipates a higher level of diversion from landfill. The WMRSS sets out the targets in Table 6 for landfill as a percentage of total C&I waste. This equates for Birmingham to the C&I diversion tonnages from landfill in Table 7.

Table 6 Landfill targets as a % of total for Commercial & Industrial waste

2010	2015	2020	2025
35%	30%	25%	25%

Table 7 Commercial and Industrial waste diversion targets (Policy W2)

C&I waste	Min. diversion from landfill (tonnes)	Max. landfill (tonnes)
2005/06	613,000	444,000
2010/11	698,000	376,000
2015/16	869,000	373,000
2020/21	1,191,000	397,000
2025/26	1,191,000	397,000

In terms of the need for additional waste management facilities by sub-region achieving the above targets equates to a **treatment gap in Birmingham of 0.54 million tonnes.** In this respect, Policy WD3 requires that for all those WPA's with an identified treatment gap, should make provision in their Local Development Documents (LDD's) for a pattern of sites and areas suitable for a range of waste management facilities. These should be located:

"in, or in close proximity to, the MUAs, Settlements of Significant Development, and other large settlements identified in the Broad Locations for Waste Management Facilities Diagram. In addition to meeting local needs, these locations are well placed to accommodate facilities of a regional and/or sub regional scale to reprocess, re use, recycle or recover value from waste, allowing for the requirements of different technologies" [7].

[7] West Midlands Regional Spatial Strategy Phase Two Revision Preferred Option , West Midlands Regional Assembly(December 2007)

In terms of the criteria for locating waste management facilities, Policy WD4 advocates the need to protect existing waste management facilities in the region whilst Policy WD5 sets out the more detailed criteria. Policy WD5 advocates that sites for new waste management facilities should be selected based on the flowing criteria;

- Ensuring a range of sites of different size and geographical distribution;
- Good accessibility to the source of waste arisings and/or end users;
- Good transport connections including, where possible, rail or water. In the first instance such sites should be either:
- Sites with current use rights for waste management purposes;
- Active mineral working sites or landfills where the proposal is both operationally related to the permitted use and for a temporary period commensurate with the permitted use of the site;
- Previous or existing industrial land;
- Contaminated or derelict land;
- Land within or adjoining a sewage treatment works;
- Redundant agricultural or forestry buildings and their curtilage.

Regarding the provision of waste management facilities on open land, Policy W7 advocates they should only be permitted;

- *Where they are close to the communities producing the waste;*
- *Where there are no preferable alternative sites;*
- *Where it would not harm the openness of land, or the objectives of greenbelt;*
- *Where it can be demonstrated to be necessary to support an existing essential activity and to facilitate other key development;*
- *Would assist in agricultural diversification; or*
- *Would not adversely affect the biodiversity and geodiversity value of the area.*

The Phase 2 revisions also set out policies on the safeguarding of existing hazardous waste sites (Policy W8), Construction and Demolition (CD&E) waste (Policy WD9) and Sites for Contaminated Soils (Policy W10). With regards to Policy WD9, it requires that all Waste Development Frameworks and Local Development Frameworks should "give *"specific priority to identifying new sites for facilities, to store, treat and recycle soils and Construction and Demolition waste".* However, the policy recognises the need for more CD&E waste to be recycled through maximising on-site recycling and promoting 'urban quarries' where material can be recycled to a high standard.

The conclusion of the panel at the EiP[8] recommended policy W1 which highlighted each Waste Planning Authority (WPA) should allocate sufficient land or facilities to manage an equivalent tonnage of waste to that arising from all waste streams within its boundary, taking into account the waste hierarchy. In additions LDDs should have regard to the following principles:

- Seek to ensure that the West Midlands becomes and remains a zero waste growth region;
- Promote waste management up the waste hierarchy by maximising the reduction, re-use, recycling, composting and energy recovery and as a last resort disposal;
- Regard waste as a resource;
- Adopt the "equivalent self-sufficiency" approach for each WPA in the region.

The EiP panel report also recommended that the landfill diversion targets for municipal (Table 5) and commercial and industrial waste (Table 7) be indicative along with the treatment gap analysis, which for Birmingham was highlighted at 0.54 million tonnes, to allow WPAs to take account of more up to date information if available in their LDDs.

2.3.2 'WASTE – A FUTURE RESOURCE FOR BUSINESSES: Developing the evidence base for a targeted market intervention strategy for the West Midlands' (March 2008)

Advantage West Midlands (AWM), the Regional Development Agency (RDA) for the West Midlands have undertaken a study with the aim of identifying areas of the waste management industry in the West Midlands region *"that would benefit from focused intervention to ensure the Region is in a position to sustainably manage its future waste"*.

The study uses the forecast waste arisings and targets set out in the Draft Phase 2 RSS revisions and recognises that;

- Municipal waste is projected to increase from circa 3 million tonnes at present to circa 4 million tonnes by the year 2025/26; and
- C&I waste is projected to increase from circa 7 million tonnes at present to circa 10.5 million tonnes by 2025/26. Total municipal, commercial and industrial arisings are forecasted to exceed 14.2 million tonnes in 2025/26.

Within the West Midlands, Birmingham is recognised as the largest waste producer as indicated in Figure 2

[8] West Midlands Regional Spatial Strategy Report of the Panel :Volume 1 Report. Examination in Public (September 2009),

Figure 2 Largest and smallest contributors to the regions waste arisings

	Local Authority	2007/08 Total (kt)	2020/1 Total (kt)
Five largest Contributors	Birmingham	1,637	2,230
	Sandwell	630	881
	Dudley	624	868
	Coventry	564	792
	Stoke	544	744
Five smallest Contributors	North Warwickshire	98	127
	North Shropshire	96	134
	Bridgnorth	86	116
	South Shropshire	74	103
	Oswestry	65	90

The report estimates the existing treatment gap for waste management in Birmingham along with the need for additional waste management facilities. In terms of the West Midlands region as a whole, Figure 3 below sets out the estimated need in the region for further waste facilities.

Figure 3 Need for Additional Waste Treatment Facilities in the West Midlands Region

	2007/08		2020/21	
	Local Authority	Need(kt)	Local Authority	Need (kt)
Three Highest Need	Birmingham	1,174	Birmingham	1,790
	Sandwell	404	Coventry	740
	Dudley	401	Dudley	673
Three Lowest Need	Bridgnorth	47	Worcester	98
	South Shropshire	40	Malvern Hills	92
	Oswestry	36	Wyre Forest	88

In the long-term the estimated treatment gap for the West Midlands is set out in Figure 4 .

Figure 4 West Midlands estimated treatment gap

	Treatment Gap	
	2007/08 Gap (Mt)	2020/21 Gap (Mt)
Recycling	-0.95	2.11
Organics	0.43	1.36
Other Treatment	-0.28	0.20
Total	**-0.80**	**3.66**
-ve value denotes excess capacity		

The report then breaks the treatment gap down further and sets out the need in the both the long term and the short term for particular treatment facilities in certain Districts across the West Midlands. The key points for Birmingham by treatment type are:

- Recycling - Birmingham is identified as having the third lowest gap in 2007/08 with an excess capacity for recycling of 261,000 tonnes. However, by 2020/21 Birmingham is identified as having the third highest recycling gap at 208,000 tonnes shortfall in capacity.

- Organic – Birmingham is identified as having the highest treatment gap for organics across the West Midlands with a 144,000 tonnes shortfall in capacity in 2007/08 increasing to 289,000 tonnes by 2020/21.

- Total treatment gap – for all treatment capacity in the short term (2007/08) Birmingham is identified as having the lowest gap with an excess capacity of 172,000 tonnes. However by 2020/21 Birmingham becomes the local authority with the highest treatment gap at a shortfall in capacity of 444,000 tonnes.

It has been estimated the West Midlands region requires an additional 3.7 million tonnes of treatment capacity by the year 2020/21.

The Advantage West Midlands report converts this treatment gap into the number of facilities required and subsequently, land-take requirements based on estimated footprints of waste treatment facilities as set out in the London plan[9], Figure 5 .

Figure 5 Small and large facility throughputs and corresponding indicative landtake

Facility Size	Recycling		Open Window		In-vessel		Other Treatment	
	T'put (t)	Landtake (Ha)	T'put (t)	Landtake (Ha)	T'put (t)	Landtake (Ha)	T'put (t)	Landtake (Ha)
Small	25,000	0.80	15,000	1.00	5,000	0.50	60,000	1.00
Large	85,000	1.00			60,000	2.00	250,000	2.50
Average	55,000	0.90			32,500	1.30	155,000	1.80

The West Midlands region requires **an additional 135 hectares of land to locate sufficient waste treatment facilities** to manage the capacity gap. The report breaks down further and sets out the land-take required in each District for recycling (Figure 6), organic (Figure 7) and other treatment facilities (Figure 8). The report estimates for Birmingham in 2020, this equates to:

- Recycling - approximately 4 facilities and 3.4 hectares of land;

- Organics - approximately 12 facilities and 14 hectares of land;

- Other treatment facilities - no need for additional capacity for other treatment facilities in Birmingham identified.

[9] http://www.london.gov.uk/mayor/planning/strategy.jsp

Figure 6 **Land take requirement per LA to meet the estimated future recycling gap in 2020**[10]

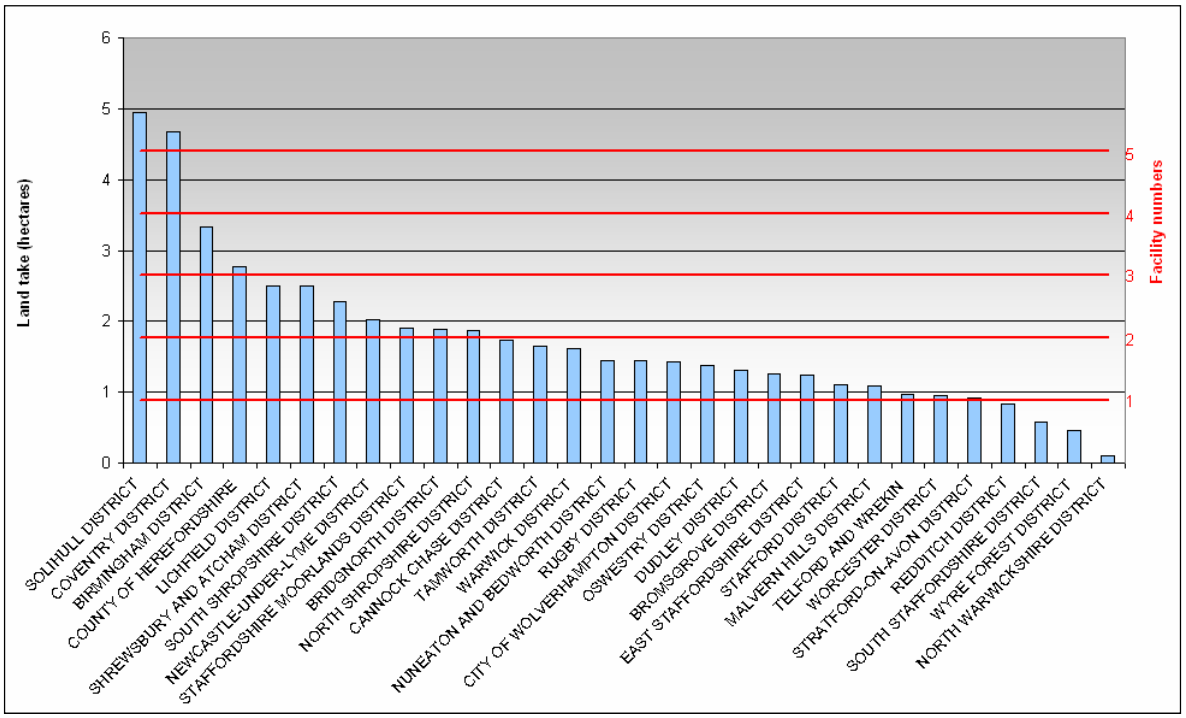
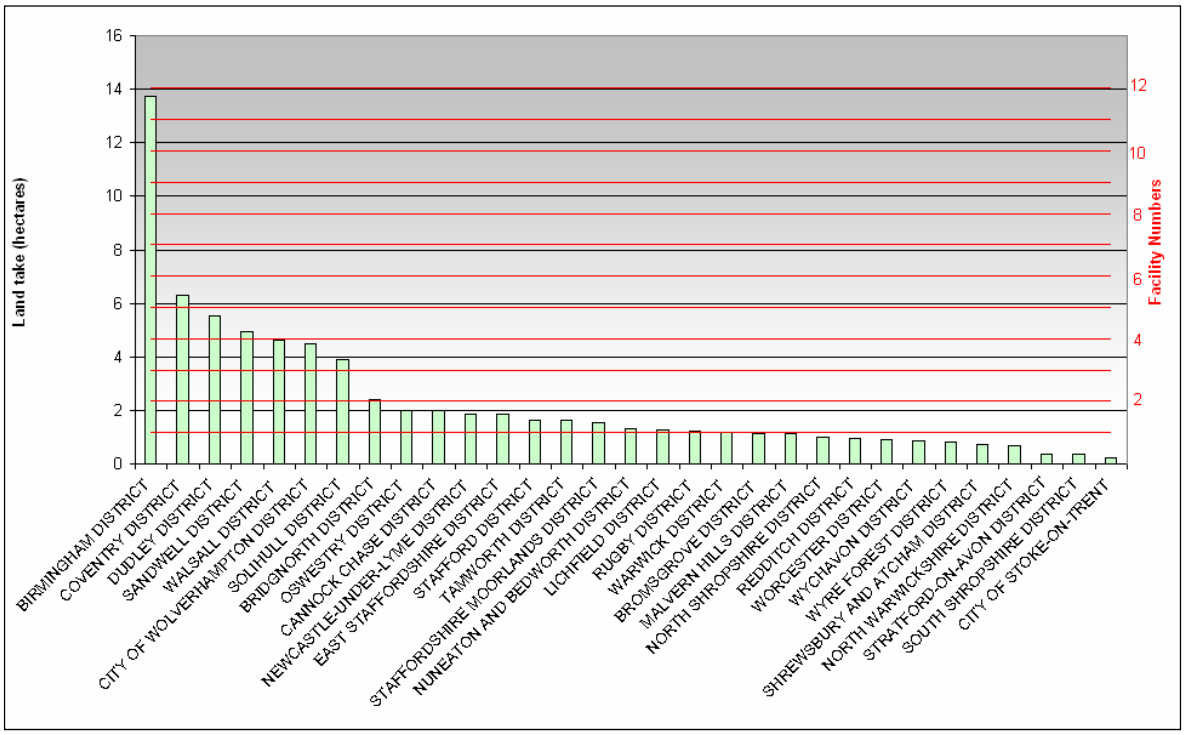
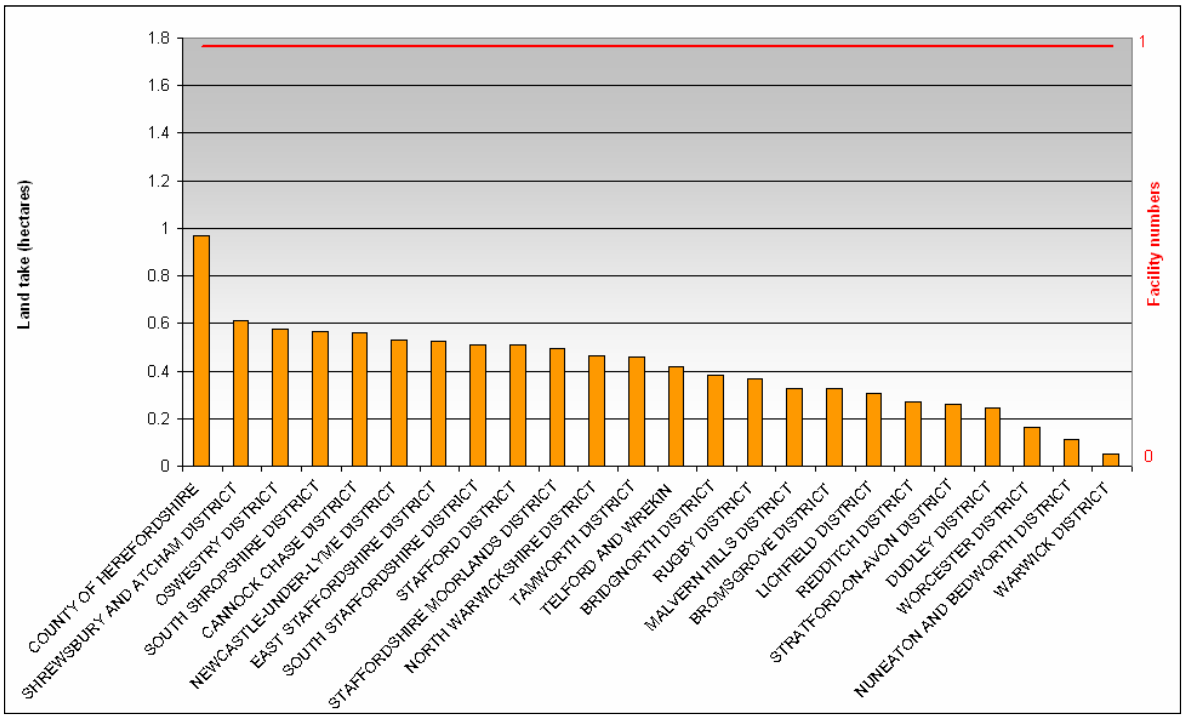


Figure 7 **Land take requirement per LA to meet estimated Organic Treatment gap in 2020**[10]



[10] Waste – A Future Resource for Businesses:Developing the evidence base for a targeted market intervention strategy for the West Midlands, Advantage West Midlands (March 2008)

Figure 8 Land take requirement to meet estimated Other Treatment gap in 2020[10]



2.4 Local Waste Policy and Legislation

2.4.1 Birmingham City Council Unitary Development Plan 2005

The Unitary Development Plan (UDP) contains policies and proposals that guide development and the use of land in Birmingham up to 2011. A new planning system came into effect in 2004, which requires the council to maintain a Local Development Framework (LDF).

Whilst the first UDP was adopted in 1993, a review of the plan took place between 2000 and 2005, and revision adopted by the council in October 2005. Whilst policies in the UDP were due to expire in October 2008, the council received a direction from the Secretary of State that all but three of the policies in the UDP should be saved until the policies in the UDP are superseded by policies in the Core Strategy and other policy documents they will continue to apply.

The UDP has a number of policies linked to waste. One of the main policies for waste is that the Council "*will adopt a sustainable approach to waste management which seeks to ensure that adequate facilities exist for the treatment and disposal of waste within the City whilst achieving the best balance of social, environmental and economic costs and benefits, and taking account of the following principles*:

- *Consideration of the best practicable environmental option for each waste stream;*
- *Regional self sufficiency;*
- *The proximity principle; and*
- *The waste hierarchy."*

The UDP states that the development of all new waste management, processing and treatment facilities should be provided in accordance with current national and regional planning guidance, should be in appropriate locations, and should be sited so that they minimise any adverse impacts on local communities, the environment and the local transport network. The plan also sets out criteria which proposals for different types of new waste facilities will be assessed against including the types of location deemed suitable for waste developments against the principles stated above e.g. proximity to source of waste generation, transport network etc.

The key points from policies in the UDP related to specific type of waste facilities are summarised below:

- **Waste Recycling Facilities** – Levels of recycling have grown significantly since the UDP was adopted. Therefore, some of the information related to the range of material collected for recycling will have changed as the UDP states there is only a significant market for recycled paper in Birmingham. The UDP identifies the capacity of the Kappa paper recycling plant at Nechells to handle paper from Birmingham and wider areas and states it is unlikely any further paper plants will be required in the plan period in Birmingham.

  The UDP expresses the uncertainty of whether plants for the recycling of other materials will be required in Birmingham during the Plan period. However, any proposals for the development of such facilities will be considered against the policy set out in paragraphs 3.65A – C of the UDP and as outlined above.

- **Energy from Waste Plants** – Although the council send a large proportion of residual household waste to the energy from waste plant at Tyseley, it is acknowledged that, where it is a practical and viable option, the re-use or recycling of waste products is preferable to incinerating waste.

  Proposals for the expansion of the existing energy from waste facility at Tyseley or for new energy from waste plants will be considered in the light of the policy set out in 3.65A-C of the UDP and as outlined above.

- **Landfill Sites** – it is unlikely that there will be scope for large-scale landfill operations in Birmingham in the foreseeable future. Landfill will not be permitted on any Site of Special Scientific Interest, Site of Importance for Nature Conservation, Scheduled Ancient Monument, or other archaeological site of national importance.

- **New Development and Waste** – Planning permission for proposals for major new development will not be granted, except where the proposals include a comprehensive, detailed and practical scheme for dealing with the waste that is likely to arise both at the construction phase and during the life of the development. The Council will encourage the provision of on-site waste management where this represents the best practicable environmental option.

2.4.2 Birmingham City Council Municipal Waste Management Strategy 2006-2026

The Birmingham Municipal Waste Management Strategy was adopted in November 2006 and defines the strategic vision for managing wastes in Birmingham over the period 2006 to 2026. The vision of the strategy is;

"To run a city that produces the minimum amount of waste that is practicable, and where the remainder is re-used, recycled or recovered to generate energy. The materials recovered through composting, recycling, re-use and from the energy recovery process will replace the need for extraction of virgin materials.

The waste management strategy will be sensitive to local needs and will provide a service to help Birmingham become as clean and green a city as it can be. Birmingham City Council and the Constituency partners will provide a service that citizens are pleased to support, and where there is malpractice or deliberate misuse of the service, that this is dealt with efficiently to maintain a clean, safe and healthy environment."

The strategy is supported by five objectives and specific targets relating to recycling and composting, waste minimisation and reducing the amount of waste landfilled.

In terms of recycling the Strategy recognises that BCC has doubled its rates of recycling and composting over five years from just over 8% in 2001/2 to around 17% of household waste in 2005/6 (pg. 6). In order to meet Government targets BCC has set the following targets to improve on its recycling and composting rates;

Target: To double the recycling and composting performance (from the current BVPI level of 17%) within five years (by 2011/12)

Target: To reach a 40% recycling and composting rate by the end of the Strategy period (by 2026)

With regards to waste minimisation the amount of household waste in Birmingham is recognised to be lower other metropolitan authorities, and its rate of growth has also been lower than the national growth. To demonstrate its ongoing commitment to waste minimisation BCC has set the following targets;

Target: Aim to be better than average, by reducing or exhibiting less growth in household waste relative to the average authority in England, year on year

Target: Aim to be consistently better than average for metropolitan authorities for household waste arisings per person

Finally, in terms of treatment and disposal, BCC currently recovers energy from the treatment of its waste at the Tyseley Energy from Waste (EfW) plant. It is envisaged this facility will continue to accept Birmingham's waste for the majority of the strategy period. With regards to diverting the amount of waste sent to landfill, BCC has consistently reduced the tonnage of municipal waste sent to landfill over recent years. In order to continue this, the strategy sets the following target'

Target: To be consistently among the best performers in England (top quartile) for sending a minimal amount of household waste to landfill throughout the strategy period.

Comment

The Birmingham City Council Municipal Waste Strategy is currently under review, it therefore likely some of the above targets may be adjusted in the revision. The existing recycling and composting targets currently fall short of Waste Strategy 2007 recycling and composting targets (see Section 2.2.1).

The requirement to meet municipal strategy targets will also involve ensuring that there is sufficient processing capacity within Birmingham to deal with the increased tonnages of material collected for recycling and composting.

2.4.3 Birmingham City Council Core Strategy DPD: Issues and Options (September 2008)

In autumn 2008, BCC undertook the first round of consultation on their Core Strategy Issues and Options Paper. Within the Issues and Options paper, three spatial options have been formed to consider the following three alternative options;

Option 1 - Continue to promote growth at current levels to meet the minimum housing target set in the Regional Spatial Strategy Phase 2 Revisions.

Option 2 - Concentrates upon significant housing redevelopment in the East and West of Birmingham in the form of Sustainable Urban Neighbourhoods to enable more housing growth without building in the Green Belt.

Option 3 - Enable more housing growth by expanding the urban area in either the North/North East and/or South of the city.

The Issues and Options Paper identified Objective 4 as needing to;

"meet the emerging RSS requirements for new housing as a minimum, and to secure a significant increase in the city's population, towards 1.1 million" (pg. 25).

BCC recognise that that RSS Phase 2 revision currently requires Birmingham to provide an additional 50,600 dwellings between 2006 and 2026 at a minimum. A higher aspirational target of approximately 65,000 dwellings would increase the likelihood of achieving the population growth in the context of the 'Growth Agenda' but would involve development in the Green Belt.

In terms of the three Options proposed:

- **Option 1** proposes 50,000 new dwellings in across specific areas of Birmingham. This is supported by employment opportunities around the Longbridge Technology Park. Core employment areas, such as Bromford and Tyseley, would be protected. Waste management initiatives to promote self sufficiency, encourage new facilities and promote waste reduction would be included.

- **Option 2** proposes 55,000 to 60,000 new dwellings in specific areas of Birmingham. Opportunities would be taken to create new employment sites where possible, through the process of redevelopment envisaged for the Eastern Corridor and in connection with other sustainable urban neighbourhoods. Waste management is as Option 1.

- **Option 3** proposes to provide up to 65,000 new dwellings in specific areas of Birmingham. The employment proposals contained in Options 1 and 2 would all be continued under this Option. The approach towards waste management and renewable energy would be as in Option 1.

The first round of consultation that has been undertaken will now inform the selection of the Preferred Option. The summary report of the consultation responses received dated May 2009 indicates that both Options 1 and 2 received significant support and Option 3 received little support (pg 6).

Comment

Whichever option is selected there is likely to be housing growth in Birmingham City over the duration of the Core strategy period. These housing growth projections should be incorporated into both municipal waste projections in the long term and construction and demolition waste projections in the short term (covering the construction phases).

When considering new build property, it is important that all new build properties have provision for the storage of recyclables, this should be taken account of in housing policy and development control guidelines. This is in line with policies SR1 - 4 in the RSS Phase 2 revision 'Towards a Sustainable Region'[11].

[11] West Midlands Regional Spatial Strategy Phase Two Revision Preferred Option , West Midlands Regional Assembly(December 2007)

3 Waste Arisings

3.1 Municipal Waste

3.1.1 Historical Municipal Waste Arisings

In 2008/09, approximately 543,600 tonnes of municipal waste was produced in Birmingham. When comparing historical trends in the amount of household waste generated/household/year, there has been a general decrease in the amount of household waste generated per household, as highlighted in Table 8. 2008/09 shows the lowest level of household waste generated at 1.09 tonnes/household/year. This decrease is likely to be due to waste minimisation activities and waste policies being implemented by Birmingham to reduce waste arisings, combined with factors such as the recession which effecting householders spending habits and associated levels of waste arising.

Table 8 Municipal waste arisings in Birmingham from 2000/01 to 2008/09

Year	Total household waste	Total non household waste	Total municipal waste	Municipal waste growth	ONS mid year housing projections[12]	Waste per household (Tonnes/ household/yr)
2000/01	450,492	85,863	536,355		391,000	1.15
2001/02	465,807	82,773	548,580	2.3%	395,000	1.18
2002/03	470,465	63,720	534,185	-2.6%	397,000	1.19
2003/04	452,587	98,855	551,442	3.2%	399,000	1.13
2004/05	467,600	101,063	568,663	3.1%	404,000	1.16
2005/06	457,621	102,834	560,455	-1.4%	407,000	1.12
2006/07	466,618	103,973	570,591	1.8%	411,000	1.14
2007/08	471,415	94,132	565,547	-0.9%	415,000	1.14
2008/09	459,418	84,227	543,645	-3.9%	420,000	1.09

3.1.2 Future Waste Arisings

In order to predict future Municipal Waste arisings up to 2025/26, reference was made to the three different options for housing growth in Birmingham being considered in the development of Birmingham City Council's Core Strategy[13] and the additional household growth option recommended by the panel for the Regional Spatial Strategy (RSS), summarised in Table 9. The assumed breakdown of additional household per year is provided in Appendix 1.

[12] http://www.communities.gov.uk/housing/housingresearch/housingstatistics/housingstatisticsby/householdestimates/livetables-households/ Accessed 03/09/09

[13] The Birmingham Plan Core Strategy Issues and Options, Birmingham City Council (September 2008).

Table 9 Options for housing growth being considered in Birmingham

Option	Description	Proposed additional households up to 2026
1 (a)	No change to current policy approach & no change to green belt boundary	50,000
2 (b)	Higher levels of housing growth than minimum RSS figure but without any physical expansion of built up area of the city/ building on the green belt.	55,600
(c)	Panel recommended housing growth figure for RSS	57,500
3 (d)	Higher level of housing growth than Option 2, partly accommodated through extension into the green belt areas.	65,000

Three scenarios of how waste arising per household may change in the future were generated, including:

- **Scenario 1** - No change in waste arising/household/year from 2008/09 levels with non-household waste levels remain constant;
- **Scenario 2** - Variation over time in level of waste arising/household/year based on the historical trend with non household waste levels remain constant; and
- **Scenario 3** - Levels of household waste growth as per targets in Birmingham City Council's Municipal Waste Management Strategy (which is based on anticipated household growth) and with non household levels remain constant.

This results in nine different growth projections for municipal waste were made, when combining the three scenarios for waste growth per household with the proposed growth in number of households, Table 10.

Table 10 Municipal waste growth projection scenarios

Scenario		Assumption	Option 1 housing growth a	Option 2 housing growth b	RSS housing growth c	Option 3 housing growth d
1	No change in waste arising/hhld/yr from 2008/09 levels	*Household waste: 1.09 tonnes/hhld/yr*	1a	1b	1c	1d
2	Variation with time in waste arisings/hhld/yr following linear trend in historic waste arisings/ hhld/yr from 2000/01.	*Household waste: linear trend y=-0.0079x + 1.1836 (where x is year)*	2a	2b	2c	2d
3	Birmingham Waste Strategy Targets	*Year* / *Hhld waste growth rate* *2007/8 - 2009/10* *2.00%* *2010/11 - 2012/13* *1.50%* *2013/14 - 2015/16* *1.00%* *2016/17 - 2026/27* *0.50%*	3			

Note:

Non household waste was assumed to be constant across all scenarios and years at 91,000 tonnes/annum

The growth rates used for different scenarios are provided in Table 10. Based on these assumptions municipal waste is predicted to increase from 543,600 tonnes in 2008/09 to between **544,700 - 614,900 tonnes/annum by 2025/26** (Figure 9 - Figure 11), which represents an increase in municipal waste arisings of between 0.2 – 13.1% over the period, Table 11.

Table 11 Municipal waste projections 2008/09 – 2025/26 for different scenarios

Scenario	Tonnes/annum				% increase 08/09 – 25/26
	2008/09	2014/15	2019/20	2025/26	
Scenario 1					
1a	543,600	561,900	578,400	598,300	10.1%
1b	543,600	561,900	581,000	603,800	11.1%
1c	543,600	561,900	581,900	605,800	11.4%
1d	543,600	561,900	585,600	614,100	13.0%
Scenario 2					
2a	543,600	549,500	548,000	544,700	0.2%
2b	543,600	549,500	550,400	549,600	1.1%
2c	543,600	549,500	551,200	551,400	1.4%
2d	543,600	549,500	554,700	558,700	2.8%
Scenario 3					
3	543,600	584,100	599,300	614,900	13.1%
Note: Figures rounded to the nearest 100 tonnes					

Figure 9 Scenario 1 - Municipal waste growth projection (2006-07 – 2025-26)

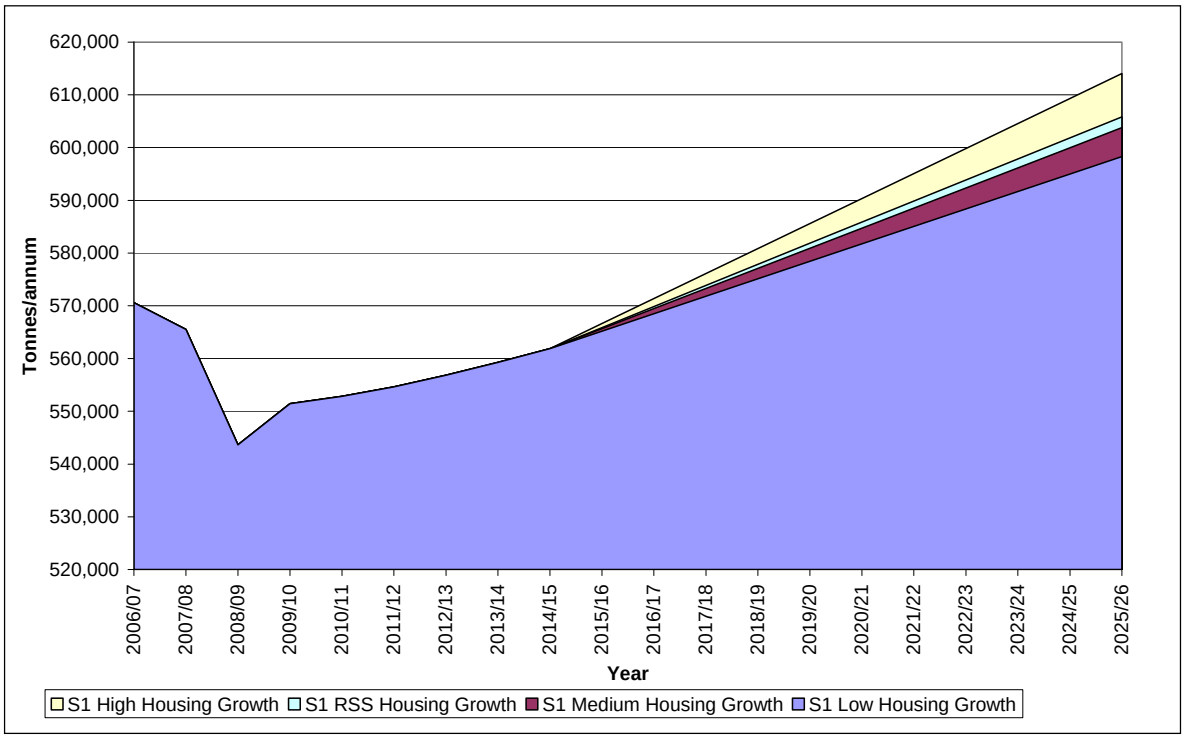


Figure 10 Scenario 2 - Municipal waste growth projection (2006-07 – 2025-26)

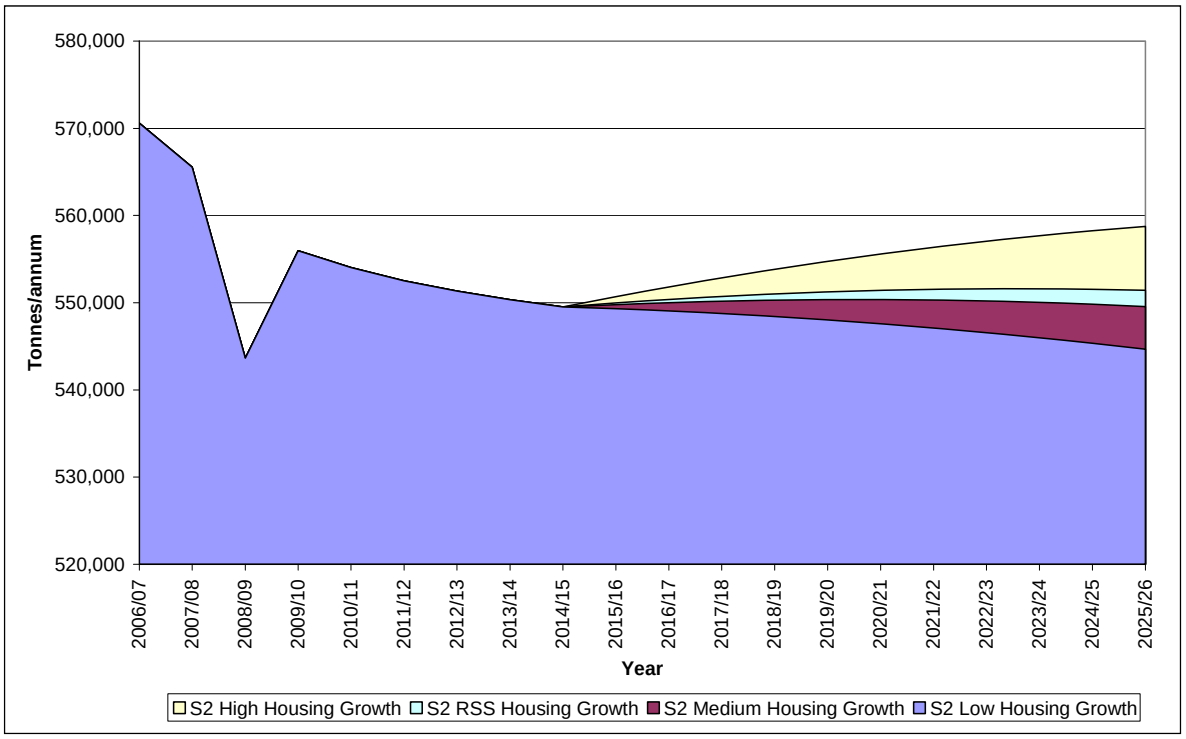
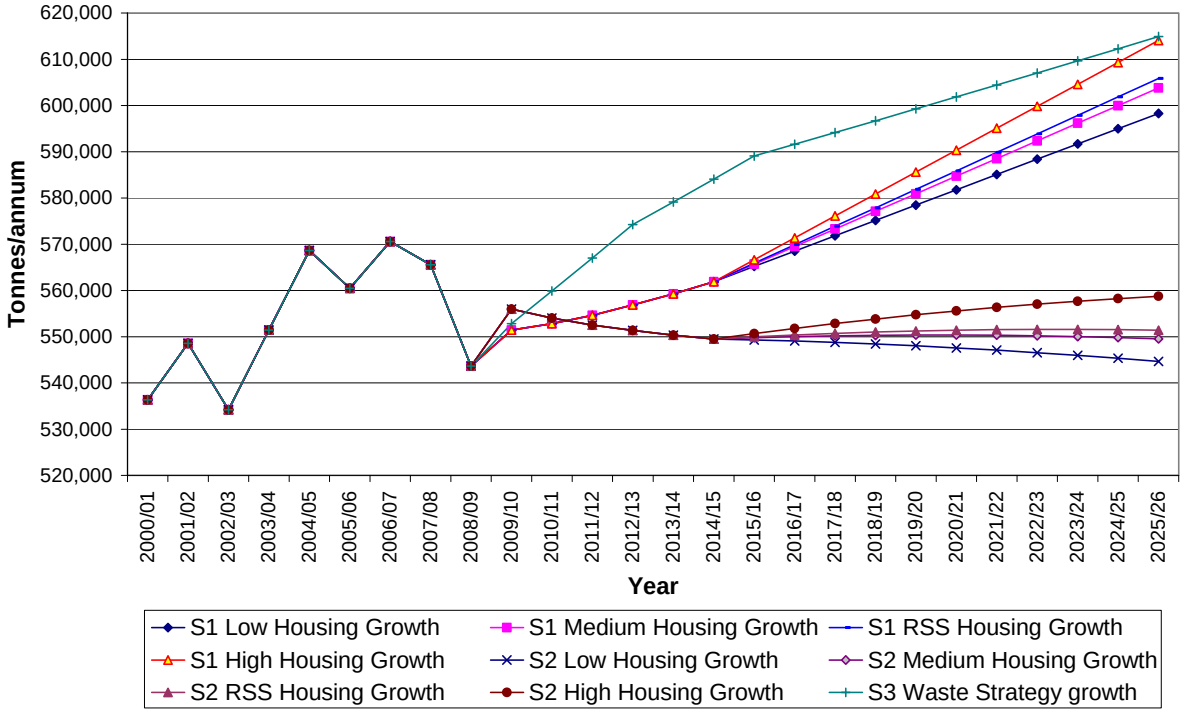


Figure 11 Municipal waste growth projection (2000-01 – 2025-26) all scenarios



3.2 Commercial and Industrial Waste

3.2.1 Commercial and Industrial Arisings

In 2006/07 it was estimated that 968,000 tonnes of Commercial and Industrial (C&I) waste arose in Birmingham[14]. Table 12 provides a breakdown of waste arising by Standard Industry Classification (SIC), of which approximately a third of waste was produced from the sector 'Other Services', which includes waste from the hotel and catering industry as well as travel agents, estate agents etc. The smallest quantity of waste came from the power and utilities sector.

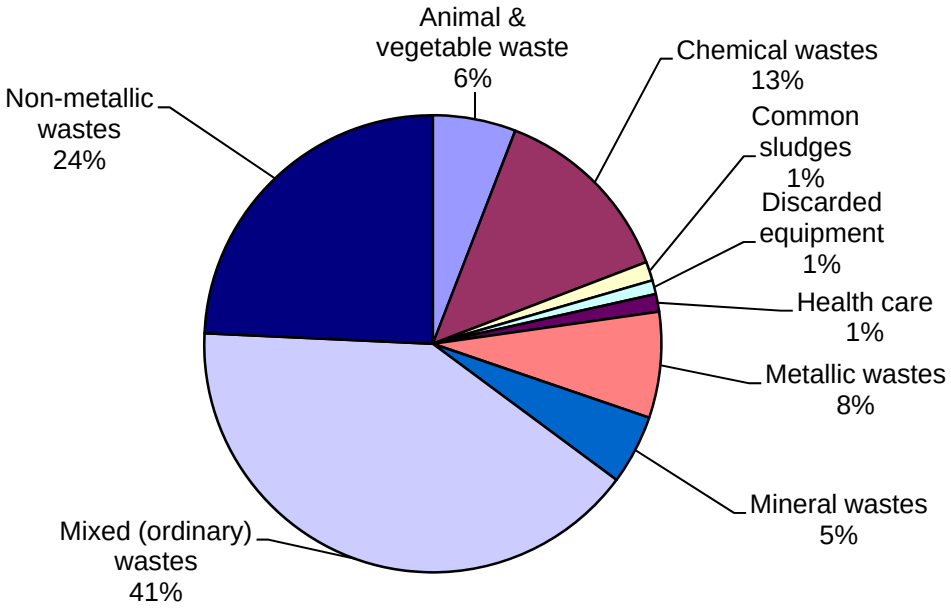
A breakdown of the type of waste generated, by Substance Oriented Classification 'SOC', is provided in Figure 12 . Over 40% of the waste generated fell into the category of mixed 'ordinary' waste, this waste is similar in composition to municipal waste. A further breakdown of the type of waste produced by SOC and SIC is provided in Appendix 1.

Table 12 Breakdown of C&I arisings in 2006/07 by SIC[14]

SIC Sector	tonnes	% of total
Food, drink & tobacco	32,482	3.4%
Textiles/ wood/ paper/ publishing	33,687	3.5%
Power & Utilities	3,407	0.4%
Chemical/ non-metallic minerals	76,446	7.9%
Metal manufacturing	109,134	11.3%
Machinery & equipment (other manufacturing)	82,986	8.6%
Retail & wholesale	227,899	23.6%
Other services	316,378	32.7%
Public sector	85,263	8.8%
Total	967,681	100%

[14] Study into Commercial and Industrial Waste Arisings. Report for the East of England Regional Assembly, ADAS (April 2009)

Figure 12 Breakdown of C&I arisings in 2006/07 by Substance Oriented Classification (SOC)



3.2.2 Future Waste Arisings

In order to predict future C&I waste arisings, data on arisings in Birmingham was taken from the national C&I study for the East of England Regional Assembly[14]. The waste data for 2006/07, Table 12, was combined with Birmingham employment information from the Local Economic Forecasting Model (LEFM) [15], to generate an average waste per employee by sector type, Table 13.

Table 13 Waste per employee by sector

SIC Sector	Waste/employee (tonnes/annum)
Food, drink & tobacco	6.42
Textiles/ wood/ paper/ publishing	5.13
Power & Utilities	1.50
Chemical/ non-metallic minerals	13.98
Metal manufacturing	8.34
Machinery & equipment (other manufacturing)	5.54
Retail & wholesale	2.83
Other services	1.69
Public sector	0.56

[15] LEFM breakdowns number of employees by sector and forecasts how the number of employees by sector may change in the future

Two scenarios were considered when forecasting future C&I arisings:

- Scenario 1: The data on waste per employee in 2006/07 was combined with annual employment data by sector in the LEFM to predict future C&I waste arisings, Table 14.

- Scenario 2: Due to the current forecasts in the LEFM being linked the current recession, a second scenario taking the more optimistic employment forecasts used in the Regional Spatial Strategy (RSS) was also considered, Table 15.

Based on information on employee data taken from the LEFM (Scenario 1), C&I arisings are predicted to decrease from 2006/07 levels by nearly 12% in 2025/26, with the greatest decreases in waste arising seen in the manufacturing sectors, Table 14. The only sectors seeing an increase in employment and therefore the levels of waste generated is office services and the public sector.

Table 14 C&I arisings by sector based on LEFM employment forecasts (Scenario 1)

SIC Sector	2006/07	2009/10	2014/15	2019/20	2025/26	% increase 06/07 – 25/26
Food, drink & tobacco	32,500	30,100	29,100	28,600	27,900	-14.2%
Textiles/ wood/ paper/ publishing	33,700	28,900	27,100	25,300	23,200	-31.2%
Power & Utilities	3,400	3,700	3,200	2,700	2,300	-32.4%
Chemical/ non-metallic minerals	76,400	63,100	59,100	50,500	38,400	-49.7%
Metal manufacturing	109,100	98,200	91,800	87,900	83,700	-23.3%
Machinery & equipment (other manufacturing)	83,000	73,700	65,700	57,100	47,800	-42.4%
Retail & wholesale	227,900	216,100	215,400	216,400	218,400	-4.2%
Other services	316,400	303,000	302,900	310,600	320,200	1.2%
Public sector	85,300	84,800	86,000	88,400	91,000	6.7%
TOTAL	967,700	901,600	880,300	867,500	853,000	-11.9%

By contrast, taking employment forecasts used in the RSS which were predicted before the recession, C&I arisings are estimated to increase from 2006/07 levels by nearly 15% by 2025/26, Table 15. The RSS looked at the anticipated number of jobs created in the city centre, east, south and north of Birmingham in the offices, retail and wholesale, hotel and catering and industrial and warehousing. As these employment categories were much broader than the categories in the LEFM, the RSS figures for industry were apportioned based on the percentage split of industrial categories in the LEFM model.

Table 15 C&I arisings by sector based on RSS employment forecasts (Scenario 2)

SIC Sector	2006/07	2009/10	2014/15	2019/20	2025/26	% increase 06/07 – 25/26
Food, drink & tobacco	32,500	33,000	34,000	35,100	36,500	12.3%
Textiles/ wood/ paper/ publishing	33,700	34,200	35,200	36,200	37,300	10.7%
Power & Utilities	3,400	3,500	3,600	3,700	3,800	11.8%
Chemical/ non-metallic minerals	76,400	77,700	79,800	81,800	83,900	9.8%
Metal manufacturing	109,100	111,000	114,200	117,500	121,700	11.5%
Machinery & equipment (other manufacturing)	83,000	84,400	86,800	89,000	91,500	10.2%
Retail & wholesale	227,900	235,600	248,400	261,200	276,500	21.3%
Other services	316,400	323,700	335,900	348,000	362,500	14.6%
Public sector	85,300	87,300	90,700	94,200	98,300	15.2%
TOTAL	**967,700**	**990,500**	**1,028,500**	**1,066,500**	**1,112,000**	**14.9%**

3.3 Construction, Demolition & Excavation Waste

The Construction and Demolition (CD&E) sector is the hardest sector, in comparison to the MSW and C&I waste, to acquire accurate figures on waste arisings. This in part is due to reduced reporting requirements to government bodies and agencies from the industry and a general poor response to any arisings surveys commissioned. In order to ensure a consistent approach to analysing trends with CD&E arisings, data was taken from Communities and Local Government (CLG) reports commissioned every two years along with information from a report for the West Midlands Regional Assembly[16] and supplemented with additional market data where available.

In April 2008 new regulations came into effect which mean any company intending to carry out a construction project on one site with an estimated cost of greater than £300,000 has a requirement to prepare, update and implement a Site Waste Management Plans (SWMP). SWMP were introduced to improve material resource efficiency and ensure contractors forecast and then monitor as the project progresses quantities of waste generated and their fate e.g. recycling, recovery, reuse, disposal. Enforcement powers are given to Local Authorities and the Environment Agency to check that companies are adhering to the regulations. As yet there is not organisation collating data from the SWMPs, although in the future SWMPs could be a useful tool for assessing the recovery and management of waste for certain construction projects.

3.3.1 CD&E Arisings

In 2006/07 it was estimated that over 1.65 million tonnes of CD&E waste arose in Birmingham[16].

A breakdown of the different methods of management for CD&E waste over the period 2001- 2005 in the West Midlands is provided in Table 16. The use of CD & E waste for recycled aggregate or soil saw an increase from 2001 level of 50% to 2003 level of 61%, however in 2005 this dropped back down to 50% of total CD & E arisings. It is possible this is linked to the material used at exempt sites and methods by which data is reported.

[16] West Midlands Waste Facilities Phase 2:Future Capacity Requirements. Report for West Midlands Regional Assembly, Shropshire County Council (2004)

There has been a change to how tonnages were reported in the 2005 CLG report with '*material used to back-fill quarry voids*' now being '*reported under material disposed of at landfills*' Combining these two categories shows that the amount of material used/disposed of at landfill shows an increase of 6% from 2001 – 2003 followed by a 11% decrease between 2003 and 2005.

Table 16 Trends in Methods of Management for CD&E Waste in West Midlands[17]

Method of Management	% breakdown		
	2001[18]	2003[19]	2005
Recycled aggregate & soil	49.6%	60.7%	50.0%
Material used for landfill engineering or restoration	12.1%	6.7%	8.4%
Material used to back fill quarry voids	12.7%	14.0%	0.0%
Material used at exempt sites	21.0%	9.6%	29.6%
Material disposed of at landfills	4.6%	9.0%	12.0%
TOTAL	**100%**	**100%**	**100%**

3.3.2 Future Waste Arisings

In order to predict future waste arisings for CD&E waste, two scenarios were considered:

- **Scenario 1:** was taken from a previous West Midlands study in 2004[16] which predicted future arisings based on information in the 2003 CLG report[17] and used a disaggregation index based on RPG policy on existing and future housing development rates.
- **Scenario 2:** due to the current economic downturn, a second growth scenario was considered for CD&E arisings.

Latest headlines suggest that the construction industry is facing its sharpest decline for 30 years with little prospect of a turnaround in the short term[20]. Therefore, a number of assumptions regarding growth rates in the CD&E sector were made based on current market news and information. Whilst this information is not specific to Birmingham, its application to Birmingham arisings is considered as a good comparison with growth rates linked to reports produced before the economic downturn.

The key headlines regarding construction output and activity, which have been used as a basis to inform waste growth projections for Scenario 2, are:

- Output set to fall 9% in 2009 and further 4% in 2010.[21]
- By 2013 industry will have recovered to the output levels seen in 2003 and 8% below that 2008.[22]
- A forecast drop of more than 12% from peak to trough.[22]
- Public sector only sector predicted to grow spending on education expected to grow 28% over next 2 years.[21]
- Industry is not expected to increase until 2nd half of 2010 when recovery expected to gather pace slowly as increasing private sector is offset by cutbacks in public spending.[21]

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17 Survey of Arisings and Use of Alternatives to Primary Aggregates in England, 2005 Construction, Demolition and Excavation Waste, CLG (February 2007)

18 Survey of Arisings and Use of Construction, Demolition and Excavation Waste in England 2001, ODPM (October 2002)

19 Survey of Arisings and Use of Construction, Demolition and Excavation Waste in England 2003, ODPM (October 2004)

20 'Construction Industry Facing Bleak 2009' -Press release from Construction Products Association – 5th February 2009.

21 'Construction Output Falling Faster Than at Any Time Since Early 80s' - Press release from Construction Products Association – 12th January 2009.

22 http://www.contractjournal.com/blogs/brickonomics/2009/01/forecast-puts-construction-rec.html - accessed 24/02/09

Table 17 Growth Rate Assumptions used for CD&E arising projections (Scenario 2)

Year	Growth Rate assumptions
2003-08	8% increase
2008/09	9% decrease
2009/10	4% decrease
2010/11	Level
2012/13	equal 2003 levels which are 8% lower than 2008
2013-20	0.5% growth

As discussed, the construction industry is experiencing a sharp decline in activity at the current time and recovery is expected to be slow. By 2026 there is projected to be in the range of 1.5 – 1.7 million tonnes per annum of CD&E waste generated in Birmingham, Table 18. Based on Scenario 1 this is a estimated 3% increase in CD&E arisings on 2006/7 levels by 2025/26. However, Scenario 2 represents a 7% reduction by 2026 compared to levels of construction activity and associated levels of waste in 2006/07.

Table 18 CD&E waste arising projection

Waste Generation	2006/07	2009/10	2014/15	2019/20	2025/26
Scenario 1	1,655,700	1,727,500	1,712,200	1,712,200	1,712,200
Scenario 2		1,516,800	1,451,500	1,488,100	1,495,500

3.4 Hazardous Waste

3.4.1 Special/Hazardous Waste Arisings and Deposits 2000 to 2007

All the data presented is from the Environment Agency. It should be noted that there is no data available for 2005 due to the change in the definition from special to hazardous waste.

Figure 13 shows the trend in special/hazardous waste arisings in Birmingham between 2000 and 2007, with Table 19 and Figure 1 providing a breakdown of the arisings over the same period by European Waste Catalogue (EWC) Chapter Headings. Appendix 4 provides the trends in arisings for each EWC Chapter Heading between 2000 and 2007.

Figure 13 Trend in special/hazardous waste arisings in Birmingham between 2000 and 2007

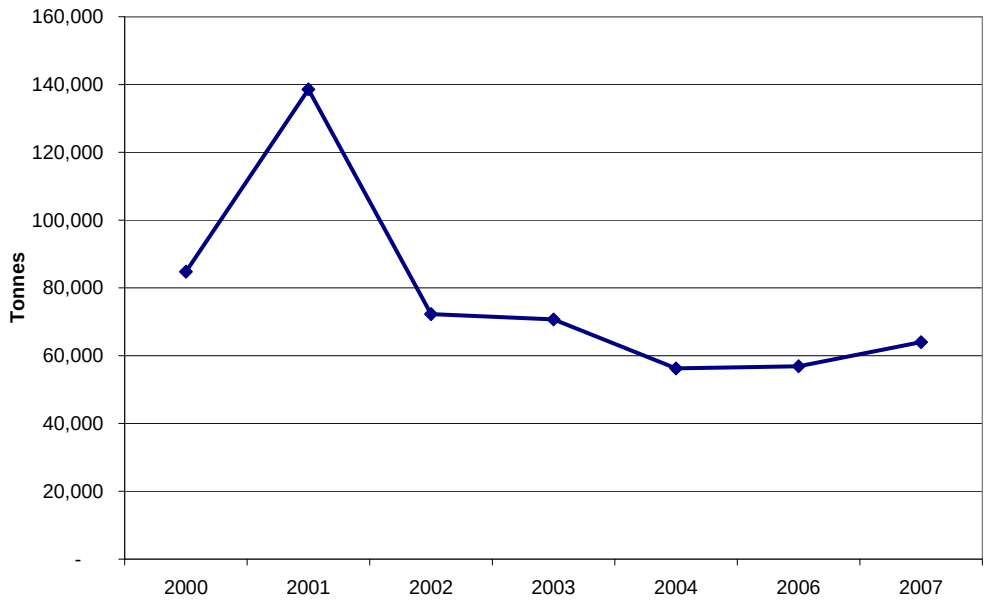


Table 19 Breakdown of special/hazardous waste arisings in Birmingham between 2000 and 2007 ('000s tonnes)

EWC Chapter Headings	2000	2001	2002	2003	2004	2006	2007
01: Mining and Minerals	-	-	-	-	0.1	<0.1	<0.1
02: Agricultural and Food Production	<0.1	0.1	<0.1	<0.1	<0.1	-	<0.1
03: Wood and Paper Production	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	-
04: Leather and Textile Production	0.1	<0.1	<0.1	-	<0.1	-	-
05: Petrol, Gas and Coal Refining/Treatment	0.1	0.6	<0.1	<0.1	<0.1	<0.1	0.2
06: Inorganic Chemical Processes	12.6	12.4	5.4	4.8	4.4	2.2	0.6
07: Organic Chemical Processes	2.2	15.3	1.7	0.9	0.9	0.4	0.3
08: MFSU Paints, Varnish, Adhesive and Inks	5.9	4.5	2.8	3.2	1.6	1.5	1.1
09: Photographic Industry	<0.1	0.4	<0.1	<0.1	<0.1	0.3	0.2
10: Thermal Process Waste (inorganic)	9.3	10.3	8.2	1.5	1.5	2.3	1.5
11: Metal Treatment and Coating Processes	4.8	13.8	3.7	4.3	4.9	3.1	4.9
12: Shaping/Treatment of Metals and Plastics	7.4	8.6	5.7	6.6	4.0	2.9	3.8
13: Oil and Oil/Water Mixtures	18.2	24.1	13.4	10.8	9.9	12.5	10.4
14: Solvents	0.2	0.4	0.3	0.2	0.3	0.3	0.2
15: Packaging, Cloths, Filter Materials	2.7	2.9	1.9	2.5	2.9	0.8	0.8
16: Not Otherwise Specified	3.7	4.4	3.2	6.0	4.7	4.4	4.5
17: CD&E Waste and Asbestos	10.1	14.2	12.1	12.2	10.4	9.2	17.0
18: Healthcare	0.1	0.5	0.1	<0.1	<0.1	5.0	5.0
19: Waste/Water Treatment and Water Industry	5.0	19.9	9.3	8.9	5.2	9.7	10.8
20: Municipal and Similar Commercial Wastes	0.8	0.8	1.0	0.5	0.5	2.3	2.7
99: Unclassified	1.7	5.3	3.4	8.1	4.9	-	-
TOTAL	**84.8**	**138.6**	**72.3**	**70.7**	**56.2**	**56.9**	**64.0**

Table 20 provides the breakdown of the generic waste management methods used to manage the hazardous waste arising in Birmingham in 2007 by region of deposit. Table 21 provides the breakdown of hazardous waste which was deposited in Birmingham in 2007 by EWC code.

Table 20 Breakdown of generic waste management methods by regional of deposit for hazardous waste arisings in the Birmingham in 2007

Region of Deposit	Incineration with energy recovery	Incineration without energy recovery	Landfill	Long term storage	Recycling / reuse	Rejected	Transfer (D)	Transfer (R)	Treatment	Total
East Midlands	148	6	568	-	643	-	124	315	36	**1,840**
East of England	-	-	214	-	136	-	158	63	45	**615**
London	-	0	-	-	10	-	0	16	-	**26**
North West	1	37	2,126	7,372	411	-	196	126	4,144	**14,414**
South East	-	13	62	-	89	-	29	9	22	**224**
South West	0	1	743	-	237	-	96	12	172	**1,260**
Wales	-	49	-	-	1,983	-	5	15	716	**2,768**
West Midlands	268	656	11,387	-	5,073	6	5,161	4,673	13,255	**40,479**
Yorkshire & Humber	18	1	14	-	193	0	152	60	1,946	**2,383**
Total	**435**	**763**	**15,113**	**7,372**	**8,775**	**6**	**5,921**	**5,288**	**20,335**	**64,008**

Table 21 Breakdown of generic waste management methods for hazardous waste deposited in Birmingham in 2007

EWC Chapter Headings	Incineration with energy recovery	Incineration without energy	Recycling / reuse	Transfer (D)	Transfer (R)	Treatment	Total
01: Mining and Minerals	-	-	-	-	101	-	**101**
02: Agricultural and Food Production	-	-	-	-	-	-	**-**
03: Wood and Paper Production	-	-	-	-	2	-	**2**
04: Leather and Textile Production	-	-	-	-	-	-	**-**
05: Petrol, Gas and Coal Refining/Treatment	-	-	-	232	-	-	**232**
06: Inorganic Chemical Processes	-	-	8	37	4	8	**57**
07: Organic Chemical Processes	821	-	3,355	7	<1	-	**4,183**
08: MFSU Paints, Varnish, Adhesive and Inks	-	-	607	5	35	-	**647**
09: Photographic Industry	-	-	-	3	13	-	**16**
10: Thermal Process Waste (inorganic)	-	-	-	1	10	-	**11**
11: Metal Treatment and Coating Processes	-	-	511	1	42	42	**596**
12: Shaping/Treatment of Metals and Plastics	-	-	101	-	29	-	**130**
13: Oil and Oil/Water Mixtures	-	-	699	964	12	-	**1,675**
14: Solvents	5	-	6	24	8	-	**43**
15: Packaging, Cloths, Filter Materials	634	-	21	49	262	-	**966**
16: Not Otherwise Specified	322		1,427	103	4,187	14	**6,054**
17: CD&E Waste and Asbestos	-	-	-	91	16	<1	**106**
18: Healthcare	3,500	115		743		2,587	**6,945**
19: Waste/Water Treatment and Water Industry	-	-	558	13	200	-	**771**
20: Municipal and Similar Commercial Wastes	203	-	1,760	<1	144	-	**2,106**

3.4.2 Future Hazardous Waste Arisings

In 2005, the definition changed from special to hazardous waste and there were certain wastes streams which significantly increased as a result of this change (e.g. Chapter 18: Healthcare and Chapter 20: Municipal and Similar Commercial Wastes). Many of the other waste streams have remained relatively static since the change in definition. However the current economic climate is likely to have an impact on the production of hazardous waste in the short term, as the down turn in production and the reduced construction activity will affect arisings. The implications for the estimated future arisings are discussed in Table 22.

Based on this analysis, it is estimated that the annual hazardous waste arising in the future will be in the range 49,000 to 72,000 tonnes.

If it is assumed that there is 10% reduction where there is a “Potential downturn in production” as a result of the recession, but reduction of 25% in Chapter 16 waste and 60% in Chapter 17 waste, the potential hazardous waste arisings over the next couple of year could be in the range 41,000 to 58,000 tonnes. However as the economy recovers the arisings are likely return to the higher estimates.

Waste reduction/prevention activities could have an impact on the overall arising, however historically such benefits are often cancelled out by changes in definitions.

3.5 Radioactive Waste

Radioactive waste is not ‘controlled waste’ under UK legislation. However, WPAs should make note in their Local Development Framework that disposal requirements for such wastes may arise from time to time. The Environment Agency in England regulates the disposal of radioactive waste. A number of organisations within Birmingham have permits (known as authorisations) that allow the accumulation and disposal of radioactive waste. For completeness, details of the organisations holding authorisations are included in Appendix 5. None of the facilities receiving radioactive waste from these organisation are in Birmingham. Although there is a small number of authorisations WPAs need to consider how they should cover the proposed generic requirements for high volume very low-level radio-active waste (VLLW) and low-level radio-active waste (LLW) disposals when they prepare RSSs and LDFs. However, the need for future treatment/disposal capacity for radioactive waste is not considered in this report.

Table 22 Estimated Annual Future Arisings of Hazardous Waste (tonnes)

EWC Chapter Headings	Comment	Potential Range			Impact of Recession
01: Mining and Minerals	Long term average declining but low arisings	0	to	25	Limited
02: Agricultural and Food Production	No/limited arisings	0	to	25	Limited
03: Wood and Paper Production	No/limited arisings	0	to	25	Potential downturn in production
04: Leather and Textile Production	No/limited arisings	0	to	-	Potential downturn in production
05: Petrol, Gas and Coal Refining/Treatment	Trend since 2002 relatively constant, although increase in 2007	25	to	200	Limited
06: Inorganic Chemical Processes	Steady decrease in arisings since 2000	500	to	2,500	Potential downturn in production
07: Organic Chemical Processes	Trend since 2002 relatively constant	250	to	750	Potential downturn in production
08: MFSU Paints, Varnish, Adhesive and Inks	Steady decrease in arisings since 2000	1,000	to	2,000	Potential downturn in production
09: Photographic Industry	Increase in 2006 as a result of definition change, although likely reduction in future due to technology change i.e. move to digital photography	25	to	300	Limited
10: Thermal Process Waste (inorganic)	Trend since 2003 relatively constant	1,500	to	2,250	Potential downturn in production
11: Metal Treatment and Coating Processes	Trend since 2002 relatively constant	3,000	to	5,000	Potential downturn in production
12: Shaping/Treatment of Metals and Plastics	Steady decrease in arisings since 2000	2,750	to	4,000	Potential downturn in production
13: Oil and Oil/Water Mixtures	Trend since 2002 relatively constant	9,750	to	12,500	Potential downturn in production
14: Solvents	No consistent trend	175	to	300	Potential downturn in production
15: Packaging, Cloths, Filter Materials	Significant reduction since 2006	750	to	1,000	Potential downturn in production
16: Not Otherwise Specified[1]	Trend since 2004 relatively constant	4,250	to	5,000	Likely downturn due to reduced consumer demand for EEE and cars
17: CD&E Waste and Asbestos	Reductions since 2001 but significant increase in 2007, arisings are related to the level of construction and the sites being used.	9,000	to	17,000	Likely to be significant downturn
18: Healthcare	Step change due to change in definition Increase to be maintained	4,750	to	5,250	Limited
19: Waste/Water Treatment and Water Industry	Trend since 2002 relatively constant	9,000	to	11,000	Downturn in production may cause reduction
20: Municipal and Similar Commercial Wastes	Step change due to change in definition Increase to be maintained	2,250	to	3,000	Limited
	Total (rounded to nearest 1000)	**49,000**	**to**	**72,000**	

4 Assessment of existing waste management and treatment facilities including exempt facilities

The Environmental Permitting Regulations introduces a system for environmental permits for industrial activities and waste operations, including treating, keeping and disposing of waste. Environmental permits set out conditions under which waste management facilities must operate. However, certain activities, generally related to recovery and temporary storage of waste, can be exempt from the requirement to hold an Environmental Permit. Part 1 of Schedule 3 to the Environmental Permitting (England and Wales) Regulations 2007, lists and describes the waste operations which do not require an environmental permit, providing that the establishment or undertaking carrying them out has registered that exemption where required with the Environment Agency.

4.1 Assessment of existing permitted waste facilities

In order to assess the number and capacity of existing waste facilities within Birmingham, data was obtained from the Environment Agency on permitted facilities operating within the Birmingham City Council boundary. The following information was requested:

- Location of existing waste management facilities, including post code;
- Type of facility e.g. transfer station; and
- Permitted capacity and actual capacity throughput.

The data received from the Environment Agency was assessed and any non operational sites removed from the list. Information on the number of operational permitted facilities by site category is provided in Table 23, 106 permitted waste facilities are recorded as being operational in Birmingham. A map showing the location of waste facilities is provided in Appendix 7. The majority of facilities are either:

- A11: Household, Commercial and Industrial Waste Transfer Stations – 36 facilities; or;
- A19a: End of Life Vehicle (ELV) Facilities – 31 facilities.

No landfills are recorded as being operational in Birmingham City Council boundary.

Table 23 Number of operational permitted facilities by site category in Birmingham

Facility type	Site Category	Site Type	Number of Facilities
A9: Special Waste Transfer Station	Transfer	Waste Transfer	8*
A11: Household, Commercial & Industrial Waste Transfer Station	Transfer	Waste Transfer	36
A12: Clinical Waste Transfer Station	Transfer	Waste Transfer	3
A14: Transfer Station taking Non-Biodegradable Wastes	Transfer	Waste Transfer	2
A15: Material Recycling Treatment Facility	Treatment	Material Recycling Facility (MRF)	3
A16: Physical Treatment Facility	Treatment	Physical Treatment	1
A17: Physico-Chemical Treatment Facility	Treatment	Physical-Chemical Treatment	1*
A19: Metal Recycling Site (Vehicle Dismantler)	MRS	Car Breaker	5
A19a : ELV Facility	MRS	Car Breaker	31
A20 : Metal Recycling Site (mixed MRS's)	MRS	Metal Recycling	7
A21: Chemical Treatment Facility	Treatment	Chemical Treatment	2
A22: Composting Facility	Treatment	Composting	2
A23: Biological Treatment Facility	Treatment	Biological Treatment	1
S0820 : Vehicle depollution facility	Treatment		1
Incinerators with permits for waste installations			1
Treatment sites with permits for waste installations			2
TOTAL			**106**
* One facility was moved from A17 to A9 on assessment of the nature of waste/activity in the waste return information			

The tonnage of waste received at operational sites was analysed based on waste returns made to the Environment Agency for 2007. The Environment Agency permitting system issues facilities with a permitted band as to the quantity of waste a facility can handle. Therefore, assumptions had to be made as to the maximum tonnage of waste which could be accepted under each of the bands, Table 24.

Table 24 Assumed annual permitted capacity under tonnage bands

Permitted tonnage band		Assumed permitted capacity (tonnes/annum)
<2,500		2,499
<5,000		4,999
>5,000 and <25,000		24,999
>25,000 and <75,000		74,999
>75,000*	*Site type:*	
	A9	100,000
	A11	72,500
	A20	190,000
	A23	57,500
* For sites in the >75,000 tonnage category the average throughput figure was taken as the assumed permitted capacity for each of the respective facility types.		

33 sites had no waste return information for 2007, this is likely to be because they have become operational since 2007 or due to the type of permit/tonnage band they are licensed for e.g. A19 <2,500 tonnes/annum. For these sites an estimate of tonnage throughput was made, based on the average tonnage throughput for sites where data was reported and which were licensed in the same permitted tonnage band, Table 25. A list of the sites where estimates were made is provided in Appendix 5.

Table 25 Average tonnage throughput by facility type for different permitted tonnage bands

Facility type	Permitted tonnage band				
	<2,500	<5,000	>5,000 to <25,000	>25,000 to <75000	>75,000
A9: Special Waste Transfer Station		565	2,096	274	101,031
A11: Household, Commercial & Industrial Waste Transfer Station		1,207	9,222	39,321	72,389
A12: Clinical Waste Transfer Station		638	5,229		
A14: Transfer Station taking Non-Biodegradable Wastes		2,301		14,519	
A15: Material Recycling Treatment Facility		890			
A16: Physical Treatment Facility			3,561		
A19: Metal Recycling Site (Vehicle Dismantler)	250	143			
A20: Metal Recycling Site (mixed MRS's)		1,063	7,957		189,098
A21: Chemical Treatment Facility		210	24,427		
A22: Composting Facility		686			
A23: Biological Treatment Facility					57,479

An assessment was made of the tonnage facilities were permitted to take on an annual basis in order that a comparison could be made of actual throughput against licensed capacity. Based on 2007 waste returns to the Environment Agency, it is estimated that 2.3 million tonnes of waste were managed at permitted waste facilities in Birmingham, Table 26. When comparing this to actual permitted capacity of 3.4 million tonnes, this would infer theoretically only 67% of available permitted capacity is being utilised. However, realistically some facilities may not have the infrastructure to operate at their maximum tonnage under their permitted tonnage band.

Table 26 Tonnage throughput at facilities based on 2007 waste returns

Type	No. of facilities	Actual tonnage throughput		Permitted tonnage		Theoretical % of capacity used
		Total by facility type	Average tonnage/ facility	Total by facility type	Average tonnage/facility	
A9: Special Waste Transfer Station	8	105,643	13,205	292,493	36,562	36%
A11: Household, Commercial & Industrial Waste Transfer Station	36	1,186,463	32,957	1,704,974	47,360	70%
A12: Clinical Waste Transfer Station	3	6,504	2,168	34,997	11,666	19%
A14: Transfer Station taking Non-Biodegradable Wastes	2	16,819	8,410	79,998	39,999	21%
A15: Material Recycling Treatment Facility	3	2,670	890	14,997	4,999	18%
A16: Physical Treatment Facility	1	3,561	3,561	24,999	24,999	14%
A17: Physico-Chemical Treatment Facility	1	50,000		74,999	74,999	67%
A19 : Metal Recycling Site (Vehicle Dismantler)	5	752	150	24,995	4,999	3%
A19a : ELV Facility	31	57,153	1,844	157,469	5,080	36%
A20 : Metal Recycling Site (mixed MRS's)	7	397,298	56,757	442,495	63,214	90%
A21 : Chemical Treatment Facility	2	24,637	12,319	29,998	14,999	82%
A22 : Composting Facility	2	1,372	686	9,998	4,999	14%
A23 : Biological Treatment Facility	1	57,479	57,479	57,500	57,500	100%
S0820 : Vehicle depollution facility	1	250	250	2,499	2,499	10%
Incinerators with permits for waste installations	1	359,129	359,129	400,000	400,000	90%
Treatment sites with permits for waste installations	2	15,419	7,710	15,419	7,710	100%
Total	**106**	**2,285,149**		**3,367,830**		

4.2 Assessment of exempt waste uses

In addition to obtaining data on permitted waste facilities within Birmingham, data was also requested from the Environment Agency on facilities operating under an exemption from environmental permitting. There is often considerable confusion associated with the capacity available at exempt facilities which relates to a number of factors, including:

- Confusion over which exemptions apply in different circumstances;
- The registration process and recoding system which can result in double counting;
- The fact that there is no requirement to notify the closure of an exempt activity or when an activity has ceased at a site.

Therefore to identify the actual capacity available at exempt facilities the Environment Agency Exemption data needed significant analysis and cleansing to identify the capacity which is available for the management of waste produced in Birmingham.

To estimate the actual treatment/recovery capacity available the exempt facility list was assessed and the following type of activities removed:

- In-house operation (e.g. bailing and compaction of recyclables at producers premise);
- Temporary storage prior to recycling treatment or disposal (e.g. storage of medicines at pharmacies or storage in bring banks;
- Closed sites or sites where the exempt activity has ceased (e.g. the use of waste for construction purposes where the construction is complete);
- Exemptions which relate to a specific activity which is only relevant to the exemption holder (e.g. the temporary storage of scrap rails);
- Multiple exemption activities at a single location (e.g. storage of recyclable prior to crushing, bailing or sorting which is covered by a different exemption).

The raw Environment Agency data has 570 individual exempt activities listed which reduced to 51 once the data has been cleansed by:

1. Combining sub-paragraph entries under a single entry for the main exemption paragraph;
2. Removing the 47 entries covered by Paragraph 39: Storage of medicines and medical, nursing or veterinary waste;
3. Removing the 20 entries covered by Paragraph 31: Waste from railway sanitary conveniences or sinks;
4. Removing the 23 entries related to railway maintenance under Paragraphs 30, 34 and 51;
5. Removing the 82 bring bank entries (normally covered by Paragraph 18 but it should be noted that the Salvation Army appears to have registered its clothing banks under Paragraph 17);
6. Combining entries for Paragraph 11 with 17 and/or 18 which occur at the same site; and
7. Removing entries that appear to be related to in-house/on-site operations and storage at manufacturing/retail sites (normally related to Paragraphs 11, 17, 18, 27, 38).

Once the list of exemptions had been cleansed, the estimated treatment/recovery capacity available at the exempt facilities was assessed based on the activity undertaken under the exemption. It is likely that the actual capacity at facilities may be lower than this estimate due to the nature of exemptions. In particular, Paragraph 11 with 17 which relates to the baling, sorting and storage of waste for recovery, an assumption of 3,000 tonnes per week has been made for a number of these facilities, however due to the physical size of the facility or due to stockpiling the actual throughput may be lower.

Following the Consultation Workshop, a telephone survey of the 51 facilities on the cleansed exemption list was carried out to provide greater clarity over the capacity at the exempt facilities and refine the capacity estimates. Through the telephone survey, 17 facilities were identified as no longer operational or the capacity was already covered in the permitted list of facilities, leaving a total of 34 operational exempt facilities with relevant treatment/recovery capacity. A number of the companies contacted did not wish to provide information or were not able to provide capacity information, in these cases assumptions were still made based on the nature of the activity. A list of the exemptions and assumptions made, along with capacity information obtained from the telephone survey is provided in Appendix 1. A map showing the location of exempt facilities is provided in Appendix 7. Based on the assumptions made and survey data for the different activities it is estimated that there is approximately 709,000 tonnes of capacity at exempt facilities within Birmingham as summarised in Table 27.

Table 27 Exempt site facility data

Main Paragraph	Paragraph description	Number of facilities	Annual total (tonnes)
4	Packaging or containers	1	50,000
9	Land reclamation or improvement	1	1,345
11 with 17	Preparatory treatments of certain waste/Storage of waste in a secure place	4	186,000
11 with 17/18 & 20	Preparatory treatments of certain waste/Storage of waste in a secure place/Waste in secure containers/Recovery of textiles	1	3,000
12	Composting waste	1	5
13	Construction and soil materials	3	35,000
17	Storage of waste in a secure place	1	125
19	Waste for construction	2	82,000
40	Repair or refurbishment of WEEE	3	1,265
45	Recovery of scrap metal or the dismantling of waste motor vehicles	17	350,150
TOTAL		34	708,890

4.3 Accredited Reprocessors

In addition to information on permitted and exempt waste facilities in Birmingham, data was obtained from the Environment Agency on Accredited Reprocessors. Accredited Reprocessors are authorised by the Environment Agency to issue Packaging Recovery Notes (PRNs) to prove that recycling and recovery of packaging waste has been carried out. In Birmingham there are 5 accredited reprocessors, a telephone survey of these companies was carried out to check the capacity at their facilities. It is estimated there is approximately 266,000 tonnes of capacity, as summarised in Table 28. This estimate excludes the Veolia facility as to avoid double counting this has been accounted for in the permitted facility list under the Tyseley Energy from Waste Facility[23].

Table 28 Accredited Reprocessor Data

Exemption Holder	Site Address	Capacity (tonnes/annum)	Material	Comment
Veolia	James Road, Tyseley, Birmingham B11 2BA	Already accounted for under permitted facility capacity	Recovery of packaging materials	Capacity covered in Tyseley EfW facility
Birmingham Plastic Recycling	Sampson Road North, Camp Hill, Birmingham, West Midlands, B11 1BL,	10,000	Plastic	Survey - currently 5,000 t could potentially double throughput
West Midlands Recycling Ltd falls under Euro packaging	54 Stratford Street North, Sparkbrook, Birmingham, West Midlands, B11 1BU,	50,000	Plastic	Survey - 50,000 tonnes/annum. Now called Europackaging
Smurfit Kappa SSK Ltd	Mount Street, Birmingham, West Midlands, B7 1RE	200,000	Paper/board	Survey - 200,000 tonnes/annum capacity
Recycled Plastics UK ltd	Speedwell Road, Yardley, Birmingham, West Midlands, B25 8HT	6,000	Plastic	Survey - 120 tonnes/week max capacity
TOTAL		266,000		

[23] Tyseley Energy from Waste Facility is registered as an Accredited Reprocessor as PRNs are able to be issued for the recovery of waste ie.burning of packaging waste for use as a fuel as well as recycling.

4.4 Percentage of Birmingham's waste handled in Birmingham

In order to understand the percentage of waste arising in Birmingham which is handled in Birmingham, analysis was carried out on information included in the Environment Agency 2007 returns on the origin of waste.

It should be noted that this exercise was carried out to provide a broad indication of the origin and destination of Birmingham's waste and by no means will account for all waste arising in or destined for Birmingham's waste facilities for the following reasons:

- Data analysed only includes returns made from permitted facilities and does not include waste handled at exempt facilities;
- Permit return data does not include waste received at Tyseley Energy from Waste facility, which was approximately 360,000 tonnes in 2008 the majority of which was municipal waste arising from Birmingham;
- In the Environment Agency waste returns where the origin of the waste is not known the term 'not codeable' is used;
- Data is not always broken down to the Local Authority level and is coded at the 'West Midlands' level.

4.4.1 Waste originating from Birmingham

There are approximately 825,000 tonnes of waste identified in the EA waste return data as having originated within Birmingham (2007). Analysis carried out indicates that 58% of waste that was identified as originating from Birmingham is handled at waste facilities within Birmingham. The type and location of the facilities receiving the waste from Birmingham is summarised in Table 29.

A breakdown of the waste received from Birmingham by Government Office region is presented in Table 30, 86.5% of waste from Birmingham remains within the West Midlands region. The remaining 13.5% of waste is received by other regions in England and Wales, Table 30. This does not take account of waste where the origin of the waste is 'not codeable' or where waste was received by exempt facilities.

Table 29 Breakdown by facility type of waste originating from Birmingham (2007)

Type of Facility	Location of receiving facility						Total Waste
	Birmingham		West Midlands (ex Birmingham)		Other Regions		
	Tonnes	%	Tonnes	%	Tonnes	%	Tonnes
A9: Special Waste Transfer Station	22,747	61.8%	9,678	26.3%	4,375	11.9%	36,799
A11: Household, Commercial & Industrial Waste Transfer Station	435,505	98.8%	2,519	0.6%	2,664	0.6%	440,688
A12: Clinical Waste Transfer Station	3,460	51.0%	3,319	48.9%	6	0.1%	6,784
A14: Transfer Station taking Non-Biodegradable Wastes	14,519	7.7%	174,155	92.3%	-	0.0%	188,674
A15: Material Recycling Treatment Facility	335	1.2%	5,354	19.1%	22,306	79.7%	27,995
A16: Physical Treatment Facility	186	2.1%	148	1.7%	8,453	96.2%	8,788
A17: Physico-Chemical Treatment Facility	-	0.0%	5,888	87.0%	878	13.0%	6,765
A19 : Metal Recycling Site (Vehicle Dismantler)	-	0.0%	1	0.0%	43,640	100.0%	43,641
A19a : ELV Facility	-	0.0%	-	0.0%	2	100.0%	2
A20 : Metal Recycling Site (mixed MRS's)	-	0.0%	103	4.8%	2,039	95.2%	2,142
A21 : Chemical Treatment Facility	2,020	32.8%	-	0.0%	4,144	67.2%	6,165
A22: Composting Facility	686	100.0%	-	0.0%	-	0.0%	686
A23: Biological Treatment Facility	1,529	99.2%	9	0.6%	3	0.2%	1,541
Inert Landfill	-	0.0%	18,188	100.0%	-	0.0%	18,188
Non Hazardous (SNRHW) Landfill	-	0.0%	4,035	66.4%	2,043	33.6%	6,078
Non Hazardous Landfill	-	0.0%	12,097	52.1%	11,137	47.9%	23,234
Hazardous Merchant Landfill	-	0.0%	-	0.0%	10,272	100.0%	10,272
TOTAL	**480,987**	**58.1%**	**235,494**	**28.4%**	**111,961**	**13.5%**	**828,442**
NB: The data does not include waste received at Tyseley Energy from Waste facility							

Table 30 Percentage breakdown by Government Office Region of waste received from Birmingham

Government Office Region	% of Birmingham waste received
East Midlands	2.5%
East of England	0.1%
London	0.3%
North East	0.4%
North West	1.1%
South East	0.0%
South West	0.3%
Wales	5.9%
West Midlands	86.5%
Yorkshire & Humber	3.0%
Total	**100%**
Birmingham	*58%*

4.4.2 Waste handled at facilities in Birmingham

Information from the Environment Agency waste interrogator was also analysed to estimate where waste handled at facilities in Birmingham originates from, Table 31. The analysis shows that 60%of the waste received at facilities in Birmingham could be identified as having originated from the West Midlands, of which just under half (28% of the total) originating from Birmingham. However, 35% of the waste received at facilities in Birmingham was identified as 'not codeable' which means the waste could be received from within or outside of Birmingham. The remaining 5% was recorded as originating from outside of the West Midlands. Given the types of facilities (e.g. car breakers, end of life vehicles etc,) with 'not codeable' returns it is likely that a noteable proportion of this waste originated in Birmingham or the West Midlands.

Table 31 Percentage breakdown by facility type of waste received into permitted waste facilities in Birmingham (2007)

Facility Type	Waste Received from		
	Birmingham (% of total input to facility)	West Midlands* (including Birmingham) % of total input	Not codeable** (% of total input)
A9: Special Waste Transfer Station	18%	18%	81%
A11: Household, Commercial & Industrial Waste Transfer Station	42%	92%	8%
A12: Clinical Waste Transfer Station	59%	92%	0%
A14: Transfer Station taking Non-Biodegradable Wastes	86%	100%	0%
A15: Material Recycling Treatment Facility	2%	7%	5%
A16: Physical Treatment Facility	4%	33%	61%
A19 : Metal Recycling Site (Vehicle Dismantler)	0%	0%	100%
A19a : ELV Facility	0%	44%	56%
A20: Metal Recycling Site (mixed MRS's)	0%	0%	100%
A21 : Chemical Treatment Facility	8%	13%	0%
A22 : Composting Facility	100%	100%	0%
A23 : Biological Treatment Facility	3%	82%	3%
Hazardous Waste Landfill (Restricted)	0%	6%	70%
Total	**28%**	**60%**	**35%**

* Figures for Birmingham in previous column are also incorporated in West Midlands total

**'Not codeable' is the term used by the Environment Agency when the origin of the waste is unknown and therefore the waste could be received from within or outside of Birmingham.

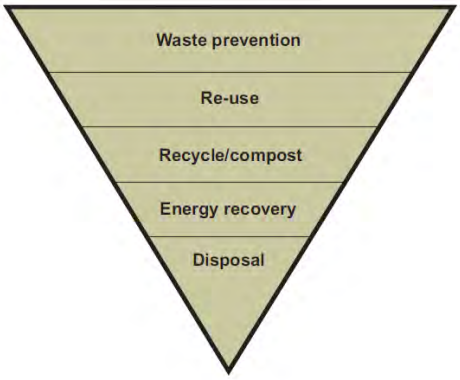
5 Future waste treatment

The analysis of capacity at permitted and exempt waste management facilities and at accredited reprocessor in Birmingham is in the range of 4 to 4.5 million tonnes, of which 2 – 2.5 million tonnes is waste transfer capacity[24].

In order to assess the need for waste facilities in the future, an assessment for each of the key waste streams was made in terms of recycling and recovery targets, in line with national and regional waste policy and the associated waste capacity needs.

PPS 10 and waste policy 'W1' in the RSS[25] highlight the need of planning authorities to ensure that planning strategies help deliver sustainable development through driving waste management up the waste hierarchy, Figure 14 .

Figure 14 Waste Hierarchy[26]



5.1 Municipal and Commercial & Industrial Waste

5.1.1 Municipal Waste

The key targets for MSW relate to the diversion of biodegradable waste from landfill to meet Landfill Allowance Trading Scheme (LATS). Waste Strategy 2007 (WS2007) has also set recycling & recovery targets for household and municipal waste, discussed in more detail in 2.2.1.

As the majority of Birmingham's residual waste is sent to an Energy from Waste (EfW) facility, recovery targets in WS2007 for municipal waste up to 2020 have already been met[27]. Therefore the focus on future waste capacity need is on increasing levels of recycling and composting achieved, reducing levels of waste sent to landfill and ensuring there is capacity to treat the waste.

The assumptions considered in calculating the future municipal waste facility requirements include:

- Recycling:
  - maximum - Birmingham meeting WS2007 recycling targets in the key years

[24] Biffa have recently announced (Janaury 2010) plans for a new MRF at Minworth with a proposed capacity of 200,000 tonnes/annum. This additional facility hasn't been included in current estimates of waste facility capacity in Birmingham.

[25] West Midlands Regional Assembly Phase Two Revision – Preferred Option. Quality of the Environment Waste Background Paper (December 2007)

[26] Defra – Waste Strategy 2007 (May 2007)

[27] WS 2007 recovery targets up to 2020 have already been met in Birmingham. Assumes current levels of recycling are maintained as a minimum, EfW is still available to treat residual waste and waste grows as expected.

- ◇ minimum – Birmingham recycling is 15% behind 2014/15 WS2007 levels but rates increasing at 1% per annum up to 2025/26

- Landfill:
  - ◇ maximum – Birmingham landfill's in future at current rates
  - ◇ minimum – Birmingham achieves a reduction in current levels of landfill of 5% by 2014/15 and 10% by 2019/20.
- Energy from Waste (EfW):
  - ◇ remaining waste (not recycled or sent to landfill) is sent to EfW facility

The likely future waste treatment capacity requirement to handle Birmingham's municipal waste is summarised in Table 32.

Table 32 Future waste treatment requirements municipal waste

	2007/08 (actual)	2014/15	2019/20	2025/26
Tonnage MSW				
Minimum	577,602	549,500	548,000	544,700
Maximum		584,100	599,300	614,900
Recycling Band - Household				
Minimum	26%	30%	35%	41%
Maximum (WS 2007)		45%	50%	50%
Recycling Band - non household				
Minimum	15%	20%	25%	31%
Maximum		35%	40%	40%
Minimum - Recycling	144,736	155,800	182,700	214,200
Maximum - Recycling		253,700	290,500	298,400
Landfill - Maximum	19%	20%	20%	20%
Landfill - Minimum		15%	10%	10%
Minimum - landfill	107,699	82,400	54,800	54,500
Maximum - landfill		116,800	119,900	123,000
EfW - Remaining tonnage after landfill and recycling targets				
Minimum - EfW	325,167	178,900	137,600	123,300
Maximum - EfW		345,900	361,700	346,200

5.1.2 Commercial & Industrial Waste

In order to look at future waste treatment requirements for C&I waste in Birmingham, C&I arisings were analysed against the breakdown of Substance Oriented Classification (SOC) codes. The split of SOC codes in Birmingham were similar to those C&I waste types identified in future waste treatment scenarios for C&I waste in WS 2007. Therefore, reference was made to a future treatment

'Scenario 5 in WS2007[28] , and the percentage split of different treatment routes for key years applied for C&I waste in Birmingham. The assumptions considered in calculating the future C&I facility requirements include:

- Recycling:
  - maximum – Birmingham meeting targets in Scenario 5 of WS2007
  - minimum – Birmingham recycling levels 10% lower than those in Scenario 5 of WS2007
- Landfill:
  - minimum - Birmingham meeting targets in Scenario 5 of WS2007
  - maximum – Decrease in proportion to reduced levels of recycling
- Reuse, thermal and treatment as per percentage split in Scenario 5 of WS2007.

An indication of the range of C&I tonnages and method of treatment is provided in Table 33.

Table 33 Future waste treatment requirements C&I waste[28]

Method of management	2014/15	2019/20	2025/26
Tonnage C&I			
Minimum tonnes	880,300	867,500	853,000
Maximum tonnes	1,028,500	1,066,500	1,112,000
Re-use	9%	8%	8%
Minimum reuse	79,200	69,400	68,200
Maximum reuse	92,600	85,300	89,000
Recycling			
Maximum - WS Target	45%	47%	47%
Minimum	35%	37%	37%
Minimum recycling	308,100	321,000	315,600
Maximum recycling	462,800	501,200	522,600
Thermal	6%	6%	6%
Minimum thermal	52,800	52,000	51,200
Maximum thermal	61,700	64,000	66,700
Treatment	7%	7%	7%
Minimum treatment	61,600	60,700	59,700
Maximum treatment	72,000	74,700	77,800
Landfill			
Minimum - WS Target	41%	41%	41%
Maximum	47%	47%	47%
Minimum landfill	360,900	355,700	349,700
Maximum landfill	524,500	543,900	567,100
* totals add up to more than 100% due to residues from some processes going to landfill			

[28] Defra – Waste Strategy for England 2007 Table A.16:Scenario 5 (May 2007).

5.1.3 Future capacity need for municipal and commercial & industrial waste

As MSW and C&I waste have similar waste treatment facility requirements, the potential future waste treatment requirement based on targets discussed in 5.1.1 and 5.1.2 were combined, to assess the likely future need for different types of facilities in Birmingham, Table 34. The data in Table 34 was compared against information on existing capacity at different facility types and also the destination of waste originating from Birmingham in Section 4.

- Reuse – based on suggested reuse targets for C&I waste (Section 5.1.2), around 68,000 to 89,000 tonnes of reuse capacity would be required by 2025/26. A large amount of reuse capacity will be covered by exemptions, including in-house activity, and regard to these activities should be considered when planning application for reuse activities are received.

- Recycling – by 2025/26 approximately 530,000 to 820,000 of recycling capacity would be needed to treat waste arising from Birmingham. There is a shortage in MRF capacity within Birmingham with only 15,000 tonnes of permitted capacity in Birmingham (Table 26) and over 27,000 tonnes of material originating from Birmingham being sent to MRF facilities outside of the city, Table 29.

  A reasonable portion of recyclable material may be prepared and bulked for reprocessing at exempt facilities. Information in Table 27 would suggest there may be over 1.35 million tonnages of capacity at exempt facilities falling under Paragraph 11 and 17. A review of regional policy has also identified a large shortfall in organic treatment facilities within Birmingham, Figure 4 .

- Thermal – estimates of thermal treatment requirements in 2025/26 are between 175,000 to 413,000 tonnes. As the Tyseley EfW facility has a capacity of 400,000 tonnes it likely much of this capacity requirement could be accommodated at this facility, depending on C&I being accepted at the facility.

- Landfill – Birmingham currently has no active landfill sites in the city. The UDP also identifies that it is unlikely there will be any landfill sites within the foreseeable future, 2.4.1. Based on the self sufficiency principles highlighted in the RSS, Section 2.3.1 consideration could be given to development of other waste treatment methods to accept some of the 404,000 to 690,000 tonnes of waste identified as potentially requiring landfill in 2025/26, this could included additional energy from waste capacity.

Table 34 Combined future waste treatment requirements MSW and C&I waste

Method of management	2014/15	2019/20	2025/26
Total Tonnage			
Minimum	1,429,800	1,415,500	1,397,700
Maximum	1,612,600	1,665,800	1,726,900
Re-use			
Minimum reuse	79,200	69,400	68,200
Maximum reuse	92,600	85,300	89,000
Recycling			
Minimum recycling	463,900	503,700	529,800
Maximum recycling	716,500	791,700	821,000
Thermal			
Minimum thermal	231,700	189,600	174,500
Maximum thermal	407,600	425,700	412,900
Treatment			
Minimum treatment	61,600	60,700	59,700
Maximum treatment	72,000	74,700	77,800
Landfill			
Minimum landfill	443,300	410,500	404,200
Maximum landfill	641,300	663,800	690,100

Information in Table 29 suggests that 347,500 tonnes of waste that could be identified as originating from Birmingham was received at facilities outside of Birmingham. When this data is cross checked with permitted capacity information in Table 26, the main facility types where waste is exported to are MRFs and landfill sites which reinforces the information above.

5.2 Construction, Demolition & Excavation Waste

The capacity requirements for the two different CD&E waste scenarios projected in Section 3.3.1 were broken down according to the method of management for CD&E waste in the West Midlands used in the CLG survey, Table 16. Data for the first scenario and methods of management was taken from a previous West Midlands study in 2004[16], i.e. based on the methods of management used in the 2003 CLG survey. Whereas, Scenario 2, which projected lower CD&E arisings due to the economic downturn, was split according to the methods of management in the 2005 CLG survey.

Table 35 provides an indication of the breakdown of the tonnages by management method to handle the range of CD&E arisings in Birmingham.

Table 35 Future waste treatment requirements for CD&E waste

Methods of management	2006/07	2014/15	2019/20	2025/26
Tonnage CD&E				
Minimum tonnes	1,655,700	1,451,500	1,488,100	1,533,300
Maximum tonnes		1,712,200	1,712,200	1,712,200
Recycling - Annual Capacity Required				
Minimum	1,300,800	1,349,600	1,398,500	1,441,000
Maximum	1,300,800	1,406,600	1,406,600	1,406,600
Use on exempt sites and for engineering & land restoration - Annual Capacity Required				
Minimum	466,000	432,800	432,800	432,800
Maximum	466,000	551,300	565,200	582,400
Landfill Disposal				
Minimum	149,000	101,600	89,300	92,000
Maximum	149,000	154,100	154,100	154,100

The use of recycled aggregates is discussed in Section 6. As the construction industry has been hit by the current recession, levels of CD&E arisings are not predicted to increase significantly from current levels and therefore existing capacity may be available to accommodate the predicted tonnage arising.

Compared to MSW and C&I Waste, CD&E waste is also managed much closer to source, meaning less CD&E waste is likely to be exported out of the West Midlands region. This is reinforced by data in Table 29 which suggest that of the 347,500 tonnes of waste that could be identified as originating from Birmingham 18,200 tonnes of waste (100% of waste recorded in the category) was received at an inert landfill in the West Midlands and 189,000 (100% of waste recorded in the category) was received at inert transfer stations in Birmingham and the wider West Midlands region.

It is difficult to isolate the treatment capacity required for CD&E waste as some of the waste may be received at facilities also taking MSW and C&I waste e.g. A11:Household, commercial and industrial transfer station. However, based on the information in Table 35, the following capacity has been identified as required in 2025/26:

- Recycling – around 1.4 million tonnes of recycling capacity is estimated to be required by 2025/26.
- Use on exempt sites and for landfill restoration – 433,000 – 582,000 tonnes of capacity for the use of CD&E waste at exempt sites for use in restoration. This could be noted when reviewing new development/construction in the city.
- Landfill – 92,000 – 154,000 tonnes have been identified as required in 2025/26. As discussed in Section 5.1.3, Birmingham does not currently have any landfill sites in the city, or likely to do so in the foreseeable future.

5.3 Future priorities for waste management in Birmingham

In line with national and regional policy, it is important any future objectives for waste planning and strategy in Birmingham consider waste as a resource and ensure that waste is managed as close to the top of the waste hierarchy as possible or appropriate.

Waste Policy 'W1' of the RSS, states that '*waste should be considered as a resource and each Waste Planning Authority should allocate enough land in its LDD to manage an equivalent tonnage of waste to that arising from all waste streams within its boundary, taking into account of the Waste Hierarchy. In addition to facilities to reprocess, reuse, recycle and recover waste an allowance will need to be made for waste transfer stations and where appropriate for landfill*'[29].

The RSS acknowledges that the West Midlands region as a whole is largely self sufficient in meeting needs for waste treatment and disposal. Although there is net flow of certain waste types e.g. C&I waste out of the metropolitan areas to landfill in the "Shire Counties", with a reverse flow into the metropolitan areas of wastes such as end of life vehicles, paper etc. The RSS highlights the need for co-ordination of waste planning at a regional level to ensure future waste facilities allow waste to be managed as close to the point of production and further up the waste hierarchy.

The way in which waste is managed in the future will also need to take account of existing and emerging legislation such as the EU Waste Framework Directive (See Section 2.1.1 and the Landfill Directives (See Section 2.1.3). The RSS concludes that it is not commercially feasible for each WPA to have sufficient facilities to manage all their own waste streams with different characteristics. Therefore, the 'equivalent self sufficiency' concept has been accepted to ensure that each Waste Planning Authority area has the capacity to manage a tonnage of waste equivalent to the arising in their area.

The total waste arisings, for MSW, C&I, CD&E and hazardous waste streams, are estimated to be 3.2 million tonnes. Moving forward up to 2025, the mid range forecasts remain in the order of 3.1 – 3.2 million tonnes. The analysis of capacity at permitted and exempt waste management facilities and at accredited reprocessors in Birmingham is in the range of 4 to 4.5 million tonnes, of which 2 – 2.5 million tonnes is waste transfer capacity. Therefore the headline capacity information suggests that Birmingham is achieving the 'equivalent self sufficiency' principle, however the majority of waste going through a waste transfer station will require further treatment/disposal. If the transfer station capacity in Birmingham is discounted from the assessment of 'equivalent self sufficiency' (2 – 2.5 million tonnes) there could be scope for additional treatment/disposal facilities to be developed or expanded to cover the equivalent quantity of waste arising.

Birmingham does not have any active landfill sites, nor given its urban nature does it have any appropriate locations. The Tyseley EfW Facility takes the city's municipal waste only at present. Moving forward, it is important the waste hierarchy is taken account of and that Birmingham plan for greater re-use, recycling and composting facilities and considers where there is a need to make a greater contribution to the treatment/disposal capacity within the West Midlands.

Whilst the requirement is that each WPA manages the equivalent tonnage of waste arising in their area, certain authorities will be better placed to treat certain types of waste and accommodate the appropriate types of waste facilities.

It is important that these factors are considered and that Birmingham plan to make land available on industrial estates and in commercial areas where waste management activities can be developed.

[29] West Midlands Regional Spatial Strategy Phase Two Revision Preferred Option , West Midlands Regional Assembly(December 2007). Note the EiP in September 2009 recommended some amends to policy W1.

Whilst Birmingham will generate large quantities of biodegradable waste from householders, hospitality sector and retailers, the urban nature of the authority will mean it is unlikely that enough land and capacity would be available to treat all of the biodegradable waste arising in Birmingham. However, consideration may be given to developing facilities which may be able to deal with a proportion of this waste such as Anaerobic Digestion plants (AD). This would help with existing and emerging legislation requiring the diversion of biodegradable waste from landfill.

Whilst the treatment/disposal location of C&I waste is determined in general by the commercial operators who collects the waste, it may be that Birmingham could provide opportunities for development of facilities which would allow more local available capacity for the recovery and recycling of the C&I waste stream and would mean waste could be treated closer to source.

To inform thinking of waste type of facilities may be suitable for industrial and commercial areas. A list of facility types and their typical capacity and land take is provided in Table 36, in order to inform the decision making in terms of availability of land and preferred treatment options moving forward.

Table 36 Indicative land take and capacity of waste facilities[30]

Type of Facility	Tonnes per annum	Total land take (Ha)	Building Footprint	Waste Hierarchy	Suitable Waste Streams
Anaerobic Digestion	5,000	0.15	30 x 15 m, plus 4 circular tanks of 6 – 10m diameter	Recycling/ composting	Mixed organic wastes
	40,000	0.6	40 x 25 m, plus 2 circular tanks of 15 m diameter		
In-Vessel Composting	25,000	1-2	25 x 30m. Height 4-5m	Recycling/ composting	Mixed organic wastes
Windrow Composting – green waste	25,000	2-3	Often no building required except office	Composting	Green Waste
Advanced Thermal Treatment e.g. Pyrolysis/Gasification	50,000	1-2	60 x 60 m for main thermal treatment component. Stack height 30 – 70m.	Recovery	Mixed C&I/MSW streams
Mechanical Biological Treatment	50,000	<1-2	100 x 30m. Height 10 – 20m	Pre-treatment	Mixed C&I/MSW streams
Energy from Waste	50,000	< 1-2	80 – 40m. Stack Height 40 – 70m	Recovery	Mixed C&I/MSW streams
	250,000	2-5	120 x 60m. Stack Height 60 – 70m		
Material Recycling Facility	50,000	1-2	70 x 40m. Height 12m	Recycling	Co-mingled material suitable for recycling
Transfer Station	120,000	0.7	70 x 30m	Pre-treatment	All wastes

[30] ODPM - Planning for Waste Management Facilities – A Research Study (August 2004)

6 Recycled & Secondary Aggregates

The study aimed to establish the potential supply of recycled and secondary aggregates for use in construction and future growth in the city. A list of typical recycled and secondary aggregate material which may be suitable for use in construction is provided in Table 37.

Table 37 Type of recycled and secondary aggregate material [31]

Recycled	Secondary	
	Manufactured	Natural
Recycled aggregate (RA)	Blast furnace slag	Slate aggregate
Recycled concrete aggregate (RCA)	Steel slag	China clay sand
Recycled asphalt	Pulverized-fuel ash (PFA)	Colliery spoil
Recycled asphalt planings (RAP)	Incinerator bottom ash (IBA)	
Spent rail ballast	Furnace bottom ash (FBA)	
	Used foundry sand	
	Spent oil shale	
	Recycled glass	
	Recycled plastic	
	Recycled tyres	

The RSS Waste Policy 'W9' states that *'all Local Development Frameworks should give specific priority to identify new sites for facilities, to store, treat and recycle soils and Construction and Demolition waste. More Construction & Demolition waste should be recycled through:*

- *maximising 'on site recycling; and*
- *promoting urban quarries where material can be recycled to a high standard where there is evidence that there is need for additional facilities*.'

The Environment Agency National Waste Interrogator was used to establish the potential supply of secondary and recycled aggregates for use in construction in Birmingham. The Interrogator can be used to identify waste management facilities, in Birmingham and surrounding local authority areas, that are accepting waste which could potentially be suitable for use as recycled or secondary aggregate in construction work. To assess the suitability of waste being accepted at these facilities, 6-digit EWC codes were identified for those wastes which could be suitable for use in construction projects. The list of 6-digit EWC codes are detailed in Appendix 7.

[31] http://www.aggregain.org.uk/ accessed 12/08/09

Approximately 1.35 million tonnes of material was received at waste facilities in Birmingham and surrounding local authorities which matched the selected EWC codes as suitable for use in construction. Table 38 provides a breakdown of the quantities of waste by facility type and local authority area. The suitability of the material for use as a recycled/secondary aggregate will depend on the previous use of the material. Based on information on WRAP's Aggregain website 70% of the material (950,000 tonnes) was estimated to be suitable for potential aggregate use. However, the actual use of the material in construction projects would be very dependent on the specific uses of the material in construction e.g. concrete, capping. WRAP have developed a number of protocols on the production of recycled aggregate from inert waste[32].

A breakdown of the tonnages of material identified as potentially suitable for use in construction, by EWC code is provided in Table 39.

Information on aggregate companies in the Birmingham area was taken from Aggregain[31] and Ciria[33] websites. The respective companies were then contacted by telephone in order to obtain details of the nature of their activity and capacity at site. Only 3 of the 13 companies were able to provide any capacity information and therefore it is difficult to establish whether there is sufficient capacity to process aggregate material or not within Birmingham and surrounding area. Information obtained on the aggregate companies in the Birmingham area is provided in Appendix 1.

Table 38 Potential tonnage of material suitable for use as aggregate in construction

Local authority area	Transfer*	MRS	Treatment	Landfill	Total (tonnes)	Assuming 70% of material suitable for use in construction
Birmingham City	359,800	600	3,700	-	364,100	254,900
Coventry	79,100	-	-	34,200	113,300	79,300
Dudley	18,800	-	-	148,200	167,000	116,900
Sandwell	174,600	400	700	61,600	237,300	166,100
Solihull	400	-	63,100	-	63,500	44,500
Walsall	29,000	100	100	278,400	307,600	215,300
Wolverhampton	45,800	-	55,900	-	101,700	71,200
TOTAL	**707,500**	**1,100**	**123,500**	**522,400**	**1,354,500**	**948,200**

* Waste from transfer stations which was subsequently landfilled has been removed from the transfer station total to avoid double counting

[32] Waste and Resources Action Programme (2004 and 2005). The quality protocol for the production of aggregates from inert waste in England, Scotland, and Northern Ireland. WRAP, Banbury. Available http://www.aggregain.org.uk/quality/quality_protocols/index.html

[33] http://www.ciria.org.uk/recycling/ accessed 12/08/09

Table 39 Breakdown of tonnage (>1,000 tonnes) by EWC code

EWC 4 digit code	Description	Transfer	MRS	Treatment	Landfill	TOTAL
10 09	Wastes from casting of ferrous pieces	-	54	50,854	32,234	**83,142**
12 01	Wastes from shaping and physical and mechanical surface treatment of metals and plastics	20	-	347	1,125	**1,492**
16 01	End-of-life vehicles from different means of transport) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)	23,507	633	100	127	**24,366**
17 01	Concrete, bricks, tiles and ceramics	96,954	-	4,492	28,136	**129,581**
17 05	Soil (including excavated soil from contaminated sites), stones and dredging spoil	172,352	-	1,232	374,941	**548,524**
17 09	Other construction and demolition wastes	315,550	-	66,012	15,258	**396,820**
19 01	Wastes from incineration or pyrolysis of waste	66,965	-	-	69,485	**136,450**
20 01	Separately collected fractions (except 15 01)	4,634	-	1	7	**4,642**
20 02	Garden and park wastes (including cemetery waste)	57,512	-	-	-	**57,512**
TOTAL		**737,493**	**687**	**123,039**	**521,312**	**1,382,530**

Note: Total figures represented are not adjusted for 70% suitability

7 Framework for future monitoring of waste activities

To allow the data obtained as part of this study on waste arisings and waste management facilities information, to be updated and reviewed, a monitoring framework has been prepared. The framework is designed to track key developments in terms of the quantities of waste being produced and the capacity available to deal with the waste. The framework, set out inTable 40, covers:

- Specific data/objectives;
- Recommended data collection frequency (which could be linked to Annual Monitoring Report monitoring dates);
- Method of collecting the data; and
- Specific source of the data.

Table 40 Proposed monitoring framework

Data Set:	Waste Arisings		
Purpose:	Important to monitor waste arisings across key streams on an regular basis to track trends and associated increase/decrease in waste capacity requirements		
Specific data and key objectives	**Recommended data collection frequency**	**Method of collecting the data**	**Specific data source**
Municipal waste	Annual	Survey information	WasteDataFlow returns
Commercial & Industrial waste	Annual		Environment Agency waste interrogator (published annually) Local Economic Forecasting Model (LEFM)
Construction, Demolition & Excavation waste	Annual		WMRA studies, WRAP
Hazardous waste	Annual		Environment Agency hazardous waste interrogator (published annually)
Data Set:	Waste Facilities		
Purpose:	Need to review the number of permitted and exempt facilities in Birmingham on a regular basis & facilities planned to come online/be developed, in order to look at available capacity by facility type and assess the need for new facilities		
Specific data and key objectives	**Recommended data collection frequency**	**Method of collecting the data**	**Specific data source**
Monitoring of permitted waste facilities	Annual	Environment Agency/survey by LA officers	List of permitted sites and licensed band along with waste return information on actual throughput. Periodic surveying to check potential capacity at facilities
Monitoring of exempt waste facilities	Annual	Environment Agency/ survey by LA officers	List of exempt sites and survey to check facilities still operational/activity at site

Waste related planning applications	Monthly	Log applications for new waste facilities or extensions to waste facilities permitted by the Waste Planning Authority Existing consented applications but not yet implemented Log Consents issued and capture information in terms of type, capacity and location	WPA online planning register Development Management Team and Planning Register Development Management Team and Planning Register
Energy related planning applications which may have a waste component.	Monthly	Log applications for new energy/waste facilities	Development Management Team and Planning Register
Data Set:	Aggregate recycling		
Purpose:	To assess potential supply of recycled and secondary aggregates for use in construction in city		
Specific data and key objectives	Recommended data collection frequency	Method of collecting the data	Specific data source
Potential supply of recycled aggregate /tonnage of material	Annual	Interrogation of Environment Agency data by EWC code	Environment Agency waste interrogator (published annually)
List of aggregate reprocessors & material capability	Annual	Industry websites and survey by LA officers	WRAP Aggregain website/survey to check processing capability – material accepted/sold
Data Set:	**Legislative and policy review**		
Purpose:	Regular review of European, national and regional legislation and policy related to waste and planning is important to ensure impact on future waste arisings and treatment requirements		
Specific data and key objectives	**Recommended data collection frequency**	**Method of collecting the data**	**Specific data source**
Waste/planning policy at local level	Proactive notification of changes/updates by relevant officers	Monitoring of internal working groups, cabinet decisions etc	Municipal Waste Strategy, Core Strategy and associated planning documents
European and National legislation	Proactive notification of changes/updates by officers	Defra/CLG	Waste Strategy 2007 and associated documents updates
Regional Waste/Planning Policy	Proactive notification of changes/updates by officers	Monitoring of intermittent RSS reviews and RSS waste studies. Monitoring of RTAB meeting minutes	RSS Reports and Studies. Monitoring of RTAB meeting minutes and other regional working groups

Data Set:	Regional Activity		
Purpose:	Need to monitor activity in region and associated impact/action for Birmingham		
Specific data and key objectives	Recommended data collection frequency	Method of collecting the data	Specific data source
Regional waste apportionment for Birmingham – how much waste Birmingham should be handling	Quarterly	Monitoring of intermittent RSS reviews and RSS waste studies. Monitoring of RTAB meeting minutes	RSS Reports and Studies. Monitoring of RTAB meeting minutes and other regional working groups.
Regional waste planning applications – monitor available capacity in neighbouring authorities to treat specific waste	Quarterly	Ongoing monitoring of regional or sub regional planning applications for waste which may take Birmingham waste Monitoring of adjoining authority applications	Planning registers and committee reports from adjoining authorities List of regionally 'Called in' applications

8 Criteria for locating waste management facilities

8.1 Policy Framework

Although there is no statutory method of assessing the suitability of sites for waste management use, it is important to recognise and take account of the policy context underpinning the selection of sites, which should inform and provide the basis for the development of site selection criteria.

The Government's Planning Policy Statement 10 'Planning for Sustainable Waste Management' (PPS10) advocates that;

"In searching for sites and areas suitable for new or enhanced waste management facilities, waste planning authorities should consider;

- *Opportunities for on-site management of waste where it arises; and*
- *A broad range of locations including industrial sites, looking for opportunities to co-locate facilities together and with complementary activities*" (para. 20)

PPS10 goes on to state that:

"*in deciding which sites and areas to identify for waste management facilities, waste planning authorities should:*

1. *Assess their suitability for development against each of the following criteria:*
    - ◇ the *extent to which they support the policies in this PPS;*
    - ◇ *the physical and environmental constraints on development, including existing and proposed neighbouring land uses (see Annex E);*
    - ◇ *the cumulative effect of previous waste disposal facilities on the well-being of the local community, including any significant adverse impact on environmental quality, social cohesion and inclusion or economic potential;*
    - ◇ *the capacity of existing and potential transport infrastructure to support the sustainable movement of waste, ad products arising from resource recovery, seeking when practicable and beneficial to use modes other than* road transport.
2. *Give priority to the re-use of previously-developed land, and redundant agricultural and forestry buildings and their curtilages*" (para. 21)

Annex E of PPS10 sets out a number of criteria against which the suitability of sites and areas for waste management use, should be assessed. In summary this requires consideration of:

a. Protection of water resources;
b. Land instability;
c. Visual intrusion;
d. Nature conservation;
e. Historic environment and built heritage;
f. Traffic and access;
g. Air emissions, including dust;
h. Odours;
i. Vermin and birds;
j. Noise and vibration;
k. Litter; and
l. Potential land use conflict

The West Midlands Regional Spatial Strategy (incorporating the Phase 2 revisions) integrates the requirements of PPS10 in terms of the locational criteria set out above through Policy W3 and a number of more topic specific policies[34]. Policy W3 however, specifically sets out criteria for the location of waste management facilities in the West Midlands. The Policy advocates that in their development plans, WPA should include policies and proposals for all major waste streams to:

- Guide the location and siting of waste treatment and recycling facilities to appropriate locations, having regard to the proximity principle and other environmental and amenity principles as identified elsewhere in this guidance; and

- Wherever possible and consistent with the principles of Best Practicable Environmental Option and Proximity, encourage the use of rail and water transport in preference to road transport.

Policy W4 in the RSS emphasises the need for WPA to protect existing waste management facilities and to ensure the operation of existing sites is not compromised by new development on adjoining land.

At a local level, the Birmingham Unitary Development Plan (UDP)[35] states that the "*The Council will adopt a sustainable approach to waste management which seeks to ensure that adequate facilities exist for the treatment and disposal of waste within the City, achieving the best balance of social, environmental and economic costs and benefits, and taking account of the following principles:*

- *Consideration of the best practicable environmental option for each waste stream;*

- *Regional self sufficiency;*

- *The proximity principle; and*

- *The waste hierarchy*."

The UDP states that the City Council will work with adjacent WPAs to establish the likely need and demand for waste facilities, and if appropriate, will identify and allocate sites for this purpose in future development plans. In the mean time, the policy is that the development of new waste facilities will be in accordance with national and regional planning guidance, be in appropriate locations and sites so the facilities minimise any adverse impact on local communities, the environment and local transport network. Any proposals for different types of waste facilities will be assessed by the City Council against the criteria discussed below.

The UDP identifies that the following types of location are regarded as being suitable for developments that involve the management, treatment and processing of wastes:

- Industrial areas, especially those containing other heavy or specialised industrial uses;

- Degraded, contaminated or derelict land, provided that any nature conservation issues are adequately addressed by the development;

- Existing or former landfill sites, provided that any problems of contamination and/or gas migration can be safely addressed;

- Existing or redundant sites or buildings which can be re-used or adapted;

- Sites previously occupied by other types of waste management facilities; and

[34] West Midlands Regional Spatial Strategy Phase Two Revision Preferred Option , West Midlands Regional Assembly(December 2007)

[35] Birmingham City Council Unitary Development Plan, 2005 - http://www.birmingham.gov.uk/udp

- Other suitable sites located adjacent to railways, canals, or major junctions in the road network.

New energy from waste plants, incinerators, scrapyards, waste transfer stations, brickcrushers and other waste management, treatment and processing facilities that are likely to cause noise, disturbance, air pollution, smells and other nuisances, are expected to be located within existing industrial areas, and will not be permitted in or adjacent to residential areas, unless any adverse environmental impacts can be adequately mitigated.

The UDP identifies a number of factors which should be taken into account against when proposals to develop new or expanded waste management, treatment and processing facilities are being evaluated:

- The need for the facility and its proximity to the source of the waste to be treated;
- The impact that the facility is likely to have upon the environment and adjoining uses, particularly in relation to sensitive land uses such as residential areas and nature conservation areas;
- The need for pollution control measures appropriate to the type of wastes to be processed or handled;
- The effectiveness or appropriateness of any measures proposed to mitigate or overcome any adverse environmental impacts;
- The impact of traffic generated by the proposal and the potential to transport bulky goods by more sustainable transport modes, e.g. rail or canal.

8.2 Developing criteria for future waste facility provision in Birmingham

The existing policies identified in the UDP cover the majority of issues that need to be considered when determining the need and suitability of proposed waste management facilities. However, the study has highlighted that when formulating future planning policy in relation to the expansion of existing and provision of new waste facilities, the following factors are considered:

- 'Equivalent self sufficiency' principle - consideration of how the development of new or expansion of existing waste treatment facilities contribute to Birmingham providing sufficient capacity to manage a tonnage equivalent tonnage of waste arising in their area.
- Waste Hierarchy – consideration of how the development of new or expansion of existing waste treatment facilities can help Birmingham move waste up the hierarchy and treat waste as a resource i.e. recycling, reuse, recovery.
- Site Location – consideration of how different facility types would suit different areas of land in industrial and commercial areas of Birmingham i.e. from a landtake and environment impact perspective. This may help Birmingham decide on whether it wants to become a specialist in the treatment of certain type of waste and facility.

8.3 Criteria for locating waste management facilities

The policies identified above should be taken into consideration in the selection of waste management sites in Birmingham and their objectives have been taken into account in the development of the proposed site criteria set out in 0.

There could be potential to cluster waste management facilities with businesses producing relevant waste streams to support industrial symbiosis but further work would be required to determine if clustering businesses is a viable option.

9 Key Findings and Discussion

The total waste arisings, for MSW, C&I, CD&E and hazardous waste streams in Birmingham are estimated to be 3.2 million tonnes. Moving forward up to 2025, the mid range forecasts remain in the order of 3.1 – 3.2 million tonnes. The analysis of capacity at permitted and exempt waste management facilities and at accredited reprocessors in Birmingham is in the range of 4 to 4.5 million tonnes, of which 2 – 2.5 million tonnes is waste transfer capacity. Birmingham has limited disposal capacity with no active landfill in the city, and the Tyseley EfW facility taking only municipal waste.

The way in which waste is managed in the future will have to take account of existing and emerging legislation, for example the EU Landfill Directive and the Waste Framework Directive and the increasing need to divert biodegradable waste from landfill. The West Midlands Regional Spatial Strategy concludes that it is not commercially feasible for each WPA to have sufficient facilities to manage all their own waste streams with different characteristics. However, the 'equivalent self sufficiency' concept has been accepted to ensure that each WPA area manages the equivalent tonnage of waste arising in their area. Different authorities in the West Midlands will be better placed to treat certain types of waste and accommodate the appropriate types of waste facilities.

The headline capacity information suggests that Birmingham is achieving the 'equivalent self sufficiency' principle, however the majority of waste going through a waste transfer station will require further treatment/disposal. If the transfer station capacity in Birmingham is discounted from the assessment of 'equivalent self sufficiency' (2 – 2.5 million tonnes) there could be scope for additional treatment/disposal facilities to be developed or expanded to cover the equivalent quantity of waste arising.

In terms of future planning in Birmingham there is a need to consider the waste types, for example C&I waste or specific waste streams e.g. food waste which the authority may wish to plan for managing in the future and the type of facilities which the authority may wish to focus on planning to accommodating, for example anaerobic digestion. It is unlikely given the urban nature of Birmingham a landfill would be developed in Birmingham.

It is important that Birmingham City Council updates data used to inform this study on the levels of waste arisings and number and type of waste facilities within the city, as suggested in the Monitoring Framework in Section 7. This will allow for trends in arisings and facility capacity to be monitored and future need reviewed on a regular basis.

In addition to the existing policies in the UDP, future planning policy and criteria need to focus on the suitability of different locations for the expansion or development of new waste facilities which help Birmingham meets the 'equivalent self sufficiency' principle. In addition, it is important that any future waste facilities help move waste management practices up the hierarchy and allow waste to be treated as a resource and ensure to be treated as near to the source of generation as possible/appropriate. Key factors that need to be considered in developing future planning policies and the criteria to be used when determining waste applications are included in Section 8.

Appendices

Appendix 1 Glossary of Terms

Accredited Reprocessors	Accredited Reprocessors are authorised by the Environment Agency to issue Packaging Recovery Notes (PRNs) to prove that recycling and recovery of packaging waste has been carried out.
Advanced Conversion Technologies (ACTs)	Advanced conversion technologies include technologies such as gasification, pyrolysis and anaerobic digestion.
Anaerobic Digestion (AD)	Process where biodegradable material is encouraged to break down in the absence of oxygen. Material is placed in an enclosed vessel and in controlled conditions the waste breaks down typically into a digestate, liquor and biogas.
AWM	Advantage West Midlands, the Regional Development Agency
BCC	Birmingham City Council
Best Practicable Environmental Option (BPEO)	A concept and decision making tool designed to assist decision makers prioritise strategic options for waste management.
Biomass	Organic material e.g. wood used as renewable energy source
Biodegradable Municipal Waste (BMW)	Waste which is able to decompose through the action of bacteria or other microbes. This includes material such as paper, food waste and green garden waste.
Co-mingled	Recyclable materials are collected together in a single compartment vehicle with the sorting of the materials occurring at a MRF.
Composting	The degradation of organic wastes in the presence of oxygen to produce a fertiliser or soil conditioner.
Defra	The UK government department responsible for the environment, food and rural affairs
Development Plan Documents (DPD)	Development Plan Documents together with the RSS make up the statutory development plan for Birmingham and include the Core Strategy.
EiP	Examination in Public
End of Life Vehicle (ELV)	End of Life Vehicles are vehicles that have reached the end of their life and are considered waste. The ELV Directive aims to reduce the amount of waste from vehicles when they are finally scrapped. The UK has transposed the Directive through its ELV Regulations 2003 and 2005
Environmental Permit	A permit issued under the Environmental Permitting (England and Wales) Regulations 2007.
EU Directive	A European Union (formerly EC-European Community) legal instruction, binding on all Member States but which must be implemented through national legislation within a prescribed time-scale.
Energy from Waste (EfW)	Central processing facilities, primarily incineration, whereby energy may be recovered from waste. The resultant energy can be used to create power, heat or combined heat and power.
Energy Recovery	The recovery of useful energy in the form of heat and/or power from burning waste or other combustible materials. Generally applied to incineration, but can also include the combustion of landfill gas and gas produced during anaerobic digestion.
European Waste Catalogue (EWC)	The European Waste Catalogue (EWC) classifies waste materials and categorises them according to what they are and how they were produced. The List of Waste Regulations 2005 brings the EWC in to law in England and Wales.

Exemption	Part 1 of Schedule 3 to the Environmental Permitting (England and Wales) Regulations 2007, lists and describes the waste operations which do not require an environmental permit, providing that the establishment or undertaking carrying them out has registered that exemption where required with the Environment Agency.
Gasification	Gasification is the process whereby carbon based waste technologies are heated in the presence of air or steam to produce fuel rich gases.
Growth Agenda	Birmingham's Growth Agenda aims to increase the city's population by 100,000 by 2026.
Household Waste	Household waste includes all mixed waste that is collected from households; all materials taken to local 'bring banks or collected at the doorstep or kerbside for recycling and composting; all waste (apart from rubble) that is taken to the County Council operated Household Waste Recycling Centres; litter and street sweepings.
Household Waste Recycling Centre (HWRC)	A facility where members of the public can take household waste for recycling or disposal
Landfill Allowance Trading Scheme (LATS)	An initiative by the UK government that assigns an allowance to each WDA for the amount of BMW it can dispose of to landfill.
Landfill Tax	Landfill tax is a tax on the disposal of waste at landfill. The tax is charged by weight and there are two rates for active and inactive waste. The rate for active waste is increased by £8/tonne per annum from 1st April 2008 and will continue to increase by £8/tonne on 1st April each year to 2013. The rate for inactive waste increased to £2.50 + VAT per tonne on 1st April 2008. The Government has announced that the rate will be frozen at £2.50 per tonne in 2009-10.
Local Development Document (LDD)	Local Development Document comprise of development plan documents, statement of community involvement and supplementary planning documents, which together form development planning policies and the LDF.
Local Development Framework (LDF)	The Local Development Framework is the portfolio of LDDs, which along with the RSS make up the Statutory Development Plan for Birmingham and will replace the UDP.
LA	Local Authority
Local Economic Forecasting Model (LEFM)	Local Economic Forecasting Model produces economic projections for local areas within the UK, the model covers various key economic indicators and a number of labour market indicators as well as employment
Material Recovery Facility (MRF)	A facility which is designed to process source separated/co-mingled dry recyclables is sometimes referred to as a 'clean MRF' (as distinct from a 'dirty MRF', which handles co-mingled wastes including Putrescible materials).
Mechanical Biological Treatment (MBT)	A generic term for an integration of several processes commonly found in other waste management technologies such as Materials Recovery Facilities (MRFs), sorting and composting plants.
Municipal Solid Waste (MSW)	Household waste and other wastes collected by a waste collection/disposal authority or its contractors, such as municipal parks and gardens waste, beach cleansing waste fly-tipped waste and trade waste.
MWh	Megawatt hour – unit of energy
ONS	Office of National Statistics
PPS 10	Planning Policy Statement 10, forms part of the planning policy framework for England on waste management.

Proximity Principle	The proximity principle suggests that waste should generally be disposed of as near to its place of production as possible.
Pyrolysis	During Pyrolysis organic waste is heated in the absence of air to produce a mix of gaseous and liquid fuels and a solid, inert residue.
Recycling	Involves the reprocessing of wastes, either into the same material (closed-loop) or a different material (open-loop recycling). Commonly applied to non-hazardous wastes such as paper, glass, cardboard, plastics and metals. However, hazardous wastes (e.g. solvents) can also be recycled by specialist companies, or by in-house equipment.
Refuse Derived Fuel (RDF)	A fuel produced from municipal solid waste, primarily consisting of paper, card, plastic, and some dried organics.
Regional Spatial Strategy (RSS)	The Regional Spatial Strategy sets out the spatial strategy for the West Midlands Region up to 2021. The RSS forms part of the Development Plan and is currently being reviewed in three phases.
Renewable Obligation (RO)	The Renewable Obligation system creates a market in tradable renewable energy certificates (ROCs), for which each supplier of electricity must demonstrate compliance with increasing Government targets for renewable energy generation. Following the 2006 Energy Review, the Government announced a number of proposals for changes to RO. These changes would provide differentiated support levels to different renewables technologies and give additional certainty on long-term Renewable Obligation Certificate prices. These changes to the RO will require new primary legislation and so will not be introduced until towards the end of this decade at the earliest
Renewable Obligation Certificate (ROCs)	Under the Renewable Obligation scheme, for each MWh of renewable energy generated, the supplier receives credit in the form of a tradable certificate called a Renewable Obligation Certificate.
Residual Waste	Waste that is not separated out for recycling or composting or sent for reprocessing.
Re-use	Using materials or products again, for the same or a different purpose, without reprocessing the material.
Standard Industry Classification (SIC)	The UK Standard Industrial Classification of Economic Activities (UK SIC (92)) is used to classify business establishments and other statistical units by the type of economic activities they are engaged in.
Substance Oriented Classification (SOC)	Substance oriented classification regroups detailed EWC (6-figure) categories into a substance based classification.
Sustainable Waste Management	Using material resources efficiently to cut down on the amount of waste produced. And, where waste is generated, dealing with it in a way that contributes to the economic, social and environmental goals of sustainable development.
Site Waste Management Plan (SWMP)	In April 2008 new regulations came into effect which mean any company intending to carry out a construction project on one site with an estimated cost of greater than £300,000 has a requirement to prepare, update and implement a Site Waste Management Plan.
Transfer	The deposition and separation or bulking up of waste before it is removed for recovery or disposal.
Treatment	Involves the physical, chemical or biological processing of waste to reduce their volume or harmfulness.
Unitary Development Plan (UDP)	The Unitary Development Plan for Birmingham was adopted in 2005 and is the statutory plan for Birmingham until it is replaced by Development Plan Documents.
Waste and Emissions Trading	The WET Act contains allowances for each waste disposal authority that

(WET) Act	sets the maximum amount of BMW that it is permitted to be disposed to landfill in each year between 1st April 2005 and 2020.
Waste Hierarchy	The waste hierarchy is a useful framework that has become a cornerstone of sustainable waste management, setting out the order in which options for waste management should be considered based on environmental impact. Waste prevention sits at the top followed by re-use, recycling and composting, energy recovery and finally disposal.
Waste Electrical and Electronic Equipment (WEEE)	Waste Electrical and Electronic Equipment that is controlled by the Waste Electrical and Electronic Equipment Regulations 2006 (as amended). The WEEE Directive aims to prevent waste from electronic and electrical equipment and promote collection, re-use and recycling of WEEE.
Waste Planning Authority (WPA)	An authority with planning control over waste management.

Appendix 2 Assumed Additional Households by Year up to 2026

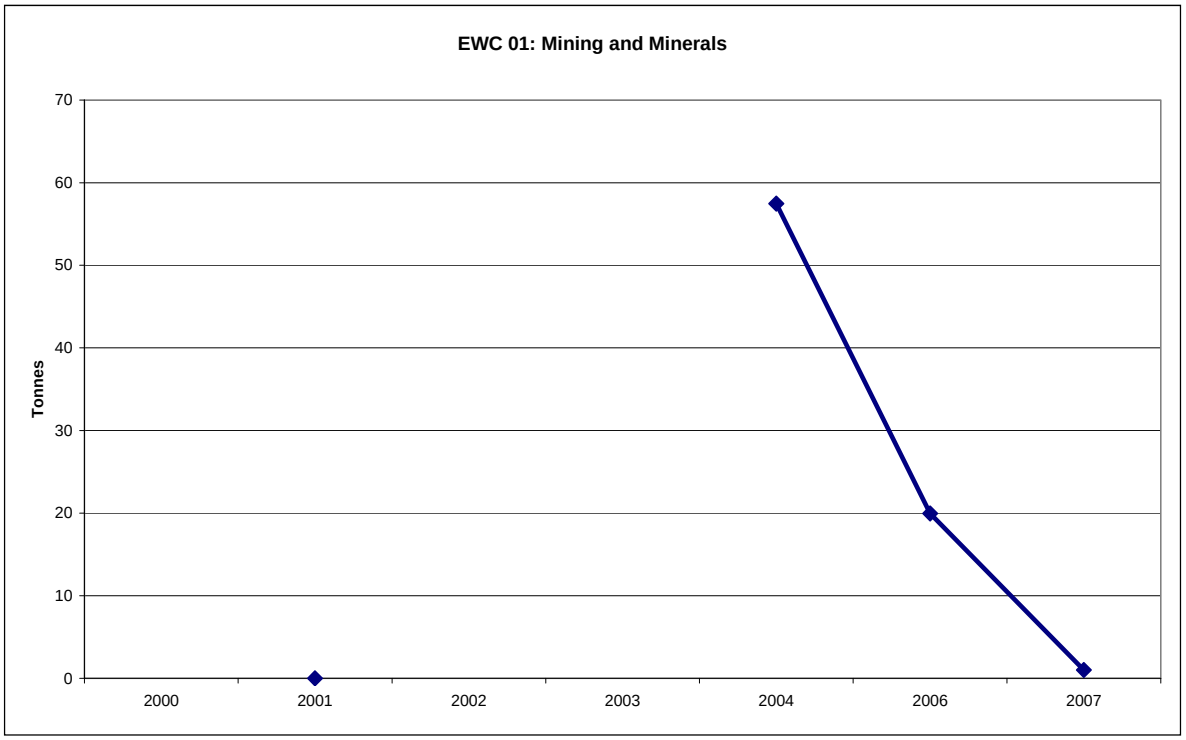
Reference	Additional no. of households	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Option 1 – 50,600	Additional hhlds/yr	2,988	1,839	2,000	920	1,287	1,655	2,022	2,206	2,391	3,027
	Total hhlds				420,920	422,207	423,862	425,884	428,090	430,481	433,508
	Cumulative total additional hhlds	2,988	4,827	6,827	7,747	9,034	10,689	12,711	14,917	17,308	20,335
Option 2 – 55,600	Additional hhlds/yr	2,988	1,839	2,000	920	1,287	1,655	2,022	2,206	2,391	3,481
	Total hhlds				420,920	422,207	423,862	425,884	428,090	430,481	433,962
	Cumulative total additional hhlds	2,988	4,827	6,827	7,747	9,034	10,689	12,711	14,917	17,308	20,789
RSS – 57,500	Additional hhlds/yr	2,988	1,839	2,000	920	1,287	1,655	2,022	2,206	2,391	3,654
	Total hhlds				420,920	422,207	423,862	425,884	428,090	430,481	434,135
	Cumulative total additional hhlds	2,988	4,827	6,827	7,747	9,034	10,689	12,711	14,917	17,308	20,962
Option 3 – 65,000	Additional hhlds/yr	2,988	1,839	2,000	920	1,287	1,655	2,022	2,206	2,391	4,336
	Total hhlds				420,920	422,207	423,862	425,884	428,090	430,481	434,817
	Cumulative total additional hhlds	2,988	4,827	6,827	7,747	9,034	10,689	12,711	14,917	17,308	21,644

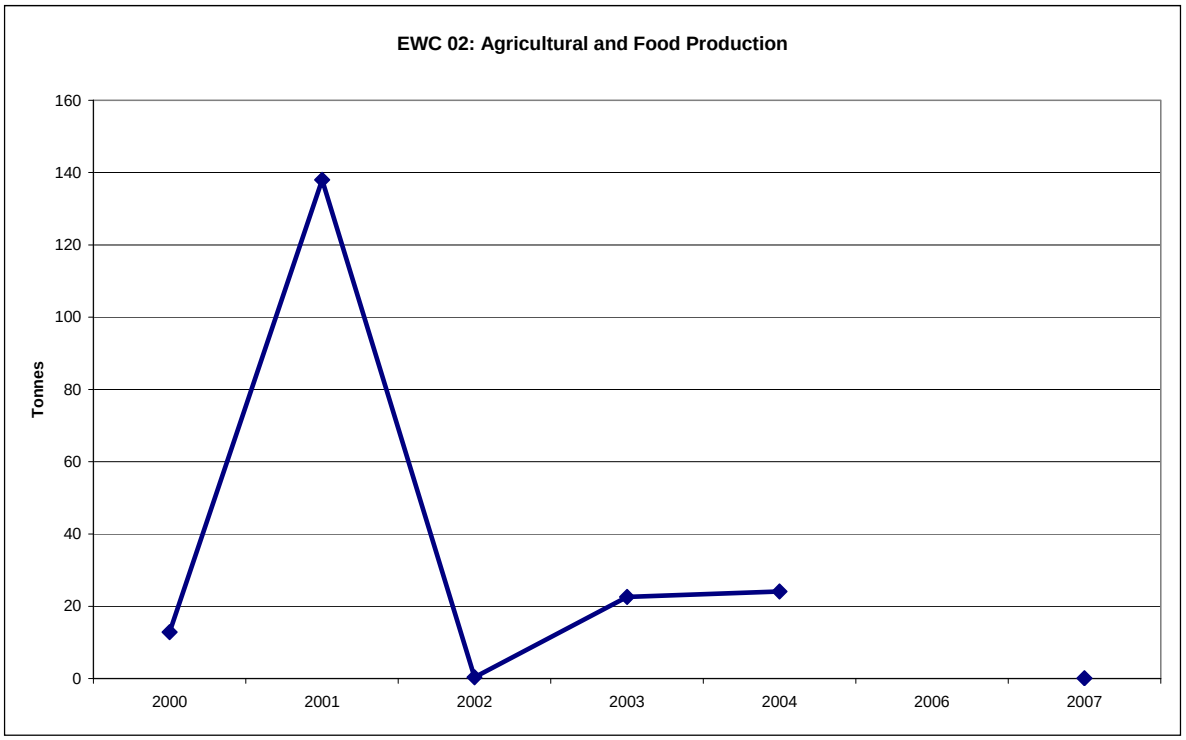
Reference	Additional no. of households	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Option 1	Additional hhlds/yr	3,027	3,027	3,027	3,027	3,027	3,026	3,026	3,026	3,026	3,026
	Total hhlds	436,535	439,562	442,589	445,616	448,643	451,669	454,695	457,721	460,747	463,773
	Cumulative total additional hhlds	23,362	26,389	29,416	32,443	35,470	38,496	41,522	44,548	47,574	50,600
Option 2	Additional hhlds/yr	3,481	3,481	3,481	3,481	3,481	3,481	3,481	3,481	3,481	3,481
	Total hhlds	437,443	440,924	444,405	447,886	451,368	454,849	458,330	461,811	465,292	468,773
	Cumulative total additional hhlds	24,270	27,751	31,232	34,713	38,195	41,676	45,157	48,638	52,119	55,600
RSS – 57,500	Additional hhlds/yr	3,654	3,654	3,654	3,654	3,654	3,654	3,654	3,654	3,654	3,654
	Total hhlds	437,789	441,442	445,096	448,750	452,404	456,058	459,712	463,365	467,019	470,673
	Cumulative total additional hhlds	24,616	28,269	31,923	35,577	39,231	42,885	46,539	50,192	53,846	57,500
Option 3	Additional hhlds/yr	4,336	4,336	4,336	4,336	4,336	4,336	4,336	4,336	4,336	4,336
	Total hhlds	439,152	443,488	447,824	452,159	456,495	460,830	465,166	469,502	473,837	478,173
	Cumulative total additional hhlds	25,979	30,315	34,651	38,986	43,322	47,657	51,993	56,329	60,664	65,000

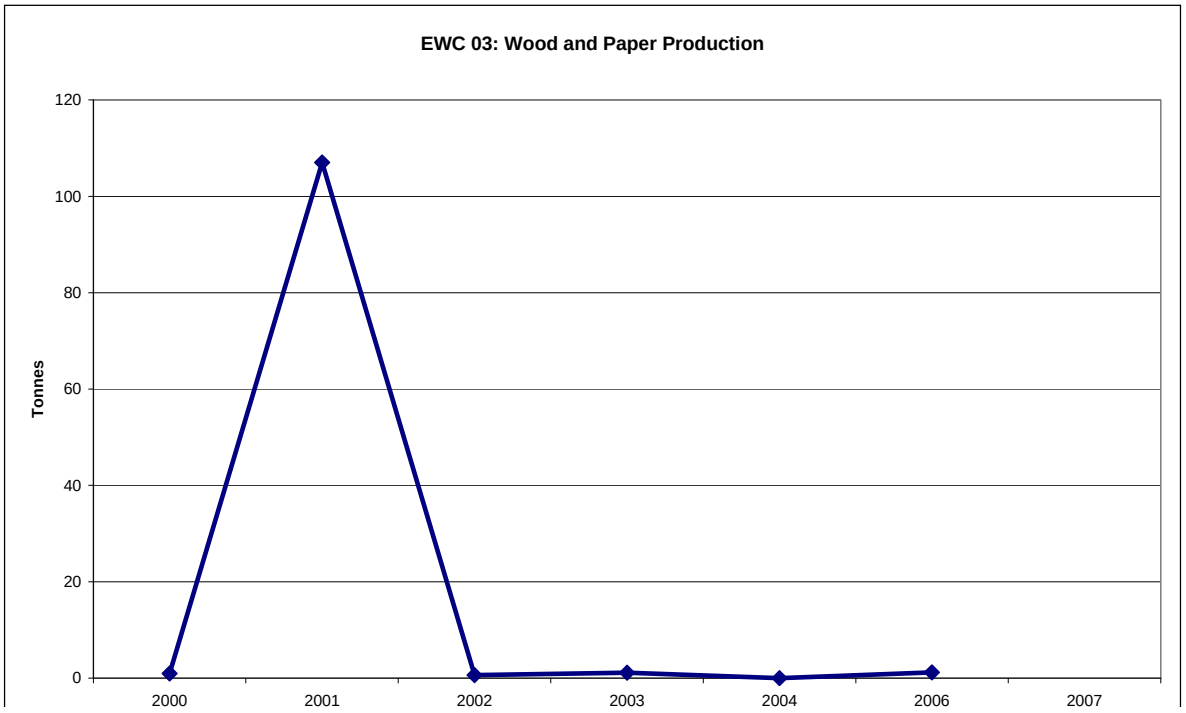
Appendix 3 C&I Arisings Breakdown by SIC & SOC (2006/07)

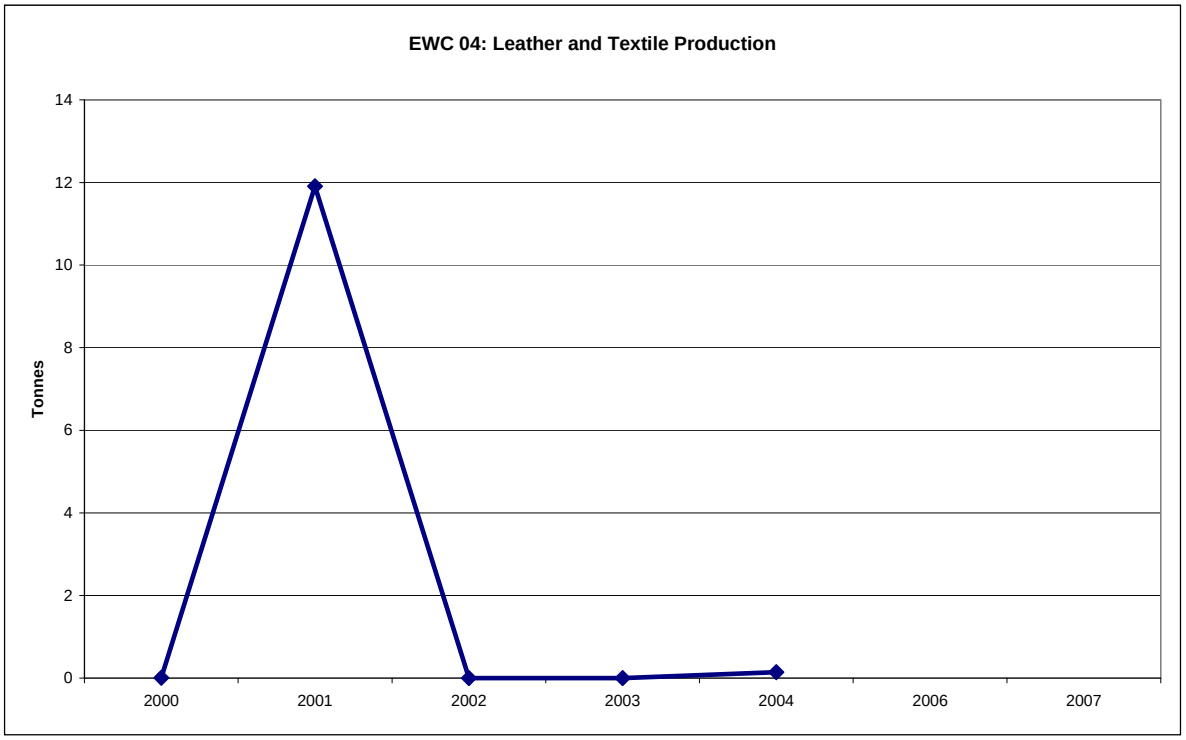
Standard Industrial Classification (SIC) Sector	Substance Oriented Classification (SOC)										
	Animal & vegetable waste	Chemical wastes	Common sludges	Discarded equipment	Health care	Metallic wastes	Mineral wastes	Mixed (ordinary) wastes	Non-metallic wastes	Total	% of total
Food, drink & tobacco	16,399	1,739	2,967	3	1	608	198	6,059	4,507	32,482	*3%*
Textiles/ wood/ paper/ publishing	17	669	800	5	0	1,213	54	10,727	20,202	33,687	*3%*
Power & Utilities	0	2,471	63	7	0	69	548	207	42	3,407	*0%*
Chemical/non-metallic minerals	58	48,099	256	36	11	1,326	11,951	8,953	5,757	76,446	*8%*
Metal manufacturing	0	22,603	299	725	1	37,632	33,868	9,747	4,259	109,134	*11%*
Machinery & equipment (other manufacturing)	1,173	11,790	242	2,151	2	15,179	150	24,859	27,440	82,986	*9%*
Retail & wholesale	29,171	6,837	28	4,253	81	11,626	144	86,602	89,158	227,899	*24%*
Other services	4,145	34,525	8,301	1,129	215	4,777	594	198,448	64,243	316,378	*33%*
Public sector	5,881	35	0	1,213	11,728	71	1	47,185	19,148	85,263	*9%*
Total	**56,845**	**128,767**	**12,955**	**9,522**	**12,039**	**72,501**	**47,507**	**392,787**	**234,756**	**967,681**	***100%***
% of total	*6%*	*13%*	*1%*	*1%*	*1%*	*7%*	*5%*	*41%*	*24%*	*100%*	

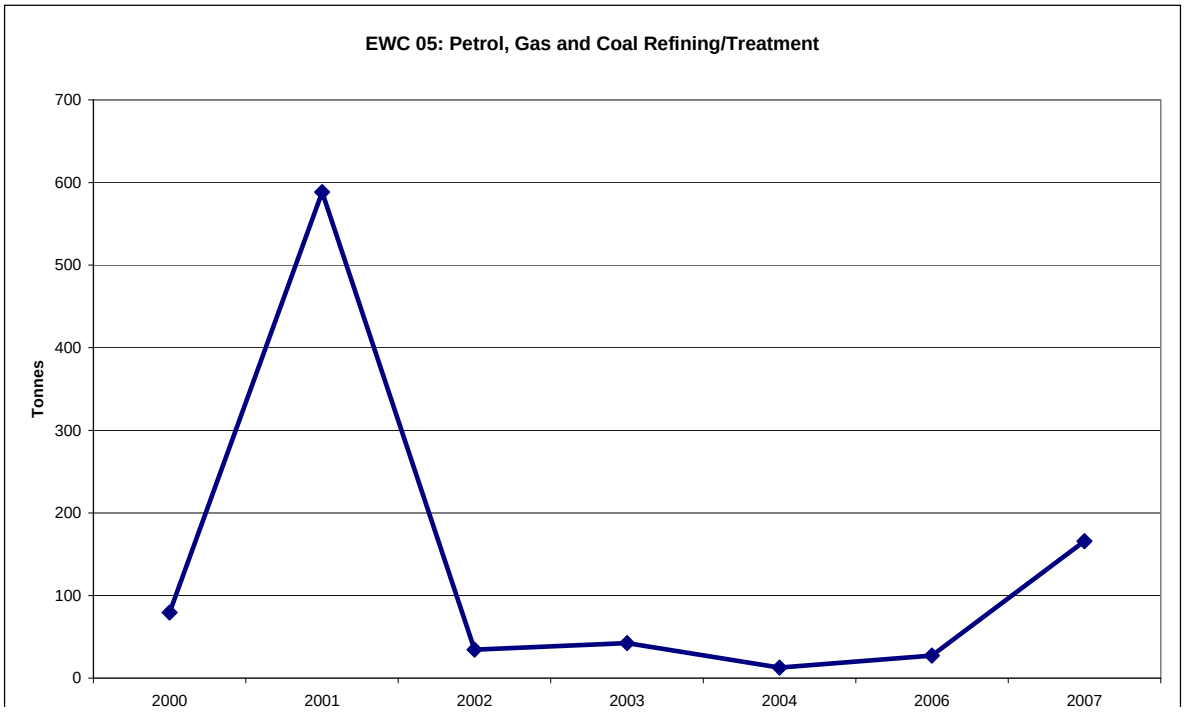
Appendix 4 Hazardous Waste Trends by EWC Code (2000 – 2007)

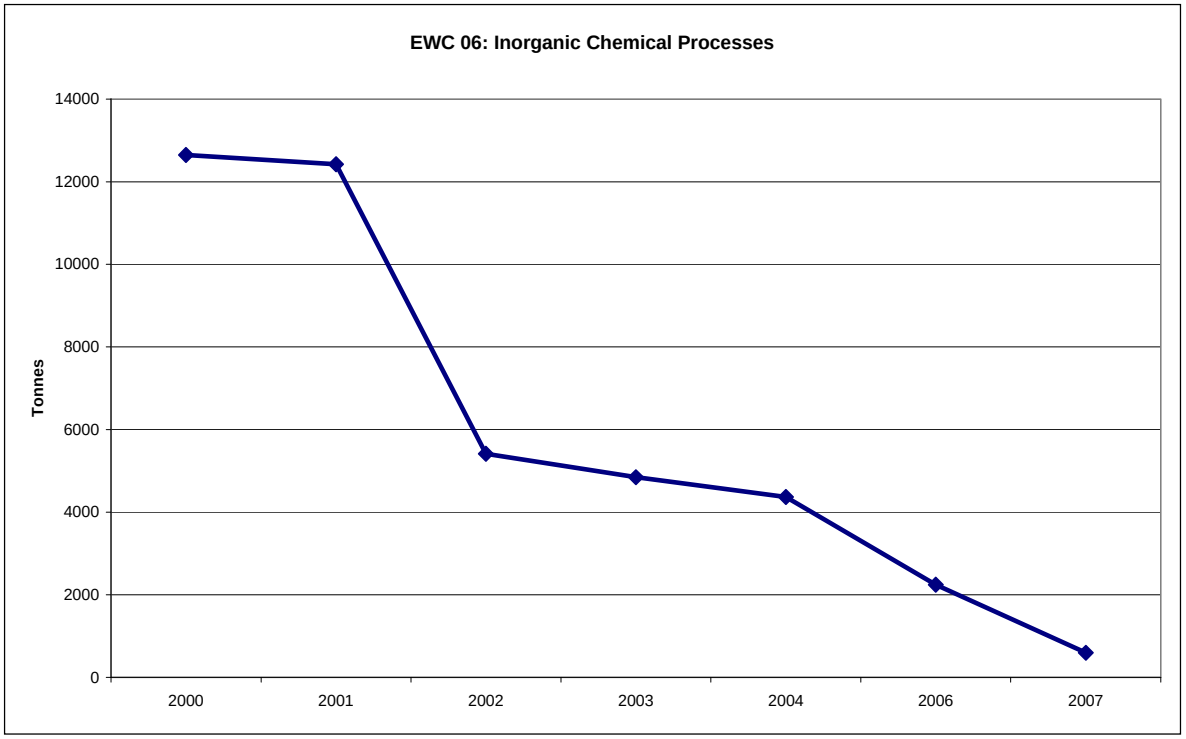


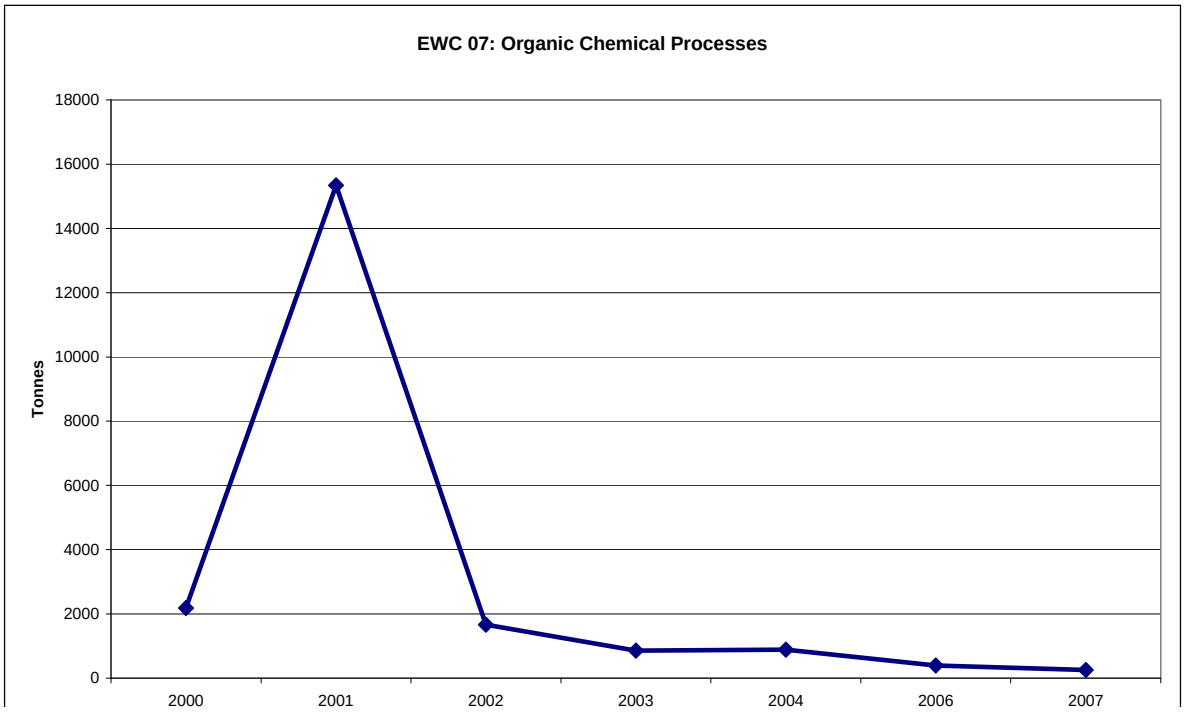


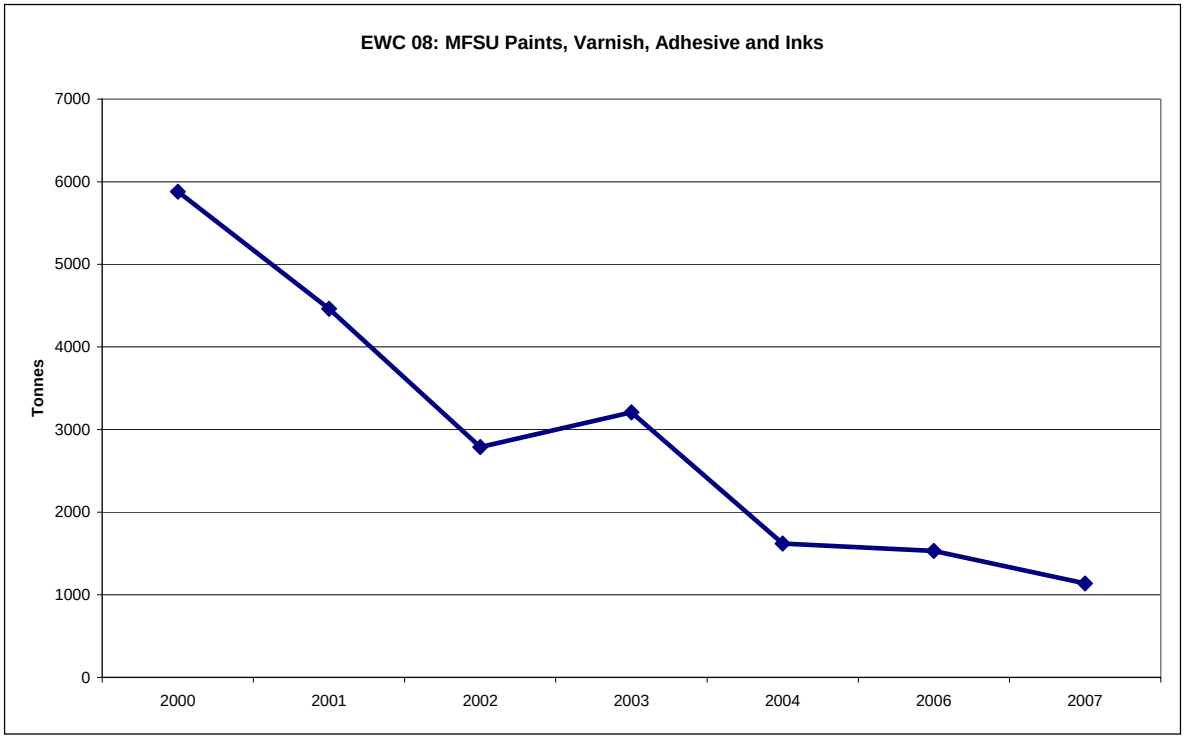

EWC 03: Wood and Paper Production
Tonnes
120
100
80
60
40
20
0
2000
2001
2002
2003
2004
2006
2007

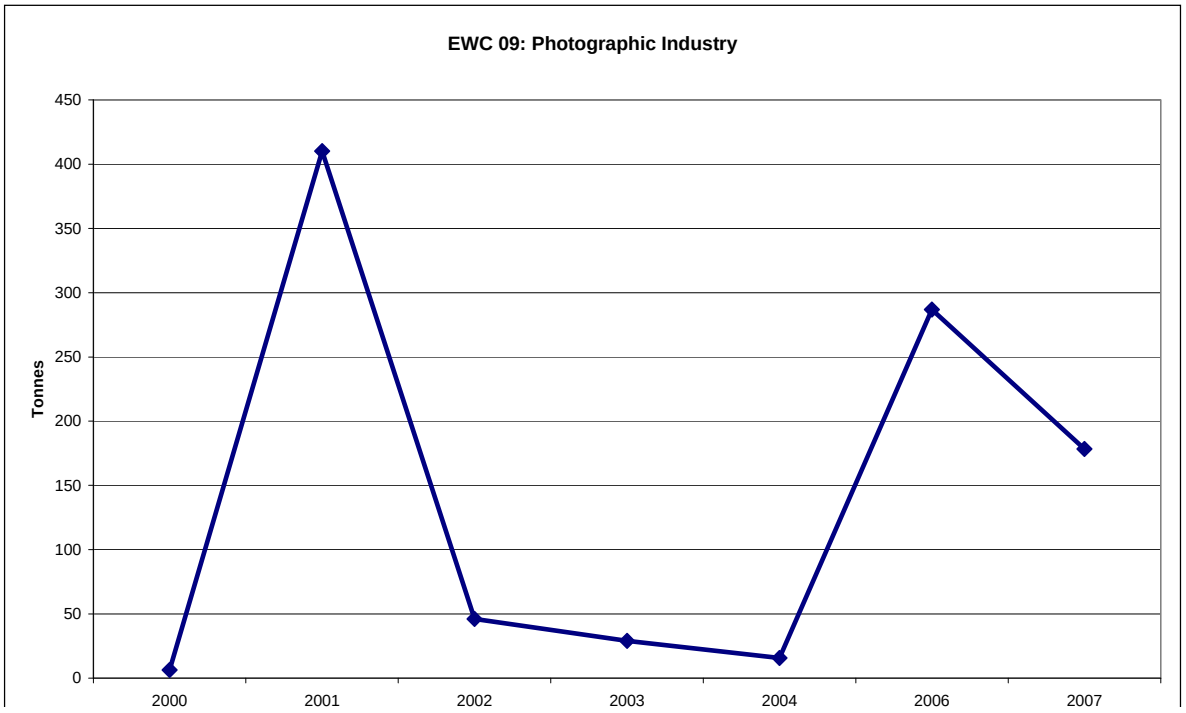

EWC 04: Leather and Textile Production
Tonnes
14
12
10
8
6
4
2
0
2000
2001
2002
2003
2004
2006
2007

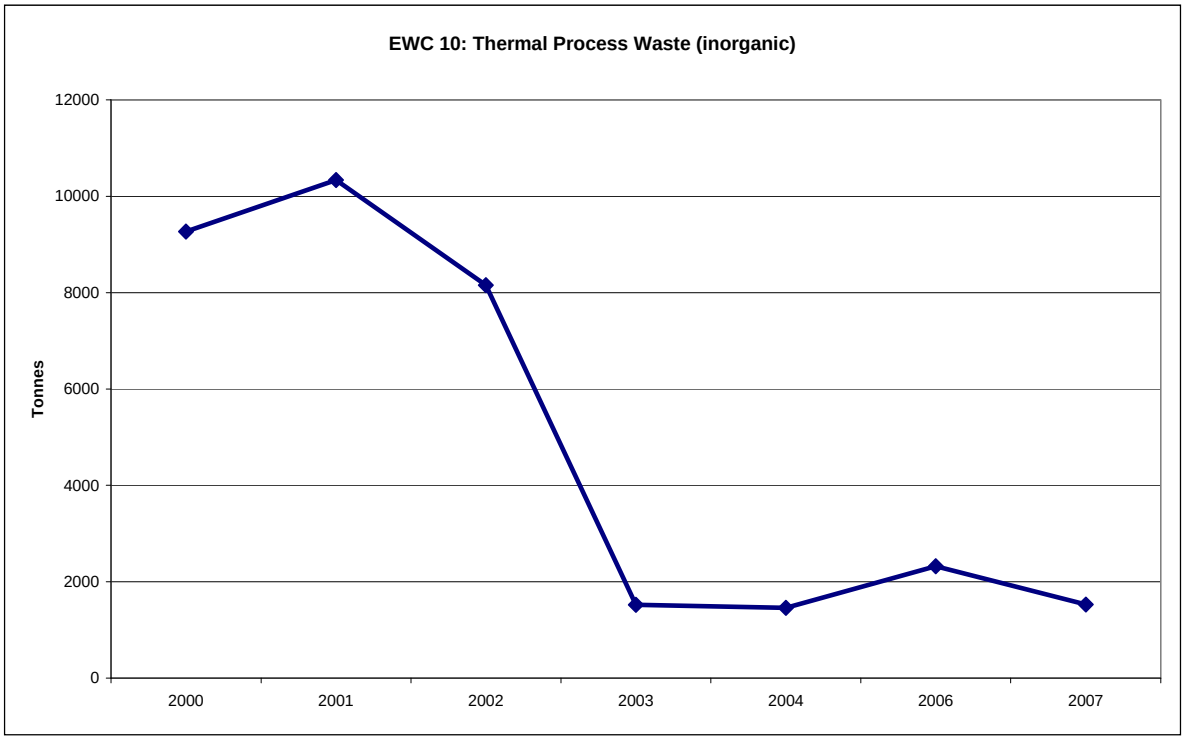

EWC 05: Petrol, Gas and Coal Refining/Treatment
Tonnes
700
600
500
400
300
200
100
0
2000
2001
2002
2003
2004
2006
2007

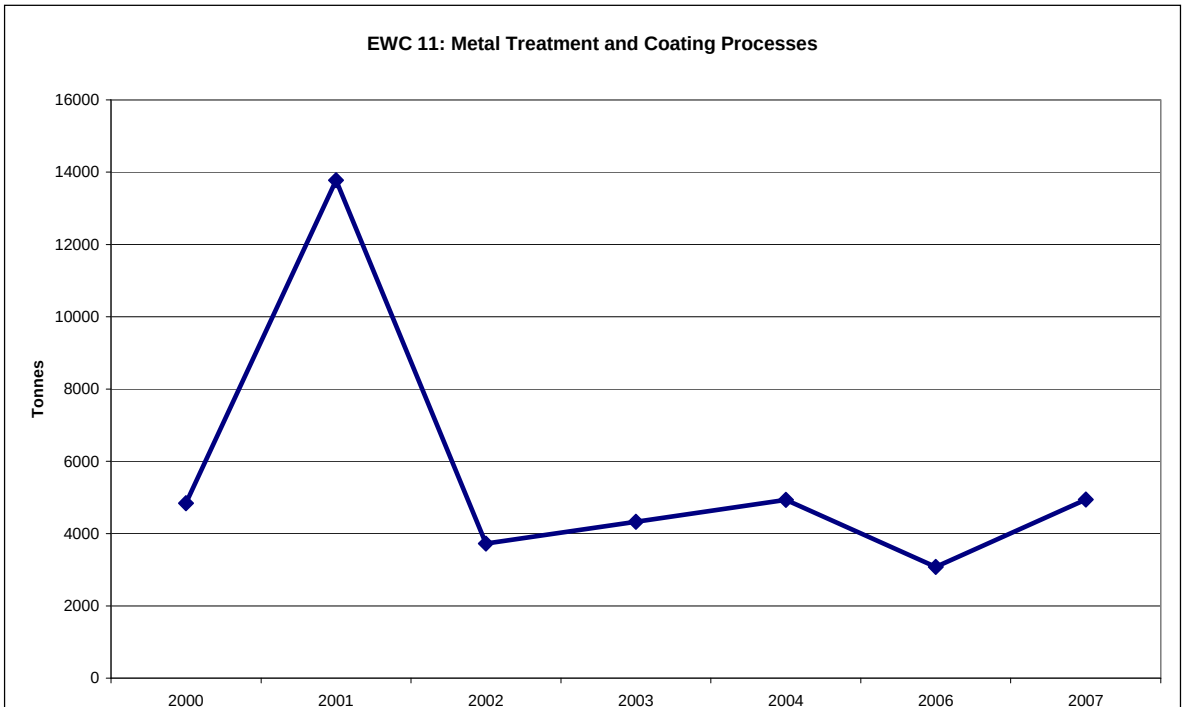

EWC 06: Inorganic Chemical Processes
Tonnes
14000
12000
10000
8000
6000
4000
2000
0
2000
2001
2002
2003
2004
2006
2007

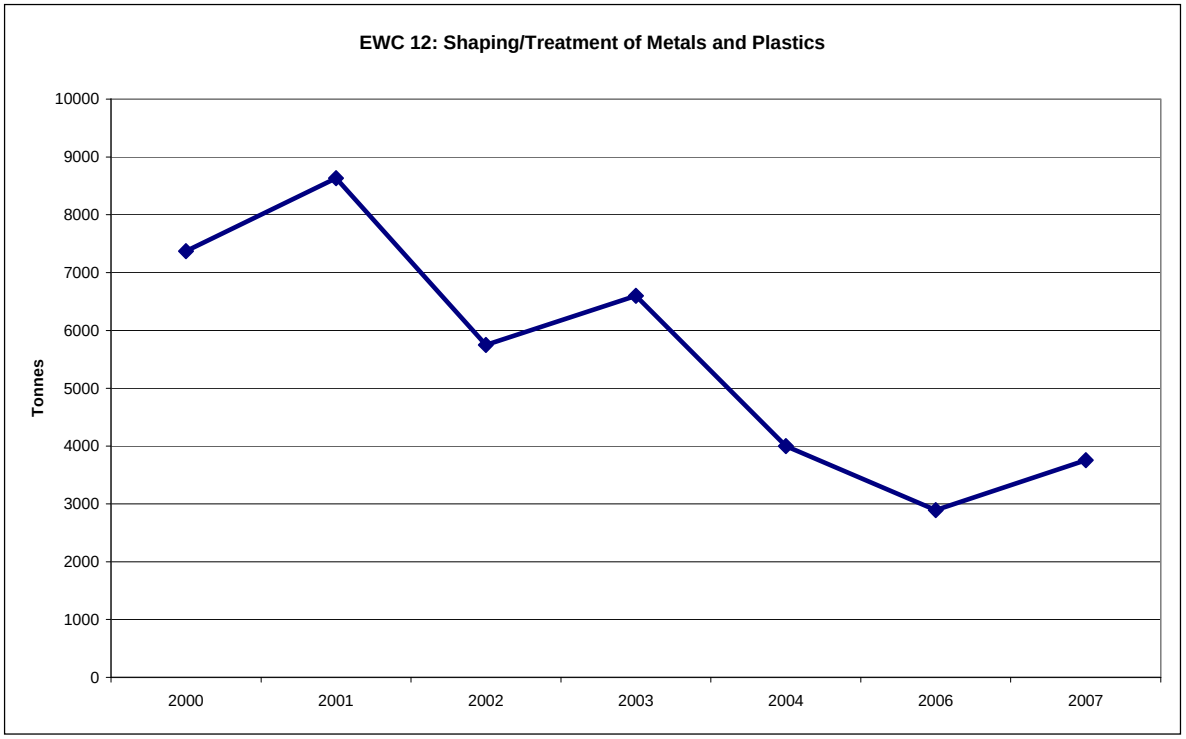

EWC 07: Organic Chemical Processes
Tonnes
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
2000
2001
2002
2003
2004
2006
2007

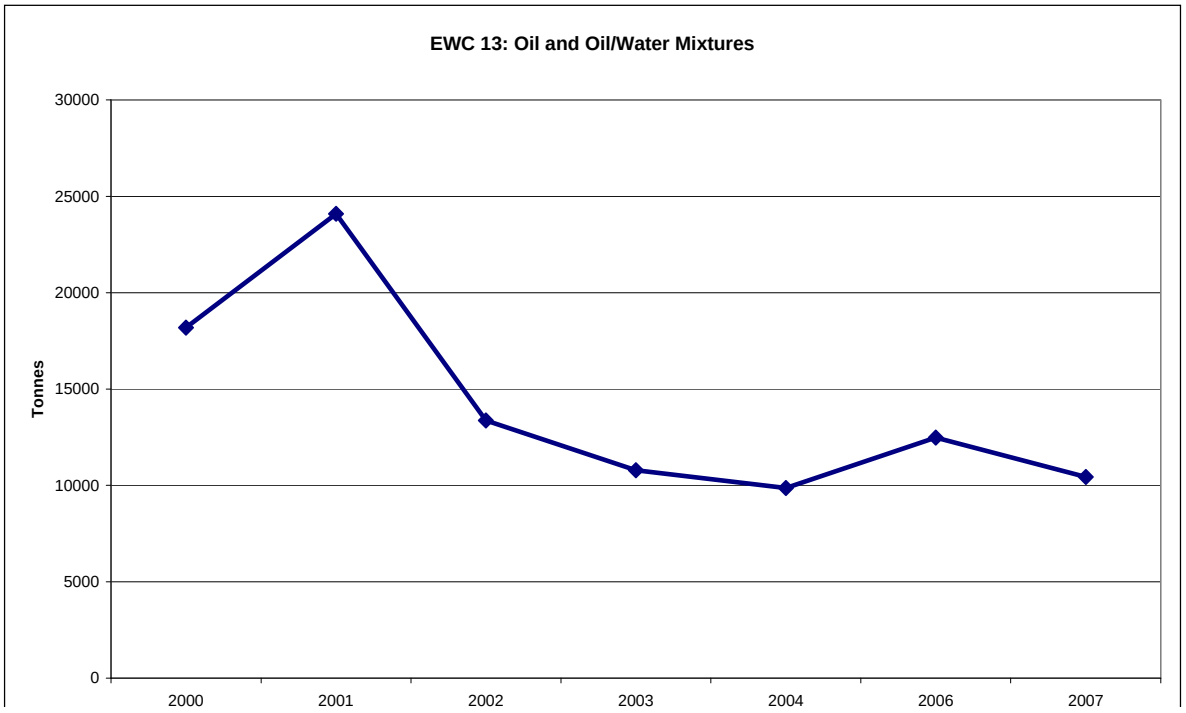

EWC 08: MFSU Paints, Varnish, Adhesive and Inks
Tonnes
7000
6000
5000
4000
3000
2000
1000
0
2000
2001
2002
2003
2004
2006
2007

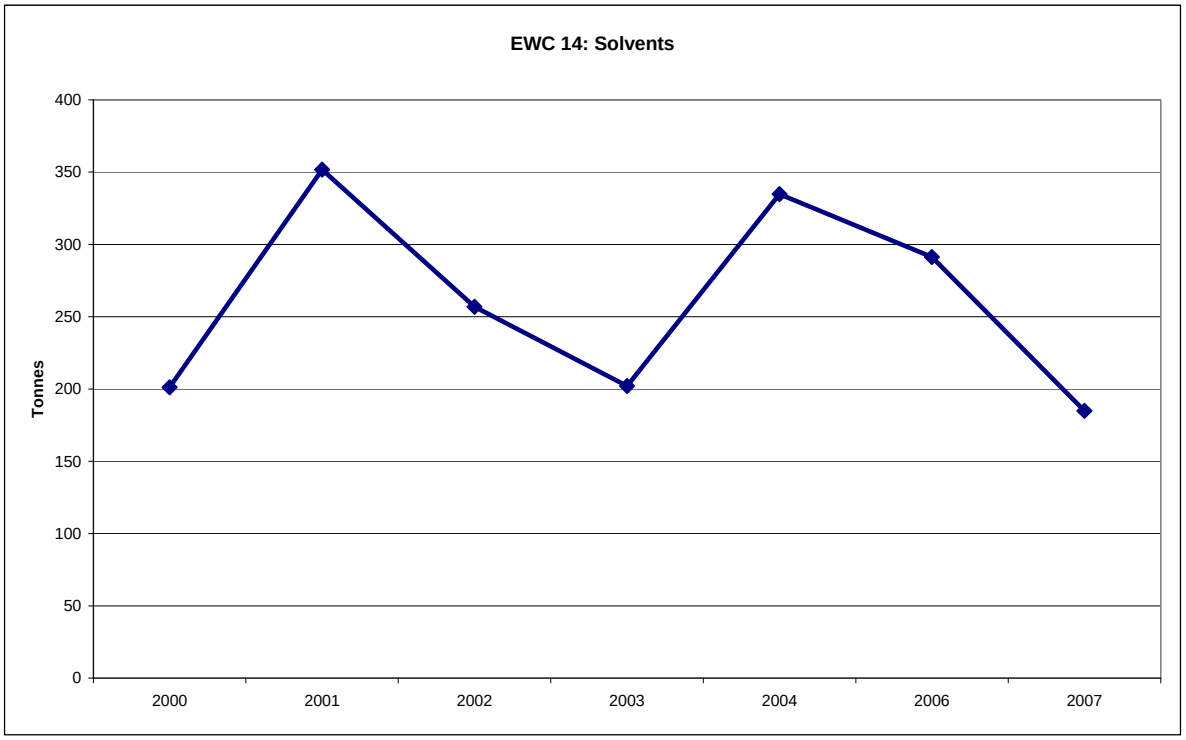

EWC 09: Photographic Industry
Tonnes
450
400
350
300
250
200
150
100
50
0
2000
2001
2002
2003
2004
2006
2007

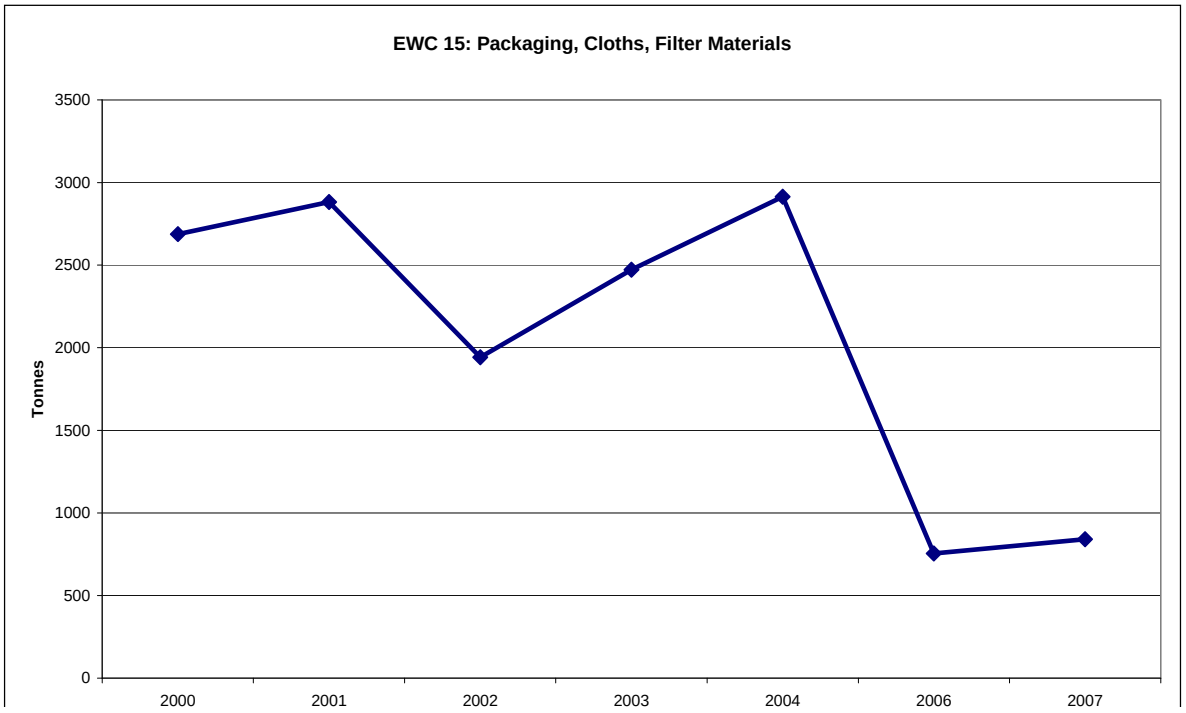

EWC 10: Thermal Process Waste (inorganic)
Tonnes
12000
10000
8000
6000
4000
2000
0
2000
2001
2002
2003
2004
2006
2007

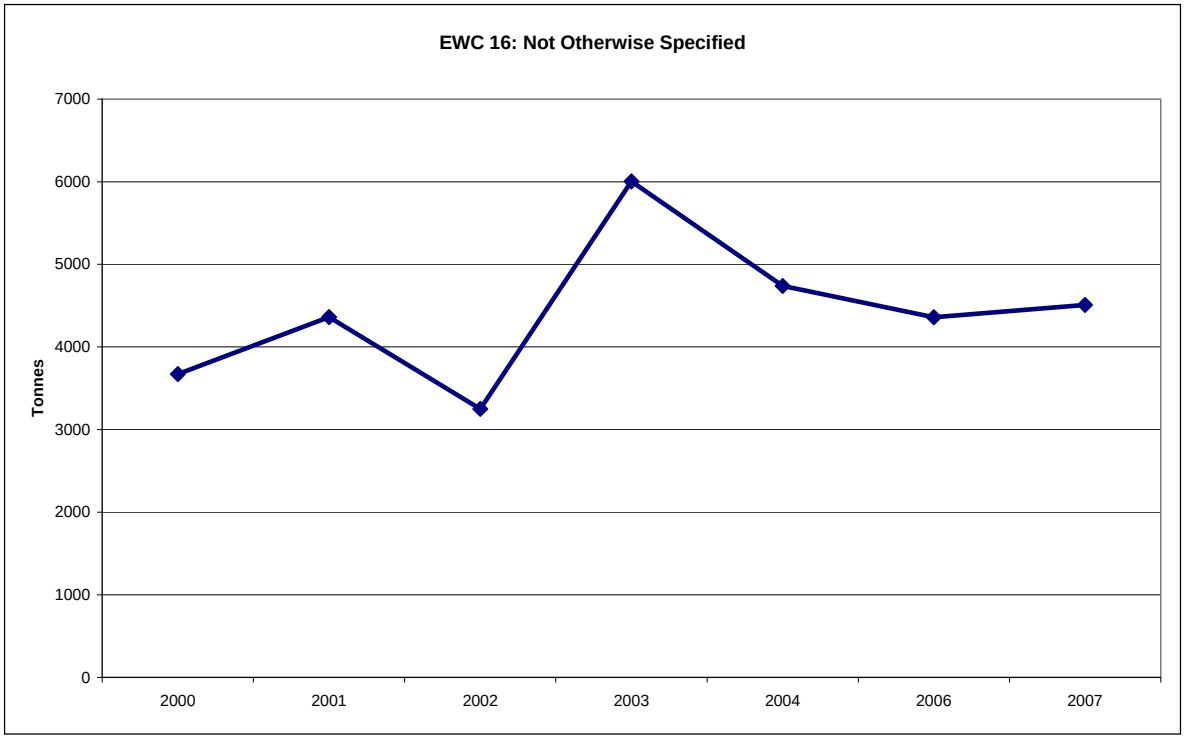

EWC 11: Metal Treatment and Coating Processes
Tonnes
16000
14000
12000
10000
8000
6000
4000
2000
0
2000
2001
2002
2003
2004
2006
2007

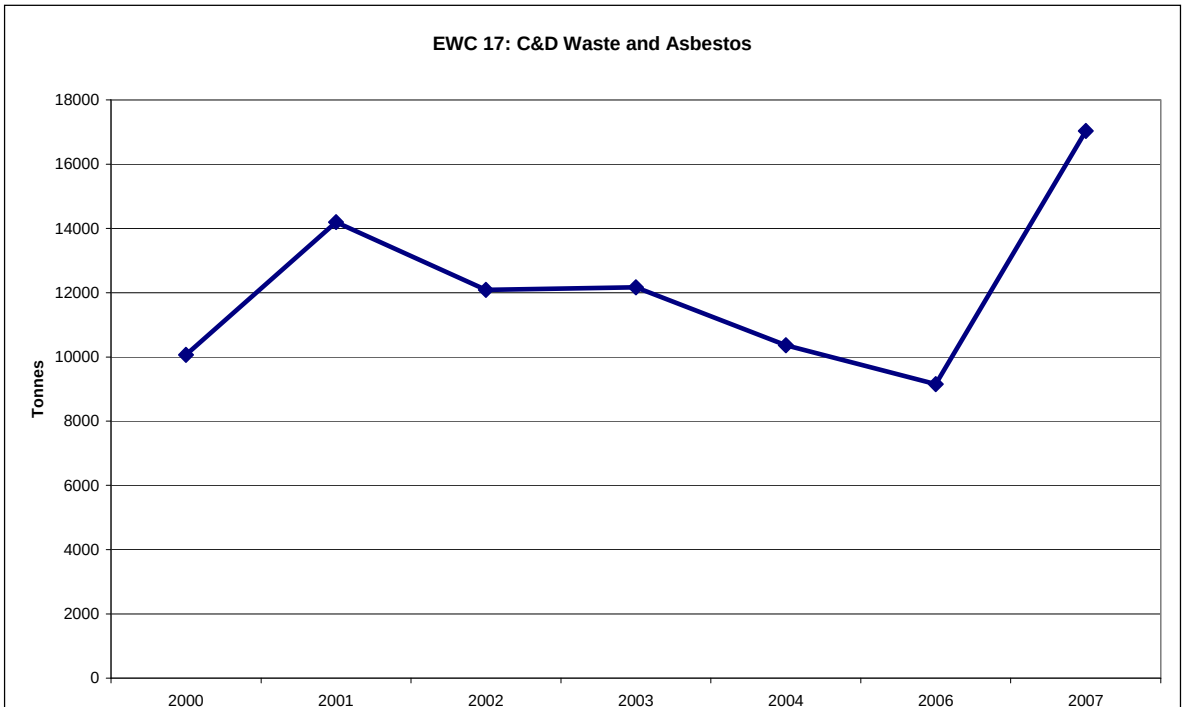

EWC 12: Shaping/Treatment of Metals and Plastics
Tonnes
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
2000
2001
2002
2003
2004
2006
2007

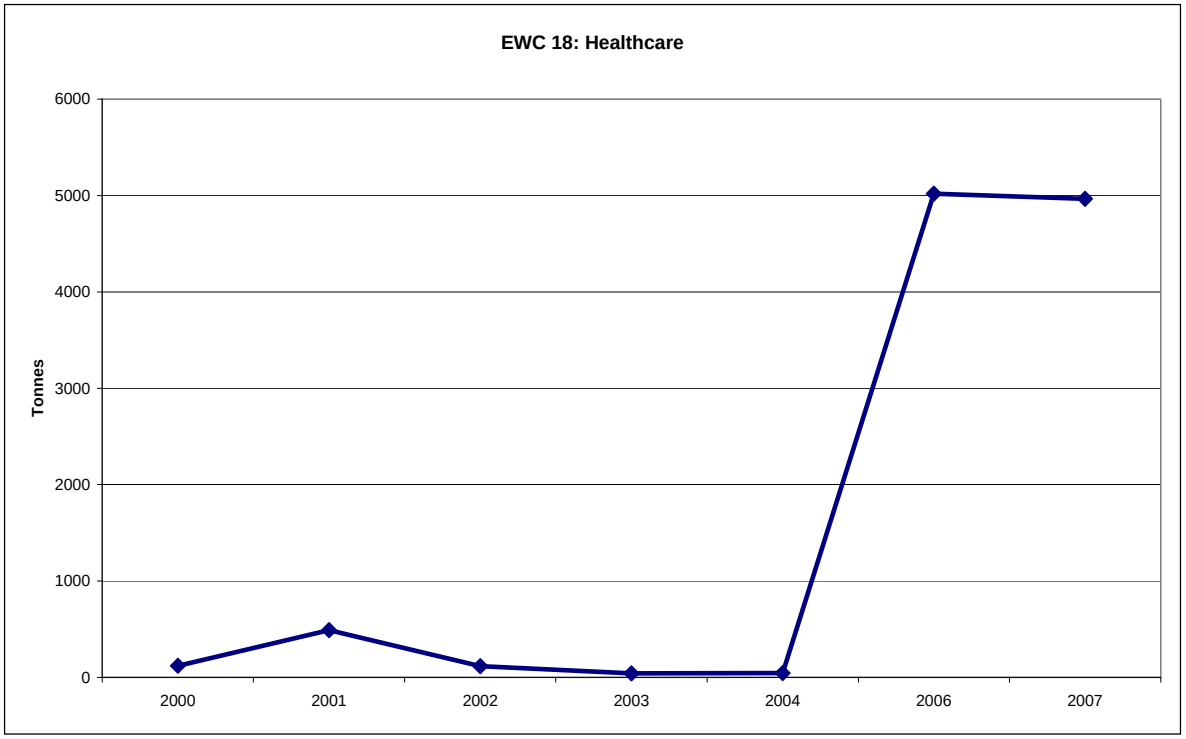

EWC 13: Oil and Oil/Water Mixtures
Tonnes
30000
25000
20000
15000
10000
5000
0
2000
2001
2002
2003
2004
2006
2007

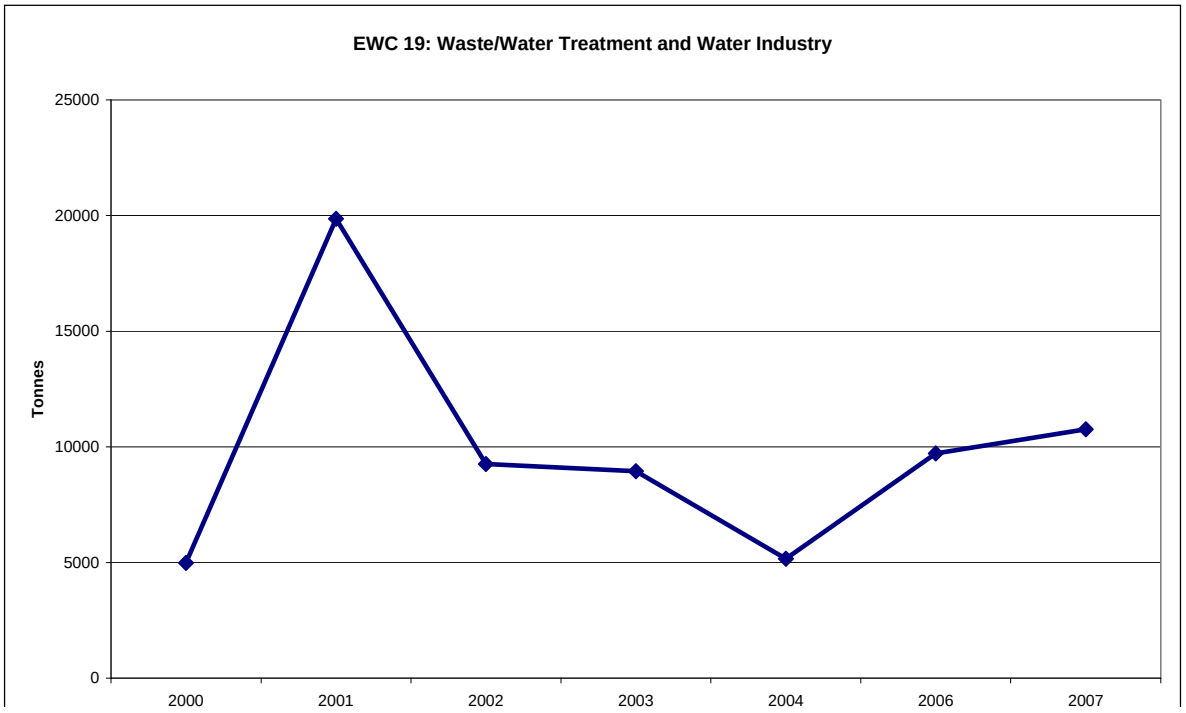

EWC 14: Solvents
Tonnes
400
350
300
250
200
150
100
50
0
2000
2001
2002
2003
2004
2006
2007

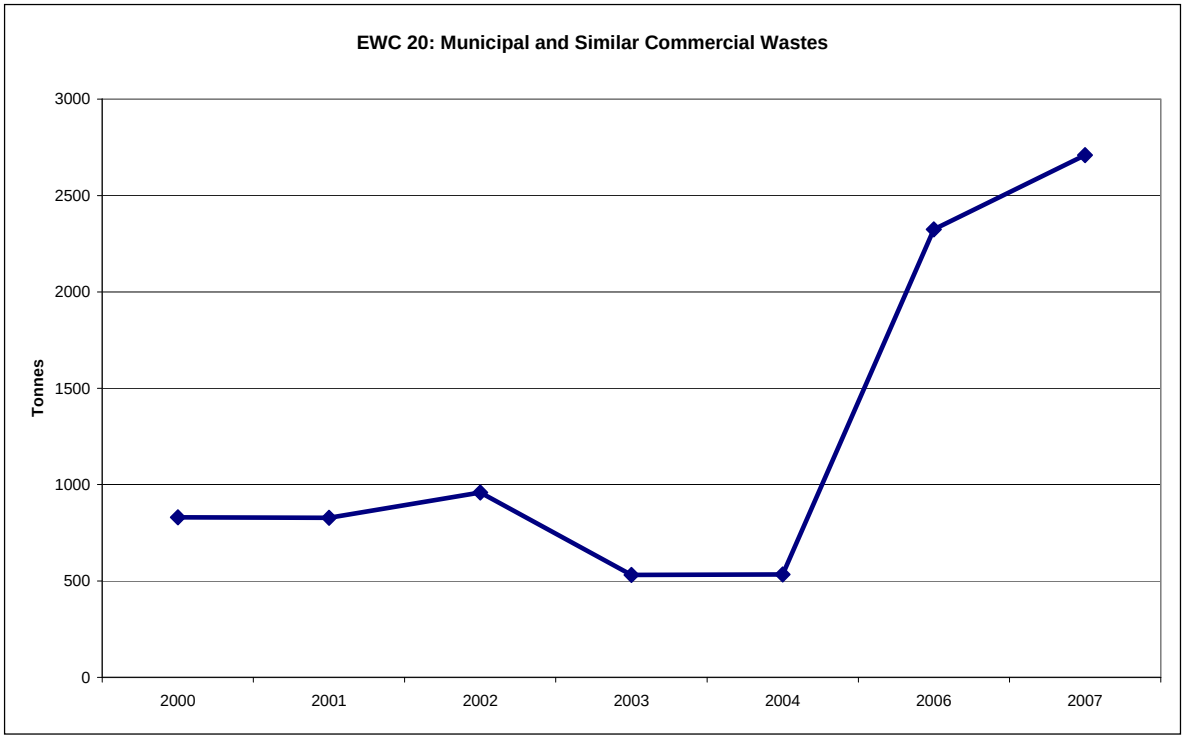

EWC 15: Packaging, Cloths, Filter Materials
Tonnes
3500
3000
2500
2000
1500
1000
500
0
2000
2001
2002
2003
2004
2006
2007

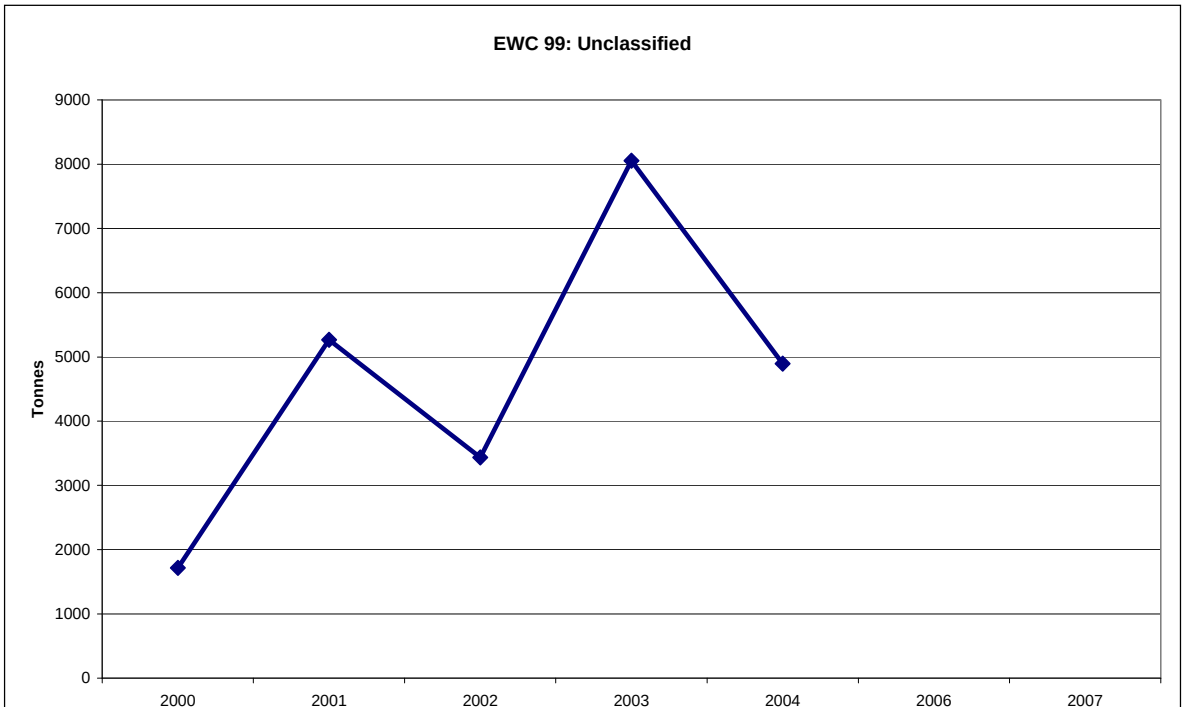

EWC 16: Not Otherwise Specified
Tonnes
7000
6000
5000
4000
3000
2000
1000
0
2000
2001
2002
2003
2004
2006
2007


EWC 17: C&D Waste and Asbestos
Tonnes
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
2000
2001
2002
2003
2004
2006
2007


EWC 18: Healthcare
Tonnes
6000
5000
4000
3000
2000
1000
0
2000
2001
2002
2003
2004
2006
2007


EWC 19: Waste/Water Treatment and Water Industry
Tonnes
25000
20000
15000
10000
5000
0
2000
2001
2002
2003
2004
2006
2007


EWC 20: Municipal and Similar Commercial Wastes
Tonnes
3000
2500
2000
1500
1000
500
0
2000
2001
2002
2003
2004
2006
2007


EWC 99: Unclassified
Tonnes
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
2000
2001
2002
2003
2004
2006
2007

Appendix 5 List of Operational Permitted Waste Facilities in Birmingham

Transfer sites with permits for waste operations

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
42597	B G Delta Limited	Transco	B G Delta Limited	A11 : Household, Commercial & Industrial Waste T Stn	<5000	Operational	Windsor Street, Aston, Birmingham, West Midlands, B7 4DN,	Birmingham	17-May-95	A11	65	4,999	
40070	Mitie Property Services U K Ltd		Brinklow Road Depot	A9 : Special Waste Transfer Station	>5000 and <25000	Operational	Brinklow Road Depot, Brinklow Road, Weoley Castle, Birmingham, West Midlands, B29 5UY,	Birmingham	01-Aug-03	A9	2,096	24,999	
40101	Alpha Wastecare Ltd		Alpha Wastecare Ltd	A11 : Household, Commercial & Industrial Waste T Stn	>75000	Operational	363 Park Road, Hockley, Birmingham, West Midlands, B18 5JA,	Birmingham	27-Aug-03	A11	26,459	72,500	
40111	D S M Demolition Ltd		D S M Demolition Ltd	A9 : Special Waste Transfer Station	<5000	Operational	Arden House, Arden Road, Heartlands, Birmingham, West Midlands, B8 1DE,	Birmingham	16-Feb-04	A9	38	4,999	
40105	Premier Waste (U K) Holdings Plc		Premier Waste (U K) Holdings Plc	A11 : Household, Commercial & Industrial Waste T Stn	>75000	Operational	209 - 211 Walsall Road, Perry Barr, Birmingham, West Midlands, B42 1BS,	Birmingham	30-Mar-04	A11	95,719	72,500	
42509	Sherrington Mr Vincent Harry	Sherringtons	Sherringtons	A11 : Household, Commercial & Industrial Waste T Stn	>5000 and <25000	Operational	145-146 Charles Henry Street, Digbeth, Birmingham, West Midlands, B12 0SD,	Birmingham	18-Feb-94	A11	98	24,999	

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
42374	Call A Skip Ltd		Call A Skip Ltd	A11 : Household, Commercial & Industrial Waste T Stn	>25000 and <75000	Operational	Unit 7/8, Crawford Street, Saltley, Birmingham, West Midlands, B8 1JL,	Birmingham	01-Apr-93	A11	16,690	74,999	
42567	Hayward & Cook Ltd		Hayward & Cook Ltd	A11 : Household, Commercial & Industrial Waste T Stn	<5000	Operational	125 Cheston Road, Aston, Birmingham, West Midlands, B7 5EA,	Birmingham	14-Nov-94	A11	195	4,999	
42278	Turner Mr W S	Skye Skips	Skye Skips	A11 : Household, Commercial & Industrial Waste T Stn	>25000 and <75000	Operational	198 Speedwell Road, Hay Mills, Birmingham, West Midlands, B25 8HH,	Birmingham	20-Oct-92	A11	40,400	74,999	
42265	City Hospital N H S Trust		City Hospital	A12 : Clinical Waste Transfer Station	<5000	Operational	City Hospital, Dudley Road, Winson Green, Birmingham, West Midlands, B18 7QH,	Birmingham	21-Sep-92	A12	638	4,999	
42401	T Bogan & Sons Haulage Contractors Ltd		T Bogan & Sons Ltd	A11 : Household, Commercial & Industrial Waste T Stn	>5000 and <25000	Operational	Plot 3 Wellington Street, Winson Green, Birmingham, West Midlands, B18 4NN,	Birmingham	06-Jul-93	A11	23,230	24,999	
40827	Mechanical Cleansing Services Ltd		Mechanical Cleansing Services	A9 : Special Waste Transfer Station	<5000	Operational	Unit G, Salford Street Ind Est`, Aston, Birmingham, West Midlands, B6 7SH,	Birmingham	08-May-78	A9	1,609	4,999	
41604	John Butlin Ltd		John Butlin Ltd	A11 : Household, Commercial & Industrial Waste T Stn	<5000	Operational	Arthur Road, Hay Mills, Birmingham, West Midlands, B25 8HA,	Birmingham	08-Aug-86	A11	866	4,999	

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
42397	R & R Waste Services Ltd		Clayton Road	A11 : Household, Commercial & Industrial Waste T Stn	>75000	Operational	20 Clayton Road, Saltley, Birmingham, West Midlands, B8 1JE,	Birmingham	28-Jun-93	A11	72,389	72,500	Yes
42593	Severn Trent Water Ltd		S T W Waterworks Road	A14 : Transfer Station taking Non-Biodegradable Wastes	>25000 and <75000	Operational	Waterworks Road, Edgbaston, Birmingham, West Midlands, B16 9DD,	Birmingham	21-Mar-95	A14	14,519	74,999	
42702	Stephen Betts & Sons Ltd		Stephen Betts & Sons Ltd	A11 : Household, Commercial & Industrial Waste T Stn	<5000	Operational	49-63 Spencer Street, Hockley, Birmingham, West Midlands, B18 6DE,	Birmingham	04-Jun-97	A11	1,207	4,999	Yes
42383	Veolia E S Birmingham Ltd		Veolia E S Birmingham Limited - Perry Barr	A11 : Household, Commercial & Industrial Waste T Stn	>75000	Operational	Perry Barr H W S & T S, Holford Drive, Perry Barr, Birmingham, West Midlands, B42 2TU,	Birmingham	14-May-93	A11	162,210	72,500	
42382	Veolia E S Birmingham Ltd		Veolia E S Birmingham Limited - Lifford Lane	A11 : Household, Commercial & Industrial Waste T Stn	>75000	Operational	Lifford H W S & T S, Ebury Road, Stirchley, Birmingham, West Midlands, B30 3JJ,	Birmingham	14-May-93	A11	131,219	72,500	
42482	J Murphy & Sons Ltd		J Murphy & Sons Ltd Venetia Road	A14 : Transfer Station taking Non-Biodegradable Wastes	<5000	Operational	Venetia Road, Small Heath, Birmingham, West Midlands, B9 4PY,	Birmingham	25-Nov-93	A14	2,301	4,999	
41511	J Cullen Thermals Ltd		J Cullen Thermals Ltd	A9 : Special Waste Transfer Station	<5000	Operational	202 Deykin Avenue, Witton, Birmingham, West Midlands, B6 7BH,	Birmingham	28-Jun-85	A9	48	4,999	

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
40757	Leigh Industrial Services Limited	Veolia Environmental Services	Leigh Industrial Services Limited - Small Heath	A11 : Household, Commercial & Industrial Waste T Stn	>75000	Operational	201 Armoury Road, Small Heath, Birmingham, West Midlands, B11 2RH,	Birmingham	25-Oct-77	A11	71,473	72,500	
42312	Wayne Hawkeswood & Spencer Hawkeswood	Hawkeswood Metal Recycling	Bennets Skip Hire & U K Metal Recycling	A11 : Household, Commercial & Industrial Waste T Stn	>25000 and <75000	Operational	238-244 Bordesley Green, Birmingham, West Midlands, B9 4SU,	Birmingham	06-Jan-93	A11	3,501	74,999	
41813	S I T A (U K) Ltd		S I T A Montague Street	A9 : Special Waste Transfer Station	>75000	Operational	Montague Street, Bordesley, Birmingham, West Midlands, B9 4BA,	Birmingham	08-Aug-88	A9	101,031	100,000	
41812	Master Construction Products Ltd		Master Construction Products Ltd	A11 : Household, Commercial & Industrial Waste T Stn	>75000	Operational	9 Pentos Drive, Tyseley, Birmingham, West Midlands, B11 3TA,	Birmingham	08-Jul-88	A11	34,398	72,500	
41503	Coleman & Company (Plant Hire) Ltd		Coleman & Company Ltd	A11 : Household, Commercial & Industrial Waste T Stn	>75000	Operational	43 Station Road, Stechford, Birmingham, West Midlands, B33 9AX,	Birmingham	14-Mar-85	A11	31	72,500	
42386	Tyseley Waste Disposal Ltd	Veolia E S Birmingham Ltd	Veolia Castle Bromwich	A11 : Household, Commercial & Industrial Waste T Stn	>75000	Operational	Castle Bromwich H W S, Tameside Drive, Castle Vale, Birmingham, West Midlands, B35 7AG,	Birmingham	14-May-93	A11	84,413	72,500	
42385	Veolia E S Birmingham Ltd	Veolia E S Birmingham Ltd	Norris Way H W S	S0813 : Non-hazardous & hazardous HWA Site	>5000 and <25000	Operational	Norris Way H W S, Norris Way, Sutton Coldfield, West Midlands, B75 7BB,	Birmingham	14-May-93	S08	11,411	24,999	

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
42384	Veolia E S Birmingham Ltd		Veolia E S Birmingham Limited - Tyseley	A11 : Household, Commercial & Industrial Waste T Stn	>75000	Operational	Tyseley Incinerator, James Road, Tyseley, Birmingham, West Midlands, B11 2BA,	Birmingham	14-May-93	A11	45,583	72,500	
40036	C & M Skips Ltd		C & M Skips Ltd	A11 : Household, Commercial & Industrial Waste T Stn	>5000 and <25000	Operational	28 Springhill Passage, Ladywood, Birmingham, West Midlands, B18 7AH,	Birmingham	19-Sep-00	A11	15,860	24,999	
40046	Wilson Colin	Centro Waste	Centro Waste - Nechells Place	A11 : Household, Commercial & Industrial Waste T Stn	>5000 and <25000	Operational	133-145 Nechells Place, Nechells, Birmingham, West Midlands, B7 5AB,	Birmingham	11-Apr-01	A11	7,207	24,999	
40064	Mcnamara Brendan James	Mac Skip Hire	Mac Skip Hire	A11 : Household, Commercial & Industrial Waste T Stn	>5000 and <25000	Operational	Sapcote Business Centre, Small Heath Highway, Small Heath, Birmingham, West Midlands, B10 0HR,	Birmingham	26-Feb-02	A11	3,320	24,999	
40083	Wilson Colin	Centro Waste	Centro Waste Trent Street	A11 : Household, Commercial & Industrial Waste T Stn	>5000 and <25000	Operational	39 Trent Street, Digbeth, Birmingham, West Midlands, B5 5NL,	Birmingham	19-Aug-02	A11	1,409	24,999	
40066	Terry And Thomas (Construction) Ltd	I S L Waste Management	I S L Waste Management	A11 : Household, Commercial & Industrial Waste T Stn	>25000 and <75000	Operational	34 Redfern Road, Tyseley, Birmingham, West Midlands, B11 2BH,	Birmingham	16-Jul-02	A11	51,190	74,999	
40069	Birmingham City Council		Birmingham City Council Depot - Thimble Mill Lane	A11 : Household, Commercial & Industrial Waste T Stn	>25000 and <75000	Operational	Council Depot, Thimble Mill Lane, Aston, Birmingham, West Midlands, B7 5HR,	Birmingham	18-Oct-02	A11	20,668	74,999	

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
40085	Weir Waste Services Ltd		Weir Waste Services Ltd - Doris Road	A11 : Household, Commercial & Industrial Waste T Stn	>5000 and <25000	Operational	Doris Road, Bordesley Green, Birmingham, West Midlands, B9 4SJ,	Birmingham	29-Oct-02	A11	23,719	24,999	
40067	Monster Skips Ltd		Monster Skips Ltd Recycling Centre	A11 : Household, Commercial & Industrial Waste T Stn	>5000 and <25000	Operational	5 Kiln Lane, Hay Mills, Birmingham, West Midlands, B25 8HF,	Birmingham	25-Oct-02	A11	12,327	24,999	
40077	Holborn Waste Ltd		Holborn Waste Ltd	A11 : Household, Commercial & Industrial Waste T Stn	>5000 and <25000	Operational	315-335 Lichfield Road, Aston, Birmingham, West Midlands, B6 7ST,	Birmingham	13-Feb-03	A11	4,344	24,999	
40071	H W Taroni Metals Ltd		H W Taroni (Metals) Limited	A11 : Household, Commercial & Industrial Waste T Stn	<5000	Operational	Railway Sidings, Aston Church Road, Saltley, Birmingham, West Midlands, B8 1QF,	Birmingham	27-Feb-03	A11	3,703	4,999	
40089	Britcare Ltd		Yardley Green Hospital	A12 : Clinical Waste Transfer Station	>5000 and <25000	Operational	Yardley Green Hospital, Yardley Green Road, Bordesley Green, Birmingham, West Midlands, B9 5PX,	Birmingham	11-Sep-03	A12	5,229	24,999	
40106	Mercian Recycling Ltd		Mercian Recycling Ltd	A11 : Household, Commercial & Industrial Waste T Stn	>5000 and <25000	Operational	24 Ebury Road, Kings Norton, Birmingham, West Midlands, B30 3JJ,	Birmingham	19-Nov-03	A11	9,222	24,999	Yes
40186	Kiely Bros. Ltd	Kiely Bros	Keily Bros Ltd	A11 : Household, Commercial & Industrial Waste T Stn	>25000 and <75000	Operational	198 Speedwell Road, Hay Mills, Birmingham, West Midlands, B25 8HH,	Birmingham	21-Jul-04	A11	125,898	74,999	

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
40276	Go Waste (U K) Ltd		Go Waste (U K) Ltd	A11 : Household, Commercial & Industrial Waste T Stn	>25000 and <75000	Operational	1 High Street, Saltley, Birmingham, West Midlands, B8 1JN,	Birmingham	21-Sep-05	A11	16,899	74,999	
40318	Specialist Computer Holdings Ltd		Specialist Computer Holdings Ltd	A11 : Household, Commercial & Industrial Waste T Stn	>5000 and <25000	Operational	Unit 2 Neo Park, Wharfdale Road, Tysley, Birmingham, West Midlands, B11 2EP,	Birmingham	11-Apr-07	A11	703	24,999	
40322	Rentokil Initial Services Ltd	Initial Washroom Solutions And Initial Medical Services	Bromford Central	A12 : Clinical Waste Transfer Station	<5000	Operational	Bromford Central, Unit 5 Bromford Lane, Washwood Heath, Birmingham, West Midlands, B8 2SE,	Birmingham	29-Oct-07	A12	638	4,999	Yes
100122	Alpha Wastecare Ltd		Alpha Wastecare Ltd	A11 : Household, Commercial & Industrial Waste T Stn	>25000 and <75000	Operational	Land At, 363 Park Road, Hockley, Birmingham, West Midlands, B18 5JA,	Birmingham	04-Dec-07	A11	39,321	74,999	Yes
100095	Blackham James Herbert	Skips 4 U Waste Services	Skips 4 U	A11 : Household, Commercial & Industrial Waste T Stn	<5000	Operational	Landor Street, Adderley Park, Birmingham, West Midlands, B8 1AE,	Birmingham	19-Feb-08	A11	1,207	4,999	Yes
100336	Mercian Recycling Ltd		Mercia Recycling Ltd	A11 : Household, Commercial & Industrial Waste T Stn	>25000 and <75000	Operational	24 Ebury Road, Kings Norton, Birmingham, West Midlands, B30 3JJ,	Birmingham	29-Aug-08	A11	39,321	74,999	Yes
100493	Macdermid Plc		Macdermid Plc	A9 : Special Waste Transfer Station	Information not available	Operational	Unit 1 B S A Industrial Park, Golden Hillock Road, Small Heath, Birmingham, B11 2LB,	Birmingham	16-Feb-09	A9	274	2,499	Yes

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
100419	Coleman & Company Ltd		Shady Lane Hazardous Waste Treatment Facility	A9 : Special Waste Transfer Station	>25000 and <75000	Operational	Shady Lane, Great Barr, Birmingham, West Midlands, B44 9ER,	Birmingham	15-May-09	A9	274	74,999	Yes

Treatment sites with permits for waste operations

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
42299	European Metal Recycling Ltd		European Metal Recycling Limited - Landor Street	A20 : Metal Recycling Site (mixed MRS's)	>75000	Operational	Landor Street, Nechells, Birmingham, West Midlands, B8 1AE,	Birmingham	09-Dec-92	>75000	373,726	190,000	
42119	Metal & Waste Recycling Ltd		Metal & Waste Recycling Ltd - Park Road	A20 : Metal Recycling Site (mixed MRS's)	>75000	Operational	Pleck Works, 489-491 Park Road, Hockley, Birmingham, West Midlands, B18 5TP,	Birmingham	19-Apr-91	>75000	4,470	190,000	
40061	Severn Trent Water Ltd		S T W Minworth S T Works	A23 : Biological Treatment Facility	>75000	Operational	Minworth Sewage Treatment Works, Kingsbury Road, Minworth, Sutton Coldfield, West Midlands, B76 9DP,	Birmingham	23-Jul-02	>75000	57,479	57,500	
42460	Tag Metals Ltd		Tag Metals Ltd	A20 : Metal Recycling	>5000 and	Operational	200 Jerrys Lane,	Birmingham	13-Oct-93	>5000 and	7,957	24,999	Yes

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
				Site (mixed MRS's)	<25000		Erdington, Birmingham, West Midlands, B23 5PG,			<25000			
42626	Armoury Demolition And Recycling Ltd		Armoury Demolition And Recycling Ltd	A16 : Physical Treatment Facility	>5000 and <25000	Operational	251 Bordesley Green Road, Bordesley Green, Birmingham, West Midlands, B8 1BY,	Birmingham	06-Mar-96	>5000 and <25000	3,561	24,999	
42103	Environmental Concern Ltd		Environmental Concern Ltd - Treatment Plant	A21 : Chemical Treatment Facility	>5000 and <25000	Operational	52 Alma Crescent, Nechells, Birmingham, West Midlands, B7 4RH,	Birmingham	07-Mar-91	>5000 and <25000	24,427	24,999	
40009	Mr David William Wilson & Mr John Arthur Sansom & Mr Robert Spencer Sansom	A F Sansom	A F Sansom	A20 : Metal Recycling Site (mixed MRS's)	>5000 and <25000	Operational	Plot 1 Clarel Avenue, Nechells, Birmingham, West Midlands, B8 1AF,	Birmingham	26-Mar-01	>5000 and <25000	7,957	24,999	
41423	Veolia E S (U K) Ltd	Veolia Environmental Services	Veolia E S (U K) Limited - Minworth	A9 : Special Waste Transfer Station	>25000 and <75000	Operational	Profile House, Forge Lane, Minworth, Sutton Coldfield, West Midlands, B76 1AH,	Birmingham	05-Dec-84	>25000 and <75000	274	74,999	
100296	J M Logistics Ltd		J M Transport Services	A19a : ELV Facility	>25000 and <75000	Operational	Unit 5 Kings Road Ind Est, Tyseley, Birmingham, West Midlands, B11 2AX,	Birmingham	28-Mar-08	>25000 and <75000	50,000	74,999	Yes

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
100818	Knowaste (Midlands) Ltd		Knowaste (Midlands) Ltd	A17 : Physico-Chemical Treatment Facility	>25000 and <75000	Operational	Atlas Works, Redfern Road, Tyseley, Birmingham, B11 2BH,	Birmingham	03-Mar-09	>25000 and <75000	50,000	74,999	Yes
48200	Birmingham City Council		Green Waste Recycling	A22 : Composting Facility	<5000	Operational	Cofton Park, Low Hill Lane, Rednal, Birmingham, West Midlands, B45 8UN,	Birmingham	14-Jun-04	<5000	686	4,999	
42251	Slater Richard	Slater Bros	Slater Brothers - Oughton Road	A20 : Metal Recycling Site (mixed MRS's)	<5000	Operational	20 Oughton Road, Highgate, Birmingham, West Midlands, B12 0DF,	Birmingham	24-Jul-92	<5000	645	4,999	
40104	Birmingham City Council		Bromford Drive Compost Site	A22 : Composting Facility	<5000	Operational	Bromford Drive, Bromford, Birmingham, West Midlands, B36 8SL,	Birmingham	01-Jul-04	<5000	686	4,999	Yes
42532	Singh Mr Heema	H U S Autos	H U S Autos	A19 : Metal Recycling Site (Vehicle Dismantler)	<5000	Operational	Plot 5 Clarel Avenue, Nechells, Birmingham, West Midlands, B8 1AF,	Birmingham	19-Apr-94	<5000	39	4,999	
42550	Taroni Russell	Henry Taroni	Henry Taroni	A19 : Metal Recycling Site (Vehicle Dismantler)	<5000	Operational	539 Lichfield Road, Aston, Birmingham, West Midlands, B6 7SP,	Birmingham	19-Jul-94	<5000	143	4,999	Yes
42431	Kaug Refinery Services Ltd		Kaug Refinery Services Ltd	A21 : Chemical Treatment	<5000	Operational	31 Green Street, Deritend,	Birmingham	02-Aug-93	<5000	210	4,999	

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
				Facility			Birmingham, West Midlands, B12 0NB,						
42511	Banaris Mr M	Kandor Motor Spares	Kandor Motor Spares	A19 : Metal Recycling Site (Vehicle Dismantler)	<5000	Operational	Unit 4 Clarel Avenue, Nechells, Birmingham, West Midlands, B8 1AF,	Birmingham	18-Feb-94	<5000	143	4,999	Yes
42380	Khan Ajab	Seven Day Parts	Seven Day Parts	A19 : Metal Recycling Site (Vehicle Dismantler)	<5000	Operational	295-7 Highgate Road, Sparkbrook, Birmingham, West Midlands, B12 8DN,	Birmingham	14-May-93	<5000	52	4,999	
42610	J E Jones (Sales & Distribution) Ltd		J E Jones (S & D) Ltd	A15 : Material Recycling Treatment Facility	<5000	Operational	Moor Lane, Witton, Birmingham, West Midlands, B6 7HH,	Birmingham	14-Aug-95	<5000	890	4,999	
42515	Sparrow Steve Phillip	Stirchley Spares	Stirchley Spares	A19 : Metal Recycling Site (Vehicle Dismantler)	<5000	Operational	1137 Pershore Road, Stirchley, Birmingham, West Midlands, B30 2YJ,	Birmingham	28-Feb-94	<5000	375	4,999	
42008	J J Crowhurst Ltd		J J Crowhurst Ltd	A20 : Metal Recycling Site (mixed MRS's)	<5000	Operational	4 Vincent Street, Balsall Heath, Birmingham, West Midlands, B12 9SG,	Birmingham	05-Sep-90	<5000	1,481	4,999	
40319	Anwar Karim, Umar Karim, Rahim Akbar	Parts 4 Cars	Parts 4 Cars	A19a : ELV Facility	<5000	Operational	The Railway Sidings, 1a Anderton Road,	Birmingham	17-Apr-07	<5000	105	4,999	

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
							Sparkbrook, Birmingham, West Midlands, B11 1TG,						
100119	Foreign Car Spares Ltd		Foreign Car Spares Ltd	A19a : ELV Facility	<5000	Operational	Old Rolling Mills, 166 Parkfield Road, Alum Rock, Birmingham, West Midlands, B8 3AY,	Birmingham	03-Dec-07	<5000	143	4,999	Yes
100220	Secure I T Disposals Ltd		Secure I T Disposals Ltd	A15 : Material Recycling Treatment Facility	<5000	Operational	53 Kettles Wood Drive, Woodgate Valley, Birmingham, West Midlands, B32 3DB,	Birmingham	24-Apr-08	<5000	890	4,999	Yes
100362	Stala Autos Ltd		Stala Autos Ltd	A19a : ELV Facility	<5000	Operational	218-224 Witton Lane, Witton, Birmingham, West Midlands, B6 6QE,	Birmingham	28-Aug-08	<5000	143	4,999	Yes
100791	Jason Moore Logistics Ltd		Jason Moore Logistics Ltd	A15 : Material Recycling Treatment Facility	<5000	Operational	Webster & Horsfall, Speedwelll Road, Haymills, Birmingham, B25 8DW,	Birmingham	25-Mar-09	<5000	890	4,999	Yes
40212	M S L Centre Ltd		M S L Centre Ltd	A19a : ELV Facility	<2500	Operational	Unit 5, 400 Golden Hillock Road, Sparkbrook, Birmingham, West Midlands, B11 2QG,	Birmingham	31-May-05	<2500	250	2,499	Yes

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
40143	White Phillip	Birmingham Autobreak Recycling	Birmingham Autobreak Recycling	A19a : ELV Facility	<2500	Operational	3-5 William Henry Street, Aston, Birmingham, West Midlands, B7 5ER,	Birmingham	05-Jul-05	<2500	492	2,499	
40121	Scarlett David	Hoppers Autobreak	Hoppers Autobreak	A19a : ELV Facility	<2500	Operational	222-224 Electric Avenue, Witton, Birmingham, West Midlands, B6 7EG,	Birmingham	10-May-05	<2500	250	2,499	Yes
40161	Worrall John	Court Auto Dismantlers	Court Auto Dismantlers	A19a : ELV Facility	<2500	Operational	108 Mackadown Lane, Tile Cross, Birmingham, West Midlands, B33 0JD,	Birmingham	22-Jul-05	<2500	600	2,499	
40091	Environmental Concern Ltd		Environmental Concern Ltd - Fridge Storage	A20 : Metal Recycling Site (mixed MRS's)	<2500	Operational	52 Alma Crescent, Nechells, Birmingham, West Midlands, B7 4RH,	Birmingham	20-Aug-03	<2500	1,063	2,499	Yes
40129	Meadway Spares Ltd		Meadway Spares Ltd	A19a : ELV Facility	<2500	Operational	163 Bordesley Green Road, Bordesley Green, Birmingham, West Midlands, B9 4TG,	Birmingham	03-Sep-04	<2500	250	2,499	Yes
40208	Mohammed Ishpaq	Frontier Volksworks	Volksworks	A19a : ELV Facility	<2500	Operational	52 Cherrywood Road, Bordesley Green, Birmingham,	Birmingham	26-Nov-04	<2500	250	2,499	Yes

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
							West Midlands, B9 4UD,						
40219	Guy Andrew	A S G Auto Centre	A S G Autocentre	A19a : ELV Facility	<2500	Operational	21 Brookvale Road, Witton, Birmingham, West Midlands, B6 7EX,	Birmingham	19-Nov-04	<2500	250	2,499	Yes
40135	Taroni Paul	Henry Taroni Motor Spares	Henry Taroni Motor Spares	A19a : ELV Facility	<2500	Operational	7-20 William Henry Street, Aston, Birmingham, West Midlands, B7 5ER,	Birmingham	23-Feb-05	<2500	250	2,499	Yes
40131	Viking Auto Spares & Repairs Ltd	Viking Auto Dismantlers	Viking Co Rover Spares Ltd	A19a : ELV Facility	<2500	Operational	4 Eckersall Road, Kings Norton, Birmingham, West Midlands, B38 8SS,	Birmingham	04-Mar-05	<2500	201	2,499	
40166	Bailey Glyndwr	Brewers Of Erdington	Brewers Of Erdington	A19a : ELV Facility	<2500	Operational	50-52 Gravelly Lane, Erdington, Birmingham, West Midlands, B23 6UH,	Birmingham	09-Feb-05	<2500	590	2,499	
40145	Perkins Steven	Slade Lane Car Spares	Slade Lane Car Spares	A19a : ELV Facility	<2500	Operational	Slade Lane, Hall Green, Birmingham, West Midlands, B28 0SE,	Birmingham	28-Sep-05	<2500	277	2,499	
40142	Rafih Mohammed	Sunrise Auto Spares	Sunrise Auto Spares	A19a : ELV Facility	<2500	Operational	21-23 William Henry Street, Aston,	Birmingham	04-Oct-05	<2500	15	2,499	

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
							Birmingham, West Midlands, B7 5ER,						
40214	Brett John	Renault Spares (Birmingham) Ltd	Renault Spares Birmingham	A19a : ELV Facility	<2500	Operational	Unit 16, Garrison Lane, Century Park, Birmingham, West Midlands, B9 4NZ,	Birmingham	19-Oct-05	<2500	24	2,499	
40157	Hill Anthony Thomas	T H Salvage	T H Salvage	A19a : ELV Facility	<2500	Operational	16 - 22 Cheston Road, Aston, Birmingham, West Midlands, B7 5EH,	Birmingham	23-Nov-05	<2500	40	2,499	
40162	Mohammed Nisar	Crown Road Spares & Salvage	Crown Road Spares & Salvage	A19a : ELV Facility	<2500	Operational	2 Crown Road, Bordesley Green, Birmingham, West Midlands, B9 4TT,	Birmingham	30-Sep-05	<2500	250	2,499	Yes
40128	Chamberlain Anthony	Jubilee Spares	Jubilee Spares	A19a : ELV Facility	<2500	Operational	Venetia Road, Bordesley Green, Birmingham, West Midlands, B9 4PY,	Birmingham	25-Oct-05	<2500	777	2,499	
40176	Saltley Autobreakers Ltd		Saltley Autobreakers Ltd	A19a : ELV Facility	<2500	Operational	36 Crawford Road, Saltley, Birmingham, West Midlands, B8 1JL,	Birmingham	26-Jan-06	<2500	369	2,499	
40284	Great Barr	Beeches 24	Beeches 24	A19a : ELV	<2500	Operational	Paper Mill	Birmingham	31-	<2500	250	2,499	Yes

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
	Auto Recovery Ltd	Hr Rescue Recovery	Hr Rescue Recovery	Facility			End, Great Barr, Birmingham, West Midlands, B44 8NH,		Jan-06				
40149	Birmingham Cab Company Ltd		Birmingham Cab Company Ltd	A19a : ELV Facility	<2500	Operational	69 Musgrave Road, Hockley, Birmingham, West Midlands, B18 5HH,	Birmingham	22-Feb-06	<2500	250	2,499	Yes
40163	Hussain Tariq	Central Auto Spares And Salvage	Central Auto Spares And Salvage	A19a : ELV Facility	<2500	Operational	Unit 4 Raleigh Road, Bordesley Green, Birmingham, West Midlands, B9 4TL,	Birmingham	24-Jul-06	<2500	250	2,499	Yes
40299	Goley John	John Goley Auto Salvage	John Goley Auto Salvage	A19a : ELV Facility	<2500	Operational	2-10 Cranby Street, Saltley, Birmingham, West Midlands, B8 1JL,	Birmingham	27-Sep-06	<2500	140	2,499	
40174	Hussain Shahdad	A K Motor Salvage	A K Motor Salvage	A19a : ELV Facility	<2500	Operational	32 Crawford Street, Saltley, Birmingham, West Midlands, B8 1JU,	Birmingham	19-Oct-06	<2500	50	2,499	
EAWML	Taj Mohammed	Witton Motor Salvage	Witton Motor Salvage	A19a : ELV Facility	<2500	Operational	46 Bickford Road, Witton, Birmingham, West Midlands, B6 7EE,	Birmingham	19-Oct-06	<2500	250	2,499	Yes
40312	Zafari Rajab	Jap Auto Parts	Jap Auto Parts	A19a : ELV Facility	<2500	Operational	8 Raleigh Road,	Birmingham	02-Feb-07	<2500	49	2,499	

EAWML	Holder Name	Holder Trading Name	Facility Name	Facility Type Description	Permitted tonnage band	Operational Status	Facility Address Long	District	Date Issued	Band	Tonnage Input	Assumed permitted tonnage	Estimated tonnage?
							Bordesley Green, Birmingham, West Midlands, B9 4TL,						
40187	Tariq Mahmood & Waheed Ahmed	Hussain Motors	Hussain Motors	A19a : ELV Facility	<2500	Operational	38 Crawford Street, Saltley, Birmingham, West Midlands, B8 1JL,	Birmingham	23-Jan-07	<2500	35	2,499	
40311	Zafari Rajab	Jap Auto Parts	Jap Auto Parts	A19a : ELV Facility	<2500	Operational	Units 1 2 & 3, Wellington Street, Winson Green, Birmingham, West Midlands, B18 4NN,	Birmingham	26-Mar-07	<2500	98	2,499	
40321	Sulaiman Jaza	Dalingil Auto Spares	Dalingil Auto Spares	A19a : ELV Facility	<2500	Operational	151-153 Wellington Street, Winson Green, Birmingham, West Midlands, B18 4NN,	Birmingham	07-Nov-07	<2500	250	2,499	Yes
100653	Mohammed Khan Khyal		Jimmy's Jap Parts	S0820 : Vehicle depollution facility	<2500	Operational	25 Camelot Way, Small Heath, Birmingham, B10 0ND,	Birmingham	05-Mar-09	<2500	250	2,499	Yes

Treatment sites with permits for waste installations

Permit No	Operator	Site Name and Address	Permit No	District	Activity	Permitted Tonnage
DP3636MQ	Mechanical Cleansing Services	Aston waste oil facility, Unit 6, Salford Street, Salford Street Ind Estate, Aston, Birmingham B6 7SH	DP3636MQ	Birmingham	Oil Recovery and storage	89
XP3834XX	Britcare Ltd	Unit G, Salford Street Industrial Estate, Aston, Birmingham B6 7SH	XP3834XX	Birmingham	Haz Waste Treatment (Clinical)	15330

Incinerators with permits for waste installations

Original Permit Number	Operator Name	Installation	Planning Region	Planning Sub-Region	Waste Type	Permitted Capacity	Tonnage Incinerated in 2006	Tonnage Incinerated in 2007	Tonnage Incinerated in 2008
WP3239SJ	Tyseley Waste Disposal Ltd	James Road, Tyseley, Birmingham B11 2BA	West Midlands	West Midlands Met Districts	Municipal waste	400,000	326,752	347,080	359,129

Authorisations within Birmingham City Council for (accumulation and) disposal of radioactive waste[36]

Organisation	Location
Alliance Medical Ltd	Birmingham PET Centre, Queen Elizabeth Medical Centre, Edgbaston, B15 2TH
Birmingham Children's Hospital NHS Foundation Trust	Birmingham Children's Hospital, Steelhouse Lane, B4 6NH
Birmingham Women's NHS Foundation Trust	Birmingham Women's Hospital, Metchley Park Road, Edgbaston, B15 2TG
BMI Healthcare Ltd	Priory Hospital, Edgbaston, B5 7UG
Heart of England NHS Foundation Trust	Good Hope Hospital, Rectory Road, Sutton Coldfield, B75 7RR
	Heartlands Hospital, Bordesley Green East, B9 5SS
Sandwell & West Birmingham Hospitals NHS Trust	City Hospital, Dudley Road, B18 7QU
	University of Birmingham Site, Edgbaston, B15 2TT
University Hospitals Birmingham NHS Foundation Trust	Queen Elizabeth Hospital, Edgbaston, B15 2TH
	Selly Oak Hospital, Raddlebarn Road, Selly Oak, B29 6JD
University of Aston	University of Aston, Aston Triangle, B4 7ET
University of Birmingham	University of Birmingham, Edgbaston, B15 2TT

[36] Environment Agency, personal communication 29/12/09

Appendix 6 List of Exempt Waste Facilities in Birmingham

Site ref	Exemption holder	Site address	Main Paragraph	Activity description	Date notified	Date regd	Exemption finish date	Assumed capacity (tonnes/annum)	Comment
BD1BAN001/0	Morelli Central	1 Stratford Street North, Camp Hill, Birmingham, West Midlands, B11 18Y,	17	Storage of recyclables for reuse	14-Nov-95	14-Nov-95		125	Assume 2.5 Cubic metre of solvent/week
BD1BEL001/0	Belstan Metals Non Ferrous Ltd	21 - 27 Hunters Road, Hockley, Birmingham, West Midlands, B19 6DP,	45	45.1Recovery of waste from scrap metal/motor vehicles	30-Dec-96	30-Dec-96	29-Dec-09	1,000	Survey - capacity for 20 tonnes/week
BD1BIR001/0	Birmingham Metals	Garrison Street, Bordesley, Birmingham, West Midlands, B9 4BN,	45	45.1Recovery of waste from scrap metal/motor vehicles	17-Sep-99	17-Sep-99	16-Sep-09	20,000	Survey - capacity for 300 - 400 tonnes/week
BD1BVH001/0	B V H Ltd aka Environmental Concern Ltd	52 Alma Crescent, Nechells, Birmingham, West Midlands, B7 4RH,	4	4.1 Packaging / containers - processing for re-use 4.3 Packaging/container storage for re-use processing	08-Aug-96	08-Aug-96		50,000	1,000 tonnes/week - survey confirmed
BD1HAW001/0	Hawkeswood Metal Recycling Ltd	Riverside Works, Trevor Street, Nechells, Birmingham, West Midlands, B7 5RG,	45	45.1 Recovery of waste from scrap metal/motor vehicles	13-Nov-00	13-Nov-00	12-Nov-09	2,500	Assume 2,500 tonnes/annum. Survey not completed
BD1HAW001/3	Hawkeswood Metal Recycling Ltd	Aston Church Road, Nechells, Birmingham, West Midlands, B7 5RX,	45	45.1 Recovery of waste from scrap metal/motor vehicles 45.3 Storage of waste where scrap metal recovery takes place 45.8 Temporary storage of non-scrap waste, pending collection	01-Oct-07	23-Oct-07	22-Oct-09	2,500	Assume 2,500 tonnes/annum. Survey not completed
BD1HIC001/0	Hicks Metals & Alloys Ltd	170 - 176 Fazeley Street, Digbeth, Birmingham, West Midlands, B5 5SE,	45	45.1 Recovery of waste from scrap metal/motor vehicles	29-Sep-95	29-Sep-95	28-Sep-09	7,500	Survey - capacity 7,500 tonnes/annum

Site ref	Exemption holder	Site address	Main Paragraph	Activity description	Date notified	Date regd	Exemption finish date	Assumed capacity (tonnes/annum)	Comment
BD1PAR003/0	Par Metals Ltd	68 Birch Road East, Witton, Birmingham, West Midlands, B6 7DB,	45	45.1 Recovery of waste from scrap metal/motor vehicles	28-Aug-96	28-Aug-96	27-Aug-09	2,500	Assume 2,500 tonnes/annum. Survey not completed
BD1WAR004/0	Warhurst Metals Ltd	97 Holborn Hill, Aston, Birmingham, West Midlands, B6 7QX,	45	45.1 Recovery of waste from scrap metal/motor vehicles	19-Aug-99	19-Aug-99	18-Aug-09	300	Survey - capacity 200 - 300 tonnes/annum.
BD1WES001/0	Mr M Trayers & Mrs L Trayers	The Arches, 12 Lawden Road, Small Heath, Birmingham, West Midlands, B10 0AB,	45	45.1 Recovery of waste from scrap metal/motor vehicles	27-Mar-96	27-Mar-96	26-Mar-10	2,500	Assume 2,500 tonnes/annum. Survey not completed
BD3BRI009/0	Bridge Metals Birmingham Ltd	Arch No 4, Landor Street, Birmingham, West Midlands, B8 1AE,	45	45.1 Recovery of waste from scrap metal/motor vehicles 45.3 Storage of waste where scrap metal recovery takes place 45.8 Temporary storage of non-scrap waste, pending collection	02-Apr-01	03-Apr-01	02-Apr-10	350	Survey - capacity 6 - 7 tonnes/week
BD3BRU003/1	Birmingham Community Recycling	Unit 1 Mount Street Business Park, Mount Street, Nechells, Birmingham, West Midlands, B7 5QU,	11 with 17	Baling, sorting, shredding, densifying, washing, crushing, pulverising, shredding or compacting of recyclable material prior to recovery or re-use AND Storage of recyclables for reuse	17-Feb-04	17-Feb-04		1,000	Survey -can double current capacity ~500 tonnes/annum
BD3CSV001/1	C S V Environment	Bordesley Green Allotments, Bordesley Green, Birmingham, West Midlands,	12	12.1 Composting of biodegradable waste 12.4 Storage of biodegradable waste for composting	24-Apr-06	24-Apr-06		5	Survey - Started storing cooking oil is a very small operation at the moment and will expand eventually

Site ref	Exemption holder	Site address	Main Paragraph	Activity description	Date notified	Date regd	Exemption finish date	Assumed capacity (tonnes/annum)	Comment
BD3D&P001/1	D & P Textiles Co Ltd	40 - 48 Cheapside, Birmingham, West Midlands, B5 6AY,	11 with 17/18 & 20	11 Baling, sorting, shredding, densifying, washing, crushing, pulverising, shredding or compacting of recyclable material prior to recovery or re-use AND 17 Storage of recyclables for reuse AND 18 Storage of recyclables in secure containers .20.1 Laundering/cleaning waste textiles for reuse 20.2 Storage of waste textiles for laundering/cleaning	02-Feb-06	02-Feb-06		3,000	Survey - capacity 60 tonnes/week.
BD3GWW001/0	G W Webb Plastics Ltd	Brookside Works, Seeleys Road, Birmingham, West Midlands, B11 2LA,	11 with 17	Baling, sorting, shredding, densifying, washing, crushing, pulverising, shredding or compacting of recyclable material prior to recovery or re-use AND Storage of recyclables for reuse	21-Feb-03	21-Feb-03		5,000	Assume plastic - limit 100 tonnes per week - survey not completed
BD3HUS002/1	Shahdad Hussain	Yard A, Adderley Road, Saltley, Birmingham, West Midlands, B8 1AN,	45	45.1 Recovery of waste from scrap metal/motor vehicles 45.3 Storage of waste where scrap metal recovery takes place 45.8 Temporary storage of non-scrap waste, pending collection	14-Mar-07	14-Mar-07	13-Mar-10	2,500	Assume 2,500 tonnes/annum. Survey not completed
BD3KAP001/1	Kappa S S K Ltd	Kappa Paper Recycling, Duddeston Mill Road, Saltley, Birmingham, West Midlands, B8 1AB,	11 with 17	Baling, sorting, shredding, densifying, washing, crushing, pulverising, shredding or compacting of recyclable material prior to recovery or re-use AND Storage of recyclables for reuse	24-Feb-04	24-Feb-04		60,000	survey - capacity 60,000 tonnes/yr

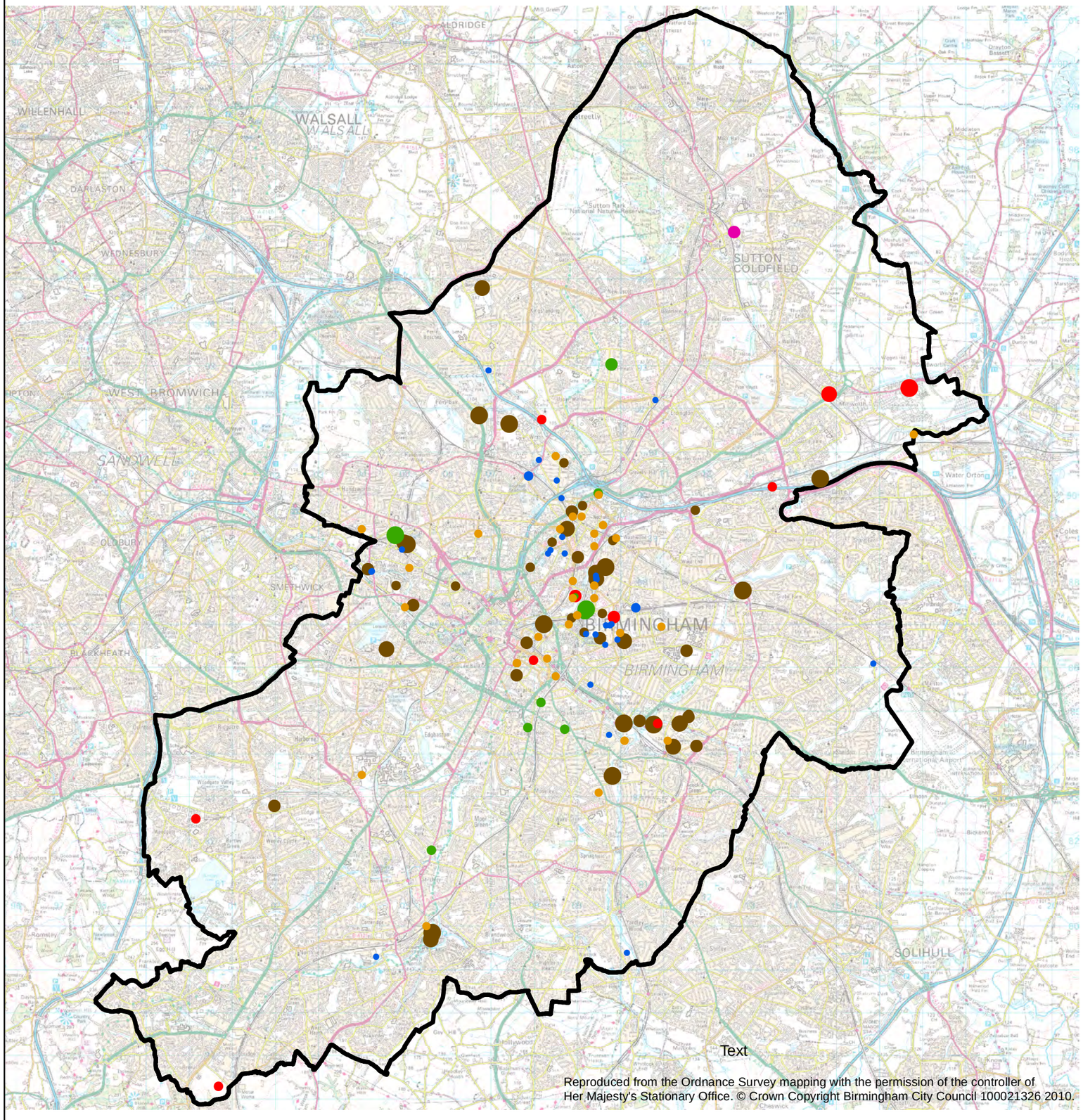
Site ref	Exemption holder	Site address	Main Paragraph	Activity description	Date notified	Date regd	Exemption finish date	Assumed capacity (tonnes/annum)	Comment
BD3KIE001/1	Kiely Bros Ltd	135 Cherrywood Road, Bordesley Green, Birmingham, West Midlands, B9 4XE,	11 with 17	Baling, sorting, shredding, densifying, washing, crushing, pulverising, shredding or compacting of recyclable material prior to recovery or re-use AND Storage of recyclables for reuse	27-Mar-06	27-Mar-06		120,000	Survey - capacity 120,000 tonnes/annum.
BD3KIN002/1	Kingsbury Pallets	Water Orton Lane, Minworth, Sutton Coldfield, West Midlands, B76 9BG,	13	13.1 Manufacture of products from waste 13.2 Manufacture of soil / soil substitutes 13.3 Treatment of waste soil, rock for spreading on land 13.4 Storage of waste for manufacture of soil etc.	13-Jun-05	13-Jun-05		15,000	Survey - capacity 15,000 tonnes/annum.
BD3TAR008/1	Russell Taroni	475-499 Lichfield Road, Aston, Birmingham, West Midlands, B6 7SP,	45	45.1 Recovery of waste from scrap metal/motor vehicles 45.3 Storage of waste where scrap metal recovery takes place 45.8 Temporary storage of non-scrap waste, pending collection	14-Nov-06	28-Nov-06	27-Nov-09	2,500	Assume 2,500 tonnes/annum. Survey not completed
BD3VEO001/1	Veolia Es Birmingham Limited	Lifford Lane Transfer Station, Ebury Road, Tyseley, Birmingham, West Midlands, B30 3JH,	13	13.1 Manufacture of products from waste	23-Jun-06	06-Jul-06			
NCCALL064/1	Sims Group	Queens Head Road, Handsworth, Birmingham, West Midlands, B21 0RW,	45	45.1 Recovery of waste from scrap metal/motor vehicles 45.3 Storage of waste where scrap metal recovery takes place	25-Jan-08	19-Mar-08	18-Mar-10	300,000	Survey - 300,000 tonnes/annum.

Site ref	Exemption holder	Site address	Main Paragraph	Activity description	Date notified	Date regd	Exemption finish date	Assumed capacity (tonnes/annum)	Comment
NCCAMR003/1	A & H Rubbish Removal	A & M Rubbish Removal, 119 Wainwright Street, Aston, Birmingham, West Midlands, B6 5TG,	45	45.1 Recovery of waste from scrap metal/motor vehicles 45.3 Storage of waste where scrap metal recovery takes place	05-Jun-08	01-Sep-08	31-Aug-09	-	Survey - Occasionally store v. small amounts - skips generally go straight to transfer
NCCARM036/1	Armac Environmental	90--112 Lodge Road, Hockley, Birmingham, B18 5QY,	9	9.1 Spreading of waste for land reclamation/improvement 9.4 Storage of waste for land reclamation/improvement	18-Jul-08	01-Aug-08	31-Jul-09	1,345	Assume 1,345 tonnes/annum as per EA information. Survey not completed
NCCDEL013/1	Deluxe Appliances	707 Stratford Road, Sparkhill, Birmingham, West Midlands, B11 4DN,	40	40.3 Repair or refurbishment of hazardous WEEE 40.5 Secure storage where WEEE is to be repaired or refurbished	10-Jul-08	11-Aug-08	10-Aug-09	10	Survey - deal with 2 - 3 washing machine/week. Assumed 65kg/washing machine
NCCEUR031/1	European Metal Recycling Ltd	Landor Street, Nechells, Birmingham, West Midlands, B8 1AE,	45	45.3 Storage of waste where scrap metal recovery takes place 45.8 Temporary storage of non-scrap waste, pending collection	04-Mar-09	14-Apr-09	13-Apr-10	-	Total capacity assumed to be covered under permit
NCCFCM001/2	F & C Metals Ltd	Neptune Works, Unit 9 Upper Trinity Street, Bordesley, Birmingham, West Midlands, B9 4EG,	45	45.1 Recovery of waste from scrap metal/motor vehicles 45.3 Storage of waste where scrap metal recovery takes place 45.8 Temporary storage of non-scrap waste, pending collection	20-Oct-08	13-Nov-08	12-Nov-09	1,000	Survey - capacity <1,000 tonnes/annum.

Site ref	Exemption holder	Site address	Main Paragraph	Activity description	Date notified	Date regd	Exemption finish date	Assumed capacity (tonnes/annum)	Comment
NCCGOL007/1	Golden Waste Uk Ltd	79 Eyre Street, Springhill, Birmingham, West Midlands, B18 7AD,	13	13.1 Manufacture of products from waste 13.2 Manufacture of soil / soil substitutes 13.3 Treatment of waste soil, rock for spreading on land 13.4 Storage of waste for manufacture of soil etc.	12-Jun-08	26-Jun-08		20,000	Survey not completed - assume 20,000 tonnes/annum
NCCGRE228/2	Greencyc Ltd	Unit 8 Long Acre Trading Estate, Aston, Birmingham, B7 5JD,	40	40.1 Repair or refurbishment of non-hazardous WEEE 40.3 Repair or refurbishment of hazardous WEEE 40.5 Secure storage where WEEE is to be repaired or refurbished	30-Jan-09	18-Feb-09	17-Feb-10	1,250	Storage limit 80 cubic metres, treatment limit 5 tonnes per day - Survey not completed
NCCHWT002/0	H W Taroni Metals Ltd	The Compound, 250 Aston Church Road, Washwood Heath, Birmingham, West Midlands, B8 1QF,	45	45.1 Recovery of waste from scrap metal/motor vehicles 45.3 Storage of waste where scrap metal recovery takes place 45.8 Temporary storage of non-scrap waste, pending collection	25-Oct-07	29-Nov-07	28-Nov-09	2,500	Assume 2,500 tonnes/annum. Survey not completed
NCCMCA014/2	Mc Auliffe Group	B N H J V - Vincent Drive, 21 Mindelson Way, Edgbaston, Birmingham, West Midlands, B15 2WB,	19	19.1 Storage of demolition/construction/excavation waste 19.2 Use of demolition/storage/excavation waste 19.5 Storage of road planings	23-Mar-09	06-Apr-09	05-Apr-10	80,000	Survey - potential capacity for 80,000 tonnes/annum

Site ref	Exemption holder	Site address	Main Paragraph	Activity description	Date notified	Date regd	Exemption finish date	Assumed capacity (tonnes/annum)	Comment
NCCMID045/2	Midshire Business Systems Ltd	Midshire Business Systems Ltd, 94 Cato Street, Nechells, Birmingham, West Midlands, B7 4TS,	40	40.1 Repair or refurbishment of non-hazardous WEEE 40.3 Repair or refurbishment of hazardous WEEE 40.5 Secure storage where WEEE is to be repaired or refurbished	22-Dec-08	02-Feb-09	01-Feb-10	5	Survey - could not quantify capacity/minimal
NCCPAR140/1	Parkstone Group Ltd	Holte, Mayfield, Lozellis School, Wheeler Street, Birmingham, B19 2EJ,	19	19.1 Storage of demolition/construction/excavation waste 19.2 Use of demolition/storage/excavation waste 19.5 Storage of road planings	17-Jun-09	21-Jul-09	20-Jul-10	2,000	Survey - potential capacity for 2,000 tonnes/annum
NCCTER331/0	Terry And Thomas Construction Ltd aka ISL	34 Redfern Road, Tyseley, Birmingham, B11 2BH,	45	45.1 Recovery of waste from scrap metal/motor vehicles 45.3 Storage of waste where scrap metal recovery takes place 45.8 Temporary storage of non-scrap waste, pending collection	03-Jul-09	06-Aug-09	05-Aug-10	2,500	Assume 2,500 tonnes/annum. Survey not completed

Appendix 7 Maps of Waste Facilities



Birmingham City Council

Birmingham City Council
Waste Strategy

CAN: WO0160001

Figure 1
Licensed and Exempt Sites

Key

GroupType

- Household Waste Site
- Recycling Site
- Transfer Stations
- Treatment Facility
- Vehicle Treatment

Permitted Tonnage Band

- <2500
- >2500 and <5000
- >5000 and <25000
- >25000 and <75000
- >75000
- Exempt Sites
- Birmingham City Council Boundary

N

Kilometers

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DRAWN: JG
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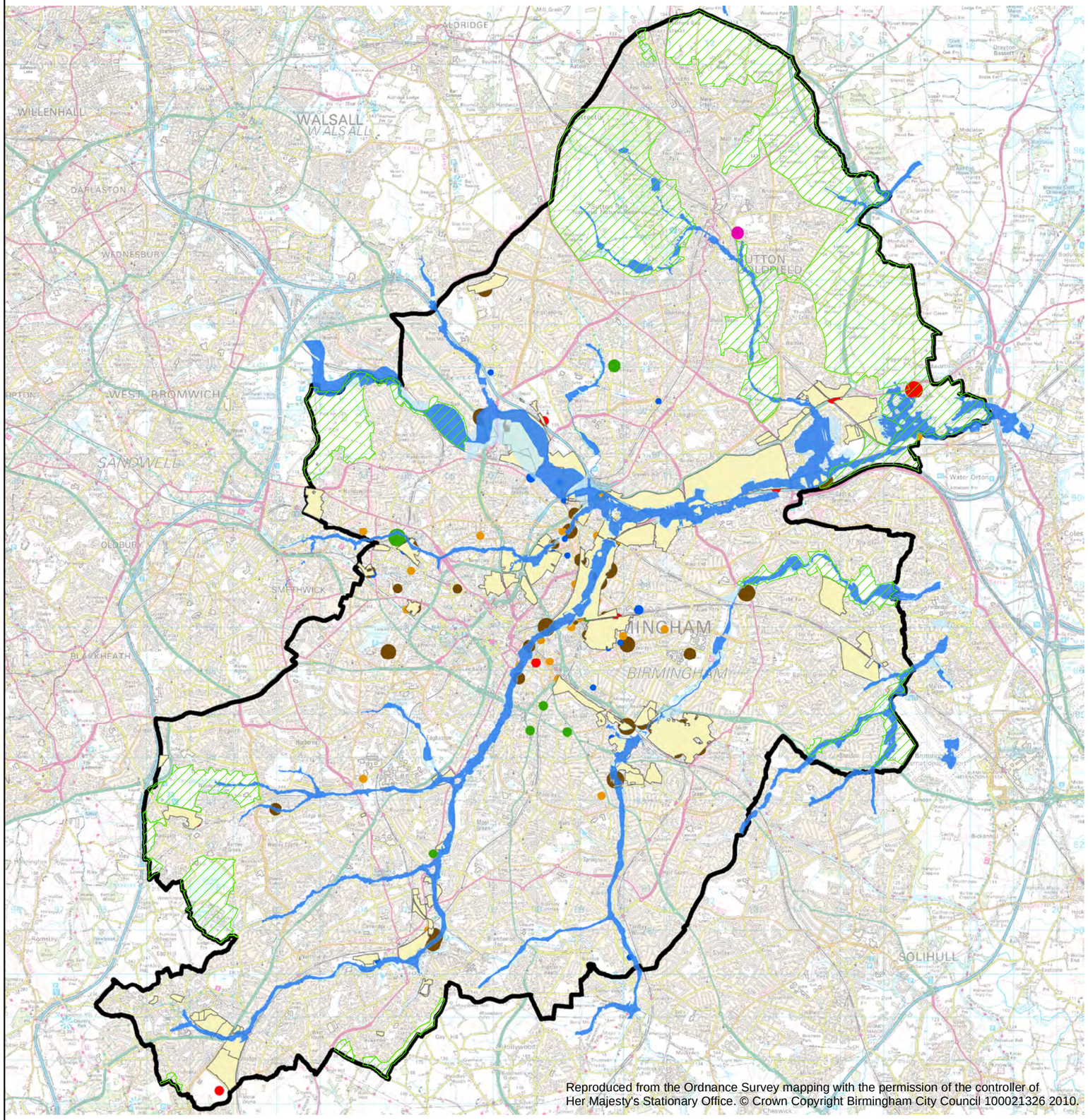
ENVIROS

DATE
JAN 2010



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Waste Strategy

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Figure 2
Licensed and Exempt Sites with Planning Context

Key

- GreenBelt
- Flood Zone 3_region
- Flood Zone 2_region
- Selected Employment Sites

GroupType

- Household Waste Site
- Recycling Site
- Transfer Stations
- Treatment Facility
- Vehicle Treatment

Permitted Tonnage Band

- <2500
- >2500 and <5000
- >5000 and <25000
- >25000 and <75000
- >75000
- Exempt Sites

N

Kilometers

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DATE
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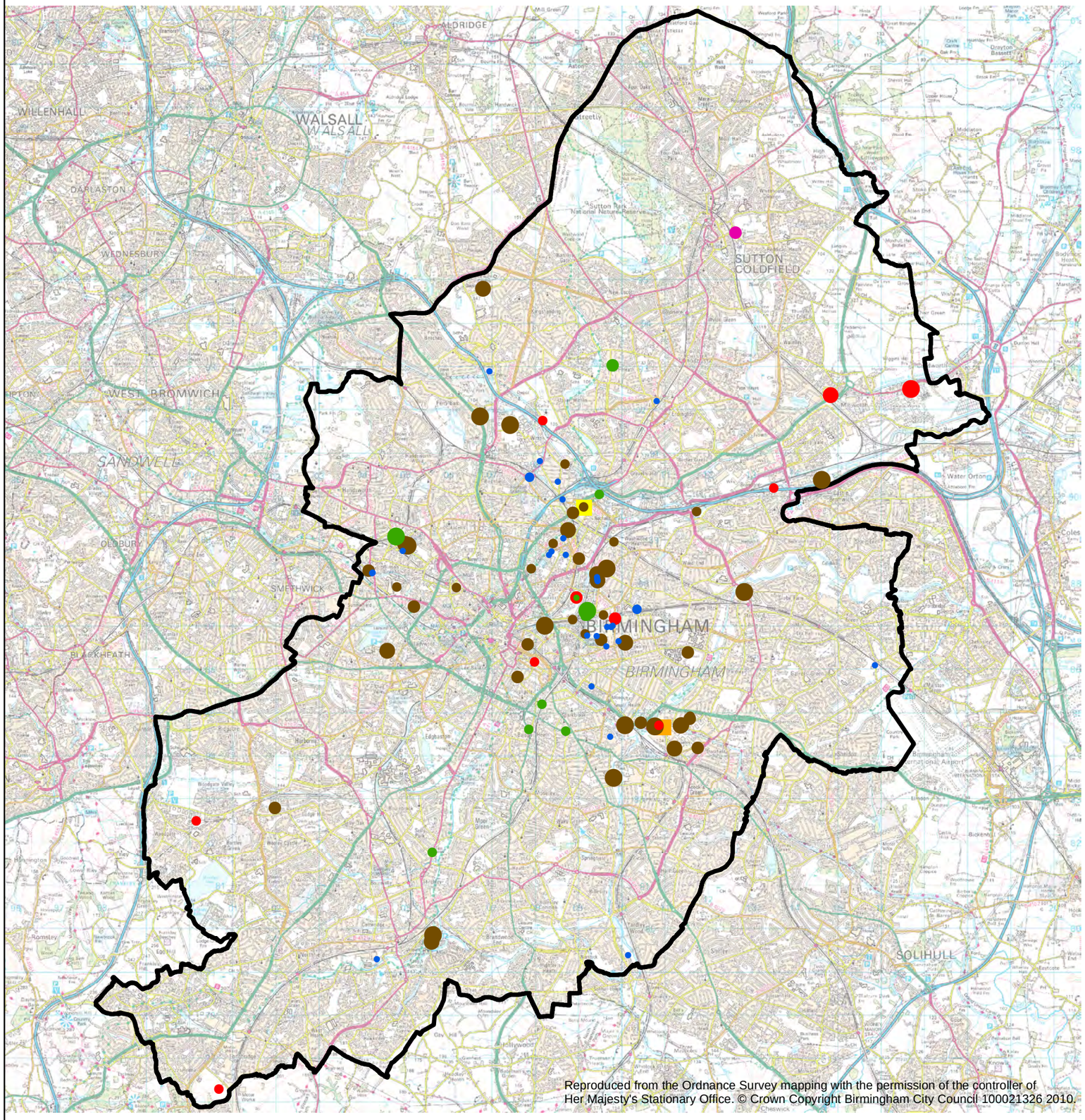

Birmingham City Council

Birmingham City Council
Waste Strategy

CAN: WO0160001

Figure 3
Licensed and Permitted Sites

Key

GroupType

- Household Waste Site
- Recycling Site
- Transfer Stations
- Treatment Facility
- Vehicle Treatment

Permitted Tonnage Band

- <2500
- >2500 and <5000
- >5000 and <25000
- >25000 and <75000
- >75000

Permited Sites

Activity

- Incineration
- Waste Installation

N

Kilometers

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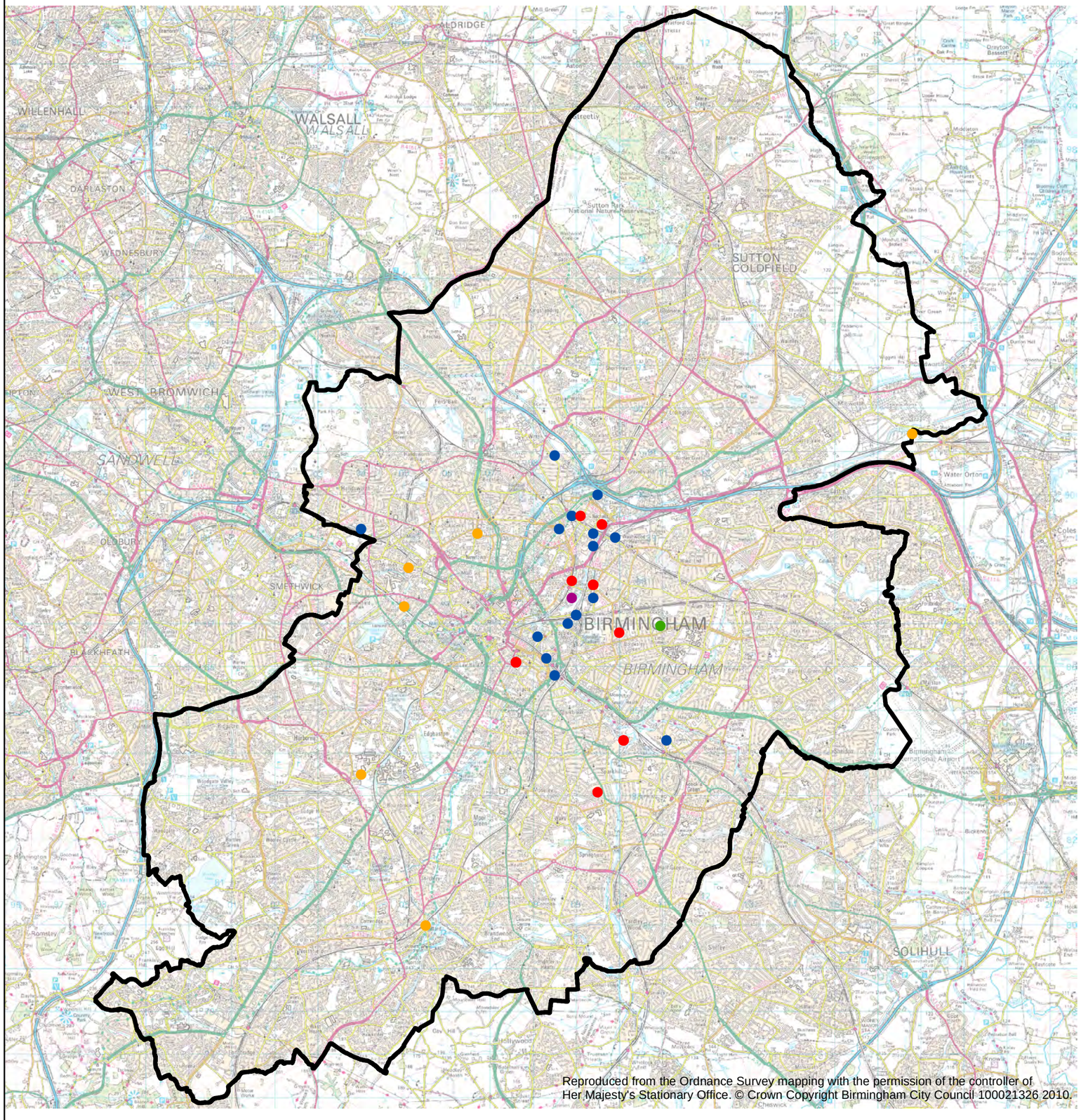

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Waste Strategy

CAN: WO0160001

Figure 4
Exempt Sites

Key

Exempt Sites

- Composting
- Construction/Land reclamation activities
- Preparatory treatment/storage of waste
- Recovery of material
- Repair/refurbishment of material

N

Kilometers

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1:100,000

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DATE
JAN 2010

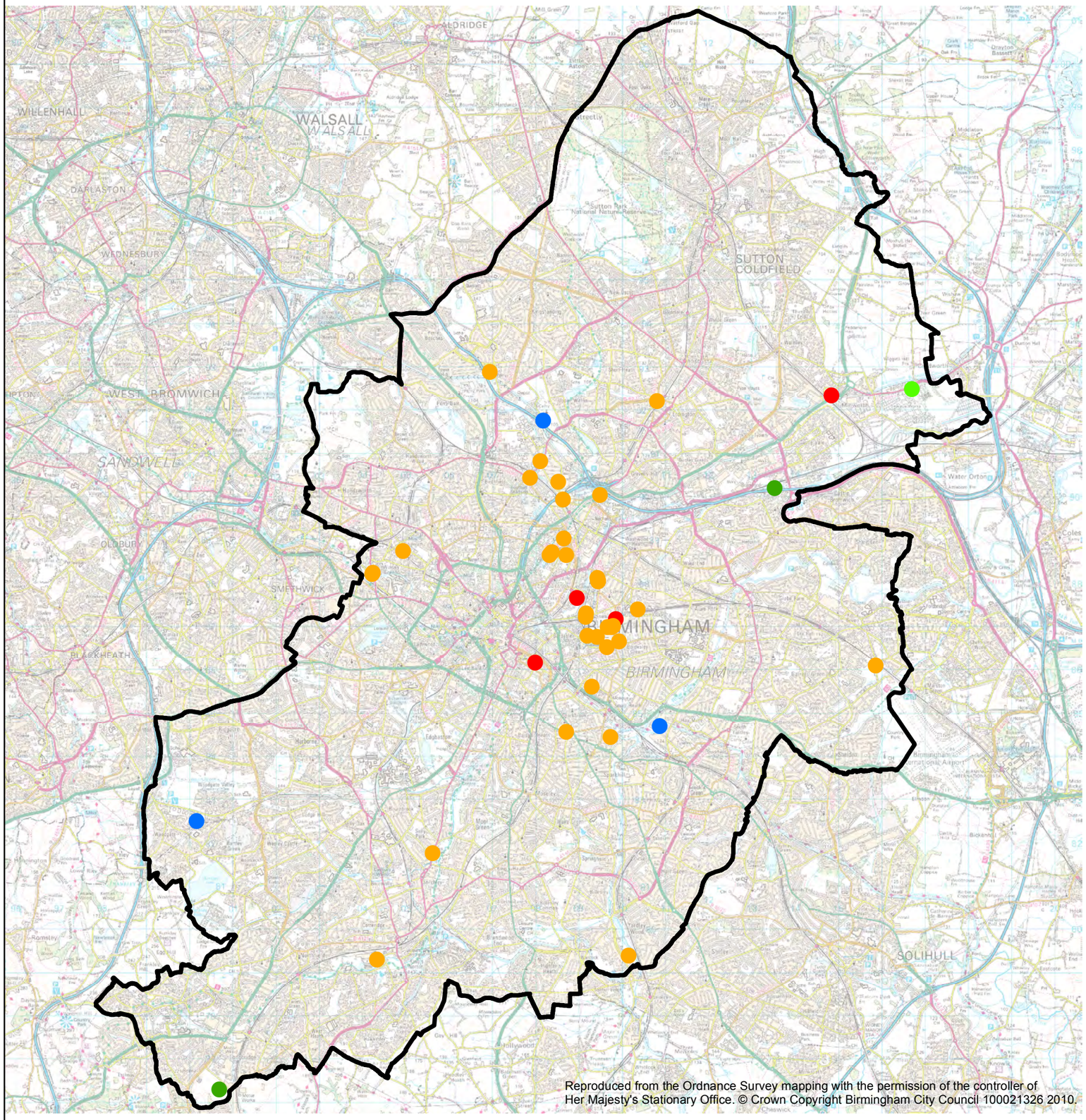

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Figure 5
Licensed Sites - Treatment Facilities

Key

Licensed Sites

- Vehicle Treatment Facility
- Biological Treatment Facility
- Composting Facility
- Physio-Chemical Treatment Facility
- Material Recycling Treatment Facility

N

Kilometers

0 1 2 3 4 5

1:100,000

DRAWN: JG
CHECKED: KT

ENVIROS

DATE
JAN 2010

Appendix 8 EWC Codes suitable for use in Construction Projects

EWC Code	Detail
01	WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS
01 01	*wastes from mineral excavation*
01 01 01	wastes from mineral metalliferous excavation
01 01 02	wastes from mineral non-metalliferous excavation
01 04	*wastes from physical and chemical processing of non-metalliferous minerals*
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
01 04 13	wastes from stone cutting and sawing other than those mentioned in 01 04 07
10	WASTES FROM THERMAL PROCESSES
10 01	*wastes from power stations and other combustion plants (except 19)*
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 01 02	coal fly ash
10 01 03	fly ash from peat and untreated wood
10 01 04*	oil fly ash and boiler dust
10 01 15	Bottom ash, slag and boiler dust from co-incineration other than those mentioned in 10 01 14
10 01 17	fly ash from co-incineration other than those mentioned in 10 01 16
10 01 24	sands from fluidised beds
10 02	*wastes from the iron and steel industry*
10 02 01	wastes from the processing of slag
10 02 02	unprocessed slag
10 03	*wastes from aluminium thermal metallurgy*
10 03 30	wastes from treatment of salt slags and black drosses other than those mentioned in 10 03 29
10 05	*wastes from zinc thermal metallurgy*
10 05 01	slags from primary and secondary production
10 05 11	dross and skimmings other than those mentioned in 10 05 10
10 06	*wastes from copper thermal metallurgy*
10 06 01	slags from primary and secondary production
10 06 02	dross and skimmings from primary and secondary production
10 07	*wastes from silver, gold and platinum thermal metallurgy*
10 07 01	slags from primary and secondary production
10 07 02	dross and skimmings from primary and secondary production
10 08	*wastes from other non-ferrous thermal metallurgy*
10 08 09	other slags
10 09	*wastes from casting of ferrous pieces*
10 09 03	furnace slag

EWC Code	Detail
10 09 06	casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05
10 09 08	casting cores and moulds which have undergone pouring other than those mentioned in 10 09 07
10 10	*wastes from casting of non-ferrous pieces*
10 10 03	furnace slag
10 10 06	casting cores and moulds which have not undergone pouring, other than those mentioned in 10 10 05
10 10 08	casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07
10 11	*wastes from manufacture of glass and glass products*
10 11 12	waste glass other than those mentioned in 10 11 11
10 12	*wastes from manufacture of ceramic goods, bricks, tiles and construction products*
10 12 06	discarded moulds
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
10 13	*wastes from manufacture of cement, lime and plaster and articles and products made from them*
10 13 11	wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10
10 13 14	waste concrete and concrete sludge
12	WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS
12 01	*wastes from shaping and physical and mechanical surface treatment of metals and plastics*
12 01 17	waste blasting material other than those mentioned in 12 01 16
16	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 01	*end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)*
16 01 03	end-of-life tyres
16 01 20	glass
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 01	*concrete, bricks, tiles and ceramics*
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02	*wood, glass and plastic*
17 02 02	glass
17 05	*soil (including excavated soil from contaminated sites), stones and dredging spoil*
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 08	track ballast other than those mentioned in 17 05 07
17 09	*other construction and demolition wastes*
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE

EWC Code	Detail
19 01	*wastes from incineration or pyrolysis of waste*
19 01 12	bottom ash and slag other than those mentioned in 19 01 11
19 01 14	fly ash other than those mentioned in 19 01 13
19 01 16	boiler dust other than those mentioned in 19 01 15
19 01 19	sands from fluidised beds
19 03	*stabilised/solidified wastes (4)*
19 03 07	solidified wastes other than those mentioned in 19 03 06
19 12	*wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified*
19 12 05	glass
19 13	*wastes from soil and groundwater remediation*
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	*separately collected fractions (except 15 01)*
20 01 02	glass
20 02	*garden and park wastes (including cemetery waste)*
20 02 02	soil and stones

Appendix 9 List of Aggregate Companies

Company	Site Address	Comment	Material accepted	Material sold	Capacity
P B M Contractors Ltd	15-17 Green Lane, B9 5BU	Demolition contractors do not take in waste just get rid of it - it is all sorted. Volume depends on contracts. Unsure of annual capacity.	Brick, concrete		n/a
Armac DEL Ltd	253 Bordesley Green Road, B8 1BY	Survey not completed	Brick, mixed CD&E waste, concrete	Capping	n/a
DSM Demolition Ltd	Arden House, Arden Road, Saltley, B8 1DE	Site can not give exact tonnage as use a mobile crusher based at Walsall Transfer station and regisitered to Saltley. Three quarters of the crushing occurs on site of origin. Tonnages are usually calculated at the end of each contract and varies. Have a screener and materials are sorted on site by hand.	Brick, mixed CD&E waste, concrete	6F2 (majority from concrete and brick), 6F1 and Type 1	~35,000 t/annum
City Demolition Contractors (B'Ham) Ltd	Blews Street, Aston, B6 4EP	Separate demolition materials at various recycling stations with machines and crushers. Try to operate within a 50 mile radius however we operate nationwide. Information on throughput or capacity not available	Hardcore concrete, wood and general household waste	General fill	n/a
Bloomfield Recycling	Bloomfield Road, Tipton, DY4 9BS	Not sure of capacity. Clean, crush and sell brick and concrete. They have a sorting facility that is a belt conveyor with labourers hand picking. Sell to other companies and general public. There is no further sorting involved.	Brick, concrete	Crushed brick & concrete.	n/a
Midland Composting and Recycling - Division of Jack Moody Ltd	Hollybush Farm, Warstone Road, WV10 7LX	Survey not completed	Mixed CD & EW, Concrete	Capping, Sub-base	n/a
McAuliffe Civil Engineering Contractors	McAuliffe House, Northcott Road, Bilston, WV14 0TP	Does not use a MRF or transfer stations, sorting technology Mobile screeners (Warrior 1400 and Powergrid 11200	C&D	6F2, 6F1, vibro stone (50-90mm aggregate)	80,000 t/annum
FGD Ltd	Smestow Bridge, Wombourne, WV5 8AY	Survey not completed	Asphalt, Brick, Concrete, Mixed CD & EW	Aggregates for Concrete, Capping (6F2), Capping (6F3), Pipe Bedding, Sand, Sub-base (Type 1),	n/a

Company	Site Address	Comment	Material accepted	Material sold	Capacity
				Soil Top	
Bardon Concrete	209-211 Walsall Road, Perry Barr, Birmingham B42 1TY	Concrete & Mortar Ready Mixed (Factories & Manufacturing). Information on throughput or capacity not available	Clean concrete, Masonry, Bricks, Tiles and ceramics, Mixed C&D, Road planings, Asphalt, Cobbles and Paving slabs, Spent railway ballast, Stone	Graded Aggregates 6F1, 6F2, Type 1, Type 2, Other Graded Aggregates, Ungraded Aggregates	n/a
Glenside Recycling Ltd (Smethwick)	Melbourne House, 14 King Street, Smethwick, B66 2JN	The site have their own reprocessing capacity and the materials are confirmed. It is sold on to 'all sorts'. Both businesses, construction further reprocessing etc. Information on throughput or capacity not available	Clean concrete, Masonry, Bricks, Tiles and ceramics, Mixed C&D, Spent railway ballast, Stone	Graded Aggregate 6F1, 6F2, Type 1, Type 2, Other graded Aggregates (6C), Upgraded Aggregates, Usable Soil, Fines, Road Planings	n/a
Ballast Phoenix Ltd	c/o Civil Amenities Depot, Tameside Drive, Castle Bromwich, B35 7AG	Contract with Brimingham City Council. Screening process that removes metals and everything else that does not burn during the incinerator process. No plans to expand.	Take in incinerator bottom ash.	Produce aggregate for block industry, foam concrete, road construction. 500-600 series.	75,000 t/annum
FC Richardson	194 Yardley Road, Birmingham, B27 6LR	hard to say capacity as it depends on workload - sort on site have various type of machinery. Are a demolition company and sell direct to market	C&D waste		n/a
Cemex	Weeford Quarry,London Road, Canwell, Sutton Coldfield, B75 5SZ	Survey not completed	Metal, Wood, Clay, Hardcore, Inert Waste, Rubble, Subsoil, Topsoil		n/a

Appendix 10 Site proforma- criteria for locating waste management facilities

The proposed locational criteria set out below has taken into account the policy guidance as provided in PPS10, the West Midlands RSS and the Birmingham Unitary Development Plan. The site criteria suggested should not be taken as a definitive list and there may be other additional fields of local significance which may want to be included. The site proforma set out below comprises both quantitative and qualitative assessment criteria to ensure a robust site assessment is undertaken.

The qualitative fields provide the opportunity to include useful information to set the background context for the site, which would otherwise be excluded from the assessment as the information is not measurable. The qualitative fields suggested include:

- Site description;
- Planning context;
- Comments column;
- Summary of key issues; and
- Positive/negative attributes of the site.

In terms of the quantitative assessment, each identified development constraint has been assigned a set of three criteria and each of these criteria has subsequently been awarded a score category based on those set out in Table 41.

Table 41 Score Categories

Score Category	Classification
	Highly Favourable
	Variable
	Highly Unfavourable

Once the site proforma has been completed for each of the potential development sites, a comparative summary table can then be compiled which will identify the site that is the most favourable.

Site Ref/ Name:			
Site Description Insert site description including details on site boundaries, openness of site, gradient of land, evidence of localised flooding, presence of utilities e.g. electricity pylons etc. The site description will be non-measurable if quantifying the site assessment but will provide a general overview of the site context.			
Planning Context: Summarise the planning history of the site and summarise the key relevant national, regional and local policy objectives that would apply to the development of the site for waste purposes. This section will not be measurable but will provide the planning context for development of the site.			
Constraints	**Criteria**	**Score Category**	**Comments**
General			
Site Area	Site is of sufficient size to accommodate proposed facility and has the potential to co-locate with other facilities.		
	Site is of an insufficient size to accommodate proposed facility and there is no potential for co-location.		
	Site area would require compromises but could be suitable to accommodate the proposed facility.		
Land Ownership	Land Available within required timescale.		
	Land Unavailable.		
	Land might be available but not in the required timescale.		
Existing Land Use	Non-Greenfield		
	Greenfield		
	Other		
Green Belt	Outside Green Belt		
	Within Green Belt		
	Adjacent to Green Belt		
Local Plan Allocation	Allocated for Waste Use		
	Allocated for Alternative Use		
	No Allocation		
Proximity Principle			
Proximity to main population areas/waste source	Close to/ within a main source of waste arisings.		
	Remote from a main source of waste arisings.		
	Site offers no advantages/disadvantages with respect to source of waste arisings.		
Access/transport			
Strategic Highway	Very good and direct access to SHN.		

Network (SHN)	Poor and remote access from SHN.		
	Potential for indirect access to SHN.		
Rail Access	Good existing rail access.		
	No potential for rail access.		
	Uncertainties over rail access but potential to develop new access.		
Water Access	Good existing/potential water access.		
	No potential for water access.		
	Uncertainties over water access but potential to develop new access.		
Public Transport	Good existing public transport links.		
	Remote from public transport links.		
	None existing but potential to develop links.		
Proximity to Sensitive Properties			
Proximity to Residential/Commercial	Site is remote from sensitive properties.		
	Significant sensitive properties near to site.		
	Some sensitive properties near to site but insignificant issue.		
Land Use Compatibility			
Agricultural Land Classification	Non-agricultural land.		
	Best and Most Versatile Agricultural land.		
	Other		
Landscape and Visual			
International/National/ Local Landscape Designation e.g. AONB, Special Area of Landscape etc	Outside and remote from landscape designation.		
	Within landscape designation.		
	Outside but near to landscape designation.		
Nature Conservation			
International/National/ Local Ecological Designations e.g. SSSI, RAMSAR, SPA, National Nature Reserve (NNR), Local Nature Reserve (LNR), Special Area of Nature Conservation Importance (SNCI), Ancient Woodland etc	Outside and remote from ecological designation.		
	Within ecological designation.		
	Outside but near to ecological designation.		
Water Resources			
Flood Plain	Outside Flood Zone.		

	Inside Flood Zone 3.		
	Inside Flood Zone 1 or 2.		
Water courses	Remote from any watercourse.		
	Watercourse running through site.		
	Watercourse running adjacent/ near to site.		
Source Protection Zone (SPZ)	Outside SPZ.		
	Inner Zone of SPZ.		
	Outer Zone of SPZ.		
Archaeology/Cultural Heritage			
International/National/ Local Designation e.g. Scheduled Monument (SAM), Historic parks & Gardens, Historic Battlefields, Conservation Area, Listed Buildings	Outside and remote from archaeological/cultural designation.		
	Within archaeological/cultural designation.		
	Outside but near to/ adjacent archaeological/cultural designation.		
Amenity			
Air Quality Management Area (AQMA)	Outside and remote from AQMA.		
	Inside AQMA.		
	Adjacent/close to AQMA.		
PRoW	Remote from PRoW.		
	PRoW runs through site.		
	PRoW runs adjacent/ near to site.		
Synergies			
Proximity to National Grid/ Industry (export of energy, electricity supply).	Existing National Grid connection and near to industry.		
	Remote from industry and no potential for National Grid connection		
	Potential to develop National Grid connection but some distance from industry.		

Summary / Key Issues:

Summarise key issues associated with the site that arise from the quantitative assessment above. Identify any key development constraints and/ or key benefits of the site for its intended use.

Positive	**Negative**
Summarise positive attributes of the site in bullet points.	Summarise negative attributes of the site in bullet points.

Appendix 11 Consultation Workshop

A stakeholder consultation was held in Birmingham on the 22nd October to discuss the Waste Capacity Study. A Briefing note was prepare in advance of the workshop and the draft report was made available on the council website, in order to give attendees background to the study in advance of the day.

9.1.1 Workshop Structure

The workshop presentation was structured around three key discussion sessions, waste arisings, existing waste facilities and future waste needs. The following key questions were posed at the end of the relevant discussion session:

Waste Arisings

- Do you agree with the range of growth scenarios considered for each of the waste streams?
- Do you have any suggestions for additional growth scenarios for the individual waste streams that should be considered?

Existing Waste Facilities

- Do you have any views on assumptions regarding exemption capacity throughput for different exempt activities/paragraphs?
- Do you have any opinion on potential capacity at permitted facilities?

Future Waste Needs

- How self sufficient should Birmingham aspire to be in the future?
- How much waste should be exported out of Birmingham for treatment?
- How much waste should be exported out of the region for treatment?
  - How much capacity should Birmingham allow for waste from other areas?
  - Are there specific waste streams Birmingham should be looking to handle within Birmingham that are not currently?
  - Are there treatment facilities Birmingham should be looking to accommodate in line with national/regional policy that aren't currently available e.g. Anaerobic Digestion?

9.1.2 Outcomes of Workshop

The workshop provided some valuable discussion and comments on the day but attendees were also given the opportunity to provide more detailed written feedback following the event. All comments were received were reviewed and where appropriate accommodated in the revised report. The key points arisings from the workshop are summarised below:

Waste Arisings

Attendees were largely in agreement with the scenarios considered for the different waste streams. It was felt that potentially future changes may mean that packaging move from the municipal waste stream to the C&I waste stream. There was also debate about whether the C&I waste stream should consider a reduction in waste/employee as well as changes to number of employees in the different sectors. It was considered that there is no evidence base to predict how the waste per employee may change. No amendments were made to the growth scenarios predicted for the different waste streams as it was felt that it may be difficult to predict these changes.

Existing Waste Facilities

Feedback at the workshop suggested that exemption capacity may be over estimated based on assumptions related to the respective paragraph under the Environmental Permitting Regulations. Following the workshop a telephone survey of the identified companies on the exempt facility list was carried out to confirm the capacity at their facility.

In relation to permitted facilities, comments received suggested that it is likely that theoretical capacity closer to actual throughput at facilities rather than the Environment Agencies permitted band. A report by SLR for the WMRA[37] looking at actual and theoretical capacity at waste facilities concluded that from limited data available, the permitted maximum is similar to the theoretical maximum. The report suggested that further survey should be carried out to attempt to clarify this further. As no further survey work has been commissioned for the purpose of this project, the permitted band was used as an indication of theoretical capacity of waste facilities.

Future Waste Needs

It was felt that it would be impractical for Birmingham to be 'self sufficient' in terms of treating all the waste it generates. It was suggested that as a region the West Midlands should aspire to be 'self sufficient'. However, Birmingham should look to manage the equivalent tonnage of waste generated. It was suggested that Birmingham could focus on specialising in a specific type of treatment e.g. Anaerobic Digestion rather than trying to accommodate many different facility types.

[37] West Midlands Regional Assembly – Waste Treatment Facilities and Capacity Survey West Midlands Region: Final Report (May 2007)

Company Overview

Enviros Consulting has more than 35 years' experience in helping organisations achieve competitive advantage through improved environmental, social and health & safety performance. Our vision is to help our clients do business today and have the world they want tomorrow. With over 500 people worldwide, and as a founder member of the CAT Alliance with operations in over 50 countries, we have the capability and experience to advise our clients globally. A full description of our integrated services together with news and client case studies can be found at www.enviros.com. Enviros Consulting Limited is part of the Sinclair Knight Merz Group.

Enviros works for clients in both the private and public sectors including: BT, Cadbury Trebor Bassett, Carbon Trust, Carillion Corus, DECC, DEFRA, Environment Agency, Environmental Protection Agency, Interserve, King Sturge, Ministry of Defence, National Grid, NHS, Nuclear Decommissioning Authority, Sainsbury's, Scottish Water, Tesco, Weetabix, WRAP and Yorkshire Forward.

Enviros has 13 offices in the UK and Ireland: Belfast, Cambridge, Cardiff, Cumbria, Dublin, Edinburgh, Glasgow, Leeds, London, Manchester, Oxford, Shrewsbury and Towcester. We also have an office in Prague and are members of the CAT Alliance, a global network of environmental consultancy partners – www.cat-alliance.com.

In support of our quality, environmental and health and safety management systems, Enviros is certified to EN ISO 9001:2008, EN ISO 14001:2004 and OSHAS 18001:2007. We carefully manage and reduce our carbon emissions. Further details are available in our latest corporate responsibility report at www.enviros.com.

Climate Change and Renewables

The potential impact of climate change is now recognised as a critical issue for business and governments around the world. Enviros works with businesses on carbon management strategies, carbon footprints, energy reduction plans and renewable energy generation that reduce costs, improve business sustainability and exploit new business opportunities. We also work with the public sector to develop policies and regulation, balancing environmental control and economic growth.

Compliance and Permitting

Organisations today face a growing body of environmental legislation, but compliance need not necessarily be a cost to business. Enviros can help organisations take a proactive approach, thereby meeting the requirements of regulation, and enhancing business competitiveness and reducing costs.

Contaminated Land and Remediation

Contaminated land can cause a significant harm to human health and pollute the water environment. It is an issue commonly seen within property development and can also affect industrial processes and waste management. Enviros provides comprehensive support to industry, developers and regulators on contaminated land assessment and management matters.

Corporate Sustainability

Becoming a more sustainable organisation has many benefits including compliance with legislation; resource efficiency; and enhanced reputation and brand value. Enviros works with a wide range of clients across the public and private sectors providing services to help clients become more sustainable through advice on corporate responsibility, efficient use of resources, due diligence and training.

Health and Safety

Health and safety is of paramount importance to every business and the increasing volume of legislation means compliance has never been more important. Enviros provides a one-stop answer for organisations, delivering cost effective solutions that not only improve their operational productivity and efficiency, but also ensure compliance and minimise legislative risk.

Planning and Environmental Impact Assessment

Legislation demands that an Environmental Impact Assessment (EIA) is undertaken for many developments, particularly where there is the potential for significant environmental effects. Enviros offers integrated planning and EIA services through extensive technical knowledge and an understanding of planning issues and legislative requirements.

Sustainable Development

By addressing sustainability we ensure that a building meets the needs of future generations as well as today's. Enviros works with developers, design teams and planning authorities to agree appropriate sustainable design and construction requirements, address the necessary planning policies and ensure environmental impacts are identified and mitigated.

Waste and Resource Management

To achieve sustainable economic development we need to dramatically improve the efficient use of our natural resources. Enviros helps organisations realise the benefits of resource efficiency from improved product design; efficient use of raw materials and energy; through to recycling and identification of secondary markets for recovered resources.

Water Environment

The UK's hydrological environment fulfils important roles relating to water supply, ecology, navigation and recreation. The impact of human activities on this environment is controlled through legislation and must be considered in relation to existing and proposed activities. Enviros helps organisations both understand and mitigate their impact and enable them to enhance and make the best use of the water environment.

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